City of Louisville
COLORADO • SINCE 1878

City Council

Agenda

January 6, 2026
Council Chambers
749 Main Street
5:00 PM

Members of the public are welcome to attend and give comments remotely; however, the in-person meeting may continue even if technology issues prevent remote participation.

- *You can call in to +1 719 359 4580 or 877 853 5247 (toll free)*
  Webinar ID #876 9127 0986.
- *You can log in via your computer. Please visit the City's website here to link to the meeting: www.louisvilleco.gov/council*

The Council will accommodate public comments during the meeting. Anyone may also email comments to the Council prior to the meeting at Council@LouisvilleCO.gov.

1. CALL TO ORDER & ROLL CALL

2. PLEDGE OF ALLEGIANCE

3. EXECUTIVE SESSION - REAL PROPERTY ACQUISITIONS AND DISPOSITIONS (Louisville Charter Section 5-2(c) and C.R.S. 24-6-402(4)(a)).

The City Manager is Requesting the City Council Convene an Executive Session for the Purpose of Discussing Real Property Acquisitions and Dispositions Concerning Properties in Louisville Only as to Appraisals and Other Value Estimates and Strategy

- **Request for Executive Session**
- **City Clerk Statement**
- **City Attorney Statement of Authority**
- **City Council Action on Motion for Executive Session**
- **Council Convenes Executive Session**
- **Council Reconvenes in Open Meeting**

4. REPORT – DISCUSSION / DIRECTION / ACTION

THE FOLLOWING MEETING ITEMS WILL START NO EARLIER THAN 6 PM

5. APPROVAL OF AGENDA

6. INTRODUCTION OF CHIEF MILAN – LOUISVILLE FIRE PROTECTION DISTRICT

7. PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE CONSENT AGENDA

Public comments are limited to 3 minutes per speaker. When several people wish to speak on the same position on a given item, Council requests they select a spokesperson to state that position.

8. CONSENT AGENDA

The following items on the City Council Agenda are considered routine by the City Manager and shall be approved, adopted, accepted, etc., by motion of the City Council and voice vote unless the Mayor or a City Council person specifically requests an item be considered under "Regular Business." In such an event the item shall be removed from the "Consent Agenda" and Council action taken separately on said item in the order appearing on the Agenda. Those items so approved under the heading "Consent Agenda" will appear in the Council Minutes in their proper order.

A. Approval of Minutes: December 2, 2025
B. Resolution No. 1, Series 2026 – A Resolution Approving an Agreement for the Conversion of the Inline Skating Rink to Dedicated Pickleball Courts
C. Resolution No. 2, Series 2026 – A Resolution Approving and Adopting the City of Louisville Emergency Operations Plan
D. Resolution No. 3, Series 2026 – A Resolution Authorizing the Purchase of Fuel for 2026
E. Resolution No. 4, Series 2026 – A Resolution Authorizing the Purchase of Ice Slicer for 2026
F. Resolution No. 5, Series 2026 – A Resolution Approving an Independent Contractor Agreement with Invision GIS, LLC
G. Resolution No. 6, Series 2026 – A Resolution Encouraging the Regional Transportation District to Complete the Northwest Rail Corridor Project
H. Resolution No. 7, Series 2026 – A Resolution Supporting a Downtown Louisville Station as Part of the Joint Service / Front Range Passenger Rail Project

9. COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS

10. CITY MANAGER'S REPORT

11. REGULAR BUSINESS

A. COAL CREEK VILLAGE PRELIMINARY PUD/PLAT AND REZONING

i. ORDINANCE NO. 1910, SERIES 2025 – AN ORDINANCE APPROVING A REZONING OF A PORTION OF THE CALEDONIA PLACE SUBDIVISION PLAT FROM COMMERCIAL COMMUNITY (C-C) AND RESIDENTIAL MEDIUM DENSITY (R-M) TO MIXED-USE RESIDENTIAL (MU-R) AND APPROVING AN AMENDMENT TO EXHIBIT A, LAND USE PLAN EXHIBIT, REFERENCED IN LOUISVILLE MUNICIPAL CODE CHAPTER 17.14 – MIXED USE ZONE DISTRICTS – 2ND READING, PUBLIC HEARING (advertised City of Louisville website 11/19/2025)

ii. RESOLUTION NO. 8, SERIES 2026 – A RESOLUTION APPROVING A PRELIMINARY PLANNED UNIT DEVELOPMENT (PUD), PRELIMINARY PLAT, AND SPECIAL REVIEW USE TO ALLOW 188 DWELLING UNITS AND 13,534 SQUARE FEET OF COMMERCIAL SPACE AT 1032, 1034, AND 1040 EAST SOUTH BOULDER ROAD

- Introduction
- Staff Presentation
- Action

B. RESOLUTION NO. 9, SERIES 2026 – A RESOLUTION DESIGNATING THE RESIDENCE LOCATED AT 728 GRANT AVENUE A HISTORICAL LANDMARK TO BE NAMED THE KOEPPLER HOUSE AND APPROVING A PRESERVATION AND RESTORATION GRANT

- Introduction
- Staff Presentation
- Council Questions
- Public Comment (Please limit to three minutes each)
- Council Discussion
- Action

C. PRESENTATION: PROS LONG-RANGE PLAN AND TRAIL SYSTEM PLAN CONSULTANT UPDATE

- Introduction
- Staff Presentation
- Consultant Presentation
- Council Questions
- Public Comment (Please limit to three minutes each)
- Council Discussion
- Action (if necessary)

D. WATER METER REPLACEMENT AND AMI PROJECT

i. RESOLUTION NO. 10, SERIES 2026 – A RESOLUTION APPROVING A CONSTRUCTION CONTRACT FOR THE METER REPLACEMENT AND AMI PROJECT

ii. RESOLUTION NO. 11, SERIES 2026 – A RESOLUTION APPROVING A SOFTWARE AS A SERVICE AND SPECTRUM LEASE AGREEMENT FOR THE METER REPLACEMENT AND AMI PROJECT

- Introduction
- Staff Presentation
- Public Comment (Please limit to three minutes each)
- Council Questions
- Public Comment (Please limit to three minutes each)
- Council Discussion
- Action

E. 2026 LEGISLATIVE AGENDA

- Introduction
- Staff Presentation
- Council Questions
- Public Comment (Please limit to three minutes each)
- Council Discussion
- Action

12. CITY ATTORNEY'S REPORT

13. UPCOMING AGENDA ITEMS AND IDENTIFICATION OF FUTURE AGENDA ITEMS

14. ADJOURN

UPCOMING AGENDA ITEMS
01/20/2026 MEETING

This list is not inclusive; items are subject to change; additional items may be added.

- Development Code Update RFP Approval
- Boulder Office of Disaster Management IGA
- Redtail Ridge GDP Amendment – 1st Reading
- Upcoming Agenda Items & Identification of New Ones
- 20206 City Council Work Plan Review
- Generator Replacement
- Fire Restrictions – Concurrent with Boulder County
- BAP Amendment – TGR Group (Rocky Mountain Tap & Garden)

Resident Information

If you wish to speak at the City Council meeting in person, please fill out a sign-up card and present it to the City Clerk at the meeting. If you are attending remotely, please use the "raise hand" icon to show you wish to speak in public comments.

Persons planning to attend the meeting who need sign language interpretation, translation services, assisted listening systems, Braille, taped material, or special transportation, should contact the City Clerk's Office (303.335.4574) or ClerksOffice@LouisvilleCO.gov. A forty-eight-hour notice is requested.

Si requiere una copia en español de esta publicación o necesita un intérprete durante la reunión del Consejo, por favor llame a la Ciudad al 303.335.4574 o email ClerksOffice@LouisvilleCO.gov.

City of Louisville
COLORADO • SINCE 1878

City Council

Meeting Minutes

Monday, December 2, 2025
Council Chambers
749 Main Street
5:00 PM

Mayor Leh called the meeting to order at 5:00 p.m. Roll Call was taken, and the following members were present:

City Council:	***Mayor Chris Leh***
	Mayor Pro Tem Caleb Dickinson (Arrived at 5:02 pm)
	Councilmember Josh Cooperman
	Councilmember Deborah Fahey
	Councilmember Barbara Hamlington
	Councilmember Dietrich Hoefner (Remote – arrived at 5:02 pm)
	Councilmember Judi Kern
Staff Present:	***Diana Langley, City Manager***
	Samma Fox, Deputy City Manager
	Rob Zuccaro, Community Development Director
	Kathleen Kelly, City Attorney
	Genny Kline, City Clerk

EXECUTIVE SESSION - REAL PROPERTY ACQUISITIONS AND DISPOSITIONS (00:01:21)

Mayor Leh introduced the item.

City Attorney Kelly introduced the agenda item and presented the request for an executive session.

City Clerk Kline read the statement required by the City Code.

City Attorney Kelly provided a statement outlining the authority for convening the executive session.

Mayor Leh moved to enter executive session; seconded by Councilmember Fahey.

Aye: Leh, Dickinson, Kern, Fahey, Hamlington, Hoefner, Cooperman
Nay: None

Absent: None

Council entered Executive Session at 5:05 pm.

EXECUTIVE SESSION REPORT (01:18:29)

Council reconvened at 6:18 pm.

City Attorney Kelly presented the report and indicated there is no follow-up requested at this time.

APPROVAL OF AGENDA (01:19:08)

Councilmember Kern moved to approve the agenda; seconded by Councilmember Fahey.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Hoefner, Kern
Nay: None
Absent: None

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA AND ITEMS ON THE CONSENT AGENDA (01:19:18)

- Gerri Foley (pooled time) – Golf Course Rates
- Marc Miller – Golf Course Rates
- Steven Thompson – Golf Course Rates
- Ric Rothschild – Golf Course Rates
- Roger Hughes – Golf Course Rates
- Paul Richardson – Golf Course Rates
- John McDermott (pooled time) – Golf Course Rates
- Jeff Meier – Golf Course Rates
- Don Brown – Golf Course Rates

Councilmember Hoefner exited the meeting during public comment.

APPROVAL OF THE CONSENT AGENDA (01:54:10)

A. Approval of Minutes: July 8, 2025; July 15, 2025; July 22, 2025
B. Resolution No. 98, Series 2025 – A Resolution Authorizing Changes to the Approved Signer for the City's Banking and Financial Accounts
C. Resolution No. 99, Series 2025 – A Resolution Approving the Independent Contract Agreement with CliftonLarsonAllen LLP
D. Approval of Contract with Kelly PC for City Attorney Services for 2026-2027

E. Council Committee Recommendation of Applicants to Appoint or Interview for Board and Commission Vacancies – *Moved to end of Regular Business*

Councilmember Cooperman moved to approve the consent agenda with the amendment to move item E to the last item of Regular Business; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Kern
Nay: None
Absent: Hoefner

COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS (01:55:19)

Councilmember Fahey expressed her condolences to the family of Senator Faith Winter.

Councilmember Hamlington commented on disrespectful behavior toward City Staff.

CITY MANAGER'S REPORT (01:58:48)

City Manager Langley reported on the Parade of Lights, events at Library and Museum; and noted the Holiday popup at the Empire.

REGULAR BUSINESS

PROCLAMATION HONORING RETIRING LOUISVILLE FIRE PROTECTION DISTRICT CHIEF JOHN WILLSON (01:59:21)

Mayor Leh read the proclamation.

Councilmember Kern moved to approve the Proclamation; seconded by Councilmember Cooperman.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Kern
Nay: None
Absent: Hoefner

ORDINANCE NO. 1911, SERIES 2025 – AN ORDINANCE AMENDING CHAPTER 2.12 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING THE SALARY OF THE PRESIDING MUNICIPAL JUDGE (02:12:23)

Mayor Leh introduced the item.

City Clerk Kline noted she did not have a presentation, but she was available for questions.

Council had no questions or comments.

Councilmember Fahey moved to pass Ordinance No. 1911, Series 2025, on first reading and to set the public hearing for Tuesday, December 16, 2025, at 6:00 pm. The motion was seconded by Councilmember Kern.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Kern
Nay: None
Absent: Hoefner

DISCUSSION / DIRECTON / ACTION – TRESTLE STRATEGY GROUP AFFORDABLE HOUSING STRATEGIC FRAMEWORK WORK SESSION (02:14:17)

Mayor Leh introduced the item.

Community Development Director Zuccaro provided a brief introduction.

Danica Powell of Trestle Strategy Group conducted the presentation.

Council posed several questions which were acknowledged and addressed as part of the Discussion.

Council recessed briefly.

Public Comment
- None

Council shared their feedback and comments regarding mixed-use housing, newly developed units, proactive planning efforts, viewing a housing study, and policy and strategy guidance from the dais.

COUNCIL COMMITTEE RECOMMENDATION OF APPLICANTS TO APPOINT OR INTERVIEW FOR BOARD AND COMMISSION VACANCIES (03:51:16)

Councilmember Cooperman indicated that he would like to add three applicants to the interviews for Open Space Advisory Board.

Councilmember Cooperman moved to interview Greg DiMedio, Rebecca Karch, and Jeffrey Otte for the Open Space Advisory Board; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington
Nay: Kern
Absent: Hoefner

City Clerk Cline provided the interview details.

Discussion was held regarding the start time of the interviews, interview questions, and onboarding process relating to directing staff.

CITY ATTORNEY'S REPORT (04:02:50)

The City Attorney indicated there was no report.

IDENTIFICATION OF FUTURE AGENDA ITEMS (04:02:54)

There were no items brought forward for discussion.

ADJOURN (04:03:05)

Councilmember Fahey moved the adjourn the meeting; seconded by Mayor Pro Tem Dickinson.

Aye: Leh, Dickinson, Cooperman, Fahey, Hamlington, Kern
Nay: None
Absent: Hoefner

Members adjourned at 10:03pm.

_____
Christopher M. Leh, Mayor

_____
Genny Kline, City Clerk

SUBJECT: **RESOLUTION NO. 1, SERIES 2026 – A RESOLUTION APPROVING AN AGREEMENT FOR THE CONVERSION OF THE INLINE SKATING RINK TO DEDICATED PICKLEBALL COURTS**

DATE: **JANUARY 6, 2026**

PREPARED BY: **BRYON WEBER, PROS PROJECT MANAGER**

PRESENTED BY: **ADAM BLACKMORE, PROS DIRECTOR**
BRYON WEBER, PROS PROJECT MANAGER

SUMMARY:
Staff requests Council approve a contract with Pickletile LLC to convert the existing inline skating rink to dedicated pickleball courts and install their proprietary sound reduction system known as Pickleglass.

Following Council discussion on April 15, 2025, Staff obtained a noise impact study from the acoustic engineering firm Pickleball Sound Mitigation (PSM). The PSM report recommended sound reduction for much of the court complex's perimeter to alleviate potential nuisance impacts to adjacent residences. After researching products and strategies to meet PSM's suggestions, Staff recommend Pickleglass which is uniquely capable of satisfying noise objectives while also maintaining open sight lines for safety and spectating.

As there was no sound mitigation expense within the original CIP project request or budget of $200,000, the current $285,000 spending request requires a future budget amendment for an additional ~$90,000 to cover Pickleglass installation and project contingency.

BACKGROUND / PRIOR DISCUSSIONS:

- The inline skating rink was originally built in 2003 in response to the inline skating and hockey craze of the 1990s. The rink has not been programmed by the city for inline hockey for more than a decade due to a decline in leagues and lack of community participation in inline hockey program offerings.
- The current Parks, Recreation, Open Space, and Trails (PROST) Master Plan, which was developed in partnership with the community and adopted by City Council in 2012, identified the underutilized inline skating rink as a prime opportunity for repurposing.
- In 2014/2015, three temporary pickleball courts were striped on the basketball gym floor at the Recreation & Senior Center, with use allowed during scheduled hours. Demand for these courts remains strong, with waiting lines often formed by players desiring court space.

- In 2019, in response to growing community interest, the City added pickleball court striping to the existing inline rink and provided moveable nets to support drop-in pickleball play. Over the past six years, a demographically diverse group of players have used the rink informally for outdoor pickleball, demonstrating a sustained interest in this activity.
- The City Council's February 2024 Work Plan identified outdoor recreation amenities, including pickleball, as a medium priority.
- On August 20, 2024, following community input at RAB meetings and public comments received at the Recreation & Senior Center, indicating strong support for dedicated outdoor pickleball courts, a memo was submitted by the RAB to the City Council recommending the proposed project to convert the existing inline skating rink to dedicated pickleball courts.
- In November 2024, the City Council approved $200,000 funding for the rink conversion project as part of the 2025 Capital Improvement Program.
- In February 2025, the City posted a progress update regarding the conversion of the inline skating rink to pickleball courts. The City Council and staff immediately received, and continue to receive, feedback from the public related to the project.
- Further discussions were held at the April 15, 2025 City Council meeting, with staff presenting project background and rationale for converting the existing rink as opposed to constructing a new facility elsewhere. The decision/direction was made by City Council at that time to move forward with the conversion and continue exploring potential noise mitigation opportunities to address community concerns.
- In May of 2025, staff obtained a site-specific noise impact analysis from an acoustic engineering firm Pickleball Sound Mitigation (PSM) who specialize in estimating sound impacts and prescribing mitigation measures specific to pickleball courts. The report recommended mitigation measures for much of the court complex's perimeter to prevent decibel levels at surrounding residences from exceeding the levels known by the firm to generate noise complaints. See attached report.
- Since receiving the PSM report, staff have researched options of sound mitigation products and construction methods feasible for implementation on the existing rink's post-tension concrete slab including fencing with sound "curtains". Based on conversations with industry vendors, Staff recommend Pickleglass by Pickletile LLC as the preferred product.
- Pickleglass is preferred over acoustic curtains for multiple reasons, including:
    - The product's transparency (versus an opaque curtain) allows for sightlines to/from the courts to maintain safety, better enable spectating and prevent shadows which could exacerbate snow and ice on the playing surfaces during winter months.
    - The product can remain installed year-round and does not require annual maintenance by contractors to hang and remove acoustic curtain panels.
    - The installation can be designed and stamped by a licensed structural engineer prior to construction.

- In Staff updates to the Recreation Advisory Board (RAB), board members have continued to emphasize the need for the project and a desire for the courts to be constructed as soon as possible.

DEVELOPMENT PROPOSAL:
Not Applicable

ANALYSIS:
A majority vote from Council is needed to award and execute a contract with Pickletile LLC in the amount of $259,797.70 for the purpose of constructing dedicated pickleball courts with the Pickleglass sound mitigation system. Approval would also allow staff to spend an additional $25,202.30 on potential contingency needs (approximately 9.5% of contract value). This approval would therefore result in authorization of total spending not-to-exceed $285,000.

As depicted on drawing sheet 2 of the attached Contract Documents, the proposed sound mitigation would extend to heights up to 16' tall. The Pickleglass system, which is projected to reduce noise levels by 50%, is comprised of framed glass panels between 8'-13' tall and anchored on top of a concrete foundation wall between 1-3' tall. Per the sound engineer's site-specific guidance, the system would be constructed with heights as follows:

- East Side: mostly open as mitigation is not needed for the Recreation & Senior Center tennis courts and parking lot.
- South Side: 9' high system (1' concrete wall + 8' tall Pickleglass)
- West Side: 12' high system (2' concrete wall + 10' tall Pickleglass)
- North Side: 16' high system (3' concrete wall + 13' tall Pickleglass)

City Council should consider that a future budget amendment of $89,900 would be needed to fully fund the project at the requested amount. This budget amendment would come in 2026 from the Finance Director and could be covered by the fund balances of the Capital Fund (forecasted at ~$13.3m) and/or the Recreation Fund (forecasted at ~$2.8m) as directed by Council at the time of formal amendment. City Council should also consider staff's recommendation of contracting Pickletile as a sole source provider given the proprietary nature of the Pickleglass product and its unique sport-specific application.

2025 COUNCIL WORK PLAN:
Conversion of the inline rink to pickleball courts was not specifically identified in the 2025 work plan. However, it most closely aligns with the 2025 focus on maintaining existing infrastructure and assets shown under the Core Services priority.

FISCAL IMPACT:
Budgeted?: **Yes**

The approved 2025 budget allocated $200,000 for the conversion project, with $120,000 (60%) coming from Recreation Fund 208 and $80,000 (40%) from Parks Capital Fund 301. After completion of the $4,900 noise study with PSM, $195,100 remains available. A table of funds and anticipated expenditure is outlined below.

Available Budget	
Acct. No. 208538-660307 (Convert Inline Rink – Pickleball) 60%	$120,000.00
Acct. No. 301511-660307 (Convert Inline Rink – Pickleball) 40%	$75,100.00
Total Available:	**$195,100.00**

Anticipated Expenditures	
Pickletile LCC	$259,797.70
Contingency (~9.5%)	$25,202.30
Total Not-to-Exceed:	**$285,000.00**
Budget Remaining	(-$89,900.00)

ALTERNATIVE(S):
One alternative is to eliminate the sound mitigation system and proceed with standard chain-link fencing at the perimeter. While the chain-link fence is cheaper than Pickleglass, Staff anticipate this would result in noise complaints as projected by the acoustic engineering sound analysis.

A secondary alternative would be to build fewer than five pickleball courts. While not all project costs can be isolated “per court” (such as contractor mobilization), reductions in scope may result in savings of approximately $28,000 per court eliminated. Five is the highest number that will fit on the existing concrete slab with industry standard spacing and the amount desired, and currently recommended, by the Recreation Advisory Board (RAB). However, it is possible to build fewer courts if needed to obtain cost savings. Staff believe current demand warrants five courts and that a reduced number will not satisfy the pickleball community.

RECOMMENDATION:
Staff recommend the City Council award a sole-source contract to Pickletile LLC, approve spending for an amount not-to-exceed $285,000 and authorize execution of contract documents on behalf of the City as set forth in Resolution No. 1, Series 2026. Approval of the contract will require a future budget amendment in the amount of $89,900.

ATTACHMENT(S):
1. Resolution No. 1, Series 2026
2. Agreement with Pickletile LLC

3. Pickletile Pickleglass Proposal
4. Sound Analysis – PMS Consulting LLC

RESOLUTION NO. 1
SERIES 2026

A RESOLUTION APPROVING AN AGREEMENT FOR THE CONVERSION OF THE INLINE SKATING RINK TO DEDICATED PICKLEBALL COURTS

WHEREAS, an Agreement has been proposed between the City and Pickletile LLC for the conversion of the inline skating rink to pickleball courts (the "Project"); and

WHEREAS, by this resolution the City Council desires to approve the Agreement and to authorize additional expenses and contingency for the Project.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the Agreement by and between the City of Louisville and Pickletile LLC for the Project (the "Agreement") in substantially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The City Council hereby approves additional expenses of $25,202.30 for court dividers and/or contingency for the Project for a total not-to-exceed amount of $285,000. The Parks, Recreation & Open Space Director is authorized to execute change orders to the Agreement in a total amount not to exceed $25,202.30 if deemed necessary for the Project.

Section 3. The Mayor is hereby authorized to execute the Agreement on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Agreement as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Agreement are not altered.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

City of Louisville
COLORADO • SINCE 1878

AGREEMENT

THIS AGREEMENT is made and entered into this **6th day of January** in the year **2026** by and between:

CITY OF LOUISVILLE, COLORADO
(hereinafter called OWNER)

and

PICKLETILE LLC
(hereinafter called CONTRACTOR)

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows.

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

PROJECT: Convert Inline Rink to Pickleball Courts
PROJECT NUMBER: 208538-660307

ARTICLE 2. CONTRACT TIMES

2.1 The CONTRACTOR shall substantially complete all work within **124 Contract Days** from the date when the Contract Time commences to run as identified in the Notice to Proceed. The Work shall be completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions.

2.2 LIQUIDATED DAMAGES. The OWNER and the CONTRACTOR agree and recognize that time is of the essence in this contract and that the OWNER will suffer financial loss if the Work is not substantially complete by the date specified in paragraph 2.1 above, plus any extensions thereof allowed in accordance with the Article 12 of the General Conditions. OWNER and CONTRACTOR also agree that such damages are uncertain in amount and difficult to measure accurately. Accordingly, the OWNER and CONTRACTOR agree that as liquidated damages, and not as a penalty, for delay in performance the CONTRACTOR shall pay the OWNER **One Hundred and 00/100 dollars ($100.00)** for each and every **Contract Day** and portion thereof that expires after the time specified above for substantial completion of the Work until the same is finally complete and ready for final payment. The liquidated damages herein specified shall only apply to the CONTRACTOR's delay in performance, and shall not include litigation or attorneys' fees incurred by the OWNER, or other incidental or consequential damages suffered by the OWNER due to the CONTRACTOR's performance. If the OWNER charges liquidated damages to the CONTRACTOR, this shall not preclude the OWNER from commencing an action against the CONTRACTOR for other actual harm resulting from the CONTRACTOR's performance, which is not due to the CONTRACTOR's delay in performance.

ARTICLE 3. CONTRACT PRICE

3.1 The OWNER shall pay in current funds, and the CONTRACTOR agrees to accept in full payment for performance of the Work, subject to additions and deductions from extra and/or omitted work and determinations of actual quantities as provided in the Contract Documents, the Contract Price of **TWO HUNDRED FIFTY NINE THOUSAND SEVEN HUNDRED NINETY SEVEN and 70/100 dollars ($259,797.70)** set forth in the Cost Proposal of the CONTRACTOR dated December 10, 2025.

As provided in paragraph 11.9 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by PROJECT MANAGER as provided in paragraph 9.10 of the General Conditions. Unit prices have been computed as provided in paragraph 11.9 of the General Conditions.

ARTICLE 4. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER as provided in the General Conditions.

4.1 PROGRESS PAYMENTS. OWNER shall make progress payments on the basis of CONTRACTOR's Applications for Payment as recommended by PROJECT MANAGER, on or about the third Wednesday of each month during construction as provided below. All progress payments will be on the basis of the progress of the Unit Price Work based on the number of units completed as provided in the General Conditions.

4.1.1.1 Prior to final completion and acceptance, progress payments will be made in the amount equal to 95 percent of the calculated value of completed Work, and/or 95 percent of materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in 14.2 of the General Conditions), but in each case, less the aggregate of payments previously made and such less amounts as PROJECT MANAGER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions.

If OWNER finds that satisfactory progress is being made in any phase of the Work, it may, in its discretion and upon written request by the CONTRACTOR, authorize final payment from the withheld percentage to the CONTRACTOR or subcontractors who have completed their work in a manner finally acceptable to the OWNER. Before any such payment may be made, the OWNER must, in an exercise of its discretion, determine that satisfactory and substantial reasons exist for the payment and there must be provided to the OWNER written approval from any surety furnishing bonds for the Work.

Nothing contained in this provision shall preclude the OWNER and CONTRACTOR from making other arrangements consistent with C.R.S. 24-91-105 prior to contract award.

4.2 FINAL PAYMENT. Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as provided in said paragraph 14.13 of the General Conditions.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

5.1 CONTRACTOR has examined and carefully studied the Contract Documents, (including the Addenda listed in paragraph 6.8) and the other related data identified in the Bidding Documents including "technical".

5.2 CONTRACTOR has inspected the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

5.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and furnishing of the Work.

5.4 CONTRACTOR has carefully studied all reports of exploration and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions relating to surface or subsurface structures at or contiguous to the site (Except Underground facilities) which have been identified in the General Conditions as provided in paragraph 4.2.1 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and PROJECT MANAGER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to such reports, drawings or to Underground Facilities at or contiguous to the site. CONTRACTOR has conducted, obtained and carefully studied (or assume responsibility for having done so) all necessary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

5.5 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.

5.6 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the site that relates to the Work as indicated in the Contract Documents.

5.7 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests studies and data with the Contract Documents.

5.8 CONTRACTOR has given PROJECT MANAGER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by PROJECT MANAGER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing the Work.

ARTICLE 6. CONTRACT DOCUMENTS

The Contract Documents, which constitute the entire agreement between OWNER and CONTRACTOR concerning the Work, are all written documents, which define the Work and the obligations of the Contractor in performing the Work and the OWNER in providing compensation for the Work. The Contract Documents include the following:

6.1 This Agreement

6.2 Documentation submitted by CONTRACTOR prior to Notice of Award, as applicable:

6.2.1 Pickletile Proposal
6.2.2 Schedule of Sub-Contractors
6.2.3 Disclosure Statement (Anti-Collusion Affidavit)

6.3 Project Specifications

6.3.1 General Conditions
6.3.3 Supplementary Conditions
6.3.3 General Requirements
6.3.4 Technical Specifications

6.4 Drawings with each sheet bearing the title: **Inline Rink Conversion – Louisville, CO**

6.5 Other documents which may be required or specified including:

6.5.1 Addenda No. 0 to 0 exclusive
6.5.2 Notice of Award
6.5.3 Performance Bond
6.5.4 Labor and Material Payment Bond
6.5.5 Certificates of Insurance
6.5.6 Notice to Proceed
6.5.7 Change Order
6.5.8 Field Order
6.5.9 Work Change Directive
6.5.10 Application for Payment
6.5.11 Contractor Proposal Request
6.5.12 Contractor Overtime Request
6.5.13 Certificate of Substantial Completion
6.5.14 Claim Release
6.5.15 Claim Release for Subcontractors
6.5.16 Final Inspection Report
6.5.17 Certificate of Final Completion
6.5.18 Guarantee Period Inspection Report

6.6 The following which may be delivered or issued after the Effective Date of the Agreement and are attached hereto: All Written Amendments and other documents amending, modifying, or

supplementing the Contract Documents pursuant to paragraphs 3.5 and 3.6 of the General Conditions.

6.7 In the event of conflict between the above documents, the prevailing document shall be as follows:

1. Permits from other agencies as may be required.

2. Special Provisions and Detail Drawings.

3. Technical Specifications and Drawings. Drawings and Technical Specifications are intended to be complementary. Anything shown or called for in one and omitted in another is binding as if called for or shown by both.

4. Supplementary Conditions.

5. General Conditions.

6. City of Louisville Design and Construction Standards.

7. Reference Specifications.

In case of conflict between prevailing references above, the one having the more stringent requirements shall govern.

There are no Contract Documents other than those listed above in this Article 6. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

ARTICLE 7. MISCELLANEOUS

7.1 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions.

7.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge that assignor from any duty or responsibility under the Contract Documents.

7.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 8. OTHER PROVISIONS

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR.

This Agreement will be effective on **January 6, 2026.**

OWNER: CITY OF LOUISVILLE, COLORADO

By: _____
Christopher Leh, Mayor

(CORPORATE SEAL)

Attest: _____
Genny Kline, City Clerk

Address for giving notices:

749 Main Street
Louisville, Colorado
80027

Attention: Project Manager - PROS

CONTRACTOR: PICKLETILE LLC

By: _____
Scott Miller, CEO

(CORPORATE SEAL)

Attest: _____

Name: **Steven Blustein** Title: **President**

Address for giving notices:

8501 N Mopac Expy. Ste 170
Austin, TX
78759

Attention: Scott Miller

PICKLETILE
THE OFFICIAL COURT BUILDER OF USA PICKLEBALL

PICKLEGLASS™ PROPOSAL

CITY OF LOUISVILLE | JOB 1662

12/10/25

REQUESTED BY

BRYON WEBER
CITY OF LOUISVILLE
BWEBER@LOUISVILLECO.GOV
+1 (303) 335-4736

JOB LOCATION

900 VIA APPIA WAY, LOUISVILLE, CO 80027

PREPARED BY: LEJEND BAIN

JOB NUMBER: 1662

THIS PROPOSAL IS VALID FOR 30 DAYS

MADE IN USA

WE ARE THE OFFICIAL COURT BUILDER OF USA PICKLEBALL™

PICKLETILE™ IS THE OFFICIAL COURT BUILDER OF USA PICKLEBALL. A NATIONWIDE RECOGNITION OF OUR RELENTLESS PURSUIT OF DESIGN EXCELLENCE AND INNOVATION. EVERY DETAIL IS ENGINEERED FOR PERFORMANCE, AESTHETICS, AND LONGEVITY. BUILT TO ELEVATE THE GAME.

TRUSTED TO LEAD THE FUTURE OF THE SPORT.

PICKLETILE
THE OFFICIAL COURT BUILDER OF USA PICKLEBALL

COURT CONSTRUCTION PROJECT SCOPE

SURFACING OF 5 OUTDOOR PICKLEBALL COURTS ON A 10,860 SQUARE FOOT POST-TENSIONED CONCRETE SLAB. APPLICATION OF LAYKOLD ADVANTAGE PRO (OR EQUAL) ACRYLIC THREE-TONE SPORT SURFACING SYSTEM. INSTALL PREMIUM PICKLEBALL NETS. INSTALL **PICKLEGLASS™ SOUNDPROOF GLASS FENCING SYSTEM.**

COURT CONSTRUCTION BREAKDOWN

DISCLAIMER: ALL COSTS PROVIDED AT THE ESTIMATE STAGE ARE PRELIMINARY AND SUBJECT TO CHANGE. THESE ESTIMATES ARE BASED ON CURRENT INFORMATION AND ASSUMPTIONS, AND FINAL COSTS MAY VARY DUE TO CHANGES IN PROJECT SCOPE, MATERIAL PRICES, LABOR RATES, AND OTHER UNFORESEEN FACTORS. A MORE ACCURATE COST ASSESSMENT WILL BE PROVIDED UPON FURTHER DEVELOPMENT AND FINALIZATION OF THE PROJECT PLANS.

- **SITE PREP/CRACK REPAIR:** ROUTINE CRACK REPAIR & SURFACE PREP | 10,860 SF
- **ACRYLIC COURT SURFACING:** LAYKOLD ADVANTAGE PRO SYSTEM | 10,860 SF
- **NETS, POSTS, SLEEVES:** PREMIUM BRAND DOUGLAS, DOMINATOR OR EDWARD | 5 SETS

COURT CONSTRUCTION ESTIMATE: $56,512

COST BREAKDOWN

DISCLAIMER: A 25% NON-REFUNDABLE DESIGN DEPOSIT, BASED ON THE ESTIMATED PROJECT COST, IS REQUIRED TO INITIATE ENGINEERING AND SHOP DRAWING PREPARATION. IF PE-STAMPED DRAWINGS AND STRUCTURAL CALCULATIONS ARE REQUIRED, AN ADDITIONAL $3,500 FEE WILL APPLY, BILLED SEPARATELY FROM THE DESIGN DEPOSIT.

PICKLEGLASS™ SOUNDPROOF GLASS COURT SYSTEM — ESTIMATE

PICKLEGLASS™ 8,10, & 13FT SOUNDPROOF GLASS PERIMETER

- **DESIGN** ARCHITECTURAL SHOP DRAWINGS
- **GLASS** HIGH-IMPACT 1/2 INCH TEMPERED
- **FRAME** HSS 500B AMERICAN-MADE STEEL | ZINC POWDER COAT FINISH
- **SOUND** 50% SOUND-SUPPRESSION | STC 35
- **DOOR** SINGLE GLASS DOOR | ACCESSORIES INCLUDED | 3 DOORS
- **MAINTENANCE** POLYSILOXANE-INFUSED GLASS | 90% SELF-CLEAN
- **WIND** HIGH-PERFORMANCE BARRIER
- **WARRANTY** 10 YEAR NON-CORROSIVE
- **INSTALL** ESTIMATED COST INCLUDED

13FT OPTION: 211 LF | $72,850

10FT OPTION: 44 LF | $12,760

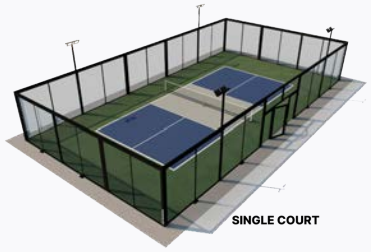
8FT OPTION: 171 LF | $45,315

EQUIPMENT RENTAL FEE: $5,000

CONCRETE BEAM WORK: $31,950

ANCHOR BOLT PACKAGE: $6,390

STANDARD DOOR PACKAGE (3): $9,000


SINGLE COURT

SINGLE DOOR

DOUBLE DOOR

SALES TAX: EXEMPT

ESTIMATED SHIPPING COST: $7,600

STAMPED ENGINEERING DRAWINGS: $3,500

BOND PREMIUM (3.5%): $8,920.70

PROJECT PROPOSAL: $259,797.7

MADE IN USA

25

THE SIGN OF A BETTER BUSINESS

PICKLETILE
THE OFFICIAL COURT BUILDER OF USA PICKLEBALL

PICKLEGLASS™ NEXT STEPS

MODEL, FABRICATE, SHIP, AND INSTALL PICKLEGLASS™ COURT

STEP 1: MODEL PICKLEGLASS™ SHOP DRAWINGS

ENGAGE WITH ENGINEER TEAM TO PRODUCE SHOP DRAWINGS INTEGRATED WITH ARCHITECTURAL BLUEPRINTS
PAYMENT DUE | 25% DESIGN DEPOSIT
ESTIMATED 15 DAY DELIVERABLE UPON PAID DESIGN DEPOSIT

STEP 2: FABRICATE PICKLEGLASS™ COURT DESIGN

SUBMIT SHOP DRAWINGS TO FACTORY AND MANUFACTURE SITE SPECIFIC PLANS
PAYMENT DUE | 25% PRODUCTION DEPOSIT
ESTIMATED 90 DAY DELIVERABLE UPON PAID PRODUCTION DEPOSIT

STEP 3: SHIP DIRECT TO FINAL DESTINATION

COORDINATE, PACKAGE, SHIP, AND DELIVER ALL PRODUCT TO JOBSITE
PAYMENT DUE | 25% SHIP DEPOSIT
ESTIMATED 5 DAY DELIVERABLE UPON PAID BILL OF LADING DEPOSIT

STEP 4: INSTALL PICKLEGLASS™ COURT

MANAGE AND OVERSEE ALL INSTALLATION OF CONTRACTED WORK.
ESTIMATED 3-7 DAY DELIVERABLE UPON DELIVERY OF MATERIAL

STEP 5: PUNCHOUT CONFIRM AND TURNOVER

FINAL INSPECTION AND CONFIRMATION THAT PROJECT MEETS SPECIFICATIONS FOR COMPLETION
PAYMENT DUE | CLOSING BALANCE
ESTIMATED 1 DAY DELIVERABLE UPON COMPLETION OF INSTALLATION

STANDARD VS. RUSH DELIVERY

STANDARD: 90-DAY LEAD TIME ESTIMATED FROM FINALIZED DESIGNS AND RECEIPT OF PRODUCTION DEPOSIT
RUSH (+$5,000): 60-DAY LEAD TIME ESTIMATED FROM FINALIZED DESIGNS AND RECEIPT OF PRODUCTION DEPOSIT

PICKLEGLASS™ EXECUTION

- MODEL AND PRODUCE ARCHITECTURAL SHOP DRAWINGS
- ANCHOR PICKLEGLASS™ HSS 500B STEEL COLUMNS INTO CONCRETE FOUNDATION
- INSTALL PANORAMIC SOUNDPROOFING 1/2 INCH GLASS PANELS
- ESTIMATED TIME FOR PICKLEGLASS™ INSTALLATION IS 3-7 DAYS DEPENDING ON SIZE
- PRICE INCLUDES MATERIAL, LABOR, AND MOBILIZATION

IF LIGHTS ARE PART OF THE PROJECT SCOPE:

- MOUNT LIGHT POSTS AND CONNECT HIGH-PERFORMANCE LSI ZONE LED LIGHTING SYSTEM (OFFICIAL LIGHTS OF USA PICKLEBALL)
- CUSTOMER RESPONSIBLE FOR FINAL ELECTRICAL CONNECTION TO PANEL AND INSTALLATION FOR TIMERS, DIMMERS, AND SWITCHES IF DESIRED.

WARRANTY

10 YEAR PICKLEGLASS™ WARRANTY ON STEEL RUST AND CORROSION
5 YEAR PICKLEGLASS™ WARRANTY ON HIGH-PERFORMANCE LED LIGHT FIXTURES
3 YEAR PICKLEGLASS™ WARRANTY ON MATERIAL DEFECTS

PICKLETILE
THE OFFICIAL COURT BUILDER OF USA PICKLEBALL

OUR VISION | IMMERSIVE RENDERINGS

PICKLETILE
THE OFFICIAL COURT BUILDER OF USA PICKLEBALL

TERMS OF PROPOSAL

1. THIS IS OFFERED FOR ACCEPTANCE WITHIN (30) DAYS FROM DATE SHOWN ABOVE, AFTER WHICH DATE IT WILL BE SUBJECT TO RECONFIRMATION OR REQUOTATION. WHEN DULY EXECUTED BY YOU AND DELIVERED TO US IT SHALL CONSTITUTE A LEGAL CONTRACT BINDING BOTH PARTIES, SUBJECT ONLY TO YOUR CREDIT APPROVAL BY PICKLETILE™ LLC.

2. THE WORK COVERED BY THIS PROPOSAL SHALL BE ONLY THAT SPECIFICALLY OUTLINED HEREIN AND TO PROVIDE A PRICE FOR THE WORK IN ACCORDANCE WITH PLANS AND SPECIFICATIONS AS FURNISHED. ANY CHANGE IN THE WORK OR WORK NOT COVERED IN THIS PROPOSAL WILL BE CONSIDERED AS EXTRA WORK AND WILL BE SUBJECT TO FURTHER NEGOTIATION. WHERE THERE IS A VARIANCE BETWEEN THE PLANS AND SPECIFICATIONS AND THIS PROPOSAL, THE PRICES QUOTED WILL BE ONLY FOR THE WORK AS OUTLINED IN THE SCOPE OF THIS PROPOSAL. LOCAL, CITY, OR COUNTY LICENSES (IF REQUIRED) ARE NOT INCLUDED IN THIS QUOTE. THE OWNER SHALL OBTAIN REQUIRED PERMITS AND WILL CONFORM ALL PLANS AND SPECS WITH ALL GOVERNMENTAL REQUIREMENTS.

2.1 IF THE WORK COVERED BY THIS PROPOSAL DOES NOT INCLUDE THE INSTALLATION OF CONCRETE, PICKLETILE™ IS RELYING ON THE ADEQUACY AND INTEGRITY OF THE EXISTING SURFACE TO BE SUFFICIENT AND TO SUPPORT THE INSTALLATION OF THE PICKLEGLASS™ SYSTEM. IF IT IS LATER DETERMINED THAT THE EXISTING SURFACE IS INADEQUATE AND REQUIRES CONCRETE WORK, THEN PICKLETILE™ WILL PREPARE A MODIFICATION OF THE SOW TO INCLUDE THE ADDITIONAL MATERIALS AND/OR ADDITIONAL LABOR HOURS TO SUCCESSFULLY COMPLETE THE PROJECT.

2.2. IF EXCAVATION OR GRADING IS INCLUDED, BOULDER AND HEAVY ROCK REMOVAL IS EXCLUDED. ANY SUCH MATERIALS REQUIRING ADDITIONAL EQUIPMENT OR LABOR WILL REQUIRE A SEPARATE CHANGE ORDER.

3. ESCALATION: IN THE EVENT OF SIGNIFICANT DELAY OR PRICE INCREASE OF MATERIAL OCCURRING DURING THE PERFORMANCE OF THE CONTRACT THROUGH NO FAULT OF PICKLETILE™ LLC, THE CONTRACT SUM, TIME OF PERFORMANCE, AND CONTRACT REQUIREMENTS SHALL BE EQUITABLY ADJUSTED BY CHANGE ORDER. A CHANGE IN PRICE OF AN ITEM OF MATERIAL SHALL BE CONSIDERED SIGNIFICANT WHEN THE PRICE OF AN ITEM INCREASES BY AT LEAST 10 PERCENT (10%) BETWEEN THE DATE OF THE PROPOSAL OR CONTRACT AND THE DATE OF INSTALLATION. FOR EXAMPLE, IN THE EVENT OF A 10% INCREASE IN THE COST OF THE STEEL COLUMNS, CUSTOMER AGREES TO EXECUTE A CHANGE ORDER REFLECTING A 10% INCREASE IN THE PRICE OF THE PROJECT PERTAINING TO THE STEEL COLUMNS.

4. UNOBSTRUCTED VEHICULAR ACCESS IS GUARANTEED BY OWNER UNTIL COMPLETION OF WORK. OWNER TO PROVIDE STORAGE AREA FOR MATERIALS, ELECTRICITY, DUMPSTER AND POTABLE WATER SUPPLY WITHIN 100' OF COURT(S).

5. UNLESS SPECIFICALLY INCLUDED IN THE CONTRACT PRICE, THE COST OF ANY SURETY BONDS OR PERMITS WILL BE ADDED TO THE CONTRACT PRICE.

6. ANY CONTRACT OR PURCHASE ORDER DIRECTED TO PICKLETILE™ LLC AS A RESULT OF OR BASED UPON THIS PROPOSAL MUST INCLUDE REFERENCE TO THIS PROPOSAL TO BECOME ACCEPTABLE TO PICKLETILE™ LLC.

7. PICKLETILE™ LLC IS NOT OBLIGATED TO CONTINUE WORK UNTIL TERMS OF PAYMENT ARE FULLY MET. OWNER IS SOLELY RESPONSIBLE FOR ALL DELAYS AS PER TERMS OF CONTRACT.

8. ANY PAYMENTS NOT RECEIVED AS PER CONTRACT SHALL BEAR INTEREST AT THE RATE OF 1 1/2% PER MONTH, AND YOU ALSO AGREE TO PAY PICKLETILE™ LLC COST AND EXPENSE OF COLLECTION INCLUDING REASONABLE ATTORNEY'S FEES WHETHER OR NOT A SUIT IS FILED.

9. ADDITIONAL TERMS AND CONDITIONS CAN BE FOUND AT HTTPS://PICKLETILE.COM/TERMS-CONDITIONS/

10. YOU ARE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS. ANY INACCURACIES OR POST-APPROVAL CHANGES MAY INCUR ADDITIONAL COSTS AND DELAYS. YOUR SIGNATURE CONFIRMS APPROVAL, MEASUREMENT ACCURACY, AND AUTHORIZATION TO PROCEED WITHOUT LIABILITY FOR DISCREPANCIES.

TERMS OF PAYMENT

- **DESIGN DEPOSIT 25%** BALANCE DUE UPON **ACCEPTANCE OF THIS PROPOSAL**
- **PRODUCTION DEPOSIT 25%** BALANCE DUE UPON **APPROVED DESIGN**
- **SHIP DEPOSIT 25%** BALANCE DUE UPON **BILL OF LADING**
- **PROJECT CLOSEOUT** BALANCE DUE UPON **PROJECT TURNOVER**

DESIGN DEPOSIT **BALANCE DUE: $64,949.43**

EXCLUSIONS (UNLESS OTHERWISE SPECIFIED)

1. ANY ITEM OF WORK NOT SPECIFIED ABOVE
2. SITE WORK IF NOT SPECIFIED ABOVE
3. SUBGRADE STABILIZATION ENHANCEMENTS
4. ALLOWANCES OR CONTINGENCIES
5. PREVAILING OR UNION WAGES
6. ANY PERMITS, SURVEYS, OR FEES
7. PERIMETER SAFETY FENCING OR SECURITY
8. CONSTRUCTION DRAWINGS OR ENGINEER'S STAMP
9. HEAVY ROCK AND BOULDER REMOVAL
10. EROSION CONTROL MEASURES
11. LANDSCAPING AND SPRINKLER REPAIR
12. ELECTRICAL WORK REQUIRING A LICENSED ELECTRICIAN

THIS PROPOSAL IS VALID FOR 30 DAYS

ACCEPTANCE

THE ABOVE COST, SPECIFICATIONS AND CONDITIONS ARE SATISFACTORY AND ARE HEREBY ACCEPTED. PICKLETILE™ LLC IS AUTHORIZED TO PERFORM THE WORK AS SPECIFIED ABOVE. TO INDICATE ACCEPTANCE PLEASE RETURN ONE SIGNED COPY OF THE CONTRACT TO THE EMAIL SCOTT@PICKLETILE.COM

ACCEPTED BY:

PRINT NAME

SIGNATURE

DATE

OFFERED BY: SCOTT MILLER, CEO
PICKLETILE™ LLC

SIGNATURE

12/10/2025
DATE

MADE IN USA

THE SIGN OF A BETTER BUSINESS

MEMBER AMERICAN SPORTS BUILDERS ASSOCIATION

Certificate of Membership

This is to certify that

PICKLETILE

is a Member of the Builder Division of the

American Sports Builders Association

a nonprofit association, is a national organization for builders, designers, and suppliers of materials for courts, running tracks, sports fields, and indoor and outdoor sports surfaces. It is recognized as a centralized source for technical information, including construction guidelines.

AMERICAN SPORTS BUILDERS ASSOCIATION CORPORATE SEAL 1965 DELAWARE

The membership hereby conferred entitles the above named to use the name and membership mark of the Association on all proper forms, notices, and advertising subject to the conditions set forth in the By-Laws of the Association. In Witness Whereof, The American Sports Builders Association has caused this certificate to be executed and its seal affixed by the Chairman and Secretary-Treasurer on July 17, 2024.

Allen C Verdin — *Secretary-Treasurer*

RJ J — *Chairman*

SCHEDULE OF SUBCONTRACTORS

This Bid is based on subcontracting certain portions of the work to subcontractors as listed below.

Name: Altitude Athletic Surfaces, LLC Telephone No. 303-885-1315
Address: 4604 Fenwood Drive
City: Highlands Ranch State: CO Zip Code: 80130
Services/equipment to be provided: Sports Surfacing, grade beam work, PickleGlass Installation, net installation

Name: _____ Telephone No. _____
Address: _____
City: _____ State: _____ Zip Code: _____
Services/equipment to be provided: _____

Name: _____ Telephone No. _____
Address: _____
City: _____ State: _____ Zip Code: _____
Services/equipment to be provided: _____

Name: _____ Telephone No. _____
Address: _____
City: _____ State: _____ Zip Code: _____
Services/equipment to be provided: _____

Name: _____ Telephone No. _____
Address: _____
City: _____ State: _____ Zip Code: _____
Services/equipment to be provided: _____

Name: _____ Telephone No. _____
Address: _____
City: _____ State: _____ Zip Code: _____
Services/equipment to be provided: _____

DRAFT

DISCLOSURE STATEMENT

Vendor must disclose any possible conflict of interest with the City of Louisville including, but not limited to, any relationship with any City of Louisville elected official or employee.

Your response must disclose if a known relationship exists between any principal of your firm and any City of Louisville elected official or employee. If, to your knowledge, no relationship exists, this should also be stated in your response.

Failure to disclose such a relationship may result in cancellation of a contract as a result of your response. This form must be completed and returned in order for your proposal to be eligible for consideration.

☑ NO KNOWN RELATIONSHIPS EXIST

☐ RELATIONSHIP EXISTS (Please explain relationship)

_____

_____

I CERTIFY THAT:

1. I, as an officer of this organization, or per the attached letter of authorization, am duly authorized to certify the information provided herein are accurate and true as of the date; and

2. My organization shall comply with all State and Federal Equal Opportunity and Non-Discrimination requirements and conditions of employment.

Scott Miller _____ CEO/Co-Founder _____

Printed or Typed Name Title

Scott Miller _____ 12/16/2025 _____

Signature Date

DRAFT

Project Specifications for
Construction of:

CONVERSION OF THE INLINE HOCKEY RINK TO PICKLEBALL COURTS

THE CITY OF LOUISVILLE
749 MAIN STREET
LOUISVILLE CO, 80027

Prepared by:

City of Louisville

Revised: December 16, 2025

PROJECT DIRECTORY

LOUISVILLE CONVERSION OF INLINE RINK TO PICKLEBALL COURTS

OWNER:	**City of Louisville** Contacts: Bryon Weber 749 Main St Louisville CO, 80027 Tel: 303-335-4736 Email: bweber@louisvilleco.gov
STRUCTURAL ENGINEER	**Pickletile, LLC dba Pickleglass** Contacts: Mark Caruso Tel: 512-710-1564 Email: mark@pickletile.com
PROJECT CONTRACTOR:	**Pickletile, LLC dba Pickleglass** Contacts: Lejend Bain 8501 N Mopac Expy Ste 170 Austin, TX 78757 Tel: 512-710-1564 Email: lejend@pickletile.com

TABLE OF CONTENTS

DATE: *December 8, 2025*

PROJECT: *LOUISVILLE CONVERSION OF INLINE RINK TO PICKLEBALL*

Title	Section
DIVISION 01	
General Conditions	01 00 00
Definitions	01
Preliminary Matters	02
Contract Documents	03
Availability of Lands	04
Bonds & Insurance	05
Contractor's Responsibilities	06
Other Work	07
Owner's Responsibilities	08
Owner's Representative's Status during Construction	09
Changes in the Work	10
Change of the Contract Price	11
Change of the Contract Times	12
Tests & Inspections	13
Payments to Contractor and Completion	14
Suspension of Work and Termination	15
Miscellaneous	16
Supplemental Conditions	01 00 10
General Requirements	01 00 20
DIVISION 02 – EXISTING CONDITIONS	
Concrete and Concrete Replacement	02 40 00
Demolition	02 41 00
Construction Zone Traffic Control	02 60 00
DIVISION 31 - EARTHWORK	
Erosion and Sedimentation Controls	31 25 00
DIVISION 32 – EXTERIOR IMPROVEMENTS	
Acrylic Color Surfacing for Post-tension tennis courts	32 18 23
Pickleball Court Equipment	32 31 13

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.0 **Abnormal Weather** - Snowfall, rainfall, freezing temperatures, or wind conditions, in excess of those encountered in the project area of Boulder County during the past 10 years that necessitates cessation of Work and causes consequence to the project.

1.1 **Addenda** - Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2 **Agreement** - The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 **Application for Payment** - The form accepted by OWNER'S REPRESENTATIVE which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4 **Asbestos** - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5 **Bid** - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6 **Bidding Documents** - The advertisement or invitation to Bid, instructions to Bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7 **Bidding Requirements** - The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8 **Bonds** - Performance and Payment bonds and other instruments of security.

1.9 **Change Order** - A document recommended by OWNER'S REPRESENTATIVE, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.9.1 **Contract Day** – A Contract Day specifies that construction will be completed Monday through Sunday, excluding OWNER-observed holidays and Abnormal Weather days.

1.10 **Contract Documents** - The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments,

Change Orders, Work Change Directives, Field Orders and OWNER'S REPRESENTATIVE's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11 **Contract Price** - The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12 **Contract Times** - The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by OWNER'S REPRESENTATIVE's written recommendation of final payment in accordance with paragraph 14.13.

1.13 **CONTRACTOR** - The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14 **Defective** - An adjective which when modifying the work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to OWNER'S REPRESENTATIVE's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15 **Drawings** - The drawings that show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by OWNER'S REPRESENTATIVE and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16 **Effective Date of the Agreement** - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17 **OWNER'S REPRESENTATIVE** - The word "OWNER'S REPRESENTATIVE" refers to the City of Louisville, authorized representative, designated by the OWNER as its representative.

1.18 **OWNER'S Consultant** - A person, firm or corporation having a contract with OWNER to furnish services as OWNER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.19 **Field Order** - A written order issued by OWNER'S REPRESENTATIVE which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20 **General Requirements** - Sections of Division 1 of the Specifications.

1.21 **Hazardous Waste** - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.22 **Laws and Regulation: Laws or Regulations** - Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.23 **Liens** - Liens, charges, security interests or encumbrances upon real property or personal property.

1.24 **Milestone** - A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.25 **Notice of Award** - The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26 **Notice to Proceed** - A written notice given by OWNER to CONTRACTOR (with a copy to OWNER'S REPRESENTATIVE) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27 **OWNER** - The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28 **Partial Utilization** - Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.29 **PCBs** - Polychlorinated biphenyls.

1.30 **Petroleum** - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.31 **Plans** - The term plans as used in these Contract Documents shall have the same meaning as Drawings.

1.32 **Product** - Includes materials, equipment and systems.

1.33 **Project** - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.34 **Provide** - Furnish and install specified materials and equipment, unless the context requires otherwise.

1.35 **Radioactive Material** - Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.36 **Resident Project Representative** - The authorized representative of OWNER'S REPRESENTATIVE who may be assigned to the site or any part thereof.

1.37 **Samples** - Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.38 **Shop Drawings** - All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.39 **Specifications** - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.40 **Subcontractor** - An individual, firm or corporation having a contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.41 **Substantial Completion** - The Work (or a specified part thereof) has progressed to the point where, in the opinion of OWNER'S REPRESENTATIVE as evidenced by OWNER'S REPRESENTATIVE's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by OWNER'S REPRESENTATIVE's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.42 **Supplementary Conditions** - The part of the Contract Documents, which amends or supplements these General Conditions.

1.43 **Supplier** - A manufacturer, fabricator, supplier, distributor, material man or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.44 **Underground Facilities** - All pipeline, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.45 **Unit Price Work** - Work to be paid for on the basis of unit prices.

1.46 **Work** - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.47 Work Change Directive - A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by OWNER'S REPRESENTATIVE, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.48 Written Amendment - A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-OWNER'S REPRESENTATIVE or non-technical rather than strictly construction-related aspects of the Contract Documents.

END ARTICLE 01

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Bonds:

2.1 When CONTRACTOR delivers the executed Agreement to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds and Certificates of Insurance as CONTRACTOR may be required to furnish in accordance with Article 5.

Copies of Documents:

2.2 OWNER shall furnish to CONTRACTOR up to four copies of the contract documents for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed:

2.3 The Contract Times will commence to run on the day indicated in the Notice to Proceed. Timing and completion of the **Conversion of Inline Rink to Pickleball Courts** is required on or prior to **July, 17th 2026**. The OWNER has set the proposed project schedule and plans to implement the following schedule for this project. The CONTRACTOR shall be required to start construction on or before the start date listed below:

Proposed Project Schedule:

City Council Meeting ..... January 6
Notice of Award ..... January 7
Notice to Proceed, Bonds, Insurance, etc. ..... January 20
Construction/Installation/Site Restoration - Substantial Completion.....July 1
Final Project Completion.....July 17, 2026

Starting the Work:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to OWNER'S REPRESENTATIVE any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from OWNER'S REPRESENTATIVE before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or OWNER'S REPRESENTATIVE for failure to report any conflict, error, ambiguity or discrepancy in

the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to OWNER'S REPRESENTATIVE for review:

2.6.1 a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestone specified in the Contract Documents;

2.6.2 a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal.

Preconstruction Conference:

2.7 Before any Work at the site is started, a conference attended by CONTRACTOR, OWNER'S REPRESENTATIVE and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings and other submittal, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.8 Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, OWNER'S REPRESENTATIVE and others as appropriate will be held to review the Application for Payment for acceptability to OWNER'S REPRESENTATIVE. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to OWNER'S REPRESENTATIVE as provided below. The progress schedule will be acceptable to OWNER'S REPRESENTATIVE as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on OWNER'S REPRESENTATIVE responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to OWNER'S REPRESENTATIVE as providing a workable arrangement for reviewing and processing the required submittals.

END ARTICLE 02

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Intent:

3.1 The Contract Documents comprise the entire agreement OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases, which have a well-known technical or construction industry or trade meaning, are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifications and interpretations of the Contract Documents shall be issued by OWNER'S REPRESENTATIVE as provided in paragraph 9.4.

3.3 Reference to Standards & Specifications of Technical Societies; Reporting and Resolving Discrepancies:

3.3.1. Reference to standards, specifications, manuals or codes of any technical society, organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2 If, during the performance of the Work, CONTRACTOR discovers any conflict, error ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it to OWNER'S REPRESENTATIVE in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or OWNER'S REPRESENTATIVE for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof. Upon notification to the OWNER'S REPRESENTATIVE, the CONTRACTOR shall proceed with other parts of the Work not affected by the conflict, error, ambiguity or discrepancy.

3.3.3 Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall

take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

3.3.3.1 the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2 the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or OWNER'S REPRESENTATIVE, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, OWNER'S REPRESENTATIVE or any of OWNER'S REPRESENTATIVE's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4 Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of OWNER'S REPRESENTATIVE as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to OWNER'S REPRESENTATIVE any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.5.1 a formal Written Amendment,
3.5.2 a Change Order (pursuant to paragraph 10.4), or
3.5.3 a Work Change Directive (pursuant to paragraph 10.1)

3.6 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.6.1 a Field Order (pursuant to paragraph 9.5)

3.6.2 OWNER'S REPRESENTATIVE's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or

3.6.3 OWNER'S REPRESENTATIVE's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7 CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifications or other documents (or copies of any thereof) prepared by or bearing the seal of OWNER'S REPRESENTATIVE or OWNER'S REPRESENTATIVE's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and OWNER'S REPRESENTATIVE and specific written verification or adaption by OWNER'S REPRESENTATIVE.

END ARTICLE 03

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.1 OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Subsurface and Physical Conditions:

4.2 BIDDER'S are responsible for examining and determining for themselves the location and nature of the proposed Work, the amount and character of the labor and materials required therefor, and the difficulties, which may be encountered. BIDDER's may not rely on oral or written representations made by the OWNER, including reports and drawings identified pursuant to 4.2.1 and subparagraphs thereof, unless the OWNER has guaranteed in writing that such representation is factually accurate, and by submitting a Bid, each BIDDER waives all liability for any error in any representation made by the OWNER to the BIDDER. BIDDER's shall inspect the site and its surroundings and conduct such supplementary examinations, investigations, and tests concerning conditions at or contiguous to the site (including surface, and subsurface) which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto for performing the Work in accordance with the Contract Documents. By failing to make such an inspection, the BIDDER waives all rights to claim extra payment or time extensions due to unexpected conditions, which could have been determined had the site been reasonably inspected. If concealed or unknown conditions differ materially from those ordinarily encountered and generally recognized as inherent in the Work, or differ materially from the conditions indicated in the Contract Documents, then an equitable adjustment in the Contract Price or in the Contract Time will be allowed by change order as provided in Article 11 or Article 12 respectively. By submitting a Bid, the BIDDER represents that the BIDDER's observations at the site are not inconsistent with the requirements of the proposed Contract Documents, unless otherwise noted by the BIDDER.

4.2.1 **Reports and Drawings:** Reference is made to the Supplementary Conditions for identification of:

The following reports of explorations and tests of subsurface conditions at the site of the Work:

4.2.1.1 **Subsurface Conditions:** Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by the Engineer in preparing the Contract Documents; and

Report dated **N/A** , **N/A**, prepared by **N/A** entitled: **N/A** . The technical data contained in such report upon which CONTRACTOR may rely is **N/A** .

Copies of these reports that are not included with Bidding Documents may be examined at OWNER'S REPRESENTATIVE's office during regular business hours. Please call for appointment. Copies of such reports are not available for distribution. These reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which CONTRACTOR is entitled to rely as provided in GC-4.2 and as identified and established above are incorporated therein by reference.

4.2.1.2 **Physical Conditions:** Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by OWNER'S REPRESENTATIVE in preparing the Contract Documents.

4.2.2 **Limited Reliance by CONTRACTOR authorized; Technical Data:** Reports and drawings identified pursuant to paragraph 4.2 are not Contract Documents. Unless otherwise set forth in the Contract Documents or OWNER has otherwise guaranteed in writing that such representation is factually accurate, CONTRACTOR may not rely upon or make any claim against the OWNER, OWNER'S REPRESENTATIVE or OWNER'S REPRESENTATIVE's consultants with respect to the accuracy of any "technical data" contained in reports and drawings and CONTRACTOR may not rely upon or make any claim against the OWNER, OWNER'S REPRESENTATIVE or OWNER'S REPRESENTATIVE's consultants with respect to:

4.2.2.1 The completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto, or

4.2.2.2 other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3 any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3 CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if:

4.2.3.1 CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.3.2 the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefor as provided in Articles 11 and 12. However, OWNER, OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3 Physical Conditions - Underground Facilities:

4.3.1 **Shown or Indicated:** The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or OWNER'S REPRESENTATIVE by the owners of such Underground Facilities or by others.

4.3.1.1 OWNER and OWNER'S REPRESENTATIVE shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2 The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2 **Not Shown or Indicated:** If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23),

identify the owner of such Underground Facility and give written notice to that owner and to OWNER and OWNER'S REPRESENTATIVE. CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. However, OWNER, OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4 OWNER shall provide Engineering surveys to establish baseline and benchmarks for construction, which in OWNER'S REPRESENTATIVE's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER, CONTRACTOR shall report to OWNER'S REPRESENTATIVE whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

OWNER shall provide survey reference points for the CONTRACTOR to locate construction stakes, lines and grades required for the completion of the work specified in the specifications, on the plans, or in the Special Conditions. Additional staking required will be at the CONTRACTOR'S expense. When the CONTRACTOR requires staking review, he shall notify the OWNER in a reasonable length of time in advance of starting work. Under no circumstances, shall a notice of less than 2 contract days be considered a reasonable length of time. Failure of the CONTRACTOR to provide 2 contract days' notice to the OWNER of his staking requests shall relieve the OWNER from any responsibility for additional costs or delays caused by such failure. The CONTRACTOR shall carefully preserve all stakes. When stakes are destroyed or damaged, the CONTRACTOR will be charged for the cost of necessary replacement or restoration of stakes.

4.5 Asbestos, PCB's Petroleum, Hazardous Waste or Radioactive Material:

4.5.1 OWNER shall be responsible for any Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2 CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and OWNER'S REPRESENTATIVE (and thereafter confirm such notice in writing). OWNER shall promptly consult with OWNER'S REPRESENTATIVE concerning the necessity for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided Articles 11 and 12.

4.5.3 If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefor as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4 The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

END ARTICLE 04

ARTICLE 5 - BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1 CONTRACTOR shall furnish Performance Bond in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACTOR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act. The CONTRACTOR shall furnish the performance and payment bond in the form provided in the Contract Documents or approved by the OWNER; the earlier of ten (10) days after the OWNER has issued the notice of award or delivery of the executed Agreement. The OWNER reserves the right to exclude any Surety Company on any ground it deems appropriate. The cost of the bonds shall be included in the bid.

5.2 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

5.3 Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1 All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies acceptable to OWNER that are duly licensed to transact business in the State of Colorado and to issue Bonds or insurance policies for the limits and coverage so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2 CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance (and other evidence of insurance requested by OWNER or any other additional insured) which CONTRACTOR is required to purchase and maintain accordance with paragraph 5.4. The certificates shall be reviewed and approved by OWNER prior to execution of the Agreement. The OWNER shall have the right to request and obtain copies of any insurance policies required under paragraph 5.4 of the General Conditions. The completed certificates of insurance shall be sent to: City of Louisville, 749 Main Street, Louisville, Colorado 80027, attention: CITY OWNER'S REPRESENTATIVE.

CONTRACTOR's Liability Insurance:

5.4 (a) The CONTRACTOR agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the CONTRACTOR pursuant to paragraphs 6.12, 6.16, 6.31, 6.32 and 6.33, and 6.5 in addition to any other insurance requirements imposed by the Contract Documents or by law. The CONTRACTOR shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to paragraphs 6.12, 6.16, 6.31, and 6.33 by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

(b) CONTRACTOR shall procure and maintain, and shall cause any Subcontractor or Supplier of the CONTRACTOR to procure and maintain or insure the activity of his Subcontractors and Suppliers in his own policy, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers acceptable to the OWNER. All coverages shall be continuously maintained from the date of commencement of the Work to cover all liability, claims, demands, and other obligations assumed by the CONTRACTOR pursuant to paragraphs 6.31 and 6.33. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

(1) Workers' Compensation insurance to cover obligations imposed by the Workers' Compensation Act of Colorado and any other applicable laws for any employee engaged in the performance of Work under this contract, and Employers' Liability insurance with minimum limits of FIVE HUNDRED THOUSAND DOLLARS ($500,000) each accident, FIVE HUNDRED THOUSAND DOLLARS ($500,000) disease - policy limit, and FIVE HUNDRED THOUSAND DOLLARS ($500,000) disease - each employee. Evidence of qualified self-insured status may be substituted for the Workers' Compensation requirements of this paragraph.

(2) Comprehensive General Liability insurance with minimum combined single limits of ONE MILLION DOLLARS ($1,000,000) each occurrence and TWO MILLION DOLLARS ($2,000,000) aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contractors, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests' provision.

(3) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS ($1,000,000) each occurrence and ONE MILLION DOLLARS ($1,000,000) aggregate with respect to each of CONTRACTOR's owned, hired or non-owned vehicles assigned to or used in performance of the services. The policy shall contain a severability of interests' provision.

(4) The CONTRACTOR shall provide and maintain builder's risk insurance upon the entire project equal to one hundred percent (100%) of the insurable value

thereof. Such insurance shall cover any and all physical damage including, without limitation, damage caused by fire, vandalism, malicious mischief, blasting, excessive surface runoff or storm water, high winds and other occurrences covered in a standard extended coverage endorsement. The policy shall remain in effect until the Work is accepted as substantially complete.

(c) The policy required by paragraph (2) above, by paragraph (3) and by (4) above shall be endorsed to include the OWNER, the OWNER'S REPRESENTATIVE and its consultants, and each of their officers, agents and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the OWNER, its officers, or its employees, shall be excess and not contributory insurance to that provided by CONTRACTOR. No additional insured endorsement to the policy required by paragraph (1) above shall contain any exclusion for bodily injury or property damage arising from completed operations. The CONTRACTOR shall be solely responsible for any deductible losses under any policy required above.

(d) The certificate of insurance provided to OWNER shall be completed by the CONTRACTOR's insurance agent as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the OWNER prior to commencement of the contract.

(e) Failure on the part of the CONTRACTOR to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of contract upon which the OWNER may immediately terminate this contract, or at its discretion may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the OWNER shall be repaid by CONTRACTOR to the OWNER upon demand, or the OWNER may offset the cost of the premiums against any monies due to CONTRACTOR from the Owner.

(f) The OWNER reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

(g) The parties hereto understand and agree that the OWNER, the City of Louisville, is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations (presently $150,000 per person and $600,000 per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., 10 C.R.S., as from time to time amended, or otherwise available to the City of Louisville, its officers, or its employees.

OWNER's Liability Insurance:

5.5 In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6 The OWNER shall be responsible for maintaining its own property insurance and, at its option, may maintain such insurance as will protect it against claims which may arise from operations under the Contract Documents.

END ARTICLE 05

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1 CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2 CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and OWNER'S REPRESENTATIVE except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3 CONTRACTOR shall provide competent, suitably qualified personnel to survey, layout and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to OWNER'S REPRESENTATIVE. No extra payment will be paid to the CONTRACTOR by the OWNER due to labor overtime or other increased costs of performing the Work on Saturdays, Sundays, OWNER- observed holidays, or at night. Should the CONTRACTOR desire to work on Saturdays, Sundays, OWNER-observed holidays, or at night between the hours of 5:00 p.m. and 7:00 a.m. on **Contract Days** the CONTRACTOR shall submit a written request to the OWNER'S REPRESENTATIVE 24 hours prior. If approval is given by OWNER'S REPRESENTATIVE to CONTRACTOR for authorized overtime work, OWNER'S REPRESENTATIVE's and OWNER'S REPRESENTATIVE's authorized personnel will charge overtime and other incidental administrative expenses necessary for performing inspections on Saturdays, Sundays, OWNER-observed holidays, or at night between the hours of 5:00 p. m. and 7:00 a. m., the CONTRACTOR will be responsible to pay for all such rates and charges, and shall not be granted a Contract Price increase for such charges.

6.4 Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called

for by the Specifications shall expressly run to the benefit of OWNER. If required by OWNER'S REPRESENTATIVE, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6 CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.8 as it may be adjusted from time to time as provided below:

6.6.1 CONTRACTOR shall submit to OWNER'S REPRESENTATIVE for acceptance (to the extent indicated in paragraph 2.8) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conform generally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2 Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7 Substitutes and "Or-Equal" Items:

6.7.1 Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment of other Suppliers may be accepted by OWNER'S REPRESENTATIVE under the following circumstances:

6.7.1.1 **"Or-Equal"**: If in OWNER'S REPRESENTATIVE's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by OWNER'S REPRESENTATIVE as an "or-equal" item, in which case review and approval of the proposed item may, in OWNER'S REPRESENTATIVE's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2 **Substitute Items:** If in OWNER'S REPRESENTATIVE's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow OWNER'S REPRESENTATIVE to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute

therefor. The procedure for review by the OWNER'S REPRESENTATIVE will include the following as supplemented in the General Requirements and as OWNER'S REPRESENTATIVE may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by OWNER'S REPRESENTATIVE from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute items of material or equipment, CONTRACTOR shall first make written application to OWNER'S REPRESENTATIVE for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by OWNER'S REPRESENTATIVE in evaluating the proposed substitute. OWNER'S REPRESENTATIVE may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3 **CONTRACTOR's Expense:** All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2 **Substitute Construction Methods or Procedures:** If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to OWNER'S REPRESENTATIVE. CONTRACTOR shall submit sufficient information to allow OWNER'S REPRESENTATIVE, in OWNER'S REPRESENTATIVE's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by OWNER'S REPRESENTATIVE will be similar to that provided in subparagraph 6.7.1.2.

6.7.3 **OWNER'S REPRESENTATIVE's Evaluation**: OWNER'S REPRESENTATIVE will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. OWNER'S REPRESENTATIVE will be the sole judge of acceptability. No "or-equal" or

substitute will be ordered, installed or utilized without OWNER'S REPRESENTATIVE's prior written acceptance, which will be evidenced, by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. OWNER'S REPRESENTATIVE will record time required by OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not OWNER'S REPRESENTATIVE accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants for evaluating each such proposed substitute item.

6.8 Concerning Subcontractors, Suppliers and Others:

6.8.1 CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom OWNER or OWNER'S REPRESENTATIVE may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2 The Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER with the Bid in the Bid Form prior to the Effective Date of the Agreement for acceptance by OWNER and OWNER'S REPRESENTATIVE, and if CONTRACTOR has submitted a list thereof in accordance with the Contract Documents, OWNER'S or OWNER'S REPRESENTATIVE's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in Contract Documents) of any such Subcontractor, Supplier, or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or OWNER'S REPRESENTATIVE of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or OWNER'S REPRESENTATIVE to reject defective Work.

6.8.3 Subletting of Contract. The Contractor shall not sublet, sell, transfer, assign, or dispose of the Contract or Contracts, or any portion thereof without written consent of the OWNER'S REPRESENTATIVE. The Contractor will be permitted to sublet a portion of the Contract, however, the Contractor's organization shall perform work amounting to not less than 50 percent of the total contract cost.

The calculation of the percentage of subcontracted work shall be based on the prime contract unit prices rather than subcontract unit prices. Proportional value for a subcontracted partial contract item shall be verified by the OWNER'S REPRESENTATIVE. For the purpose of calculating the value of subcontracted work, the cost of procuring materials and manufactured products can be included in either the prime contract or subcontract. However, when a firm both sells

material to a prime contractor and performs the work of incorporating the materials into the project, these two phases shall be considered in combination and as constituting a single subcontract.

Subcontracts, or transfer of Contract shall not release the Contractor of liability under the Contract and bonds.

6.9.1 CONTRACTOR shall be fully responsible to OWNER and OWNER'S REPRESENTATIVE for all acts and omissions of the Subcontractors. Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. OWNER or OWNER'S REPRESENTATIVE may furnish to any such Subcontractor, Supplier or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER or OWNER'S REPRESENTATIVE and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or OWNER'S REPRESENTATIVE to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2 CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the OWNER'S REPRESENTATIVE through CONTRACTOR.

6.10 The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11 All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier, which specifically binds the Subcontractor or Supplier to the applicable terms and, conditions of the Contract Documents for the benefit of OWNER and OWNER'S REPRESENTATIVE.

Patent Fees and Royalties:

6.12 CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or OWNER'S REPRESENTATIVE its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, OWNER'S REPRESENTATIVE, OWNER'S

REPRESENTATIVE's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

Permits:

6.13 Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

6.13.1 Prior to the commencement date for the Work set forth in the Notice to Proceed, The CONTRACTOR and all subcontractors shall be or shall become a CONTRACTOR licensed in accordance with the applicable ordinance of the City of Louisville, Colorado.

6.13.2 If water is required for the project, CONTRACTOR shall obtain a bulk water permit from the City of Louisville, Public Works Department in accordance with the permit requirements.

6.13.3 CONTRACTOR shall obtain a Right-of-Way Permit from the City of Louisville, Public Works Department for all Work to be completed within the City right-of-way.

6.13.4 CONTRACTOR shall obtain and pay for all other necessary construction permits and licenses.

Laws and Regulations:

6.14.1 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor OWNER’S REPRESENTATIVE shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2 If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom: however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15 CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project, which are applicable during the performance of the Work. City of Louisville municipal taxes shall be waived upon application for and acceptance of "tax exemption."

The CONTRACTOR shall apply for and receive a Certificate of Exemption from the Colorado Department of Revenue for construction materials to be physically incorporated into the Work. This Certificate of Exemption provides that the CONTRACTOR shall neither pay nor include in his bid prices Sales and Use Taxes collected by the State of Colorado on those building and construction materials physically incorporated into the Work. Sales and Use Taxes of the State of Colorado, RTD and the County are collected by the State of Colorado. All applicable Sales and Use Taxes (including State collected taxes) on any items other than construction and building materials physically incorporated into the Work are to be paid by the Contractor and are to be included in the appropriate bid items. CONTRACTOR and any Subcontractor assume all liability for the nonpayment of taxes, or the payment of exempt taxes resulting from a failure to use the Certificate of Exemption required by this paragraph.

Use of Premises:

6.16 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, resulting from the performance of the Work. Should any claim be made by any such owner or occupant because of the performance of the Work, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, OWNER’S REPRESENTATIVE, OWNER’S REPRESENTATIVE's Consultant and anyone directly or indirectly employed by any of them from and against all claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, OWNER’S REPRESENTATIVE, or any other party indemnified hereunder to the extent caused by or based upon CONTRACTOR's performance of the Work.

6.17 During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.18 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.19 CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to OWNER'S REPRESENTATIVE for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to OWNER'S REPRESENTATIVE for OWNER.

Safety and Protection:

6.20 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.20.1 all persons on the Work site or who may be affected by the Work:

6.20.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.20.3 other property at the site or adjacent thereto, including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures, fences, gates, ditches, utilities, and underground facilities not designated for removal, relocation, or replacement in and during the course of construction.

6.20.4 The CONTRACTOR shall take all measures necessary to mitigate the impact of weather so that the project may continue on schedule. In no event shall OWNER be liable for extra costs incurred on materials and any part of the Work due to CONTRACTOR's failing to take all measures necessary protect the Work from weather and CONTRACTOR shall not be entitled to such claims. Also, no extension of the Contract Time shall be allowed if the CONTRACTOR is able, notwithstanding the weather, to proceed with other Work of the Contract.

CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all the Work is completed and OWNER'S REPRESENTATIVE has issued a notice to OWNER and

CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.21 CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Programs:

6.22 CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

Emergencies:

6.23 In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or OWNER'S REPRESENTATIVE, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give OWNER'S REPRESENTATIVE prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If OWNER'S REPRESENTATIVE determines that a change in the Contract Documents is required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change directive or Change order will be issued to document the consequences of such action.

6.24 Shop Drawings and Samples:

6.24.1 After checking and verifying all field measurements, CONTRACTOR shall submit to OWNER'S REPRESENTATIVE for review and approval in accordance with the accepted schedule of shop drawings and sample submittal (see paragraph 2.8), three copies (or at OWNER'S REPRESENTATIVES option, one reproducible copy) of all shop drawings, which shall have been checked and approved by the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show OWNER'S REPRESENTATIVE the materials and equipment CONTRACTOR proposes to provide and to enable OWNER'S REPRESENTATIVE to review the information for the limited purposes required by paragraph 6.26.

6.24.2 CONTRACTOR shall also submit Samples to OWNER'S REPRESENTATIVE for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as OWNER'S REPRESENTATIVE may require to enable OWNER'S REPRESENTATIVE to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.26 Submittal Procedures:

6.25.1 Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1 all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2 all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3 all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2 Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

6.25.3 At the time of each submission, CONTRACTOR shall give OWNER'S REPRESENTATIVE specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to OWNER'S REPRESENTATIVE for review and approval of each such variation.

6.26 OWNER'S REPRESENTATIVE will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by OWNER'S REPRESENTATIVE as required by paragraph 2.8. OWNER'S REPRESENTATIVE's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. OWNER'S REPRESENTATIVE's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by OWNER'S REPRESENTATIVE, and shall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by OWNER'S REPRESENTATIVE on previous submittals.

6.27 OWNER'S REPRESENTATIVE's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called OWNER'S REPRESENTATIVE's attention to each such variation at the time of submission as required by paragraph 6.25.3 and OWNER'S REPRESENTATIVE has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by OWNER'S REPRESENTATIVE relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28 Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by OWNER'S REPRESENTATIVE as required by paragraph 2.8, any related Work performed prior to OWNER'S REPRESENTATIVE's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29 CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30 CONTRACTOR's General Warranty and Guarantee:

6.30.1 CONTRACTOR warrants and guarantees to OWNER, OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants that all Work will be in accordance with the Contract Documents and will not be **defective**. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1 abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2 normal wear and tear under normal usage.

6.30.2 CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of CONTRACTOR's obligation to perform the work in accordance with the Contract Documents:

6.30.2.1 observations by OWNER'S REPRESENTATIVE;

6.30.2.2 recommendation of any progress or final payment by OWNER'S REPRESENTATIVE;

6.30.2.3 the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents;

6.30.2.4 use or occupancy of the Work or any part thereof by OWNER;

6.30.2.5 any acceptance by OWNER or any failure to do so;

6.30.2.6 any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by OWNER'S REPRESENTATIVE pursuant to paragraph 14.13;

6.30.2.7 any inspection, test or approval by others; or

6.30.2.8 any correction of **defective** Work by OWNER.

6.30.3 The CONTRACTOR warrants that, unless otherwise specified in the Contract Documents, the materials and equipment installed in the Work will be new, merchantable, and fit for the purpose for which they are intended, and that the Work will be performed in a workmanlike manner. The CONTRACTOR also warrants the workers who perform the Work will be sufficiently skilled to produce a high quality product which is free of blemishes, (surface defects) and flaws (internal defects).

The CONTRACTOR is under a continuing duty to warn the OWNER and OWNER'S REPRESENTATIVE of any possible defect in the design of the Work and materials incorporated in the Work and against potentially unsafe uses of products incorporated in the Work which may cause personal injury or property damage, as soon as the CONTRACTOR discovers the possible defect or has notice that the product may be unsafe. The CONTRACTOR's duty under this paragraph shall be continuing, and shall not expire when the OWNER accepts the Work or when the CONTRACTOR's guarantee expires. If the CONTRACTOR fails to warn the Owner of a design or product defect of which the CONTRACTOR is aware, and if personal or property damage thereafter results from such design or product defect, the CONTRACTOR shall be liable jointly and severally with any other party responsible at law for all damages resulting from such defect.

6.31 Indemnification:

The CONTRACTOR agrees to indemnify and hold harmless the OWNER (City of Louisville), OWNER'S REPRESENTATIVE, OWNER'S REPRESENTATIVE's consultants, and their officers, employees, agents and insurers, from and against all liability, claims, and demands, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this contract, if such injury, loss, or damage is caused in whole or in part by, or is claimed to be caused in whole or in part by, the act, omission, error, professional error, mistake, negligence, or other fault of the CONTRACTOR, any Subcontractor of the CONTRACTOR, or any officer, employee, representative, or agent of the CONTRACTOR or of any Subcontractor of the CONTRACTOR, or which arise out of any workers' compensation claim of any employee of the CONTRACTOR or of any employee of any subcontractor of the CONTRACTOR. The CONTRACTOR agrees to investigate, handle, respond to, and to provide defense for and defend against, any such liability, claims or demands at the sole expense of the CONTRACTOR. The CONTRACTOR also agrees to bear all other costs and expenses related thereto,

including court costs and attorney fees, whether or not any such liability, claims, or demands alleged are groundless, false, or fraudulent.

6.32 In any and all claims against OWNER or OWNER'S REPRESENTATIVE or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

Survival of Obligations:

6.33 All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the work and termination or completion of the Agreement.

END ARTICLE 06

ARTICLE 7 - OTHER WORK

Related Work at Site:

7.1 OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefor which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefor as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2 CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of OWNER'S REPRESENTATIVE and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3 If the proper execution or results of any part of CONTRACTOR's work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to OWNER'S REPRESENTATIVE in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in such other work.

Coordination:

7.4 Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

Should CONTRACTOR cause damage to the Work or property of any separate CONTRACTOR at the site, or should any claim arising out of CONTRACTOR's performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, OWNER'S REPRESENTATIVE, or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws, and Regulations, indemnify and hold OWNER and OWNER'S REPRESENTATIVE harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of OWNER'S

REPRESENTATIVEs, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER or OWNER'S REPRESENTATIVE to the extent based on a claim arising out of CONTRACTOR's performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate CONTRACTOR at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER or OWNER'S REPRESENTATIVE or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER or OWNER'S REPRESENTATIVE on account of any such damage or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Time attributable thereto, CONTRACTOR may make a claim for an extension of time in accordance with Article 12. An extension of the Contract Time shall be CONTRACTOR's exclusive remedy with respect to OWNER and OWNER'S REPRESENTATIVE for any delay, disruption, interference or hindrance cause by any separate contractor. This paragraph does not prevent recovery from OWNER or OWNER'S REPRESENTATIVE for activities that are their respective responsibilities.

END ARTICLE 07

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1 Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through OWNER'S REPRESENTATIVE.

8.2 In case of termination of the employment of OWNER'S REPRESENTATIVE, OWNER shall appoint an OWNER'S REPRESENTATIVE whose status under the Contract Documents shall be that of the former OWNER'S REPRESENTATIVE.

8.3 OWNER shall furnish the data required of OWNER under the Contract documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4 OWNER's duties in respect of providing lands and easements and providing OWNER'S REPRESENTATIVE surveys to establish reference points are set forth in paragraphs 4.1 and 4.4.

8.5 OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.6 OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.7 In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.8 The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.9 OWNER's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.10 If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

END ARTICLE 08

ARTICLE 9 - OWNER'S REPRESENTATIVE'S STATUS DURING CONSTRUCTION

OWNER's Representative:

9.1 PROS PROJECT MANAGER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of PROS PROJECT MANAGER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and OWNER'S REPRESENTATIVE.

Visits to Site:

9.2 OWNER'S REPRESENTATIVE will make visits to the site at intervals appropriate to the various stages of construction OWNER'S REPRESENTATIVE deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, OWNER'S REPRESENTATIVE will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. OWNER'S REPRESENTATIVE will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. OWNER'S REPRESENTATIVE efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, OWNER'S REPRESENTATIVE will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against **defective** Work. OWNER'S REPRESENTATIVE visits and on-site observations are subject to all the limitations on OWNER'S REPRESENTATIVE authority and responsibility set forth in paragraph 9.13 and particularly, but without limitation, during or as a result of OWNER'S REPRESENTATIVE on-site visits or observations of CONTRACTOR's Work OWNER'S REPRESENTATIVE will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

Project Representative:

9.3 OWNER'S REPRESENTATIVE will furnish a Resident Project Representative, assistants and other field staff to assist OWNER'S REPRESENTATIVE in observing the performance of the Work of the CONTRACTOR. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not OWNER'S REPRESENTATIVE's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

9.3.1 Resident Project Representative is OWNER'S REPRESENTATIVE's Agent and will act as directed by and under the supervision of OWNER'S REPRESENTATIVE, and will confer with OWNER'S REPRESENTATIVE regarding his actions. His dealings in matters pertaining to the on-site Work will in general be with OWNER'S REPRESENTATIVE and CONTRACTOR keeping

the OWNER'S REPRESENTATIVE advised as necessary. His dealings with Subcontractors will only be through or with the full knowledge and approval of CONTRACTOR.

Duties and Responsibilities:

Resident Project Representative will:

Schedules:

Review the progress schedule, schedule of Shop Drawing submittal, schedule of values and other schedules prepared by CONTRACTOR and consult with OWNER'S REPRESENTATIVE concerning acceptability.

Conferences and Meetings:

Attend meetings with CONTRACTOR, such as preconstruction conferences, progress meetings and other job conferences and other project related meetings.

Liaison:

Serve as OWNER'S REPRESENTATIVE's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent and assist him in understanding the intent of the Contract Documents. Assist OWNER'S REPRESENTATIVE in serving as OWNER's liaison with CONTRACTOR when CONTRACTOR's operations affect OWNER's on-site operations.

Assist in obtaining from OWNER'S REPRESENTATIVE additional details or information, when required for proper execution of the Work.

Shop Drawings and Samples:

Record date of receipt of Shop Drawings and samples.
Receive samples, which are furnished at the site by CONTRACTOR for OWNER'S REPRESENTATIVE's review, and notify OWNER'S REPRESENTATIVE of their availability for examination.

Advise OWNER'S REPRESENTATIVE and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample submission if the submission has not been approved by OWNER'S REPRESENTATIVE.

Review of Work, Rejection of Defective Work, Inspections and Tests:

Conduct on-site observations of the Work in progress to assist OWNER'S REPRESENTATIVE in determining that the Work is proceeding in accordance with the Contract Documents.

Report to OWNER'S REPRESENTATIVE whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspections, tests or approvals required to be made; and advise OWNER'S REPRESENTATIVE when he believes Work should be corrected or rejected or

should be uncovered for observation, or requires special testing, inspection or approval.

Verify that tests, equipment and systems startups and operating and maintenance training are conducted in presence of the appropriate personnel, and that CONTRACTOR maintains adequate records thereof; observe, record and report to OWNER'S REPRESENTATIVE appropriate details relative to the test procedures and start-ups.

Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to OWNER'S REPRESENTATIVE.

Interpretation of Contract Documents:

Report to OWNER'S REPRESENTATIVE when clarifications and interpretations of the Contract Documents are needed and Transmit to CONTRACTOR clarification and interpretation of the Contract Documents as issued by OWNER'S REPRESENTATIVE.

Modifications:

Consider and evaluate CONTRACTOR's suggestions for modification in Drawings or Specifications and report with his recommendations to OWNER'S REPRESENTATIVE. Transmit to CONTRACTOR decisions issued by OWNER'S REPRESENTATIVE.

Records:

Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions or original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Agreement, OWNER'S REPRESENTATIVE's clarifications and interpretations of the Contract Documents, progress reports and other Project related documents.

Keep a diary, daily report form, or log book, recording hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders, or changed conditions, list of job site visitors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

Record names, addresses and telephone numbers of all CONTRACTOR's, subcontractors and major suppliers of equipment and materials.

Reports:

Furnish OWNER'S REPRESENTATIVE periodic reports as required of progress of the Work and of CONTRACTOR's compliance with the progress schedule and schedule of Shop Drawings and sample submittal.

Consult with OWNER'S REPRESENTATIVE in advance of scheduled major tests, inspections or start of important phases of the Work.

Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to OWNER'S REPRESENTATIVE Change Orders, Work Directive Changes, and Field Orders.

Report immediately to OWNER'S REPRESENTATIVE upon the occurrence of any accident.

Payment Requests:

Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with his recommendations to OWNER'S REPRESENTATIVE, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

Certificates, Maintenance and Operations Manuals:

During the Course of Work verify that certifications, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to OWNER'S REPRESENTATIVE for review and forwarding to OWNER prior to final payment of the Work.

Completion:

Before OWNER'S REPRESENTATIVE issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring correction or completion.

Conduct final inspection in the company of OWNER'S REPRESENTATIVE and CONTRACTOR and prepare a final list of items to be corrected or completed.

Observe that all items on final list have been corrected or completed and make recommendations to OWNER'S REPRESENTATIVE concerning acceptance.

Limitation of Authority:

Resident Project Representative shall not:

Authorize any deviations from the Contract Documents or accept any substitute materials or equipment, unless authorized by OWNER'S REPRESENTATIVE.

Exceed limitations of OWNER'S REPRESENTATIVE's authority as set forth in the Contract Documents.

Undertake any of the responsibilities of CONTRACTOR, Subcontractors, or CONTRACTOR's superintendent.

Advise on, or issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures for construction unless such is specifically called for in the Contract Documents.

Advise on or issue directions regarding or assume control over safety precautions and programs in connection with the Work.

Shall not accept Shop Drawings or sample submittals from anyone other than CONTRACTOR.

Authorize OWNER to occupy the Work in whole or in part.

Participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by OWNER'S REPRESENTATIVE.

Clarifications and Interpretations:

9.4 OWNER'S REPRESENTATIVE will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as OWNER'S REPRESENTATIVE may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5 OWNER'S REPRESENTATIVE may authorize minor variations in the work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly.

Rejecting Defective Work:

9.6 OWNER'S REPRESENTATIVE will have authority to disapprove or reject Work which OWNER'S REPRESENTATIVE believes to be **defective**, or that OWNER'S REPRESENTATIVE believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. OWNER'S REPRESENTATIVE will also have authority to require special inspection or testing of the work as provided in paragraph 13.9, whether or not the work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7 In connection with OWNER'S REPRESENTATIVE's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8 In connection with OWNER'S REPRESENTATIVE's authority as to Change Orders, see Articles 10, 11, and 12.

9.9 In connection with OWNER'S REPRESENTATIVE's authority as to Applications for Payment, see Article 14.

Determinations for Unit Prices:

9.10 OWNER'S REPRESENTATIVE will have authority to determine the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR, and the written decisions of OWNER'S REPRESENTATIVE on such matters will be final, binding on OWNER and CONTRACTOR and not subject to appeal (except as modified by OWNER'S REPRESENTATIVE to reflect changed factual conditions).

Decisions on Disputes:

9.11 OWNER'S REPRESENTATIVE will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to OWNER'S REPRESENTATIVE in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to OWNER'S REPRESENTATIVE and the other party to the Agreement promptly (but in no event later than fifteen days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to OWNER'S REPRESENTATIVE and the other party within thirty days after the start of such occurrence or event unless OWNER'S REPRESENTATIVE allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute of other matter. The opposing party shall submit any response to OWNER'S REPRESENTATIVE and the claimant within thirty days after receipt of the claimant's last submittal (unless OWNER'S REPRESENTATIVE allows additional time). OWNER'S REPRESENTATIVE will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. OWNER'S REPRESENTATIVE's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR.

9.12 When functioning under paragraphs 9.10 and 9.11, OWNER'S REPRESENTATIVE will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by OWNER'S REPRESENTATIVE pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.15) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations.

9.13 Limitations on OWNER'S REPRESENTATIVE's Authority and Responsibilities:

9.13.1 Neither OWNER'S REPRESENTATIVE's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by OWNER'S REPRESENTATIVE in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by OWNER'S REPRESENTATIVE shall create, impose or give rise to any duty owned by OWNER'S REPRESENTATIVE to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2 OWNER'S REPRESENTATIVE will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER'S REPRESENTATIVE will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3 OWNER'S REPRESENTATIVE will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4 OWNER'S REPRESENTATIVE's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5 The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to OWNER'S REPRESENTATIVE's Consultants, Resident Project Representative and Assistants.

END ARTICLE 09

ARTICLE 10 - CHANGES IN THE WORK

10.1 Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. A Written Amendment, a Change Order, or a Work Change Directive will authorize such additions, deletions or revisions. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved, which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2 If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefor as provided in Article 11 or Article 12.

10.3 CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4 OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by OWNER'S REPRESENTATIVE (or Written Amendments) covering:

10.4.1 changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1., (ii) required because of acceptance of **defective** Work under paragraph 13.13 or correcting **defective** Work under paragraph 13.14, or (iii) agreed to by the parties:

10.4.2 changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3 changes in the Contract Price or Contract Times, which embody the substance of any written decision rendered by OWNER'S REPRESENTATIVE pursuant to paragraph 9.11;

10.5 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

END ARTICLE 10

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2 The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to OWNER'S REPRESENTATIVE promptly (but in no event later than fifteen days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within thirty days after the start of such occurrence or event (unless OWNER'S REPRESENTATIVE allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. OWNER'S REPRESENTATIVE shall determine all claims for adjustment in the Contract Price in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for ad adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3 The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1 where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.3 inclusive);

11.3.2 where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3 where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Certified payroll record costs for employees in the direct employment of CONTRACTOR in the performance of the Work under schedules of job classifications shall be submitted to the OWNER'S REPRESENTATIVE with the claim. Such employees shall include without limitation superintendents, foremen and other

personnel employed full-time at the site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2 Invoices for cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith shall be submitted to the OWNER'S REPRESENTATIVE with the claim. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall be in accordance with the State Department of Highways, Division of Highways, and State of Colorado Standard Specifications for Road and Bridge Construction 1991 Edition. If the materials used in performing the extra Work are taken from the CONTRACTOR's stock, then in lieu of invoices the CONTRACTOR shall furnish an affidavit, certifying that such materials were taken from its stock, that the quantity claimed was actually used in the Work, and that the price and transportation claimed represent the actual cost to the CONTRACTOR shall be submitted to the OWNER'S REPRESENTATIVE with the claim.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of OWNER'S REPRESENTATIVE, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4 Costs of special consultants (including but not limited to OWNER'S REPRESENTATIVEs, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost

less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals rates of all construction equipment and machinery and the parts thereof which has been authorized by the OWNER'S REPRESENTATIVE, the CONTRACTOR will be paid for the use of equipment in the manner hereinafter specified. Rental rates will be from the current edition of the Rental Rate Blue Book for Construction Equipment and will be determined as follows:

Hourly rate: RR = (ADJ BB/176)(RF)(SAF)+EOC

Where: RR = Hourly rental rate
ADJ BB/176 = Blue Book Monthly Rate adjusted for year of manufacture/176
RF = Regional Factor of 1.06
SAF = State Adjustment Factor of 1.05
EOC = Estimated Hourly Operating Costs from Blue Book

With each claim, the CONTRACTOR shall submit the rental rate calculations including copies of the appropriate pages of the Blue Book for each piece of equipment listed in the claim.

Rental of equipment not owned by the CONTRACTOR will be paid for by invoice cost plus operating cost (EOC). Copies of the applicable pages of the Rental Rate Blue Book for Construction Equipment shall be submitted to the OWNER'S REPRESENTATIVE with the claim.

The costs of transportation, loading, unloading, installation, dismantling, and removal thereof all in accordance with the terms of said rental agreements. If equipment is used intermittently and when not in use could be returned to its rental source at less expense to the OWNER than holding it at the Work site, it shall be returned unless the CONTRACTOR elects to keep it at the Work site at no expense to the OWNER. The rental of any such equipment, machinery or parts shall cease when the use of the equipment is no longer necessary for the Work. No payment will be made for the use of tools, which have a replacement value of $200.00 or less. Operators will be paid for separately as provided in paragraph 11.4.1. Certified invoices for rental cost of all construction equipment and machinery incorporated in the Work shall be submitted to the OWNER'S REPRESENTATIVE with the claim.

11.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable.

11.4.5.6 Losses and damages (and related expenses) caused by damage to the work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work, (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.5 The term Cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, OWNER'S REPRESENTATIVEs, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4--all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3 Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same. (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of **defective** Work, disposal

of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1 a mutually acceptable fixed fee; or

11.6.2 if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the work:

11.6.2.1 for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2 for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent;

11.6.2.3 where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of fifteen percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

11.6.2.4 no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5 the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

11.6.2.6 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.5, inclusive.

11.7 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to OWNER'S REPRESENTATIVE an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8 It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished

and performed for such sums as may be acceptable to OWNER and OWNER'S REPRESENTATIVE. CONTRACTOR agrees that:

11.8.1 the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2 CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances and no demand for additional payment on account of any of the foregoing will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by OWNER'S REPRESENTATIVE to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.9 Unit Price Work:

11.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by OWNER'S REPRESENTATIVE in accordance with paragraph 9.10.

11.9.2 Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3 OWNER or CONTRACTOR may make a claim for an adjustment in the contract Price in accordance with Article 11 if:

11.9.3.1 the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2 there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3 if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense of, OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

11.9.4 In no event shall a claim be made or an adjustment of Unit Price allowed if a variation in actual quantities used does not equal or exceed 25 percent (25%) of the total Bid Price.

END ARTICLE 11

ARTICLE 12 - CHANGE OF CONTRACT TIMES

12.1 The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to OWNER'S REPRESENTATIVE promptly (but in no event later than fifteen days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty days after such occurrence (unless OWNER'S REPRESENTATIVE allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by OWNER'S REPRESENTATIVE in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2 Liquidated damages. The OWNER and the CONTRACTOR agree and recognize that time is of the essence for every time period set forth in the Contract Documents and that the OWNER will suffer financial loss if the Work is not substantially complete within the time set forth in the Contract Documents, plus any extensions thereof allowed in accordance with this Article 12 of the General Conditions. If the CONTRACTOR fails to perform the Work within the specified time set forth in the Contract Documents as adjusted pursuant to Article 12, the OWNER and CONTRACTOR agree that as liquidated damages, and not as a penalty, for delay in performance the Contractor shall pay OWNER in the amount stipulated below for each and every contract day that expires after the time set forth in the Contract Documents for Substantial Completion of the Work until the same is finally complete and ready for Final Payment. The OWNER shall have the right to deduct liquidated damages from any amount due or that may become due to the CONTRACTOR, or to collect such liquidated damages from the CONTRACTOR or the Surety. The OWNER has the option to enforce liquidated damages or to waive such damages. The liquidated damages herein specified shall only apply to the CONTRACTOR's delay in performance. Liquidated damages are intended only to compensate the OWNER for additional OWNER personnel efforts in administering the Contract after normally scheduled completion dates, and for City governmental and citizen inconvenience, lost opportunities, and lost confidence in government and morale of government when work is not completed on time. Such damages are uncertain in amount and difficult to measure and prove accurately. By executing this contract, the CONTRACTOR agrees that the liquidated damages specified in the Contract Documents are reasonable in amount and are not disproportionate to actual anticipated damages. Liquidated damages do not include any sums of money to reimburse the OWNER for extra costs which the OWNER may become obligated to pay on other contracts which are delayed or extended because of CONTRACTOR's failure to complete the Work within the time periods set forth in the Contract Documents. Liquidated damages are not intended to include litigation or attorneys' fees incurred by the OWNER, or other incidental or consequential damages suffered by the OWNER due to the Contractor's performance. If the OWNER charges liquidated damages to the CONTRACTOR, this shall not preclude the Owner from commencing an action against the CONTRACTOR for other actual harm resulting from the CONTRACTOR's performance, which is not due to the CONTRACTOR's delay in performance. In order to recover liquidated damages, OWNER is under no obligation to prove the actual

damages sustained by OWNER due to the CONTRACTOR's delay in performance. In no event shall the CONTRACTOR be assessed liquidated damages if the contract is suspended or terminated for events beyond the control of the CONTRACTOR for which a time extension beyond the original schedule of performance could be granted under 12.3.

The parties agree that liquidated damages shall be in the amount set forth in Article 2 of the Agreement.

12.3 Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4 The CONTRACTOR specifically waives any and all claims against the OWNER for damages resulting from any hindrance or delay caused by circumstances beyond the control of CONTRACTOR that prevents completing any part of the Work within the Contract Times (or Milestones), whether or not caused by the OWNER. The CONTRACTOR may instead be granted an extension of the Contract Times for which the OWNER will not claim liquidated damages, provided that the hindrance or delay is beyond the control of the CONTRACTOR. An extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any subcontractor, any supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from delays caused by or within the control of Contractor, or delays beyond the control of CONTRACTOR whether or not caused by the OWNER.

END ARTICLE 12

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

13.1 **Notice of Defects:** Prompt notice of all **defective** Work of which OWNER or OWNER'S REPRESENTATIVE has actual knowledge will be given to CONTRACTOR. All **defective** Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2 OWNER, OWNER'S REPRESENTATIVE, OWNER'S REPRESENTATIVE's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections:

13.3 CONTRACTOR shall give OWNER'S REPRESENTATIVE timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4 OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1 for inspections, tests or approvals covered by paragraph 13.5 below:

13.4.2 that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3 as otherwise specifically provided in the Contract Documents.

13.4.4 any and all retesting of soil necessitated by the CONTRACTOR's operations or inability to obtain specified density test results on the first attempt shall be the sole responsibility and costs of the CONTRACTOR to achieve required passing test results. Retesting required because of non-conformance to specified requirements shall be performed by the independent firm employed by the OWNER. Payment for retesting will be charged to the CONTRACTOR by deducting inspection, testing and administrative charges from the Contract Price.

13.5 If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish OWNER'S REPRESENTATIVE the required certificates of inspection, or approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and OWNER'S REPRESENTATIVE's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6 If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of OWNER'S REPRESENTATIVE, it must, if requested by OWNER'S REPRESENTATIVE, be uncovered for observation.

13.7 Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given OWNER'S REPRESENTATIVE timely notice of CONTRACTOR's intention to cover the same and OWNER'S REPRESENTATIVE has not acted with reasonable promptness in response to such notice.

Uncovering Work:

13.8 If any Work is covered contrary to the written request of OWNER'S REPRESENTATIVE, it must, if requested by OWNER'S REPRESENTATIVE, be uncovered for OWNER'S REPRESENTATIVE's observation and replaced at CONTRACTOR's expense.

13.9 If OWNER'S REPRESENTATIVE considers it necessary or advisable that covered Work be observed by OWNER'S REPRESENTATIVE or inspected or tested by others, CONTRACTOR, at OWNER'S REPRESENTATIVE's request, shall uncover, expose or otherwise make available for observation, inspection or testing as OWNER'S REPRESENTATIVE may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is **defective,** CONTRACTOR shall pay all claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11.

OWNER May Stop the Work:

13.10 If the Work is **defective**, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

Correction or Removal of Defective Work:

13.11 If required by OWNER'S REPRESENTATIVE, CONTRACTOR shall promptly, as directed, either correct all **defective** Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by OWNER'S REPRESENTATIVE, remove it from the site and replace it with Work that is not **defective.** CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12 Correction Period:

13.12.1 If within one year after the date of Final Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or

by any specific provision of the Contract Documents, any Work is found to be defective, CONTRACTOR shall within seven calendar days after receiving notice from OWNER, without cost to OWNER and in accordance with OWNER's written instructions: (i) correct such defective Work, or if it has been rejected by OWNER, remove it from the site and replace it with WORK that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CONTRACTOR does not within seven calendar days after receiving notice from OWNER comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2 In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Specifications or by Written Amendment.

13.12.3 Where **defective** Work (and damage to other Work resulting therefrom) has been corrected, removed or replaced under this paragraph 13.12, the correction period hereunder with respect to such Work will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

Acceptance of Defective Work:

13.13 If, instead of requiring correction or removal and replacement of **defective** Work, OWNER (and, prior to OWNER'S REPRESENTATIVE's recommendation of final payment, also OWNER'S REPRESENTATIVE) prefers to accept it, OWNER may do so. CONTRACTOR shall play all claims, costs, losses and damages attributable to OWNER's evaluation of and determination to accept such **defective** Work (such costs to be approved by OWNER'S REPRESENTATIVE as to reasonableness). If any such acceptance occurs prior to OWNER'S REPRESENTATIVE's recommendation of final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. If the acceptance occurs after such recommendation, CONTRACTOR will pay an appropriate amount to OWNER.

OWNER May Correct Defective Work:

13.14 If CONTRACTOR fails within a reasonable time after written notice from OWNER'S REPRESENTATIVE to correct **defective** Work or to remove and replace rejected Work as required by OWNER'S REPRESENTATIVE in accordance with paragraph 13.11, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial

action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, take possession of CONTRACTOR's tools, appliances, construction equipment and machinery at the site and incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and OWNER'S REPRESENTATIVE and OWNER'S REPRESENTATIVE's Consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's **defective** Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by OWNER of OWNER's rights and remedies hereunder.

END ARTICLE 13

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1 Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

14.2 At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to OWNER'S REPRESENTATIVE for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. If payment is requested on the basis of materials and equipment not incorporated in the Work but delivered and suitably stored at the site or at another location agreed to in writing, the Application for Payment shall also be accompanied by a bill of sale, invoice or other documentation warranting that OWNER has received the materials and equipment free and clear of all Liens, claims, security interests, or encumbrances and evidence that the materials and equipment are covered by appropriate property insurance and other arrangements to protect OWNER's interest therein, all of which will be satisfactory to OWNER. The amount of retainage with respect to progress payments will be as stipulated in the Agreement. With each application for payment the CONTRACTOR shall submit a notarized waiver(s) of claim signed by the CONTRACTOR acceptable in form to the OWNER'S REPRESENTATIVE. The waiver of claim for payment for the work of the CONTRACTOR shall equal the amount of the previous payment distributed to the CONTRACTOR for work of the CONTRACTOR and the amount of the total previous payment distributed to the CONTRACTOR.

CONTRACTOR's Warranty of Title:

14.3 CONTRACTOR warrants and guarantees that title to all Work, materials and equipment covered by any Application for Payment, whether incorporated in the Project or not, will pass to OWNER no later than the time of payment free and clear of all Liens.

Review of Applications for Progress Payment:

14.4 OWNER'S REPRESENTATIVE will, within ten days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing OWNER'S REPRESENTATIVE's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment to OWNER with OWNER'S REPRESENTATIVE's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 OWNER'S REPRESENTATIVE's recommendation of any payment requested in an Application for Payment will constitute a representation by OWNER'S REPRESENTATIVE to OWNER, based on OWNER'S REPRESENTATIVE's on-site observations of the executed Work as an experienced and qualified design professional and on OWNER'S REPRESENTATIVE's review of the Application for Payment and the

accompanying data and schedules, that to the best of OWNER'S REPRESENTATIVE's knowledge, information and belief:

14.5.1 the Work has progressed to the point indicated.

14.5.2 the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10 and to any other qualifications stated in the recommendation), and

14.5.3 the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled insofar as it is OWNER'S REPRESENTATIVE's responsibility to observe the Work.

However, by recommending any such payment OWNER'S REPRESENTATIVE will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to OWNER'S REPRESENTATIVE in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.6 OWNER'S REPRESENTATIVE's recommendation of any payment, including final payment, shall not mean that OWNER'S REPRESENTATIVE is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7 OWNER'S REPRESENTATIVE may refuse to recommend the whole or any part of any payment if, in OWNER'S REPRESENTATIVE's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. OWNER'S REPRESENTATIVE may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in OWNER'S REPRESENTATIVE's opinion to protect OWNER from loss because:

14.7.1 the Work is **defective**, or completed Work has been damaged requiring correction or replacement,

14.7.2 the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3 OWNER has been required to correct **defective** Work or complete Work in accordance with paragraph 13.14, or

14.7.4 OWNER'S REPRESENTATIVE has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.3 inclusive.

In addition to the retainages set forth in the Contract Documents, the Owner may retain one hundred percent (100%) of all progress payments for any

unsatisfactory performance of the Work and any payment recommended by the OWNER'S REPRESENTATIVE, including without limitation:

Defective work or failure to repair or replace defective work;

Claims filed against the CONTRACTOR, or reasonable evidence indicating probable filing of such claims;

Failure of the CONTRACTOR to make adequate or proper payments to subcontractors or suppliers for materials, equipment or labor;

Failure to obtain necessary permits or licenses, or to comply with applicable laws, ordinances, codes, or regulations, unless such noncompliance is due to reasons beyond the control of the CONTRACTOR, or due to act of the OWNER or and OWNER'S REPRESENTATIVE hired by the OWNER, or agents or employees thereof:

Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price then unpaid;

Reasonable evidence that the Work will not be completed within the Contract Time, and that the unpaid balance would not be adequate to cover actual or liquidated damages for the anticipated delay;

Persistent failure to carry out the Work in accordance with the Contract Documents;

As a set off for amounts due the Owner on other items;

Collusion with other bidders in preparing the bid;

Actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.3 inclusive.

When the above reasons for withholding payment are removed and corrected to the OWNER's satisfaction, OWNER shall make payment to the CONTRACTOR of the sums withheld pursuant to this paragraph, subject to the amounts required to be retained by the Contract Documents.

Progress Payments to Suppliers and Subcontractors. The CONTRACTOR shall make partial payments of the amount due to each of the CONTRACTOR's suppliers and subcontractors in the same manner as the OWNER is required to pay the CONTRACTOR under Article 4 of the Agreement and Article 14 of the General Conditions, provided that the suppliers and subcontractors are performing to the CONTRACTOR's satisfaction. If the OWNER is notified that the CONTRACTOR is in arrears in payments to the CONTRACTOR's suppliers or subcontractors, the OWNER shall notify the CONTRACTOR and determine why such funds are being withheld. If the OWNER determines that no legitimate basis exists for the CONTRACTOR's withholding of such payments, the OWNER may, five (5) days after the mailing of written notice to the CONTRACTOR, make such payments directly to the CONTRACTOR's suppliers or subcontractors from funds which otherwise would be due the CONTRACTOR.

Substantial Completion:

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and OWNER'S REPRESENTATIVE in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that OWNER'S REPRESENTATIVE issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and OWNER'S REPRESENTATIVE shall make an inspection of the Work to determine the status of completion. If OWNER'S REPRESENTATIVE does not consider the Work substantially complete, OWNER'S REPRESENTATIVE will notify CONTRACTOR in writing giving the reasons therefor. If OWNER'S REPRESENTATIVE considers the Work substantially complete, OWNER'S REPRESENTATIVE will prepare and deliver to OWNER a tentative certificate of Substantial Completion, which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to OWNER'S REPRESENTATIVE as to any provisions of the certificate or attached list. If, after considering such objections, OWNER'S REPRESENTATIVE concludes that the Work is not substantially complete, OWNER'S REPRESENTATIVE will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections, OWNER'S REPRESENTATIVE considers the Work substantially complete, OWNER'S REPRESENTATIVE will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as OWNER'S REPRESENTATIVE believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion, OWNER'S REPRESENTATIVE will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform OWNER'S REPRESENTATIVE in writing prior to OWNER'S REPRESENTATIVE's issuing the definitive certificate of Substantial Completion. OWNER'S REPRESENTATIVE's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9 OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10 Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, OWNER'S REPRESENTATIVE, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1 OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRAC-

TOR will certify to OWNER and OWNER'S REPRESENTATIVE that such part of the Work is substantially complete and request OWNER'S REPRESENTATIVE to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and OWNER'S REPRESENTATIVE in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request OWNER'S REPRESENTATIVE to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and OWNER'S REPRESENTATIVE shall make an inspection of that part of the Work to determine its status of completion. If OWNER'S REPRESENTATIVE does not consider that part of the Work to be substantially complete, OWNER'S REPRESENTATIVE will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If OWNER'S REPRESENTATIVE considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof land access thereto.

Final Inspection:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, OWNER'S REPRESENTATIVE will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or **defective.** CONTRACTOR shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

Final Application for Payment:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of OWNER'S REPRESENTATIVE and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents. CONTRACTOR may make application for final payment following the procedure for progress payments. The final application for payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence satisfactory to the OWNER of the continuation of completed operations insurance and any insurance coverage written on a claims-made basis at final payment and one year thereafter; (ii) the consent of surety to final payment and that the performance bond shall remain in effect throughout the guarantee period; (iii) complete and legally effective claim releases signed by all suppliers and subcontractors in the form provided in the Contract Documents certifying that all outstanding claims for payment have been paid. The CONTRACTOR shall not receive final payment due under the Agreement until the CONTRACTOR obtains and files the foregoing items (i), (ii), and (iii).

14.12.1 LIENS. Colorado Statutes do not provide for any right of lien against public buildings. In lieu thereof, §38-26-107, Colorado Revised Statutes, as amended, provides adequate relief for any claimant having furnished labor, materials, rental machinery, tools, equipment, or services toward construction of the particular public work in that final payment may not be made to a CONTRACTOR until all such creditors have been put on notice by publication of such pending payment and given opportunity to stop payment to the CONTRACTOR in the amount of such claims. Pursuant to §38-26-107, C.R.S., any supplier may bring a suit and file a notice of lis pendens against the OWNER within ninety (90) days after the date set for final settlement. If any such supplier or person files any such claim and notice of lis pendens, the OWNER shall withhold retained amounts from final payments to the CONTRACTOR as are necessary to satisfy fully such claims. References to liens appearing in Article 14 shall be deemed as references to claims made pursuant to C.R.S §38-26-101 et seq. unless the context requires otherwise.

Final Payment and Acceptance:

14.13 If, on the basis of OWNER'S REPRESENTATIVE's observation of the Work during construction and final inspection, and OWNER'S REPRESENTATIVE's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, OWNER'S REPRESENTATIVE is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, OWNER'S REPRESENTATIVE will, within ten days after receipt of the final Application for Payment, indicate in writing OWNER'S REPRESENTATIVE's recommendation of payment and present the Application to OWNER for payment. At the same time OWNER'S REPRESENTATIVE will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, OWNER'S REPRESENTATIVE will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Upon receipt of the OWNER'S REPRESENTATIVE's recommendation for payment and the final Application for Payment, OWNER shall order the publication of Notice of Final Payment as required by C.R.S. §38-26-107(1) and shall make final payment in accordance with C.R.S. 38-26-107(3).

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if OWNER'S REPRESENTATIVE so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of OWNER'S REPRESENTATIVE, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance to be held by OWNER for Work not fully completed or corrected is less than the retainage stipulated in the Agreement, and if Bonds have been furnished as required in paragraph 5.1, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by CONTRACTOR to OWNER'S REPRESENTATIVE with the Application for such payment. Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Waiver of Claims:

14.15 The making and acceptance of final payment will constitute:

14.15.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from **defective** Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

END ARTICLE 14

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1 At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and OWNER'S REPRESENTATIVE, which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

OWNER May Terminate:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by OWNER will be reviewed by OWNER'S REPRESENTATIVE as to their reasonableness and when so approved by OWNER'S REPRESENTATIVE incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4 Upon seven days' written notice to CONTRACTOR and OWNER'S REPRESENTATIVE, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1 for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2 for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3 for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4 for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

CONTRACTOR May Stop Work or Terminate:

15.5 If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or OWNER'S REPRESENTATIVE fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and OWNER'S REPRESENTATIVE, and provided OWNER or OWNER'S REPRESENTATIVE do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if OWNER'S REPRESENTATIVE has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven days' written notice to OWNER and OWNER'S REPRESENTATIVE stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

END ARTICLE 15

ARTICLE 16 - MISCELLANEOUS

Giving Notice:

16.1 Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times:

16.2.1 When any period of time is referred to in the Contract Documents by days, it will be computed to include the first and the last day of such period.

Notice of Claim:

16.3 Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 16.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and OWNER'S REPRESENTATIVE thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

Professional Fees and Court Costs Included:

16.5 Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of OWNER'S REPRESENTATIVEs, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

Interest:

16.6 In the event that any payment of interest is to be made pursuant to any provision of the Contract Documents, excluding any bid bond, labor and materials bond or performance bond entered into by the CONTRACTOR, interest shall be paid at the average rate

earned by the City of Louisville on its invested funds during the quarterly fiscal period prior to the period during which the interest was accrued.

Third Parties:

16.7 The contract is not intended to create any right in or for the public or any member thereof, any subcontractor or supplier, or any other third party, or to authorize anyone not a party to the contract to maintain a suit to enforce its terms. The duties, obligations, and responsibilities of the parties to the contract, with respect to third parties, shall remain as imposed by law. This paragraph shall not apply to any surety to the extent it is acting under any labor and materials bond or performance bond entered into by the CONTRACTOR.

Severability:

16.8 To the extent that the performance of the parties' obligations may be accomplished within the intent of the contract, the terms of the contract are severable, and should any term or provision of the contract be declared invalid or become inoperative for any reason, such invalidity or failure shall not affect the validity of any other contract term or provision.

Equal Opportunity Employer:

16.9 The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, age, sex, disability or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard for their race, color, religion, age, sex, disability or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notice to be provided by an agency of the federal government, setting forth the provisions of the Equal Opportunity Laws.

The CONTRACTOR shall be in compliance with the appropriate areas of the Americans with Disabilities Act of 1990 as enacted and from time to time amended and any other applicable federal regulation. A signed, written certificate stating compliance with the Americans with Disabilities Act may be requested at any time during the life of any contract and with any contract entered by the OWNER.

END ARTICLE 16

CONDITIONS OF THE CONTRACT

These Supplementary Conditions amend or supplement the General Conditions of the Project Manual as indicated below. All provisions, which are not so amended or supplemented, remain in full force and effect.

1. GC-1 DEFINITIONS

A. Section 1.9.1, **CONTRACT DAY** of Article 1 of the General Conditions, delete the definition in its entirety and add the following language:

CONTRACT DAY - A calendar day of 24 hours each, excluding Saturdays, Sundays, OWNER observed holidays and Abnormal Weather days.

B. Section 1.41, **SUBSTANTIAL COMPLETION** of Article 1 of the General Conditions,

Add the following language:

The Work will not be considered suitable for Substantial Completion review until all project Bid Items and incidentals in the Work are completed and operational as designed, all designated or required governmental inspections and certifications have been made and posted, designated instruction of Owner's personnel in the operation of systems has been completed, and all final finishes within the Contract are in place. In general, the only remaining work shall be minor in nature, so that the Owner could occupy the building or utilize the improvements on that date and the completion of the Work by the Contractor would not materially interfere or hamper the Owner's normal operations. As a further condition of Substantial Completion acceptance, the Contractor shall certify that all remaining "punch list" work will be completed within twenty (20) Contract Days after receipt of notification or as agreed upon following the date of issuance of Certificate of Substantial Completion.

2. GC-2 PRELIMINARY MATTERS

Add the following language to Section 2.3 of Article 2 of the General Conditions:

- Contractor shall not park equipment and employee vehicles on abutting side streets that can be used by residents that are directly impacted by the reconstruction or within the parking lot for the Recreation & Senior Center located east of the work site.
- All construction traffic (equipment, vehicles and foot traffic) should use access points from the west (skate park parking lot) and be kept on hardscape surfaces to prevent damage to surrounding vegetation.

- Contractor is to maintain the existing hockey fencing and dasher boards in place unless partial removal is required for access and coordinated in advance with the PROS Project Manager. In the event of partial removal, Contractor is to provide, at their own expense, temporary fencing to replace the removed portions and ensure a continuous safety closure of the work site during non-working hours.

All Locations

a. Provide ingress and egress to public parking lot, skateboard park, ADA parking, walkway on south side of rink and pedestrian bridge at all times. If temporary closures of these areas are needed, they must be coordinated a minimum of 48 hours in advance with the PROS Project Manager.

b. No work shall be performed on the following dates and timeframes:

5pm May 22nd through 7am May 26th (Memorial Day Weekend)

3. GC-4 AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS

A. Section 4.4, **REFERENCE POINTS,** of Article 4 of the General Conditions, delete the second paragraph in its entirety and add the following language: The OWNER shall not provide survey reference points, construction stakes, lines and grade for the work unless otherwise noted.

4. GC-6 CONTRACTOR'S RESPONSIBILITIES

A. **Labor, Materials and Equipment**, delete paragraph 6.3 in its entirety and insert the following:

6.3 CONTRACTOR shall provide competent, suitably qualified personnel to survey, layout and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or the performance of Work, or at night without OWNER's written consent given after prior written notice to PROJECT MANAGER. No extra payment will be paid to the CONTRACTOR by the OWNER due to labor overtime or other increased costs of performing the Work on Friday afternoons, or at night. Should the CONTRACTOR desire to work at night between the hours of 5:00 p.m. and 8:00 p.m., Monday-Thursday, from 5 p.m. to 8:00 p.m. Friday, the CONTRACTOR shall submit a written request to the PROJECT MANAGER 24 hours prior. If approval is given by PROJECT MANAGER to CONTRACTOR for authorized

overtime work, PROJECT MANAGER and PROJECT MANAGER'S authorized personnel will charge overtime and other incidental administrative expenses necessary for performing inspections between the hours of 5:00 p. m. and 8:00 p.m., Monday-Thursday and 3:30 p.m. to 8:00 p.m. Friday, the CONTRACTOR will be responsible to pay for all such rates and charges, and shall not be granted a Contract Price increase for such charges. Overtime and other incidental administrative expenses for PROJECT MANAGER and PROJECT MANAGER'S authorized personnel are as follows:

DESCRIPTION	HOURLY RATE
Engineer	$60.00
Construction Inspector	$45.00
Operations Supervisor	$45.00
Operations Technician	$30.00
Clerical	$25.00
Vehicle	$15.00

ARTICLE 6 – Page 78, Permits:

a. Paragraph 6.13.2, add the following language

"A deposit is required for the 2" water meter in an amount of $2500 and the deposit is reimbursed when the 2" meter is returned, in good condition. Charges for water consumption are waived when water is used for this project. Bulk Water Permit and meter are available from the City of Louisville Operations Division, located at 739 S. 104th St."

b. Paragraph 6.13.3, add the following language:

"Right of Way Permit fee is waived for this project."

5. GC-12 CHANGES OF CONTRACT TIMES

A. Add the following language to Article 12 of the General Conditions:

12.4 EXTENSIONS OF TIME

a. The OWNER and CONTRACTOR are both aware that construction will be conducted during spring and summer and that variable weather conditions are typical for the site of the work.

b. The CONTRACTOR expressly agrees that the Contract Price is based on completion of the work within the times specified in the Agreement and under weather conditions typically encountered during the contemplated construction period at the site of the work.

C. For purposes of evaluating requests for extensions of time due to abnormal weather conditions, the following conditions, and no others, will be considered unusually severe:

1) Precipitation volume exceeding the historical mean for the months of the construction period by more than one standard deviation.

2) Isolated abnormal weather occurrences of a severely destructive nature, which in fact, cause such destruction at the site of the work.

D. For the purpose of determining mean conditions, all available data contained in the records of the National Weather Service for reporting from Denver, as well as data available from the State Climatologist for the same areas.

E. The CONTRACTOR further agrees that should a request for time extension due to abnormal weather conditions, the CONTRACTOR shall submit all necessary historical and detailed daily data during the construction period to support the claim.

7. GC-13 TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Section 13.11, **CORRECTION OR REMOVAL OF DEFECTIVE WORK** of Article 13 of the General Conditions, add the following language:

Failure or neglect on the part of the PROJECT MANAGER to condemn unsatisfactory material or reject inferior workmanship will in no way release the CONTRACTOR, nor shall it be construed to mean the acceptance of such work, nor shall Final Acceptance bar the OWNER from recovering damages in case fraud was practiced, or for defective work resulting from the CONTRACTOR'S dishonesty.

Work done contrary to or regardless of the instructions of the PROJECT MANAGER, work done without lines, grade and/or cross section stakes and grades shown on the Plans or as given by the PROJECT MANAGER, or any deviation made from the Plans and Specifications without written authority will be considered unauthorized and at the expense of the CONTRACTOR, and will not be measured or paid for by the OWNER. Any and all work so done may be ordered removed and replaced immediately at the CONTRACTOR'S expense.

PART 1 - GENERAL

1.1 SUMMARY:

1.1.1 PROJECT NAME: Conversion of Inline Rink to Pickleball Courts

1.1.2 PROJECT NUMBER: 208858-660307

PROJECT LOCATION: Inline hockey rink. Located west of 900 Via Appia Louisville, Colorado 80027.

1.1.3 OWNER: City of Louisville

1.1.4 WORK INCLUDED: The Work consists of construction of a perimeter concrete grade beam between 1-3' high by 2' wide, installation of noise-mitigating sound barrier consisting of metal framings and transparent glass panels of heights between 8'-13', minor repair of the concrete slab, surface preparation and application of colored surfacing and striping for five pickleball courts and installation of 5 series of net posts and nets. Work is to include furnishing all materials, labor and equipment needed for the above.

1.1.5 OVERVIEW OF PROJECT AREAS

Inline rink located west and downhill of Louisville Recreation & Senior Center

For construction access use service drive opposite of Eldorado Ln, as shown by red arrow.

1.1 GENERAL

A. Measurement and payment criteria applicable to (portions of) the Work performed under a unit price payment method.

B. Defect assessment and non-payment for rejected work.

1.2 AUTHORITY

A. Measurement methods delineated in the individual specification sections complements the criteria of this section. (In the event of conflict, the requirements of the individual specification section govern.)

B. Take all measurements and compute quantities. The Project Manager will verify measurements and quantities.

1.3 UNIT QUANTITIES SPECIFIED

A. Quantities indicated in the Bid Form are for bidding and contract purposes only. Quantities and measurements supplied or placed in the Work and verified by the City's Project Manager determine payment.

B. If the actual Work requires more or fewer quantities than those quantities indicated, provide the required quantities at the unit/lump sum prices contracted.

C. If the actual Work requires a change that is equal to an increase or decrease that is 25 percent (25%) or more of the Bid Price, then the Owner or Contractor may claim for a Contract Price adjustment.

D. The Owner reserves the right to remove work from the Contract. If an item is removed from the contract, no payment will be made for said item.

1.3.1 LUMP SUM SCHEDULES

A. There will be no measurement for lump sum items included in the lump sum schedule.

1.3.2 FORCE ACCOUNT – MINOR CONCTRACT REVISIONS

A. Force account items include the Project Manager's estimate for items included in the Contract. The estimated amounts marked with "AL" will be added to the total bid to determine the amount of performance and payment bonds. Force Account work shall be performed as directed and approved by the City's Project Manager. This is not a lump sum bid item, but rather an allowance for work not reasonably anticipated in the above items.

B. Payment will be made in accordance with the General Conditions. If additional work as described above is not encountered, this item will not be used.

C. Force Account Descriptions

i. F/A Minor Contract Revisions – This work consists of minor work and approved by the Project Manager, which is not included in the Contract drawings or specifications, and is necessary to accomplish the scope of work of this contract.

1.4 MEASUREMENT OF QUANTITIES

A. Measurement by volume: Measured by cubic dimension using mean length, width and height or thickness.

B. Measurement by area: Measured by square dimension, using mean length and width or radius.

C. Linear measurement: Measured by linear dimension, at the item centerline or mean chord.

D. Measurement by weight: The term "ton" will mean the short ton consisting of 2000 pounds avoirdupois.

Materials measured or proportioned by weight shall be weighed on accurate scales. Scales shall be accurate within the allowable tolerances as prescribed by State law. The scales shall be sealed by the measurement Standards Section of the Colorado Department of Agriculture at least once each year, each time the scales are relocated, and as often as the Engineer may deem necessary. Scales shall be furnished by the Contractor or the contractor may utilize commercial scales.

Scales shall be operated according to the Colorado Department of Agriculture's regulations. Weighers, scales, scale tickets, scale house, and verification of the scales' accuracy will not be measured and paid for separately, but shall be included in the work.

The Contractor may use either certified hopper scales or certified platform scales.

When platform scales are used to weigh vehicles carrying material paid for by weight, each vehicle shall be weighed by a certified weigher. Hopper scales used to directly measure material paid for by weight shall be operated by certified weighers and provide an accurate net weight.

The operator of each vehicle carrying material measured and paid for by weight shall obtain a scale ticket (certificate of correct weight) from the certified weigher and deliver the ticket to the Engineer at the point of delivery of the material.

The scale ticket shall include the following information:

1. Project Number
2. Date
3. Ticket Number
4. Haul Unit Number
5. Gross weight
6. Tare Weight
7. Net Weight
8. Material Type
9. Certified Weigher's Name

1.5 PAYMENT

A. Payment includes: Full compensation for all required labor, products, tools, equipment, plant, transportation, services and incidentals; erection, application or installation of an item of the Work; overhead and profit.

B. Final payment for Work governed by unit prices will be made on the basis of the actual measurements and quantities accepted by the Engineer multiplied by the unit price for Work which is incorporated in or made necessary by the Work.

1.6 DEFECT ASSESSMENT

A. Replace the Work, or portions of the Work, not conforming to specified requirements.

1.7 NON-PAYMENT FOR REJECTED PRODUCTS

A. Payment will not be made for any of the following:

1. Products wasted or disposed of in a manner that is not acceptable.
2. Products determined as unacceptable before or after placement.
3. Products not completely unloaded from the transporting vehicle.
4. Products placed beyond the lines and levels of the required Work.
5. Products remaining on hand after completion of the Work.
6. Loading, hauling and disposing of rejected Products.

2.0 PRODUCTS - Not Used

3.0 EXECUTION - Not Used

PART 1 - SUMMARY

1.1 SUMMARY:

1.1.1 WORK INCLUDED:

A. This Section contains a summary of industry-accepted and recognized standards published by trade associations, government, and institutional organizations, which are referred to in the various sections of these specifications or elsewhere in the Contract Documents.

B. Standards listed herein are included in the Contract Documents by this reference, and become a part of the Contract Documents to the same extent as though included in their entirety unless specific limitations are noted in the individual Specifications Sections.

C. Listings of reference standards include name and address of the organization publishing the standard, plus the full name and designator of each of the standards referenced herein.

D. If a publication date or edition number is listed with the reference standard, that publication date or edition number shall apply; otherwise, the publication date of edition number in effect at the Contract Date shall apply.

E. Inclusion of reference standards herein does not make the Engineer an agent of the publishing agency, nor does it obligate the Engineer to perform inspections required by or enforce rules or regulations contained in the reference standards.

1.2 REFERENCES:

1.2.1 RELATED DOCUMENTS: General Conditions, Supplementary Conditions, and applicable provisions of other Division 1 sections apply to this section.

1.2.2 PRECEDENCE OF REQUIREMENTS**:** In the event of a conflict between the requirements of a published reference standard and the specific requirements of the general conditions, supplementary conditions, or other Contract Documents, or between one reference standard and another reference standard, the more stringent requirements shall take precedence.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1.1 AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
444 North Capital Street NW, Suite 225, Washington, DC 2002

3.1.2 AMERICAN CONCRETE INSTITUTE (ACI)

P.O. Box 19150, Redford Station, Detroit, MI 48219 (313) 372-9800

3.1.3 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

1916 Race Street, Philadelphia, PA 19103 (215) 299-5585

3.1.4 AMERICAN WATER WORKS ASSOCIATION (AWWA):

6666 W. Quincy Ave., Denver, CO 80235 (303) 794-7711

Specifications and Test Methods Specifically Referenced Herein.

3.1.5 PORTLAND CEMENT ASSOCIATION (PCA)

5420 Old Orchard Road, Skokie, IL 60077

(312) 966-6200

Design and Control of Concrete Admixtures.

3.1.6 CITY OF LOUISVILLE

Department of Public Works - Engineering Division

749 Main Street Louisville, Colorado 80027 (303) 335-4608

Design and Construction Standards, 1994 Edition

3.1.7 COLORADO DEPARTMENT OF TRANSPORTATION (CDOT)

4201 E. Arkansas Avenue, Denver, CO 80222

(303) 757-9011

Standard Specification for Road and Bridge Construction, current Edition.

- END OF SECTION -

PART 1 - GENERAL

1.1 SUMMARY:

1.1.1 WORK INCLUDED:

A. This section contains a summary of submittals required by the Contract Documents, and establishes the general procedures and requirements for submittals.

B. Submittals covered under this section include, but are not necessarily limited to, schedules, reports, product data, shop drawings, samples, and miscellaneous data specifically prepared for the work by the Contractor or any subcontractor, manufacturer, or supplier, to illustrate some portion of the work.

1.1.2 RELATED WORK: Specific requirements for submittals are included in the individual specification sections.

1.2 REFERENCES:

1 .2.1 RELATED DOCUMENTS: General conditions, supplementary conditions, and applicable provisions of Division 1 sections apply to this section.

1.3 DEFINITIONS:

1 .3.1 PRODUCT DATA: As used herein, the term "product data" includes standard printed information published by the manufacturer describing materials, products, systems, and installation instruction not specifically prepared for this project, other than designation of selections from among available choices printed.

1.3.2 SHOP DRAWINGS: As used herein, the term "shop drawings" includes specially prepared technical data forms including drawings, diagrams, performance curves, data sheets, schedules templates, patterns, reports, calculations, instructions, measurements and similar information not in standard printed form for application to more than one project. Supplier's standard component drawings may be submitted if they clearly show the exact items required for the work, in context with adjacent materials and with such relationships clearly shown. Shop drawings are not part of Contract Documents.

1 .3.3 SAMPLES: As used herein, the term "samples" includes fabricated and unfabricated physical examples of materials, products, and units of work; as complete units or smaller portions of units of work; either for limited visual inspection or, where in indicated, for more detailed testing and analysis.

1.3.4 MOCK-UPS: As used herein, the term "mock-ups" means special on-site of off-site forms of samples, which are too large or otherwise inconvenient for handling in transmittal or submittal form.

1.3.5 MISCELLANEOUS DATA: As used herein, the term "miscellaneous data" means various documents related directly to the work, including project photographs, survey data and reports, physical work records, statements of applicability, copies of certificates, bonds, quality testing and certifying reports, copies of industry standards, record drawings, field measurement data, operation and maintenance materials, overrun stock, security/protection/safety keys, and similar information, devices, materials, which are applicable to the work but not processed as shop drawings, product data, or samples.

1.4 QUALITY ASSURANCE:

1.4.1 GENERAL

A. No extension of time will be granted, nor will consideration be given to claims arising out of the Contractor's failure to submit shop drawings, product data, samples, or related submittals which do not allow adequate lead time for Engineer's review, and also do not allow ample time for revision, resubmission, and subsequent review by Engineer as required.

1.4.2 PERFORMANCE: Promptly check each submittal for accuracy, completeness, and applicability, and review, approve, and submit - in sequence according to the submittal schedule so as to cause no delay in the work or in the work of the OWNER or any separate Contractor - all submittals required by the Contract Documents. Identify each submittal to include name of project, specification section, supplier, source, finish, and location of use in the project.

1.4.3 VERIFICATION:

A. By making a submittal to the ENGINEER, the Contractor represents that he has approved such submittals and has determined and verified:

1. The applicability of the submittal to the project,

2. all quantities and sizes of materials, detailed fabricating dimensions, temporary erection connections or closures, tolerances and the proper fit and mating with adjacent materials,

3. related field measurements and field construction criteria, and

4. information pertaining to fabrication process and techniques of construction and erection.

B. The Contractor further represents that he has checked and coordinated information contained within such submittal with requirements of the work and of the Contract Documents.

1.4.4 RESPONSIBILITY: The Contractor shall not be relieved of responsibility for any deviation from requirements of the Contract Documents by the Engineer review of submittals, unless the Contractor has specifically informed the Engineer in writing of such deviation at the time of submission, and the Engineer has taken no written exception to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in submittals by the Engineer's review of or action upon such submittals.

1.4.5 SUBMITTAL VALIDITY: Submittals submitted which are not required to be submitted or are submitted without the Contractor's approval will not be processed by the Engineer, but will be returned to the Contractor for his compliance with Contract Document requirements, in which event it shall be deemed that the Contractor has not complied with requirements of the Contract Documents, and the Contractor shall bear responsibility for all delays as if no submittals had been submitted.

1.4.6 COMMENCEMENT OF WORK: No portion of the work requiring submittals shall be commenced until submittals have been acted on by the Engineer. All such portions of the work shall be in accordance with appropriate, required submittals. **All submittals shall be submitted to the Project Manager prior to commencement of project construction**.

1.5 GENERAL SUBMITTAL REQUIREMENTS:

1.5.1 SCHEDULING: Where appropriate in various required administrative submittals (listing of products, manufacturers, suppliers, sub Contractors, and in the progress schedule), show principal work-related submittal requirements and time schedules for coordination and integration of submittal activity with related work.

1.5.2 COORDINATION AND SEQUENCING: Coordinate preparation and processing of submittals with performance of work so that the work will not be delayed by submittals. Coordinate and sequence different categories of submittals for the same work, and for interfacing units of work, so that one will not be delayed by coordination with another. No extension of time will be allowed because of failure to properly coordinate and sequence submittals.

1.5.3 PREPARATION OF SUBMITTALS: Provide permanent marking on each submittal to identify project, date, Contractor, subcontractor, submittal name, applicable specification section, and similar information to distinguish it form other submittals. Show evidence of Contractor's review by clearly exhibiting check marks and stamped approval marking acceptance, and provide space for the Engineer's and Engineer's consultant's review or action marking. Package each submittal appropriately for transmittal and handling.

1.5.4 SPECIFIC CATEGORY SUBMITTAL REQUIREMENTS: Except as otherwise indicated in individual specifications sections, comply with general requirements specified herein for each indicated submittal category. Furnish and process intermediate submittals, where required between initial and final, similar to initial submittals(s).

1.5.5 PROGRESS SCHEDULE: Refer to supplementary conditions for progress schedule requirements.

1.5.6 DAILY REPORTS: Furnish copies of each daily report prepared by the Contractor's Project Superintendent to the Engineer and the OWNER "Transmit reports on a daily basis.

1.5.7 SHOP DRAWINGS:

A. Furnish newly-prepared information, on reproducible sheets, with graphic information at accurate scale (except as otherwise indicated), with name of preparer (firm name) indicated thereon. Affix seal of Contractor's or fabricator's design Engineer where applicable. Show all dimensions, and note which are based on field measurement. Identify materials and products in the work shown. Indicate compliance with standards, and special coordination requirements.

B. Where shop drawings are normally required, and where specifically called for in the specifications, submit to the Engineer four (4) blueline or blackline prints of each shop drawing and/or schedule required. Two prints will be returned.

C. Subsequent submittal(s) if required for correction or confirmation of corrective items shall be same as initial submittal except as otherwise requested by Engineer or specified in conditions of the contract.

D. Shop drawings and schedules will be reviewed for general conformance with the design concept contained within the Contract Documents.

E. Do not allow shop drawing copies into field without appropriate final markings by Engineer.

1.5.8 PRODUCT DATA:

A. Collect required data into one submittal for each unit of work or system. Mark each copy in a legible and reproducible manner to show which choices and options are applicable to the project; "highlighting" with colored markers not acceptable. Include manufacturer's standard printed recommendations for application and use, compliance with standards, application of labels and seals, notation of field measurements which have been checked, and special coordination requirements.

B. Do not submit product data, or allow its use on the project, until compliance with requirements of Contract Documents has been confirmed by Contractor. Submittals of product data are for information and record, unless otherwise indicated.

C. The initial submittal will be the only submittal required unless returned promptly by the Engineer, marked with an action which indicated an observed noncompliance. Submit 4 copies, each marked or labeled with project name, date, Contractor, subcontractor, submittal name, applicable specification section, and similar information to distinguish it from other submittals. Provide sufficient space for Engineers action stamp. The Engineer will retain two copies for himself and return the rest.

D. Do not proceed with installation of materials, products, or systems, until a copy of applicable product data is in the possession of the installer.

E. Maintain one set of product data for each submittal at the project site.

1.5.9 PUBLISHED STANDARDS: Where submittal of published standards is required, except where specified integrally with "Product Data" submittals, submit a single copy for the Engineers use. Where workmanship at the project site and elsewhere is governed by published standards, furnish additional copies to fabricators, installers and others involved in performance of the work.

1.5.10 CONSTRUCTION PHOTOGRAPHS: Unless otherwise provided in the Contract Documents, the OWNER will arrange and pay for construction photographs, and/or videotapes.

PART 2- PRODUCTS (Not Used)

(Not Used)

PART 3 - EXECUTION

3.1 SCHEDULES:

3.1.1 SUBMITTAL SCHEDULE: The following scheduled is included as a checklist for convenience only, and may not include all submittals required. Failure to include submittals in this schedule does not relieve the Contractor from providing submittals if required by individual specification sections.

General Requirements		
Section	**Title**	**Submittals Required**
01 00 60	Testing and Inspections	Concrete Inspection
01 00 80	Contract Closeout	Record documents, Certificates of Compliance, Certificates of Inspection, Warranties, Guaranties, Bonds, Insurance Certificates, Consent of Surety, Releases of Liens, List of subcontractors and suppliers Acknowledgment of date of commencement of warranties and guaranties.
Technical Specifications		
Section	**Title**	**Submittals Required**
02 40 00	Concrete	Mix Design, Color
02 60 00	Traffic Control	Diagrams by phase
02 50 00	Asphalt	As needed for repairs
03 84 00	Irrigation	Pipe, Glue, Wire, Heads, Nozzles, Valves if needed
Drawings	Boulders	Source, Size, Color (Photo of materials)
Drawings	Rock Walls	Source, Size, Color (Photo of materials)
32 92 19	Seed	Seed mix
32 93 13	Groundcover	Fabric, Bed Materials (1 gallon Samples)

- END OF SECTION -

SECTION 01 00 60 TESTING AND INSPECTIONS

PART 1 - SUMMARY:

1.1.1 WORK INCLUDED:

A. This section defines the responsibilities of the various agencies or parties performing testing and inspection services as specified herein or required by the Contract Documents.

B. Quality assurance testing and inspections will be provided by an independent testing and inspections agency selected and paid for by the OWNER.

C. Cooperate with the selected testing and inspections agency and all others who may be responsible for testing and inspection of the work.

1.1.2 RELATED WORK: Specific testing and inspection requirements are described in the various sections of these specifications. Failure to list specific testing or inspection requirements does not relieve the Contractor from providing all tests, which are indicated to be his responsibility, or from cooperating with the testing and inspections agency.

1.1.3 LIMITATION OF AUTHORITY: The testing and inspections agency is not authorized to release, revoke, or alter the requirements of the Contract Documents, or to approve or accept any portion of the work without the Engineers written consent.

1.2 REFERENCES:

1.2.1 RELATED DOCUMENTS: General conditions, supplementary conditions, and applicable provisions of other Division 1 Sections apply to this Section.

1.2.2 REFERENCE STANDARDS: Comply with the requirements of all reference standards, codes, ordinances, rules, and regulations contained in the various sections of these specifications, except where more stringent requirements are listed herein or otherwise required by the Contract Documents. A complete listing of applicable reference standards, including full name of publishing agency and date or number is contained in section 01 00 40.

1.3 DEFINITIONS:

1.3.1 QUALITY ASSURANCE TESTS AND INSPECTIONS: All tests and inspections specified herein or elsewhere in the Contract Documents which are performed by an independent testing and inspections agency to determine compliance of materials, products, equipment, or completed work with the requirements of the Contract Documents.

1.3.2 CODE COMPLIANCE TESTS AND INSPECTIONS: Mandatory tests or inspections required by codes or ordinances, or other authorities having jurisdiction over the work.

1.3.3 CONTRACTOR'S CONVENIENCE TESTS AND INSPECTIONS: Tests or inspections informed exclusively for the Contractor's convenience or information.

1.3.4 **RE-TESTING**: Subsequent testing or inspections of the work or any portion of the work for which initial testing has indicated non-compliance with the Contract Documents or with applicable codes, ordinances, rules, and regulations.

1.4 SUBMITTALS:

1.4.1 **TEST AND INSPECTION REPORTS**: Copies of all test and inspection reports will be promptly delivered by the testing and inspections agency directly to the OWNER and ENGINEER.

1.5 PAYMENT FOR TESTS AND INSPECTIONS:

1.5.1 **INITIAL QUALITY ASSURANCE TESTS AND INSPECTIONS:** Paid for by the OWNER.

1.5.2 **CODE COMPLIANCE TESTS AND INSPECTION:** Paid for by the Contractor**.**

1.5.3 **CONTRACTOR'S CONVENIENCE TESTS AND INSPECTIONS: Paid for by the Contractor.**

1.5.4 **ADDITIONAL OR ALTERNATIVE TESTS AND INSPECTIONS:** Paid for by the OWNER if the materials or work tested is found to be in compliance with the Contract Documents; otherwise paid for by the Contractor.

1.5.5 **RE-TESTING**: Paid for by the Contractor.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 COOPERATION WITH TESTING AND INSPECTIONS AGENCY:

3.1.1 **ACCESS TO THE WORK:** Representatives of the testing and inspections agency or other legally constituted testing or inspections personnel shall have unrestricted access to the site and all other locations where the work is in progress, including borrow pits, batch plants, material yards, or other locations where materials are being obtained, fabricated, or stored.

3.1.2 **FACILITIES FOR TESTING**: Provide all necessary facilities required for testing and inspecting the work, including but not limited to, lifts, and suitable safe storage areas for freshly poured concrete test cylinders.

3.1.3 **NOTIFICATION**: Notify the ENGINEER not less than forty-eight (48) hours prior to tentative date or time when testing and inspection services will be required. Re-confirm date and time not less than twenty-four (24) hours prior to time when such services will be required. Engineer will schedule testing and inspection agency.

3.2 TEST AND INSPECTION PROCEDURES:

3.2.1 GENERAL: Gathering of specimens or samples, measuring, and testing of all materials, products, or other work shall be performed according to the procedures of the referenced standard test method.

3.2.2 TAKING SPECIMENS: Unless otherwise indicated, all specimens and samples for testing will be taken by the testing and inspections agency personnel, either at the source of the material or at the site for work in progress.

3.2.3 DELIVERY OF SPECIMENS: Unless otherwise indicated, pick-up and delivery of specimens or samples to the testing and inspections agency's laboratory will be done by the agency's personnel. This includes concrete test cylinders, which have been stored on site for the initial curing period.

3.2.4 RE-TESTING: When initial tests or inspections indicate non-compliance of the work or any portion thereof, the non-complying portion shall be removed, replaced, or reworked (re-compacted in the case of subgrade, fill, or backfill material), and re-tested by the same agency performing the initial test or inspection. Do not proceed with additional work until the non-complying work has re-tested and found to be in compliance.

3.2.5 ADDITIONAL OR ALTERNATIVE TESTS:

A. The Owner and the Engineer reserve the right to require additional or alternative tests or inspections of materials or work for which either has reason to believe may not be in compliance with the requirements of the Contract Documents.

B Examples of such additional tests may include, but are not limited to, additional sieve analysis of aggregates or granular fill material; additional field density tests of subgrade, fill, or backfill materials; additional slump tests of concrete as it is being placed; core tests of in-place structural concrete; load testing of concrete structures; x-ray or other non-destructive testing of structural steel; and field-cut test strips of membrane roofing.

C. Payment for additional or alternative tests will be determined as provided herein above.

3.3 SCHEDULES:

3.3.1 SCHEDULE OF QUALITY CONTROL TESTS AND INSPECTIONS:

A. The following schedule is included for information only, as a convenience to the Contractor, and is not intended to limit the number and type of tests to be performed by the testing and inspections agency.

B. Carefully examine the individual sections of these specifications for additional or complete quality control testing and inspections requirements. Failure to include any test or inspection in this schedule does not relieve the Contractor from the testing and inspection requirements contained in the individual sections of the specifications.

C. This schedule includes quality control tests and inspections only, which will be performed by the selected testing and inspections agency and paid for as previously mentioned in Article 13 of the General Conditions. Code compliance tests and inspections, Contractor's convenience tests and inspections, and additional or alternative tests and inspections requested by the City are not included.

Section	Description of Test or Inspection	Test Qty/Interval
Earthwork	Fill and Backfill Material (Lab):	1 each test/soil type
	Moisture Content - ASTM D2216	
	Max. Index Density - ASTM D4253	
	Moisture/Density Rel. - ASTM D698 or ASTM D1557	
	Plasticity Index - ASTM D4318	
	Particle Size Analysis - ASTM D422	
	Field Density Tests - ASTM D 1556, D2167, or D2922, Field Moisture	
	Tests - ASTM D3017:	
	Subgrade:	One/500 sf
	Fill, Bldg and Paved Areas:	One/500 sf per lift
	Backfill:	One/250 sf/2 ft vert.
	Site and Misc. Fills:	One/500 sf/1 ft vert.

Section	Description of Test or Inspection	Test Qty/Interval
Utilities	Bedding material (Laboratory):	
	Particle Size Analysis -	
	ASTM D422	1/soil type
	Backfill Material (Laboratory):	
	Moisture/Density Relation -	
	ASTM D698 or D1557	1/soil type
	Field Density Tests - ASTM D1556, D2167, or D2922; Field Moisture	
	Tests - ASTM D3017:	One/150 lf @ trench bottom at 2 ft. vert intervals, and at top
Paving	Asphalt Content - ASTM D 2172; Asphalt Gradation - ASTM in C136; Bulk specific gravity - ASTM D1188; AASHTO T 166;	
	Marshall Test - ASTM D 1559:	
		One each/500 tons, min 2/day
Concrete	Concrete Quality:	
	Fresh Concrete - ASTM C172	One each/50 C.Y. or
	Compressive Strength - ASTM C39	major fraction thereof;
	Unit Weight - ASTM C138	min 1/pour
	Slump - ASTM C143;	
	Air Content - ASTM C173 or C231:	
	Hardened Concrete (failings only) ASTM C42, C803, C805, or load tests:	One each/truck As determined by Engineer

- END OF SECTION -

SECTION 01 00 70 TEMPORARY FACILITIES, CONTROLS AND SERVICES

PART 1 - GENERAL

1.1 SUMMARY:

1.1.1 WORK INCLUDED: Provide temporary utilities and miscellaneous temporary facilities required during construction, including installation, maintenance, and removal upon completion of the work.

1.2 REFERENCES:

1.2.1 RELATED DOCUMENTS:

A. General conditions, supplementary conditions, and applicable provisions of other Division 1 sections apply to this section.

B. Section 02600 Construction Zone Traffic Control.

PART 2 - PRODUCTS

2.1 TEMPORARY CONSTRUCTION FACILITIES:

2.1.1 STORAGE STRUCTURES: Provide enclosed, weather tight storage facilities for materials and equipment, which require protection from the elements.

2.1.2 SANITARY FACILITIES:

A. Provide temporary toilet facilities for duration of work, for use by any and all employees engaged in the work. Comply with requirements of applicable codes, regulations, laws, and ordinances.

B. **PROJECT MANAGER shall approve locations of all temporary toilet facilities for the work. Contractor shall instruct any and all employees engaged in the work to use the designated temporary toilet facility or other approved toilet facility**.

2.1.3 FENCES AND BARRICADES:

A. Provide temporary orange fences along the property owner side of the construction limits as shown on the plans. In the remaining work areas and streets provide traffic control devices as may be specified elsewhere within certain sections of the specifications, and as may be required by local code or authority and as required to maintain safety of work place.

B. Maintain temporary fences, bulkheads, and other protective facilities in good condition throughout the term of the work. Remove at completion of the work and replace or repair all work damaged thereby. Repair or replace on a daily basis safety facilities or devices damaged or removed during the course of the work.

2.1.4 CONSTRUCTION STAGING

A. Coordinate construction activities with the property and business owners to minimize impacts.

B. The Contractor will not be permitted to operate trucks and equipment or store equipment and supplies on private property unless he has written permission to do so.

2.1.5 STORAGE OF MATERIALS/EQUIPMENT ETC.

A. CONTRACTOR shall not be allowed to park any vehicles (including worker's personal vehicles) or equipment in any on-street parking spaces that are open to traffic.

B. No construction trailers or storage yards will be allowed in the work area and neighborhood. Contractor shall locate trailer/storage yard subject to approval of ENGINEER.

2.3 TEMPORARY CONTROLS

A. Noise Control. Equip construction machinery and vehicles with practical sound and muffling devices and operate in a manner to minimize noise consistent with efficient performance of the work.

B. Dust Control.

1. Take reasonable measures to prevent unnecessary dust.

2. Moisten dirt roads used for transportation and haul with water or apply a chemical dust suppressant to control dust.

3. Cover dusty material in transit when necessary to prevent blowing.

C. Pollution Control.

1. Prevent the pollution of drains and watercourses by sanitary wastes, sediment, debris and other substances resulting from construction activities.

2. Retain all spent oils, hydraulic fluids and other petroleum fluids in containers for disposal off the site.

3. Do not perform equipment maintenance or fueling within 50 feet of any water course.

D. Erosion Control.

1. Take such measures as are necessary to prevent erosion of soil on the site and adjacent properties that might result from construction activities.

2. Provide temporary materials such as hay bales, sand bags or plastic sheets, to prevent the erosion of banks or excavation where runoff may be increased or concentrated due to construction activities.

3. Take such measures as are necessary to prevent soil, mud, debris, etc. from entering the storm sewer system. Contractor shall be responsible for cleaning existing storm sewer downstream of the site if any soil, mud, debris, etc. enter it from the site. Engineer shall inspect system prior to final inspection and required cleaning will be noted on the punch list. Contractor shall clean to the satisfaction of the engineer.

2.4 OTHER TEMPORARY SERVICES:

2.4.1 CLEANING:

A. Provide daily sweeping and cleanup of dust, debris, litter, trash containers, and other items required to maintain a clean, orderly, and accessible site. Hauling of debris to legal dump or landfill is required daily as a minimum.

B. Provide daily sweeping or cleaning of adjacent streets and walkways as required to prevent accumulation of mud, dust, or soil thereon from construction traffic and personnel.

C. The CONTRACTOR shall at his/her own expense clean up and removed all refuse and unused materials of any kind resulting from the work. Upon failure to do so within seventy-two (72) hours after request by the ENGINEER, the work may be done by the OWNER and the cost thereof be charged to the CONTRACTOR and deducted from his/her final estimate.

2.4.2 ACCESS RAMPS:

A. During resurfacing activities (milling and leveling) provide hard surface ramps as directed by the Engineer to access private property, public property, pedestrian crossings, streets and alleys.

2.4.3 OWNER MAINTAINED FACILITIES:

A. During construction activities including but not limited to demolition, unclassified excavation, subgrade cement treatment, and asphalt paving, CONTRACTOR shall protect from damage all OWNER maintained facilities. Street signage, storm sewer inlets and manholes, sanitary sewer manholes, water main valve boxes and water service curb stop boxes damaged or backfilled during construction shall be repaired, replaced and made accessible. Backfilled manholes and inlets shall be cleaned immediately. Upon failure to repair, replace or clean OWNER maintained facilities promptly, the work may be completed by the OWNER and the cost thereof be charged to the Contractor and deducted from his/her final estimate.

PART 3 - EXECUTION

3.1 MAINTENANCE OF TEMPORARY FACILITIES:

3.1.1 TEMPORARY STRUCTURES: Maintain temporary offices, storage facilities, sanitary facilities, fire protection facilities, trailers, fences, barricades, and other structures in a neat, orderly appearance for the duration of the work.

3.1.2 REMOVAL OF TEMPORARY FACILITIES: Remove temporary facilities and structures from the site as soon as practicable or when no longer required by the Contractor or subcontractors. Restore areas occupied by temporary facilities to like new condition, or to match surrounding areas.

PART 4 - MEASUREMENT AND PAYMENT

4.1 SUMMARY

4.1.1 Temporary Facilities and Controls and Services will not be paid for separately but shall be included in the work.

- END OF SECTION -

SECTION 01 00 80 CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY:

1.1.1 WORK INCLUDED: This section includes administrative procedures and closeout submittals required at substantial completion and final completion of the work.

1.1.2 RELATED WORK: Additional specific requirements are specified in the various sections of these specifications.

1.2 REFERENCES:

1.2.1 RELATED DOCUMENTS: General conditions, supplementary conditions, and applicable provisions of these specifications apply to this section.

1.3 DEFINITIONS:

1.3.1 CONTRACT CLOSEOUT: Contract close-out is defined to include general administrative requirements near the end of the contract time, in preparation for final acceptance, final payment, normal completion of the contract, occupancy by Owner, and similar actions evidencing completion of the work. Time of close-out is directly related to substantial completion, and therefore may be either a single time period for the entire work or a series of time periods for individual parts of the work which have been certified as substantially complete at different dates. That time variation, if any, shall be applicable to other provisions of this section.

1.4 SUBMITTALS

1.4.1 RECORD DOCUMENTS - GENERAL:

A. Additional or specific requirements for record documents are indicated in individual sections of these specifications.

B. Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire resistive location.

C. Provide access to record documents for Engineer's or Owner's reference during normal working hours.

D. Review record documents for progress and accuracy at regularly scheduled job progress meetings.

E. Upon completion of mark-up, submit record documents to the Engineer for the Owner's records.

1.4.2 RECORD DRAWINGS (FIELD SET):

A. Maintain at the project site during the course of the work a white print set (blueline or blackline) of contract drawings and shop drawings in clean, undamaged condition, with mark-ups of actual installations which vary substantially form the work as originally shown.

B. Mark whichever drawing is most capable of showing "field" condition fully and accurately; however, where shop drawings are used for mark up, record a cross reference at corresponding locations on the contract drawings.

C. Mark changes or deviations with red erasable pencil. Where feasible, use other colors to distinguish between variations in separate categories of work.

D. Record new information, which is recognized to be of importance to the Owner, but was not shown on either the contract drawings or shop drawings. "Give particular attention to concealed work which would be difficult to measure and record at a later date. Note related change order of field order numbers where applicable.

E. Record all deviations in sizes, locations, or other features of work from the Contract Documents. It shall be possible, using these drawings, to correctly and easily locate, identity, and establish sizes of all piping, directions of flow, and other features of the work which will be concealed in finished work or underground.

F. Establish locations of concealed and underground work by accurate dimensions to column lines or permanent walls, locating all bends or turns, and properly referencing invert elevations and rates of fall.

G. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates, and other identification on cover of each set.

1.4.3 FINAL RECORD DRAWINGS (AS-BUILTS):

A. Submit the final marked-up field copy of record drawings to the Engineer for review and approval.

1.4.4 RECORD SPECIFICATIONS:

A. Maintain one copy of specifications, including addenda, change orders, and similar modifications issued in printed form during construction. Mark up variations of substance in actual work in comparison with text of specifications and modifications as issued.

B. Give particular attention to substitutions, selection of options, and similar information on work where it is concealed or cannot otherwise be readily discerned at a later date by direct observation.

C. Note related record drawing information and product data where applicable.

D. Label record specifications with the words "RECORD COPY" and the date submitted, stamped or neatly printed in block letters on the cover.

1.4.5 OTHER DOCUMENTS: Submit the required number of the following additional documents, which may be required by the various specification sections:

1) Certificates of compliance with applicable reference standards.
2) Certificates of inspection or other evidence of compliance with governmental agencies or authorities having jurisdiction over the work.
3) Warranties, guarantees, and bonds.
4) Certificates of insurance for products and completed operations.
5) Written consent of surety.
6) Evidence of payment and release of liens for subcontractors, suppliers, and other goods and services (Claims Release Forms).
7) Certificate of substantial completion form signed by Contractor accepting the date of substantial completion.
8) Final Inspection report signed by Contractor.
9) Certificate of final completion signed by the CONTRACTOR acknowledging the date of final completion.
10) Operations and maintenance manuals as required.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PREREQUISITES:

3.1.1 FINAL COMPLETION: Prior to requesting the City's final observation for certification of final acceptance and payment, as required by the general and supplemental conditions, complete the following:

1) Submit final payment request with final releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required. List known exceptions to final completion of the work, if any, in the request.
2) Submit updated final statement, accounting for additional changes to contract sum.
3) Submit certified copy of final punch list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance.
4) Submit written consent of surety.
5) Revise and submit evidence of final, continuing insurance coverage complying with insurance requirements.

- END OF SECTION -

SECTION 02 40 00

CONCRETE AND CONCRETE REPLACEMENT

1.0 SCOPE OF WORK

The work shall consist of, but not be limited to, construction of the reinforced concrete grade beam system shown on design and future engineering plans. If damaged during construction, work may include removal and replacement of vertical curb and gutter, curb walk, handicap ramps and truncated domes existing on site.

2.0 STANDARDS AND SPECIFICATIONS

1) Any and all materials required for this project shall be pursuant to the requirements of the **City of Louisville, Colorado "Design and Construction Standards"**, adopted February 15, 1994 and the latest revisions thereto except as modified by these plans and/or specifications.

2) Structural design, calculations, drawings, and/or specifications will be provided by the Structural Engineer of Record (SEOR) following contract execution.

a. These future documents will become part of the Contract Documents upon issuance.
b. The Contractor shall incorporate and comply with all structural requirements once issued.
c. Any work affected by the future structural documents shall not proceed until such documents are issued and approved by the PROS Project Manager.
d. The Structural Engineer's drawings and specifications, once issued, shall supersede conflicting requirements in other documents unless specifically noted otherwise.
e. Issuance of the SEOR's documents is not grounds for additional cost or time unless changes differ materially from the performance criteria included herein.

3.0 MATERIALS

CEMENT

All cement used in concrete work shall be Portland cement Type II or Type IIA conforming to all requirements of AASHTO M85. **Fly ash and water reducer shall not be permitted to be used as a substitute for any portion of the cement content required in the mix, unless otherwise approved by the City Engineer.**

The concrete mix shall not contain less than 660 lbs. (7 sacks) of cement per cubic yard.

WATER

Water used in mixing shall be reasonably clean and free of oil, salt, acid, alkali, sugar, organic matter, or other substance injurious to the finished product. Water shall be in accordance with and shall meet the suggested requirements of AASHTO T-26. Where the source of water is relatively shallow, the intake shall be so enclosed as to exclude silt, mud, grass, or other foreign materials. In addition the pH shall be between 4.5 and 8.5. Neutralization by chemical additives will not be permitted. Water known to be of potable quality may be used without test.

The water to cement ratio including surface water on the aggregates shall not exceed 0.45 upon placement of the concrete.

ADMIXTURES

Water Reducing Agent shall be incorporated in the dense medium strength concrete mix (CDOT Class D) for high-early mix only.

AIR-ENTRAINING AGENTS

An air-entraining agent shall be added to the concrete mixture. Air entraining admixtures shall conform to ASTM C 260. All air-entraining agents shall be reasonably new material, thoroughly mixed and protected at all times from freezing. The air content in the concrete mix shall be 5 to 8 percent as determined by ASTM C 231 or ASTM C 173.

FINE AGGREGATE

1) Composition: Fine aggregate shall consist of natural sand, composed of clean, hard, durable, uncoated grains, preferably of siliceous materials.

	Maximum Percent by Weight
CLAY LUMPS	1.0
COAL, LIGNITE, OR SHALE	1.0
MATERIAL PASSING NO. 200 SIEVE	4.0

The sum of the above materials and other deleterious substances such as shale, alkali, mica, coated grains or soft and flaky particles shall not exceed four percent by weight.

2) Deleterious Substances: The maximum percentage of deleterious substances shall not exceed the following values:

Material finer than 200 mesh sieve	3% by weight
Shale	1% by weight
Coal and lignite	1/4% by weight
Clay lumps	1% by weight
Other deleterious substances	2% by weight

The sum of the percentages of the above deleterious substances shall not exceed five per cent (5%) by weight. All fine aggregate shall be free from injurious amounts of alkali and organic impurities.

3) Grading: Fine aggregate shall be well graded from coarse to fine, and when tested by standard laboratory sieves, shall conform to the following:

	Percent by Weight
Passing 3/8"	100
Passing No. 4 Sieve	95-100
Passing No. 16 Sieve	45-80

Passing No. 50 Sieve	10-30
Passing No. 100 Sieve	2 -10

4) Other Requirements: The fine aggregate shall conform to AASHTO M6.

COARSE AGGREGATE

1) Composition: Coarse aggregate shall consist of crushed limestone, trap rock, granite, washed gravel or other approved inert materials having clean, hard, strong, durable pieces, free from adherent coatings and conforming to the requirements of these specifications.

2) Deleterious Substances: The maximum percentage of deleterious substances shall not exceed the following values:

Material finer than 200 mesh sieve	1% by weight
Coal and lignite	1/4% by weight
Clay lumps	1/4% by weight
Soft fragments	3% by weight
Other deleterious substances	2% by weight

The sum of the percentages of the above deleterious substances shall not exceed five per cent (5%) by weight.

3) Grading: Coarse aggregate shall be well graded between the limits specified and shall conform to the following requirements:

Nominal Maximum Maximum Size	Percentages by Weight Passing Standard Laboratory Sieve having Square Openings					
	1 1/2"	1"	3/4"	1/2"	3/8"	No. 4
3/4"		100	90-100		20-55	0-10

Not more than 5% shall pass a No. 8 sieve.

4) Wear and Soundness: Coarse aggregates for concrete shall have a percentage of wear of not more than 40 when tested in accordance with AASHTO T-96 or show a sodium sulfate loss not to exceed 12 percent (12%) when tested in accordance with AASHTO T-104. The wear and soundness requirements may be waived, or modified, by the Engineer provided that the coarse aggregate has a proven service record for similar service and exposure.

5) Other Requirements: Coarse aggregate shall conform to the requirements of AASHTO M80.

MIX DESIGN

A mix design is required to be made by a certified testing laboratory, and submitted to the Engineer for approval two weeks prior to the placing of any concrete. The minimum 28 day compressive strength shall be 4500 psi based on field cast cylinders. Compressive strength shall be as determined by ASTM C 39. The maximum slump of the delivered concrete shall be 4". Batching proportions shall conform to the approved mix design. If any concrete fails to conform to the proportions of the approved mix design, such concrete shall not be incorporated

in the work, but shall be discarded off the project site as waste material at the Contractor's expense.

HIGH EARLY MIX

CONCRETE MIX PROPORTIONS:

	ASTM	Varies	Cubic Yard	Units	
Cement	C-150		705	lbs	
Sand	C-33		1210	lbs	
#57/67 Agg.	C-33		1770	lbs	
AEA	C-260	0 to 8 oz/cy	4.5	oz	
MRWR	C-494	0 to 10 oz/cwt	50.0	oz	
HRWR	C-494	0 to 10 oz/cwt	7.0	oz	
Hyd Stab.	C-494	0 to 9 oz/cwt	0.0	oz	
Water	C-94		266.6	lbs	32 Gal.

PHYSICAL PROPERTIES OF MIX	**TARGET**
Slump	5.00-800”
Air content	4.5-7.5%
Unit Weight	143.30
Water/Cement Ratio	.40 Max
Yield	27

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4.0 EXECUTION

CONCRETE REMOVAL

The Engineer will delineate the limits to which the existing concrete is to be removed and replaced. Removal and replacement of existing concrete beyond the limits designated by the Engineer shall be at the Contractor's expense. The minimum length of replacement concrete shall be 5 feet on vertical curb and gutter and curbwalk and 4 feet on sidewalk. All removals shall be full depth saw cut or removed at existing cold or expansion joints. Sections of concrete that are removed shall be replaced the same day. When weather conditions restrict replacing sections of concrete the same day, lighted barricades must be provided.

Where repairs are made in existing concrete all edges of the existing concrete and asphalt to remain shall be a full depth saw cut. No rough, chipped or broken edges will be permitted where new construction joins old. The Contractor shall maintain a straight, true break line. The Contractor shall be responsible for removal and replacement of all over break. The Contractor will be responsible for damage to existing asphalt and concrete adjacent to concrete replacement. Damages to existing asphalt and concrete due to Contractor's operations, shall be removed and replaced by the Contractor at his expense.

No pruning shall be allowed wherever concrete is adjacent to hedges, evergreens or other landscaping that overhangs existing concrete marked for replacement. The Contractor shall tie back hedges, evergreens or other landscaping.

Contractor shall not remove asphalt adjacent to concrete unless approved by the Engineer. Saw cutting between existing asphalt and concrete for removal shall not be paid for separately but included in the work.

Prior to concrete removal the Contractor shall locate all water service and sewer service crossings where previously designated or inscribed on the curb and gutter. Owner will paint water and sanitary sewer service crossings on non-inscribed concrete. Contractor shall inscribe on the curb face the service crossing locations with “V” for water services and “X” for sewer service.

If construction involves a driveway, the Contractor shall schedule arrangements of construction with the resident.

The Contractor shall properly dispose of broken concrete, unusable materials and surplus excavated materials due to concrete replacement off site the same day and the construction site shall be left clean and orderly. All parts of the construction site shall be left in a condition acceptable to the Engineer. The Contractor shall make all necessary arrangements for obtaining suitable disposal locations.

COMPACTION

All areas in which concrete has been removed shall receive compaction by vibrating, tamping, or combination to achieve the degree of compaction specified.
Maximum dry density of all soil types encountered or to be used will be determined in accordance with AASHTO T99, or AASHTO T 180.

The amount of water to be used in compacting all materials shall not deviate from optimum by more than two percentage points as determined by AASHTO T 99 or T 180.

The percent of compaction specified shall be equal to or greater than minimum values as shown in the following table for the various classes of soil and type of compaction.

	AASHTO T 99	AASHTO T 180
Soil Classification (AASHTO M 145)	Minimum Relative (Percent)	Minimum Relative (Percent)
A-1 through A-5		95
All Others	95	

Density testing will be performed by an independent soils testing firm employed by the Owner. Any and all retesting of soil to achieve required passing test results necessitated by the Contractors operations or inability to obtain specified results on the first attempt shall be the sole responsibility and cost of the Contractor.

WATER QUALITY

Contractor shall provide labor, equipment, and materials required to contain concrete spoils, concrete slurry, dirt, tack, asphalt, construction debris, etc. and protect the City's storm sewer facilities from construction contaminants. Contractor shall promptly remove from the site any potential storm water contaminants. Removal and disposal methods shall meet local and state regulations.

AIR QUALITY

The Contractor shall be responsible to see that dust from waste concrete be kept to a minimum during removal, loading, transferring and disposal of concrete.

EXCAVATION

Excavation on concrete replacement shall be made to a minimum depth of 8 inches below the proposed concrete subgrade to provide a stable, uniform subgrade. All soft and yielding material shall be removed and replaced with acceptable material. **No separate payment will be made for excavation to depth mentioned and replacement of unacceptable material.** All excess excavated materials shall become the property of the Contractor.

SUBGRADE PREPARATION AND FILL

Fill shall be placed in lifts, brought to proper moisture and compacted to the percent specified. The Contractor will provide backfill material if required. The Contractor will be responsible for loading, haul, installation and placing fill material, subgrade preparation, compaction and grading.

BACKFILL AND LANDSCAPE RESTORATION

Upon removal of the concrete forms, all concrete replacement items shall be backfilled with suitable material (topsoil) and landscaping restored. Contractor shall restore the entire surface area that has been disturbed by the Work to match the condition that existing prior to the construction.

Should the Contractor fail to backfill and restore landscaping within ten (10) days after receiving written notice from the Engineer, the Owner may backfill and restore landscaping at the Contractor's expense.

The landscaped area to be restored shall be 18" wide or as determined by the Engineer. The Contractor shall clean the area of all debris (i.e. concrete spoils, rocks, etc.) to a minimum depth of six (6) inches, prepare all edges to be clean and vertical and backfill (place topsoil), compact, grade and restore landscaping (e.g. topsoil, sod, mulch, gravel, etc.).

Topsoil shall consist of loose friable loam free of subsoil, refuse, stumps, roots, rocks, brush, weeds, heavy clay, hard clods, toxic substances, or other material which would be detrimental to its use for landscaping restoration. The topsoil placed shall be fine graded to eliminate rough and low areas, match existing levels profiles, contours and ensure positive drainage prior to re-sodding.

Sod shall be placed behind all replaced concrete where it abuts existing grassed areas, as directed by the ENGINEER. The minimum width of sodded areas (as measured perpendicular to the replaced concrete) shall be 18", unless otherwise approved by the ENGINEER.

Sod shall be Colorado-grown, 100% certified Kentucky Bluegrass, or a mixture approved by the OWNER. The sod source shall be made known to and approved by the OWNER prior to installation.

Re-sodding shall be completed with sod of high quality and shall not be dried out or dying when placed. Re-sodding shall be rolled and thoroughly watered once by the Contractor. The Contractor shall notify the property owner in writing of the nature of the work that has been performed and inform the property owner that the sod will only be watered once. The notification format shall be approved by the Engineer prior to distribution to the property owner.

Mulch and gravel shall be replaced with similar material.

STREET BACKFILL – ASPHALT PATCHING

Excavations in paved streets caused by concrete replacement work shall be backfilled with 8" of approved base course material provided by the Contractor and is incidental and shall be merged into the pay items shown in the Schedule of Unit Prices.

Upon removal of the forms, the Contractor will be responsible for loading, haul, installation and placing fill material, compaction and grading to the existing street surface and maintained until hot asphalt patching is installed.

Hot asphalt patching shall occur at concrete replacement locations after 7 days of concrete placement and continue as construction progresses unless otherwise directed by the Engineer.

READY-MIXED CONCRETE

All concrete shall be ready-mixed in accordance with ASTM C 94 and shall conform to the requirements of these specifications.

Ready-mixed concrete shall be continuously mixed or agitated from the time the water is added until the time of use. The concrete shall be completely discharged from the truck mixer or truck agitator within one and one half (I 1/2) hours or before the drum has revolved 300 revolutions after the cement comes in contact with the mixing water, or with the aggregates (retempered concrete shall not be allowed).

The 90 minute time limit for mixer or agitating trucks may be extended to 120 minutes if:

(1) No water is added after 90 minutes.
(2) The concrete temperature prior to placement is less than 90° F.

The Contractor shall collect delivery or batch tickets from the ready-mix driver for all concrete used on the project and submit them to the Engineer daily. Batch tickets shall provide the following information: Weight and type of cement, weights of fine and coarse aggregates, weight (or gallons) of water, including surface water of aggregates and water added by the truck, quantity (cu. yd.) of batch, times of batching and discharging of the concrete, name of batch plant, name of Contractor, starting revolution count, name and amount of all admixtures used, date and truck number. Deletion of any item listed above for inclusion on the batch ticket shall be cause for rejection of the entire load of concrete.

PLACING CONCRETE

Before placing concrete, debris shall be removed from the space to be occupied by the concrete, and the forms, including any existing concrete surfaces, shall be thoroughly wetted. Concrete shall not be placed until all forms and reinforcing steel have been inspected and approved by the Engineer.

The concrete temperature shall be between 50 degrees F and 90 degrees F at time of placement. If the concrete does not fall within the specified temperature range, the concrete shall not be used or placed on the project and shall be immediately returned to the batch plant or an appropriate dumpsite.

Concrete shall be placed in a manner that will avoid segregation and shall not be dropped freely more than five (5) feet. If segregation occurs, the Engineer will require the concrete to be removed and replaced at the Contractor's expense. Concrete shall be placed monolithically in one continuous operation, except where keyed or doweled construction joints are shown on the plans or as approved by the Engineer. Delays in excess of 30 minutes shall require removal and replacement of that pour, at the Contractor's expense.
Concrete shall not be placed on soft, spongy, frozen, or otherwise unsuitable subgrade. The finished subgrade shall be kept smooth and compacted prior to placing concrete.

WORKABILITY

The consistency of concrete shall be kept uniform for each class of work and shall be checked by means of slump tests conforming to ASTM C 143. **NO WATER MAY BE ADDED AT THE JOB SITE WITHOUT THE PERMISSION OF THE ENGINEER.** If approval is obtained and water is added at the job site, the concrete shall be mixed for not less than 20 revolutions. The added water shall not cause the water/cement ratio to exceed 0.51 and shall not cause the maximum

slump to be exceeded. Slump tests shall be run and test cylinders cast following the addition of the water as required by the Engineer. Any expense incurred, in excess of ordinary tests, in such testing will be borne by the Contractor.

PUMPING CONCRETE

Pumping of concrete shall be permitted.

SAMPLING

1) AGGREGATE: The Contractor shall, before starting concrete work, furnish representative samples of concrete aggregate proposed for use to a testing laboratory designated by the Engineer and sampled in accordance with ASTM D 75.

2) CONCRETE: Concrete shall be sampled in accordance with ASTM C 172, "Sampling Fresh Concrete".

FIELD QUALITY CONTROL

1. General: An approved testing laboratory shall perform all testing, with the exception of slump tests. The following tests and procedures are subject to change during construction at the discretion of the Owner's Representative.

2. Test Priority: Control tests shall be used to determine the concrete quality throughout the project, however, special tests shall have precedence over control tests, and core tests shall have precedence over all previous tests.

3. Control Tests: Control tests of concrete work shall be made at such times and in such manner as directed by the Owner's Representative at the expense of the Owner. Each test shall consist of 4 standard 6" test cylinders cast and cured in accordance with C31 and C172. One cylinder shall be broken at the end of 7 days after placing, two cylinders shall be broken at the end of 28 days after placing and the remaining cylinder shall be stored until their disposition is determined by the Owner's Representative. The remaining cylinder will be broken only when the previous test reports indicate unsatisfactory results. The Owner's Representative reserves the right to stop all future concrete work when the 7 or 28 day tests indicate unsatisfactory results; until, in his opinion, proper corrective measures have been taken to assure quality concrete in future work. Tests shall be made at the time test cylinders are taken, and recorded on the reports to determine the slump, air content, unit weight, and temperature of the concrete. All tests shall be made in accordance with C39, C138 or C231. Minimum 28-day compressive strength shall be **4,500 psi**, based on field cast cylinders.

CONCRETE THICKNESS

It is the intent of the specifications that Concrete shall be constructed in accordance with the thickness requirements of the plans and specifications. Tolerances allowed for subgrade construction and other specification provisions, which may affect thickness, shall not be construed to modify such thickness requirements. Thickness measurements will be made at the rate of not less than one measurement for each one 500 linear feet or fraction thereof, of concrete placed.

Insufficient thickness' from 0.20 to 0.60 inches will be price reduced for each lot of 500-foot, in accordance to PRICE REDUCTIONS.

If the concrete is deficient by more than 0.6 inches, additional measurements will be made to identify the boundary of insufficient thickness. The boundary shall be at longitudinal or transverse joints and pavement edges. After the deficient area is identified the Engineer will determine as to whether the concrete shall remain in place or be removed in accordance with the following procedures:

a. The CONTRACTOR shall, at his expense, remove and replace the concrete in the area determined by the Engineer with new concrete meeting the thickness requirements. Subgrade shall be lowered as necessary to meet full thickness requirements.

b. The CONTRACTOR shall leave the concrete in place without payment, if it meets all of the other requirements.

COMPRESSIVE STRENGTH

When a compressive strength test fails below the specified 28-day compressive strength on field cast cylinders, the Engineer shall make a determination whether the concrete shall be removed and replaced or allowed to remain in place. This determination shall be based on an evaluation of the durability and other qualities of the concrete necessary to the integrity of the pavement. If after review, the concrete is allowed to remain in place, price reductions for each lot of 100 cubic yards or fraction thereof, will be in accordance with PRICE REDUCTIONS.

REINFORCING STEEL (DOWELS)

Reinforcing steel dowels are required at all concrete replacement items.
1) Bars: Reinforcing steel bars shall conform to the requirements of the "Standard Specifications for Deformed Billet-Steel Bars for Concrete Reinforcement" of ASTM. Bars shall be new billet steel conforming to AASHTO M31. Bars shall be #4 rebar with minimum lengths of 18 inches.
2) Placing: Reinforcing steel, before being placed, shall be thoroughly cleaned of coatings that will destroy or reduce bond. A light coating of rust may be allowed by the Engineer. Reinforcement shall be carefully formed to the dimensions indicated on the Plans. It shall not be bent or straightened in a manner that will injure the material. THE USE OF HEAT IN BENDING BARS SHALL NOT BE PERMITTED. Bars with kinks or bends not shown on the plans shall not be used. All reinforcing steel shall be placed in the position and at the spacing shown on the plans with the tolerance specified in ACI 301 Section 5.4.

FIBERMESH

1) Fibermesh: Concrete Engineered Reinforcing Fibers shall be commercial grade, 100% virgin polypropylene, collated, fibrillated fibers from Fibermesh Co. or approved equal. Fibermesh shall be used in all concrete as indicated on the detail drawings or as specified. Fibermesh fibers shall be added to the concrete mix at the rate of 1 1/2 lbs. per cubic yard of concrete.

FORMS

Forms shall be straight and true and conform to the shape, lines and dimensions as shown on the plans. Damaged forms shall be rejected and replaced. Approved flexible forms shall be used for construction where the radius is 150 feet or less. Unexposed surfaces shall have forms of No. 2 common (or better) lumber. Forms shall not be disturbed until the concrete has adequately hardened. In no case shall the minimum time between placing concrete and removal of forms be less than 12 hours.

JOINTS

EXPANSION JOINTS

Expansion joint materials: expansion joints shall be constructed with preformed cork expansion joint filler, conforming to Federal Specification MR-F-341, or wood fiberboard conforming to AASHTO Designation M59. Expansion shall extend to the full depth of the concrete sections. All expansion joints shall be one-half inch (1/2") thick, unless otherwise stated.

Expansion joint material shall be one half inch preformed joint filler (Bituminous Type) and shall be provided as shown on the plans or as directed by the Engineer. Expansion joints shall be installed at existing joints, structures, PCR's, every 100 feet, and as shown on the plans or as directed by the Engineer.

On new sidewalk, storm sewer Type R inlets, bike path installation, and at 18" median curb and gutter/median cover interface, expansion joint material shall be installed with a removable plastic spacer cap to be removed prior to joint sealing. Joints shall be sealed a minimum depth of one half inch with Sonneborn Sonolastic SL 1 one-part self-leveling polyurethane sealant (Color - gray) or approved equal.

CONTRACTION JOINTS

Transverse joints shall be placed at maximum intervals of ten (10) feet to control random cracking. The joints shall be formed, sawed or tooled to a minimum depth of one-quarter (1/4) of the total thickness.

If divider plates are used, the maximum depth of plates shall not be greater than one-half (1/2) the total thickness.

The joints shall be finished with a jointer having a width no greater than 5/16 inch and a depth not less than 3/4 inch. A maximum joint width at the finished surface shall be no greater than 5/16 inch. **Jointing tools shall be in good condition. Worn or damaged jointing tools shall be rejected and replaced.**

Contraction joints must be straight (± 1/4") and perpendicular (± 1/2") to the longitudinal axis of work. If contraction joints are not provided as specified, Contractor shall saw cut contraction joints as directed by Engineer.

SAW CUT JOINTS

Contraction joints in bike path shall be saw cut a minimum of 1/8" wide and 1/3 of the depth; no tooled joints will be permitted. Saw cut joints are required at 8-foot intervals for 8-foot wide paths and at 10-foot intervals for 10-foot wide paths, as directed by the Engineer. Joints shall be saw cut within 24 hours of construction.

TOOL JOINTS

Tool joints shall be spaced as follows:

1) Not more than ten (10) feet nor less than five (5) feet apart in curb and gutter and curbwalk.
2) Not more than five (5) feet nor less than four (4) feet apart in sidewalk.
3) In ramp drives as shown on the details.
4) To match existing adjacent concrete.
5) As directed by the Engineer.

FINISHING

Exposed faces of concrete shall be finished to true lines and grade as shown on the plans. The surface shall be floated, troweled, edged and broomed. The completed surface shall have a light/medium broomed surface. Contractor shall provide an ACI Flatwork Certified Finisher on each crew performing concrete finish work.

No dusting or topping of the surface, or sprinkling with water retardant, or evaporation reducer to facilitate finishing shall be permitted.
All concrete spoils and overburden that accumulates on existing concrete and asphalt from concrete replacement shall be removed immediately after concrete finishing.

MARKINGS

The letters “W” and “S” or “V” and “X” shall be stamped in the face of the curb at the locations marked by the Engineer to designate a water service or sanitary service, respectively, The letters shall be 3 inches long by ½ inch deep.

CURING
All concrete, regardless of temperature, weather or season, shall be protected from premature drying for a period of not less than seven (7) days after the concrete is placed, except that where concrete is being protected from freezing, the time period for concrete saturation shall be one (1) day less than that of the frost protection.

The application rate shall be as per manufacturer's recommendation (approximately 150 sq. ft./gal.). Curing will not be required longer than 72 hours if high-early strength concrete is used. It shall be the Contractor's responsibility to protect the concrete being cured, from the elements, traffic, and vandalism. Curing methods applied to other surfaces shall be applied to those surfaces covered by forms as soon as the latter are removed. Inadequate protection by the Contractor shall be cause for suspension of the Work and damaged concrete shall be replaced at the expense of the Contractor.

CURING NON PIGMENTED CONCRETE

Clear pigmented, Liquid, Membrane-forming compounds shall conform to ASTM C-309, Type I, Class A and B, AASHTO M148, and meet local, state and federal VOC and air quality regulations.

HOT AND COLD WEATHER REQUIREMENTS

COLD WEATHER PROTECTION

When concrete is placed when ambient temperatures are expected to fall below 40 degrees F, the Contractor shall provide satisfactory methods and means to protect the mix from injury by freezing.

Aggregates and mixing water shall be heated to a temperature of at least 70 degrees F., but not more than 150 degrees F., the aggregates may be heated by either steam or dry heat. Heating equipment or methods which alter or prevent the entrainment of the required amount of air or which develop hot spots in the aggregate shall not be used. Placing of concrete may be started in the morning if the contractor desires, but shall be discontinued at 3 P.M. of the same day if freezing weather threatens. The concrete or aggregates shall be protected during transit, mixing and before and after placing, as directed by the Engineer, to retain all heat possible in the concrete mix.

After the concrete has been placed, the contractor shall provide sufficient protection such as insulating blankets, canvas, framework, heating apparatus, etc., to enclose and protect the concrete and maintain the temperature of the concrete at not less than 50^{o} F. for 7 days.

Cold weather protection shall not be paid for separately but be included in the work.

Except as provided above, cold weather concreting shall be in accordance with ACI 306. If in the opinion of the Engineer, the protection provided is inadequate, concreting shall cease until conditions or procedures are satisfactory to the Engineer.

HOT WEATHER CONCRETING

The placement of concrete in hot weather shall comply with ACI 305.

MISCELLANEOUS

FINAL SURFACE TEST

Prior to acceptance of the work, the Contractor shall test the surfaces with a 10' straightedge. All surfaces varying more than 1/8" from line and grade of the correct surface shall be removed and replaced by the Contractor at his expense.

Any areas, which hold or cause water to pond shall be removed and replaced at the expense of the Contractor.

REPAIRS

If after stripping of forms any concrete is found to be not formed as shown on the plans, or is out of alignment or level, or shows a defective surface, it shall be considered as not conforming with the intent of these Specifications and shall be removed and replaced by the Contractor at his expense.

CONNECTION WITH EXISTING SIDEWALKS

Where new sidewalk construction abuts existing sidewalks, the work shall be accomplished so that no change in grade results.

OPENING TO TRAFFIC

Walks shall not be opened to pedestrian traffic for at least twenty-four (24) hours after placement. Driveways, curb-gutter, and crosspans shall not be opened to vehicular traffic for at least seven (7) days after placement. The Contractor shall provide and maintain suitable barricades to comply with foregoing requirements.

The Contractor, with approval of the Engineer may use high early for ramp drives. There will be no additional payment to the Contractor for the use of high early concrete.

CONCRETE CROSSPANS

Regarding repair of crosspans, only one half of a crosspan shall be closed to traffic at anytime unless secondary access is available to the streets and businesses impacted or unless otherwise approved by the engineer. **When individual panels or when one half of a crosspan is constructed, contractor shall provide high early strength concrete at no additional compensation.**

PRICE REDUCTIONS

Insufficient Thickness' and compressive strengths shall be subjected to price reductions at the following rates:

Average Thickness Deficiency (inches)	Price Reduction* %
0.00 to 0.20	0
0.21 to 0.30	10
0.31 to 0.40	15
0.41 to 0.50	25
0.51 to 0.60	30

* Price reduction is equal to the full price of the entire pavement system. Price reductions reflect reduced fatigue life as a result of the deficiency.

Percent of Specified 28-Day Compressive Strength*	Price Reduction** %
100	0
95	0
94	3
93	6
92	9
91	12
90	15
89	18
88	21
87	24
86	27
85	30

* Strengths less than 85 percent of the design strength shall be removed and replaced.
** Price reduction is equal to the full price of the entire pavement system. Price reductions reflect reduced fatigue life as a result of the deficiency.

5.0 SPECIAL CONDITIONS

TREE ROOT REMOVAL

When any tree roots are encountered during construction operations, the Contractor shall immediately notify the Engineer prior to the disturbance of any of the roots. The Engineer shall then make a determination regarding removal. In the locations where trees roots are anticipated, the Contractor shall take the necessary precautions to prevent any damage to the root with tools or equipment.

Tree roots shall not be removed or disturbed unless directed by the Engineer. Tree roots shall be removed with a sharpened, sanitized saw to leave the freshly cut root surface in a clean and smooth condition. Axes, backhoes, bobcats and other blunt objects shall not be used to remove the tree roots.

PIGMENTED/PATTERNED CONCRETE

An air-entraining agent complying with ASTM C-260 and/or a normal set or retarded-set water-reducing admixture complying with ASTM C-494 may be used, but nothing containing calcium chloride is permitted in the mix. Air-entrainment shall be five (5) to eight (8) percent. Concrete mix design shall be as follows:

MIX PROPORTIONS:

Materials:	Type or Size	ASTM Standard	Design Weights per Cubic Yard
Total Cementitious Cement	1-2	C-150	705 lb. min.
SCM		C-618	100 % min.
Total Aggregate			0 % max.
Coarse Aggregate	#8	C-33	2725 lb.
Int. Aggregate		C-33	35-40 %
Fine Aggregate	Sand	C-33	
AEA		C-260	60-65 %
WRA	A	C-494	0.5 oz.
MRWR	A	C-494	oz/cwt
HRWR	F	C-494	oz/cwt
Water	City	C-94	oz/cwt
Special Material			320 lb. 38.4 gal.

The above weights are based upon aggregates in a saturated, surface dry (SSD) condition. Batch plant corrections must be made for moisture in aggregates. Mix proportions may be adjusted in accordance with ACI 301-05, section 4.2.3.5.

COLOR & PATTERN

~~While the concrete is still in the plastic stage BRICKFORM ANTIQUE POWDER RELEASE BLACK shall be applied and imprinted with a BRICKFORM BASKET WEAVE NEW BRICK to make the desired pattern surface.~~ **~~The pattern-forming tool shall be supplied by and returned to the City.~~** ~~Pattern-forming tool shall be replaced when damaged or lost when in the Contractor's possession. The concrete shall be imprinted with the long dimension of each brick perpendicular to the back of curb line.~~

~~Patterned~~ Concrete – Aggregates shall conform to ASTM C33 and be less than 3/8 inch. Mixing water shall be fresh, clean, and potable. An air-entraining agent complying with ASTM C260 or a normal-set or retarded-set water-reducing mixture complying with ASTM C494 may be used. Nothing containing calcium chloride is permitted in the mix. **~~Patterned~~ Concrete shall be Soloman No. 417 (Brick Red) Colors Inc. or approved equal.**

~~Patterned~~ Concrete shall be colored integrally. Pigment shall be added by weight directly into the mixer along with the aggregate, cement, and water. While adding color, the transit mixer should operate at charging speed or at mixing speed for 5 to 10 minutes or from 50 to 100 revolutions. Design slump shall be 2 inches. Field slump shall be within ¾ inch of design slump. The mix shall be placed and struck off to the proper grade and wood floated to a uniform surface.

There will be no separate payment for concrete pigmentation.

TEST SECTIONS

When pigmented concrete is specified, the Contractor shall provide and place a minimum of 3 pigmented concrete test sections, apply a medium broom finish and cure compound sealer on a 4 foot x 4 foot test panel for approval by the OWNER prior to commencing the work. The location of constructing the pigmented concrete test sections will be on City of Louisville property in an area designated by the Engineer. If the test panels are unacceptable to the OWNER, the Contractor shall construct additional test panels until the correct color and finish is approved by the OWNER. The Engineer requires a 3-day review and approval of the concrete test sections. Labor and equipment used on the test panel shall be the same as that used in the final construction of the pigmented concrete. Contractor shall submit the concrete mix designs to the ENGINEER for approval prior to test panel placement.

CURING PIGMENTED CONCRETE

All pigmented concrete shall be cured with BRICKFORM Satin Cure and Seal 1315 or approved equal All concrete, regardless of temperature, weather or season, shall be protected from premature drying for a period of not less than seven (7) days after the concrete is placed, except that where concrete is being protected from freezing, the time period for concrete saturation shall be one (1) day less than that of the frost protection.

The application rate shall be as per manufacturer's recommendation. Curing will not be required longer than 72 hours if high-early strength concrete is used. It shall be the Contractor's responsibility to protect the concrete being cured from the elements, traffic and vandalism. Curing

methods applied to other surfaces shall be applied to those surfaces covered by forms as soon as the latter are removed. Inadequate protection by the Contractor shall be cause for suspension of the Work and damaged concrete shall be replaced at the expense of the Contractor.

Curing compound shall be applied to the surface of existing (remaining) patterned concrete and the proposed patterned concrete.

EXPOSED AGGREGATE CONCRETE MIX DESIGN

An air-entraining agent complying with ASTM C-260 and/or a normal set or retarded-set water-reducing admixture complying with ASTM C-494 may be used, but nothing containing calcium chloride is permitted in the mix. Air-entrainment shall be five (5) percent (2). Concrete mix design shall be as follows:

MIX PROPORTIONS:

		(Per Cubic Yard of Concrete)
Cement	ASTM C-150	564 lbs.
Sand	ASTM C-33	1075 lbs.
Size #57 Agg.	ASTM C-33	1100 lbs
Size #4 Agg.	ASTM C-33	900 lbs.
AEA	ASTM C-260	6.2 oz.
Water	ASTM C-94	275 lbs. (33.0 gal.)

EXPOSED AGGREGATE SURFACE RETARDANT

Surface retarding agent for exposed aggregate concrete shall be “Retard-X” SRO-5 manufactured by Protex Industries, Inc., Denver, Colorado, or approved equal. Approved equal products shall meet the following composition and material requirements: the retarding agent shall be that which retards the set of the concrete matrix on the surface to allow for the exposing of the aggregate, containing thixotropic agents and shall be in a liquid form.

EXPOSED AGGREGATE CONCRETE ETCHER

Exposed aggregate concrete etcher and cleaner shall be 5% muriatic acid solution. Acid neutralizer shall be sodium bicarbonate.

EXPOSED AGGREGATE ACRYLIC SEALER

Exposed aggregate acrylic sealer shall be “Acry-seal” manufactured by Protex Industries, Inc., Denver, Colorado, or approved equal meeting ASTM D-156 and C-309. Approved equal products shall meet the following composition and material requirements: the acrylic sealer shall contain a selected acrylic resin that resists yellowing and is suspended in a mineral carrier. The sealer shall be that which is used as a cure and seal on exposed aggregate concrete that is subject to abrasion and spillage of common chemicals and deicers.

JOINT SEALER

Cold-applied joint sealer shall be of such character that a homogeneous mix can be obtained by combining the separate substances, either mechanically or manually, without having to heat the blended material above a temperature of 100° F. The material shall pour or extrude readily at a

temperature of 70° F immediately after preparation for use and shall remain in a condition suitable for application for at least one hour. Joint sealant shall be Sonolastic SL1 or approved equal.

RESIDENT/BUSINESS/RTD NOTIFICATION

At least 48 hours prior to the start of construction at each location, the Contractor shall notify in writing the residents or businesses adjacent to the work. The notification shall include a description of the work, a schedule for completion of the work and the name and phone number of the Contractor's contact person. **The notification format shall be approved by the Engineer prior to distribution.**

Contractor shall notify RTD (michelle.sims@rtd-denver.com and lindsey.smith@rtd-denver.com) a minimum of 10 business days before construction at bus stop locations. RTD will post rider alerts and coordinate removal and re-installation of bus stop signs.

CONCRETE MIXER TRUCKS

Concrete Mixer trucks shall be restricted to public roadways when transporting concrete material within the City of Louisville. Concrete material delivery to Parks and Recreation Concrete Replacement shall accomplished utilizing a concrete buggy, unless otherwise approved by the owner.

6.0 BASIS OF PAYMENT - CONCRETE

The entire cost of the work and material necessary to complete all items in the Proposal, shown or implied or specified herein shall be included and merged into the pay items shown in the Proposal. All associated work necessary for the proper and complete installation of this project and associated bonding, maintenance and guarantees shall be merged into the pay items shown in the Proposal. All payments shall be subject to the conditions of these specifications.

No separate payment will be made for steel reinforcement but shall be included in the work.

No separate payment will be made for cold weather protection, expansion material, pigmentation, curing compound, sealant and incidentals but shall be included in the work. Minor items and minor details are not listed but shall be part of the complete contract.

No additional payment will be made to the Contractor for the use of high early strength concrete, unless otherwise noted.

No additional payment will be made to the contractor for the use of concrete shuttle buggies and shall be incidental and included in the work.

Front face and back forms shall be used for handicap ramp concrete vertical curbhead construction.

No payment will be made for any removal beyond the limits marked by the Engineer. Payment for concrete shall include the cost of fibermesh reinforcement at crosspans, ramp drives and alley aprons. Fibermesh reinforcement is required for 8" Concrete.

No separate payment will be made for inscribing curb face at water and sewer service crossings, but shall be included in the work.

BACKFILL AND LANDSCAPE RESTORATION shall include but not limited to backfill, compaction, top soil, grading, sod, seed/mulch and sprinkler system repairs. BACKFILL AND LANDSCAPE RESTORATION is incidental and shall be merged into the pay items shown in the Schedule of Unit Prices, unless otherwise noted.

The following items in this section are representative of all work items required and therefore are not referred to by proposal or item number for each individual work item.

MOBILIZATION

1. Scope of Work

This item consists of the mobilization of personnel, equipment, and supplies to the project sites. This item also includes obtaining of all permits and conformance to all permit requirements, bonds, insurance, public and media relations, administrative items, furnishing and erecting temporary construction facilities, project signs, and all other work and operations that must be performed or costs incurred before beginning work on the project site, as well as demobilization and project closeout, all as required for the complete and proper performance and completion of the work. All gasoline, oil, fuel hydraulic fluids, and other contaminating fluids shall be properly removed and disposed of offsite. No objectionable materials shall be allowed to blow from, wash off or drain off of the staging area on to adjacent property.

2. Method of Measurement and Payment

Payment will be made based on the lump sum price in the Bid Form.

Bid price for mobilization shall not exceed, in any case, 6% of the total bid price for the project.

EROSION CONTROL

1. Scope of Work

This work shall consist of furnishing all labor, materials, equipment, installation and removal of curb socks, concrete washout, silt fence, and other BMPs as required by the Project Manager. Contractor shall provide submittal sheet for approval of BMPs as requested.

2. Method of Measurement and Payment

Payment for EROSION CONTROL shall be made on a lump sum basis and shall be full compensation to all work necessary to complete the item.

UNCLASSIFIED EXCAVATION

1. Scope of Work

This work shall consist of furnishing all labor, materials, equipment for UNCLASSIFIED EXCAVATION and shall include saw cutting, removal, loading, and haul of existing materials to

a disposal site. The work shall also include removal, loading, haul and disposal of existing base course sub base and other miscellaneous material to the depth of final finished subgrade. The work shall include subgrade preparation to a minimum depth of 12” as specified on the drawings or in the specifications and recompacted in accordance with the city of Louisville Construction Standards, unless otherwise noted. Existing asphalt shall become the property of the Contractor.

2. Method of Measurement and Payment

Payment will be made on a field measured removed square yard basis. Payment for UNCLASSIFIED EXCAVATION and shall be full compensation of all work necessary to complete the item.

No payment will be made for over excavation beyond plan limits.

IMPORTED BORROW (COMPLETE IN PLACE)

1. Scope of Work

This work shall consist of furnishing all labor, materials, equipment, loading, haul, placing, shaping, and compaction of IMPORTED BORROW (COMPLETE IN PLACE). Imported Borrow shall be **recycled concrete base** course and conform to the requirements of Colorado Department of Transportation Standard Specifications for Road and Bridge Construction, 2011 Edition Class 6 Classification for Aggregate Base Course Section 703. Samples and test data on material to be used shall be submitted to the Engineer stating the borrow meets these requirements.

2. Method of Measurement and Payment

Payment will be paid by the ton for IMPORTED BORROW (COMPLETE IN PLACE) and shall be full compensation for all work necessary to complete the item.

REMOVE 6” CONCRETE

1. Scope of Work

Work shall consist of furnishing all labor, materials, equipment, demolition, saw cutting, removal of concrete, excavation, load, haul, disposal, incidentals and construction necessary to provide REMOVE 6” CONCRETE to the limits as shown on the plans and as directed by the Engineer.

2. Method of Measurement and Payment

Payment for REMOVE 6” CONCRETE will be made on a field measured square foot basis and shall be full compensation for all work necessary to complete the item.

NEW 6” CONCRETE

1. Scope of Work

Work shall consist of furnishing all labor, materials, equipment, demolition, saw cutting, removal of subgrade material, excavation, concrete removal, subgrade preparation, load, haul, disposal,

compaction, backfill, grading, concrete, admixtures, expansion material, steel reinforcement, curing compound, sealant, incidentals and construction necessary to provide NEW 6" CONCRETE to the limits as shown on the plans and as directed by the Engineer.

2. Method of Measurement and Payment

Payment for NEW 6" CONCRETE will be made on a field measured square foot basis and shall be full compensation for all work necessary to complete the item.

NEW 8" CONCRETE WITH FIBERMESH

1. Scope of Work

Work shall consist of furnishing all labor, materials, equipment, demolition, saw cutting, removal of subgrade material, excavation, concrete removal, subgrade preparation, load, haul, disposal, compaction, furnish and install fill material, backfill, grading, concrete, admixtures, fibermesh, expansion material, steel reinforcement, curing compound, sealant, incidentals and construction necessary to provide NEW 8" CONCRETE WITH FIBERMESH to the limits as shown on the plans and as directed by the Engineer.

2. Method of Measurement and Payment

Payment for NEW 8" CONCRETE WITH FIBERMESH will be made on a field measured square foot basis and shall be full compensation for all work necessary to complete the item.

NEW 30'' VERTICAL CURB AND GUTTER

1. Scope of Work

Work shall consist of furnishing all labor, materials, equipment, demolition, saw cutting, removal of subgrade material, excavation, concrete removal, subgrade preparation, load, haul, disposal, compaction, furnish and install fill material, backfill, grading, concrete, admixtures, fibermesh, expansion material, steel reinforcement, curing compound, sealant, incidentals and construction necessary to provide NEW 30'' VERTICAL CURB AND GUTTER to the limits as shown on the plans and as directed by the Engineer.

2. Method of Measurement and Payment

Payment for NEW 30'' VERTICAL CURB AND GUTTER will be made on a field measured lineal foot basis and shall be full compensation for all work necessary to complete the item.

REMOVE 30" CURB AND GUTTER

1. Scope of Work

Work shall consist of furnishing all labor, materials, equipment, demolition, saw cutting, removal of concrete, excavation, load, haul, disposal, incidentals and construction necessary to provide REMOVE 30" CURB AND GUTTER to the limits as shown on the plans and as directed by the Engineer.

2. Method of Measurement and Payment

Payment for REMOVE 30” CURB AND GUTTER will be made on a field measured lineal foot basis and shall be full compensation for all work necessary to complete the item.

END OF SECTION 02 40 00

SECTION 02 60 00

CONSTRUCTION ZONE TRAFFIC CONTROL

PART 1 - GENERAL

1.1 DESCRIPTION

Construction zone traffic control shall apply to any and all construction and related construction on the 2023 Concrete Replacement Project to complete the work.

This work consist of furnishing, installing, moving, maintaining and removing temporary traffic signs, advance warning arrow panels, variable message boards, flashing portable beacons, barricades, channelizing devices, delineators, and flagging as required by the Manual on Uniform traffic Control Devices for Streets and Highways and the Colorado Supplement thereto, in accordance with the plans and these specifications. When a device is not in use, the contractor may remove it from the project for the period it is not needed. Devices temporarily not in use shall not be stored in the roadway or walkways.

1.2 GENERAL REQUIREMENTS

Pertinent provisions of the following listed documents shall apply to this work, except as they may be modified herein, and are hereby made a part of this specification to the extent required.

A. Standard Specifications for Road and Bridge Construction by the Colorado Department of Transportation (CDOT), Section 630, Construction Zone Traffic Control, and Section 627, Pavement Marking.

B. Manual on Uniform Traffic Control Devices for Streets and Highways, FHWA, and the latest revision of the Colorado Supplement thereto.

C. CDOT Standard Plan S-630-1 (sheets 8 and 9), S-630-2 and S-630-3.

1.3 SUBMITTALS

A. Five (5) CONTRACT DAYS prior to the start of any construction activity, submit copies of the following:

1. Proposed detour plan and traffic control elements as described under Section 3.2.
2. Schedule of proposed duration and sequence of operations.

PART 2 - PRODUCTS

2.1 MATERIALS

A. In accordance with CDOT Section 627.02 regarding pavement marking tape.
B. In accordance with CDOT Section 630.02 regarding signs and barricades.
C. In accordance with CDOT Section 630.05 regarding traffic cones.

PART 3 - EXECUTION

3.1 GENERAL

In accordance with CDOT, Subsection 630.09 through Subsection 630.13, Construction Zone Traffic Control - Construction Requirements, except as modified herein.

In accordance with CDOT, Section 627.10, Pavement Marking Tape.

3.2 METHOD OF HANDLING TRAFFIC

Delete the second paragraph of Subsection 630.09.

Subsection 630.08 shall include the following:

ALL TRAFFIC CONTROL DEVICES MUST BE IN GOOD AND CLEAR CONDITION, INSTALLED PRIOR TO ALL AND ANY CONSTRUCTION ACTIVITY. THE ENGINEER MAY DIRECT MINOR MODIFICATIONS TO THE APPROVED TRAFFIC CONTROL PLAN BASED ON OBSERVATIONS OF FIELD CONDITIONS AT ANY TIME OR SUSPEND WORK UNTIL APPLICABLE SAFETY MEASURES ARE TAKEN WITHOUT ANY CHANGES TO THE COST OF THE PROJECT.

DEFICIENCIES IN TRAFFIC CONTROL SHALL BE CORRRECTED IMMEDIATELY OR WORK SHALL BE SUSPENDED. THE OWNER WILL REQUEST A REDUCTION IN COST IF TRAFFIC CONTROL IS NOT PROVIDED PER APPROVED METHOD OF HANDLING TRAFFIC.

In Subsection 630.09, add the following:

The City Engineer must approve all street closures. At least 24 hours before a street closure, it shall be the responsibility of the Contractor to notify the following agencies:

1. Police Department.....303-441-4444
2. Louisville Fire Protection District 303-666-8809
3. City of Louisville Operations and Maintenance Department 303-335-4750
4. AMR Ambulance Service 303-665-6623
5. Boulder Valley School District 303-447-1010
6. Boulder County Communications.....303-441-4444
7. Regional Transportation District 303-443-0100

In addition to the above agencies and organizations, the Contractor shall notify the Post Office and local Trash Companies.

At the completion of work, the agencies must be notified of resumption of normal service.

Changes to the approved traffic control plan necessitated by unforeseen circumstances, such as utility conflicts, must be reviewed and authorized by the Engineer.

Contractor shall include the cost for purchasing “NO PARKING” signs necessary to restrict parking within the work limits. "NO PARKING" signs shall be placed not less than 24 hours in advance of commencement of work in a work zone. The sign shall state, for example "No Parking 7 a.m. to 7 p.m.", together with the day of the week.

A copy of the Right of Way Permit and the approved MHT shall be available at the project site in order that City personnel may verify compliance with the specified traffic control requirements.

The specified elements of the MHT shall also include the number of flag persons to be used.

Approval of the proposed MHT does not relieve the Contractor of liability specifically assigned to him under the contract. The Contractor shall erect and maintain warning lights, signs, barricades, and sufficient safeguards around all excavations, embankments, and obstructions.

The Contractor shall coordinate and cooperate fully with agents of the City of Louisville, utility owners, and other contractors. He shall also coordinate and cooperate fully with agents of other entities to assure adequate and proper traffic control is provided.

The Contractor is advised that other significant construction might be occurring in the area and that he shall cooperate fully with the City of Louisville and all other contractors occupying public right-of-way in terms of work location, work schedule and traffic control requirements.

Through traffic shall be carried on a paved surface at all times unless otherwise approved by the Engineer. The Contractor shall maintain at his own expense that portion of the existing roadway being used to carry traffic so that traffic may readily pass over it.

All traffic control devices supplied by the contractor must be maintained in good and clear condition and meet minimum national standards for reflectivity. Devices shall comply with minimum size and shape as specified in the MUTCD. **No bent, broken, damaged, defaced, dented, dirty, discolored, faded, non-conforming traffic control devices and/or supports shall be used in this project.**

All traffic control devices shall bear the name, address, and phone number of the barricade company that owns them. The phone number shall be a 24-hour a day dispatched hotline in the event an emergency situation occurs where additional devices are needed or existing devices must be removed.

The Contractor shall install construction traffic control devices in locations that do not block or impede sidewalks for pedestrians, or bicyclists or other existing traffic control devices. This strategy shall include, but is not limited to, strapping signs to streetlight or utility poles. Devices may only be attached to wooden street light and utility poles.

All existing traffic control devices, including traffic signs and pavement markings that are compatible with the construction zone traffic control shall remain visible and fully operational. If any devices are incompatible with the temporary construction traffic control devices, they shall be covered, relocated or removed.

The Contractor shall not be allowed to begin operations, which require traffic control until the setup of traffic control devices is completed. Also, the Contractor shall clear his operations allowing 30 minutes for removals of traffic control devices in accordance with the designated hours of work and roadway closures.

During non-working hours, the roadways shall be restored to safe pre-construction travel conditions for the free flow of traffic. Any maintenance required to restore the roadways to this condition, including pavement patching and grading, shall be done prior to opening the areas to traffic or completing work for the day. Temporary pavement markings shall be placed at the direction of the Engineer. All costs incidental to the foregoing requirements in this paragraph shall be included in the original contract prices for the project, including any additional traffic control items required for haul routes into or away from the project.

Any existing signs damaged due to Contractor operations shall be replaced in kind or repaired to the satisfaction of the Engineer by the Contractor at no cost to the project.

Any existing traffic signs removed or relocated during construction as part of the approved traffic control plan are the responsibility of the Contractor to reset upon completion of construction, unless noted otherwise in the plans or specifications. Existing signs may not be removed without prior approval of the Engineer.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time. Brief lane closures (of 5 minutes or less), as approved by the Engineer, may be permitted for moving construction equipment. Flaggers will be required for such operations. All personal vehicles and construction equipment parking will be prohibited where it conflicts with safety, access, or flow of traffic.

During non-construction periods (evenings, weekends, holidays, etc.) all work shall be adequately protected to ensure the safety of vehicular and pedestrian traffic, using materials meeting the approval of the Engineer.

Lane widths in work zones shall be 12 feet, minimum.

The vertical cut or fill, including rotomilling over 1" height differences resulting from construction operations adjacent to traffic lanes shall be temporarily sloped at a 3:1 or flatter slope, or as shown on the typical plan section, and barrier protected, or delineated at 25-foot intervals immediately after grading or removal operations. The 3:1 slope requirement applies to roadway construction projects and would not generally apply to

utility construction or rehabilitation projects. Slope or shoring requirements for these type projects shall be reviewed on a project by project basis.

The Contractor shall equip all vehicles operating within the moving lanes with flashing amber lights visible from all directions.

Any portable device that requires weight to prevent overturning shall be weighted with appropriate sized sand bags. Rocks, asphalt, or any other debris will not be permitted.

MAINTENANCE OF ACCESS

The Contractor shall maintain access to the parking lot at all times unless otherwise approved by the Engineer. During non working hours the Contractor shall maintain access to the roadways and driveways within the construction zone with temporary ramps.

Protection of Adjacent Property and Drives. The Contractor shall use extra care so as to minimize disruption to adjacent property and drives and shall leave the construction site clean, with all debris and concrete removed. If the Engineer determines that the Contractor did not exercise reasonable care to protect the parking areas or street sections from unnecessary damage while accomplishing his work, the Contractor will be required to restore the damaged items to their original condition at his own expense. The Contractor will not be permitted to operate trucks and equipment or store equipment and supplies on private property unless he has written permission to do so.

Work Limits. Work limits shall be marked by the Contractor with orange plastic fencing in pedestrian areas and other suitable materials in the street prior to beginning work. He shall confine all work to within these limits except as provided in the contract documents. If work limits are not established by permit or contract documents, said limits shall be determined by the Engineer and shall be suitably marked by the Contractor, prior to beginning work.

Should the Contractor be unable to obtain written approval of property owners or occupants, documentation of a “Good Faith Effort” to obtain said approval must be submitted.

CONTACTS

The Contractor shall notify the following 72 hours prior to beginning construction and 48 hours prior to changing traffic patterns. The Contractor shall also notify these persons in case of an emergency.

City of Louisville Public Works - Craig M. Duffin, P.E. 303-335-4602
City of Louisville Operations Division – 303-335-4750
City of Louisville Police Department – Boulder Dispatch 303-441-4444
City of Louisville Fire Department - Fire Marshall 303-666-8809

3.3 TRAFFIC CONTROL MANAGEMENT

Subsection 630.10(6) shall include the following: A day shall be defined as the time from 12:00 midnight to 12:00 midnight. The log shall list all devices and personnel deployed within the limits of construction for each day and shall be available for review by the Engineer at all times.

In subsection 630.09, first paragraph, delete the first sentence and replace with the following:

The Contractor shall designate an individual, other than the superintendent, to be the traffic control supervisor.

In subsection 630.09, second paragraph, delete parts (1), (5) and (6) and replace with the following:

(1) Preparing, revising, and implementing each required method of handling traffic in accordance with the traffic control plan.

(5) Preparing traffic control diary on every calendar day traffic control devices are in use. This dairy shall be submitted to the Engineer daily and become a part of the Department's project records.

(6) Inspecting traffic control devices on every calendar day that traffic control devices are in use, masked, or turned away from traffic. These inspections shall include at least one night inspection per week. These inspections shall be performed by the traffic control supervisor or another representative who is certified as a worksite traffic supervisor.

(10) Supervising the cleaning and maintenance of all traffic control devices.

In subsection 630.09, delete the third paragraph and replace with the following:

Traffic control management shall be provided by a certified traffic control supervisor on a 24-hour-per-day basis. The traffic control supervisor or another representative who is certified as a worksite traffic supervisor shall be available and reasonably accessible to the job site on every working day, on call at all times, and available upon The Engineer's request at other than normal working hours. During non-work periods, the traffic control supervisor or another representative shall respond to the job site within 45 minutes. The traffic control supervisor or another representative who is certified as a worksite traffic control supervisor shall arrive at the job site within two hours after notification. The Contractor shall maintain a 24-hour telephone number at which the traffic control supervisor can be contacted. The traffic control supervisor shall not act as a flagger except in an emergency or in relief for short periods of time.

In subsection 630.11, delete the first paragraph and replace with the following:

630.11 General. Portable construction traffic signs shall be removed when temporarily not required. Permanently mounted construction traffic signs shall be masked or turned away form traffic when temporarily not required. When work is suspended, or the project is in free time, and there is no condition requiring traffic control devices or construction traffic signs, all of the construction traffic signs shall be masked or turned away from traffic. If this condition is to exist for more

than 30 days, all construction traffic signs shall be removed. When storing portable signs or supports within the project they shall be stored laying flat and the location shall be at least four feet outside the edge of the shoulder and not on landscaped areas or sidewalks. When masking is used, it shall be done in accordance with subsection 630.10.

The retroreflective surfaces of all signs and other traffic control devices shall be cleaned as frequently as necessary to preserve their legibility and retro reflectivity. However, all devices shall be cleaned a minimum of once every two weeks.

In subsection 630.12, first paragraph, delete the fifth sentence and replace with the following:

When storing portable signs or supports within the project they shall be removed beyond the clear zone and shall not be visible to traffic. All storage areas shall be approved. The minimum clear zone distance shall be 18 feet, measured from the edge of traveled way. If the signs cannot be stored at least 18 feet from the traveled way, they shall be removed. Under no circumstances shall signs be stored on the paved surface.

3.4 FLAGGING

Subsection 630.13(a) shall include the following:

The flagger's STOP/SLOW sign paddle shall be 18 inches with letters six inches high.

Delete Subsection 630.13(a) and replace with the following:

(a) The Contractor shall provide all flagging through the project necessary to assure proper safety to traffic. All flagging personnel shall be certified by the American Traffic Safety Services Association (ATSSA).

PART 4 - MEASUREMENT AND PAYMENT

4.1 Delete Subsection 630.14, 630.15 and replace with the following:

4.2 CONSTRUCTION ZONE TRAFFIC CONTROL

Construction Zone Traffic Control shall be paid for at the lump sum price indicated in the Schedule of Unit Prices. The lump sum price shall be full compensation for flagging and for furnishing, erecting, cleaning, maintaining, moving, removing and disposing of construction traffic control devices, including labor, material equipment and incidentals necessary to complete the work. All construction traffic control devices, which are not permanently incorporated into the project, will remain the property of the Contractor.

Traffic Control Supervisor will not be paid for separately, but shall be included in the work.

Preparation of the MHT will not be paid for separately but shall be included in the work.

Construction fencing and temporary walkways will not be paid for separately but shall be included in the work.

Construction phasing and staging will not be paid for separately but shall be included in the work.

End of Section 02 60 00

SECTION 31 25 00

EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 SECTION INCLUDES

A. This work consists of temporary measures needed to control erosion and water pollution. These temporary measures will include, but not be limited to, berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods. These temporary measures shall be installed at the locations where needed to control erosion and water pollution during the construction of the project and during site restoration, as shown on the drawings, and as required by jurisdictional inspector. The Contractor shall provide measures as required to obtain the required protection.

B. Contractor shall include in the bid price for erosion control a minimum of measures required by the City for this project and any additional items that may be needed to control erosion and water pollution.

1.2 RELATED SECTIONS

A. Section 31 00 00 – Earthwork
B. Section 32 13 00 – Rigid Paving

1.3 REFERENCES AND STANDARDS

A. CDOT – Colorado Department of Transportation
B. UDFCD – Urban Drainage and Flood Control District
C. CDPHE – Colorado Department of Public Health and Environment

1.4 SUBMITTALS

A. Submit under provisions of the Project Manual.

B. Submit the following information:
1. Erosion Control Plan,
2. Construction schedule for Erosion Control per Article Scheduling,
3. Sequencing Plan per Article Scheduling,
4. All applicable permits for Erosion Control.

C. Product data: Submit on all products or materials supplied herein.

1.5 REGULATORY REQUIREMENTS

A. Obtain and comply with all requirements of City and CDPHE Stormwater and/or Groundwater Discharge Permits, as required.

B. In the event of conflict between these requirements and erosion and pollution control laws, rules, or regulations of other Federal, State, or local agencies, the more restrictive laws, rules, or regulations shall apply.

1.6 SCHEDULING

A. Sequencing Plan:
   1. Contractor shall submit a sequencing plan for approval for erosion control in conformance with Contractor's overall Construction Plan for approval by the City.
   2. Changes to the Erosion Control Sequencing Plan may be considered by the City only if presented in writing by the Contractor.

B. Temporary Erosion Control:
   1. When directed by the City, Contractor shall prepare construction schedules for accomplishing temporary erosion control work including all maintenance procedures.
   2. These schedules shall be applicable to clearing and grubbing, grading, structural work, construction, etc.

C. Contractor shall submit for acceptance the proposed method of erosion control on haul roads and borrow pits and a plan for disposal of waste material.

D. Contractor shall be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule. Temporary erosion control measures shall then be used to correct conditions that develop during construction.

E. Work shall not be started until the erosion control schedules and methods of operations have been accepted.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Comply with all applicable municipal or local Municipal Separate Storm Sewer System (MS4) requirements.

B. All materials shall be submitted for approval prior to installation.

C. Natural or biodegradable materials shall be reasonably clean, free of deleterious materials, and certified weed free. Materials may include, but are not limited to, hay bales, straw, fiber mats, fiber netting, wood cellulose, fiber fabric, gravel.

D. Grass Seed:
   1. Temporary grass cover (if required) shall be a quick growing species, suitable to the area, in accordance with local criteria and permit requirements, which will provide temporary cover, and not compete with the grasses sown for permanent cover.
   2. All grass seed shall be approved by Landscape Architect, City, and in accordance with local regulations prior to installation.

E. Fertilizer and soil conditioners shall be approved by Landscape Architect and City and in accordance with local regulations prior to installation.

F. Silt Fence Fabric: woven polypropylene
   1. Mirafi 100X, "Envirofence", or approved equal

G. Temporary Slope Stabilization Mat (short term): 1.5 pound photodegradable polypropylene top and bottom nets, 100% straw fiber matrix, with a longevity of 12 months.
   1. North American Green S150, or accepted substitution

H. Temporary Slope Stabilization Mat (extended term): 3.0 pound UV-stable polypropylene top net, 1.5 pound photodegradable polypropylene bottom net, 70% straw/30% coconut fiber matrix with a longevity of 24 months.
   1. North American Green SC150, or accepted substitution

I. Biodegradable Slope Stabilization Mat (short term): 9.3 pound leno-woven biodegradable jute top net, 7.7 pound woven biodegradable jute bottom net, 100% straw fiber matrix with a longevity of 12 months.
   1. North American Green S150BN, or accepted substitution

J. Biodegradable Slope Stabilization Mat (extended term): 9.3 pound leno-woven biodegradable jute top net, 7.7 pound woven biodegradable jute bottom net, 70% straw/30% coconut fiber matrix with a longevity of 18 months.
   1. North American Green SC150BN, or accepted substitution

PART 3 - EXECUTION

3.1 GENERAL

A. All temporary and permanent erosion and sediment control practices will be maintained and repaired as needed to ensure continued performance of their intended function.

B. City will monitor Contractor’s erosion control methods. If the overall function and intent of erosion control is not being met, City will require Contractor to provide additional measures as required to obtain the desired results.

C. The erosion control features installed by Contractor shall be adequately maintained by Contractor until the project is accepted.

3.2 PROTECTION OF ADJACENT PROPERITES

A. Properties adjacent to the site of a land disturbance shall be protected from sediment deposition.

B. In addition to the erosion control measures required on the drawings, perimeter controls may be required if damage to adjacent properties is likely, and may include, but is not limited to:
   1. Vegetated buffer strip around the lower perimeter of the land disturbance.

a. Vegetated buffer strips may be used only where runoff in sheet flow is expected and should be at least twenty (20) feet in width.
2. Sediment barriers such as straw bales, erosion logs, and silt fences.
3. Sediment basins and porous landscape detention ponds.
4. Combination of above measures.

3.3 CONSTRUCTION

A. Stabilization of Disturbed Areas:
1. Temporary sediment control measures shall be established within five (5) days from time of exposure or disturbance.
2. Permanent erosion protection measures shall be stablished within five (5) days after final grading of areas.

B. Stabilization of Sediment and Erosion Control Measures:
1. Sediment barriers, perimeter dikes, and other measures intended to either trap sediment or prevent runoff from flowing over disturbed areas shall be constructed as a first step in grading and be made functional before land disturbance takes place.
2. Earthen structures such as dams, dikes, and diversions shall be stabilized within five (5) days of installation.
3. Stormwater outlets shall also be stabilized prior to any upstream land disturbing activities.

C. Stabilization of Waterways and Outlets:
1. All onsite stormwater conveyance channels used by Contractor for temporary erosion control purposes shall be designed and constructed with adequate capacity and protection to prevent erosion during storm and runoff events.
2. Stabilization adequate to prevent erosion shall also be provided at the outlets of all pipes and channels.

D. Storm Sewer Inlet Protection: All storm sewer inlets which are made operable during construction or which drain stormwater runoff from a construction site shall be protected from sediment deposition by the use of filters.

E. Construction Access Routes:
1. Wherever construction vehicles enter or leave a construction site, a Stabilized Construction Entrance is required.
2. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day.
3. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area.
4. Street washing shall be allowed only after sediment is removed in the manner described above.

3.4 DISPOSITION OF TEMPORARY MEASURES

A. All temporary erosion and sediment control measures shall be disposed of within thirty (30) days after final site stabilization is achieved or after the temporary measures are no longer needed as determined by the City.

B. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion.

C. Substantial Completion of Erosion Control Measures:
   1. At the time specified in the Contract Documents, and subject to compliance with specified materials and installation requirements, Contractor shall receive a Substantial Completion Certificate for temporary erosion control measures.
   2. Maintenance of Erosion Control Measures after Substantial Completion: Contractor shall be responsible for maintaining temporary erosion control measures as specified in the drawings and Contract Documents until such time as work has been accepted by the City and as specified in Division 1 for Closeout Procedures.

END OF SECTION 31 25 00

SECTION 32 1823.53

ACRYLIC COLOR SURFACING FOR POST-TENSIONED CONCRETE TENNIS COURTS

PART I – GENERAL

1.01 SCOPE OF WORK

A. The contract work to be performed under this section consists of furnishing all required labor, materials, equipment, implements, parts and supplies necessary for the colored/texture surfacing of tennis courts constructed with proper slope for positive drainage in accordance with these specifications.

1.02 QUALITY ASSURANCE

A. Work is to be performed by contractor with a minimum of six (6) similar, successfully completed projects within the past two (2) years. Contractor will be a builder member of the American Sports Builders Association and will have a Certified Tennis Court Builder on staff. The color surfacing foreman will be a Certified Installer of the color coating manufacturer. All surface coatings shall be supplied from a single manufacturer.

1.03 REFERENCES

A. Post Tensioning Institute (PTI)
B. American Concrete Institute (ACI)
C. United States Tennis Association (USTA)
D. American Sports Builders Association (ASBA)
E. International Tennis Federation (ITF)

1.04 SUBMITTAL

A. Manufacturer specifications for components, color chart and installation instructions.
B. Authorized Applicator Certificate from the surface system manufacturer.
C. ITF Pace Classification Certificate for the system to be installed.
D. Reference list from the installer of at least 6 projects of similar scope completed in the past 2 years.
E. Current Material Data Safety Sheets (MSDS).
F. Product Substitution: If other than the product specified, the contractor shall submit at least 7 days prior to bid date a complete type written list of proposed substitutions with enough data, drawings, samples and literature to demonstrate to the architect/engineer's satisfaction that the proposed substitution is of equal quality and utility to that originally specified. Information must include a QUV test of at least 2000 hours illustrating the UV stability of the system. Test method similar to ASTM G154. The color system shall have an ITF pace rating

in Category 3 (medium). Under no circumstances will systems from multiple manufacturers be considered.

1.05 LIMITATIONS FOR APPLICATION OF SURFACING

A. Application temperature shall be a minimum of 50˚F in direct sunlight with no shade. Do not apply coatings if temperatures are at or below 50˚F at night. The surface temperature shall not exceed 140˚F. Do not apply when surface is wet or if rain is imminent or forecasted. Keep all coatings from freezing. Do not store in direct sunlight for an extended period. Containers shall be closed when not in use.

1.06 WARRANTY

A. Contractor shall guaranty that all materials and workmanship incorporated into the project will be of new quality and free from defects, and that all work will be installed as specified and drawn, and in conformance with the project documents. Any material or workmanship found to be defective or out of specification will be replaced, at the sole cost of the contractor, for a period of one (1) year from date of acceptance.

PART 2 – PRODUCTS

2.01 MANUFACTURER

A. RSS Color Coatings - 775 Canosa Court, Denver, CO 80204 (800) 738-8106 or approved equal.

2.02 ADHESIVE PRIMERS AND SEALERS

A. Adhesion Primers - RSS Concrete Sealer and RSS Latex Concrete Primer- RSS Concrete Sealer is undiluted and RSS Latex Concrete Primer is mixed 1 gallon of RSS Latex to 4 gallons of clean potable water (1:4).

2.03 PATCHING MIX

A. Patching Mix - RSS Rhino Patch Binder- is mixed 3 gallons of RSS Latex Patch Binder, 1 gallon of Portland Cement Type 1 or 2 and 100 lbs. of Silica Sand.

2.04 CRACK SEAL

A. Crack Seal - RSS Epoxy Crack Seal or Rhino Crack Filler. The RSS Epoxy Crack Seal is mixed as a two (2) Parts Component A and one (1) Part Component B. Rhino Crack Filler is mixed 3 gallons of RSS Latex Patch Binder, 1 gallon of Portland Type 1 or 2 Cement and 100 lbs. of silica sand.

2.05 ACRYLIC RESURFACER

A. Acrylic Resurfacer - RSS Acrylic Resurfacer. RSS Acrylic Resurfacer is mixed with 55 gallons of RSS Acrylic Resurfacer, 400 to 500 lbs. of Washed White Silica Sand and 20-28 gallons of clean potable water.

2.06 ACRYLIC COLOR PLAY SURFACE

A. Acrylic Color Play Surface- The RSS Acrylic Color to provide an ITF Pace Rating Category 3 (medium) tennis surface which consists of the following mix- 55 gallons of RSS Acrylics Color Concentrate, 400 lbs. of Washed White Silica Sand (40-70 mesh) and 20 to 28 gallons of clean potable water.

****Factory Fortified RSS Color Coatings are available for all colors if specified****

2.07 TAPE SEALER AND TEXTURED LINE PAINT

A. Play Lines- RSS Tape Sealer and RSS Textured Line Paint. Lines shall be accurately located and marked. Lines shall be primed first with (1) coat of RSS Tape Sealer to ensure crisp edges. Playing lines shall be (2”) wide and painted using RSS Textured White Line Paint.

PART 3 - EXECUTION

3.01 SURFACE PERPARATION

A. Prior to the surfacing applications, the courts shall be thoroughly cleaned by pressure washing to remove all dirt and debris.

B. Cracks and rock holes (if applicable) will be cleaned of debris and filled full depth and level with the playing surface using RSS Epoxy Crack Seal or RSS Rhino Crack Filler. RSS Rhino Crack Filler shall be ground smooth to court surface prior to the application of RSS Acrylic Resurfacer. RSS Epoxy Crack Seal shall have silica sand broadcast into wet mixture to provide texture.

C. Flood the courts and after a (1) hour wait in direct sunlight with temperatures seventy (70) degrees and rising. Any areas of standing water remaining that cover a US Nickle shall be patched with RSS Rhino Patch Binder. Areas to receive patches shall be primed first with a mix of Water and RSS Latex Concrete Primer mixed at a 4:1 ratio. Reflood patches to ensure compliance. Light misting with water on the edges to feather out is allowed as needed to maintain workability.

3.02 CONCRETE SEALER AND LATEX CONCRETE PRIMER

A. One (1) coat of RSS Concrete Sealer shall be applied over the concrete with a sprayer. When the sealer coat has dried and cured apply one (1) coat of RSS Latex Concrete Primer using 1 gallon of Latex mixed with 4 gallons of clean potable water. Apply with a rubber bladed squeegee to aid in the mechanical bonding of the RSS Coating System to the concrete substrate. Apply the first

coat of RSS Acrylic Resurfacer while Latex Primer Coat is tacky to the touch. Care should be taken not to leave any puddles of material.

3.03 ACRYLIC RESURFACER

A. In order to provide a smooth underlayment for RSS Color Coating Systems one (1) coat of RSS Acrylic Resurfacer shall be applied over each court per the mix ratio stated in Section 2.05. The mixture will be agitated in a paddled mortar mixer or in drums to provide a consistent and homogeneous solution. The acrylic resurfacer coat shall provide a uniform surface with no ridges.

3.04 ACRYLIC COLOR

A. Two (2) coats of color mixture (3 coats may be required depending on concrete texture) will be agitated in a paddled mortar mixer or drum to provide a consistent and homogeneous solution. The mixture will be applied over the entire court surface using a rubber-tipped squeegee in two separate applications with enough drying time allowed between coats per mix ratio stated in Section 2.06. The finished color surface is to be free of ridges and shall have a uniform appearance.

3.05 PLAYING LINES

A. All lines will be painted first with (1) coat of RSS Tape Sealer to provide a uniform crisp line. Once the Tape Sealer has dried apply one (1) coat of RSS White Textured Line Paint two inches (2") wide which shall be accurately located and marked by snapping a chalk line and placing (1"+) masking tape using a line taper. All lines shall conform to USTA Specifications for doubles play.

3.06 PROTECTION

A. Erect temporary barriers to protect coatings during drying and curing if needed.
B. Lock gates to prevent use or entry until acceptance by the owner's representative.

3.07 CLEAN UP

A. Remove all containers, surplus materials and debris. Dispose of materials in accordance with local, state and federal regulations.
B; Leave site in a clean orderly condition.

END OF SECTION 32 1823.53

SECTION 32 3113.30

PICKLEBALL COURT EQUIPMENT

PART 1 – GENERAL

1.01 SCOPE OF WORK

A. The contract work to be performed under this section consist of furnishing all required labor, materials, equipment, implements, parts and supplies necessary for, or appurtenant to, sport court equipment in accordance with these specifications.

1.02 WARRANTY

A. Contractor shall guaranty that all materials and workmanship incorporated into the project will be of new quality and free from defects, and that all work will be installed as specified and drawn, and in conformance with the project documents. Any material or workmanship found to be defective or out of specification will be replaced, at the sole cost of the contractor, for a period of one (1) year from date of acceptance.

PART 2 – PRODUCTS

Douglas Industries- 3441 S. 11th Ave., Eldridge, IA 52748 800-553-8907 or Approved Equal

2.01 PICKLEBALL COURT NET POSTS

A. Douglas Pickleball Premier XS, 2 7/8” OD round posts 8-gauge steel. Posts shall have chrome plated drive gears and a continuous lacing rod. Ground sleeves to be 24” schedule 40 PVC pipe or aluminum. COLOR: Black (#63075)

B. If needed, substitute with Douglas Pickleball Premier SQ Surface Mount (#63080).

2.02 PICKLEBALL NETS

A. Douglas JTN-30 net with 2-ply vinyl-coated polyester headband, weight 65 oz., 20oz/sq.yd., 3.0mm braided solid core polyethylene netting with 1¾” square mesh. Net cable shall be 5/32” diameter galvanize steel by 21’9 for pickleball courts.

2.03 CENTER STRAPS

A. Douglas Classic ACS Adjustable Center Strap. Strap is 2” wide, white polyester webbing with adjustable buckle and a double-ended snap hook.

2.04 CENTER STRAP ANCHOR

A. Douglas 1 7/8” OD tubular anchor pipe, galvanized inside and out. One end will be flattened for anchorage into concrete foundation. A 5/16” OD anchor pin will be fastened through pipe near the top of the anchor.

2.05 WINDSCREEN (IF SPECIFIED)

A. Douglas OMP Polypro Plus Premium Windscreens in 6’ to 9’ tall heights either green or black in color. Owners will specify height and color upon acceptance. Fastening grommets to be 18” on center with center with anti-billow tabs and fastening grommets at mid-height. All 9’ tall windscreen to have AVR Air Vents 10’ on center.

PART 3 - EXECUTION

3.01 NET POSTS – PICKLEBALL COURTS

A. Net post sleeves for pickleball courts will be set in concrete foundations, 12” diameter x 24” deep for a post-tensioned concrete slab, unless surface mounted post are needed. Net posts to be located per the drawings and in conformance with the American Sports Builders Association and USTA specifications. Net post sleeves to be set flush with finished grade and 22 feet apart to the middle of ground sleeves. Net Posts height shall be set at 36” to top of the post from finished grade of the pickleball court.

3.03 CENTER STRAP ANCHORS

A. Center strap anchor will be set in 8” diameter x 12” deep concrete foundations flush with finished grade. Center strap anchor to be installed in the middle of the net posts.

3.04 NETS

A. Tie net flush against net posts at 36” high with lacing twine for pickleball courts.

3.05 CENTER STRAPS

A. Loop center strap around net, hook into anchor, and tighten so that the net is thirty-four inches (34") high from the top of finished grade in the center of the tennis court.

3.06 WINDSCREENS (IF SPECIFIED)

A. Windscreens are installed straight and even with limited amount of wrinkles. The top, bottom, sides and center anti-billowing tabs to be fastened and secured on grommets with 120 lbs. tie wraps.

END OF SECTION 32 3113.30

01 Site Location & Access

Inline Rink Conversion - Louisville, CO

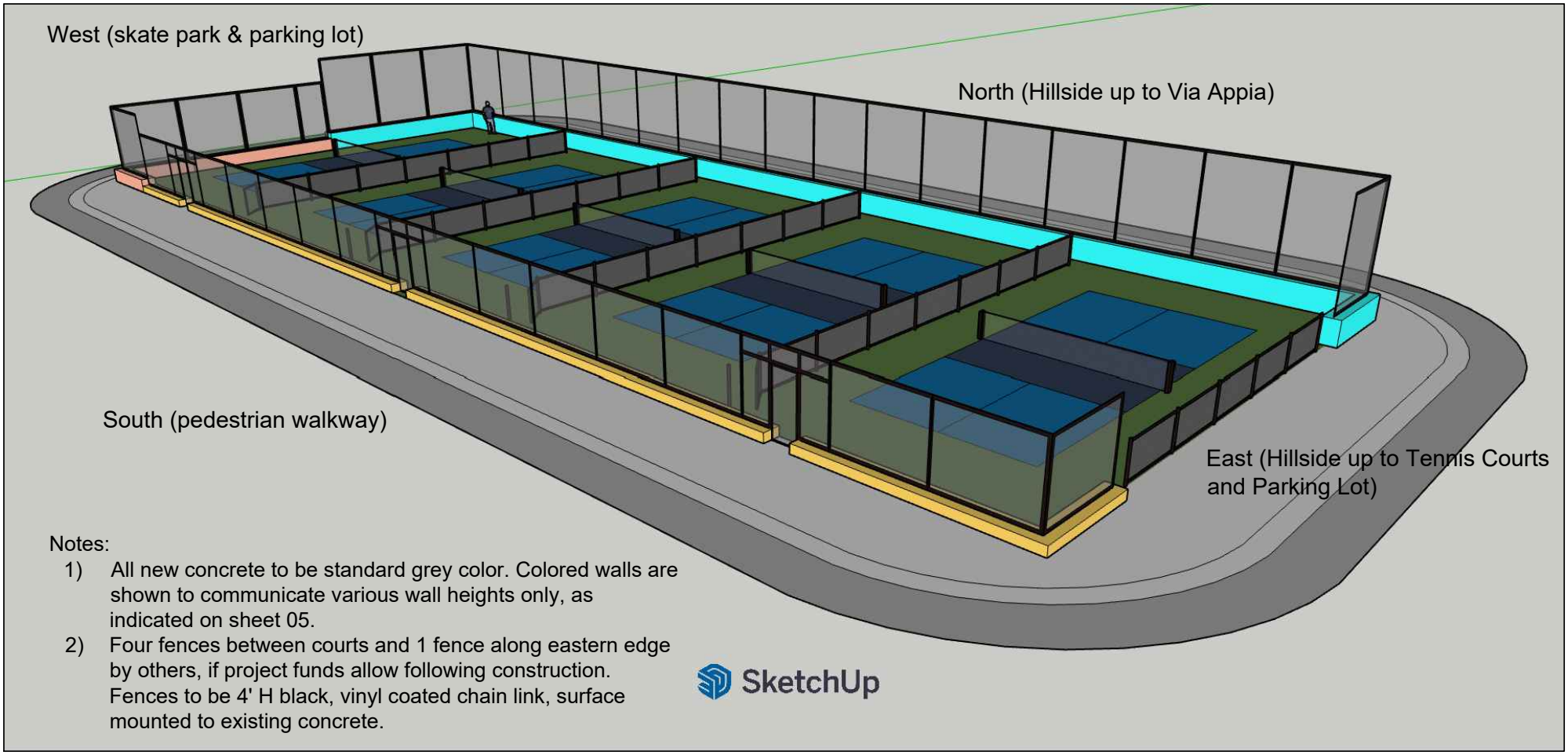
12/10/25

Scale: NTS

02 Court Complex Rendering

Inline Rink Conversion - Louisville, CO

12/10/25



Notes:

1) All new concrete to be standard grey color. Colored walls are shown to communicate various wall heights only, as indicated on sheet 05.
2) Four fences between courts and 1 fence along eastern edge by others, if project funds allow following construction. Fences to be 4' H black, vinyl coated chain link, surface mounted to existing concrete.

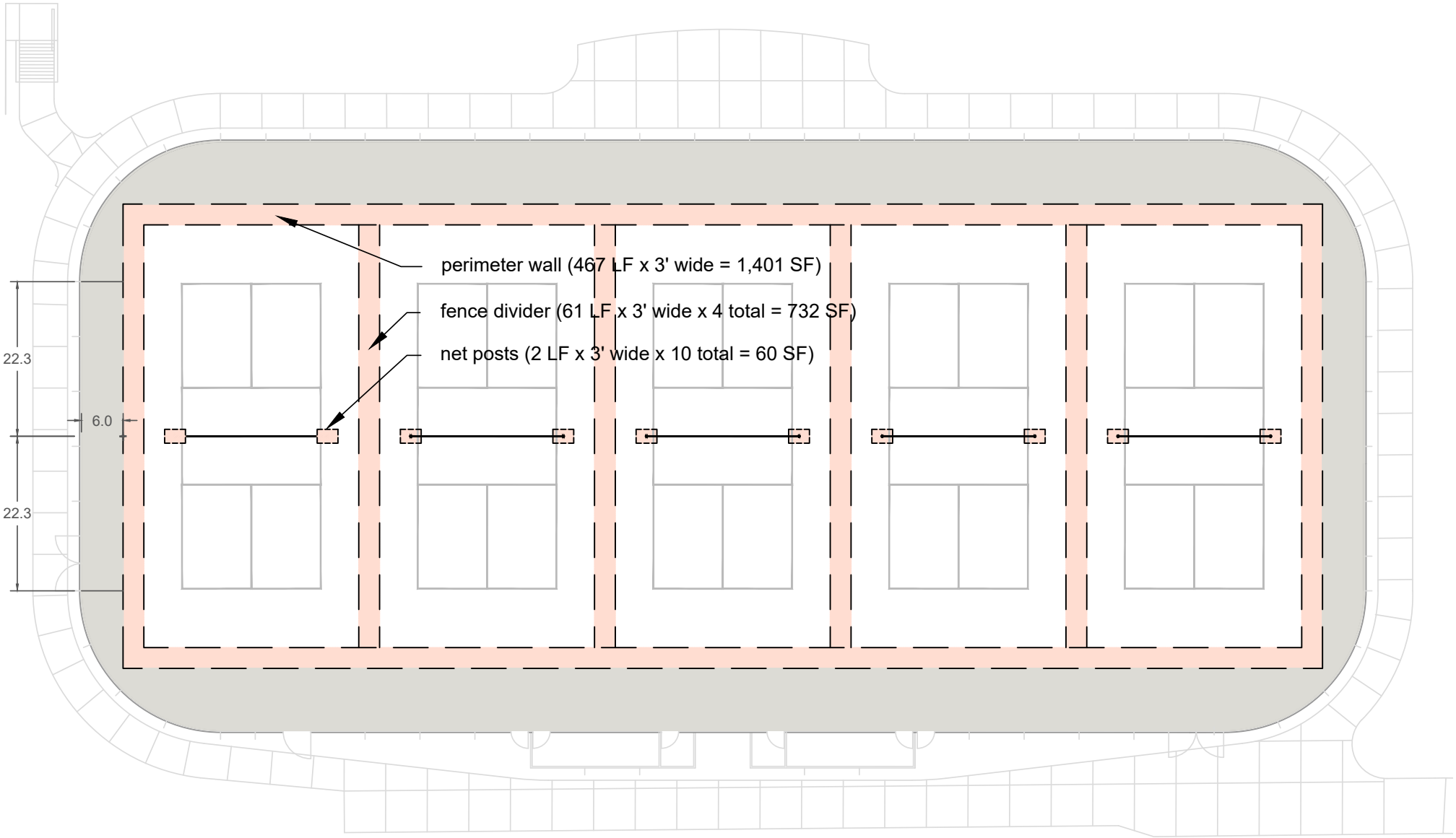
Color Scheme (Laykold Standard Colors)
Outer: Medium Green
Inner: Light Blue
Kitchen: Pro Blue
Striping: White

Scale: NTS

03 GPR Survey Locations

Inline Rink Conversion - Louisville, CO

12/10/25



Areas scanned by GPR for existing post-tension cables (2,193 SF total)

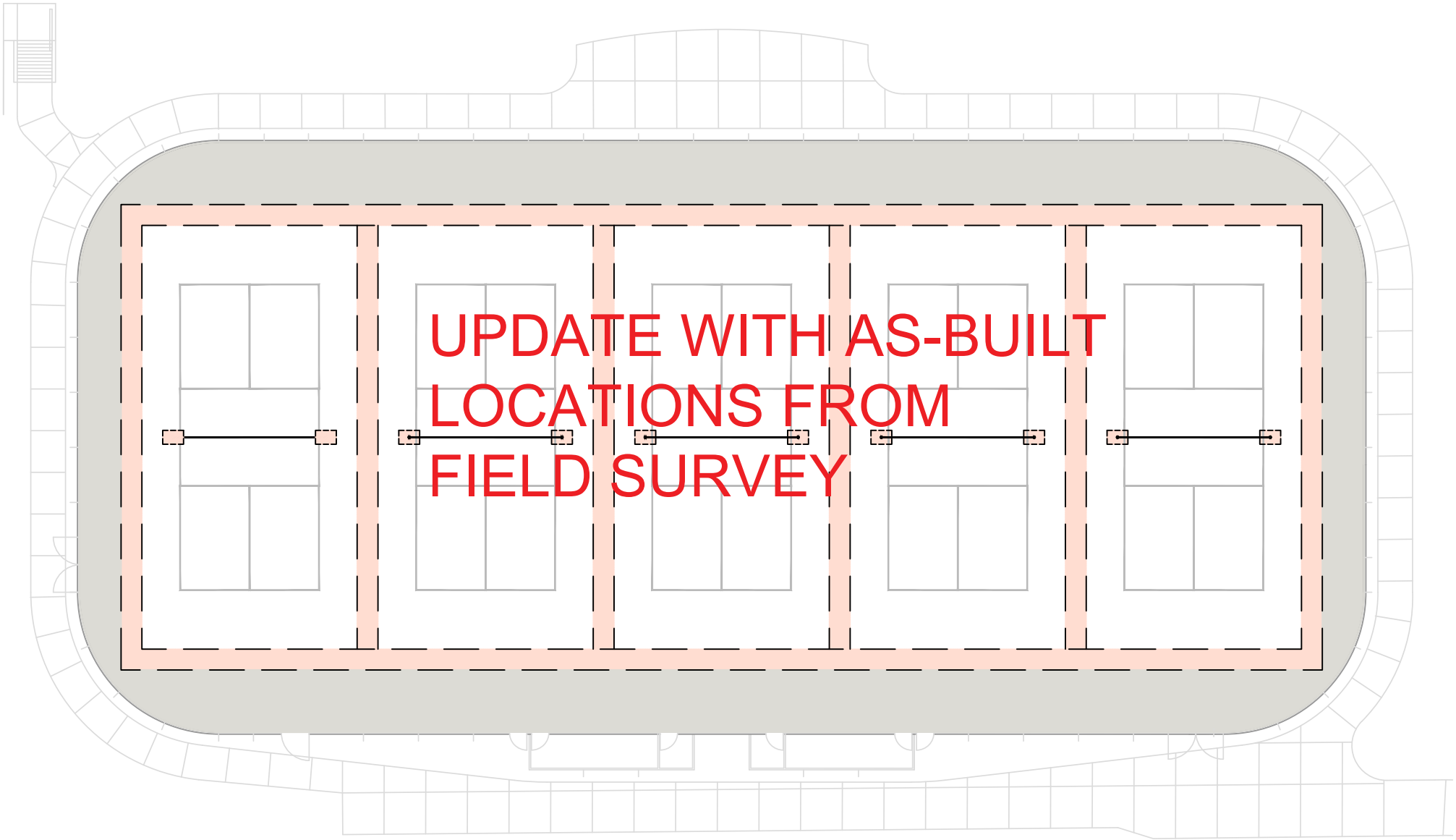
0 10 20

Scale: 1" = 20'

04 Post-Tension Tendon Locations

Inline Rink Conversion - Louisville, CO

12/10/25



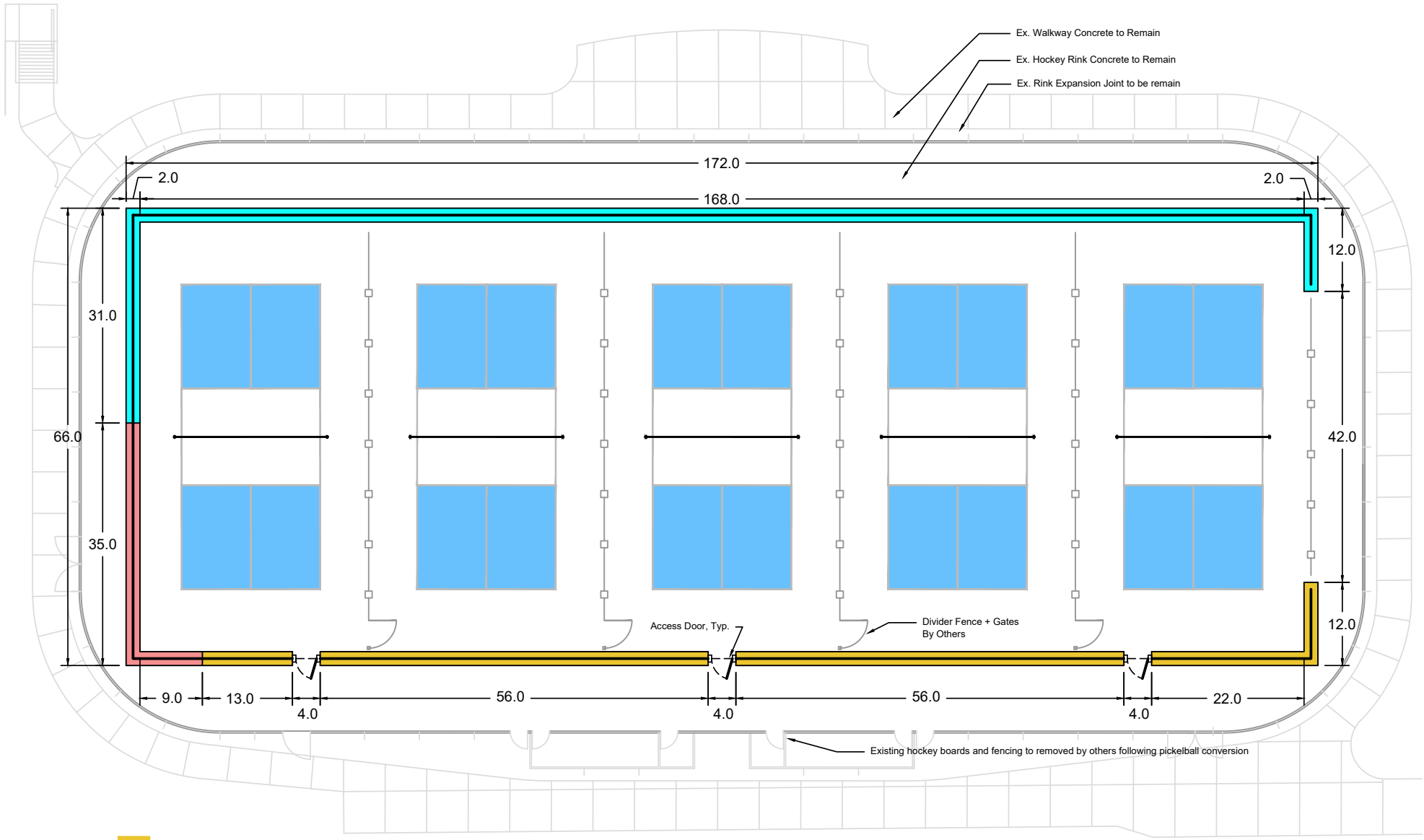
0 10 20

Scale: 1" = 20'

05 Gradebeam & Pickleglass Layout

Inline Rink Conversion - Louisville, CO

12/10/25



1' h x 2' w Concrete + 8' Pickleglass

2' h x 2' w Concrete + 10' Pickleglass

3' h x 2' w Concrete + 13' Pickleglass

Pickleglass Panel

4' Fence & Gate (by others)

N

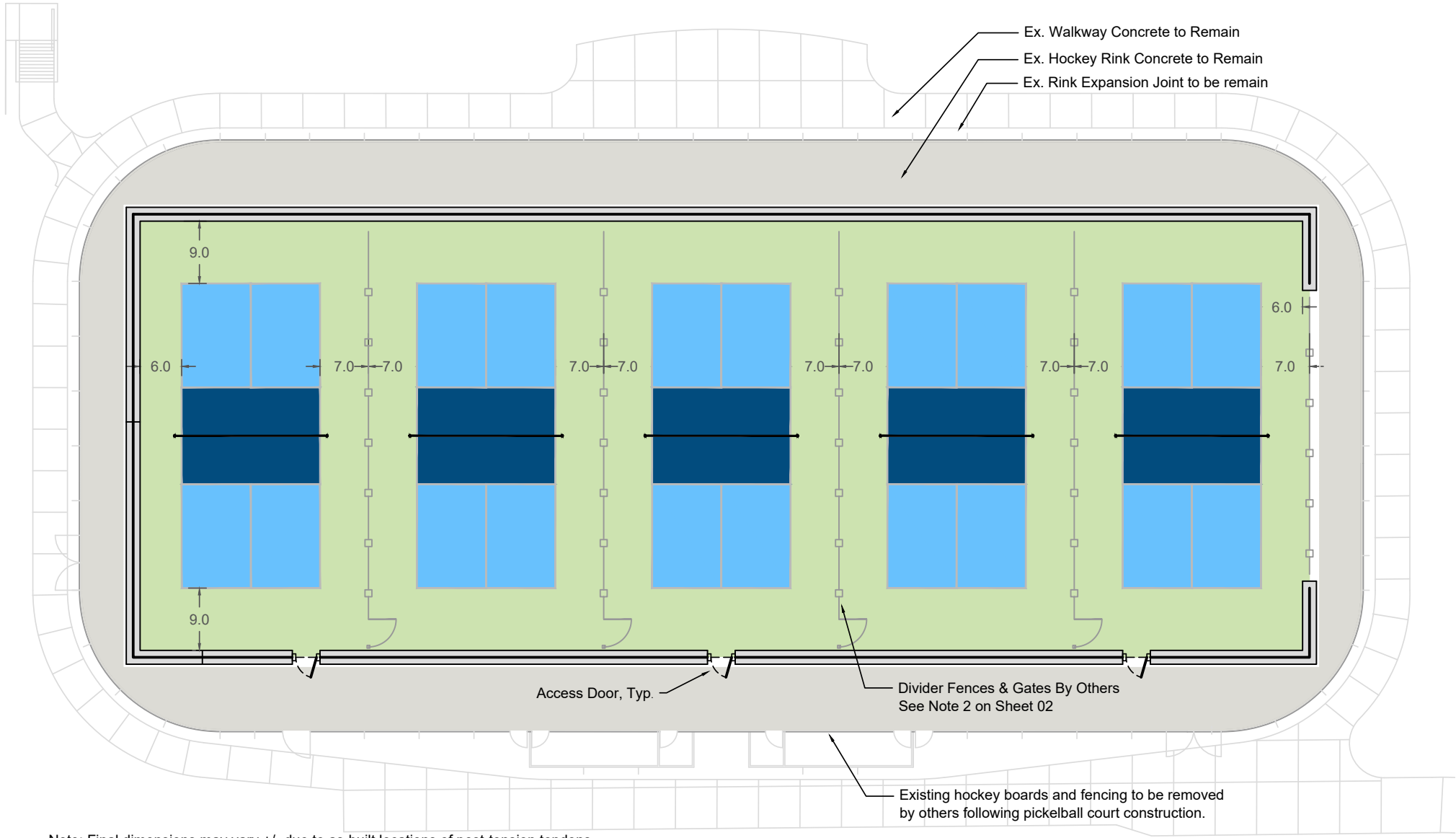
0 10 20

Scale: 1" = 20'

06 Court Complex Layout

Inline Rink Conversion - Louisville, CO

12/10/25



Note: Final dimensions may vary +/- due to as-built locations of post-tension tendons.
Courts Total: Five @ 20' x 44'
Court Buffer: 6-7' on sides, 9' on ends
(Industry standard: Sides @ 5' minimum to 7' preferred. Ends @ 8' minimum to 10' preferred)
Fence Lengths: 4 Court Dividers @ ~62 LF each (~58 LF + 4' gate) East edge 1 @ ~42 LF.
Total = ~290 LF (274 LF fence + 16 LF gates)

0 10 20

Scale: 1" = 20'

City of Louisville
COLORADO • SINCE 1878

NOTICE OF AWARD

January_____,2026

Contact Name
Company Name

CONTACT,

Please be advised that on _____ the City of Louisville, Colorado City Council awarded the **Conversion of the inline rink to pickleball courts** project to your company in the amount of _____ per your bid submitted _____.

In accordance with the Contract Documents, you are required to execute two copies of the Agreement and return both copies with the required bonds and certificates of insurance within **10 days** of the date of this Notice of Award by _____.

Failure to comply with these conditions within the time specified will entitle OWNER to consider your bid abandoned, to annul this Notice of Award and to declare your Bid Security forfeited.

CITY OF LOUISVILLE, COLORADO

By: _____
Bryon Weber

Title: Project Manager – PROS

ACCEPTED BY:

By: _____
SIGNING PARTY

Title:

City of Louisville
COLORADO • SINCE 1878

PERFORMANCE BOND

_____, as Principal, hereinafter called the Contractor,

And _____, as Surety, with general offices in

_____
a Corporation organized under the laws of the State of _____, and authorized to transact business in the State of Colorado, are hereby bound unto the City of Louisville, Colorado, as Obligee, hereinafter called the City, in the penal sum of _____

($_____) in the United States currency, for the payment of which sum the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally.

WHEREAS, the Contractor has entered into a written contract with the City dated _____, 2025, for _____ in accordance with plans and specifications contained in the Contract, a copy of which Contract is attached hereto and made a part hereof and is hereinafter referred to as the Contract;

NOW, THEREFORE, the conditions of this performance bond are such that, if the Contractor shall satisfactorily perform the Contract, then this bond shall be null and void; otherwise, the Surety shall promptly remedy the default, or shall promptly 1) Complete the Contract in accordance with its terms and conditions, or 2) Obtain a Bid or Bids for completing the contract in accordance with its terms and conditions, and upon determination by Surety of the lowest responsible bidder, or if the City elects, upon determination by the City and the Surety jointly of the lowest responsible bidder, arrange for a Contract between such Bidder and the City, and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the costs of completion plus liquidated damages additional costs pursuant to Section 12.2 of the General Conditions of the Contract less the balance of the contract price, but not exceeding the amount set forth in the first paragraph hereof. The term "balance of the contract price", as used in this paragraph, shall mean the total amount payable by the City to the Contractor under the Contract and any amendments thereto, less the amount paid by the City to Contractor.

In addition, if the Contractor or a subcontractor shall fail to duly pay for any labor, materials, team hire, sustenance, provisions, provender, or other supplies used or consumed by such Contractor or subcontractor in performance of the Contract, or shall fail to duly pay any person who supplies rental machinery, tools, or equipment, all amounts due as the result of the use of such machinery, tools or equipment in the prosecution of the Work, then the Surety shall pay the same in the amount not exceeding the sum specified in the bond together with interest at a rate of eight percent per annum.

In addition to the other conditions hereof, this bond shall include all provisions set forth in Section 38-26-106, C.R.S.

City of Louisville
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Performance Bond (Continued)

THE UNDERSIGNED SURETY for value received hereby agrees that no extension of time, change in, addition to, or other modification of the terms of the Contract of Work to be performed thereunder or the specifications of the Contract Documents shall in any way affect its obligation on this bond and the Surety does hereby waive notice of any such extension of time, change, addition, or modifications.

SIGNED AND SEALED this_____day of _____, 2025.

_____	_____
(Contractor)	**(Surety Company)**
By: _____	Address: _____
(President)	
_____	By: _____
(Attest)	(Attorney-in-fact)

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LABOR AND MATERIAL PAYMENT BOND

BOND NUMBER:

KNOW ALL MEN BY THESE PRESENCES: that

(Firm) _____
(Address) _____
(an Individual), (a Partnership), (a Corporation), hereinafter referred to as "the Principal", and

(Firm) _____
(Address) _____
hereinafter referred to as "the Surety", are held and firmly bound unto the
CITY OF LOUISVILLE, 749 MAIN STREET, LOUISVILLE, COLORADO a Municipal Corporation, hereinafter referred to as "the Owner", in the penal sum of
_____ Dollars
($_____) in lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION are such that whereas the Principal entered into a certain Agreement with the Owner, dated the _____ day of _____, 2023, a copy of which is hereto attached and made a part hereof for the performance of

---

NOW, THEREFORE, if the Principal shall make payment to all persons, firms, subcontractors and corporations furnishing materials for or performing labor in the prosecution of the Work provided for in such Agreement, and any authorized extension or modification thereof, including all amounts due for materials, lubricants, repairs on machinery, equipment and tools, consumed, rented or used in connection with the construction of such work, and all insurance premiums on said Work, and for all labor, performed in such Work whether by Subcontractor or otherwise, then this obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Agreement or to the Work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligation on this Bond; and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the Agreement or to the Work or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the Owner and the Contractor shall abridge the right of any beneficiary hereunder, whose claim may be unsatisfied.

In addition to the other conditions hereof, this bond shall include all provisions set forth in Section 38-26-105, C.R.S.

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Labor and Material Payment Bond (Continued)

IN WITNESS WHEREOF, this instrument is executed in (3) counterparts, each one of which shall be deemed an original, this _____ day of _____, 2025.

IN THE PRESENCE OF:

PRINCIPAL

_____

_____

PRINCIPAL:

BY: _____

_____

(Title)

(Corporate Seal)

Addresses:

_____

_____

_____

IN THE PRESENCE OF:

_____

_____

OTHER PARTNERS:

By: _____

By: _____

IN THE PRESENCE OF:

_____

_____

SURETY:

By: _____

(Attorney-in fact)

Address:

(Surety Seal)

_____

_____

NOTE: Date of Bond must not be prior to date of Agreement.
If Contractor is a Partnership, all partners must execute Bond.

IMPORTANT: Surety Company must be authorized to transact business in the state of Colorado and be acceptable to the Owner.

City of Louisville
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NOTICE TO PROCEED

DATE: _____

TO: _____

You are hereby notified that the Contract Time under the above Contract will commence to run on _____. On that date, you are to begin performing the Work in accordance with the Contract Documents and you are to complete the Work within **72 Contract Days** thereafter. The date of substantial completion of all Work is therefore **September 26, 2025.**

OWNER: CITY OF LOUISVILLE, COLORADO

By: _____
Bryon Weber

Title: Project Manager – Parks, Recreation & Open Space

ACKNOWLEDGEMENT

Receipt of the above Notice to Proceed is hereby acknowledged.

CONTRACTOR: _____

By: _____

Title: _____

Date: _____

City of Louisville
COLORADO • SINCE 1878

CHANGE ORDER

CHANGE ORDER # _____

DATED: _____

AGREEMENT DATE: _____

The following changes are hereby made to the Contract Documents:
Description: _____

			Unit S	$ COST
	TOTAL			

Attachments: _____

ADJUSTMENT TO CONTRACT PRICE:

Original contract price	$ _____
Set change previous Change Orders No. 0 to 0	$ _____
Contract price prior to this Change Order	$ _____
Net adjustment resulting from this Change Order (+/-)	$ _____
Current contract price including this Change Order	$ _____

ADJUSTMENT TO CONTRACT TIME:

Original contract time (days or date)	_____
Net change previous Change Orders No. __ to __ (days)	_____
Contract time prior to this Change Order (days or date)	_____
Net Adjustment Resulting from this Change Order (days)	_____
Current contract time including this Change Order (days or date)	_____

The Contractor's signature below indicates acceptance of full settlement for the work described, both direct and indirect costs. Any claims for additional costs associated with this Change Order will not be considered.

Recommended:	Approved:	Accepted:
_____	CITY OF LOUISVILLE, COLORADO	_____
PROJECT MANAGER	OWNER	CONTRACTOR
By: _____	By: _____	By: _____
Date: _____	Date: _____	Date: _____

City of Louisville
COLORADO • SINCE 1878

FIELD ORDER

No._____

TO: _____

DATE ISSUED: _____

You are hereby directed and instructed to execute promptly minor variations in the Work by this Field Order as follows:

Attachments:

This form shall be used to authorize minor variations in the Work from the requirements of the Contract Documents, which do not include an adjustment in the Contract Price or the Contract Times.

CITY OF LOUISVILLE		**ACCEPTED BY CONTRACTOR**	
BY:	_____	BY:	_____
TITLE:	_____	TITLE:	_____
DATE:	_____	DATE:	_____

City of Louisville
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WORK CHANGE DIRECTIVE INSTRUCTIONS

A. GENERAL INFORMATION

This document was developed for use in situations involving changes in the Work that, if not processed expeditiously, might delay the Project. These changes are often initiated in the field and may affect the Contract Price or the Contract Times. This is not a Change Order, but only a directive to proceed with Work that may be included in a subsequent Change Order.

For supplemental instructions and minor changes not involving a possible change in the Contract Price or the contract Times a Field Order may be used.

B. COMPLETING THE WORK CHANGE DIRECTIVE FORM

Engineer initiates the form, including a description of the items involved and attachments.

Based on conversations between Engineer and Contractor, Engineer completes the following:

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT PRICE. Mark the method to be used in determining the final cost of Work involved and the estimated net effect on the Contract Price. If the change involves an increase in the Contract Price and the estimated amount is approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the estimated price or Contractor may stop the changed Work when the estimated price is reached. If the Work Change Directive is not likely to change the Contract Price, the space for estimated increase (decrease) should be marked "Not Applicable.

METHOD OF DETERMINING CHANGE, IF ANY, IN CONTRACT TIMES: Mark the method to be used in determining the change in Contract Times and the estimated increase or decrease in Contract Times. If the change involves an increase in the Contract Times and the estimated times are approached before the additional or changed Work is completed, another Work Change Directive must be issued to change the times or Contractor may stop the changed Work when the estimated times are reached. If the Work Change Directive is not likely to change the Contract Times, the space for estimated increase (decrease) should be marked "Not Applicable".

Once authorized by Engineer a copy will be sent to Contractor. Price and Times may only be changed by Change Order signed by Owner and Contractor.

Once the Work covered by this directive is completed or final cost and times are determined, Contractor should submit documentation for inclusion in a Change Order.

THIS IS A DIRECTIVE TO PROCEED WITH A CHANGE THAT MAY AFFECT THE CONTRACT PRICE OR THE CONTRACT TIMES. A CHANGE ORDER, IF ANY, SHOULD BE CONSIDERED PROMPTLY.

City of Louisville
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WORK CHANGE DIRECTIVE

DIRECTIVE No. _____

DATE ISSUED: _____ EFFECTIVE DATE: _____

You are directed to proceed promptly with the following change(s):

Description:

_____
_____
_____

Purpose of Work Change Directive:

_____
_____
_____

Attachments (List documents supporting change):

_____
_____
_____

If a claim is made that the above change(s) have affected Contract Price of Contract Times any claim for a Change Order based thereon will involve one or more of the following methods of determining the effect of the change(s).

Method of determining change in Contract Price:

____ Unit Prices
____ Lump Sum
____ Other _____
_____
_____

Method of determining change in Contract Times:

____ Contractor's Records
____ Engineer's Records
____ Other _____
_____
_____

Estimated increase (decrease) in Contract Price:
$_____
If the change involves an increase, the estimated amount is not to be exceeded without further authorization.

Estimated increase (decrease) in Contract Times
Substantial Completion: _____days;
Ready for final payment: _____days.
If the change involves an increase, the estimated times are not to be exceeded without further authorization.

RECOMMENDED:

_____
ENGINEER

BY: _____

ACCEPTED:

_____
CONTRACTOR

BY: _____

City of Louisville
COLORADO • SINCE 1878

APPLICATION FOR PAYMENT

SAMPLE – SEE DIGITAL FILE PROVIDED BY PROJECT MANAGER

APPLICATION FOR PAYMENT

PROGRESS PAYMENT NO. _____ FOR WORK THROUGH THE DATE OF: _____, 20___
PROJECT: CONCRETE REPLACEMENT PROJECT
PROJECT NUMBER: 301312-660022

DATE SUBMITTED: _____, 20___

OWNER: CITY OF LOUISVILLE
749 MAIN STREET
LOUISVILLE, CO 80027

CONTRACTOR: _____
_____
_____
_____

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL PRICE	QUANTITY PREVIOUS PERIOD	QUANTITY THIS PERIOD	QUANTITY TOTAL TO DATE	AMOUNT PREVIOUS PAYMENT	AMOUNT THIS PAYMENT	AMOUNT TOTAL PAYMENT	PERCENT (%) COMPLETE
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
				$_____	$_____				$_____	$_____	$_____	
TOTAL BID PRICE					$_____							

TOTAL AMOUNT TO DATE	$_____
AMOUNT PREVIOUS PAYMENT(S)	$_____
RETAINAGE TO DATE	
PROGRESS PAYMENT NO. ____ AMOUNT TO CONTRACTOR THIS INVOICE	$_____

CONTRACTOR'S CERTIFICATION:

The undersigned CONTRACTOR certifies that:

1. All previous progress payments received from OWNER on account of Work completed under the Contract referred to above have been applied to discharge in full all obligations of CONTRACTOR incurred in connection with Work covered by prior Applications for Payment numbered 1 through _____ inclusive.
2. Title to all Work, materials and equipment incorporated in said Work or otherwise listed in or covered by this Application for Payment will pass to OWNER at time of payment free and clear of all liens, claims, security interest and encumbrances (except such as are covered by Bond acceptable to OWNER indemnifying OWNER against any such claim, security interest or encumbrance.)
3. Work covered by this Application for Payment is in accordance with the Contract Documents and not DEFECTIVE as that term is defined in the Contract Documents.

CONTRACTOR: _____
TOTAL AMOUNT ACCEPTED FOR COMPLETED WORK DESCRIBED ABOVE.

OWNER: CITY OF LOUISVILLE
APPROVED FOR PAYMENT

NAME: _____ DATE: _____
TITLE: _____

NAME: _____ DATE: _____
TITLE: _____

City of Louisville
COLORADO • SINCE 1878

CONTRACTOR'S PROPOSAL REQUEST

(Not a Change Order)

DATE SUBMITTED: _____ **No.** _____

TO: _____

We hereby request the cost of the following proposed change in the Contract. A breakdown of the proposed cost is attached.

Description of the proposed change:

_____

_____

_____

_____

_____

All work shall be in accordance with the terms, stipulations, and conditions of the Contract Documents. If the Work herein requested is approved by Change Order, the time of completion will be (increased), (decreased), (unchanged) by _____ calendar days.

New Substantial Completion Date: _____, 2025

This change will:

__ Increase the Contract by $ _____
__ Decrease the Contract by $ _____
__ No change in the Contract

SUBMITTED BY CONTRACTOR

BY: _____

TITLE: _____

DATE: _____

CITY OF LOUISVILLE

___ Contractor's Proposal Request Accepted

___ Contractor's Proposal Request Not Accepted

BY: _____

TITLE: _____

DATE: _____

City of Louisville
COLORADO • SINCE 1878

CONTRACTOR'S OVERTIME REQUEST

DATE SUBMITTED: _____

TO: _____

We hereby request to perform work on overtime in accordance with the terms, stipulations, and conditions of the Contract Documents.

Requested date of overtime work: _____

Requested hours of overtime work: _____ **(a. m./p. m.) to** _____ **(a. m./p. m.)**

Description of proposed overtime work:

_____

_____

No extra payment will be paid to the CONTRACTOR by the OWNER due to labor overtime or other increased costs of performing the Work on Friday afternoons, Saturdays, or at night. Should the CONTRACTOR desire to work on Friday afternoons or at night between the hours of 5:00 p.m. and 8:00 p.m., Monday-Thursday, or from 3:30 p.m. to 8:00 p.m. Friday, the CONTRACTOR shall submit a written request to the ENGINEER 24 hours prior. If approval is given by ENGINEER to CONTRACTOR for authorized overtime work, ENGINEERs and ENGINEER's authorized personnel will charge overtime and other incidental administrative expenses necessary for performing inspections on Friday afternoons, or at night between the hours of 5:00 p. m. and 8:00 p.m., Monday-Thursday and 3:30 p.m. to 8:00 p.m. Friday, the CONTRACTOR will be responsible to pay for all such rates and charges, and shall not be granted a Contract Price increase for such charges.

Hours of overtime work shall only be allowed from 5:00 p.m. to 8:00 p.m. Monday thru Thursday, and from 3:30 p.m. to 8:00 p.m. Friday.

SUBMITTED BY CONTRACTOR

BY: _____

TITLE: _____

DATE: _____

CITY OF LOUISVILLE

____ Contractors Proposal Request Accepted

____ Contractors Proposal Request Not Accepted

BY: _____

DATE: _____

TITLE: _____

City of Louisville
COLORADO • SINCE 1878

CERTIFICATE OF SUBSTANTIAL COMPLETION

Date:

To:

This Certificate of Substantial Completion applies to all Work under the Contract Documents or to the following specified parts thereof:

The Work to which this Certificate applies has been inspected by authorized representatives of OWNER, and that Work is hereby declared to be substantially complete in accordance with the Contract Documents on:

01/01/01

DATE OF SUBSTANTIAL COMPLETION

A tentative list of items to be completed or corrected is attached/enclosed hereto. This list may not be all-inclusive, and the failure to include an item in the list does not alter the responsibility of CONTRACTOR to complete all the Work in accordance with the Contract Documents. The items in the tentative list shall be completed or corrected by CONTRACTOR within **ten (10)** days of the issuance of this Certificate of Substantial Completion.

CONTRACTOR shall maintain all contractual responsibilities until Final Acceptance.

The following items are to be made a part of this Certificate of Substantial Completion:

1) ITEM ONE
2) ITEM TWO

(For items to be attached see definition of Substantial Completion as supplemented and other specifically noted conditions precedent to achieving Substantial Completion as required by the Contract Documents.)

(CONTINUED NEXT PAGE)

City of Louisville
COLORADO • SINCE 1878

CERTIFICATE OF SUBSTANTIAL COMPLETION (CONTINUED)

This certificate does not constitute an acceptance of Work or start of the guarantee period nor its release of CONTRACTOR's obligation to complete the Work in accordance with the Contract Documents. Issuance of Substantial Completion does not commence the guarantee period with this certificate.

CITY OF LOUISVILLE, COLORADO	**ACCEPTED BY CONTRACTOR**
BY: _____	BY: _____
TITLE: Project Manager - PROS _____	TITLE: _____
DATE: _____	DATE: _____

City of Louisville
COLORADO • SINCE 1878

FINAL CLAIM RELEASE & ACCEPTANCE

Application for Payment Number: _____
Application for Payment Amount: _____
Application for Payment Date: _____

For valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned hereby releases the City of Louisville, Colorado, and waives all rights of the undersigned to file a claim for material, equipment, tools, machinery or services heretofore furnished for use in and for labor heretofore performed upon the construction, alteration, addition to or repair of the structure or improvements described in the Contract Documents as:

Project: PROJECT NAME

Description of Property: PROJECT LOCATION, CITY OF LOUISVILLE

Owner: CITY OF LOUISVILLE, COLORADO

We acknowledge that the foregoing is an adequate description of the real property and improvements to which this Claim Release pertains inasmuch as the foregoing description is the description given in the Contract Documents, which govern the performance of the Work for which consideration has been received.

In executing this release, we certify that all claims for labor or materials, or both, furnished or performed by the undersigned or on our behalf by our material suppliers or subcontractors have been paid or that satisfactory arrangements for payment have been made and we hereby waive and release any and all rights, claims and liens which the undersigned may now or hereafter have, claim or assert against the project, the Owner, or any funds in Owner's possession or control concerning the project, or against all land and any improvements and appurtenances to the land improved by the project.

In consideration of the final payment made or to be made to the undersigned and to induce said payment, we hereby further release and forever discharge the City of Louisville, its officers and employees, from any and all liability, actions, causes of action, claims, demands, damages, costs, loss of services, loss of properties, expenses, compensation and any and all consequential damages or injuries, which the undersigned may now or hereafter have, claim or assert on account of, relating to, or in any way arising out of the above described project.

In further consideration of the payment made or to be made to the undersigned and to induce said payment, we agree to defend and indemnify the City of Louisville, its officers and employees from any claim or claims on the part of our material suppliers, laborers, employees, servants, and agents, or subcontractors arising from our work on this project, and we further agree to fully satisfy any such claim brought against the City of Louisville and reimburse the City of Louisville for any and all costs, including reasonable attorney fees, which it may incur as a result of such claims.

City of Louisville
COLORADO • SINCE 1878

FINAL CLAIM RELEASE & ACCEPTANCE (CONTINUED)

As contactor on the above described project, we further accept the pay quantities and final payment indicated on the final payment application as correct. The above noted final payment of $_____ results in total cumulative payment of $_____ for this project. By accepting this final payment, we accept that the final payment application is full and complete, that no other or further amounts are due to the undersigned, and we hereby waive and release all rights, claims and liens arising from the completion of work under the Contract Documents.

The undersigned representative certifies to have full authority to execute this instrument and to bind the contractor to all statement and provisions herein contained.

_____ _____

PRIME CONTRACTOR

By: _____ _____

President

Date: _____ _____

City of Louisville
COLORADO • SINCE 1878

CLAIM RELEASE – SUBCONTRACTOR/SUPPLIER

For valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the undersigned hereby releases the City of Louisville, Colorado, and waives all rights of the undersigned to file a claim for material, equipment, tools, machinery or services heretofore furnished for use in and for labor heretofore performed upon the construction, alteration, addition to or repair of the structure or improvements described in the Contract Documents as:

Project: PROJECT NAME

Description of Property: PROJECT LOCATION, CITY OF LOUISVILLE

Owner: CITY OF LOUISVILLE, COLORADO

We acknowledge that the foregoing is an adequate description of the real property and improvements to which this Claim Release pertains inasmuch as the foregoing description is the description given in the Contract Documents, which govern the performance of the Work for which consideration has been received.

In executing this release, we certify that all claims for labor or materials, or both, furnished or performed by the undersigned or on our behalf by our material suppliers or subcontractors have been paid or that satisfactory arrangements for payment have been made, and we hereby waive and release any and all rights, claims and liens which the undersigned may now or hereafter have, claim or assert against the project, the Owner, or any funds in Owner's possession or control concerning the project, or against all land and any improvements and appurtenances to the land improved by the project.

In consideration of the final payment made or to be made to the undersigned and to induce said payment, we hereby further release and forever discharge the City of Louisville, its officers and employees, from any and all liability, actions, causes of action, claims, demands, damages, costs, loss of services, loss of properties, expenses, compensation and any and all consequential damages or injuries, which the undersigned may now or hereafter have, claim or assert on account of, relating to, or in any way arising out of the above described project.

In further consideration of the payment made or to be made to the undersigned and to induce said payment, we agree to defend and indemnify the City of Louisville, its officers and employees from any claim or claims on the part of our material suppliers, laborers, employees, servants, and agents, or subcontractors arising from our work on this project, and we further agree to fully satisfy any such claim brought against the City of Louisville and reimburse the City of Louisville for any and all costs, including reasonable attorney fees, which it may incur as a result of such claims.

SUPPLIER OR SUBCONTRACTOR	**PRIME CONTRACTOR**
By: _____	By: _____
President	President
Date: _____	Date: _____

City of Louisville
COLORADO • SINCE 1878

FINAL INSPECTION REPORT

DATE:

TO:

The OWNER has performed final inspection of the Work, and accepts the Work subject to the Contractor's performance and completion of the following repairs, corrections and/or replacements:

_____

_____

_____

_____

The OWNER **does**/does not (circle) hereby finally accept the portion of work performed on Via Appia Way and McCaslin Boulevard, and hereby certifies that the Contractor is eligible to receive final payment for this portion of the Work.

CITY OF LOUISVILLE, COLORADO	**CONTRACTOR**
BY: _____	BY: _____
TITLE: Project Manager - PROS _____	TITLE: _____
DATE: _____	DATE: _____

City of Louisville
COLORADO • SINCE 1878

CERTIFICATE OF FINAL COMPLETION

DATE:

TO:

This Certificate of Final Completion applies to all Work under the Contract Documents, or to the following specified parts thereof:

(specify) _____

_____

_____

The Work to which this Certificate applies has been inspected by authorized representatives of the ENGINEER and the Work is hereby declared to be complete in accordance with the Contract Documents on

_____
DATE OF FINAL COMPLETION

In consideration therefor, the OWNER agrees to make Final Payment to Contractor of all amounts retained by OWNER, except such amounts that are subject to verified claims pursuant to Section 38-26-107, C.R.S, if any.

CITY OF LOUISVILLE, COLORADO	**CONTRACTOR**
BY: _____	BY: _____
TITLE: _____	TITLE: _____
DATE: _____	DATE:

City of Louisville
COLORADO • SINCE 1878

GUARANTEE PERIOD INSPECTION REPORT

DATE:

TO:

The City of Louisville's authorized representative performed the guarantee period inspection on _____, 20 ___, which guarantee was originally due to expire on _____, 20___.

The OWNER hereby determines that the project has ___/ has not ___ satisfactorily met the conditions required to pass the guarantee period inspection.

The identified following items of Work are defective and must be repaired, corrected and/or replaced:

_____

_____

_____

_____

_____

The guarantee period shall be extended for the items listed above until the following date:

_____

CITY OF LOUISVILLE, COLORADO	**CONTRACTOR**
BY: _____	BY: _____
TITLE: _____	TITLE: _____
DATE: _____	DATE: _____

Analysis of Pickleball Sound from Louisville Recreation Center Louisville, Colorado

by

PSM Consulting LLC

May 7, 2025

PSM Consulting LLC
Bonita Springs, Florida
wyermanbr@gmail.com, 248 563 0867

Table of Contents

Executive Summary……page 3
Introduction……page 4
The Sounds of Pickleball……page 4
Measurement of Pickleball Sound……page 5
Sound Maps……page 7
Sound Propagation……page 8
Human Hearing and Annoyance……page 10
Sound Ordinances……page 11
Noise Ordinance for Louisville,Colorado……page 11
Recommended PSMC Design Objective for Pickleball Sound ……page 11
Louisville Recreation Center……page 12
Conclusions ……page 40
Recommendations ……page 41
Reference Sources……page 43
PSMC LLC Information ……page 44
Appendix A – Sound Barriers……page 45
Appendix B – PSMC Blue List of Pickleball Paddles……page 47

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Executive Summary

PSM Consulting LLC (PSMC) used sound modeling software to create sound maps for pickleball sound from the proposed court location at the Louisville Recreation Center, Louisville, Colorado. The sound maps included elevations around the court because several homes at elevations above the courts have a direct line of sight into the courts. A direct line of sight means a direct path of sound propagation.

Sound levels with no sound mitigation were estimated at the property lines of homes closest to the courts on Larkspur Court, Trails Edge Drive, West Mulberry Street, and West Pinyon Way. Next, sound barriers of several heights and designs were positioned at the hockey fence perimeter so that the reduced sound levels could be estimated at these locations. A design objective of 50 dB LAFmax that has been successfully used by PSMC to address pickleball sound at pickleball sites was used for this site.

With no sound mitigation in place, the highest sound levels from pickleball were 60 dB and 56 dB LAFmax at Larkspur Court and Trails Edge Drive, respectively. These sound levels are louder than the recommended design objective and would be considered objectionable. This is caused by the nearness of the courts to these property lines. The sound levels to the east at West Pinyon Court were 40 dB, well below the design objective. This is due to the greater distance to the courts and lower sound at 90 degrees to the courts.

With an 8 foot sound barrier on the 8 foot hockey fence, a negligible sound reduction was estimated at the closest homes. This barrier is not high enough to block the direct line of sight from the courts to the homes. Alternative sound barrier heights and sound barrier materials were evaluated. Four sound mitigation options were identified that yield acceptable sound reduction. They are:

For 5 courts in a north south direction -

1. Hockey perimeter - 18 foot sound absorbing barrier on north side, 10 foot sound absorbing barrier on south side, open east and west sides
2. Court perimeter - 16 foot sound absorbing barrier on north side, 10 foot sound absorbing barrier on south side, 16 foot barrier on west side; open east side

For 4 courts in an east west direction -

3. Hockey perimeter - 16 foot sound absorbing barrier on north side, 10 foot sound absorbing barrier on south side, open east and west sides
4. Court perimeter - 14 foot sound absorbing barrier on north side, 10 foot sound absorbing barrier on south side, 14 foot barrier (transparent) on west side, open east side

These designs would not require the use of quieter paddles and quieter balls from the Blue List (Appendix B). This mandate is often unfavorable to both recreational and competitive players and was not preferred by the Louisville Recreation Center. If equipment restrictions were implemented, then the barrier heights could be reduced to meet the design objective. The Louisville Recreation Department should review the structural capabilities of the hockey fence and the fence foundation along with the zoning height restrictions to select the sound mitigation option that provides the best balance of player enjoyment, homeowner comfort from sound, and project cost.

Introduction

Pickleball is a game played with two to four players using paddles, a ball, and a net on a court that is approximately one half the length and one half the width of a tennis court. The paddles are made of wood, plastic, or composite materials, and the ball is made of plastic. Each paddle and ball impact during a game creates a short pulse of sound that varies in intensity, duration, and frequency content. For homeowners near pickleball courts, pickleball sounds can become objectionable, depending on the distance from the courts and the sound mitigation in place. These objections are also because the frequency of a paddle and ball impact is near 1000 Hz, which aligns with the maximum sensitivity of human hearing.

To help explain the details in this sound study, background information is provided on the properties of sound, pickleball sound impulses, sound measurements, human hearing, sound ordinances, design objectives, and sound mitigation options.

Pickleball sound levels are then presented at several locations surrounding the proposed pickleball courts at the Louisville Recreation Center, Louisville, Colorado using sound maps. Sound maps are presented first with no mitigation and then with mitigation in place.

The Sounds of Pickleball

A typical pickleball game will produce a series of random paddle and ball impacts each time the ball is struck. These impacts are described as “popping sounds of varying loudness.” The loudness of each impact varies based on a player’s position on a court, the paddles and balls being used, the skill level of each player, and the force of each impact. Higher skill players will generate louder sound from pickleball via their forceful paddle strikes than lower skill players.

A paddle/ball impact is an impulsive sound with a duration of 10 to 20 milliseconds. The maximum loudness occurs in the first 5 milliseconds and then the loudness subsides. Impulsive sounds are defined as sounds lasting less than one second with an abrupt onset and abrupt decay (1). The peak acoustical energy is near 1000 Hz, which corresponds with the most sensitive region of human hearing.

In a game of pickleball, a rally will generate several random impacts until the rally is over. A game involves several rallies (and impacts) until a team wins. A typical pickleball game will generate 12 to 15 impacts per minute or 720 to 900 impacts per hour – per court. If multiple courts are in use at the same time, then the number of impacts per hour will be increased by the number of courts. However, not all impacts are of the same loudness. Soft paddle strikes can be barely audible and forceful paddle strikes can be much louder. This results in a range of sound levels from any game. An effective sound study must consider the highest sound levels rather than an average sound level. This has been done in this study.

In addition, the probability of any two paddle strikes occurring at the same time is extremely low. This is because the loudest sound of any single impact lasts only 5 milliseconds or 1/200th of a second. A typical

sound measurement interval is 125 milliseconds. More than 25 courts would have to be in use for two impacts of 5 milliseconds each to overlap in this interval and increase the loudness of a single impact. The resulting sound with more courts in use is therefore not greater loudness but more pickleball impacts in any period of play.

The goal in sound mitigation is to reduce the loudest impacts – regardless of the number of courts - to a low enough level so that the loudest impacts will not be objectionable. If the loudest impacts are not objectionable, then lower loudness impacts will not be a problem. In this manner, the number of courts will not be a problem.

Measurement of Pickleball Sound

Sound is measured with a sound level meter as shown in Figure 1. The units of sound measurement are decibels, abbreviated as dB. Higher dB levels represent louder sounds.

Figure 1 - Sound Level Meter

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Reference dB levels for common sounds follow.

- 120 dB – ambulance sirens, jet planes at takeoff
- 110 dB - car horns
- 100 dB – factory machinery
- 90 dB – lawnmowers, blenders, power tools
- 80 dB – truck traffic, alarm clocks, garbage disposals
- 70 dB – washing machines, hairdryers, highway sound, city streets
- 60 dB – dishwashing machines, electric toothbrushes
- 50 dB – moderate rainfall, large offices
- 40 dB – refrigerators, quiet offices, quiet residential area
- 30 dB – library, a whisper

The human ear does not hear all sounds equally. It has more sensitivity in a mid-frequency range of 1000 to 4000 Hz and has diminished sensitivity at frequencies above and below this range. A frequency weighting can be applied to any sound measurement to match the hearing sensitivity of the human ear. This is called the A-weighting. Decibel measurements with the A-weighting are listed as dBA.

Because sound is not constant and varies with time, the sound level meter has several measurement settings to average these sound fluctuations over the measurement period (1). These settings report the sound level for the measurement period selected. The meter setting must be properly selected to capture the sound level based on the duration of the sound and the response time of the human ear.

What meter setting is best for pickleball play? For short duration sounds like pickleball impacts, the fast meter response with an A weighting best corresponds to the averaging time and sensitivity of the human ear (2). A maximum hold setting on the meter can also be used. The maximum hold setting “listens” for the maximum sound level within the measurement time interval and continues to update the maximum level. In this manner, the maximum level of these rapid fluctuations can be captured over the measurement period.

The fast meter setting will always measure a higher sound level for a pickleball impact than a slow setting. The slow meter setting averages sound over a longer averaging period that includes intervals with no pickleball impacts. The slow setting is appropriate for continuous sound and for background sound but is not appropriate for pickleball impacts. The slow setting understates the loudness of the short duration pickleball impact heard by the human ear. Different time averaging intervals will therefore report different dB levels for the same sound event.

When the A-weighting setting on a sound level meter is selected, dB measurements are described as dBA. If the sound level (L) is measured with an A-weighting (A) and a fast (F) setting, it is described as LAF. When the maximum level is captured in the measurement interval, this is called LAFmax. Unless otherwise

noted, pickleball sounds in this report will be described in units of LAFmax. LAFmax measures the maximum sound, regardless of the number of impacts. If the LAFmax sound level can be reduced through sound mitigation to a low enough level to not be objectionable, then the number of impacts (or the number of courts in use) will not be important.

LAFmax is the preferred metric over LAeq, which is the continuous equivalent-energy level (3) or an average sound level. The LAeq is the level of a continuous sound having the same sound energy as a given time-varying sound. For an impulsive sound that is only present for a short period of time, the time averaged LAeq dB level will understate annoyance. For pickleball, the LAeq will be lower than the LAFmax level for the short duration pickleball sound impulse.

LAFmax addresses the maximum sound in the measurement interval. If LAFmax is reduced to a low enough level to not be objectionable, then the number of lower level pickleball impacts will not be an issue. The maximum value of the LAFmax sound level to avoid objections from pickleball has been determined by PSMC from site evaluations and from human response and is described in a later section.

Sound Maps

Sound maps were created using the dBmap.net Sound Mapping Tool, which is a commercial software (4). The topography of the surrounding area was applied to the sound map before the positions for a sound source and for receivers were selected. Ground elevations were selected from Google Earth. In addition, buildings and homes were added in the vicinity of the pickleball courts. The size of each building together with the roof height were selected from Google Earth or from Zillow and applied to the model for the site. The pickleball sound source was then placed on the court, and the receiver locations were selected. Because this is European software, all distances, site elevations, building sizes, and barrier heights must be added to the model in meters. The resulting sound maps with distance scales can only be shown in meters. (One meter = 3.3 feet)

All colored sound maps have the legend shown in Figure 2. Each colored band represents a 5 dB change in sound level. The number beside each band indicates the lowest sound level within the band. In addition, sound maps shown in color have white lines within each band of colors to show the 1 dB changes within this 5 dB interval.

For example, the yellow band indicates sound levels from 50 dBA to 54.9 dBA; the orange band indicates sound levels from 55 dBA to 59.9 dBA; and the pink band indicates sound levels from 60 dBA to 64.9 dBA The colors represent increasing sound levels from 30 dBA in dark green to over 80 dBA in dark grey.

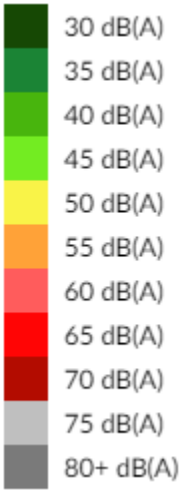

Figure 2 – Color legend for sound maps

All sound maps are shown with north oriented to the top of each map. This provides a link to any local maps which also have north oriented to the top of the map.

Sound Propagation

Sound travels away from its source with a reduction of 6 dB for each doubling of distance from the source. This means that sound decreases in loudness as the distance from the sound source increases. Figure 3 shows sound propagating away from a point source over level ground using the sound modeling software (4). This figure shows the horizontal plane of sound propagation. Each colored ring represents a 5 dB decrease of sound as indicated by the legend. Sound decreases in level as either a listener moves away from a sound source or as the sound source is moved farther away from a stationary listener. (Distances in sound plots can only be shown in meters because the software used is a European software which only displays meters. One meter = 3.3 feet) The 6 dB reduction for every doubling of distance is evident with the increasing diameter of each ring outward from the center.

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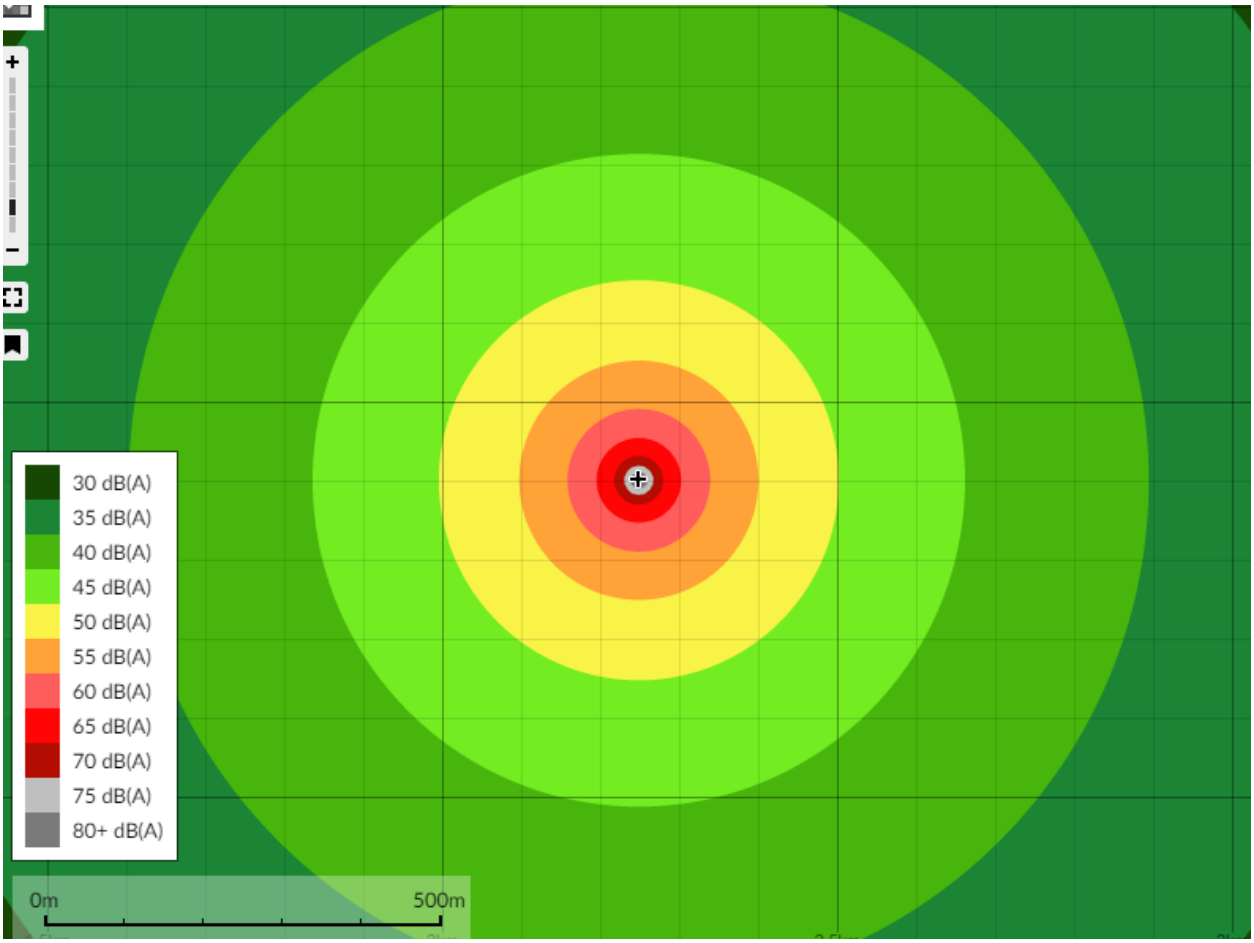

Figure 3 – Sound propagating away from a point source in a horizontal plane (1 meter= 3.3 feet)

Sound also propagates away from a source in a vertical direction. Figure 4 shows a three dimensional view of the vertical plane of sound propagation together with the horizontal plane. (The sound mapping software does not display distances in three dimensional plots.) The three dimensional behavior of sound becomes important to estimate the sound traveling up a hill, to a second story window, over a building, or to an apartment/condominium balcony.

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Figure 4 – Sound propagating away from a point source in a horizontal and vertical plane

Human Hearing and Annoyance

The human ear is sensitive to a sound's level, its frequency content, its duration, and its frequency of occurrence (2). All of these contribute to annoyance. The higher the sound level, the greater the annoyance becomes. The human ear is only sensitive enough to detect a change in sound level of 3 dB. Each 10 dB increase in sound level is perceived as a doubling in the sound level. In the same manner, each decrease of 10 dB is perceived as one half the loudness. A 20 dB increase is perceived as 4 times as loud. Similarly, a 20 dB decrease is perceived as 1/4 as loud.

Hearing is more sensitive to high frequency sounds than to low frequency sounds. Sound measurements made with an A weighting scale match the frequency sensitivity of the human ear. These are described as dBA levels.

Another factor in annoyance is the interval or space between sounds. Intermittent sounds or impulsive sounds are considered more annoying than a steady state sound of the same dB level. All these elements contribute to annoyance and are critical to the sound measurements in sound ordinances.

To reduce the annoyance of any sound level, the distance between the source and receiver must be increased or sound control measures must be implemented.

Sound Ordinances

Community sound ordinances establish dB sound levels so that sound is not objectionable, even though it may be audible. These ordinances are not intended to establish a dB level where sound is inaudible. They are intended to establish a dB level where the presence of sound above a background sound level will not be objectionable to a person with normal hearing sensitivity. The background sound level is the result of wind, trees, birds, normal ambient sounds, and traffic. Sound ordinances use different sound metrics to quantify the time varying loudness of different types of sound.

Continuous sounds and impulsive sounds have distinct characteristics that cause them to be perceived differently by human hearing. Therefore, the measurement intervals for both types of sounds must be separately stated. This is because the ear responds differently to continuous and impulsive sounds. Nearly all sound ordinances lack enough information or proper metrics to properly quantify the annoyance from the impulsive sound associated with pickleball.

Noise Ordinance for Louisville, Colorado

The Louisville municipal code, Sec 9.34.010. – Disturbance of the Peace (5), states that is unlawful to disturb the peace and quiet of others by making unreasonably loud or unusual noises. This is described as a nuisance ordinance because it lacks a dB level or measurement method for the noise. The resolution of any “disturbance” is decided in a courtroom, and the outcomes vary.

Recommended PSM Consulting Design Objective for Pickleball Sound

PSM Consulting (PSMC) has used its experience with pickleball sound measurements to develop a design objective for pickleball sound. The PSMC design objective for pickleball sound is based on the pickleball sound level in relation to the background sound. Background sound should be measured using A-weighted equivalent sound level (LAeq) or A-weighted slow response (LAS). These are both long term averages of sound fluctuations with an A-weighting. These measurements are commonly used for environmental studies of background sound. PSMC sets an LAFmax level as a design objective where pickleball sound would not be objectionable.

The recommended design objective at a property line for pickleball play to avoid objections follows.

- When the background sound level is at or below 47 dB LAeq, the design objective for pickleball sound should be 50 dB LAFmax.
- When the background sound level is above 47 dB LAeq, the design objective for pickleball sound should be 3 dB LAFmax above the background level.

These design objectives refer to sound levels at a property line. This location follows the standard practice for most community sound ordinances of setting sound levels at a property line. The sound levels at a

pool, at a backyard patio, or at the house will be even lower due to the added distance from the property line.

If pickleball courts are in a quiet residential neighborhood with background sound at 47 LAeq, then a design objective for pickleball sound at 50 dB LAFmax should be set. With the background sound level at 47 dB LAeq, pickleball impacts at 50 dB LAFmax will be faintly audible. For any lower levels of background sound, pickleball impacts may be more perceptible.

Pickleball sound at 50 dB LAFmax should not be objectionable to a person with normal hearing sensitivity for these reasons.

- 50 dB LAFmax is the sound level of a large, busy office or of moderate rainfall.
- 50 dB LAFmax is not loud enough to be objectionable even due to its intermittent nature.

Our experience has been that sound levels above 50 dB LAFmax and up to 55 dB LAFmax may cause complaints and sound levels above 55 dB LAFmax frequently can be objectionable.

If pickleball courts are near a location with high background sound at 55 LAeq, then a design objective for pickleball sound at 58 dB LAFmax (55+3) should be set.

This guideline provides a variable design objective for pickleball sound at a property line depending on the background sound levels. Its use has been supported by successful applications at multiple pickleball sites. This design objective for pickleball sound is recommended to avoid community or homeowner objections to pickleball play.

PSM has successfully applied these design objectives to several pickleball facilities and to homeowner associations concerned with pickleball sound. They have been used to judge annoyance at specific home locations with no mitigation in place and to confirm the performance of sound mitigation strategies.

Louisville Recreation Center

Figure 5 shows an aerial view from Google Earth of the proposed pickleball court location on an existing hockey rink at Louisville Recreation Center with the nearest homes or receiver locations to the north, the south, and the east (6). The distance from the hockey fence to the closest property line to the northwest on Larkspur Court is 100 meters. The distance from the fence to the closest property line to the north on Trial Ridge Drive is 160 meters. The distance from the fence to the closest property line to the south on West Mulberry Street is 170 meters. The distance from the fence to the closest property line to the east on West Pinyon Way is 300 meters. The distance from the fence to the police station parking area to the west is 305 meters. Figure 6 shows the planned layout of 5 courts in a north south direction.

In general, pickleball sound will be louder for locations closest to the courts than farther from the courts. Also, at the same distance from the courts, pickleball sound will be slightly louder in the direction of play than at 90 degrees to the direction of play.

Figure 5 – Proposed pickleball court location at Louisville Recreation Center

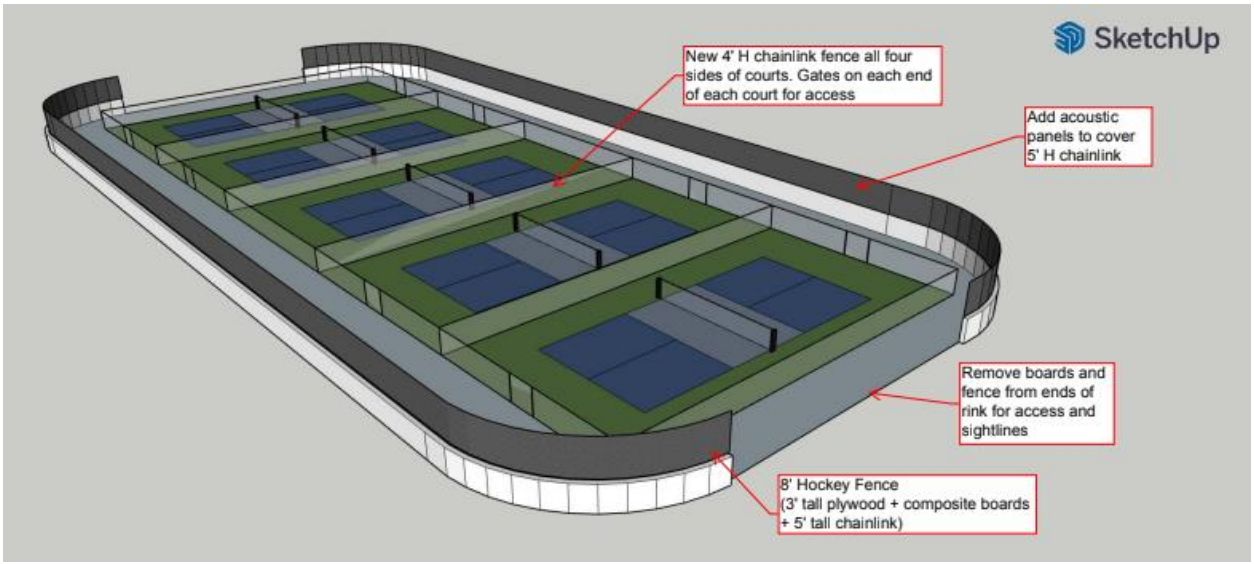

Figure 6 – Proposed pickleball courts at Louisville Recreation Center

The topography for the area was taken from Google Earth and was included on the sound map. The area has higher elevation north of the courts and slightly lower elevation south of the courts. Figure 7 shows the topography with a higher elevation from Trail Ridge Drive to West Mulberry Street.

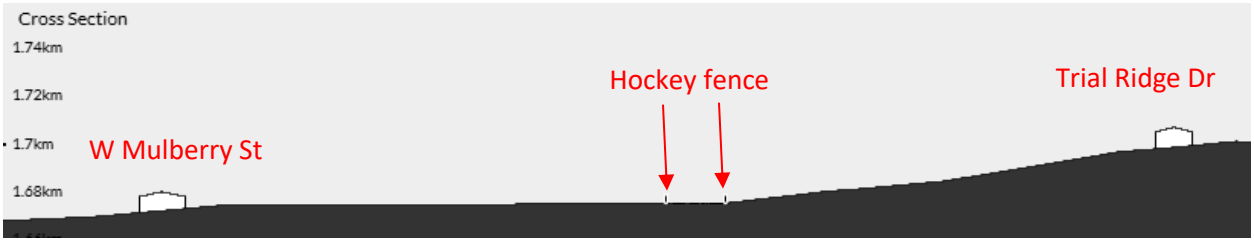

Figure 7 – Ground elevation to the north and south of courts

The closest homes on each of the streets mentioned were added to the sound map. The dimensions of the homes and the roof heights for nearby homes were taken from Google Earth for inclusion in the sound map. Figure 8 shows a three dimensional view of the homes to the northwest and north and the fire station to the northeast. Additional homes were included in the south and east directions. The background sound level was assumed to be 47 dB LAeq, which is typical of a residential neighborhood. The PSMC design objective of 50 dB LAFmax was therefore used.

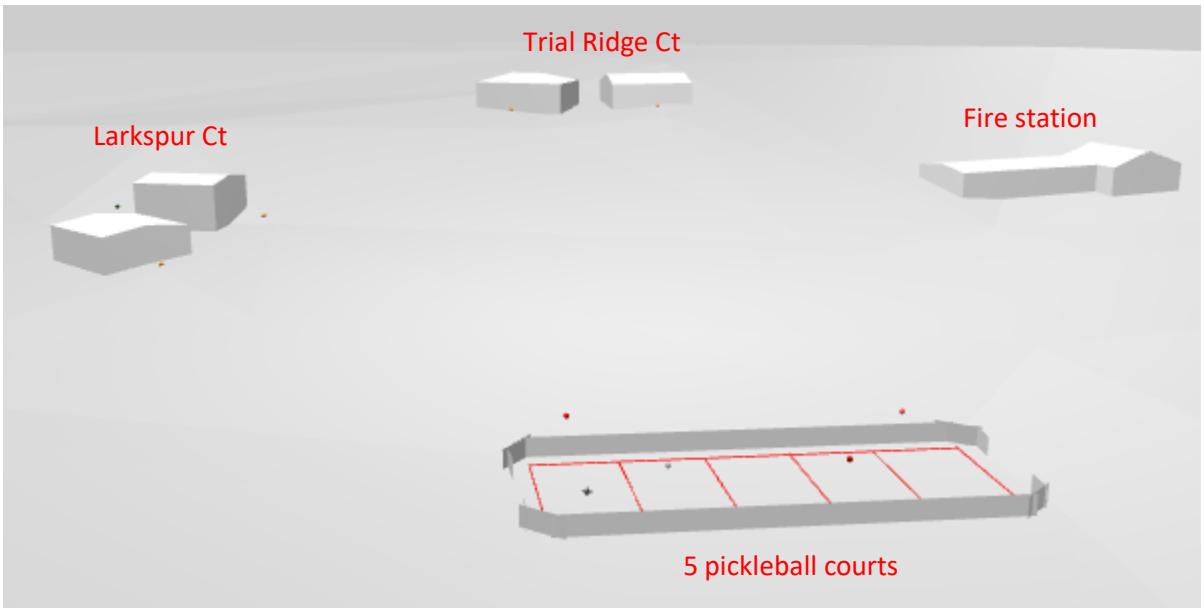

Figure 8 – Sound map details for Louisville pickleball courts – three dimensional model

Pickleball sound can come from any location on a pickleball court when a player strikes a ball. Pickleball sound travels away from the source in all directions. The loudest pickleball sounds will occur in the primary direction of ball travel across the net. Lower sound levels occur to the side, at 90 degrees to the direction

of ball travel. In addition, the positions of players change frequently during a game so that some shots (and the direction of sound) will continually change. The sound maps will display sound levels at multiple receiver positions for sound in the direction of play and for sound at 90 degrees to the direction of play.

Four court positions were selected on the pickleball courts to show the sound propagation from these positions in all directions to the nearby homes. Figure 9 shows the four sound source locations. The following sound maps will show the relationship between the source location (on the court) and the distance to a receiver (a home).

Figure 9 – Sound sources for the proposed 5 court layout

As a reference point for pickleball sound levels, the sound levels from tennis were estimated in all directions. In general, tennis is one half as loud as pickleball with a lower tone at impact and fewer impacts per minute of play. One half as loud means 10 dB lower sound level. Figure 10 shows the sound levels from a tennis source position closest to the homes to the north. The white circles indicate LAFmax levels in dB at each receiver at a height of 1.5 meters or 5 feet. This is the height at ear level for most people. This color map shows how sound propagates away from the courts. The design objective would be to have all homes in a green zone where sound is below 50 dB LAFmax. This is achieved with tennis.

Several points about sound propagation from tennis are seen in this figure.

- The sound level decreases at greater distances from the source.
- The sound level on the side of a house away from the source is lower than on the side facing the source – the house acts as a sound barrier and creates a shadow zone for sound.
- A shadow zone exists on the side of the house away from the courts – the house and the roof line function as sound blockers or barriers.
- All the sound levels are below 50 dB LAFmax – no complaints would be expected.

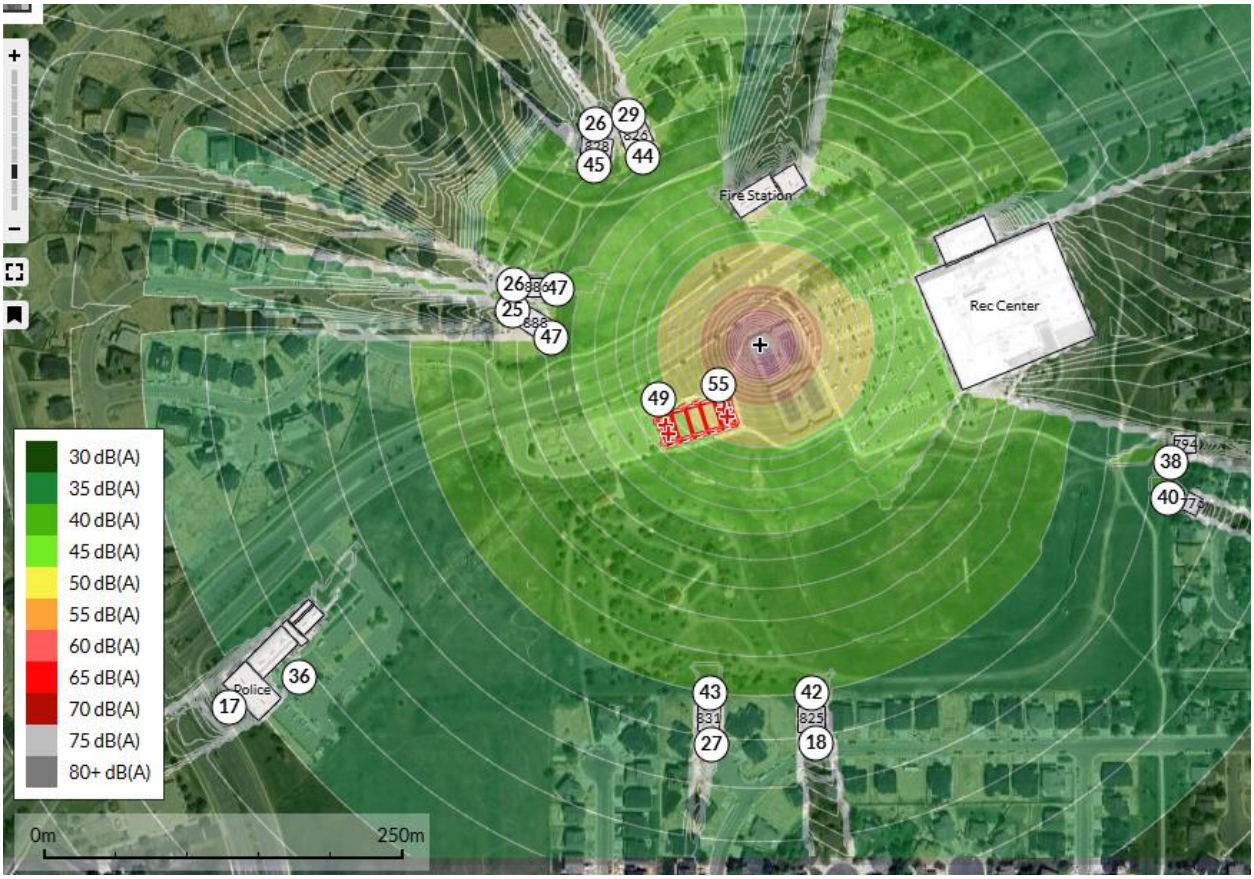

Figure 10 – Sound estimates from tennis

Pickleball sound is louder than tennis. Figure 11a shows the pickleball sound levels from source 1 at multiple locations for sound traveling to the north if no sound mitigation were in place. The black "plus symbol" shows the sound source at a height of 1.5 meters above the ground. This source location is at the non-volley zone line closest to the north. The non-volley zone is the position where the hardest paddle strikes are made and where most rallies occur. The white circles indicate LAFmax levels in dB at each receiver at a height of 1.5 meters or 5 feet. This is the height at ear level for most people. Home addresses are indicated on each roof. This color map shows how sound propagates away from the courts and

transitions from zones of red to pink to orange to yellow and to green. The design objective would be to have all homes in a green zone where sound is below 50 dB LAFmax.

Sound levels at 56 dB to 61 dB LAFmax occur at the closest property lines to the north with no mitigation in place. These are above the design objective and would be objectionable. Figure 11b shows the pickleball sound levels from source 1 for sound traveling to the south if no sound mitigation were in place. Lower sound levels are seen due to the greater distance to the homes, but these levels at 56 dB LAFmax are still above the design objective. Figures 11a and 11b will serve as a baseline for later estimating the effectiveness of a sound barrier in reducing pickleball sound. Receiver positions just north of the courts are included to later show the effectiveness of a barrier at receivers near the court versus greater distances.

Note: Table 1 at the end of the report has a summary of these sound plots for source position 2 for all simulations and for all 4 source positions for the preferred designs.

Figure 11c shows a cross section of sound moving up the hill and down the hill from the courts. The higher elevation becomes critical for selecting the height of a sound barrier to reduce sound.

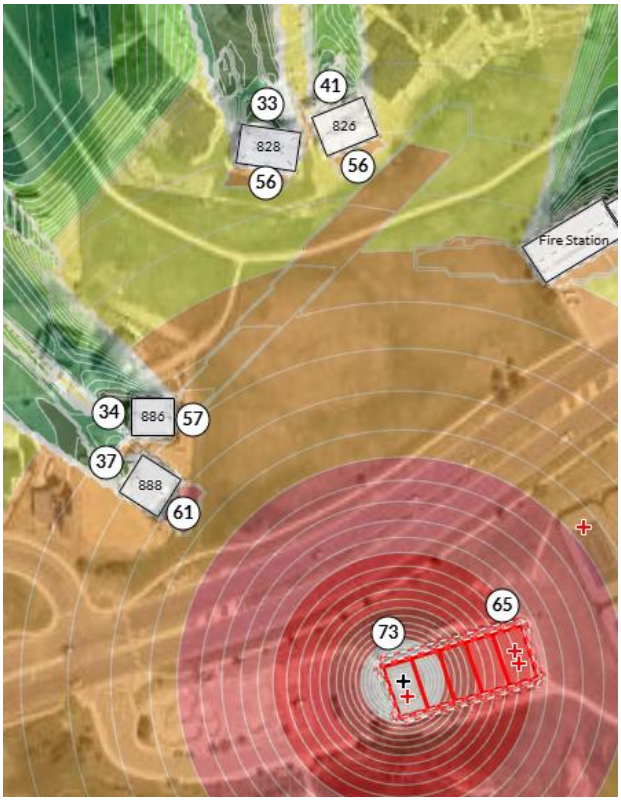

Figure 11a – North, Source 1, no barrier

Figure 11b – South, Source 1, no barrier

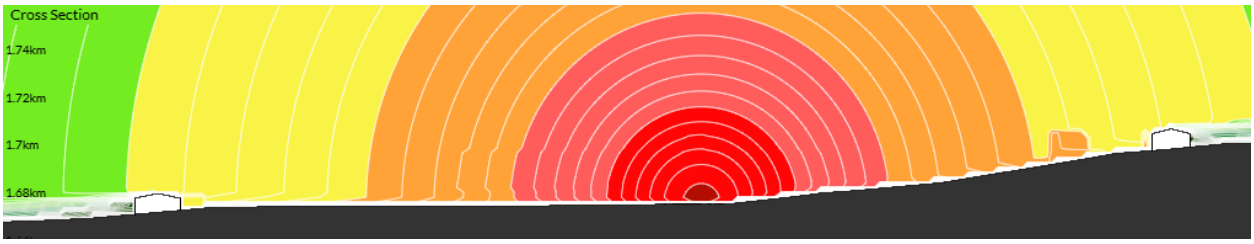

Figure 11c – Sound to the north and south, Source 1, no barrier

Next, the sound source was moved to location 2 on the courts. This is done to establish a second baseline with no mitigation since the effectiveness of a sound barrier can change based on distance from the sound source.

Figure 12a shows the pickleball sound levels from source 2 for sound traveling to the north if no sound mitigation were in place. Figure 12b shows the pickleball sound levels from source 2 for sound traveling to the south if no sound mitigation were in place. Sound levels change slightly due to this source position change but still range from 56 dB to 60 dB LAFmax. These sound levels would be considered objectionable. However, the source position change is more noticeable with a barrier in place.

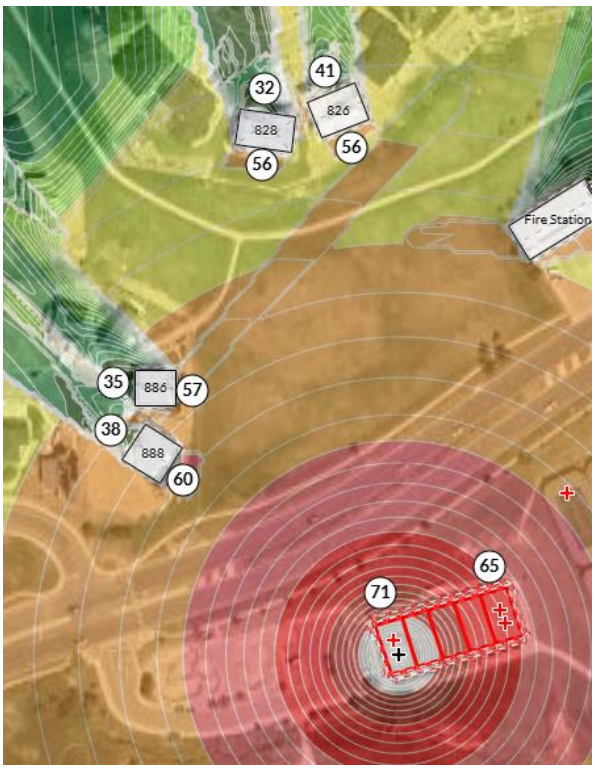

Figure 12a – North, Source 2, no barrier

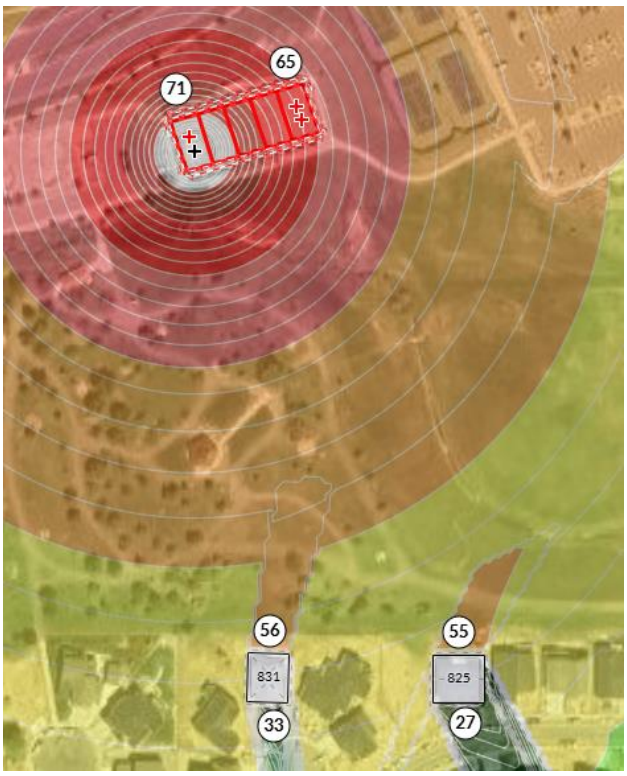

Figure 12b – South, Source 2, no barrier

Figure 12c shows the pickleball sound levels from source 2 for sound traveling to the east and west if no sound mitigation were in place. The sound levels at West Pinyon Way and the police station are lower due to a greater distance from the courts and due to lower pickleball sound at 90 degrees to the direction of play. No objections would be expected in this case as sound levels are below 50 dB LAFmax.

These results show this behavior for pickleball sound with no mitigation.

- The sound level decreases at greater distances from the source.
- With no homes blocking a direct line of sight to the courts, sound levels decrease with distance from the courts.
- Homes with a backyard facing the courts will have a direct line of sight to the courts and sound levels are above the design objective.
- The sound level on the side of a house away from the source is lower than on the side facing the source – the house acts as a sound barrier and creates a shadow zone for sound.
- A shadow zone exists on the side of the house away from the courts – the house and the roof line function as sound blockers or barriers.

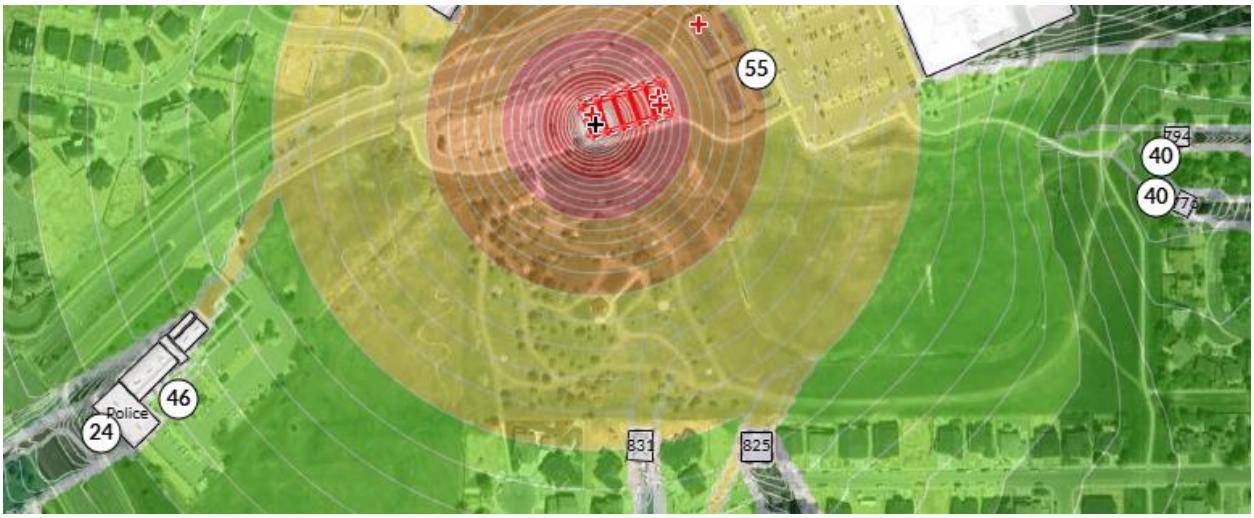

Figure 12c – Sound to the east and west, Source 2, no barrier

Sound mitigation strategies were next evaluated to create green sound zones for homes nearest the courts. The most effective way to reduce pickleball sound is a sound barrier of a height that will block the horizontal path of sound and limit the amount of sound "spilling" over the top of the barrier. A description of sound barriers, best practices for installing sound barriers, and sound barrier suppliers is presented in Appendix A.

When sound barriers are used to mitigate the sound, they are most effective when placed nearest the source (or receiver). The higher the barrier, the more effective it is in limiting the sound spilling over the

top. To reduce the sound levels at higher elevations above the courts (Larkspur Court and Trail Ridge Drive), the line of sight between the sound source and the receiver must be blocked.

The most cost effective sound barrier system would use the existing eight foot fencing of the hockey rink with a simple mass loaded vinyl barrier. A mass loaded vinyl barrier is a sound blocking barrier, but it also reflects sound in the opposite direction. An 8 foot sound barrier was placed on the hockey fence on the north and south sides of the courts, including the corners. The east and west sides are kept open because of the lower sound levels at the more distant homes in these directions. Figures 13a, 13b, 13c, and 13d show the sound levels at the nearest properties to the north and south with an 8 foot sound barrier for source positions 1 and 2.

Figures 13a and 13b compare sound to the north from source positions 1 and 2, respectively. Slightly higher sound levels are seen at the same receiver positions with the source farther from the sound barrier. Comparing 13a with an 8 foot barrier to Figure 11a with no barrier, only a 1 dB reduction in sound levels is seen. The barrier is not high enough to provide sound reduction at higher elevations above the court.

Figure 13e shows the cross section of sound from source 2 with the 8 foot barrier. Trivial difference in the sound pattern is seen when compared to Figure 11c with no barrier.

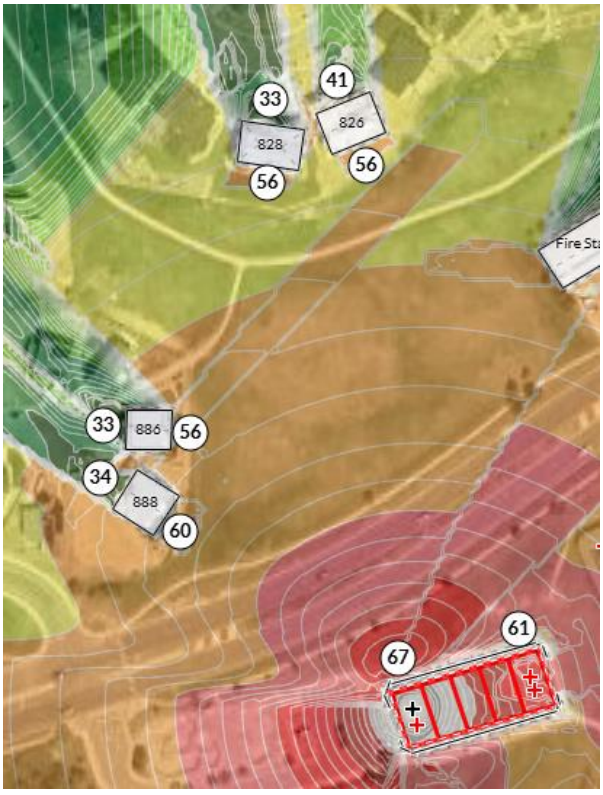

Figure 13a – Source 1, 8 foot sound barrier

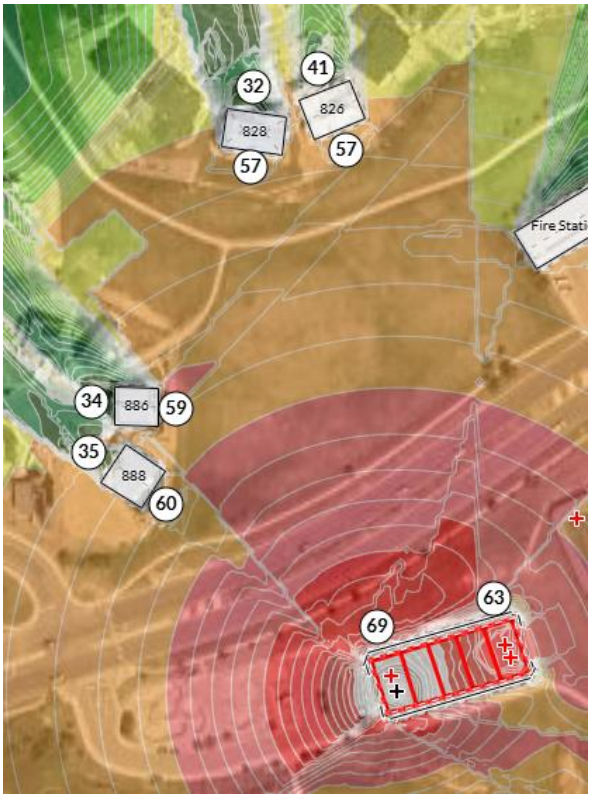

Figure 13b – Source 2, 8 foot sound barrier

Figures 13c and 13d compare sound to the south from source positions 1 and 2, respectively. Slightly higher sound levels are seen at the same receiver positions with the source farther from the sound barrier. Comparing 13C with an 8 foot barrier to Figure 12a with no barrier, a 1 dB increase in sound levels is seen at Trail Ridge Drive. The barrier is not high enough to provide nose reduction at higher elevations above the court. Also, sound is reflected from the south barrier and redirected in the opposite direction.

Figure 13c – Source 1, 8 foot sound barrier

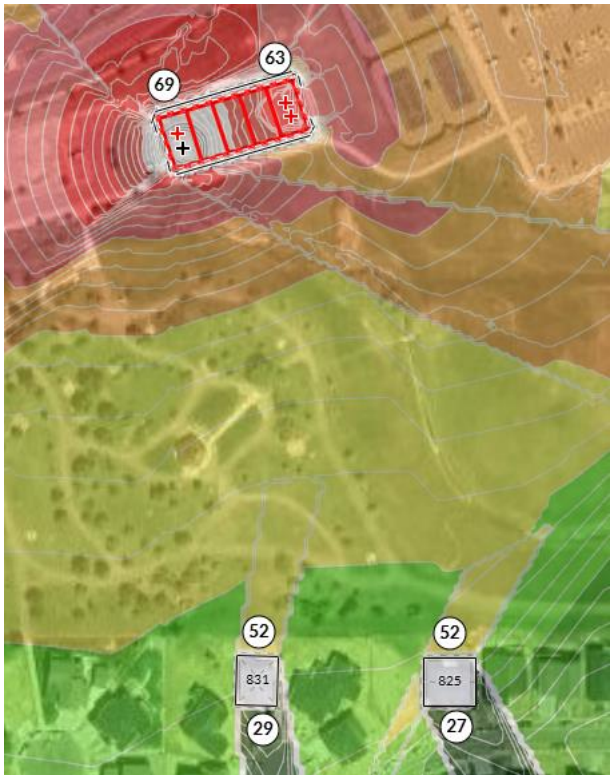

Figure 13d – Source 2, 8 foot sound barrier

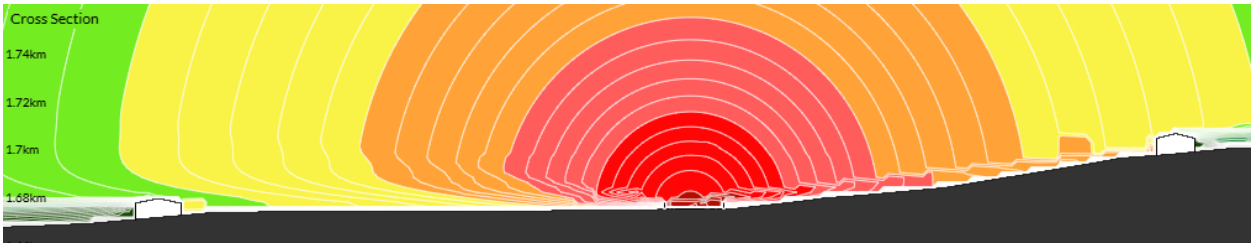

Figure 13e – Source 2, 8 foot sound barrier, cross section

Figure 13f shows the impact of the rise in elevation from the court to Trails Edge Drive. The angle of the slope is approximately 7 degrees. The black dots represent a source at 5 feet above ground level at the center of the court and a receiver at 5 above ground level at Trails Edge Drive. The dotted line shows the line of sight into the center of the court. The black square is a 10 foot barrier wall that just touches this line of sight. If a line of sight exists between the source and the receiver, sound will easily travel along this path. The only sound reduction will be sound reduction with distance as shown in Figures 3 and 4.

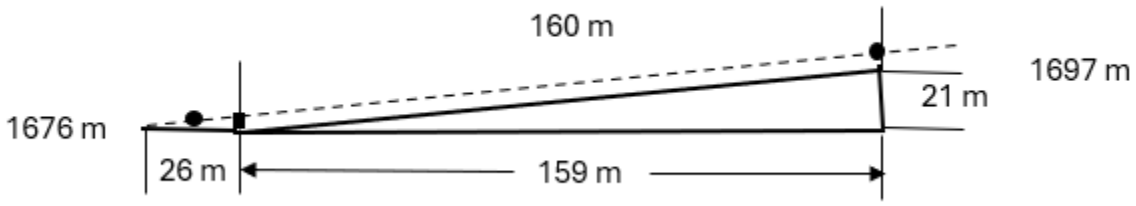

Figure 13f – Elevation between court and Trails Edge Drive (not to scale)

This shows that the effectiveness of sound barriers depends on height, placement, and reflecting surfaces. Also, the most critical source location is position 2, farthest from the sound barrier. For effective noise mitigation at these courts, these 3 points must be considered:

1. The sound barrier must be high enough to limit the sound spilling over the top.
2. The sound barrier becomes more effective the closer it can be placed to the court (the source)
3. The sound barrier on the opposite wall can reflect sound in the opposite direction.

The highest sound levels on Larkspur Court and Trail Ridge Drive show that attention must be focused on a sound mitigation design that addresses these receivers.

Next, a 12 foot mass loaded vinyl barrier was evaluated in the same position as the hockey fence boundary. This reduced sound levels to 57 dB LAFmax at Larkspur Court and Trail Ridge Drive and 51 dB LAFmax at West Mulberry. These are still above the design objective. Additional sound estimates were made with 14, 16, and 18 foot sound barriers, but none were able to achieve favorable sound levels at or near the design objective at all homes.

To reduce reflected sound, a 12 foot barrier with a sound absorbing inner liner was evaluated. Figures 14a and 14b show the sound levels to the north and south respectively from source position 2. The sound level to the north is still above the design objective, indicating that a higher barrier is needed. The sound level to the south meets the design objective, indicating that a lower barrier is possible. Figure 14c shows the cross section to the north and south which indicates how sound still spills over the top of the barrier.

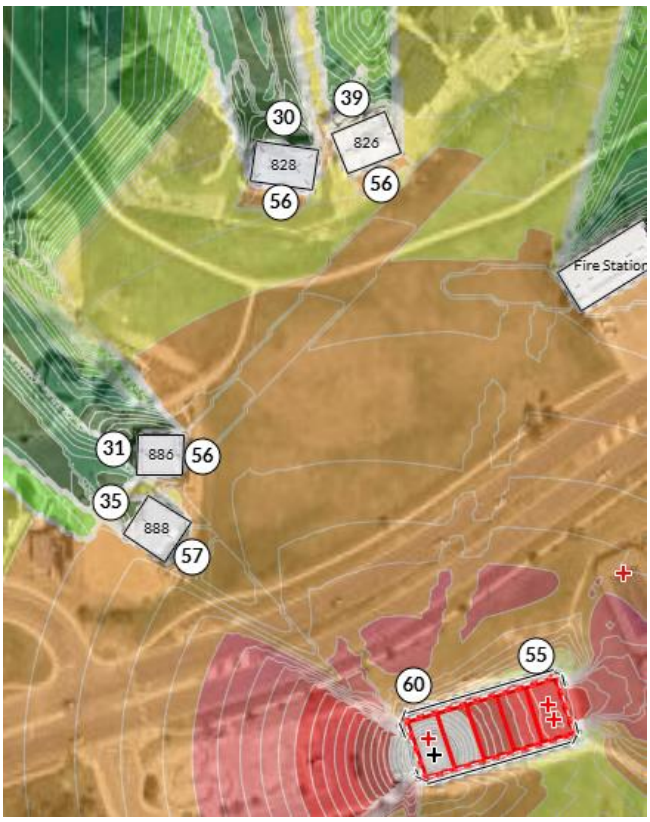

Figure 14a – Source 2, 12 foot absorbing barrier

Figure 14b – Source 2, 12 foot absorbing barrier

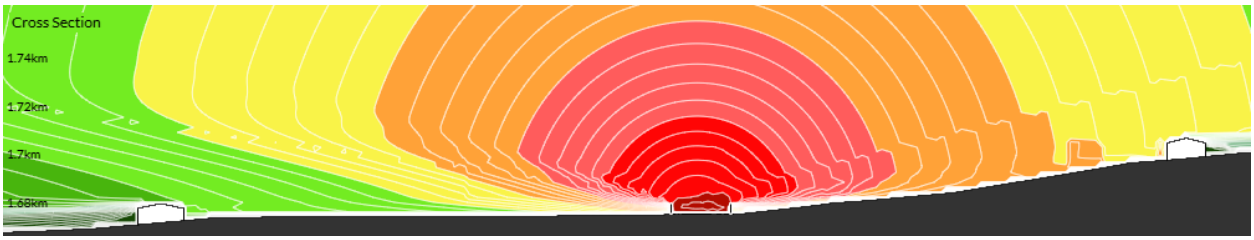

Figure 14c – Source 2, 12 foot absorbing barrier, cross section

The sound barrier was raised in 2 foot increments on the north side until the design objective was met. This required a barrier at 18 feet on the north side. The south side barrier was lowered to 10 feet. Figures 15a and 15b show that the sound levels to the north for this source position are within 1 to 2 dB of the design objective. This is considered acceptable.

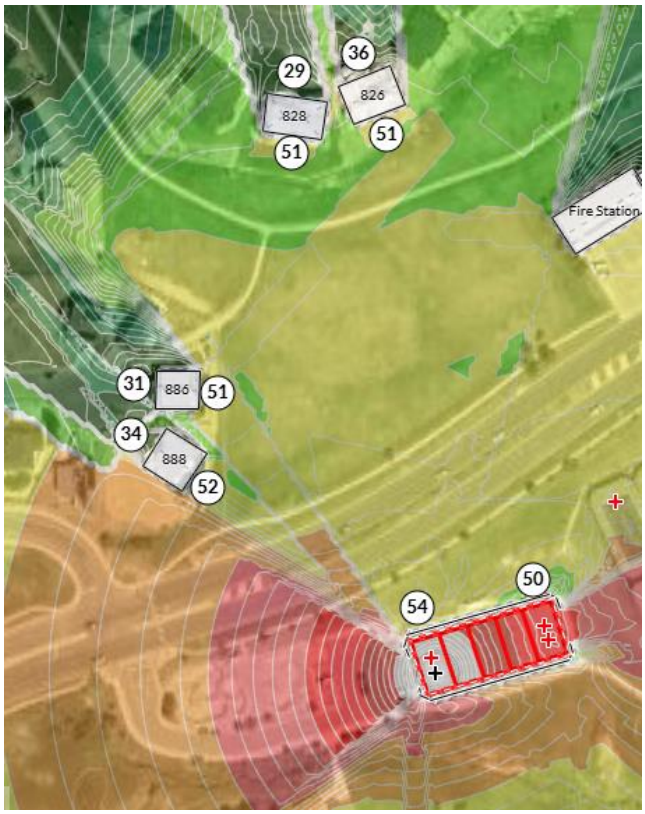

Figure 15a – Source 2, 18 ft absorbing barrier on N wall and 10 ft absorbing barrier on S wall

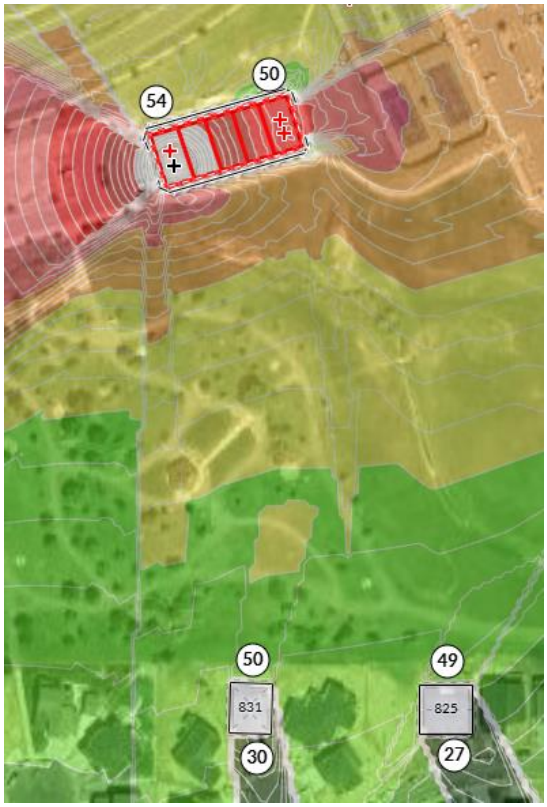

Figure 15b – Source 2, 18 ft absorbing barrier on N wall and 10 ft absorbing barrier on S wall

The 3 other source positions were next evaluated for the same 18 foot/10 foot sound barrier design. The sound levels are shown in Figures 16a, 16b, 16c, and 16d.

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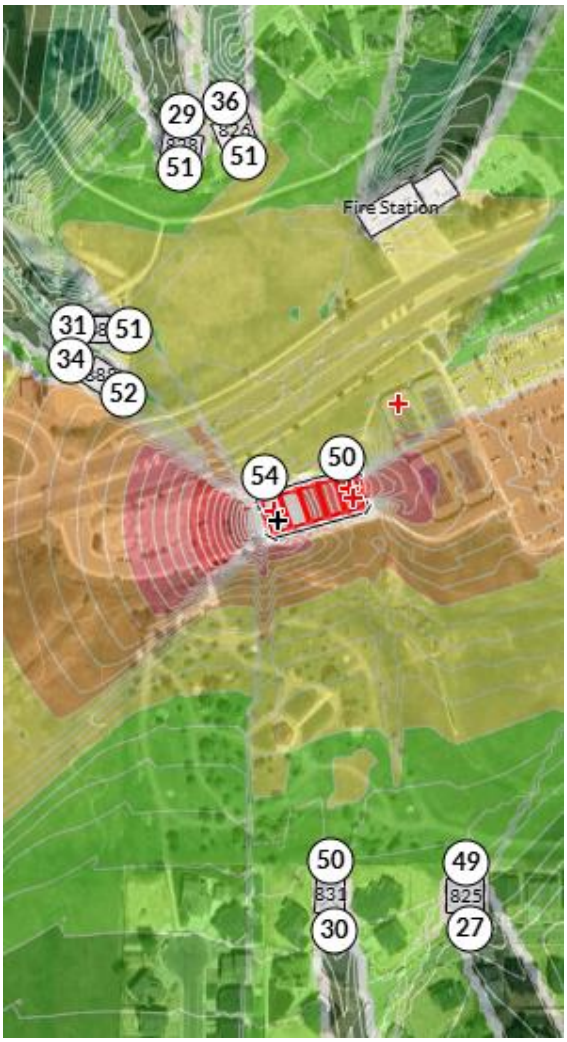

Figure 16a – Source 2, 18 ft/10 ft absorbing barrier

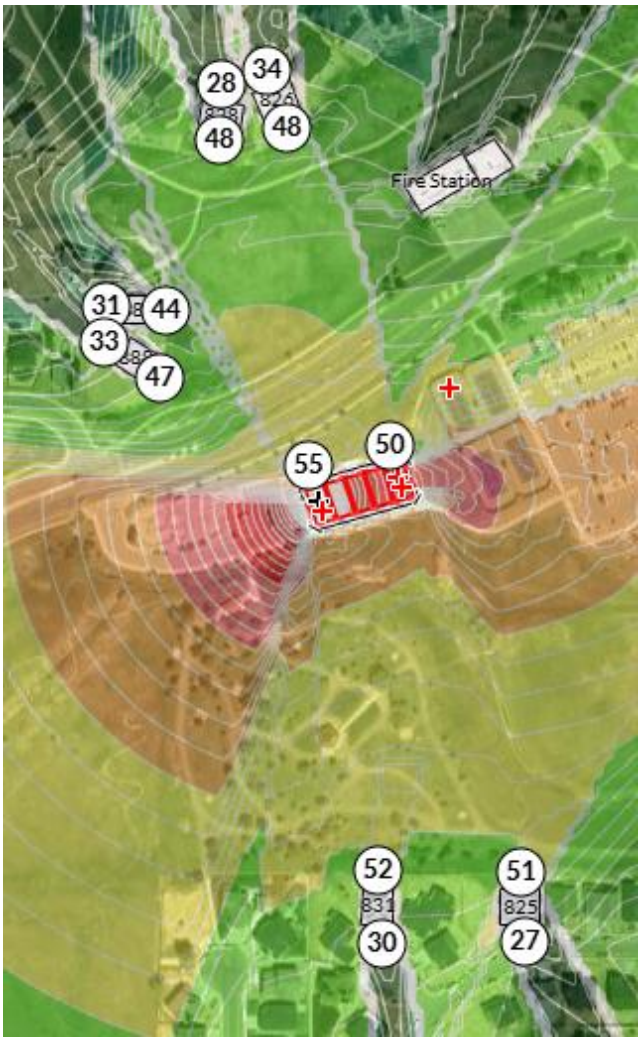

Figure 16b – Source 1, 18 ft/10 ft absorbing barrier

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Figure 16c – Source 3, 18 ft/10 ft absorbing barrier

Figure 16d – Source 4, 18 ft/10 ft absorbing barrier

Figure 16e is a cross section of the sound field and shows how the higher barrier to the north directs the sound upward. This is much different than Figure 13e with an 8 foot barrier and Figure 14c with a 12 foot barrier where sound spills over the top of the barrier and continues to travel uphill.

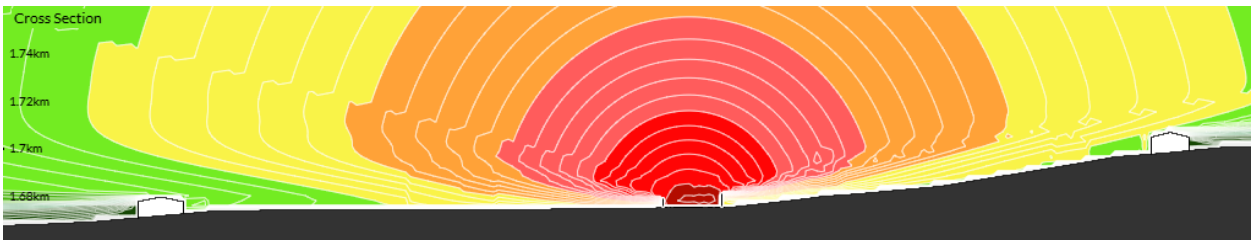

Figure 16e – Source 2, 18 ft/10 ft absorbing barrier, cross section

Sound levels to the east and west would not be above the design objective since the “no sound mitigation” baseline in Figure 12c showed levels below 50 dB on West Pinyon Way.

The previous sound maps showed sound from three individual courts. If all 5 courts were active at the same time, the sound levels would not be 5 times louder. This is because the individual pickleball impacts from each court are separate events that occur randomly in time. With simultaneous activity on 5 courts, the number of impacts per hour would be 5 times the number of impacts from one court. The goal of sound mitigation is to reduce the sound from the loudest pickleball impacts so that a listener is unbothered by activity from the loudest sound from one court or from all 5 courts. With proper sound mitigation, sound levels below the loudest levels will then be even less noticeable.

All the previous models placed the sound barrier on the perimeter of the hockey rink. An option was considered with the sound barrier placed on the perimeter of the pickleball courts. This moves the barrier closer to the sound source and makes the barrier more effective in reducing sound. Figure 17a shows the sound levels with a 16 foot sound absorbing barrier on the north side, a 16 foot reflecting barrier on the west side of the court, and a 10 foot sound absorbing barrier on the south side. The west side of the court could also be a sound absorbing barrier. If an open viewing area to the west is required, then transparent sound barriers in mass loaded vinyl or impact glass (Pickleglass) could be used – see Appendix A. Sound levels with this design meet the design objective. The tradeoff is a 16 foot high barrier on the north and west sides of the courts against an 18 foot barrier on the north side (and the north corners of the hockey rink) with an open west wall.

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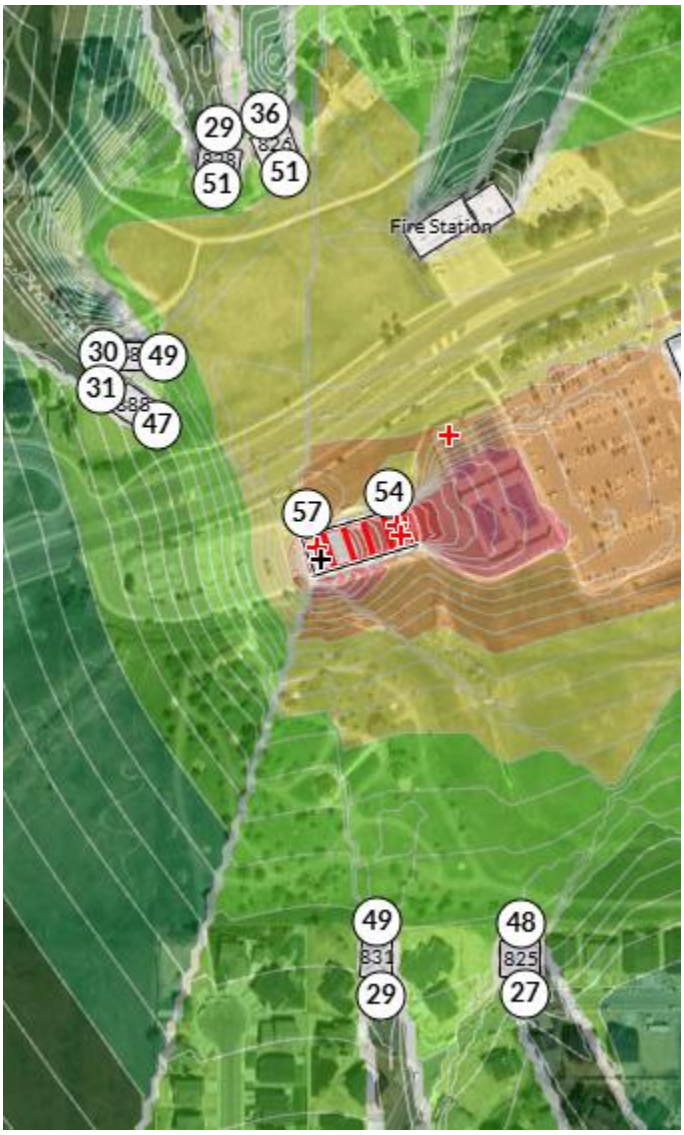

Figure 17a – Source 2, 16 ft absorbing barrier on north court side, 16 foot reflecting barrier on west court side (transparent), 10 ft sound absorbing barrier on south court side

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Figure 17b shows the cross section of the sound traveling to the north and to the south. The sound is contained by the walls surrounding the court and blocked at higher elevations.

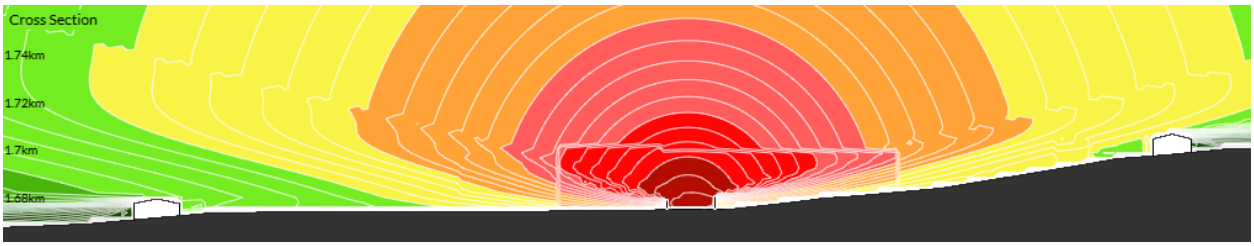

Figure 17b – Source 2, 16 ft absorbing barrier on north court side, 16 foot reflecting barrier on west court side, 10 ft sound absorbing barrier on south court side

The client requested an analysis of a design with a 15 foot barrier at the hockey rink elevation of 5505 feet and a 5 foot barrier near the road at an elevation of 5515 feet (7). The top of both walls would be 5520 feet. Figure 18a shows that the sound levels are higher than either Figure 16a with an 18 foot barrier or in Figure 17a with a 16 foot barrier. This is because the added 5 foot wall adds no sound blocking as shown in the cross section on Figure 18b. A barrier above 5 feet and preferably closer to 10 feet is needed for this additional wall farther from the court.

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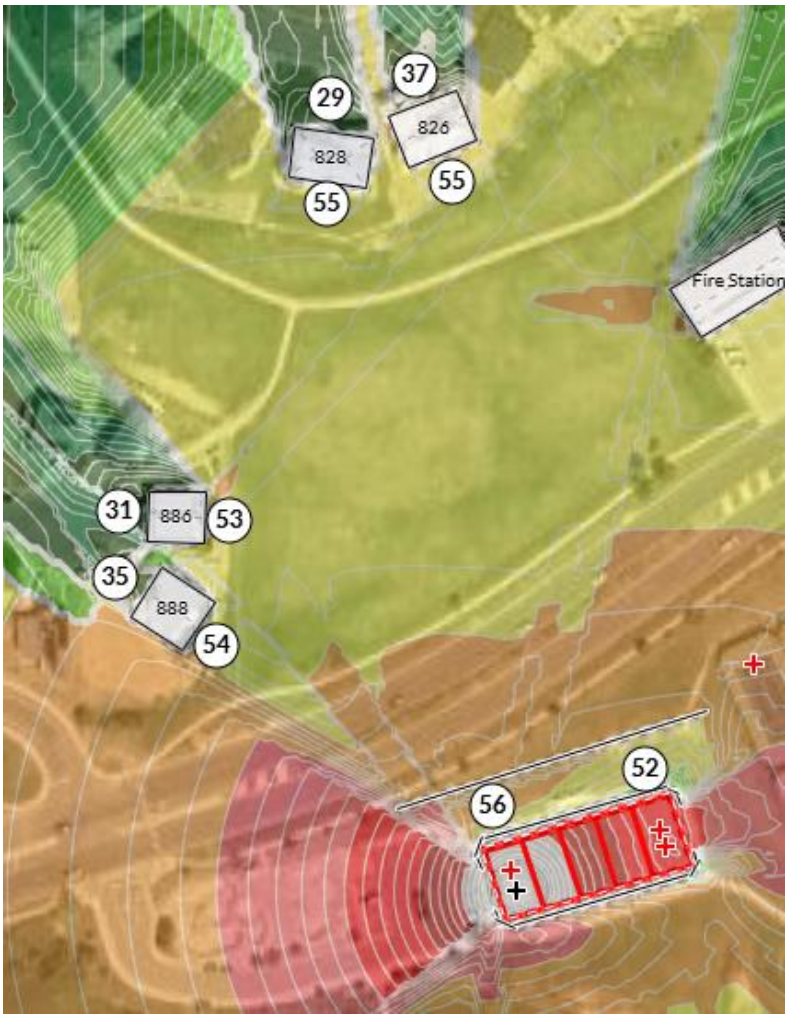


Figure 18a – Source 2, 15 ft absorbing barrier on north side, 10 ft sound absorbing barrier on south side, 5 foot barrier near road

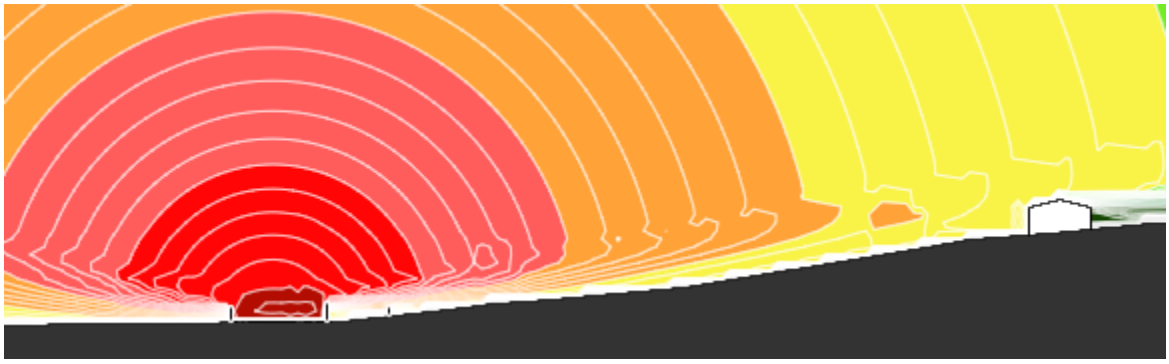


Figure 18a – Source 2, 15 ft absorbing barrier on north. 10 ft sound absorbing barrier on south court side, 5 foot barrier near road

An alternative option for pickleball would be to orient the courts in the east west direction. This layout directs the highest sound in the east west direction of play. Figure 19 shows a proposed court layout for 4 courts. (A 6 court east west layout is possible, but this requires elimination of the rounded corners of the hockey rink.) The closest homes to the east are farther from the courts than homes to the north. These homes to the east also are at an elevation near or below the court elevation where sound barriers more effectively block sound than they do for receivers at higher elevations. A lower level of sound is now directed to the nearest homes at higher elevations on Larkspur Court and Trails Edge Drive.

Figure 19 - 4 court layout in east west direction with sound sources

Starting with the 8 foot fence of the hockey rink, Figures 20a and 20b show the sound levels in the north south direction with an 8 foot barrier on the north side, south side, and all 4 corners. Sound levels at Larkspur Court and Trails Edge Drive are above the design objective.

Figure 20a – Source 1, 8 foot barrier

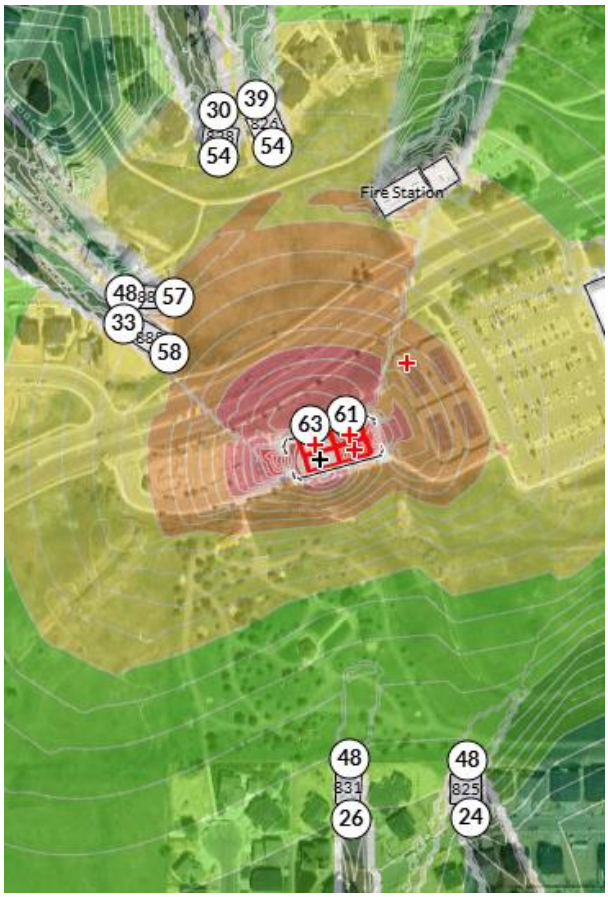
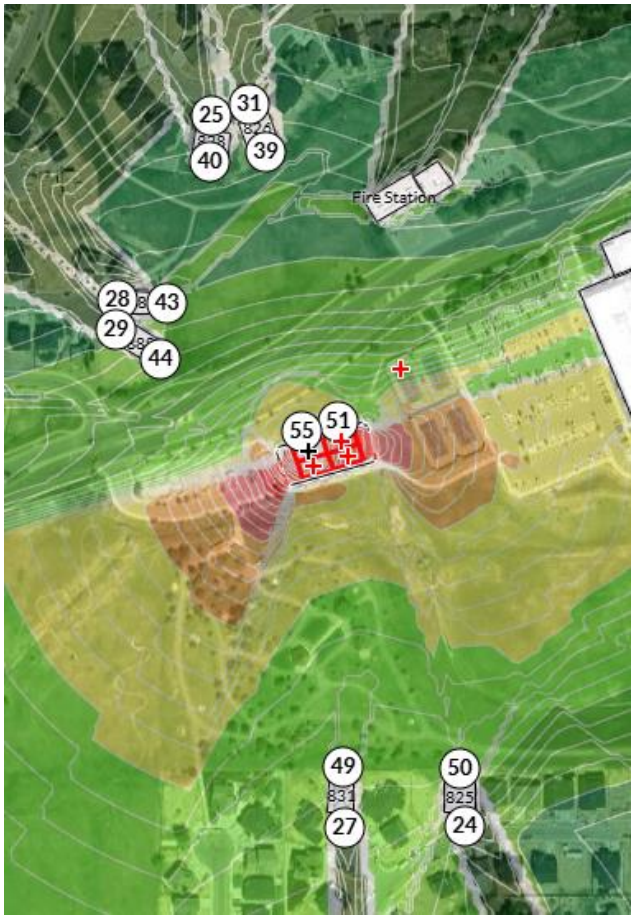


Figure 20b – Source 2, 8 foot barrier

Several sound barrier designs were evaluated considering barrier height and sound absorbing liners to arrive at an optimized design for this east west layout. This design included a 16 foot high sound absorbing barrier for the north side of the hockey rink and 10 foot sound absorbing barrier for the south side of the hockey rink. The north corners must extend to the centerline of the north courts. The barrier on the south side must extend 12 feet beyond the baseline but no corners are needed. Figures 21a, 21b, 21c, and 21d show the sound levels to the north and south for each source position. Figures 21a and 21d show that all sound levels meet the design objective with the sound source closest to the north barrier. Figures 21b and 21c show sound levels above the design objective when the ball is struck from positions farther from the barrier. The levels are considered just above the design objective. They are considered acceptable since the design objective is not exceeded at other positions. Also, the minimum change in sound detectable by the human ear is a 3 dB change.



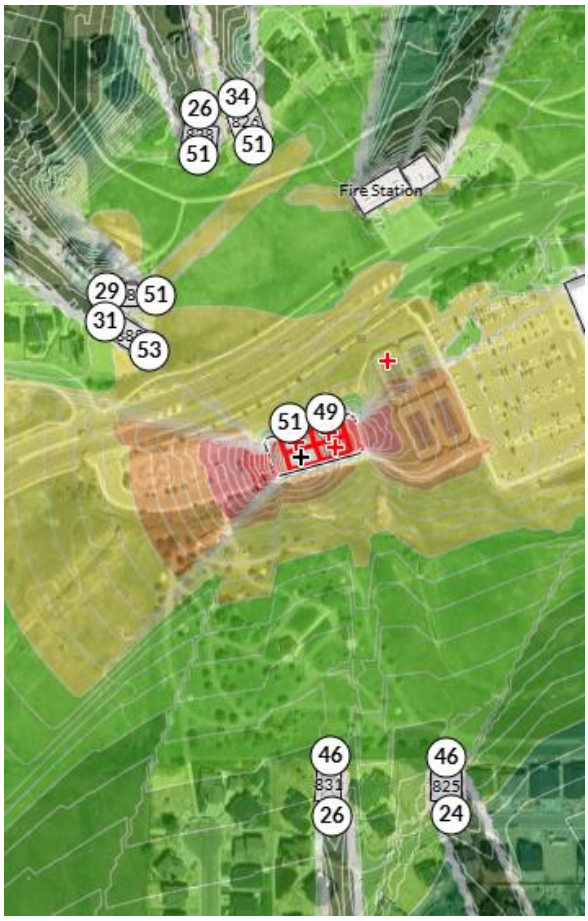


Figure 21a – Source 1, 16 ft/10 ft absorbing barrier Figure 21b – Source 2, 16 ft/10 ft absorbing barrier

Figure 21e shows sound levels to the east and west. These sound levels are well below the design objective. Figure 21f shows the sound barriers in place.

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Figure 21c – Source 3, 16 ft/10 ft absorbing barrier

Figure 21d – Source 4, 16 ft/10 ft absorbing barrier

Figure 21e – Source 2, 16 ft/10 ft absorbing barrier

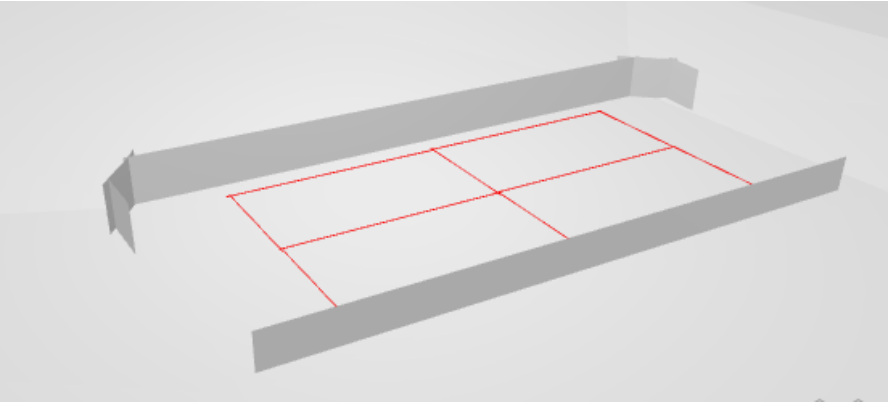

Figure 21f –16 ft absorbing barrier on north side and 10 ft absorbing barrier on south side

Recognizing that a 16 foot wall is above the common 12 foot chain link fence height, a comparison was made with a reduction in height on the north to a 12 foot barrier. Figure 22 shows the sound levels with the 12 foot north and 10 foot south sound absorbing walls.

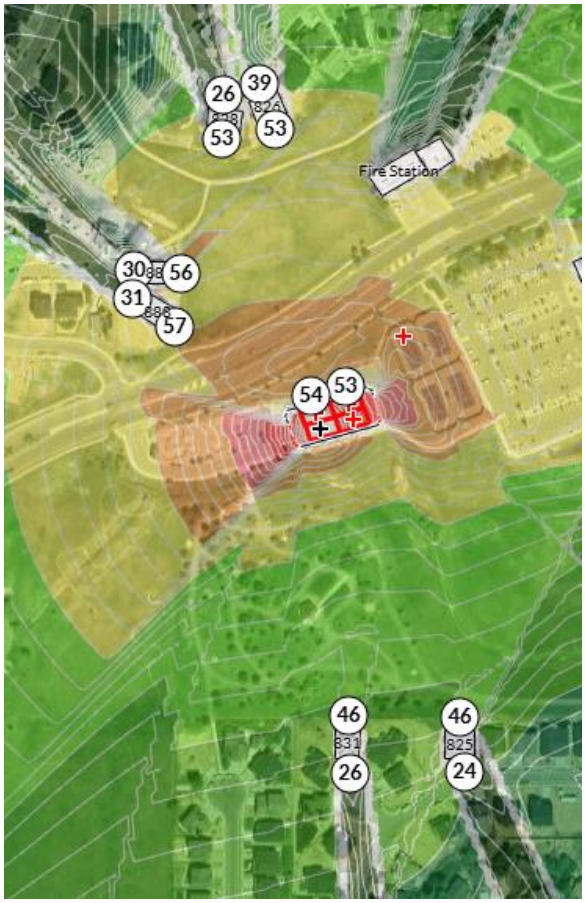

Figure 22 – Source 2, 12 ft/10 ft absorbing barrier

Next, the 16 foot and 10 foot barriers were moved to the perimeter of the pickleball fence to evaluate sound levels. A closer placement to the source allowed a north fence height of 14 feet. With the elimination of the extended barrier on the northwest hockey corner, a sound barrier was needed on the west wall to block sound to the northwest (like in Figure 17a). Comparing Figure 23 (court perimeter barrier with west barrier) to Figure 21b (hockey perimeter barrier), lower sound levels are achieved at homes to the north. To permit spectator viewing from the west, the west wall could be a transparent mass loaded vinyl or high impact glass. Figure 24 shows the barriers placed on the court perimeter.

Figure 23 – Source 2, 14 ft absorbing barrier N, 10 ft absorbing barrier S, 14 foot reflecting barrier (transparent) W – on court perimeter

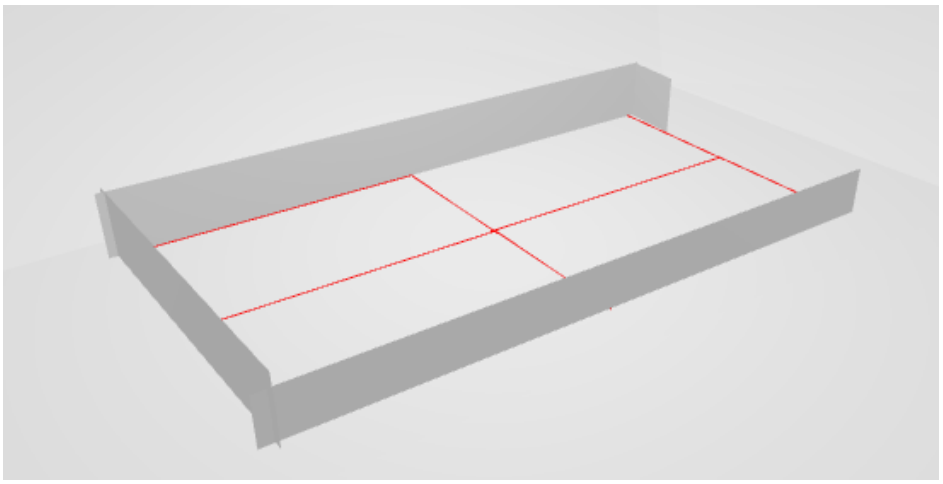

Figure 24 –14 ft absorbing barrier N, 10 ft absorbing barrier S, 14 foot reflecting barrier (transparent) W

The court layout in Figure 19 could be separated to create a north south spectator area between the courts with no change in sound levels. This provides a viewing area if sound barriers are placed on the court perimeter.

The prior figures show the sound reduction that can be achieved with barriers. If additional sound reduction is needed or if the height of the barriers is limited by local zoning, then additional sound reduction can be achieved with a select group of quieter paddles and balls. The paddles in Appendix B have been tested to be quieter than the loudest paddles in use. Louisville Recreation Center (7) did not wish to consider this option for noise mitigation, but it is mentioned for completeness or if barrier heights are not permitted per zoning requirements.

Noise reduced paddles and balls are being developed and promoted. However, these special paddles and balls are not silent – they are a few dB quieter than the loudest paddles and balls sold at the big box sporting goods stores and commonly used by recreational players. A description of quiet balls and paddles is in Appendix B. These Blue List paddles will reduce any sound level by 3 dB or more. This means that a sound level of 53 dB LAFmax will now be 50 dB LAFmax, or less depending on paddle type. It also means that barrier heights can be reduced by about 3 feet or more. It should be noted that a mandate to only use approved special equipment often requires players to purchase new equipment. A policy to use preferred equipment is difficult to enforce and requires either a method to assure compliance or an on-site court monitor.

A few pickleballs on the Blue List will provide an additional 3 dB of noise sound when used with any paddle. This means that a Blue list paddle (-3 dB) and a quieter ball (-3dB) can provide an additional 6 dB sound reduction in addition to the sound reduction by the barrier. Again, these balls are not used for tournament play, not favored by skilled players, and require a court monitor to assure their use.

One nonstandard ball does provide noticeable noise reduction of 18 dB when used with any paddle. This is the Gamma Librarian foam pickleball. This ball is quieter than any plastic pickleball but has several drawbacks compared to the standard pickleball. It has a different bounce; it has a different response from the paddle; and it is easily affected by wind. Most players only favor this ball for indoor practice. This approach also requires a control system or court monitor during all hours of play to check that no plastic pickleballs are in use. This ball is not recommended as it will not find favor among recreational or skilled players because of its different response compared to the traditional plastic ball.

Restricted court times can reduce the exposure to pickleball sounds to certain hours of the day. This has the disadvantage of limiting court availability and creating longer waiting times for the players when the courts are available. This is more of an on-off noise strategy.

Table 1, which follows, is a summary of noise levels for different barrier designs. Sound levels at each receiver (or home) will vary based on source position. For some barrier designs, sound levels are shown for all 4 source positions. This table should be compared to the sound maps for each figure which show green zones where sound would not be objectionable. The goal would be to have all homes in a green zone. The minimum sound change detectable by the human ear is 3 dB.

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Table 1 – Sound Levels and Sound Reduction Options

						dB LAFmax per source position					Sound reduction vs no barrier - dB LAFmax				
	Sound Barrier Height	Barrier position	Barrier type	Source Position	Figure	Fence perimeter	888 Larkspur	828 Trail Ridge	831 W Mulberry	794 W Pinyon	Fence perimeter	888 Larkspur	828 Trail Ridge	831 W Mulberry	794 W Pinyon
Tennis															
	no barrier			Tennis	10	49	47	45	43	38					
Pickleball - 5 courts north south															
	no barrier		no barrier	1	11a,11b	73	61	56	56						
	no barrier		no barrier	2	12a, 12b, 12c	71	60	56	56	40					
	8 feet	Hockey rink	Reflecting	2	13b, 13d	69	60	57	52		-2	0	1	-4	
	12 feet	Hockey rink	Reflecting	2	None	62	57	57	51		-9	-3	1	-5	
	16 feet	Hockey rink	Reflecting	2	None	58	53	55	46		-13	-7	-1	-10	
	18 feet	Hockey rink	Reflecting	2	None	56	52	54	44		-15	-8	-2	-12	
	12 feet	Hockey rink	Absorbing	2	14a,14b	60	57	56	47		-11	-3	0	-9	
	18 ft N/10 ft S	Hockey rink	Absorbing	2	15a,15b,16a	54	52	51	50		-17	-8	-5	-6	
	18 ft N/10 ft S	Hockey rink	Absorbing	1	16b	55	47	48	52		-18	-14	-8	-4	
	18 ft N/10 ft S	Hockey rink	Absorbing	3	16c	51	54	50	51						
	18 ft N/10 ft S	Hockey rink	Absorbing	4	16d	51	48	47	51						
	16 ft N/10 ft S/16 ft W	PB court	Absorb/Refl	2	17a	57	47	51	49		-14	-13	-5	-7	
	15 ft N/10 ft S/5 ft road	Hockey rink	Absorbing	2	18a	56	54	55			-15	-6	-1		
Pickleball - 4 courts east west															
	8 feet	Hockey rink	Reflecting	2	20b	63	58	54	48		-8	-2	-2	-8	
	14 ft N/10 ft S	Hockey rink	Absorbing	2	None	52	55	53	46	38	-19	-5	-3	-10	-2
	14 ft N/10 ft S	Hockey rink	Absorbing	1	None	56	47	42	46		-17	-14	-14	-10	
	14 ft N/10 ft S	Hockey rink	Absorbing	3	None	51	55	53	49						
	14 ft N/10 ft S	Hockey rink	Absorbing	4	None	53	46	42	49						
	16 ft N/10 ft S	Hockey rink	Absorbing	2	21b	51	53	51	46	38	-20	-7	-5	-10	-2
	16 ft N/10 ft S	Hockey rink	Absorbing	1	21a	55	44	40	49		-18	-17	-16	-7	
	16 ft N/10 ft S	Hockey rink	Absorbing	3	21c	49	53	51	46						
	16 ft N/10 ft S	Hockey rink	Absorbing	4	21d	51	44	40	49						
	12 ft N/10 ft S	Hockey rink	Absorbing	2	22	54	57	53	46		-17	-3	-3	-10	
	14 ft N/10 ft S/14 ft W	PB court	Absorb/Refl	2	23	55	50	52	45		-16	-10	-4	-11	
					50 or less										
					51 to 54 dB										
					55 dB or more										

Conclusions

The following conclusions are made from the results of this study.

1. Without sound mitigation, pickleball play on the proposed 5 courts at the hockey rink at Louisville Recreation Center would create sound levels of 56 dB to 60 dB LAFmax at the closest residences to the north on Larkspur Court and Trails Edge Drive and to the south on West Mulberry Street. These levels are above the design objective of 50 dB LAFmax and would lead to complaints.
2. Without sound mitigation, the pickleball sound level to the east on West Pinyon Way is 40 dB LAFmax, which is below the design objective.
3. The closest homes north of the courts are at a higher elevation than the courts, have the highest sound levels from pickleball, and are the primary focus for noise mitigation. These homes have a direct line of sight into the courts which is also a direct path of sound travel.
4. When an 8 foot sound barrier was placed on the north and south sides of the existing 8 foot high fence of the hockey rink, the sound levels to the north were not noticeably reduced. Pickleball sound is spilling over the top of an 8 foot sound barrier to receivers at a higher elevation.
5. Several design options with higher barriers and sound absorbing liners were evaluated until the sound levels at the closest homes to the north and south were at or just above the design objective. These 2 options are:
    a. Using the hockey rink perimeter - 18 foot sound barrier with sound absorbing barrier on the north fence and north corners; 10 foot sound barrier with sound absorbing barrier on the south fence and south corners; open east and west walls.
    b. Using the pickleball court perimeter - 16 foot sound barrier with sound absorbing barrier on north fence and north corners; 10 foot sound barrier with sound absorbing barrier on south fence and south corners; 16 foot sound barrier on west wall, east wall open
6. With the courts oriented in an east west direction, the sound level is reduced in the critical north to south direction but still requires sound barriers. This orientation allows 4 courts without removing the rounded hockey corners.
7. With an east west court orientation, several design options with higher barriers and sound absorbing liners were evaluated until the sound levels at the closest homes to the north and south were at or just above the design objective. These 2 options are:
    a. Using the hockey rink perimeter - 16 foot sound barrier with sound absorbing barrier on north fence and north corners; 10 foot sound barrier with sound absorbing barrier on south fence; open east and west sides.
    b. Using the pickleball court perimeter - 14 foot sound barrier with sound absorbing barrier on north fence and north corners; 10 foot sound barrier with sound absorbing barrier on south fence and south corners; 14 foot reflecting (transparent) barrier on west fence; open east side.
8. No single sound barrier design will provide the same sound levels everywhere unless even higher sound barriers are used, or an enclosure is placed around the courts. Any reduction in the height

of any sound barrier will increase the sound level by approximately 1 dB per foot in the direction of sound over the barrier.

9. Options to further reduce sound levels or to reduce barrier height are described using quieter paddles and balls than the loudest equipment in use but this requires purchase of select equipment and a court monitor to assure use of this select equipment.

Recommendations

Due to the challenge of noise reduction for the closest homes at elevations above the courts that have a direct line of sight into the courts, the following recommendations are made for pickleball courts at the Louisville Recreation Center hockey rink.

1. The structural capabilities of the existing hockey fence foundation should be evaluated and compared to sound barrier height and weight for sound mitigation.
2. Of the 2 court layouts - 5 courts in north south direction or 4 courts in east west direction – the east west court layout allows lower fence heights.
3. While Table 1 provides a summary of sound levels under different sound mitigation scenarios for source position 2, the selected option should be based on the greatest area of green zones closest to the courts. All 4 options described in the conclusions are similar in terms of sound level results.
4. A sound barrier should be chosen from the supplier list in Appendix A or from any comparable vendor. A visit to nearby pickleball facilities with barriers in place will give an idea of design options which are simple to execute.
5. If the fence or foundation cannot support the weight of the barrier (1 pound per square foot or TL greater than 20 dB at 1000 Hz), then a structural wall as used on highway systems can be considered.
6. If pickleball courts are to be viewed by spectators, then the west sound barrier wall can be a transparent barrier as supplied by Hushtec, USA or a high impact glass material such as Pickleglass - when this wall is included in the chosen option.
7. The height of any sound barrier should not be reduced as this will increase the sound level by approximately 1 dB per foot of height reduction in the direction of sound over the barrier.

PSM Consulting LLC has provided these conclusions and recommendations on pickleball sound at Louisville Recreation Center to balance the growth and popularity of pickleball with acceptable sound levels for quality of life for the residents living near the courts. The goal is to develop pickleball recreational facilities at Louisville Recreation Center and to perform due diligence on sound mitigation for nearby residents. PSM Consulting LLC is available to answer any questions related to this work.

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Disclaimer

The results, conclusions, and recommendations presented here are based on information provided to PSMC LLC by the client and on measurements made using calibrated equipment and standard acoustical practices. These results are intended to address maximum sound levels from play. Pickleball sound assessment is a random process where the sound from each impact and from each game can vary based on player skill, force of impact, and equipment in use. Sound levels from pickleball are random impulsive events, meaning that it is predictable over a range and has averages and other statistical characteristics, but it has no exact single level. Actual sound levels will vary over time. In addition, it is not possible to determine what any particular person believes is an acceptable sound level. Because additional variables may be associated with the site, the players, or the equipment in use, PSMC LLC assumes no liability for work undertaken by the client based on these recommendations, or for results that do not conform to the client's expectations.

Barry R Wyerman, PhD, PE
Principal Acoustical Consultant
PSM Consulting LLC

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4. https://noisetools.net/dbmap/ - Sound Mapping Tool
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6. Louisville Recreation Center https://earth.google.com/web/@39.97354702,-105.15775937,1667.29934572a,1318.08671257d,35y,-0.00140005h,0t,0r/data=CgRCAggBOgMKATBCAggASg0I_____ARAA
7. Private communication – email on May 2, 2025, Bryon Weber

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PSMC LLC Information

PSM Consulting LLC

PSMC LLC was created in 2022 after 8 years of pickleball sound studies and advice on pickleball sound mitigation. This work included field measurements of pickleball play at multiple sites, analysis of the sound from different pickleball paddles and balls, consultation with USA Pickleball on equipment standards, and evaluation of suppliers of sound barrier systems. PSMC has designed successful sound reduction systems for pickleball courts and has evaluated multiple paddles and balls to create lists of "quieter" paddles and balls. It has also completed field studies of pickleball sound to provide guidance to homeowners regarding local sound ordinances. In total, PSMC has completed or has been involved in sound surveys and recommended sound mitigations measures for 100 pickleball sites. PSMC is at the forefront of pickleball technology and is working directly with USA Pickleball to develop acoustical test methods for paddles, to identify quieter gear, and to create improved community standards for pickleball sound. It is also working with paddle manufacturers to help bring improved, quieter paddles to the market. PSMC LLC has developed the industry's first anechoic chamber for testing both pickleball paddles and balls under controlled speed conditions. This provides baseline data on paddles without the variables of background sound and player skill in hitting the ball.

The mission of PSMC is to support pickleball clubs, pickleball players, communities, parks and recreation departments, country clubs, and homeowner associations with an understanding of pickleball sound and of strategies and measures to control pickleball sound.

Barry Wyerman, PhD, PE

Barry Wyerman, PhD, is the Principal Acoustical Consultant for PSMC LLC. He is a pickleball player and a USA Pickleball Level 2 Referee. His professional background includes over 45 years of acoustical experience in creating innovative acoustical products, solving industrial sound control and vibration problems, and designing solutions for automotive noise and vibration control. He is the owner of Acoustical Design and Consulting, LLC, which provides engineering and consulting support in all areas of acoustics and noise control. He has a BS degree in physics from Ohio University and MS and PhD degrees in engineering acoustics from Penn State University. He became involved in pickleball sound mitigation when he provided initial recommendations on pickleball sound control from his work experience and acoustical training. His professional associations include:

- The Acoustical Society of America
- Society of Automotive Engineers, Noise and Vibration Committee
- Society of Automotive Engineers, Acoustical Materials Committee
- Professional Engineer, registered in Ohio

Appendix A - Sound Barriers

Sound barriers block the direct path of sound as it travels from a source to a receiver. A barrier must be massive enough to block sound that could pass through it. The recommended weight for a barrier is one pound per square foot or a transmission loss of 20 dB at 1000 Hz. A small amount of sound still passes over the top or around the edges of a barrier. This is called "diffracted sound." With this weight barrier, the sound reduction is limited only by the height and width of the barrier.

The barrier must be solid with no holes, no gaps at the bottom, and no gaps between adjoining panels. Any holes or openings will allow sound to leak to the other side. Earth mounds and buildings can function as barriers if they are high enough and wide enough to disrupt a direct path of sound.

Shrubs, bushes, and trees are NOT barriers even though they block a line of sight. They are not massive enough and not solid enough to block sound. A small amount of sound attenuation may be achieved with a dense planting of hedges, but this would not provide more than 1 dB sound reduction even if the hedges were 3 or 4 feet in depth and 12 feet high. These are primarily a visual barrier.

The effectiveness of a high mass barrier is controlled primarily by its height and then by its width. The barrier must be tall enough and wide enough so that it minimizes the sound that is diffracted or bent over the top and around the edge. The amount of sound diffracted over the top and around the edge can be minimized as the barrier becomes higher and longer. As the height of a sound barrier increases, a point of diminishing returns is reached. This means that a percentage increase in height (and cost) will result in a lower percentage improvement (or return on benefits) in sound reduction. In some cases, it may be best to enclose all four sides of a pickleball court with the highest barrier possible. If there are no homes exposed to pickleball sounds from one side of the court, then a barrier can be eliminated on that side.

Common vendors for sound barriers are:

- Acoustiblok, Tampa, FL, 813-980-1400, https://acoustiblok.com/acoustiblok-soundproofing-product-lines/acoustifence-noise-reducing-fences/ (printed barriers)
- Insul-Quilts USA, South El Monte, CA, 833-853-6444, https://www.insulquilt.com/
- eNoise Control, Noblesville, IN, 866-481-2024, https://www.enoisecontrol.com/
- DDS Acoustical Specialties, Westfield, MA 413-248-8118, https://ddsacoustical.com/
- Hushtec USA, Connecticut, 860-289-8033, https://hushtecusa.com/ (clear barriers)
- Putterman Athletics LLC, DeLand, FL, 800-621-0146, https://www.puttermanathletics.com/
- FenceScreen, Grand Prairie, TX, 888-313-6613, https://www.fencescreen.com/
- Pickletile, Austin, TX, 561-342-0038, https://pickletile.com/pickleglass/ (Pickleglass)

All barriers of the same weight would perform the same. None of these products are noticeably different other than by the color or by printing. Any differences in product sheets can be due to lab differences in testing. Sound barriers should weigh one pound per square foot to block any sound that could pass

through the barrier. The effectiveness of this high weight barrier can still be compromised by the sound that is diffracted over the top or around an edge. A contractor must be consulted to assure that an existing fence or a new fence can support the added weight of a barrier. Wind loads on the barrier are also to be considered.

Some barriers are available with a sound absorbing lining material on the side facing the sound source – if this is needed. This sound absorbing lining can reduce the sound level on the court by reducing the reflected sound as it bounces between the side walls. It can also be effective in reducing reflected sound in the opposite direction away from a barrier if only one side of a court has a barrier. The sound absorbing lining can also reduce a reflected sound wave that can travel over the opposite wall. However, the sound absorbing lining has no impact on the direct sound passing over the top of the barrier. This direct path of sound is not influenced by anything on the side walls. The sound absorbing liner can also help with sound reduction for the players.

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Appendix B – PSMC Blue List of Pickleball Paddles

The Pickleball Paddle Blue List

List updated: January 12, 2025

Introduction: The following paddles have been selected and qualified for 'Blue List' status through a testing procedure that uses a combination of metrics in addition to loudness (sound pressure). This includes measuring the 'pitch' and duration of the sound produced when a pickleball is struck by a paddle (the "decay time").

This latest version of the Blue List categorizes paddles as "Reduced Sound," which means quieter than ordinary paddles and "Extra Quiet," and it includes paddle covers that can be added to any paddle to reduce the sound level produced.

The metrics and criteria were selected after reviewing with players and non-players the sound characteristics of a typical pickleball hit. The categories were established by PSM LLC as a means of recommending paddles to communities and pickleball clubs that are attempting to mitigate the sound of pickleball to an acceptable level without overly restricting a player's paddle preferences.

Test Procedure: PSM LLC is a pickleball acoustics consulting firm. We have assembled a tall (16 feet) echo free (or anechoic) ball drop chamber for testing pickleballs and paddles. An ordinary tournament approved pickleball is dropped from the top of the chamber and it reaches a speed of about 19 mph just before it strikes a rigidly mounted paddle at a slight angle to cause the bouncing ball to travel away from the paddle face after the hit.

A calibrated microphone is mounted in this chamber and a computer outside of the chamber analyzes the microphone output using REW and Audacity software.

Criteria: The paddles on this list are in two categories, "Reduced Sound" and "Extra Quiet." "Reduced Sound" paddles have a measured sound level of at least 3 decibels below typical ½ inch thick honeycomb poly-core fiberglass face models and a prime "pitch" below 900 Hz. "Extra Quiet" paddles are quieter still, with a sound level of 6 decibels, or more, below ordinary models and a main pitch below 700 Hz. In addition, all of these paddles have vibration decay times of the primary vibration mode (to less than 10% of its initial peak value) of under 6 milliseconds. This ensures that there is no well-defined "pitch" to the sound produced.

Using this list: PSM LLC updates this list as it tests and identifies additional paddles that meet the criteria and as suppliers release new models.

Updating this list: To arrange additional paddle or pickleball testing, contact PSM LLC via email at bob@pickleballsound.com.

For an updated version of The Blue List, see the Pickleball Sound Labs web page at pickleballsoundlabs.com as well as the Pickleball Sound Mitigation Facebook group page. The Pickleball Paddle Blue List is copyright free.

Reduced Sound Paddles (paddles are listed alphabetically by vendor name)

Paddle Vendor	Paddle Model Name	Notes
CRBN	1 & 2	
CRBN Pickleball Rocks Edition	Marked “Recreational Play Only”	1
Diadem	Warrior	
E6	16s	
Electrum	E Pro II	
Focus	Silencer	
Gearbox	CX11, CX14, GX5 and GX6	
Joola	Ben Johns 16 mm, Radius	
Joola	Simone Jardim 16 mm	
One More	Vibe	
One More	Pro Custom	
One Shot	Stealth	
PIKKL	VANTAGE Pro 16mm	
Pro Drive	DRIVE	
Pro Kennex	Pro Speed	
Pro Pickleball	Infinity Widebody 16 MM	
TMPR	Tantrum and TC-16	
Versix	Pro XL	
Wild Monkeys	Grizzly	
Wowlly	Surge XL	
Wolfe	Bite	

Note 1: Not USA Pickleball Approved for Tournament Play

Reduced Sound Paddle Guidance: Tests have shown that many paddles that are at least 16 mm thick with carbon fiber surfaces and deemed to be “Control” models by paddle suppliers are generally quieter and have a lower main pitch sound and are likely to qualify for the “Reduced Sound” list but they may not have been tested by Pickleball Sound Labs.

Extra Quiet Paddles and Paddle Attachments
The following products are several decibels quieter than the Reduced Sound Models listed above and they have an audio pitch about an octave lower than ordinary fiberglass face paddles.

Paddle Vendor	Paddle Model Name	Notes
Diadem	Vice and Hush	1
Master Athletics	Q1	1
NINEFOUR	Apex Series 3K	2
Owl Sports	Founders Edition, Owl CX,	2
	CXE and the Silent Storm	2
Pro XR	Quiet Luxury	1
Stafford	Blackbird	2

Note 1: Not USA Pickleball Approved for Tournament Play
Note 2: The Quietest Tournament Approved Paddles

Aftermarket options – attachments/covers that reduce the sound level produced by any paddle

The Pickleball Muffler (may be used with any paddle)	This is a paddle attachment/cover	1
Quiet Strike	Removable attachment Pads	1
QuietSSHOT	Removable attachment Pads	1

Note 1: Not USA Pickleball Approved for Tournament Play

Paddles (or pad attachments) that qualify as "Quiet" generally have additional design features on the face or internally that substantially reduce both sound level and pitch. These paddles are specifically designed to achieve a low sound level.

Pickleballs

Somewhat Popular Quieter Balls: The Onix Fuse and Onix Pure 2 (higher bounce) outdoor models

The quietest USA P tournament approved ball: Monarch Outdoor ball by Dicks Sporting Goods

Other Quiet Balls

The Gamma Librarian: this is a foam ball that is the very quietest ball tested.

The Diadem Quiet Ball

The Accel Digital 3D printed ball (available in several colors and firmness variations)

The LOUDEST tournament approved ball tested by PSM LLC was the Dura Fast 40 although we have measured even louder sound levels from some less expensive discount store models.

Analysis of Pickleball Sound from Louisville Recreation Center Louisville, Colorado Part 2

by

PSM Consulting LLC

September 10, 2025

PSM Consulting LLC
Bonita Springs, Florida
wyermanbr@gmail.com, 248 563 0867

Introduction

In a May 7, 2025 report, PSM Consulting LLC (PSMC) provided estimates of pickleball sound for planned courts at Louisville Recreation Center, Louisville, Colorado. Background information on this site and on pickleball sound can be found in that report and will not be repeated here. This report analyzes seven additional designs for noise mitigation that were presented for evaluation by the Louisville Recreation Center staff and that were based upon the earlier results. Improvements to these designs are provided.

The planned pickleball courts at Louisville Recreation Center present a challenge to balance pickleball sound traveling to the closest homes to the north at a higher elevation (Larkspur and Trail Ridge) with sound traveling to homes at a greater distance to the south (West Mulberry). A sound barrier between a source and receiver blocks sound that would normally travel in a straight line to the receiver. This is favorable. This barrier also reflects this sound in the opposite direction. This reflected sound can pass over a second barrier in the opposite direction. This is unfavorable. Therefore, the height of all barriers must be considered. This creates tradeoffs in the sound levels to the north and the south to achieve an acceptable balance in both directions.

Results

Table 1 lists the 7 noise mitigation designs identified as case 1 to case 7. Figure 1 shows the sound barrier design from Louisville Recreation Center with sound barriers on the perimeter of the court and with all 4 corners extending 10 feet. The heights of the barriers on each side are listed in Table 1.

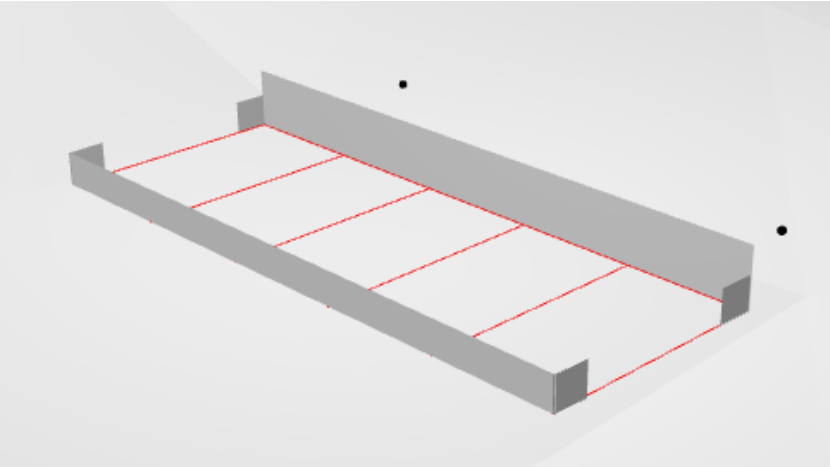

Figure 1 – Layout for barrier designs in case 1 to case 7

Table 1 shows the sound levels at 3 home locations near the courts and at perimeter court locations. Because the noise reduction by a barrier will change depending on source and receiver positions, the sound levels from four source positions in the initial report were analyzed. The design objective is a sound level at 50 dB LAFmax as stated in the initial report.

Baseline sound levels are listed with no barriers to show the sound reduction impact of each barrier design. With no sound mitigation, the sound levels at homes are all above the design objective of 50 dB LAFmax. These would be objectionable.

The initial report showed that showed that sound barriers on the court perimeter are more effective than on the perimeter of the hockey rink. These 7 designs leverage those results. Table 1 shows the sound levels at 3 homes for the 7 initial barrier designs. For each case, Table 1 shows several sound levels above the design objective depending on source location. The barriers are most effective in reducing sound levels at all home locations when the source is closest to the barrier that is between the source and receiver. For source positions farther from the barrier, less sound reduction with the barrier is achieved at homes that are elevated above the courts or that are farther from the source.

The pink cell in each row of Table 1 indicates the receiver with the highest sound level for each source position. The highest sound level is associated with one or more sound paths to the receiver which are the weak links of the design. The weak link for this highest sound level from each position is listed in the table to show the dominant path for the highest sound level. This shows where improvements are needed.

For all seven designs, the open west side between the northwest and southwest corners is the weakest link between source 2 and 888 Larkspur. This path is shown in Figure 2. The barriers do not block this sound path.

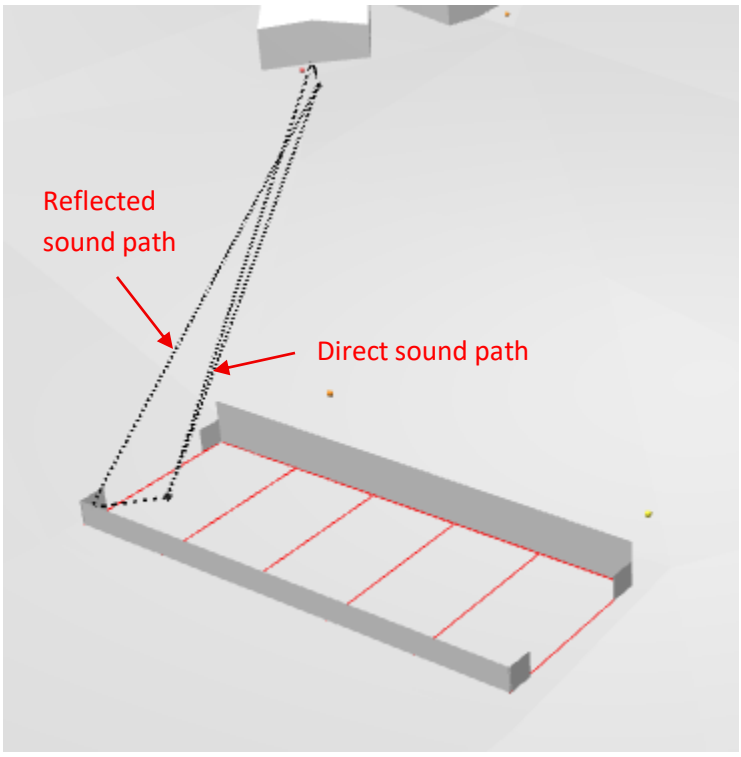

Figure 2 – Direct sound path around northwest corner, case 1

For other source positions, the weak link is a reflected sound path from the closest barrier that travels in the opposite direction over the top of the opposite barrier. This sound path combines with a diffracted sound path from the source over the top of the barrier. Figure 3a and Figure 3b show these paths from source 3 and source 1, respectively.

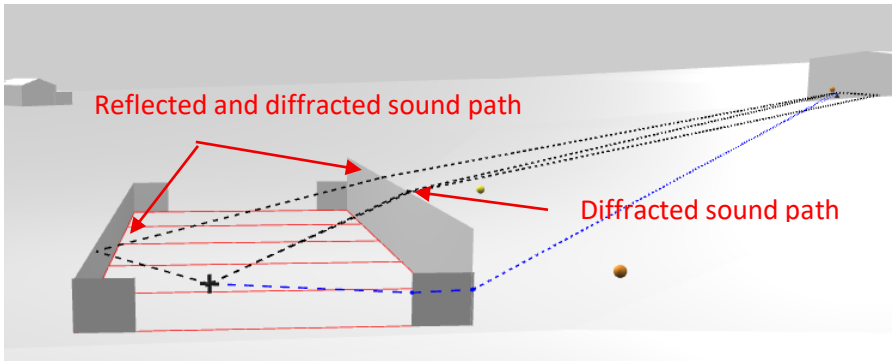

Figure 3a – Reflected sound path from south wall and over north barrier, case 1

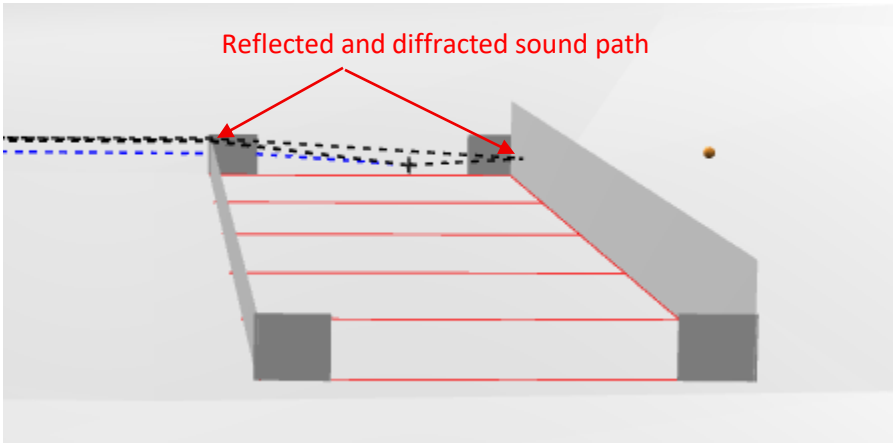

Figure 3b – Reflected sound path from north wall and over south barrier, case 1

This diffracted sound path can only be reduced by increasing the height of the barrier. However, increases in barrier heigh reflect more sound in the opposite direction. This is the tradeoff, and a balance must be achieved. The yellow cells in case 1 and case 2 provide a clue on how reflected sound to the north can be reduced. This can be done by lowering the south sound barrier from 10 feet to 9 feet. This lower height minimizes the reflected sound to the north.

Since source 2 was the most critical source position for the direct path, the west wall was extended the entire length to block this path. A 9 foot south barrier was used to minimize reflected sound to the north. The sound barriers on the east wall can be eliminated. This can be done since no houses are directly to the west. Figure 4 shows the design with a continuous west wall.

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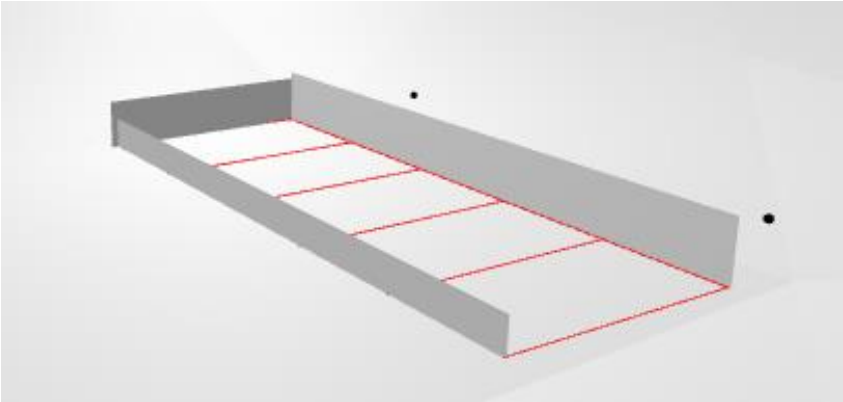

Figure 4 – Barrier design with continuous west wall and open east wall

Table 2 shows the sound levels for design improvements with a sound barrier on the west wall and source 2. Cases 8, 9, 10, 11 , and 12 Table 2 show the impact of raising the height of the continuous west sound barrier from 9 to 16 feet for sound from source 2. With increasing barrier height, the sound levels at 888 Larkspur decrease. Figure 5 shows the reduced sound levels with increasing height.

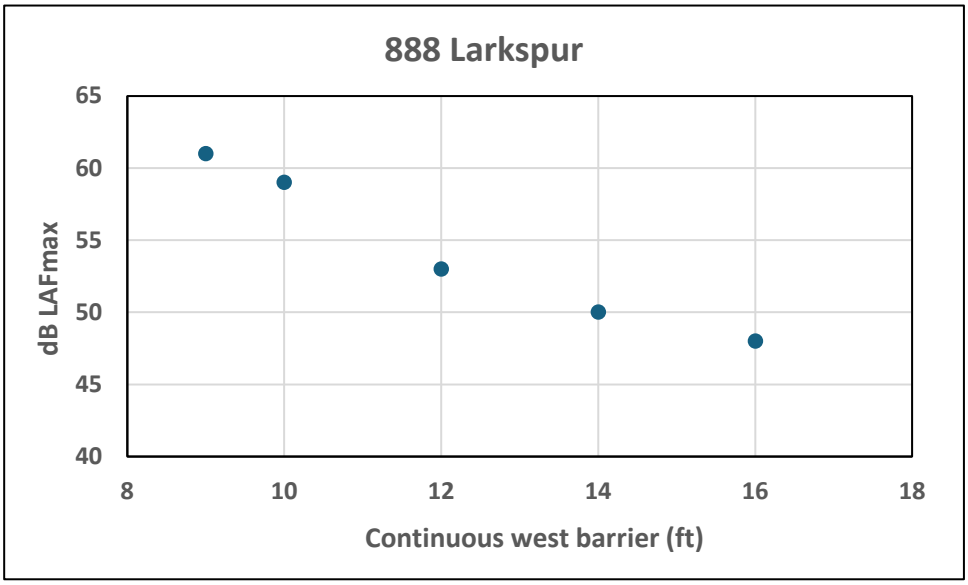

Figure 5 – Sound levels at 888 Larkspur from source 2 with height of west barrier and 9 foot south barrier

With a design objective of 50 dB LAFmax, the recommended west barrier height is 14 feet. The extra 2 feet height in a 16 foot high west barrier reduces the sound level below the design objective.

All four source locations are next analyzed for case 12 and case 13. The 9 foot high south barrier reduces the reflected sound that travels back over the north barrier but allows more sound to travel over the barrier to the south. This is another tradeoff. When the south side barrier is raised to 10 feet, Case 13 shows that the 10 foot barrier on the south wall does not change the sound level at 888 Larkspur, but it increases the sound level from source 1 by 10 dB LAFmax at 828 Trail Edge due to more sound being reflected to the north.

The height decrease of the south barrier from 10 feet to 9 feet has a noticeable 9 dB to 10 dB LAFmax sound level decrease at 828 Trail Ridge from source positions 1 and 4. The green cells highlight the lowest sound levels with a 9 foot south barrier in this design. This decrease is favorable at Trail Ridge. The tradeoff with the 10 foot south barrier is a 1 dB to 2 dB LAFmax sound level increase to the south.

Next, designs were analyzed with the length of the west barrier reduced to consider corner designs. This can be done since no houses are directly to the west. The preferred design includes a 30 foot northwest corner at 14 feet and a 10 foot southwest corner at 12 feet. This design is shown in Figure 6.

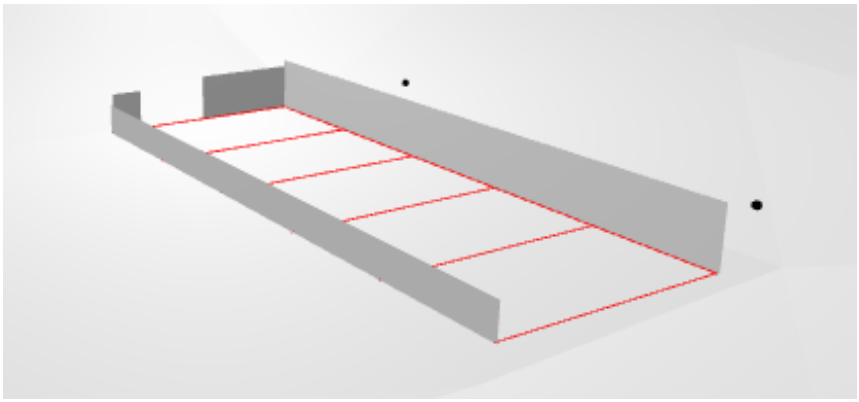

Figure 6 – Barrier design with NW and SW corners, open east wall

Case 14 and case 15 show the sound levels with 9 foot and 10 feet south barriers, respectively. The 10 dB to 9 dB sound level improvement for Trail Edge from sources 1 and source 4 overrides and offsets the 1 dB to 2 dB increase in sound level at West Mulberry.

All these cases considered a sound reflecting barrier. These reflecting barriers could be Pickleglass, a mass loaded vinyl, or a transparent mass loaded vinyl (Hushtec). These barriers can be installed at ground level or on a raised concreter wall with a shorter barrier material if the overall height is maintained. To provide a viewing area of the courts for players waiting to play or for spectators, one or more of the sound barriers should be transparent. The north side of the courts will provide a better viewing area than the west or east sides. It is hard to look over several courts from the west or east ends. In that case, the west and south barrier sides can be mass loaded vinyl. This decision is left to the Louisville Recreation Center.

Table 2, case 16 shows sound levels for a 10 foot sound absorbing barrier for the south side with the 30 foot northwest corner extension and 10 foot southwest corner extension. This minimizes the sound reflected to the north from source 2 and source 3 by 3 dB LAFmax at Larkspur and Trail Edge. The increase in height from 9 feet to 10 feet for the south barrier also helps to reduce sound levels at West Mulberry 1 dB to 2 dB LAFmax over case 14 with a 9 foot reflecting south barrier. This requires a south barrier with a sound absorbing liner.

Case 17 in Table 2 shows the sound levels with no sound barrier for the south side. This eliminates all sound reflected to the north. The resulting sound levels to the north are all near the design objective. The tradeoff is that sound levels to the south are increased to 57 dB and 59 dB LAFmax. This design is not favored for the residents to the south, but it does show the impact of minimizing reflected sound traveling to the north. This shows the balancing act with barrier height and barrier surfaces.

Conclusions and Recommendations

Based on the comparisons in Table 1 and Table 2, case 14 is the most efficient design that balances sound levels to the north and south. Case 14 is shown in Figure 6. It includes these sound barrier heights and lengths:

- north barrier at 16 feet high
- south barrier at 9 feet high
- northwest corner - 30 foot extended length at 14 feet high
- southwest corner - 10 foot extended length at 12 feet high
- east wall open

Barrier materials for each side can be chosen that are either transparent or opaque, depending on the preference of the Louisville Recreation Center. A transparent north side for viewing is recommended. Other barrier sides can be lower cost mass loaded vinyl on a chain link fence. Case 14 shows that the sound levels at each home are just above the 50 dB LAFmax design objective. These sound levels represent the best noise reduction that can be achieved without reducing sound levels in one direction at the expense of increasing sound levels in the opposite direction.

Further reduction in all sound levels can only be achieved by increasing the height of the barriers, by using sound absorbing liners on barriers (these are not transparent), by mandating the use of quieter paddles and balls, or by enclosing the courts in a building. Case 14 is the best balance for sound levels from pickleball at homes to both the north and the south.

Case 15 and case 16 provide tradeoffs in sound levels for residents to the north and to the south and could be considered as alternatives to the recommended case 14. Case 15 and case 16 show small sound level improvements of 1 dB to 2 dB LAFmax at West Mulberry but these would not be noticeable over case 14. If a sound absorbing liner Is not used for Case 16, then Case 14 becomes the preferred design.

Table 3 shows the results for these three cases compared to the baseline using colored cells to differentiate sound levels.

Table 3 – Recommended case 14 and alternative case 15 and case 16

	Sound Barrier Heights by Side (feet)					Sound levels at respective property lines (dB LAFmax)			
Case	North	South	West (1)	East (1)	Source Position	Fence Perimeter (2)	888 Larkspur (to northwest)	828 Trail Ridge (to north)	831 W. Mulberry (to south)
Base	0'	0'	0'	0'	1	73	61	56	56
						71	60	56	56
						72	59	56	56
						74	59	56	56
14	16'	9'	14'- 30 ft	0'	1	56	47	43	55
			12'-10 ft		2	57	50	54	54
					3	58	57	54	53
					4	57	48	44	55
15	16'	10'	14'- 30 ft	0'	1	57	47	53	54
			12'-10 ft		2	57	50	54	53
					3	58	57	54	52
					4	58	48	53	53
16	16'	10' abs	14'- 30 ft	0'	1	56	47	48	54
			12'-10 ft		2	55	50	51	53
					3	57	54	51	52
					4	58	48	48	53
	55 dB or greater								
	51 dB to 54 dB								
	50 dB or below								
(1) Fence length is entire side unless indicated									
(2) Fence perimter is position outside of court that is nearest sound source									

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Table 1 – 7 barrier designs

	Sound Barrier Heights by Side (feet)					Sound levels at respective property lines (dB LAFmax)				
Case	North	South	West (1)	East (1)	Source Position	Fence Perimeter (2)	888 Larkspur (to northwest)	828 Trail Ridge (to north)	831 W. Mulberry (to south)	Highest noise path (weak link)
Base	0'	0'	0'	0'	1	73	61	56	56	Direct path
						71	60	56	56	Direct path
						72	59	56	56	Direct path
						74	59	56	56	Direct path
1	16'	9'	9'	9'	1	56	50	43	55	Reflected from north wall and over south wall
					2	57	62	54	54	Direct path
					3	57	57	54	53	Reflected from south wall and over north wall
					4	56	48	44	55	Reflected from north wall and over south wall
2	16'	10'	10'	10'	1	57	50	53	54	Reflected from north wall and over south wall
					2	57	61	54	53	Direct path
					3	57	57	54	52	Reflected from south wall and over north wall
					4	57	48	53	53	Reflected from north wall and over south wall
3	12'	10'	12'	12'	1	61	54	54	54	Reflected from north wall and over south wall
					2	61	60	57	53	Direct path
					3	60	60	56	52	Reflected from south wall and over north wall
					4	61	54	54	53	Reflected from south wall and over north wall
4	13'	10'	13'	13'	1	60	52	53	54	Reflected from north wall and over south wall
					2	60	60	56	53	Direct path
					3	59	59	56	52	Reflected from south wall and over north wall
					4	60	52	53	53	Reflected from north wall and over south wall
5	14'	10'	14'	14'	1	59	52	53	54	Reflected from north wall and over south wall
					2	59	60	55	53	Direct path
					3	58	58	55	52	Reflected from south wall and over north wall
					4	59	50	53	53	Reflected from north wall and over south wall
6	15	10'	15	15	1	58	51	53	54	Reflected from north wall and over south wall
					2	58	60	55	53	Direct path
					3	57	57	55	52	Reflected from south wall and over north wall
					4	58	49	53	53	Reflected from north wall and over south wall
7	16'	10'	16'	16'	1	57	50	53	54	Reflected from north wall and over south wall
					2	57	60	54	53	Direct path
					3	57	57	54	52	Reflected from south wall and over north wall
					4	57	48	53	53	Reflected from north wall and over south wall
	Highest sound level for source position									
(1) 10 foot corner extensions at NW, SW, NE, SE corners										
(2) Fence perimter is position outside of court that is nearest sound source										

Table 2 – Improved barrier designs

	Sound Barrier Heights by Side (feet)					Sound levels at respective property lines (dB LAFmax)				
Case	North	South	West (1)	East (1)	Source Position	Fence Perimeter (2)	888 Larkspur (to northwest)	828 Trail Ridge (to north)	831 W. Mulberry (to south)	Highest noise path (weak link)
8	16'	9'	9'	0'	2	56	61	54		Over west wall
9	16'	9'	10	0'	2	56	59	54		Over west wall
10	16'	9'	12	0'	2	56	53	54		Reflected from south wall and over north wall
11	16'	9'	14	0'	2	56	50	54		Reflected from south wall and over north wall
12	16'	9'	16	0'	2	58	48	54		Reflected from south wall and over north wall
13	16'	10'	14	0'	2	56	50	54		Reflected from south wall and over north wall
12	16'	9'	14	0'	1	55	47	43	55	Reflected from north wall and over south wall
					2	56	50	54	54	Reflected from south wall and over north wall
					3	58	57	54	53	Reflected from south wall and over north wall
					4	57	48	44	55	Reflected from north wall and over south wall
13	16'	10'	14	0'	1	57	47	53	53	Reflected from south wall and over north wall
					2	56	50	54	52	Reflected from south wall and over north wall
					3	58	57	54	52	Reflected from south wall and over north wall
					4	58	48	53	53	Reflected from south wall and over north wall
14	16'	9'	14'- 30 ft	0'	1	56	47	43	55	Reflected from north wall and over south wall
			12'-10 ft		2	57	50	54	54	Reflected from south wall and over north wall
					3	58	57	54	53	Reflected from south wall and over north wall
					4	57	48	44	55	Reflected from north wall and over south wall
15	16'	10'	14'- 30 ft	0'	1	57	47	53	54	Reflected from north wall and over south wall
			12'-10 ft		2	57	50	54	53	Reflected from south wall and over north wall
					3	58	57	54	52	Reflected from south wall and over north wall
					4	58	48	53	53	Reflected from south wall and over north wall
16	16'	10' abs	14'- 30 ft	0'	1	56	47	48	54	Reflected from north wall and over south wall
			12'-10 ft		2	55	50	51	53	Reflected from north wall and over south wall
					3	57	54	51	52	Reflected from south wall and over north wall
					4	58	48	48	53	Reflected from north wall and over south wall
17	16'	0'	14'- 30 ft	0'	1	56	47	43	58	Direct path and reflected from north wall
					2	55	50	49	58	Direct path and reflected from north wall
					3	57	52	49	57	Direct path and reflected from north wall
					4	57	48	44	57	Direct path and reflected from north wall
	Highest sound level for source position									
(1) Fence length is entire side unless indicated										
(2) Fence perimter is position outside of court that is nearest sound source										

PSM Consulting LLC
Bonita Springs, Florida
wyermanbr@gmail.com, 248 563 0867

PSM Consulting LLC has provided these conclusions and recommendations on pickleball sound at Louisville Recreation Center to balance the growth and popularity of pickleball with acceptable sound levels for quality of life for the residents living near the courts. The goal is to develop pickleball recreational facilities at Louisville Recreation Center and to perform due diligence on sound mitigation for nearby residents. PSM Consulting LLC is available to answer any questions related to this work.

Disclaimer

The results, conclusions, and recommendations presented here are based on information provided to PSMC LLC by the client and on measurements made using calibrated equipment and standard acoustical practices. These results are intended to address maximum sound levels from play. Pickleball sound assessment is a random process where the sound from each impact and from each game can vary based on player skill, force of impact, and equipment in use. Sound levels from pickleball are random impulsive events, meaning that it is predictable over a range and has averages and other statistical characteristics, but it has no exact single level. Actual sound levels will vary over time. In addition, it is not possible to determine what any particular person believes is an acceptable sound level. Because additional variables may be associated with the site, the players, or the equipment in use, PSMC LLC assumes no liability for work undertaken by the client based on these recommendations, or for results that do not conform to the client's expectations.

Barry R Wyerman, PhD, PE
Principal Acoustical Consultant
PSM Consulting LLC

SUBJECT: **RESOLUTION NO. 2, SERIES 2026 – A RESOLUTION APPROVING AND ADOPTING THE CITY OF LOUISVILLE EMERGENCY OPERATIONS PLAN**

DATE: **JANUARY 6, 2026**

PREPARED BY: **DIANA LANGLEY, CITY MANAGER**

PRESENTED BY: **DIANA LANGLEY, CITY MANAGER**

SUMMARY:
The Louisville Emergency Operations Plan (EOP) serves as the foundational document for managing emergencies and disasters within the City and describes the structure and guidelines for managing a major emergency or disaster. It establishes a coordinated approach to emergency response, ensuring that City departments and partner organizations operate under a unified command structure during incidents.

With the City's anticipated joining of the Boulder Office of Disaster Management (Boulder ODM) for disaster management services, Louisville will be incorporated into Boulder ODM's EOP at such time as their EOP is updated. In the interim, staff is requesting that the City Council approve and adopt this Louisville EOP.

BACKGROUND / PRIOR DISCUSSIONS:
Over the years, the City Council has considered an Emergency Operations Plan for Louisville. Brief research of records found the following:

- *2012 Council Study Session: Emergency Services Update*
  - City Council was introduced to the concepts of the Incident Command System (ICS) and the National Incident Management System (NIMS), a tabletop exercise was conducted for the City Council and directors, and Council was provided the Louisville Continuity of Operations Plan and Emergency Procedures Plans.
    - City Council Study Session Agenda and Packet 2012 01 24 - Laserfiche WebLink (starting on page 54)

- *2019 Council Meeting: Resolution No. 22, Series 2019 – Approving and adopting the Emergency Operations Plan for Boulder County, City of Boulder, Local Governments & Special Districts, 2017 Edition*
  - In August 2018, the City conducted a tabletop exercise led by the Boulder Office of Emergency Management for City Council and staff. Several recommended actions followed the exercise, including updating the City's Emergency Operations Plan. In response, Council adopted Resolution No. 22, Series 2019 approving and adopting the Emergency Operations Plan for

Boulder County, City of Boulder, Local Governments & Special Districts, 2017 Edition.

- Since then, the Boulder Office of Disaster Management (Boulder ODM) has a 2023 edition of their EOP.
  - *City Council Agenda and Packet 2019 07 09 - Laserfiche WebLink* (starting on page 556)

ANALYSIS:
An EOP provides specific guidance to those activated in the event of an emergency to:

- Protect life and property through timely and effective response actions.
- Ensure continuity of government and essential services during and after emergencies.
- Coordinate resources and communication among local, regional, and state partners.
- Support community recovery and resilience through structured recovery operations.

It acts as an activation guide and authorizes the City's personnel in all its departments to perform their duties before, during, and after an emergency. It outlines the process to proclaim an emergency, provides the plan for the continuity of government, and analyzes specific hazards/threats.

The proposed EOP is broken into nine sections as follows:

1. Introduction
2. Executive Summary
3. Approval and Implementation
4. Emergency Proclamations
5. Notifications
6. Basic Plan
7. Department Operations Center
8. Essential Support Functions
9. Training

2025 COUNCIL WORK PLAN:
Disaster preparedness and emergency response are vital to support the City Council's 2025 Work Plan, focusing on Council's priorities of economic vitality, safety, core services, and housing. Residents and business owners need to feel secure in the City's ability to adequately prepare for, respond to, and recover from emergencies.

FISCAL IMPACT:
Budgeted?: **No**
There will be costs associated with staff training. These costs will be absorbed through the operational budgets.

ALTERNATIVE(S):
1. Modify the proposed EOP.
2. Do not approve and adopt an Emergency Operations Plan and wait until Boulder ODM updates their plan to include a more comprehensive EOP for Louisville.
3. Approve and adopt the 2023 edition of Boulder ODM's EOP.

RECOMMENDATION:
Staff recommends that Council adopt a resolution approving and adopting an Emergency Operations Plan.

ATTACHMENT(S):
1. Resolution 2, Series 2026
2. Proposed Emergency Operations Plan

RESOLUTION NO. 2
SERIES 2026

A RESOLUTION APPROVING AND ADOPTING THE CITY OF LOUISVILLE EMERGENCY OPERATIONS PLAN

WHEREAS, state statute requires that a political subdivision/City that is served by a local emergency management agency is responsible for the coordination of disaster preparedness, prevention, mitigation, response, and recovery in the event of emergencies and disasters (Colorado Disaster Emergency Act, C.R.S. § 24-33.5-707); and

WHEREAS, Chapter 2.32, Disaster Emergency Preparedness, of the Louisville Municipal Code provides for the continuity of City Council's governance of the City in the event of disaster; and

WHEREAS, on July 9, 2019, City Council adopted Resolution No. 22, Series 2019, approving and adopting the Emergency Operations Plan for Boulder County, City of Boulder, Local Governments & Special Districts, 2017 edition; and

WHEREAS, the Boulder Office of Disaster Management (Boulder ODM) has since updated the Emergency Operations Plan with a 2023 edition, but the City of Louisville has not formally approved and adopted the 2023 edition of the Plan; and

WHEREAS, the recent city and state disasters and emergencies involving wildfire, flooding, and hail demonstrate the need for an updated plan; and

WHEREAS, staff have prepared an updated Emergency Operations Plan.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council does hereby adopt the Emergency Operations Plan dated December 2025 (the "Plan") in substantially the same form as the copy attached hereto and made part of this resolution.

Section 2. The City Council further hereby authorizes the City Manager to execute the Plan to denote the City's adoption of and participation in the Plan.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

Emergency Operations Plan

City of Louisville
COLORADO • SINCE 1878

December 2025

Approved and adopted by the City Council on _____

Table of Contents

Section 1: Introduction 3
Section 2: Executive Summary 3
Section 3: Approval and Implementation 4
Section 4: Emergency Proclamations 7
Section 5: Notifications 9
Section 6: Basic Plan 11
Section 7: Department Operations Center (DOC) 33
Section 8: Essential Support Functions (ESF's) 34
Section 9: Training 97
ANNEX A 100
ANNEX B 103

Section 1: Introduction

The City of Louisville, Colorado, is committed to ensuring the safety, security, and resilience of its residents, businesses, and visitors. This Emergency Operations Plan (EOP) provides a comprehensive framework for coordinated response and recovery efforts during emergencies and disasters that may impact the city. This plan outlines the roles, responsibilities, and procedures for city departments, partner agencies, and community stakeholders to effectively manage incidents ranging from natural disasters to human-caused events.

This plan is intended to guide preparedness, response, and recovery efforts, minimize the impacts of emergencies, and support a swift return to normal operations. It reflects Louisville's commitment to proactive planning, community resilience, and the protection of life, property, and the environment.

Section 2: Executive Summary

The Louisville Emergency Operations Plan (EOP) serves as the foundational document for managing emergencies and disasters within the city and describes the structure and guidelines for managing a major emergency or disaster. It establishes a coordinated approach to emergency response, ensuring that city departments and partner organizations operate under a unified command structure during incidents.

Key objectives of the EOP include:

- Protect life and property through timely and effective response actions.
- Ensure continuity of government and essential services during and after emergencies.
- Coordinate resources and communication among local, regional, and state partners.
- Support community recovery and resilience through structured recovery operations.

By implementing this plan, the City of Louisville enhances its ability to respond to emergencies with agility, transparency, and accountability – ensuring the well-being of the community and the preservation of public trust.

Section 3: Approval and Implementation

Plan Approval and Implementation

Upon review and approval of the Louisville City Council, this plan will be officially adopted and promulgated. The approval date will be included on the title page. The plan will be distributed to those city departments, executive members, city personnel, supporting allied agencies and community organizations having assigned primary functions or responsibilities located within the EOP.

Plan Supersession

This Emergency Operations Plan (EOP) supersedes all previous City of Louisville EOPs. This current adopted plan, reflects the latest organizational structure, operational protocols, and hazard assessments, ensuring continuity and clarity of roles and responsibilities of leadership during emergencies. Succession planning is embedded throughout the plan to guarantee that critical functions are maintained seamlessly, even in the event of leadership transitions or personnel unavailability.

Letter of Promulgation and Plan Adoption Resolutions

To: City Official, Employees and Residents

The City of Louisville Emergency Operations Plan (EOP) provides guidance for those with emergency management responsibilities within the City of Louisville. The EOP provides specific guidance to those activated in the event of an emergency in order to save lives, enhance the health and safety of residents, and protect property and the environment. This EOP authorizes the city's personnel in all its departments to perform their duties before, during, and after an emergency.

This EOP may be activated by the City Manager, who is empowered by city code to exercise any and all of the emergency powers permitted by state and local law. Prior to its issuance, this EOP was reviewed by department representatives that have assigned primary responsibilities for the management and implementation of emergency functions. This EOP will be submitted to the City Council for review, and upon their concurrence, officially adopted and promulgated.

This promulgation shall be effective upon its signing and shall remain in effect until amended or rescinded by further promulgation. The promulgation of this EOP, when supported with appropriate training and periodic updates, may support City of Louisville officials in their efforts to save lives in emergency or disaster situations.

This specific plan has been approved and adopted by the City Council of the City of Louisville on _____, under Resolution X-2026. In addition, an Emergency Disaster Ordinance was adopted on February 6, 2018, under Ordinance 1753-2018.

_____

Diana Langley
City Manager

Revisions

This plan will be updated as conditions change. Minor revisions to update facts, when approved by the City of Louisville City Manager will be accepted without re-promulgation.

Date	Changes
X.XX.XXXX	Originally adopted

Distribution List

This EOP will be distributed to the City of Louisville City Council, Department Directors, Louisville Fire Protection District, Boulder Valley School District, the Office of Disaster Management for the City of Boulder and Boulder County (Boulder ODM), other participating County agencies, selected state government agencies, selected state and county organizations, American Red Cross and other volunteer organizations, private organizations and other interested individuals.

Section 4: Emergency Proclamations

Emergency proclamations are normally made when there is an actual incident or event, threat of disaster, or extreme peril to the safety of persons and/or property caused by natural or human-made situations.

Local Proclamation of Emergency

Chapter 2.32 – Disaster Emergency Preparedness - of the City's Municipal Code addresses the procedures to declare a disaster emergency, response powers, and line of succession. A summary is provided below.

- Procedures
    - Mayor – The mayor shall have the power to declare that a disaster emergency exists, when in the mayor's opinion, such an event has occurred, or the threat of such event is imminent. The declaration of a disaster emergency by the mayor shall be in writing.
    - City Manager - The city manager shall be responsible for publication and dissemination of information to the public and shall file the declaration with the city clerk and forward a copy to the Colorado Division of Emergency Management.
- Response Powers
    - City Manager - The issuance of a declaration of disaster emergency empowers the city manager to exercise any and all of the emergency powers permitted by state and local law, and to promulgate such regulations deemed necessary to protect life and property, to the extent possible, and preserve critical resources.
    - City Council - The city council shall convene to perform its legislative powers as the situation demands and shall receive reports through the city manager and enact policy and other incident support as required.
- Line of Succession
    - Mayor - If the mayor is unable to perform the duties of the mayor set forth in Chapter 2.32 of the Municipal Code, then the duties conferred upon the mayor shall be performed in descending order, as follows:
        - Mayor Pro Tem
        - Councilmember most senior in length of service
    - The city manager shall annually publish a list that reflects the line of succession

- If the city manager fails to publish and submit such list to the city council, the line of succession of authority to manage a disaster emergency shall include those occupying the following positions in the following order:
    - City manager
    - Deputy city manager
    - Police chief
    - Public works director
    - Finance director

State Proclamation of Emergency

The Governor's power to declare a state of emergency comes from the Colorado Disaster Emergency Act (C.R.S. § 24-33.5-701 et. seq.). After assessing the situation and consultation with various agencies to assess the severity and scope of the situation, the Governor issues an Executive Order declaring a state of emergency. The Executive Order describes the nature of the emergency, specifies the geographic area affected, activates the state's emergency operations plan, and may authorize the use of state resources.

Presidential Proclamation of Emergency

The Governor may request a Presidential Declaration of Emergency or Disaster when the disaster is of such severity and magnitude that effective response is beyond the ability of the state and affected local jurisdictions.

Declaration of Emergency

In some cases, the President may make a Declaration of Emergency instead of a Disaster. An Emergency Declaration unleashes the support from multiple state and federal agencies. It also authorizes reimbursement of emergency work, such as debris removal and emergency protective measures. It stops short, however, of providing certain types of financial recovery assistance.

Declaration of Major Disaster

A Presidential Declaration of Disaster is made when the President determines that the situation warrants major federal disaster assistance. In addition to the assistance provided in an Emergency Declaration, a Disaster Declaration may make a broad range of assistance available to individual victims including:

- Temporary housing;
- Disaster unemployment and job placement assistance;
- Individual and family grants;

- Legal services to low-income victims; and,
- Crisis counseling and referrals.

Section 5: Notifications

1. Emergency notification and activation of the Department Operations Center (DOC) or Emergency Operations Center (EOC):
   In an Emergency and upon activation of the Department Operations Center (DOC) for the City of Louisville only, or activation of the Emergency Operations Center (EOC) for Boulder County Office of Disaster Management, notifications will be sent to staff via AlertMedia.

   The City of Louisville maintains a comprehensive Crisis Communications Plan designed to ensure clear, timely, and coordinated messaging during emergencies. This plan can be activated to support internal communications with staff, as well as external notifications to the broader community and key partners. It does not replace Boulder County's alerting systems nor the process in which emergency notifications are distributed.

   As conditions warrant, additional outreach to verify all appropriate personnel and agencies have been contacted may be necessary. (See next two pages for the Key Staff City of Louisville Activation Chart).

2. Notifications
   In the event that public notification is necessary, there are various manners in which residents may be notified. These may include:
   - City Alerts via GovDelivery to those signed up to receive notifications from the city
   - BOCO Alerts
   - Reachwell App
   - BOCO Info
   - Wireless Emergency Alerts (WEA)
   - NOAA Weather Radios
   - City social media
   - Louisville Police Department PA Systems
   - Emergency Alert System (EAS)
   - Outdoor Warning System
   - Local Media

3. Emergency Alert Terminology

   Alert Severity:

   - **Advisory** – Information about an emergency situation that is likely to impact communities.
   - **Warning** – Prepare to take action, or take immediate action if you need extra time to mobilize.
   - **Order** – Take immediate action due to an imminent life threat.

   Actions:

   - Climb to Higher Ground – A directive to move to a location nearby that is higher than your current position.
   - Evacuation – A directive to leave the area immediately.
   - Shelter in Place – A directive to remain indoors until the situation is resolved.
   - Missing/Endangered Person – Information about a missing or endangered person that is shared to increase community awareness.
   - All Clear – Follow-up information issued after officials have determined the hazard no longer presents a threat to the community.

4. Key Staff Activation List/City Council

   The city maintains a dedicated and up-to-date contact list specifically for core members of the response operations team to ensure reliable communication during emergencies. This list is managed separately from general staff directories and includes essential details such as names, roles, phone numbers, and email addresses. It is reviewed and updated annually to reflect any organizational changes, and is also revised immediately whenever position transitions occur. The contact list includes members from the following departments/groups.

   - City of Louisville Employees
     - City Manager and Deputy City Manager
     - Public Works
     - Human Resources
     - Finance
     - Communications
     - Information Technology
     - Police Department
     - City Clerk
     - Community Development

    - Cultural Services
- City Council Elected Officials
    - City Mayor
    - Wards 1, 2, and 3
- City Attorney's Office

The City also maintains and up-to-date contact list for partners and resources. These partners include:

- Louisville Fire Protection District
- Boulder Valley School District
- County Related Disaster Emergency Contacts
    - Office of Disaster Management
    - Sheriff
    - Public Health
    - Health & Human Services
- State Emergency Partners
- Local Hospitals

Section 6: Basic Plan

1. Intent

   The City of Louisville Emergency Operations Plan (EOP) establishes the structure for a coordinated response to various types of natural, technological and manmade emergencies as well as disasters or terrorist attacks. It has been developed in accordance with the requirements for local emergency planning established under the State of Colorado Disaster Emergency Act of 2018 (under HB 18-1394) and is aligned with the National Response Framework (NFR) and the National Incident Management System (NIMS). The plan meets the requirements of other State and Federal guidelines for local emergency management plans and programs.

   Since disasters differ in important ways, it is impossible to plan for every contingency, the key intent of this plan is to provide a means to utilize all available resources to:

   - MITIGATE or prevent potential emergencies or disasters when possible;
   - PREPARE to deal efficiently with the effects of emergency events;
   - RESPOND to the incident to save lives and protect property, to the extent possible; and

- RECOVER rapidly from the incident.

All City departments tasked in this plan are responsible for developing and maintaining operating procedures and providing training necessary for implementing the assigned duties and functions outlined in this document.

A vital component of this plan is individual and family emergency preparedness. Local officials and relief workers will be on the scene after a disaster and will not be able to reach everyone immediately. Individuals could get help in hours, or it may take days. Basic services such as electricity, gas, water, sewage treatment and telephone service may be cut off for days, even a week or longer. Families may need to evacuate at a moment's notice.

To promote individual and family emergency preparedness, the City advises residents to prepare an Emergency Kit with essential food, water and supplies for a minimum of three days (72 hours) per person, and a similar amount for any pets.

The EOP is to be used when a situation calls for multiple City departments, if outside resources are not needed, to integrate into a single command structure in which identified personnel will respond to the City's Department Operations Center (DOC). During these situations, should an incident escalate beyond the capabilities of the City, the City leadership will coordinate with Boulder ODM for assistance as appropriate. Should this situation occur, identified City of Louisville personnel will respond to the appropriate County Emergency Operations Center (EOC) as staffing allows.

2. Purpose and Mission

The City of Louisville provides service to the community, which lies within Boulder County. Boulder County has its own Emergency Operations Plan (EOP). The City of Louisville's Emergency Operations Plan (EOP) is designed to help employees and community members be better prepared. The City of Louisville will integrate portions of Boulder County's EOPs when appropriate.

This plan describes the emergency management procedures for the City of Louisville and delineates roles and responsibilities during disasters or emergencies for City departments with the main goal of protecting life and property. The mission is outlined as follows:

a. To coordinate all emergency management protocols in an effort to protect people, property to the extent possible, economy and the environment of the City of Louisville.

b. This plan is applicable to all natural, technological and human-made disasters. It provides a basis for incorporating all individuals and organizations with disaster responsibilities into the emergency program, continuity of government and a guideline for local preparedness, response and recovery operations.
c. This plan follows the State of Colorado's Emergency Operations Plan guidelines.
d. This plan stands alone while also sharing general emergency management planning concepts with neighboring jurisdictions including Boulder County.

3. Scope

The Louisville EOP uses the all-hazard approach which addresses a full range of complex and constantly changing requirements in anticipation of/or in response to threats or acts of major disasters (natural, technological, or biological), terrorism and other emergencies. The Louisville EOP does not specifically address long-term reconstruction, redevelopment or mitigation but it does delineate the incident management roles and responsibilities of City departments and other entities involved in emergency management.

4. Continuity of Government

The purpose of the Continuity of Operations Plan (COOP) is to provide a means of ensuring the continuity and preservation of the City of Louisville government during a major emergency or disaster. Disasters can interrupt, paralyze, or destroy the ability of local government to carry out its functions. Therefore, it is important for each level of government to have the capability to preserve, maintain and reconstitute its ability to carry out essential functions. A separate COOP has been completed and updated by each City of Louisville Department Head and maintained to ensure the continued function of local government.

5. Legal Authorities

Federal

a. Robert T. Stafford Disaster Relief and Emergency Assistance Act and Amendments (Volume VI Public Law 93-288 as amended by Public Law 100-707)
b. National Response Framework
c. Homeland Security Act and Information Sharing Act of 2002

d. Homeland Security Presidential Directive 5, Management of Domestic Incidents
e. Homeland Security Presidential Directive 8, National Preparedness
f. National Incident Management System (NIMS)

Standards of Good Practice: National Fire Protection Agency 1600, Disaster/Emergency Management and Business Continuity Programs, the Emergency Management Standard by the Emergency Management Accreditation Program (EMAP) and the Community Planning Guide CPG 101 v2 located online under: https://www.fema.gov/media-library/assets/documents/25975

State

a. Colorado Disaster Emergency Act of 2018 (24-32-2107, et. seq., C.R.S. 1992), Colorado
b. Colorado State Emergency Operations Plan

County/Local

a. Joint Agreement Establishing Office of Emergency Management between the County of Boulder, Colorado and the City of Boulder, Colorado, 1993. (Agreement revised February 15, 2005).
b. City of Louisville Ordinance 1753-2018 adopting the City's Disaster Emergency Preparedness municipal code

6. Multi-Agency Coordination

A key component of National Incident Management System (NIMS) and Incident Command Structure (ICS) is the Multi-Agency Coordination System (MACS). As the name implies, MACS provides the structure to support incident management policies and priorities, facilitate logistics support and resource tracking, inform resource allocation decisions using incident management priorities, coordinate incident-related information and coordinate interagency and intergovernmental issues regarding incident management policies, priorities and strategies.

In Boulder County, the MACS activities will be conducted from the Boulder Emergency Operations Center (BEOC). The EOC positions which would need to be filled would include: EOC Manager, Planning Section and Logistics along with the "Core" Emergency Support Functions (ESFs).

The Core ESFs are identified as ESF 1A – Transportation, ESF 1B – Evacuations, ESF 2A – Communications, ESF 2B – Warning, ESF 3 – Public Works, ESF 5- Situational Awareness, ESF 6 – Mass Care, ESF 8 – Public Health, ESF 13 – Public Safety and ESF 15 – External Affairs. Other ESFs may be added as needed.

As staffing allows, members of the City of Louisville or the Louisville Police Department shall respond and fill an EOC role. Typically, the City's Communications Manager will respond and fill their role. NOTE: Should the DOC be activated in the City of Louisville, identified City employees shall respond to the City to provide support. This would include the Manager from the City's Communications Division. Finance, under the lead of the Finance Director, will be responsible for tracking City-related expenses, to include the coordination of Finance in support to the EOC or while assigned in the DOC.

7. National Weather Service

   The National Weather Service provides the guide for weather advisories, watches and warnings when a threat is present. The NWS also launches Emergency Activation System warnings on television and radio to warn the public of any dangers. City officials monitor the NWS and also obtain crucial information from Boulder ODM. Information provided is forwarded in a timely manner to appropriate City Staff.

8. Definitions

   Emergency Operations Center (EOC) – Emergency Operations Center means the **facility** used to coordinate response among agencies which shall be staffed by emergency management resources, various law enforcement agencies, fire, public works, communications, City Managers and many more entities.

   At times, the Boulder Emergency Operations Center (BEOC) may be staffed by City of Louisville department representatives and government officials. The BEOC is co-located with the Boulder County E-911 center and is designed for continuous operations. The decision to activate the BEOC is made by the Boulder County Sheriff, Boulder County Commissioner(s), Boulder Police Chief, Boulder Fire Chief, Boulder City Manager, or the Boulder Director of the Office of Disaster Management. Activation of the BEOC shall be supported by the necessary emergency support functions (ESFs) required to respond to the incident. City of Louisville Department Heads or their designees may not be able to fill an ESF position.

The BEOC is the physical location where the incident management functions of Multi-Agency Coordination and Area Command are conducted. The actual address is: 3280 Airport Road, Boulder, Colorado. It is co-located in the Boulder County E-911 center and is designed for continuous operations.

Emergency Support Functions (ESFs) – Emergency Support Functions (ESFs) positions are utilized in Emergency Operations Centers (EOCs) when needed for emergency management. The ESFs provide support, resources, program implementation and services which are most likely needed to save lives, protect property and the environment, restore essential services and critical infrastructure and help communities return to normal operations following a catastrophe or disaster.

Incident Command System (ICS) – An ICS is a standardized approach to the command, control and coordination of emergency response providing a common hierarchy within which responders from multiple agencies/departments can be effective.

National Incident Management System (NIMS) – Under this doctrine, NIMS provides a common, nationwide approach to enable the whole community to work together to manage all threats and hazards. NIMS applies to all incidents, regardless of cause, size, location or complexity.

Department Operations Center (DOC) – Department Operations Center - may be virtual, physical, or a hybrid - means the facility used to coordinate response among departments within the City of Louisville in the event of a catastrophe or disaster. It may be utilized at other times dependent upon the situation. The decision to activate the DOC is made by the City of Louisville City Manager, the Chief of Police, or the Louisville Fire Protection District Chief.

Many incidents which occur in the City of Louisville are handled by field incident command and there is no need for the DOC to be activated. There are other incidents where a DOC activation is appropriate, even though an incident command system may not be needed in the field. Significant events which affect Boulder County will likely require a field incident command, the activation of the Louisville DOC, and a county EOC activation.

The Louisville Police Department building may serve as the EOC for the City of Louisville.

Major disaster - As defined by the Robert T. Stafford Disaster Relief and Emergency Assistance Act, a "Major disaster means any natural catastrophe (including any hurricane, tornado, storm, high water, wind driven water, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, or drought), or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under this Act to supplement the efforts and available resources of states, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby."

Disaster - As defined by Colorado Revised Statutes 24-33.5-703 disaster means "the occurrence or imminent threat of widespread or severe damage, injury or loss of life or property resulting from any natural cause or cause of human origin, including but not limited to fire, flood, earthquake, wind, storm, wave action, hazardous substance incident, oil spill or other water contamination requiring emergency action to avert danger or damage, volcanic activity, epidemic, air pollution, blight, drought, infestation, explosion, civil disturbance, hostile military or paramilitary action, or a condition of riot, insurrection, or invasion existing in the state or in any country, city, Town, or district in the state."

Emergency - The Robert T. Stafford Disaster Relief and Emergency Assistance Act defines an emergency as "any other occasion or instance for which the President determines that Federal assistance is needed to supplement local, State and tribal efforts to save lives and to protect property and public health and safety or to lessen or avert the threat of a catastrophe in any part of the United States."

Mitigation – Mitigation activities are designed to reduce or eliminate risks to persons or property or to lessen the actual or potential effects or consequences of an incident. Mitigation measures may be implemented prior to, during or after an incident. Mitigation measures are often developed in accordance with lessons learned from prior incidents. The National Response Framework distinguishes between hazard mitigation and incident mitigation. Hazard mitigation includes any cost- effective measure which will reduce the potential for damage to a facility from a disaster event. Measures may include wildfire mitigation, zoning and building codes, floodplain property acquisitions, home elevations or relocations and

analysis of hazard-related data. Incident mitigation involves actions taken during an incident designed to minimize impacts or contain the damages to property or the environment.

Planned Event - A planned event is one in which the basic structure is understood well in advance, allowing for pre-planning of resources and a response framework. Examples may include political rallies, demonstrations, sporting events and significant community activities. Such processes may involve efforts at all levels of government and between government and private sector and non-governmental organizations to identify threats, determine vulnerabilities and identify required resources.

Preparedness - Preparedness includes the range of deliberate, critical tasks and activities necessary to build, sustain and improve the operational capability to prevent, protect against, respond to and recover from domestic incidents. Preparedness is a continuous process involving efforts at all levels of government and between government and private sector and non-governmental organizations to identify threats, determine vulnerabilities and identify required resources. In the context of the National Response Framework, preparedness is operationally focused on actions taken in response to a threat or incident.

Prevention – Prevention involves actions taken to avoid an incident or to intervene to stop an incident from occurring. For the purposes of this Plan, this includes applying intelligence and other information to a range of activities which may include such countermeasures as deterrence operation, security operation, investigations to determine the full nature and source of the threat, public health and agricultural surveillance and testing, and law enforcement operations aimed at deterring, preempting, interdicting, or disrupting illegal activity and apprehending perpetrators.

Response – Response activities address the short-term, direct effects of an incident. These activities include: taking immediate actions to preserve life, property and the environment, meeting basic human needs and maintaining the social, economic and political structure of the affected community. Response also includes the execution of emergency operations plans and incident mitigation activities designed to limit loss of life, personal injury, property damage, and other unfavorable outcomes.

Recovery – Recovery involves actions and implementation of programs necessary to help individuals, communities and the environment directly impacted by an incident to return to normal where feasible. These actions assist victims and their families, restore institutions to regain economic stability and confidence, rebuild or replace destroyed property, address environmental contamination and reconstitute government operations and services. Recovery actions often extend long after the incident itself. Recovery programs may include hazard mitigation components designed to avoid damage from future incidents.

9. Situation

The City of Louisville is included in the Boulder County Hazard Mitigation Plan, which includes the following excerpts:

Community Profile: The City of Louisville is a home rule municipality with 8 square miles within the municipal boundaries. The city lies in southeastern Boulder County roughly six miles east of the City of Boulder and 25 miles northwest of Denver. The Louisville area is characterized by generally flat lands and low hills with some gently rolling terrain trending toward Coal Creek and Rock Creek.

Demographics:

a. Population: 21,226 (2020 Decennial Census)
b. Households: 7,963 (2023 ACS 5-yr est.)
c. Median Household Income: $149,159 (2023 ACS 5-yr est.)
d. Housing: 8,929 (2020 Decennial Census)
e. Education: 68.1% Bachelor's degree or higher (2023 ACS 5-yr est.)
f. Race and Ethnicity: 1,737 Hispanic or Latino (202 Decennial Census)
g. Median Age: 41.8 (2023 ACS 5-yr est.)

Climatology: Louisville has a semi-arid climate with cold, dry winters and warm summers, characterized by significant daily temperature fluctuations and low humidity. The average high temperature in July is 87.9 degrees, while the average low temperature in December is 33.1 degrees. The City receives approximately 17 inches of precipitation annually. Louisville can be impacted by the Chinook winds, which are warm, dry and fast-moving winds that descend the eastern slopes of the Rocky Mountains. These winds can cause warm, dry conditions, and may increase the risk of wildfires.

Hazard Analysis Summary: This plan is written in a generic, "all-hazards" style which not only covers natural hazards such as wildfires, floods, and winter storms

but mentions human-made and technological hazards as well. In-depth information on these and other hazards is found online within the Boulder County Hazard Mitigation Plan, found at this link: https://boulderodm.gov/wp-content/uploads/2020/12/hazard-mitigation-plan.pdf.

Natural Hazards Common to Louisville

Flooding: Local flooding, usually caused by heavy stationary thunderstorms, most often occurs in the spring, summer and possibly even in early fall months. Damage potential is greatest within 20 — 30 vertical feet of an existing streambed. Areas in and below land burned by wildfire have an increased risk of flooding. The main sources of flooding on Coal Creek are heavy thunderstorms in spring and summer. Flooding can become especially severe when these thunderstorms follow rapid snowmelt or prolonged rainy weather.

Boulder County experienced a major flood event in 2013 which also impacted the City of Louisville. During this event, the County Road bridge was washed out, and the Coal Creek Golf Course suffered severe damage, along with other impacts to local infrastructure and facilities.

Severe weather - Severe weather produces such events as extreme heat, high winds, snow, ice, heavy rainfall, tornadoes, flooding or a combination thereof. Strong winds, microbursts and downdrafts can create localized damage. Communities within Boulder County have experienced several large severe weather incidents.

Thunderstorms and Hail – Thunderstorms are a common weather occurrence in Louisville. They occur mostly during summer months and can produce lightning, heavy rain, strong winds, hail, flash flooding and tornadoes. Lightning associated with dry thunderstorms can also cause wildfires. Severe storms and hail have caused localized flooding, power outages, and other related problems. The hail season runs from March through October.

Drought – Even in high moisture years, Colorado rainfall does not produce a consistent, dependable water supply throughout the year. Severe drought results in negative economic consequences for agriculture, forestry, wildlife management, the environment and tourism in Colorado. Recorded drought history includes severe droughts in 1894, 1930-1937, 1976-1977, 2002 and

2012. Wildfire as a result of drought can affect the watershed of the area that supports Louisville water supply.

Wildfire – The 2021 Marshall Fire, which resulted in the loss of more than 550 homes in Louisville, and nearly that same amount in the surrounding area, demonstrated the wildfire risk in the grasslands of eastern Boulder County. The fire occurred on December 30, 2021, as a result of extremely high winds over a landscape that had little moisture over the previous fall.

Other potential hazards for Louisville

Dam Failure – Dam failure is a technological threat. There are 24 Class I (High Hazard) and 16 Class II (Moderate Hazard) dams in Boulder County. The failure of any of these dams has the potential of causing extensive property damage and possibly the loss of life. Many of these dams were constructed in the early 1900's, making age a concern.

Terrorism – The residents of Louisville and Louisville's public and private infrastructure are at risk for terrorism (domestic and international) and national security incidents. These incidents could take the form of threats and hoaxes, chemical, biological, radiological, nuclear, small-scale conventional weapons or explosives, large improvised explosives or cyber-attacks.

Hazardous materials - Hazardous materials used in industry, agriculture and homes pose a daily hazard to people and the environment. Residents are vulnerable to the adverse effects of accidental leakage of hazardous materials or a deliberate act using these materials. BOEM and the Boulder County Local Emergency Planning Committee (LEPC) prepare and maintain the Hazardous Material Incidents Title III Emergency Response Plan which is located: www.bouldercountyhazmat.org/resources.html This plan contains a framework for response arising at any facility required to report under EPA guidelines (storage of hazardous materials above thresholds and subject to planning requirements under Title III of the 1986 Superfund Amendments and Reauthorization Act). In addition, information regarding the Emergency Planning and Community Right-to-Know Act may be found: https://www.epa.gov/epcra The steady growth in the use of chemicals has resulted in an increased need to transport these materials. Trucks transporting hazardous materials are restricted to designated routes.

Additionally, hazardous materials may be transported by train along the BNSF line in eastern Louisville.

Other hazards less likely to affect Louisville: Although less likely, other hazards include landslides, earthquakes and tornadoes.

Consequences of Disasters:

Disaster planning is based on the premise that all disasters present similar concerns which demand multi-agency/discipline response at all levels of government and the private sector. Dealing with these concerns is the goal of this EOP. By establishing baseline consequences, stakeholders can be identified, and actions can be taken to address the issue(s).

The following issues are considered primary consequences anticipated in any disaster: loss of human life, injured/ill people, displaced individuals, damaged or destroyed property, loss of emergency and essential services, loss of critical infrastructure, economic damage, financial impact/unplanned expenses, environmental damage/increase health and safety hazards, psychological damage, companion animal issues, livestock and wildlife issues and debris.

10. Planning Assumptions

The City of Louisville government must continue to function under all threat, emergency and disaster conditions. Continuity of government/continuity of operations plans shall be developed in accordance with this Plan and the National Response Framework.

c. Incidents will typically be managed at the City of Louisville government level. Louisville should not plan on the arrival of State or Federal response until approximately 24-72 hours after the incident has concluded.
d. Personal preparedness and self-help are paramount for the residents of Louisville. The BOEM provides materials and classes to assist the public with personal preparedness activities. In addition, City employees and Louisville residents are occasionally offered Emergency Preparedness training by the Louisville Police Department, Louisville Fire Protection District, and Louisville Recovery and Resiliency Division.
e. An emergency or disaster can occur at any time and at any location. Warning time available to implement this plan will vary from little or no warning to days or weeks, depending on the type of hazard.

f. Information sharing occurs across multiple levels of government, the community and private sector. The public expects government to keep them informed, to the extent possible, and to provide guidance and assistance in these situations. When provided information, the public can be expected to make sound personal decisions when presented with clear and concise information.
g. The premise of the National Response Framework, the State EOP, along with the Bouler Emergency Operations Plan (BEOP) presumes all levels of government share responsibility for working together to prevent, prepare and respond to an emergency or disaster event. This assumption pertains to the recovery state as well.
h. Local government officials will perform their responsibilities regarding public safety and protection of property. The City has limited staff and resources. City staff will be called upon to perform non-routine tasks in support of disaster response and recovery. Mutual aid may be requested on an as-needed basis.
i. With the increased possibility of terrorism, any biological or technological incident must be approached as if it could be an act of terrorism.
j. The National Incident Management System (NIMS), will be used as the incident management system for all levels of response. The Incident Command System (ICS) will also be utilized.
k. The Boulder County Emergency Operations Center (BEOC) will be requested for incidents which could overwhelm the City's resources or for incidents impacting multiple communities including Louisville.
l. The City of Louisville shall comply with resource ordering through Boulder County ODM when the situation dictates.

11. Concept of Operations

It is the intent of the City of Louisville to reasonably work toward the protection of life, property and the environment from the effects of emergencies or disasters within our community. City of Louisville officials have the primary responsibility for emergency management activities which mitigate hazardous events and for the preparation for, response to and recovery from significant emergency and disaster events which do occur.

The City of Louisville outdoor warning system ~~sirens~~, operated by Boulder County, are tested regularly. Three sirens are in Louisville, one near the Coal Creek Golf Course along Dillon Road, one on the east side of Hwy 42 north of Empire Road, and

one near the City's Water Treatment Plant at 1955 Washington Avenue. In 2025, the County installed new technology, which will provide warnings for floods, severe weather, wildfires, or other emergency situations.

Residents or those who work in the City of Louisville should sign up for the BoCoAlerts Emergency Notification System for their mobile phones via the Boulder County ODM.

a. If a disaster emergency occurs within Louisville, response by the City, emergency agencies and county government(s) concerned will be required. Trained personnel utilizing prearranged plans and procedures will be prepared to make a coordinated effort necessary to meet a threat to life and/or property.
b. When response to a disaster emergency exceeds City of Louisville government capabilities, assistance may be requested from Boulder County. The City Emergency staff will request the Boulder Emergency Operations Center (BEOC) be activated for incidents which could overwhelm the City's resources.
c. The City of Louisville City Manager, the Louisville Chief of Police, or the Louisville Fire Protection District Chief will make and coordinate requests for assistance with the BODM.
d. This EOP is based on the concept emergency response functions will generally modify the normal daily operation of local government. Day-to-day functions which would not contribute to emergency operations may be suspended for the duration of the emergency and recovery period. Resources normally required for day-to-day operations may be redirected for accomplishment of emergency tasks.
e. The EOP may be activated fully or in part by the Louisville City Manager, the Louisville Chief of Police, or the Louisville Fire Protection District Chief, as the situation requires.
f. Essential Department Operations Functions (DOC) for the City of Louisville only and the Essential Support Functions (ESFs) for the County EOC are detailed in the Louisville EOP. Threat specific responses to hazards which impact the City of Louisville are also delineated in the annexes of this plan.
g. An analysis of the major hazards facing the City of Louisville is provided in the Boulder County Multi-Hazard Mitigation Plan on file with the Boulder Office of Emergency Management.

12. Phases of Emergency Management

Below are basic descriptors of the four phases, fully defined in the definitions:

- Mitigation - this involves actions to interdict, disrupt, pre-empt or avert a potential incident. Mitigation includes obtaining homeland security intelligence and law enforcement efforts to prevent terrorist attacks.
- Preparedness – under the NIMS, preparedness encompasses developing plans, training and preparing should a disaster of any nature occur in the City of Louisville.
- Response – the response to address the immediate and short-term actions to preserve life, property, environment and the social, economic and political structure of the community.
- Recovery – involves actions and implementation of programs needed to help residents, businesses and the community return to normal.

13. Priorities

The City of Louisville has listed the operational priorities in order of importance:

I. Save human lives;
Treat the injured;
Warn the public;
Shelter persons in place;
Evacuate people;
Shelter and care for those evacuated;
Save animals – domestic pets and livestock; and
Coordinate with Public Health Officials.

I. Protect Property
II. Protect the Environment
III. Stabilize the Economy
IV. Recover and Restore the Community

14. Roles and Responsibilities

All City of Louisville Department Directors are responsible for preparing plans and their employees should a disaster occur, providing pertinent disaster training for their employees and developing continuity of operations plans (COOP) for carrying out assigned primary and support duties. Department plans shall adhere to the general principles and structure of the NIMS concept. Department Heads and Managers should take assigned and designated courses per the Louisville Emergency Training Matrix. In addition, Department Directors shall:

- Identify functions to be performed during an incident and assign responsibility for performing those functions.
- Provide representatives as needed to the Louisville DOC to coordinate emergency response functions with those of other agencies represented therein unless representatives respond to the appropriate County EOC;
- Ensure the DOC or EOC is informed during an incident by reporting events and activities in a timely fashion;
- Maintain complete and accurate records of all incident costs and expenditures to include personnel qualification, time, overtime, vehicle mileage, goods, machine hours and emergency disbursements; and
- Ensure complete and current resource lists and on-call personnel lists are provided to the DOC or EOC in a timely basis to assist in providing resources and personnel for large-scale incidents.

Specific roles are detailed below:

City Manager - CoL

- Serve as the City's designated Emergency Manager;
- Notify the Mayor; have the Mayor declare a local disaster as appropriate;
- Provide direction to Department Heads before, during and after a disaster;
- Establish/supervise public information from the Public Information Officer (PIO);
- Issue public proclamations relative to emergency disaster matters;
- Activate DOC;
- Authorize and approve emergency, post emergency or disaster recovery operations; and
- If responding to a county EOC activation, serve on and with the Board of Directors who make up the Policy Group. During an emergency, the Board of Directors have the authority to direct resources as necessary.

Louisville Chief of Police - CoL

- Implement the City of Louisville Emergency Operations Plan, either all or in part, as determined by the situation;
- Coordinate efforts related to emergencies, disasters, and incidents of significance;
- Determine critical resource needs and acquire resources;
- Coordinate mutual aid assistance;

- Activate and operate the DOC as needed;
- Determine the need for evacuation and relocation and establish sites in coordination with the Parks, Recreation and Open Space Director;
- If responding to a county EOC activation, serve on and with the Law Enforcement Leaders who make up the Police Group; and
- Review/update the EOP on a yearly basis.

Deputy City Manager - CoL

- Develop mutual aid assistance agreements;
- Prepare emergency or disaster declarations for issuance by the Mayor as necessary;
- If responding to a county EOC activation, serve on and with the Board of Directors who make up the Policy Group should the City Manager not be available. During an emergency, the Board of Directors have the authority to direct resources as necessary.
- Schedule and conduct local training programs and exercises;
- Maintain liaison with City, County, state and Federal agencies; and
- Review/update the EOP on a yearly basis.

Louisville Police Department (LPD) - CoL

- Provide a member to staff the DOC;
- Under direction of the Command Staff, establish and maintain law and order throughout the City;
- Notify key City officials regarding the nature of the emergency or disaster;
- Issue emergency alerts and directives as needed;
- ~~Assist~~ Coordinate with the Louisville Fire Protection District (LFPD) any search and rescue activities;
- Control traffic and access to the scene of a disaster;
- Establish a unified field command post if required; and
- Initiate evacuation of persons ~~or persons~~ who are or may be threatened by imminent disaster, after advising the City Manager of the need. LPD shall take necessary action to evacuate threatened persons in an emergency situation without consulting the City Manager – however, the LPD will inform the City Manager of their action(s) as soon as possible.

Louisville Fire Protection District (LFPD):

- Provide a member to staff the DOC;

- Notify key City officials regarding the nature of the emergency or disaster;
- Coordinate and direct search and rescue activities;
- Control fires and respond to hazardous material incidents;
- Establish a unified field command post when needed;
- Issue emergency alerts and directives as needed;
- Coordinate aircraft and aviation support as required; and
- Initiate evacuation of persons ~~or persons~~ who are or may be threatened by imminent disaster, after advising the City Manager of the need. LFPD shall take necessary action to evacuate threatened persons in an emergency situation without consulting the City Manager – however, the LFPD will inform the City Manager of their action(s) as soon as possible.

Boulder Regional Communications Center:

- Allocate and manage communication frequencies and resources;
- Issue warnings to the hearing impaired through the TDD system; and
- Maintain coordinated communications for emergency activities through the established BEOC or Louisville DOC.

Communications Manager/PIO - CoL

- Ensure appropriate communications are frequently provided to internal and external customers;
- Coordinate with Boulder County's Communication Group to support messaging; and
- Provide a member to the DOC or the appropriate EOC.

Public Works Director - CoL

- Provide a member to staff the DOC;
- Develop and implement plans and procedures for the central control and repair of all transportation needed to assist emergency utilization of all City vehicles. Privately owned resources and facilities may be utilized as authorized by the City Manager in accordance with the disaster;
- Advise the City Manager in the establishment of priorities for decontamination, rehabilitation and restoration of damaged City property and other essential facilities necessary to operate local government which contributes to the emergency welfare of the population;
- Coordinate the repair and restoration of water systems, water treatment, wastewater treatment, and wastewater collection systems;

- Emergency shutdown of utilities to prevent damage and monitoring the repair and restoration of utilities including provisions of systems to provide emergency sources of electricity, gas and potable water;
- Assist in facilities protection and emergency repairs to City buildings, streets, utilities and other essential facilities based on the priority.
- Provide damage assessment information to the City Manager on streets, buildings and equipment belonging to the City and under the control of the Public Works Department;
- Provide emergency traffic engineering and traffic control measures in coordination with the LPD;
- Assist in decontamination of City facilities, streets, areas and equipment during a radiological environment or hazardous material spill; and
- Provide direction to the street maintenance supervisors and other supervisors as appropriate.
- Compile necessary paperwork regarding disaster relief assistance which can be presented to the State and Federal Government.

Community Development Director - CoL

- May need to provide a member to staff the DOC;
- Identify significant population concentrations within the City;
- Develop and coordinate a damage assessment system;
- Support any recovery efforts for private properties and businesses; and
- Conduct mitigation studies and make recommendations which will reduce disaster vulnerability.

Support Services

This service area covers Financial Services, Human Resources, and Information Technology

- May need to provide a member or members to staff the DOC;
- Establish and support any behavioral needs for employees;
- Monitor injuries and/or deaths of City employees. Notify City Manager and ensure appropriate documentation is completed and maintained;
- Establish and coordinate a record keeping system which will reflect all disaster-related expenditures and costs; and advise the City Manager on Personnel and Finance matters. Finance should follow appropriate procurement procedures to include Federal procurement procedures based on 2 CFR 200.318.

- Provide all geospatial services requested during and after an emergency or disaster.
- Coordinate data acquisition and management from other cities, counties, and agencies for disaster related data.
- Provide operational support regarding all technology issues.
- Provide communications and IT support by:
    - Providing and identifying the need for additional cellular and telephone service.
    - Provide computer and network troubleshooting.
    - Procure any additional software or hardware needed to support the operations.

Parks, Recreation and Open Space Director - CoL

- May need to provide a member or members to staff the DOC;
- Provide staff members to assist with emergency including clean-up, maintenance, public works assistance, etc.;
- Utilize the Louisville Recreation and Senior Center for disaster relief; and
- Liaison with the American Red Cross.

Boulder County Coroner

- Advise the City Manager, City Council, and the Health Department on matters pertaining to the disposition, handling and identification of the dead;
- Organize mortuary and graves registration support teams;
- Establish a morgue and direct the identification and burial of the dead; and
- Provide information to next of kin concerned deceased individuals.

Boulder County Animal Protection Services

- Boulder County handles all large and small animal evacuations. Agreements are in place through the ~~Boulder County~~ Humane Society of Boulder Valley for household pets.

Boulder County Human Services

- Develop and establish sheltering operations; and
- Coordinate community donations.

Boulder County Public Health

- Coordinate with hospitals and ancillary facilities on evacuation, and response operations.
- Provide support to Louisville on public health needs including planning, response and recovery efforts.

American Red Cross

- Provide emergency nursing care, food and shelter to disaster victims as required;
- Provide clothing and/or personal care articles to disaster victims;
- Provide feeding for operations personnel in the DOC and in the field;
- Register displaced persons and provide information services;
- Register volunteers working disaster operations;
- Provide casualty locate information to the DOC or County EOC as appropriate;
- Assist in damage assessment of private property; and
- Staff Disaster Assistance Centers.

Boulder Valley School District

- Ensure the safety and protection of students and school personnel; and
- Provide transportation (buses) upon request from the EOC or Louisville DOC.

City Attorney - CoL

- Function as the principal legal advisor to the City Manager, City Council, and Department Directors;
- Interpret laws and regulations issued by the Federal and State Government; and
- Prepare and recommend resolutions, proclamations and other legal documents for City Council action.

State Government

The Colorado Division of Emergency Management (CDOEM) is responsible within their statutory CRS 24-33.5-703 to provide assistance and support to local jurisdictions when local resources are unable to cope with an incident of significance. These agencies are responsible for implementing assigned Colorado State Emergency Functions when the State EOP is implemented. The operations role, responsibilities and intra-organizational relationships of State departments are described in detail in the assigned State Emergency Function Annexes.

Federal Government

The Federal government has responsibilities to respond to national emergencies and to provide assistance to states when an emergency or disaster exceeds their resource capability. The Department of Homeland Security has the overall responsibility for the coordination of Federal emergency/disaster relief programs and supporting local and State government capabilities with resources. The roles and responsibilities of Federal resource providers are outlined in the National Response Framework.

Non-Governmental Organizations

Several non-governmental organizations will provide assistance to meet essential needs during an incident. Some organizations with existing memorandums of understanding, memorandums of agreement or mutual aid agreements with the Boulder County have been assigned supporting roles to specific emergency support functions.

15. Incident Types

NIMS/ICS establishes the following as an aid to categorize the size and magnitude of an incident. The City will utilize these levels when describing an incident to responders and others within the NIMS/ICS including County/State and/or Federal officials. They are scaled such that a Type V is the least complex and a Type I is the most complex. Below are brief descriptions of Type V – Type I.

Type V – No DOC or County EOC Activation Necessary – typically involves one or two single resources with up to six personnel needed to mitigate the incident. An example is a traffic stop or vehicle fire.

Type IV – DOC or County EOC Activation may be Necessary – several resources are required to mitigate the incident which is usually limited to one operation period. An example is a small grass fire or multi-vehicle accident.

Type III – DOC or County EOC Activation may be Necessary - requirements exceed initial response and multiple agencies may become involved. The incident may extend into multiple operation periods; written IAPs are required for each operation period. An example could involve a large structure fire, a blizzard, flooding or a school hostage situation.

Type II – DOC and County EOC Activation is Necessary – this incident extends beyond the capabilities for local control and is expected to last throughout multiple

operation periods. Written IAPs are required for each operation period. The EOC Policy Group has overall oversight of the incident and the County OEM is responsible for the incident complexity analysis. An example could be an act of terrorism or flooding where a significant number of residents are affected.

Type I – DOC and County EOC Activation is Necessary - this is the most complex incident type and requires national resources to safely and effectively manage the incident. The County EOC and State EOC are activated; the incident has significant impact on the county; and operations personnel often exceed 500 per operational period. An example could be a pandemic flu situation or widespread hostile actions.

Section 7: Department Operations Center (DOC)

Based on the current size of the City, the City will typically utilize a DOC strategy rather than filling the ESF positions. A DOC may be virtual, in person, or a hybrid of both. When the Department operations center (DOC) is activated as the City of Louisville's command post, Department Heads or their designee(s) will staff the DOC as appropriate. Shift assignments will be made to maintain 24/7 hours of operation. Typically, the DOC would be staffed in either eight (8) hour or twelve (12) hour shifts with the following departments:

- 1 representative from Louisville PD
- 1 representative from Communications, unless this representative has been sent to the County EOC.
    - The City has a crisis communication team dedicated to communications to staff and the public. Members of this group could be used to support the DOC and communications efforts.
- 1 representative from Public Works
- Possibly 1 representative from Parks, Recreation and Open Space
- Possibly 1 representative from Community Development
- Possibly 1 representative from Finance
- Possibly 1 representative from HR
- Possibly the City Manager, Deputy City Manager, and/or a City Council member as needed.
- Possibly 1 representative from IT

- Information Technology staff will be tasked with setting up the DOC with adequate computers and phones. They will also need to maintain connectivity until the DOC is deactivated.

Individuals staffing the DOC, will remain in their normal roles based on their current assignment per department. Note: All overtime (OT) accrued for a specific incident will be properly documented and tracked.

The goal of the DOC is to assist members in the field with resource needs to include scheduling, food, breaks, and other necessary items/resources needed to get the City back to normal operations. Members of the DOC will also liaison with County EOCs should they be activated.

For a catastrophe or other disaster which is much larger than the City of Louisville can reasonably handle, the majority of City resources may be sent to the field while other resources may be sent to the appropriate County EOC to assist.

Those responding to a County EOC would fill the ESF roles listed on pages 35-36 as appropriate based on their skill level and expertise.

Section 8: Essential Support Functions (ESF's)

Emergency Support Functions Should Response to the County Emergency Operations Center be Necessary

Emergency Support Functions (ESF) Overview

When an emergency or disaster situation occurs, there are certain common types of assistance likely to be required. These common types of assistance have been grouped functionally into areas termed Emergency Support Functions (ESF).

City of Louisville departments and organizations have been assigned responsibilities for developing, implementing, and maintaining these functions. Assignments are made based on the department's programmatic, or regulatory authorities and responsibilities. Emergency Support Function Annexes contain detailed information associated with a specific ESF. In the event a local emergency requires BEOC activation, City of Louisville ESFs will work directly with corresponding County, State, and Federal ESFs.

Departments and agencies are assigned to lead or supporting roles as related to the Emergency Support Functions and the development of the corresponding annexes. The responsibilities of each of these positions are:

1. Lead – Responsible for planning, coordinating and tasking support departments and agencies in the development of policies, procedures, roles and responsibilities and requirements of the ESF and its operational requirements. Develops and maintains the ESF Annex to this plan.
2. Supporting – Those assigned a supporting role for a given ESF will cooperate with the lead department in carrying out the assigned missions and will cooperate in Emergency Support Function development, training and exercising.

Departments not assigned to specific Emergency Support Functions will serve as a reserve of material and personnel resources, which may be required to perform previously unassigned tasks or supplement other response agencies.

City of Louisville Emergency Support Functions Matrix

City of Louisville Emergency Support Functions Matrix			
		Lead Agency	Support Agency
ESF 1A	Transportation	DPW	Police, Community Development Public Works
ESF 1B	Evacuations	Police	LFPD, BODM, BCSO
ESF 2A	Communications	Information Technology / CoL Communications	Police, BCCC
ESF 2B	Warning	BCCC, Police	ODM, LFPD , CoL Communications
ESF 3	Public Works & Engineering	DPW	Public Works, Community Development
ESF 5	Situational Awareness	Police, LFPD	DPW, BCSO
ESF 6	Mass Care	American Red Cross	Police, PROS, BODM, Boulder County Human Services, Humane Society of Boulder County
ESF 7	Resource Management	Finance/CMO	DPW, City Clerk, PROS
ESF 8	Public Health	Boulder County, LFPD	Police

ESF 9	Search and Rescue	LFPD	Police
ESF 10	Hazardous Materials	LFPD, Boulder County Haz Mat Response	DPW
ESF 11	Natural Resources & Agricultural Protection	PROS	DPW
ESF 12	Energy and Utilities	DPW	Xcel Energy, Century Link
ESF 13	Public Safety	Police	LFPD, Boulder County Sheriff
ESF 14	Impact Assessment	DPW, Community Development	Finance, Information Technology
ESF 15	External Affairs	CMO, Police	BODM
ESF 16	Education & Public Schools	BVSD	Police
ESF 17	Communications Center	BCCC	BODM
ESF 18	Emergency Medical Services	LFPD	BODM, Local Hospitals, Regional Healthcare Partners
ESF 19	Volunteer & Donations Management	Boulder County Human Services	Cultural Services
ESF 21	Animal Management	Boulder County	PROS
ESF 22	Cultural Resources & Historic Preservation	Cultural Services	Community Development
ESF 23	Community Engagement	Cultural Services	PROS
ESF 24	Coroner	Boulder County Coroner	LFPD, Police
ESF 25	Meteorology	BODM	CMO
ESF 26	GIS/Mapping	Information Technology	Police
ESF 27	Business & Economic Vitality	Community Development	CMO

ESF 28	Water Resource Infrastructure	Utilities	Utility staff from surrounding agencies
ESF 29	Cybersecurity	Information Technology	BODM
ESF 30	Call Center	CMO	Information Technology, PROS

Agency Key:

BCCC = Boulder County Communications Center
BCSO = Boulder County Sheriff's Office
BODM = Boulder Office of Disaster Management
CISD = Communication & Information Services Division
CMO = Louisville City Manager's Office
DPW = Louisville Department of Public Works and Utilities
LFPD = Louisville Fire Protection District
PROS = Louisville Parks, Recreation, and Open Space

ESF 1A: Transportation	
City of Louisville Lead:	Public Works
City of Louisville Support:	Police Department
	Community Development

Purpose:
The purpose of ESF 1A is to coordinate the use, protection, and restoration of the city's transportation systems during emergencies. This function ensures that roads, transit routes, and transportation infrastructure remain operational and accessible to support emergency response, evacuation, logistics, and recovery. The Louisville Police Department, Public Works Department, and Community Development Division provide coordinated support for transportation operations.

Scope:
ESF 1A includes the following responsibilities and activities:

- **Transportation System Monitoring and Management:**
  Monitor the status of roadways, bridges, bike paths, and transit routes. Identify and address transportation disruptions caused by flooding, debris, structural damage, or other hazards.
- **Support for Emergency Response and Evacuation:**
  Coordinate traffic control, route clearance, and access for emergency vehicles. Support ESF 1B (Evacuations) by identifying and maintaining safe evacuation routes and detours.
- **Infrastructure Assessment and Repair:**
  Conduct rapid assessments of transportation infrastructure and coordinate emergency repairs. Public Works leads field operations, while Community Development supports permitting and structural evaluations.
- **Traffic Control and Public Safety:**
  The Louisville Police Department manages traffic control points, road closures, and escorts for emergency convoys. Coordinate with mutual aid partners for large-scale incidents.
- **Support for Mass Care and Logistics:**
  Facilitate transportation of evacuees, emergency personnel, supplies, and equipment. Coordinate with ESF 6 (Mass Care) and ESF 7 (Resource Management) to support sheltering and logistics operations.
- **Public Information and Alerts:**
  Provide timely updates on road closures, detours, and transportation hazards through coordination with the Joint Information System (JIS) and ESF 2B (Warning).
- **Support for Vulnerable Populations:**
  Identify transportation needs for individuals with access and functional needs.

Coordinate with human services and transit providers to ensure inclusive transportation options.

- **Recovery and Restoration:**
  Support long-term recovery by prioritizing transportation infrastructure repairs and integrating resilience measures into rebuilding efforts.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to report transportation status, request resources, and support operational planning.
- **Training and Preparedness:**
  Participate in planning, training, and exercises to ensure readiness for transportation-related emergencies and interdepartmental coordination.

ESF 1B: Evacuations	
City of Louisville Lead:	Police Department
City of Louisville Support:	LFPD
Supporting Agencies:	BODM
	BCSO

Purpose:
The purpose of ESF 1B is to coordinate the safe, timely, and orderly evacuation of individuals from areas threatened by emergencies or disasters. This function ensures that evacuation operations are well-planned, clearly communicated, and executed in a way that prioritizes life safety, particularly for vulnerable populations. The Louisville Police Department leads evacuation coordination, with operational support from the Louisville Fire Protection District (LFPD) and mutual aid agencies.

Scope:
ESF 1B includes the following responsibilities and activities:

- **Evacuation Planning and Coordination:**
  Develop and maintain evacuation plans, including pre-identified zones, routes, and transportation resources. Coordinate with the Boulder Office of Disaster Management and EOC for activation and support.
- **Incident Command and Field Operations:**
  The Louisville Police Department and LFPD lead field-level evacuation operations, that may include direct -notification,traffic control, and coordination with emergency responders and transportation providers.
- **Public Warning and Instructions:**
  Coordinate with ESF 2B (Warning) to issue evacuation alerts through Everbridge, IPAWS, and other systems. Provide clear, consistent and accessible instructions to the public regarding evacuation routes, timelines, and shelter locations.
- **Transportation Support:**
  Identify and coordinate transportation resources for individuals without access to personal vehicles, including those with access and functional needs. Work with human services and transit providers to ensure inclusive evacuation support.
- **Security and Access Control:**
  Ensure evacuated areas are secured to prevent unauthorized access and protect property. Coordinate re-entry procedures with law enforcement and emergency management.
- **Support for Vulnerable Populations:**
  Prioritize evacuation assistance for individuals with disabilities, older adults, children, and others requiring additional support. Coordinate with human services and community organizations to identify and assist at-risk residents.

- **Shelter Coordination:**
  Coordinate with ESF 6 (Mass Care) to ensure evacuees are directed to appropriate shelters or temporary housing. Provide transportation and logistical support as needed.
- **Mutual Aid and Regional Support:**
  Activate mutual aid agreements with neighboring jurisdictions and regional partners to support large-scale or complex evacuations.
- **Training and Exercises:**
  Conduct regular evacuation drills and tabletop exercises with city departments, schools, care facilities, and community partners to ensure readiness.
- **Documentation and After-Action Review:**
  Track evacuation operations, including routes used, populations moved, and challenges encountered. Contribute to after-action reviews and continuous improvement of evacuation plans.

ESF 2A: Communications	
City of Louisville Lead:	Information Technology & CoL Communications
City of Louisville Support:	Police Department
Supporting Agencies:	BCCC

Purpose:
The purpose of ESF 2A is to ensure the continuity, reliability, and interoperability of communications systems that support emergency response and coordination. Led by the City of Louisville's Information Technology Department and Communications Department, this function focuses on the setup, maintenance, and support of voice, data, and radio communications infrastructure. Operational control of emergency messaging and dispatch communications is managed by the Boulder County Communications Center (BCCC) and the Boulder Office of Disaster Management (BODM).

Scope:
ESF 2A includes the following responsibilities and activities:

- **Communications Infrastructure Setup and Support:**
  Deploy and maintain communications equipment and networks to support the EOC, field operations, and mobile command units. Ensure connectivity for phones, internet, radios, and data systems.
- **Interoperability and Redundancy:**
  Ensure interoperability between city, county, and regional communications systems, including radio talk groups, satellite phones, and backup internet solutions. Maintain redundant systems to ensure continuity during outages or system failures.
- **Support to the EOC and Field Operations:**
  Provide technical support for communications systems used in the EOC and by field personnel. Set up workstations, video conferencing, secure networks, and data-sharing platforms.
- **Coordination with Messaging Authorities:**
  Work in close coordination with BCCC and BODM, who are responsible for issuing emergency alerts, dispatch communications, and public warning messages. Ensure systems are functioning to support timely and accurate messaging.
- **Cybersecurity and Network Protection:**
  Implement cybersecurity measures to protect communications infrastructure from cyber threats. Coordinate with ESF 29 (Cybersecurity) to ensure secure and resilient systems.
- **Equipment Inventory and Deployment:**
  Maintain an inventory of communications equipment, including radios, routers,

mobile hotspots, and backup power supplies. Deploy equipment to support incident command posts, shelters, and field operations as needed.

- **Training and Technical Assistance:**
  Provide training and just-in-time support to city staff and emergency responders on the use of communications tools and platforms.
- **Monitoring and Troubleshooting:**
  Monitor system performance and respond to outages or technical issues during emergency operations. Coordinate repairs and vendor support as needed.
- **Preparedness and Planning:**
  Participate in planning, training, and exercises to ensure readiness of communications systems and personnel. Update communications plans and protocols regularly.

ESF 2B: Warning	
City of Louisville Lead:	BCCC & Police Department
	BODM
City of Louisville Support:	Communications
Supporting Agencies:	LFPD

Purpose:
The purpose of ESF 2B is to ensure the timely and effective dissemination of emergency warnings and alerts to the public and response partners. Led jointly by the Louisville Police Department, Boulder County Communications Center (BCCC) and the Boulder Office of Disaster Management (BODM), this function supports the activation and coordination of public warning systems to protect life and property during emergencies. The Louisville Communications Department and Louisville Fire Protection District (LFPD) provide operational support and field coordination.

Scope:
ESF 2B includes the following responsibilities and activities:

- **Activation of Public Warning Systems:**
  Initiate and manage emergency alerts through systems such as Everbridge, IPAWS (Integrated Public Alert and Warning System), Wireless Emergency Alerts (WEA), Emergency Alert System (EAS), and outdoor warning sirens.
- **Message Development and Approval:**
  Coordinate with the Joint Information System (JIS) and incident command to develop consistent, clear, accurate, and actionable warning messages. Ensure messages are approved and disseminated quickly.
- **Multi-Channel Dissemination:**
  Use multiple platforms to reach the public, including text alerts, phone calls, emails, social media, websites, radio, and television. Ensure redundancy and broad coverage.
- **Support from Local Agencies:**
  The Louisville Police Department and LFPD may assist with field-level warning operations, direct notifications, and mobile PA systems during evacuations or localized threats.
- **Targeted and Accessible Messaging:**
  Ensure alerts are accessible to individuals with disabilities, non-English speakers,

and those with limited access to technology. Use geotargeting and language translation tools where appropriate.

- **Situational Awareness and Monitoring:**
  Monitor evolving threats (e.g., wildfire, flash flooding, hazardous materials, civil unrest) and coordinate with ESF 5 (Situational Awareness) to determine when warnings are needed.
- **Public Education and Preparedness:**
  Promote public awareness of alert systems and encourage residents to sign up for local notifications. Provide guidance on how to respond to different types of alerts.
- **Coordination with the EOC:**
  Maintain direct communication with the BODM EOC to ensure warning operations are integrated into the broader emergency response.
- **Documentation and After-Action Review:**
  Track all warning messages issued, including time, content, and distribution method. Evaluate effectiveness and incorporate lessons learned into future planning.
- **Training and Exercises:**
  Conduct regular training and drills with city and county partners to ensure readiness and interoperability of warning systems and procedures.

ESF 3: Public Works & Engineering	
City of Louisville Lead:	Public Works
City of Louisville Support:	Community Development

Purpose:
The purpose of ESF 3 is to coordinate engineering services and public works operations to support emergency response, protect infrastructure, and restore essential services. Led by the City of Louisville's Public Works Department, with support from Community Development, this function ensures the city's physical infrastructure is assessed, stabilized, and repaired in a timely and coordinated manner during and after emergencies.

Scope:
ESF 3 includes the following responsibilities and activities:

- **Infrastructure Damage Assessment:**
  Conduct rapid and detailed assessments of public infrastructure, including roads, bridges, buildings, utilities, and drainage systems. Coordinate with Community Development to assess structural safety and code compliance.
- **Debris Management:**
  Plan for and implement debris clearance, removal, and disposal operations to restore access and reduce public health and safety risks. Coordinate with waste management contractors and regional partners as needed.
- **Emergency Repairs and Restoration:**
  Perform or coordinate emergency repairs to restore critical infrastructure and public facilities. Prioritize work based on life safety, access, and continuity of essential services.
- **Utility Coordination:**
  Support restoration of water, wastewater, stormwater, and other utility systems in coordination with ESF 12 (Energy and Utilities). Ensure safe access to utility infrastructure for repair crews.
- **Engineering Support to Response Operations:**
  Provide technical expertise and field support to emergency operations, including site inspections, temporary structures, flood control, and access route clearance.
- **Support to the EOC:**
  Maintain a liaison in the BODM EOC to provide real-time updates, coordinate resource requests, and support operational planning.
- **Permitting and Inspections:**
  Work with Community Development to expedite permitting and inspections for emergency repairs, temporary structures, and rebuilding efforts. Ensure compliance with safety codes and regulations.

- **Public Facility Support:**
  Ensure city-owned buildings and facilities are safe and operational. Support shelter setup, staging areas, and continuity of government operations.
- **Mutual Aid and Contractor Support:**
  Activate mutual aid agreements and coordinate with contractors for additional personnel, equipment, and materials during large-scale or extended incidents.
- **Recovery and Mitigation:**
  Support long-term recovery by contributing to infrastructure repair plans, hazard mitigation projects, and resilient design standards.
- **Training and Preparedness:**
  Participate in emergency planning, training, and exercises to ensure readiness for infrastructure-related emergencies and coordination with other city departments.

ESF 5: Situational Awareness	
City of Louisville Lead:	Police Department
City of Louisville Support:	Public Works
Supporting Agencies:	LFPD
	BCSO

Purpose:
The purpose of ESF 5 is to collect, analyze, and disseminate timely and accurate information to support decision-making during emergencies. Led by the Louisville Police Department, with support from the Louisville Fire Protection District (LFPD) and the Boulder County Sheriff's Office (BCSO), this function ensures a common operating picture (COP) is maintained across all response partners through coordinated information sharing and intelligence gathering.

Scope:
ESF 5 includes the following responsibilities and activities:

- **Information Collection and Verification:**
  Gather data from field units, dispatch, public reports, partner agencies, and technical systems (e.g., GIS, weather, traffic, utilities) to build a comprehensive understanding of the incident.
- **Common Operating Picture (COP):**
  Develop and maintain a shared situational display or dashboard that reflects current conditions, resource status, incident impacts, and operational priorities. Ensure updates are accessible to all relevant stakeholders.
- **Field Intelligence and Reporting:**
  Coordinate with law enforcement, fire, and EMS personnel to provide real-time updates from the field. Use patrol units, fire crews, and mutual aid partners to verify reports and assess evolving threats.
- **Coordination with the EOC:**
  Provide situational updates to the BODM EOC, including incident summaries, maps, and status reports. Support the Planning Section in developing Incident Action Plans (IAPs).
- **Threat and Hazard Monitoring:**
  Monitor ongoing threats such as severe weather, hazardous materials, civil unrest, or infrastructure failures. Coordinate with ESF 25 (Meteorology), ESF 10 (HazMat), and other relevant functions.
- **Information Sharing and Interagency Coordination:**
  Facilitate information exchange between city departments, regional partners, and state or federal agencies. Ensure consistent messaging and data integrity across platforms.

- **Public Safety and Operational Briefings:**
  Support the development of briefings for command staff, elected officials, and operational personnel. Provide timely updates to inform tactical and strategic decisions.
- **Documentation and Recordkeeping:**
  Maintain logs, situation reports (SitReps), and other documentation to support after-action reviews, reimbursement, and historical analysis.
- **Technology and Tools:**
  Utilize GIS, CAD, RMS, and other digital platforms to support situational awareness. Coordinate with the City's IT Department for data visualization and system support.
- **Preparedness and Training:**
  Participate in planning, training, and exercises to ensure readiness for multi-agency coordination and situational awareness functions during real-world incidents.

ESF 6: Mass Care	
Lead Agency:	Boulder ODM
Supporting Agencies:	Red Cross
	Boulder County Human Services
	Humane Society of Boulder Valley
City of Louisville Support:	Police
	Parks, Recreation, and Open Space

Purpose:
The purpose of ESF 6 is to coordinate the provision of mass care services—including sheltering, feeding, and emergency assistance—to individuals and families affected by disasters. Led by the American Red Cross, this function ensures that displaced or impacted residents receive essential support in a safe, accessible, and coordinated manner, in partnership with local government, nonprofit organizations, and community-based groups.

Scope:
ESF 6 includes the following responsibilities and activities:

- **Emergency Sheltering:**
  Establish and operate emergency shelters for displaced individuals and families. Ensure shelters are safe, accessible, and equipped to meet basic needs, including accommodations for individuals with access and functional needs.
- **Feeding Operations:**
  Provide meals and snacks to shelter residents and emergency workers, either on-site or through mobile feeding units. Coordinate with local food banks, community kitchens, and other partners as needed.
- **Emergency Supplies Distribution:**
  Distribute essential items such as hygiene kits, blankets, clothing, and cleanup supplies to individuals affected by the disaster.
- **Family Reunification Services:**
  Support efforts to reconnect separated family members through tools such as the Red Cross Safe and Well system and coordination with local emergency management and law enforcement.
- **Coordination with the EOC:**
  Maintain communication with the BODM EOC to report shelter status, request resources, and align mass care operations with broader emergency response efforts.**Support for Vulnerable Populations:**
  Ensure that mass care services are inclusive and accessible to individuals with

disabilities, older adults, children, non-English speakers, and others with specific needs.

- **Volunteer Management:**
  Coordinate trained volunteers to support shelter operations, feeding, and distribution of supplies. Work with local volunteer organizations and the City of Louisville's Cultural Services Department as needed.
- **Behavioral Health and Crisis Support:**
  Provide emotional support and crisis counseling in shelters and mass care settings, in coordination with mental health professionals and community partners.
- **Transition to Recovery:**
  Assist shelter residents with transitioning to longer-term housing and accessing recovery resources, including casework, financial assistance, and referrals to community services.
- **Training and Preparedness:**
  Participate in planning, training, and exercises with local partners to ensure readiness for mass care operations and integration with city emergency plans.

ESF 7: Resource Management	
City of Louisville Lead:	Finance
	City Manager's Office
City of Louisville Support:	Public Works
	City Clerk
	Human Resources
	Police Department

Purpose:
The purpose of ESF 7 is to ensure the efficient and coordinated management of resources—including personnel, equipment, facilities, and supplies—required to support emergency response and recovery operations. This function supports the City of Louisville's ability to sustain operations, meet urgent needs, and facilitate mutual aid and logistical coordination with local, regional, and state partners.

Scope:
ESF 7 includes the following responsibilities and activities:

- **Resource Identification and Inventory:**
  Maintain and update inventories of city-owned resources and identify gaps in capabilities. Coordinate with departments to assess availability of personnel, vehicles, equipment, and materials.
- **Procurement and Logistics:**
  Coordinate emergency procurement of goods and services in accordance with city policies and emergency authorities. Manage contracts, vendor relationships, and just-in-time supply chains.
- **Resource Request and Allocation:**
  Process and prioritize resource requests from city departments and the EOC. Allocate resources based on operational priorities and incident needs.
- **Mutual Aid and External Support:**
  Activate mutual aid agreements and coordinate with regional, state, and federal partners to request or provide additional resources. Ensure proper documentation for reimbursement.
- **Staging and Distribution:**
  Establish and manage staging areas, distribution points, and logistics hubs for the receipt and deployment of emergency resources, including personnel, equipment, and donated goods.
- **Personnel Support and Credentialing:**
  Track deployment of city staff and volunteers, ensure appropriate credentialing,

and provide logistical support such as food, lodging, and transportation for deployed personnel.

- **Financial Tracking and Documentation:**
  Track costs associated with resource use and procurement to support reimbursement through FEMA or other funding sources. Maintain detailed records of expenditures and resource utilization.
- **Coordination with the EOC:**
  Maintain a logistics and resource management presence in the BODM EOC to support real-time coordination and situational awareness.
- **Recovery and Resupply:**
  Support demobilization and resupply of resources during the transition from response to recovery. Assist departments in restoring normal operations and replenishing inventories.
- **Training and Preparedness:**
  Develop resource management plans, conduct training for logistics personnel, and participate in exercises to ensure readiness for large-scale or sustained incidents.

ESF 8: Public Health	
Lead Agency:	Boulder County Public Health
	LFPD
City of Louisville Support:	Police Department Co-Responder

Purpose:
The purpose of ESF 8 is to coordinate public health and medical services during emergencies to protect the health and well-being of the community. Led by Boulder County Public Health (BCPH), this function ensures the delivery of essential public health services, disease prevention and control, environmental health monitoring, and coordination of medical and behavioral health resources during all phases of an incident.

Scope:
ESF 8 includes the following responsibilities and activities:

- **Disease Surveillance and Outbreak Response:**
  Monitor, investigate, and respond to communicable disease outbreaks, including coordination of testing, contact tracing, isolation, and quarantine measures.
- **Medical and Behavioral Health Coordination:**
  Coordinate with local hospitals, clinics, behavioral health providers, and emergency medical services to ensure continuity of care, surge capacity, and access to mental health and crisis support.
- **Public Health Messaging and Risk Communication:**
  Provide accurate, timely, and accessible public health information in coordination with the Joint Information System (JIS), including guidance on disease prevention, protective actions, and available services.
- **Mass Prophylaxis and Vaccination:**
  Plan for and implement mass dispensing or vaccination operations in response to biological threats or disease outbreaks, including coordination of Points of Dispensing (PODs).
- **Environmental Health and Safety:**
  Assess and mitigate environmental health risks related to water quality, food safety, air quality, hazardous materials, and sanitation during and after emergencies.
- **Support for Vulnerable Populations:**
  Ensure that public health services are accessible to individuals with access and functional needs, including seniors, people with disabilities, and those with limited English proficiency.
- **Coordination with the EOC:**
  Maintain a public health liaison at the BODM EOC to support situational awareness, resource requests, and integration with emergency operations.

- **Mortality Management Support:**
  Coordinate with the Boulder County Coroner's Office and healthcare providers to support fatality management, including public health guidance for mass fatality incidents or infectious disease-related deaths.
- **Public Health Preparedness and Planning:**
  Develop and maintain public health emergency plans, participate in training and exercises, and collaborate with local, regional, and state partners to enhance readiness.
- **Recovery and Resilience:**
  Support long-term recovery by addressing ongoing public health needs, monitoring community health trends, and promoting resilience through health education and outreach.

ESF 9: Search and Rescue	
Lead Agency:	LFPD
City of Louisville Support:	Police Department
Supporting Agency:	BCSO
	Boulder Emergency Squad

Purpose:
The purpose of ESF 9 is to coordinate and conduct search and rescue (SAR) operations to locate, assist, and recover individuals who are lost, trapped, or otherwise in danger due to emergencies or disasters. Led by the Louisville Police Department, with support from the Boulder County Sheriff's Office (BCSO) and other regional partners, this function ensures timely and effective SAR operations in both urban and open space environments.

Scope:
ESF 9 includes the following responsibilities and activities:

- **Search and Rescue Operations:**
  Conduct ground-based SAR operations in urban, suburban, and open space areas within the City of Louisville. This includes locating missing persons, rescuing individuals from hazardous environments, and coordinating recovery operations.
- **Incident Command and Coordination:**
  Establish and manage SAR operations under the Incident Command System (ICS), ensuring coordination with the BODM EOC and other responding agencies.
- **Mutual Aid and Regional Support:**
  Request and integrate support from the BCS, which provides specialized SAR capabilities, including K9 teams, technical rescue, and wilderness search operations.
- **Public Safety Integration:**
  Coordinate with fire, EMS, and public works for support in rescue operations, including medical care, access to difficult terrain, and technical assistance.
- **Evacuation and Reunification:**
  Support evacuation of individuals from dangerous areas and assist in reunification efforts for missing or separated persons, including coordination with shelters and family assistance centers.
- **Technology and Tools:**
  Utilize mapping tools, drones, GPS, and other technologies to enhance search efficiency and safety. Coordinate with the City's GIS team for real-time mapping and situational awareness.
- **Public Information and Notifications:**
  Work with the Joint Information System (JIS) to issue public alerts, missing person bulletins, and updates on SAR operations as appropriate.

- **Training and Preparedness:**
  Conduct regular SAR training and exercises with city departments and regional partners to maintain readiness and ensure effective coordination during real-world incidents.
- **Documentation and Reporting:**
  Maintain detailed records of SAR operations, including timelines, personnel involved, outcomes, and lessons learned for after-action reviews and continuous improvement.

ESF 10: Hazardous Materials	
Lead Agency:	LFPD
Supporting Agency:	Boulder County Haz Mat Response Team
City of Louisville Support:	Public Works
	Police Department

Purpose:
The purpose of ESF 10 is to ensure a safe, coordinated, and effective response to hazardous materials (HazMat) incidents that threaten public health, safety, property, or the environment. Led by the Louisville Fire Protection District (LFPD), this function supports the identification, containment, mitigation, and cleanup of chemical, biological, radiological, and other hazardous substance releases, in collaboration with local, regional, and state partners.

Scope:
ESF 10 includes the following responsibilities and activities:

- **Hazardous Materials Response:**
  Lead tactical response to HazMat incidents, including identification, containment, decontamination, and mitigation of hazardous substances. Deploy specialized equipment and trained personnel to manage chemical spills, gas leaks, and other threats.
- **Incident Command and Coordination:**
  Establish unified command with supporting agencies, including the Louisville Police Department, Public Works and Utilities, and the Boulder County Hazardous Materials Response Team. Ensure coordination with the BODM EOC.
- **Public Safety and Protective Actions:**
  Coordinate evacuation, shelter-in-place, and exclusion zone decisions in collaboration with law enforcement and emergency management. Ensure public safety through timely alerts and protective action guidance.
- **Environmental Protection and Cleanup:**
  Coordinate with environmental agencies and contractors to assess environmental impacts, manage hazardous waste, and oversee cleanup and remediation efforts.
- **Support to Critical Infrastructure:**
  Work with Public Works and Utilities to assess and protect water, wastewater, and stormwater systems from contamination. Ensure continuity of essential services during and after HazMat incidents.
- **Law Enforcement Support:**
  The Louisville Police Department provides scene security, traffic control, and investigative support, including coordination with state or federal law enforcement if criminal activity is suspected.

- **Technical Expertise and Mutual Aid:**
  Request specialized support from the Boulder County HazMat Team for complex or large-scale incidents. Coordinate mutual aid and regional resources as needed.
- **Public Information and Risk Communication:**
  Coordinate with the Joint Information System (JIS) to provide accurate, timely, and accessible information to the public regarding hazards, protective actions, and recovery efforts.
- **Training and Preparedness:**
  Conduct joint training and exercises with city departments and regional partners to ensure readiness for hazardous materials incidents. Maintain up-to-date response plans and inventories of hazardous materials within the jurisdiction.
- **Documentation and Regulatory Compliance:**
  Ensure proper documentation of HazMat incidents and compliance with local, state, and federal reporting requirements, including coordination with the Colorado Department of Public Health and Environment (CDPHE) and the Environmental Protection Agency (EPA).

ESF 11: Natural Resources & Agricultural Protection	
City of Louisville Lead:	Parks, Recreation, and Open Space
City of Louisville Support:	Public Works

Purpose:
The purpose of ESF 11 is to coordinate and implement actions that protect, conserve, and restore the city's natural resources, agricultural assets, and public lands during and after emergencies. This function ensures the continuity of essential ecological services, supports food and water security, and mitigates environmental hazards that may arise from disasters. It also supports the recovery of open space areas and utility-managed natural infrastructure critical to public health and safety.

Scope:
ESF 11 encompasses the following responsibilities within the city's jurisdiction:

- **Natural Resource Protection:**
  Safeguard parks, open spaces, urban forests, wetlands, and other ecological assets managed by the Open Space Department. This includes assessing damage, preventing further degradation, and initiating restoration efforts.
- **Agricultural Protection:**
  Support local food systems, community gardens, and agricultural operations by coordinating with relevant stakeholders to prevent contamination, manage animal and plant health issues, and ensure continuity of operations.
- **Water and Utility-Linked Environmental Assets:**
  Collaborate with the Utilities Department to protect water sources, reservoirs, and green infrastructure (e.g., bioswales, stormwater systems) from contamination or disruption. Ensure environmental compliance and support rapid restoration of utility-linked natural systems.
- **Animal and Plant Health:**
  Coordinate with local, state, and federal partners to manage animal disease outbreaks, invasive species, and plant health emergencies that may impact public lands or agricultural areas.
- **Public Information and Education:**
  Provide timely and accurate information to the public regarding environmental risks, resource protection measures, and recovery efforts related to natural and agricultural assets.
- **Interagency Coordination:**
  Work in partnership with emergency management, public health, environmental agencies, and non-governmental organizations to ensure a unified and effective response.

ESF 12: Energy & Utilities	
City of Louisville Lead:	Public Works and Utilities Department
Supporting Agency:	Xcel Energy, Century Link, other utility providers

Purpose:
The purpose of ESF 12 is to ensure the continuity, restoration, and coordination of essential energy and utility services during and after emergencies. Led by the City of Louisville's Public Works and Utilities Department, this function supports the protection and rapid recovery of electric, gas, water, wastewater, and stormwater systems that are critical to public health, safety, and economic stability.

Scope:
ESF 12 includes the following responsibilities and activities:

- **Utility System Monitoring and Restoration:**
  Monitor the status of city-managed utility systems and coordinate emergency repairs to restore service. Prioritize restoration efforts based on critical infrastructure, public safety needs, and vulnerable populations.
- **Coordination with Private Utility Providers:**
  Liaise with external energy providers (e.g., Xcel Energy, natural gas suppliers) to share situational awareness, coordinate restoration timelines, and support mutual aid efforts.
- **Infrastructure Protection and Damage Assessment:**
  Assess damage to utility infrastructure, including substations, pipelines, treatment plants, and distribution systems. Implement protective measures to prevent cascading failures or environmental hazards.
- **Support to the EOC:**
  Maintain a utility liaison at the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to provide updates, request resources, and support coordinated response operations.
- **Public Information and Advisories:**
  Coordinate with the Joint Information System (JIS) to issue public notices regarding outages, service disruptions, boil water advisories, conservation measures, and restoration timelines.
- **Energy Supply and Fuel Coordination:**
  Monitor fuel availability for generators, fleet vehicles, and emergency operations. Coordinate with suppliers to ensure continuity of fuel delivery during extended incidents.
- **Support for Critical Facilities:**
  Prioritize utility restoration for hospitals, emergency shelters, public safety

buildings, and other critical facilities. Provide technical support for backup power systems and emergency water supply.

- **Mutual Aid and Resource Requests:**
  Activate mutual aid agreements and coordinate with regional utility partners for additional personnel, equipment, or technical expertise.
- **Resilience and Mitigation Planning:**
  Support long-term resilience by identifying vulnerabilities in utility systems, implementing mitigation projects, and integrating energy and utility considerations into hazard mitigation and climate adaptation plans.
- **Training and Preparedness:**
  Participate in emergency planning, training, and exercises to ensure readiness for utility-related incidents, including cyber threats, severe weather, and infrastructure failures.

ESF 13: Public Safety	
City of Louisville Lead:	Police Department
Supporting Agency:	LFPD
	Boulder County Sheriff

Purpose:
The purpose of ESF 13 is to manage the protection of life, property, and public order during emergencies through coordinated law enforcement operations. Led by the Louisville Police Department, this function supports emergency response, evacuation, traffic control, security, and coordination with regional and state public safety partners.

Scope:
ESF 13 includes the following responsibilities and activities:

- **Law Enforcement Operations:**
  Maintain public order, enforce laws, and provide security during emergency incidents. Respond to calls for service, assist with emergency evacuations, and support incident command operations.
- **Evacuation and Access Control:**
  Coordinate and implement evacuation orders, including traffic control, perimeter security, and access restrictions to hazardous or restricted areas.
- **Security for Critical Infrastructure and Facilities:**
  Provide security for essential city infrastructure, emergency shelters, staging areas, and the Emergency Operations Center (EOC), as well as support for continuity of government operations.
- **Mutual Aid and Interagency Coordination:**
  Activate mutual aid agreements and coordinate with regional law enforcement agencies, Boulder County Sheriff's Office, and state and federal partners as needed.
- **Support to Emergency Operations Center (EOC):**
  Maintain a law enforcement liaison at the Boulder Office of Disaster Management's EOC to support situational awareness, resource requests, and unified command.
- **Crowd Management and Civil Disturbance Response:**
  Prepare for and respond to large gatherings, protests, or civil disturbances that may arise during or after an emergency, ensuring the protection of rights while maintaining public safety.
- **Search and Rescue Support:**
  Assist with urban and rural search and rescue operations in coordination with fire, EMS, and specialized teams.

- **Public Information and Safety Messaging:**
  Coordinate with the Joint Information System (JIS) to provide timely and accurate public safety information, including warnings, curfews, and law enforcement advisories.
- **Protection of Vulnerable Populations:**
  Support the safety and security of individuals with access and functional needs, including coordination with human services and sheltering operations.
- **Training and Preparedness:**
  Participate in emergency preparedness planning, training, and exercises to ensure readiness for multi-hazard response operations.

ESF 14: Impact Assessment	
City of Louisville Lead:	Public Works
	Community Development
City of Louisville Support:	Finance
	Information Technology

Purpose:
The purpose of ESF 14 is to coordinate the systematic collection, analysis, and reporting of disaster-related impacts to people, property, infrastructure, the environment, and essential services. This function supports informed decision-making, prioritization of response and recovery efforts, and eligibility for state and federal disaster assistance.

Scope:
ESF 14 includes the following responsibilities and activities:

- **Initial and Ongoing Damage Assessments:**
  Conduct rapid assessments to determine the scope and scale of impacts immediately following an incident. Transition to detailed assessments as conditions allow, in coordination with city departments and external partners.
- **Multi-Sector Coordination:**
  Integrate impact data from across city departments (e.g., Public Works, Utilities, Parks, Economic Vitality, Cultural Services) and external agencies (e.g., Boulder County, utility providers, school districts) to develop a comprehensive picture of community needs.
- **Support to the EOC:**
  Provide real-time impact data and analysis to the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to support situational awareness, resource allocation, and operational planning.
- **Damage Documentation and Reporting:**
  Collect and document information on physical damages, economic losses, displaced populations, and service disruptions. Prepare reports to support declarations of emergency and applications for state or federal disaster assistance.
- **GIS and Mapping Integration:**
  Work with the City's Information Technology Department to visualize impact data through GIS tools and dashboards, including damage locations, affected populations, and infrastructure status.
- **Community Needs Assessment:**
  Coordinate with human services, nonprofit partners, and community organizations to assess unmet needs, particularly among vulnerable populations.

- **Public and Private Sector Engagement:**
  Engage with businesses, property owners, and institutions to gather impact data and support recovery planning.
- **Support for Recovery and Mitigation:**
  Use impact assessment findings to inform recovery strategies, hazard mitigation planning, and long-term resilience investments.
- **Training and Preparedness:**
  Develop assessment tools, checklists, and training for city staff and partners to ensure readiness for rapid deployment of assessment teams.

ESF 15: External Affairs	
City of Louisville Lead:	City Manager's Office
	Communications
	Police-Public Information Officer
Supporting Agency:	BODM

Purpose:
The purpose of ESF 15 is to coordinate the release of accurate, timely, and accessible information to the public, media, and stakeholders during emergencies. Led by the City of Louisville's Communications Division, this function ensures unified messaging, supports public confidence, and facilitates informed decision-making by residents and partners throughout all phases of an incident.

Scope:
ESF 15 includes the following responsibilities and activities:

- **Public Information Coordination:**
  Serve as the lead for developing and disseminating official city communications during emergencies. Ensure messaging is consistent, fact-based, and aligned with the Boulder Office of Disaster Management's Joint Information System (JIS).
- **Joint Information Center (JIC) Participation:**
  Represent the City of Louisville in the regional Joint Information Center (JIC) when activated. Collaborate with other jurisdictions and agencies to coordinate messaging and share resources.
- **Media Relations:**
  Serve as the primary point of contact for media inquiries. Prepare press releases, media advisories, and talking points. Coordinate press briefings and interviews with city elected-officials.
- **Public Alerts and Notifications:**
  Support the activation of emergency alert systems (e.g., Everbridge, IPAWS, social media) to issue warnings, evacuation notices, and other time-sensitive information.
- **Rumor Control and Misinformation Management:**
  Monitor social media and public inquiries to identify and correct misinformation. Provide clear, authoritative updates to maintain public trust.
- **Multilingual and Accessible Communications:**
  Ensure that emergency information is accessible to all community members, including those with limited English proficiency, disabilities, or limited access to digital platforms.
- **Community Engagement and Feedback:**
  Facilitate two-way communication with the public, including responding to questions, gathering feedback, and addressing concerns through official channels.

- **Internal Communications:**
  Coordinate with city leadership and departments to ensure staff are informed of emergency developments, operational changes, and messaging priorities.
- **Documentation and After-Action Reporting:**
  Maintain records of public communications and media engagement. Contribute to after-action reviews and improvement planning.
- **Preparedness and Training:**
  Develop pre-scripted messages, templates, and communication plans. Participate in training and exercises to ensure readiness for emergency communications.

ESF 16: Education & Public Schools	
Lead Agency:	Boulder Valley School District
City of Louisville Support:	Police Department

Purpose:
The purpose of ESF 16 is to ensure the safety, security, and continuity of educational services during and after emergencies affecting public schools within the city, including those operated by the Boulder Valley School District (BVSD). This function supports coordinated planning, response, and recovery efforts between the school district, city departments, and emergency management to protect students, staff, and educational infrastructure.

Scope:
ESF 16 includes the following activities and responsibilities:

- **School Safety and Security:**
  Coordinate with BVSD to implement emergency procedures for lockdowns, evacuations, shelter-in-place, and reunification. Support emergency responders in maintaining a secure environment.
- **Continuity of Education:**
  Facilitate the rapid restoration of educational services, including temporary learning environments, remote learning support, and access to instructional materials during prolonged disruptions.
- **Facility Use and Shelter Operations:**
  Identify and prepare school facilities for potential use as emergency shelters, family assistance centers, or community resource hubs, in coordination with the ~~city's~~ emergency management and human services teams.
- **Student and Staff Accountability:**
  Support BVSD in tracking and accounting for students and staff during emergencies, including reunification planning and communication with families.
- **Transportation Coordination:**
  Work with BVSD transportation services and city departments to ensure safe evacuation routes, rerouting of buses, and continuity of student transportation during emergencies.
- **Mental Health and Crisis Support:**
  Coordinate with BVSD counselors, city mental health services, and community partners to provide psychological first aid and long-term recovery support for students and staff.
- **Public Information and Communication:**
  Ensure timely, accurate, and accessible communication to students, families, and

staff through coordinated messaging between BVSD and the city's Joint Information System (JIS).

- **Training and Exercises:**
  Participate in joint emergency preparedness training, drills, and exercises involving BVSD, city departments, and first responders to enhance readiness and coordination.
- **Recovery and Damage Assessment:**
  Support BVSD in assessing damage to school facilities, restoring operations, and applying for recovery assistance through local, state, and federal programs.

ESF 17: Communications Center	
Lead Agency:	Boulder County Communications Center
City of Louisville Support:	City Manager's Office Crisis Communications team

Purpose:
The purpose of ESF 17 is to ensure the continuity, coordination, and operational readiness of the Communications Center during emergencies. This function supports the integration of emergency communications with the Boulder Office of Disaster Management's Emergency Operations Center (EOC), enabling effective incident response, resource coordination, and public safety communications.

Scope:
ESF 17 encompasses the following responsibilities and activities:

- **Emergency Call Handling and Dispatch:**
  Maintain uninterrupted 9-1-1 and non-emergency call-taking and dispatch services for police, fire, EMS, and other emergency responders. Prioritize calls for service and ensure accurate, timely dispatching during high-demand periods.
- **Coordination with the EOC:**
  Establish and maintain direct communication channels with the Boulder ODM EOC to support situational awareness, resource requests, and operational coordination. Provide real-time updates on field conditions and responder status.
- **Redundant and Resilient Communications:**
  Ensure backup systems (e.g., radio repeaters, satellite phones, mobile command units) are operational and available in the event of primary system failure. Coordinate with IT and radio system administrators to maintain system integrity.
- **Interoperability:**
  Facilitate interoperable communications among city departments, regional partners, and mutual aid agencies. Support the use of shared radio channels, talk groups, and communication protocols during multi-agency responses.
- **Public Warning and Notification:**
  Support the activation of public alert and warning systems (e.g., Everbridge, IPAWS, Wireless Emergency Alerts) in coordination with the EOC's Joint Information System (JIS). Ensure timely dissemination of emergency messages to the public.
- **Staffing and Surge Capacity:**
  Implement staffing plans to support extended operations, including call-taker and dispatcher rotations, mutual aid support, and just-in-time training for auxiliary personnel if needed.
- **Information Management:**
  Maintain accurate logs of emergency communications, incident reports, and

resource deployments. Support after-action reviews and documentation for recovery and improvement planning.

- **Support to Field Units:**
  Provide logistical and tactical communication support to field responders, including coordination of staging areas, incident command posts, and mobile operations.

ESF 18: Emergency Medical Services	
Lead Agency:	LFPD
Supporting Agency:	BODM
	Local Hospitals
	Regional Healthcare Partners
	Boulder County Public Health

Purpose:
The purpose of ESF 18 is to ensure the rapid delivery of emergency medical care, triage, and patient transport during emergencies and disasters. This function is led by the Louisville Fire Protection District (LFPD) and supports coordinated medical response efforts with the Boulder Office of Disaster Management (BODM), local hospitals, and regional healthcare partners to protect life and reduce morbidity and mortality.

Scope:
ESF 18 includes the following responsibilities and activities:

- **Emergency Medical Response:**
  Provide immediate medical aid, triage, stabilization, and transport of patients from incident scenes to appropriate medical facilities. LFPD will lead field EMS operations and coordinate with mutual aid partners as needed.
- **Coordination with the EOC:**
  Maintain direct communication with the Boulder ODM Emergency Operations Center (EOC) to share situational updates, request medical resources, and support unified command operations.
- **Hospital Coordination:**
  Communicate with local hospitals and healthcare coalitions to assess bed availability, coordinate patient distribution, and support surge capacity planning during mass casualty incidents or public health emergencies.
- **Mass Casualty and Triage Operations:**
  Implement mass casualty incident (MCI) protocols, including field triage, casualty collection points, and coordination with transport units. Support the establishment of temporary treatment areas if hospital access is delayed or limited.
- **Medical Supply and Equipment Logistics:**
  Ensure availability and distribution of critical medical supplies, including trauma kits, oxygen, PPE, and pharmaceuticals. Coordinate with logistics sections and regional caches for resupply during extended operations.
- **Support for Vulnerable Populations:**
  Assist in identifying and providing medical support to individuals with access and functional needs, including those in shelters, long-term care facilities, and home healthcare settings.

- **Responder Health and Safety:**
  Monitor and support the health and safety of EMS personnel, including decontamination, rest and rehab, and behavioral health support during and after high-stress incidents.
- **Public Health Integration:**
  Coordinate with public health officials on disease surveillance, outbreak response, and medical countermeasure distribution when applicable.
- **Training and Preparedness:**
  Participate in joint training, exercises, and planning efforts with city departments, hospitals, and regional EMS partners to enhance readiness and interoperability.

ESF 19: Volunteer & Donations Management	
City of Louisville Lead:	Cultural Services
City of Louisville Support:	PROS Boulder County Human Services
	Human Resources
	Police Department

Purpose:
The purpose of ESF 19 is to coordinate the effective and safe use of spontaneous and affiliated volunteers, as well as the receipt, management, and distribution of donated goods and services during emergencies. The City of Louisville's Cultural Services Department leads this function, ensuring that community goodwill is channeled into organized, equitable, and impactful support for response and recovery efforts.

Scope:
ESF 19 includes the following responsibilities and activities:

- **Volunteer Coordination:**
  Recruit, register, vet, and assign volunteers to appropriate roles in support of emergency operations. This includes both pre-identified volunteers and spontaneous volunteers who emerge during a crisis.
- **Donations Management:**
  Establish systems for receiving, sorting, storing, and distributing donated goods and services. Ensure that donations meet identified needs and do not hinder response operations.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to align volunteer and donation efforts with operational priorities and unmet needs.
- **Community and Nonprofit Partnerships:**
  Collaborate with local nonprofits, faith-based organizations, and volunteer groups to leverage existing networks and infrastructure for volunteer and donation management.
- **Public Messaging and Guidance:**
  Work with the Joint Information System (JIS) to provide clear, consistent messaging to the public about how to volunteer or donate effectively, including what is needed, where to go, and how to help safely.
- **Volunteer Safety and Training:**
  Ensure volunteers receive appropriate orientation, safety briefings, and supervision. Track hours and roles for accountability and potential reimbursement or recognition.

- **Donations Tracking and Accountability:**
  Maintain records of donated goods and services, including inventory management, distribution tracking, and coordination with logistics and finance sections for documentation and reporting.
- **Support for Recovery Operations:**
  Continue volunteer and donation coordination into the recovery phase, including support for community clean-up, rebuilding, and long-term assistance programs.
- **Cultural and Community Engagement:**
  Leverage the Cultural Services Department's community relationships and facilities to serve as volunteer coordination centers, donation drop-off points, or community information hubs.

ESF 21: Animal Management	
Lead Agency:	Humane Society of Boulder County
City of Louisville Support:	PROS & Police Animal Control

Purpose:
The purpose of ESF 21 is to ensure the safety, care, and coordination of services for domestic animals, service animals, and, when appropriate, wildlife during emergencies. Led by the Humane Society of Boulder Valley, with support from the City of Louisville's Parks, Recreation, and Open Space Division, this function provides for animal sheltering, evacuation, reunification, and public information to protect both animal welfare and public health.

Scope:
ESF 21 includes the following responsibilities and activities:

- **Animal Evacuation and Sheltering:**
  Coordinate the safe evacuation and temporary sheltering of pets and service animals displaced by emergencies. Identify pet-friendly shelter options and support co-location with human shelters when feasible.
- **Animal Rescue and Field Response:**
  Deploy trained personnel to assist with the rescue of animals from hazardous areas, including coordination with fire, law enforcement, and emergency management.
- **Reunification and Lost/Found Services:**
  Operate systems to reunite lost pets with their owners, including intake tracking, microchip scanning, and public-facing lost/found databases.
- **Public Information and Guidance:**
  Provide timely information to the public on how to prepare for evacuating with pets, where to access animal services, and how to report lost or found animals. Coordinate messaging with the Joint Information System (JIS).
- **Support for Vulnerable Populations:**
  Assist individuals with access and functional needs, including seniors and those experiencing homelessness, in caring for and evacuating with their animals.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to report on animal-related needs, shelter status, and resource requests.
- **Volunteer and Donation Management:**
  Coordinate volunteers and donations specific to animal care, including food, bedding, crates, and veterinary supplies.

- **Animal Health and Veterinary Support:**
  Ensure access to veterinary care for sheltered or rescued animals, including triage, vaccinations, and treatment of injuries or illness.
- **Wildlife and Open Space Coordination:**
  Work with Louisville's Parks, Recreation, and Open Space Division to address wildlife concerns in public areas and open spaces, including injured or displaced wildlife and habitat impacts.
- **Training and Preparedness:**
  Participate in training and exercises to ensure readiness for animal response operations and integration with broader emergency management efforts.

ESF 22: Cultural Resources & Historic Preservation	
City of Louisville Lead:	Cultural Services
City of Louisville Support:	Community Development

Purpose:
The purpose of ESF 22 is to protect, preserve, and support the recovery of cultural resources, historic properties, and heritage assets during and after emergencies. The City of Louisville's Cultural Services Department leads this function, with support from the Louisville Historical Museum, to ensure that the city's cultural identity, historic landmarks, and irreplaceable collections are safeguarded as part of emergency response and recovery operations.

Scope:
ESF 22 includes the following responsibilities and activities:

- **Protection of Cultural and Historic Assets:**
  Identify and prioritize cultural sites, historic buildings, public art, archives, and museum collections for protection before, during, and after emergencies. Implement protective measures such as documentation, stabilization, and environmental controls.
- **Damage Assessment and Documentation:**
  Conduct initial and detailed assessments of damage to cultural and historic resources. Document impacts for insurance, recovery funding, and preservation planning.
- **Coordination with the EOC and ODM:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to integrate cultural resource protection into broader emergency operations and recovery planning.
- **Museum and Archive Continuity:**
  Ensure continuity of operations for the Louisville Historical Museum, including protection of collections, digital records, and interpretive materials. Develop plans for temporary relocation or storage if needed.
- **Public Education and Engagement:**
  Provide information to the public about the importance of cultural and historic preservation during disasters. Support community engagement in recovery efforts that honor local heritage.
- **Technical Assistance and Partnerships:**
  Coordinate with state and federal preservation agencies, conservators, and cultural institutions to access technical expertise and recovery resources.
- **Integration with Recovery Planning:**
  Support long-term recovery by incorporating cultural and historic preservation into

redevelopment plans, hazard mitigation strategies, and community resilience initiatives.

- **Volunteer and Community Support:**
  Engage volunteers and local organizations in efforts to stabilize and restore cultural sites, including clean-up, documentation, and fundraising for preservation.
- **Cultural Sensitivity and Equity:**
  Ensure that preservation efforts reflect and respect the diverse cultural narratives and historically significant places within the community.

ESF 23: Community Engagement	
City of Louisville Lead:	Cultural Services
City of Louisville Support:	PROS & City Manager's office

Purpose:
The purpose of ESF 23 is to foster inclusive, transparent, and responsive engagement with the community before, during, and after emergencies. This function ensures that all residents—especially those from historically underserved or disproportionately impacted populations—have access to timely information, opportunities to participate in decision-making, and pathways to contribute to community resilience and recovery.

Scope:
ESF 23 includes the following responsibilities and activities:

- **Two-Way Communication:**
  Facilitate open channels for residents to receive emergency information and provide feedback, concerns, and local knowledge to inform response and recovery efforts.
- **Equity and Inclusion:**
  Ensure that engagement strategies are culturally and linguistically appropriate, accessible to people with disabilities, and inclusive of all community members, including those with limited access to technology or traditional communication channels.
- **Trusted Messengers and Partnerships:**
  Collaborate with community-based organizations, neighborhood leaders, and cultural liaisons to build trust and extend the reach of emergency messaging and services.
- **Community Listening and Needs Assessment:**
  Conduct real-time listening sessions, surveys, and outreach to understand community needs, priorities, and barriers during emergencies. Share findings with the Emergency Operations Center (EOC) to inform resource allocation and policy decisions.
- **Support for Recovery and Resilience:**
  Engage residents in recovery planning, resilience-building initiatives, and hazard mitigation efforts. Promote community-led solutions and empower local voices in shaping long-term outcomes.
- **Coordination with the EOC and JIS:**
  Work closely with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) and the Joint Information System (JIS) to ensure consistent, accurate, and community-informed messaging.

- **Volunteer and Civic Engagement:**
  Promote opportunities for residents to support response and recovery efforts through volunteering, mutual aid, and civic participation.
- **Monitoring and Evaluation:**
  Track engagement activities, participation levels, and community feedback to evaluate effectiveness and improve future outreach strategies.
- **Community Events and Forums:**
  Organize or support public meetings, town halls, and cultural events that serve as platforms for emergency education, preparedness, and dialogue.

ESF 24: Coroner	
Lead Agency:	Boulder County Coroner
Supporting Agency:	LFPD
City of Louisville Support:	Police Department

Purpose:
The purpose of ESF 24 is to coordinate the respectful, lawful, and efficient management of fatalities resulting from emergencies and disasters. This function is led by the Boulder County Coroner's Office, which is responsible for the identification, documentation, and disposition of deceased individuals, while ensuring coordination with local emergency services, public health, and family assistance operations.

Scope:
ESF 24 includes the following responsibilities and activities:

- **Fatality Management:**
  Oversee the recovery, identification, examination, and certification of deceased individuals in accordance with legal and public health requirements. Ensure the dignity and respectful handling of remains.
- **Scene Coordination:**
  Work with local law enforcement, fire, and EMS (e.g., Louisville Fire Protection District) to manage fatality scenes, preserve evidence, and ensure safe and secure removal of remains.
- **Mass Fatality Planning and Response:**
  Activate mass fatality protocols when the number of deceased exceeds local capacity. Coordinate with regional and state partners for additional resources such as mobile morgue units, refrigeration, and forensic support.
- **Family Notification and Assistance:**
  Coordinate with the Boulder Office of Disaster Management (ODM) and local human services to support next-of-kin notification, grief counseling, and family reunification or assistance centers.
- **Public Health and Safety Compliance:**
  Ensure proper handling of remains in cases involving infectious disease, hazardous materials, or other public health risks. Coordinate with public health authorities for guidance and compliance.
- **Documentation and Reporting:**
  Maintain accurate records of fatalities, including cause and manner of death, personal effects, and chain of custody. Support data sharing with emergency management and public health as appropriate.

- **Support to Recovery Operations:**
  Assist in long-term recovery by providing data for after-action reviews, supporting memorial planning, and contributing to community healing efforts.
- **Coordination with the EOC:**
  Maintain communication with the Boulder ODM Emergency Operations Center (EOC) to ensure integration of fatality management into overall emergency operations and resource coordination.

ESF 25: Meteorology	
Lead Agency:	BODM
City of Louisville Support:	City Manager's Office

Purpose:
The purpose of ESF 25 is to provide accurate, timely, and actionable weather information to support emergency preparedness, response, and recovery operations. This function ensures that meteorological data and forecasts are integrated into decision-making processes to protect life, property, and critical infrastructure during weather-related hazards.

Scope:
ESF 25 includes the following responsibilities and activities:

- **Weather Monitoring and Forecasting:**
  Continuously monitor weather conditions and forecasts through official sources such as the National Weather Service (NWS), Colorado Division of Homeland Security and Emergency Management (DHSEM), and regional meteorological partners.
- **Hazard Identification and Alerts:**
  Identify and communicate potential weather hazards—including severe storms, high winds, flooding, wildfire weather, extreme heat or cold, and winter storms—to emergency managers and operational partners.
- **Coordination with the EOC:**
  Provide real-time weather updates and briefings to the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to support situational awareness and operational planning.
- **Decision Support Services:**
  Translate meteorological data into operational guidance for city departments, including timing of impacts, confidence levels, and recommended protective actions.
- **Public Warning Support:**
  Assist in the activation of public alert systems (e.g., IPAWS, Everbridge) by providing weather-related triggers and messaging guidance to the Joint Information System (JIS).
- **Incident-Specific Forecasting:**
  Request and disseminate incident-specific forecasts from the NWS for large-scale events such as wildfires, hazardous materials releases, or mass gatherings.
- **Support for Field Operations:**
  Provide weather intelligence to field responders, including wind direction for

hazardous materials incidents, lightning risk for outdoor operations, and temperature extremes for responder safety.

- **Post-Event Analysis:**
  Support after-action reviews and damage assessments by providing historical weather data, radar imagery, and storm reports relevant to the incident.
- **Training and Preparedness:**
  Participate in training and exercises to ensure city staff and emergency partners understand how to interpret and act on weather information during emergencies.

ESF 26: GIS/Mapping	
City of Louisville Lead:	Information Technology
City of Louisville Support:	Police Department

Purpose:
The purpose of ESF 25 (GIS and Mapping) is to provide geospatial data, mapping products, and spatial analysis to support emergency preparedness, response, and recovery operations. Led by the City of Louisville's Information Technology Department, this function ensures that decision-makers have access to accurate, real-time geographic information to enhance situational awareness and resource coordination.

Scope:
ESF 25 includes the following responsibilities and activities:

- **Geospatial Data Management:**
  Maintain and provide access to up-to-date GIS datasets, including infrastructure, parcel data, hazard zones, evacuation routes, critical facilities, and jurisdictional boundaries.
- **Mapping Support for the EOC:**
  Develop and deliver static and interactive maps to the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to support planning, operations, logistics, and public information functions.
- **Incident Mapping and Visualization:**
  Create incident-specific maps showing damage assessments, resource deployment, shelter locations, road closures, and other operational data layers.
- **Field Data Collection and Integration:**
  Support field teams with mobile GIS tools for real-time data collection (e.g., damage assessments, debris tracking, utility outages) and integrate field data into centralized dashboards.
- **Public-Facing Maps and Dashboards:**
  Develop and maintain web-based maps and dashboards to inform the public about emergency conditions, evacuation zones, shelter availability, and recovery resources.
- **Spatial Analysis and Decision Support:**
  Conduct spatial analysis to support decision-making, such as identifying vulnerable populations, estimating impact areas, and prioritizing response or recovery actions.
- **Interagency Coordination:**
  Collaborate with regional GIS partners, state agencies, and mutual aid jurisdictions to share data and ensure interoperability of mapping tools and platforms.

- **Data Security and Continuity:**
  Ensure GIS systems are backed up, secure, and resilient to cyber threats or system outages. Maintain continuity of GIS operations during extended emergencies.
- **Training and Preparedness:**
  Provide training to city staff and emergency partners on the use of GIS tools and applications relevant to emergency management.

ESF 27: Business & Economic Vitality	
City of Louisville Lead:	Community Development
City of Louisville Support:	City Manager's Office

Purpose:
The purpose of ESF 27 is to support the continuity, recovery, and long-term resilience of the local economy during and after emergencies. Led by the City of Louisville's Economic Vitality Division, this function ensures that businesses receive timely information, access to resources, and coordinated support to minimize disruption, protect jobs, and accelerate economic recovery.

Scope:
ESF 27 includes the following responsibilities and activities:

- **Business Continuity Support:**
  Provide guidance and resources to help local businesses prepare for, respond to, and recover from emergencies. Promote continuity planning and resilience-building strategies.
- **Damage Assessment and Impact Analysis:**
  Coordinate with city departments and business owners to assess economic impacts, including physical damage, operational disruptions, and workforce displacement. Share findings with the Emergency Operations Center (EOC) and recovery partners.
- **Business Communication and Outreach:**
  Serve as a central point of contact for business-related information during emergencies. Disseminate timely updates on closures, safety protocols, financial assistance, and recovery programs.
- **Resource Coordination:**
  Connect businesses with local, state, and federal recovery resources, including grants, loans, technical assistance, and workforce support. Partner with chambers of commerce, business associations, and economic development organizations.
- **Support for Vulnerable and Small Businesses:**
  Provide outreach and assistance to small businesses, minority- and women-owned enterprises, and those in disproportionately impacted sectors or locations.
- **Public-Private Partnerships:**
  Engage with private sector partners to support emergency response and recovery, including supply chain coordination, donations, and volunteer support.
- **Economic Recovery Planning:**
  Lead or support the development of short- and long-term economic recovery strategies, including revitalization of commercial corridors, business retention efforts, and redevelopment planning.

- **Data Collection and Reporting:**
  Track business closures, reopenings, employment trends, and economic indicators to inform policy decisions and recovery investments.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to ensure business needs and economic considerations are integrated into emergency operations.

ESF 28: Water Resource Infrastructure	
City of Louisville Lead:	Public Works and Utilities Department
Supporting Agencies:	Utility staff from surrounding agencies (Lafayette, Superior, etc.)

Purpose:
The purpose of ESF 28 is to ensure the protection, continuity, and restoration of the city's water resource infrastructure during and after emergencies. Led by the City of Louisville's Public Works and Utilities Department, this function supports the delivery of safe drinking water, effective wastewater and stormwater management, and the protection of water-related assets critical to public health, safety, and environmental integrity.

Scope:
ESF 28 includes the following responsibilities and activities:

- **Water Supply and Treatment Continuity:**
  Maintain and restore operations of potable water treatment and distribution systems. Ensure water quality standards are met and that emergency water supplies are available if needed.
- **Wastewater and Stormwater Management:**
  Ensure continued operation of wastewater collection and treatment systems. Manage stormwater infrastructure to prevent flooding, contamination, and environmental damage during severe weather events.
- **Infrastructure Protection and Damage Assessment:**
  Assess and protect critical water infrastructure, including treatment plants, pump stations, reservoirs, pipelines, and stormwater facilities. Conduct rapid damage assessments and prioritize repairs.
- **Emergency Repairs and Restoration:**
  Coordinate emergency repairs to restore water and wastewater services. Deploy crews and contractors to address leaks, breaks, overflows, and system failures.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to share status updates, request resources, and support coordinated response and recovery operations.
- **Public Communication and Advisories:**
  Issue boil water notices, water use restrictions, and other public advisories in coordination with the Joint Information System (JIS). Provide clear guidance to residents and businesses.
- **Environmental Compliance:**
  Ensure compliance with local, state, and federal environmental regulations during

emergency operations. Coordinate with regulatory agencies on reporting and mitigation.

- **Mutual Aid and Resource Requests:**
  Activate mutual aid agreements and coordinate with regional utility partners for additional personnel, equipment, or supplies during extended incidents.
- **Resilience and Mitigation Planning:**
  Support long-term resilience by identifying vulnerabilities, implementing mitigation projects, and integrating water infrastructure into hazard mitigation and climate adaptation plans.
- **Training and Preparedness:**
  Participate in training and exercises to ensure city staff and emergency partners understand the protection, continuity, and restoration of the city's water resource infrastructure.

ESF 29: Cybersecurity	
City of Louisville Lead:	Information Technology
Supporting Agency:	BODM

Purpose:
The purpose of ESF 29 is to protect the city's digital infrastructure, data systems, and technology assets from cyber threats during emergencies and to ensure the continuity of critical IT services. Led by the City of Louisville's Information Technology Department, this function supports the detection, mitigation, and recovery from cybersecurity incidents that could disrupt emergency operations, public services, or sensitive information systems.

Scope:
ESF 29 includes the following responsibilities and activities:

- **Cyber Threat Monitoring and Detection:**
  Continuously monitor city networks and systems for signs of intrusion, malware, ransomware, or other cyber threats. Use threat intelligence and security tools to detect and respond to anomalies.
- **Incident Response and Containment:**
  Activate cybersecurity incident response protocols to isolate affected systems, contain threats, and prevent further damage. Coordinate with law enforcement and cybersecurity partners as needed.
- **Continuity of IT Services:**
  Ensure the availability and integrity of critical systems that support emergency communications, public safety, utilities, finance, and city operations. Implement backup and recovery procedures to restore services quickly.
- **Coordination with the EOC:**
  Maintain communication with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) to provide updates on cyber incidents, coordinate protective actions, and support continuity of operations.
- **Cybersecurity for Emergency Systems:**
  Protect systems used during emergency response, including GIS platforms, public alert systems, EOC software, and remote work tools. Ensure secure access and authentication for authorized users.
- **Public Information and Risk Communication:**
  Coordinate with the Joint Information System (JIS) to issue public notifications in the event of a cyber incident that affects public services, data privacy, or digital access.
- **Training and Awareness:**
  Provide cybersecurity awareness training for city staff, including phishing prevention, secure data handling, and incident reporting procedures.

- **Coordination with External Partners:**
  Collaborate with state and federal cybersecurity agencies (e.g., MS-ISAC, CISA), utility providers, and regional IT partners to share threat intelligence and coordinate response efforts.
- **Post-Incident Review and Hardening:**
  Conduct after-action reviews following cyber incidents to identify vulnerabilities, improve defenses, and update cybersecurity policies and procedures.

ESF 30: Call Center	
City of Louisville Lead:	City Manager's Office
City of Louisville Support:	Information Technology
	Admin Support Staff

Purpose:
The purpose of ESF 30 is to establish and manage a centralized call center to provide accurate, timely, and accessible information to the public during emergencies. This function supports the city's emergency communications strategy by offering a direct line for residents to ask questions, report issues, and access critical services, while reducing the burden on 9-1-1 and emergency dispatch systems.

Scope:
ESF 30 includes the following responsibilities and activities:

- **Public Inquiry Management:**
  Operate a staffed call center to respond to non-emergency inquiries from the public, including questions about evacuation orders, shelter locations, road closures, utility disruptions, and recovery resources.
- **Coordination with the EOC and JIS:**
  Work closely with the Boulder Office of Disaster Management's Emergency Operations Center (EOC) and the Joint Information System (JIS) to ensure that call center staff have the most current and accurate information to share with the public.
- **Information Consistency and Messaging:**
  Ensure that all call center messaging aligns with official public information releases. Use scripts, FAQs, and situation updates provided by the JIS to maintain consistency.
- **Multilingual and Accessible Services:**
  Provide language interpretation services and ensure accessibility for individuals with hearing, vision, or cognitive impairments.
- **Call Tracking and Reporting:**
  Log call volumes, common questions, and emerging concerns to inform situational awareness and help the EOC identify unmet needs or misinformation.
- **Surge Staffing and Support:**
  Activate surge staffing plans to scale up call center operations during high-demand periods. Train city staff or volunteers to assist with call handling as needed.
- **Resource Referrals:**
  Direct callers to appropriate services, including shelters, food distribution sites, mental health support, and recovery assistance programs.

- **Support for Recovery Operations:**
  Continue call center operations into the recovery phase to assist with questions related to rebuilding and permit process–and other long-term recovery resources that may be available.
- **Technology and Infrastructure:**
  Ensure the call center has reliable phone systems, internet access, and backup power to maintain operations during extended emergencies.

Section 9: Training

To assist with the training and preparation of essential response staff and supporting personnel, each department is responsible for ensuring that critical staff are identified and trained at a level that enables effective execution of existing response plans, procedures, and policies. All City of Louisville employees are designated as Disaster Service Workers under CRS § 24-33.5-701 et. seq., which states that, “All public employees are declared to be disaster service workers subject to disaster service activities as may be assigned to them by their superiors or by law.”

The City Manager’s Office is responsible for establishing and ensuring the training for city personnel. Training requirements apply to all first responders and disaster workers, including first-line supervisors, middle management, command, and general staff.

Minimum Training Requirements

CoL TRAINING MATRIX		All Employees (including part-time, and full-time)			Supervisory Responsibilities			Executive Leadership Team & Incident Command Team			Other Employee Groups Defined
		Annual	Bi- Annual	One-Time	Anuual	Bi- Annual	One-Time	Anuual	Bi- Annual	One-Time	One time
FEMA	IS-100: An introduction to ICS									X	
	IS-200: Incident Command Response									X	
	IS-700: An introduction to NIMS									X	
	E0105: Public Information Basics										X (Crisis Comms Team)
	Crisis Communications (build for Louisville)				X			X			X (Crisis Comms Team)
CoL Crisis Courses	Escalation Communications				X						X (Crisis Comms Team)
	Disaster Awareness Basics in Louisville	X			X					X	
	Active Threat Training (taught by Scott Moore)	X			X			X			
	Continuity of Operations (build for Louisville)						X	X			
	ODM Disaster Preparedness Basics										*Optional for all employees*
	CPR & First Aid Training										*Optional for all employees*
	G0402: Incident Command System Overview for Executives and Senior Officials									X	
	G0300: ICS 300 Intermediate Incident Command System for Expanding Incidents (21 hours)										X (PD Leadership)
Other Courses	ESCAPE Evac Planning										X (PD Leadership)
	Community Wildfire Mitigation Best Practices (N9073)										X Comm Dev

Employee Classificiations
All Employees: any employee who works for the city of louisville, who is on the City's payroll, and/or who has a designated city email. This includes full-time and regular part-time employees.
Supervisory Responsbilities: employees who manage other employee's as part of their every-day responsbilities.
Executive Leadership Team & ICT: staff who is a part of ELT regularly and those who have been identified as an essential part of the ICT
Other employee groups: specific types of employee groups who relate to the training
Temporary Employee Classifications: are not required to take the required trainings unless under supervisor's discretion.

Time Classification

Annual: Required once a year

Bi-Annual: Required every other year

One-time: Required one-time during the employee's employement. If an employee reached 10 years, they may be required to refresh the course.

ANNEX A

Emergency/Disaster Ordinance and Declaration

DECLARATION OF LOCAL DISASTER EMERGENCY IN AND FOR THE CITY OF LOUISVILLE

WHEREAS, Chapter 2.32 of the Louisville Municipal Code and C.R.S. § 24-33.5-801, *et. seq.* authorizes the Mayor of the City of Louisville to declare that a disaster emergency has occurred or the threat of such event is imminent; and

WHEREAS, on [Enter Date and Describe Emergency]; and

WHEREAS, also on this date, the Governor of the State of Colorado issued a Declaration of Emergency in response to the [Enter Name of Emergency]; and

WHEREAS, on [Enter Date], the Chair of the Board of the Boulder County Commissioners, as principal executive officer of Boulder County, pursuant to § 24-33.5-709, C.R.S., declared a local disaster emergency in the unincorporated area of Boulder County, to wit, the occurrence of imminent threat of widespread or severe damage, injury or loss of life or property, resulting from [Enter Name of Disaster] requiring emergency action to avert danger or damage; and

WHEREAS, the cost and magnitude of responding to and recovery from the impact of [Enter Name of Emergency] may be far in excess of the City's available resources; and

WHEREAS, declaration of a local disaster emergency will assist and permit access to local emergency funds, Federal and State assistance, adjustments to policies, procedures, and ordinances to ensure the public's health and welfare; and

WHEREAS, it is appropriate and in the interests of the public health and safety of the City and its residents to rapidly address [Enter Name of Emergency] and subsequent cascading impacts, such as economic distress, and to further protect the health and safety of the public by declaring an emergency in the City of Louisville; and

WHEREAS, the Mayor of the City of Louisville, as principal executive officer of the City of Louisville, is authorized to unilaterally declare a local disaster pursuant to § 24-33.5-709, C.R.S. and Section 2.32.010 of the Louisville Municipal Code, and to activate the emergency management and operations plans and resolutions of the City.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. There is hereby declared to be a local disaster emergency in the City of Louisville, to wit, the occurrence of imminent threat of widespread or severe damage, injury or loss of life or property, resulting from [Enter Name of Emergency] requiring emergency action to avert danger or damage.

2. The effect of this Declaration shall be to activate the response and recovery aspects of any and all applicable local and inter-jurisdictional disaster

emergency plans and to authorize the furnishing of aid and assistance under such plans, and for the Mayor, City Manager, and other appropriate City staff to exercise those functions and be vested with such authority as set forth in Section 2.32.010 of the Louisville Municipal Code and C.R.S. § 24-33.5-709.

BE IT FUTHER RESOLVED that this Declaration shall be effective upon the date and time given below, and shall remain in effect for a period of seven days unless rescinded or extended by the Louisville City Council prior to expiration.

BE IT FURTHER RESOLVED that the City Manager shall forthwith:

1. Publish and disseminate information to the public, including but not limited to on the City's website.
2. File a copy of this Declaration of Local Disaster Emergency with the City Clerk:
3. File a copy of this Declaration of Local Disaster Emergency with the Colorado Division of Emergency Management; and
4. Distribute a copy of this Declaration of Local Disaster Emergency to the appropriate representatives of the news media.

SIGNED and made immediately effective this _____ day of _____, 20__, at _____ am/pm.

CITY OF LOUISVILLE

_____

_____, Mayor

ANNEX B

Emergency Response Contact List – Updated

The City of Louisville maintains a communications contact list with staff and parters who may be necessary to support emergency response and recovery efforts. This list is kept on the City's cloud Microsoft Teams software and is considered a living document.

Location of document: CoL Teams Site --> CoL Response --> CoL Response Team Contact List

City of Louisville
COLORADO • SINCE 1878

City Council Communication
Agenda Item 8.D.

Subject: Resolution No. 3, Series 2026 — A Resolution Authorizing the Purchase of Fuel for 2026

Date: January 6, 2026

Prepared By: Ben Francisco, Operations Superintendent

Presented By: Kurt Kowar, Director

Summary:

Staff recommends approval to purchase gasoline and diesel fuel for the City's fleet in 2026 from Senergy Petroleum (Hill Petroleum) under the pricing and terms of the existing Colorado Multiple Assembly of Procurement Officials (MAPO) agreement, RFP-22-22-MAPO, which remains valid through July 31, 2026.

Fuel is purchased on an as-needed basis for all City vehicles and equipment. Based on historical usage, the City has averaged approximately 47,715 gallons of unleaded gasoline and 12,087 gallons of biodiesel annually over the past six years (2020–2025 expected). The City has budgeted $184,845 for fuel purchases in 2026, which aligns with historical consumption and anticipated fuel pricing trends.

To support this recommendation, staff has included graphs in the attachments showing regional unleaded gasoline and diesel fuel prices from approximately 1995 through 2025, as well as the City of Louisville's fuel purchase prices beginning in 2002 and fuel consumption data beginning in 2010. These materials provide long-term context for fuel cost variability, usage trends, and the basis for the proposed 2026 fuel budget.

The MAPO agreement operates on an annual cycle and is administered by Arapahoe County as the contract holder. Prior to July 31, 2026, Arapahoe County will determine whether to renew the existing agreement or issue a new solicitation. Staff will be notified of that decision and will either elect to extend participation under the renewed agreement, transition to a successor contract if one is established, or pursue an independent fuel procurement option, as appropriate.

Background / Prior Discussions:

- Approximately 20-year supplier relationship: Hill Petroleum (now SENERGY PETROLEUM) has supplied fuel to the City for roughly two decades.
- 2022: MAPO issued RFP-22-22-MAPO, awarding the contract to Hill Petroleum/SENERGY PETROLEUM for Fuel Delivery Services.
- Louisville, as a MAPO member, is permitted to purchase fuel under the existing

agreement.
- 2025 fuel costs:
    - $124,067 through November
    - Estimated $135,346 by year-end

Development Proposal:
N/A

Analysis:
City Council is asked to authorize the Public Works Director to enter into a purchasing agreement with SENERGY PETROLEUM for 2026.
Key considerations:

- Agreement utilizes a competitively bid MAPO contract (RFP-22-22-MAPO).
- Fuel costs fluctuate based on market conditions; staff monitor expenditures closely throughout the fiscal year.
- In the event fuel expenses exceed budgeted amounts, staff will bring forward a budget amendment for Council consideration.
- Continuation with SENERGY PETROLEUM ensures consistent, reliable supply and pricing consistent with other local MAPO participants.

Council Work Plan:
This item supports the goals of Financial Stewardship & Asset Management and Reliable Core Services, ensuring efficient fleet operation and uninterrupted service delivery.

Environmental and EDI lenses:

- Fuel purchasing is required for essential municipal operations; selection through MAPO ensures transparent, equitable procurement processes.
- Long-term fleet sustainability and emission-reduction efforts (future electrification) rely on consistent fuel planning and expenditure monitoring.

Fiscal Impact:

- 2026 Budget Allocation: $184,845 for citywide fuel and oil expenditures.
- Costs are distributed across departmental operational budgets based on fleet needs.

Actual expenditures will vary with market conditions.

Alternatives:

- Delay approval:
    - Could disrupt fuel procurement and expose the City to higher open-market pricing:
- Do not approve:
    - City would need to secure an alternative supplier immediately, likely at a higher cost and with increased administrative burden.

Recommendation:
Staff recommends that City Council approve the Public Works Director to enter a purchasing agreement with SENERGY PETROLEUM in the amount of $184,845 to fulfill the approved 2026 fuel and oil budget.

Attachments:
1. Resolution No. 3, Series 2026
2. 2026 Bulk Fuel Purchase and Delivery for Colorado MAPO Agencies Agreement
3. 2026 MAPO Purchasing Agreement Piggyback Letter
4. 2026 Annual Fuel Purchase Agreement - Graphs

RESOLUTION NO. 3
SERIES 2026

A RESOLUTION AUTHORIZING THE PURCHASE OF FUEL FOR 2026

WHEREAS, by this resolution the City Council desires to approve the purchase of gasoline and diesel fuel for the City's fleet of vehicles and equipment.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the purchase of gasoline and diesel fuel from Senergy Petroleum in an amount not to exceed $184,845.

Section 2. The Public Works Director is hereby authorized to execute the Purchasing Agreement Piggyback letter, purchase orders, and other necessary agreements on behalf of the City in connection with the purchase.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

ARAPAHOE COUNTY
COLORADO'S FIRST

Department of Finance

PURCHASING DIVISION
5334 South Prince Street
Littleton, Colorado 80120-1136
Phone: 303-795-4430
Fax: 303-738-7929
www.arapahoegov.com

TODD WEAVER
Director

June 12, 2025

Katie Atencio | Contract Specialist
Senergy Petroleum
contracts@gosenergy.com

RE: Bulk Fuel Purchase and Delivery for Colorado MAPO Agencies
RFP-22-22_MAPO

Mr. Walker and Mr. Principato,

Hill Petroleum entered into an agreement for Bulk Fuel Purchase and Delivery for Colorado MAPO Agencies on August 01, 2022. Arapahoe County then consented to the assignment of the agreement from Hill Petroleum to Senergy Petroleum effective November 2, 2022. Please find attached with this letter the Extension of the Agreement.

Please sign and e-mail back a scanned copy, along with current pricing and an updated Certificate of Insurance, within ten (10) business days of the date of this letter.

Sincerely,

Sarah Huerta, CPPB

Sarah Huerta
Senior Purchasing Agent

Cc: Purchasing File

June 12, 2025

Katie Atencio | Contract Specialist
Senergy Petroleum
contracts@gosenergy.com

RE: Bulk Fuel Purchase and Delivery for Colorado MAPO Agencies
RFP-22-22_MAPO

Arapahoe County and Senergy Petroleum entered into an agreement for Bulk Fuel Purchase and Delivery for Colorado MAPO Agencies on August 1, 2022. The parties may mutually agree upon an annual extension of this agreement pursuant to the provisions as set forth in the original Agreement for Services.

Senergy Petroleum hereby agrees to maintain market value pricing without additional increases, and all parties mutually agree upon an annual extension of this agreement pursuant to the provisions set forth in the solicitation.

Staff has determined that it is to the best interest of the County to extend this agreement from August 1, 2025, through July 31, 2026.

By executing the signature page, both parties agree to the extension of this Agreement for Services or Purchase Agreement.

SIGNATURE PAGE

CONTRACTOR: Senergy Petroleum

By: _____
(signature)

Title: Contract Specialist

Date: 06/13/2025

ARAPAHOE COUNTY

By: Michael Gouin
Chair, Board of County Commissioners
(Or representative authorized by resolution)

Date: 08/07/2025

Purchasing Agreement Piggyback Letter

Date: August 1st, 2022

Name of Municipality_____

Purchasing/contracting Authority_____

This letter is to confirm the intentions of _____ to participate in the benefits, and be bound by the terms and conditions of the RFP 22-22 MAPO Fuel Agreement Hosted by Arapahoe County dated August 1, 2022

Purchasing/Contracting Authority Signature_____

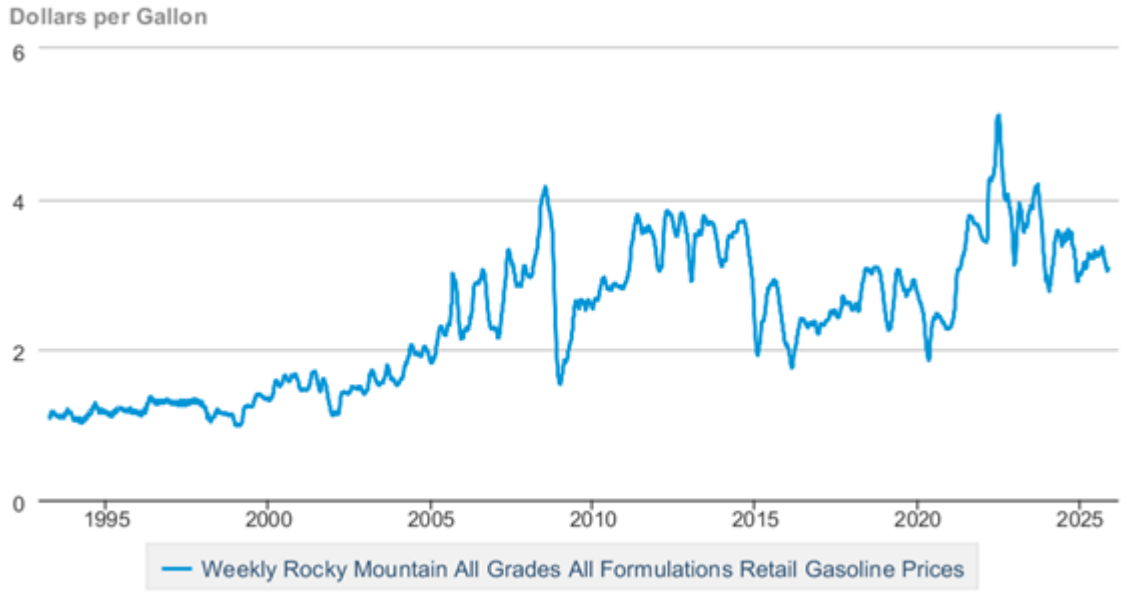
Hill Petroleum Signature_____

This document will be forwarded to Arapahoe County Purchasing and a letter of addition will be forwarded to you. In addition Arapahoe County requested that each municipality wishing to participate provide one other piece of documentation. Please provide delivery address, product used, tank size and annual volume for each location that will be serviced on a separate document.

Thank You,

Gina Baker Distributor Sales Rep
Troy Hill VP Operations
Hill Petroleum

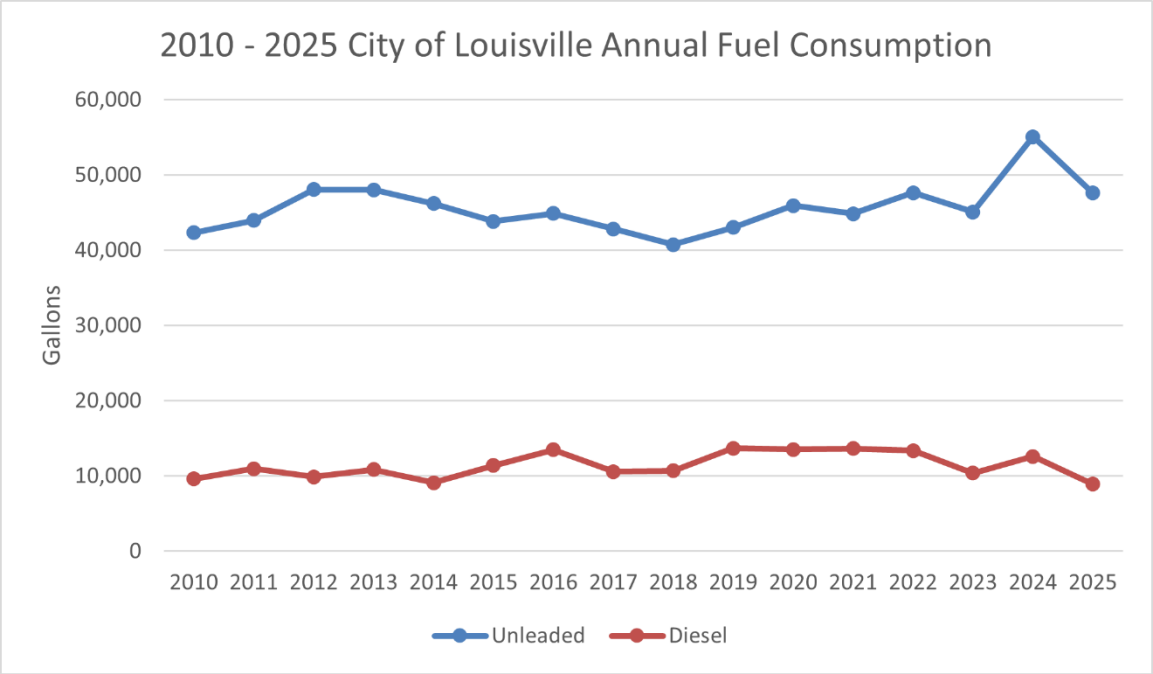
Weekly Rocky Mountain All Grades All Formulations Retail Gasoline Prices

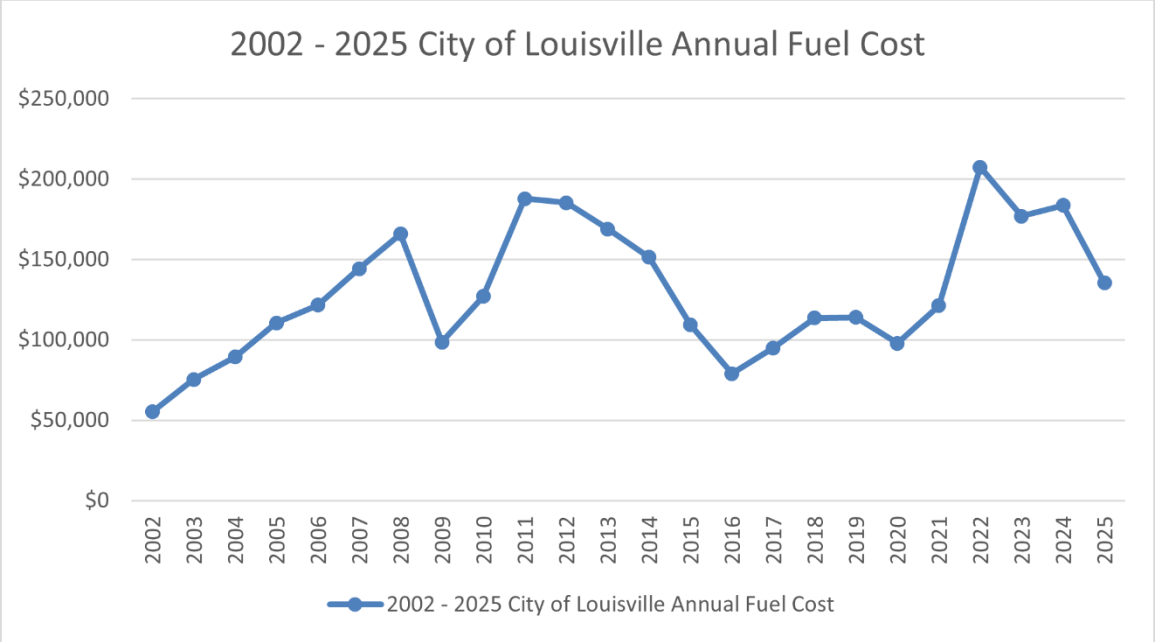


eia Data source: U.S. Energy Information Administration

Weekly Rocky Mountain No 2 Diesel Retail Prices

eia Data source: U.S. Energy Information Administration


2010 - 2025 City of Louisville Annual Fuel Consumption
60,000
50,000
40,000
30,000
20,000
10,000
0
Gallons
2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025
Unleaded
Diesel


2002 - 2025 City of Louisville Annual Fuel Cost
$250,000
$200,000
$150,000
$100,000
$50,000
$0
2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025
2002 - 2025 City of Louisville Annual Fuel Cost

City of Louisville
COLORADO • SINCE 1878

City Council Communication
Agenda Item 8.E.

Subject: Resolution No. 4, Series 2026 — A Resolution Authorizing the Purchase of Ice Slicer for 2026

Date: January 6, 2026

Prepared By: Ben Francisco, Operations Superintendent

Presented By: Kurt Kowar, Director

Summary:
Staff recommends approval to purchase Ice Slicer from Envirotech Services under the pricing and terms of Award Number 311002284, which remains valid through September 30, 2026. Ice Slicer is procured on an as-needed basis throughout the winter season and is an essential component of the City's snow and ice mitigation program, providing reliable and effective ice-melting performance to support safe roadway conditions during winter events.

The City's supplier is selected through the Colorado Department of Transportation competitive bid process, ensuring the lowest available bid is utilized; Award 311002284 was advertised in 2022, with Envirotech Services identified as the successful bidder for granular deicing material, and Louisville is eligible to participate under the terms of this cooperative purchasing agreement.

Background / Prior Discussions:

- The City routinely purchases Ice Slicer each winter season under the State CDOT bid process.
- Envirotech Services has been the State's awarded supplier under Award No. 311002284 since 2022.
- Annual purchases align with approved budget allocations for granular deicing materials.

Development Proposal:
N/A

Analysis:
Key points for Council consideration:

- Ice Slicer is a vital safety material used for snow and ice control on City streets.
- Participation in the CDOT bid ensures competitive pricing and reliable supply.

- Actual annual expenditures depend on weather severity; staff monitor usage and forecasts to manage costs.
- If severe winter conditions create material expenses exceeding annual budgeted amounts, staff will return to Council with recommended budget amendments.

Council Work Plan:
This item supports the Council Work Plan priority of maintaining a safe, well-maintained, effective, and efficient multimodal transportation system. Staff reviewed the item through the Environmental Sustainability lens, as Ice Slicer is considered less environmentally harmful than many chloride-based deicers and is used strategically to minimize material waste.

Fiscal Impact:

- 2026 Budget Allocation: $110,000 for granular deicing product
- 2025 Actual Expenditures (as of November): $90,750 (variable annually based on weather)

Expenditures will continue to be monitored to ensure alignment with budget. In the event of significant weather events requiring additional materials, staff may return with a budget amendment request.

Alternatives:

- Deny the purchase, which would result in insufficient material for winter roadway safety operations.
- Direct staff to seek alternatives, noting that the CDOT bid provides the lowest available pricing and most reliable supply.

Recommendation:
Staff recommends approval for the Public Works Director to enter a purchasing agreement with Envirotech Services for Ice Slicer in an amount up to $110,000, consistent with the approved 2026 budget.

Attachments:
1. Resolution No. 4, Series 2026
2. 2026 Annual Ice Slicer Purchase - Agreement

RESOLUTION NO. 4
SERIES 2026

A RESOLUTION AUTHORIZING THE PURCHASE OF ICE SLICER FOR 2026

WHEREAS, by this resolution the City Council desires to approve the purchase of Ice Slicer granular deicing material for use in the City's snow and ice mitigation programs.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the purchase of Ice Slicer granular deicing material from EnviroTech Services, Inc. in an amount not to exceed $110,000.

Section 2. The Public Works Director is hereby authorized to execute purchase orders and other necessary agreements on behalf of the City in connection with the purchase.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

COLORADO
Department of Transportation

NOTICE OF AWARD RENEWAL

AWARD NUMBER 311002284 (THIS IS NOT A PURCHASE ORDER, SEE NOTE BELOW)	**Re: Invitation For Bid # IFB 23-004 LH** **Granular Deicing Material (IceSlicer RS)** **Period Covered: 10/01/2025 thru 9/30/26** **(1) Possible renewal option remaining**
VENDOR NO. 1002015 **VENDOR NAME:** EnviroTech Services, Inc **ADDRESS:** 910 54th Ave., #230 Greeley, CO 80634 **CONTACT:** Tim Pike **PHONE:** 970-346-3900 **FAX NO:** 970-346-3959 **EMAIL** tpike@envirotechservices.com **DELIVERY:** 5 Day, 10 Day	**INVOICE TO:** Invoice address on Purchase Order for Colorado State Agencies, Institutions and political subdivisions **COMMODITY NUMBERS:** 19246 – Ice & Snow Removal Chemicals Material Number - 10200009

This award is for the purchase Granular Deicer material per the specifications, terms and conditions of CDOT bid HAA IFB 23-004 LH
PNS Category 8B
Product Awarded: Ice Slicer RS
See Attached Table for Pricing

Please see List of Zones & Patrols and Zone Map

Conditions of Award: Award is made to above referenced vendor for supplying the commodity/service specified above and on any attached supplementary pages per bid specifications to be ordered on an "as needed" basis, with ONE, one-year renewal periods, at CDOT option. This agreement is in year **4** of **5** possible years total. Prices shall be firm throughout the first 12 months of award. **Requests for any proposed price changes after the first 12 months must be submitted along with supporting documentation, to CDOT Purchasing, a minimum of sixty (60) days** prior to the proposed effective date of such a change. A new award notice will be issued for each additional renewal year that CDOT selects. EITHER PARTY MAY CANCEL ON 30 DAYS WRITTEN NOTICE.

NOTE: THIS AWARD IS A NOTICE OF INTENT TO PURCHASE ONLY. VARIOUS CDOT PERSONNEL AS NEEDED WILL ORDER MATERIALS. MATERIAL ORDERED BY CDOT THAT COST $10,000.00 OR MORE PER ITEM, OR AGGREGATE, MUST BE ORDERED VIA PURCHASE ORDER. CDOT WILL ONLY BE RESPONSIBLE FOR MATERIAL ORDERED AND RECEIVED BY IT. NO QUANTITIES ARE GUARANTEED AS A RESULT OF THIS AWARD. QUANTITIES ORDERED WILL BE BASED UPON ACTUAL REQUIREMENTS.

Please direct inquiries on this award to CDOT Purchasing, Phone: 970-216-8660 Email: ginger.butero@state.co.us	Approved By: *Ginger Butero* Ginger Buterop, Purchasing Agent

Vendor	Envirotech	
Product	IceSlicer RS	
Material Number	10200009	
ZONE	5 Calendar Day Delivery	10 Calendar Day Deliver
1	$ 160.61	$ 155.61
2	$ 143.38	$ 140.38
3	$ 150.61	$ 146.61
4	$ 150.61	$ 147.61
5	$ 159.61	$ 155.61
6	$ 164.61	$ 160.61
7	$ 127.61	$ 124.61
8	$ 131.05	$ 128.05
9	$ 151.00	$ 148.00
10	$ 148.61	$ 145.61
11	$ 145.61	$ 141.61
12	$ 153.61	$ 149.61
13	$ 164.61	$ 160.61
14	$ 121.61	$ 118.61
15	$ 130.61	$ 127.61
16	$ 209.61	$ 205.61
17	$ 160.61	$ 156.61
18	$ 149.61	$ 145.61
19	$ 158.61	$ 154.61
20	$ 163.61	$ 159.61
21	$ 143.61	$ 139.61
22	$ 152.61	$ 147.61
23	$ 147.61	$ 142.61
24	$ 168.61	$ 163.61
25	$ 165.61	$ 161.61
26	$ 162.61	$ 158.61
27	$ 175.61	$ 171.61
28	$ 181.61	$ 177.61
29	No Bid	No Bid
30	No Bid	No Bid
31	No Bid	No Bid
32	$ 185.61	$ 181.61
33	$ 161.61	$ 157.61
34	$ 178.61	$ 174.61
35	$ 193.61	$ 189.61
CDOT Pickup, Denver	$ 130.12	$ 130.12

City of Louisville
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City Council Communication
Agenda Item 8.F.

Subject: Resolution No. 5, Series 2026 — A Resolution Approving an Independent Contract Agreement with Invision GIS, LLC

Date: January 6, 2026

Prepared By: Kurt Kowar, Director

Presented By: Kurt Kowar, Director

Summary:
Approve an on-call services contract with Invision GIS, LLC, for Geographical Information Systems (GIS) and Asset Management System (AM) implementation, support, and training services in an amount not to exceed $90,000 with up to $10,000 in contingency.

Background / Prior Discussions:
The Public Works & Utilities Department utilizes a Geographical Information System (GIS) and Asset Management (AM) system to track and manage infrastructure, and has historically utilized Invision GIS, LLC, for GIS and AM software implementation, maintenance, and training for staff. In parallel, the City has a staff GIS Program Manager who coordinates citywide GIS and AM efforts and works with Invision GIS for specialty services in Asset Management implementation, staff field level support and training.

The Department uses Lucity Asset Management, and benefits received from the investment in GIS and AM include:

- Ongoing preventative maintenance schedules that are continuously being improved or added to ensure no asset is left behind.
- Ability to understand the cost of doing business for assets with labor and materials.
- Ability to understand where time is spent, evaluate if it is effective, and determine if it is providing adequate levels of service.
- Shared digital mapping between departments and divisions to ensure everyone is working from the most current and accurate information.
- Time tracking and mapping of asset histories to identify trends and quickly work towards solutions to identified problems.
- Asset condition forecasting to allow for planning of long-term capital plans. *(Utilized for the pavement management system and 6-year capital plan)*
- Complete digital mapping and asset record workflow that eliminates manual data entry and retrieval, eliminates duplication, provides for knowledge retention, allows for trend analysis and data-driven decision-making.

- Improved assurance that Environmental Compliance through Federal and State requirements are being met.
- Mitigate knowledge loss when there is employee turnover.

The City has worked through a sole source contract with Invision GIS since 2015 to implement, develop, and support the Public Works and Utilities Enterprise Work Order and Asset Management System. Invision GIS also participated in a City Request for Proposal process in 2018 that evaluated costs and service offerings comparative to other firms. Invision GIS rates are very competitive when evaluated against other existing on-call contracts the department utilizes, and their historical knowledge of the City's systems is invaluable.

Development Proposal:
N/A

Analysis:
The work provided by this contract is reviewed annually and compared to other departmental contracts as well as internal staff capabilities to support GIS and asset management needs.

Council Work Plan:
This contract supports Core Services.

Fiscal Impact:
The approved 2026 budget provides funding in multiple areas for GIS and Asset Management support services.

Alternatives:
The City could evaluate supporting GIS and asset management systems through internal staff only. However, estimated employee salary and benefits required to hire this position internally would exceed the annual contract amount of work that this contract is being proposed for.

Recommendation:
Staff recommends approval of an on-call services contract with Invision GIS, LLC for Geographical Information Systems (GIS) and Asset Management System (AM) implementation, support, and training services in an amount not to exceed $90,000 and a staff controlled $10,000 contingency.

Attachments:
1. Resolution No. 5, Series 2026
2. 2026 Invision GIS Annual Contract 01

RESOLUTION NO. 5
SERIES 2026

A RESOLUTION APPROVING AN INDEPENDENT CONTRACT AGREEMENT WITH INVISION GIS, LLC

WHEREAS, an Independent Contractor Agreement has been proposed between the City and Invision GIS, LLC for Geographical Information Systems and Asset Management System implementation; and

WHEREAS, by this Resolution, the City Council desires to approve such agreement.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the Independent Contractor Agreement between the City and Invision GIS, LLC, for Geographical Information Systems and Asset Management System implementation (the "Agreement") in substantially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The Mayor is hereby authorized to execute the Agreement on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Agreement as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Agreement are not altered.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

INDEPENDENT CONTRACTOR AGREEMENT
BY AND BETWEEN THE CITY OF LOUISVILLE
AND INVISION GIS, LCC
FOR GIS AND WORK ORDER IMPLEMENTATION CONSULTING SERVICES

1.0 PARTIES

This INDEPENDENT CONTRACTOR AGREEMENT (this "Agreement") is made and entered into this 1st day of January 2026 (the "Effective Date"), by and between the **City of Louisville**, a Colorado home rule municipal corporation, hereinafter referred to as the "City", and InVision GIS, LLC, a Colorado limited liability company, hereinafter referred to as the "Contractor".

2.0 RECITALS AND PURPOSE

2.1 The City desires to engage the Contractor for the purpose of providing GIS and Work Order Implementation Consulting services as further set forth in the Contractor's Scope of Services (which services are hereinafter referred to as the "Services").

2.2 The Contractor represents that it has the special expertise, qualifications and background necessary to complete the Services.

3.0 SCOPE OF SERVICES

The Contractor agrees to provide the City with the specific Services and to perform the specific tasks, duties and responsibilities set forth in Scope of Services attached hereto as Exhibit "A" and incorporated herein by reference. Contractor shall furnish all tools, labor and supplies in such quantities and of the proper quality as are necessary to professionally and timely perform the Services. Contractor acknowledges that this Agreement does not grant any exclusive privilege or right to supply Services to the City.

4.0 COMPENSATION

4.1 The City shall pay the Contractor for Services under this Agreement a total not to exceed the amounts set forth in Exhibit "B" attached hereto and incorporated herein by this reference. For Services compensated at hourly or per unit rates, or on a per-task basis, such rates or costs per task shall not exceed the amounts set forth in Exhibit B. The City shall not pay mileage and other reimbursable expenses (such as meals, parking, travel expenses, necessary memberships, etc.), unless such expenses are (1) clearly set forth in the Scope of Services, and (2) necessary for performance of the Services ("Pre-Approved Expenses"). The foregoing amounts of compensation shall be inclusive of all costs of whatsoever nature associated with the Contractor's efforts, including but not limited to salaries, benefits, overhead, administration, profits, expenses, and outside Contractor fees. The Scope of Services and payment therefor shall only be changed by a properly authorized amendment to this Agreement. No City employee has the authority to bind the City with regard to any payment for any Services which exceeds the amount payable under the terms of this Agreement.

4.2 The Contractor shall submit monthly an invoice to the City for Services rendered and a detailed expense report for Pre-Approved Expenses incurred during the previous month. The invoice shall document the Services provided during the preceding month, identifying by work category and subcategory the work and tasks performed and such other

information as may be required by the City. The Contractor shall provide such additional backup documentation as may be required by the City. The City shall pay the invoice within thirty (30) days of receipt unless the Services or the documentation therefor are unsatisfactory. Payments made after thirty (30) days may be assessed an interest charge of one percent (1%) per month unless the delay in payment resulted from unsatisfactory work or documentation therefor.

5.0 PROJECT REPRESENTATION

5.1 The City designates Kurt Kowar as the responsible City staff to provide direction to the Contractor during the conduct of the Services. The Contractor shall comply with the directions given by Kurt Kowar and such person's designees.

5.2 The Contractor designates Jill Fischer as its project manager and as the principal in charge who shall be providing the Services under this Agreement. Should any of the representatives be replaced, particularly Jill Fischer, and such replacement require the City or the Contractor to undertake additional reevaluations, coordination, orientations, etc., the Contractor shall be fully responsible for all such additional costs and services.

6.0 TERM

6.1 The term of this Agreement shall be from the Effective Date to December 31, 2026, unless sooner terminated pursuant to Section 13, below. The Contractor's Services under this Agreement shall commence on January 1, 2026, and Contractor shall proceed with diligence and promptness so that the Services are completed in a timely fashion consistent with the City's requirements.

6.2 Nothing in this Agreement is intended or shall be deemed or construed as creating any multiple-fiscal year direct or indirect debt or financial obligation on the part of the City within the meaning of Colorado Constitution Article X, Section 20 or any other constitutional or statutory provision. All financial obligations of the City under this Agreement are subject to annual budgeting and appropriation by the Louisville City Council, in its sole discretion. Notwithstanding anything in this Agreement to the contrary, in the event of non-appropriation, this Agreement shall terminate effective December 31 of the then-current fiscal year.

7.0 INSURANCE

7.1 The Contractor agrees to procure and maintain, at its own cost, the policies of insurance set forth in Subsections 7.1.1 through 7.1.4. The Contractor shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to this Agreement by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types. The coverages required below shall be procured and maintained with forms and insurers acceptable to the City. All coverages shall be continuously maintained from the date of commencement of Services hereunder. The required coverages are:

7.1.1 Workers' Compensation insurance as required by the Labor Code of the State of Colorado and Employers Liability Insurance. Evidence of qualified self-insured status may be substituted.

7.1.2 General Liability insurance with minimum combined single limits of $1,000,000 each occurrence and $2,000,000 aggregate. The policy shall include the City of Louisville, its officers and its employees, as additional insureds, with primary coverage as respects the City of Louisville, its officers and its employees, and shall contain a severability of interests provision.

7.1.3 Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than $400,000 per person in any one occurrence and $1,000,000 for two or more persons in any one occurrence, and auto property damage insurance of at least $50,000 per occurrence, with respect to each of Contractor's owned, hired or non-owned vehicles assigned to or used in performance of the Services. If the Contractor has no owned automobiles, the requirements of this paragraph shall be met by each officer or employee of the Contractor providing services to the City of Louisville under this contract.

7.2 The Contractor's general liability insurance and automobile liability and physical damage insurance shall be endorsed to include the City, and its elected and appointed officers and employees, as additional insureds, unless the City in its sole discretion waives such requirement. Every policy required above shall be primary insurance, and any insurance carried by the City, its officers, or its employees, shall be excess and not contributory insurance to that provided by the Contractor. Such policies shall contain a severability of interests provision. The Contractor shall be solely responsible for any deductible losses under each of the policies required above.

7.3 Certificates of insurance shall be provided by the Contractor as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be subject to review and approval by the City. No required coverage shall be cancelled, terminated or materially changed until at least 30 days prior written notice has been given to the City. The City reserves the right to request and receive a certified copy of any policy and any endorsement thereto.

7.4 Failure on the part of the Contractor to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of contract upon which the City may immediately terminate this Agreement, or at its discretion may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the City shall be repaid by Contractor to the City upon demand, or the City may offset the cost of the premiums against any monies due to Contractor from the City.

7.5 The parties understand and agree that the City is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., C.R.S., as from time to time amended, or otherwise available to the City, its officers, or its employees.

8.0 INDEMNIFICATION

To the fullest extent permitted by law, the Contractor agrees to indemnify and hold harmless the City, and its elected and appointed officers and its employees, from and against all liability, claims, and demands, on account of any injury, loss, or damage, which arise out of or are connected with the Services hereunder, if such injury, loss, or damage is caused by the negligent act, omission, or other fault of the Contractor or any subcontractor of the Contractor, or any officer, employee, or agent of the Contractor or any subcontractor, or any other person for whom Contractor is responsible. The Contractor shall investigate, handle, respond to, and provide defense for and defend against any such liability, claims, and demands. The Contractor shall further bear all other costs and expenses incurred by the City or Contractor and related to any such liability, claims and demands, including but not limited to court costs, expert witness fees and attorneys' fees if the court determines that these incurred costs and expenses are related to such negligent acts, errors, and omissions or other fault of the Contractor. The City shall be entitled to its costs and attorneys' fees incurred in any action to enforce the provisions of this Section 8.0. The Contractor's indemnification obligation shall not be construed to extend to any injury, loss, or damage which is caused by the act, omission, or other fault of the City.

9.0 QUALITY OF WORK

Contractor's Services shall be performed in accordance with the highest professional workmanship and service standards in the field to the satisfaction of the City.

10.0 INDEPENDENT CONTRACTOR

It is the expressed intent of the parties that the Contractor is an independent contractor and not the agent, employee or servant of the City, and that:

10.1. **CONTRACTOR SHALL SATISFY ALL TAX AND OTHER GOVERNMENTALLY IMPOSED RESPONSIBILITIES INCLUDING, BUT NOT LIMITED TO, PAYMENT OF STATE, FEDERAL AND SOCIAL SECURITY TAXES, UNEMPLOYMENT TAXES, WORKERS' COMPENSATION AND SELF-EMPLOYMENT TAXES. NO STATE, FEDERAL OR LOCAL TAXES OF ANY KIND SHALL BE WITHHELD OR PAID BY THE CITY.**

10.2. **CONTRACTOR IS NOT ENTITLED TO WORKERS' COMPENSATION BENEFITS EXCEPT AS MAY BE PROVIDED BY THE INDEPENDENT CONTRACTOR NOR TO UNEMPLOYMENT INSURANCE BENEFITS UNLESS UNEMPLOYMENT COMPENSATION COVERAGE IS PROVIDED BY THE INDEPENDENT CONTRACTOR OR SOME ENTITY OTHER THAN THE CITY.**

10.3. Contractor does not have the authority to act for the City, or to bind the City in any respect whatsoever, or to incur any debts or liabilities in the name of or on behalf of the City.

10.4. Contractor has and retains control of and supervision over the performance of Contractor's obligations hereunder and control over any persons employed by Contractor for performing the Services hereunder.

10.5. The City will not provide training or instruction to Contractor or any of its employees regarding the performance of the Services hereunder.

10.6. Neither the Contractor nor any of its officers or employees will receive benefits of any type from the City.

10.7. Contractor represents that it is engaged in providing similar services to other clients and/or the general public and is not required to work exclusively for the City.

10.8. All Services are to be performed solely at the risk of Contractor and Contractor shall take all precautions necessary for the proper and sole performance thereof.

10.9. Contractor will not combine its business operations in any way with the City's business operations and each party shall maintain their operations as separate and distinct.

11.0 ASSIGNMENT

Contractor shall not assign or delegate this Agreement or any portion thereof, or any monies due to or become due hereunder without the City's prior written consent.

12.0 DEFAULT

Each and every term and condition hereof shall be deemed to be a material element of this Agreement. In the event either party should fail or refuse to perform according to the terms of this Agreement, such party may be declared in default.

13.0 TERMINATION

13.1 This Agreement may be terminated by either party for material breach or default of this Agreement by the other party not caused by any action or omission of the other party by giving the other party written notice at least thirty (30) days in advance of the termination date. Termination pursuant to this subsection shall not prevent either party from exercising any other legal remedies which may be available to it.

13.2 In addition to the foregoing, this Agreement may be terminated by the City for its convenience and without cause of any nature by giving written notice at least fifteen (15) days in advance of the termination date. In the event of such termination, the Contractor will be paid for the reasonable value of the Services rendered to the date of termination, not to exceed a pro-rated daily rate, for the Services rendered to the date of termination, and upon such payment, all obligations of the City to the Contractor under this Agreement will cease. Termination pursuant to this Subsection shall not prevent either party from exercising any other legal remedies which may be available to it.

14.0 INSPECTION AND AUDIT

The City and its duly authorized representatives shall have access to any books, documents, papers, and records of the Contractor that are related to this Agreement for the purpose of making audits, examinations, excerpts, and transcriptions.

15.0 DOCUMENTS

All computer input and output, analyses, plans, documents photographic images, tests, maps, surveys, electronic files and written material of any kind generated in the performance of this Agreement or developed for the City in performance of the Services are and shall remain the sole

and exclusive property of the City. All such materials shall be promptly provided to the City upon request therefor and at the time of termination of this Agreement, without further charge or expense to the City and in hardcopy or an electronic format acceptable to the City, or both, as the City shall determine. Contractor shall not provide copies of any such material to any other party without the prior written consent of the City. Contractor shall not use or disclose confidential information of the City for purposes unrelated to performance of this Agreement without the City's written consent.

16.0 ENFORCEMENT

16.1 In the event that suit is brought upon this Agreement to enforce its terms, the parties shall each bear and be responsible for their own attorneys' fees and court costs.

16.2 This Agreement shall be deemed entered into in Boulder County, Colorado, and shall be governed by and interpreted under the laws of the State of Colorado. Any action arising out of, in connection with, or relating to this Agreement shall be filed in the courts of Boulder County or the federal district court for the District of Colorado, and in no other court. Colorado law shall apply to the construction and enforcement of this Agreement.

17.0 COMPLIANCE WITH LAWS

Contractor shall be solely responsible for compliance with all applicable federal, state, and local laws, including the ordinances, resolutions, rules, and regulations of the City; for payment of all applicable taxes; and obtaining and keeping in force all applicable permits and approvals.

18.0 INTEGRATION AND AMENDMENT

This Agreement represents the entire Agreement between the parties and there are no oral or collateral agreements or understandings. This Agreement may be amended only by an instrument in writing signed by the parties.

19.0 NOTICES

All notices required or permitted under this Agreement shall be in writing and shall be given by hand delivery, by United States first class mail, postage prepaid, registered or certified, return receipt requested, by national overnight carrier, or by email transmission, addressed to the party for whom it is intended at the following address:

If to the City:

City of Louisville
Attn: Kurt Kowar
749 Main Street
Louisville, CO 80027
e-mail: kurtk@louisvilleco.gov

If to the Contractor:

InVision GIS, LLC
Attn: Jill Fischer
8466 Cindy Ln
Fort Collins, CO 80525
Phone: (970) 776-6321
Email: jillfischer@invisiongis.com

Except for notices by email transmission, any notice required or permitted under this Agreement shall be effective when received as indicated on the delivery receipt, if by hand delivery or overnight carrier; on the United States mail return receipt, if by United States mail. Notices by email transmission shall be effective on transmission, so long as no message of error or non-receipt is received by the party giving notice. Either party may by similar notice given, change the address to which future notices or other communications shall be sent.

20.0 EQUAL OPPORTUNITY EMPLOYER

a) Contractor will not discriminate against any employee or applicant for employment because of age 40 and over, race, sex, color, religion, national origin, disability, genetic information, sexual orientation, veteran status, or any other applicable status protected by state or local law. Contractor will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard to any status set forth in the preceding sentence. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notice to be provided by an agency of the federal government, setting forth the provisions of the Equal Opportunity Laws.

b) Contractor shall be in compliance with the applicable provisions of the American with Disabilities Act as enacted and from time to time amended and any other applicable federal, state, or local laws and regulations. A signed, written certificate stating compliance with the Americans with Disabilities Act may be requested at any time during the life of this Agreement or any renewal thereof.

21.0 NO THIRD PARTY BENEFICIARIES

It is expressly understood and agreed that enforcement of the terms and conditions of this Agreement, and all rights of action relating to such enforcement, shall be strictly reserved to City and Contractor, and nothing contained in this Agreement shall give or allow any such claim or right of action by any other third party on such Agreement. It is the express intention of the parties that any person other than City or Contractor receiving services or benefits under this Agreement shall be deemed to be an incidental beneficiary only.

22.0 SUBCONTRACTORS

Contractor may utilize subcontractors identified in its qualifications submittal to assist with non-specialized works as necessary to complete projects. Contractor will submit any proposed

subcontractor and the description of its services to the City for approval. The City will not work directly with subcontractors.

23.0 AUTHORITY TO BIND

Each of the persons signing below on behalf of any party hereby represents and warrants that such person is signing with full and complete authority to bind the party on whose behalf of whom such person is signing, to each and every term of this Agreement.

In witness whereof, the parties have executed this Agreement to be effective as of the day and year first above written.

CITY OF LOUISVILLE

By:_____
Mayor

Attest:_____
City Clerk

CONTRACTOR:

Jill Fischer, InVision GIS LLC

By:_____

Title: Owner

Date: 12/22/2025

EXHIBIT A: SCOPE OF SERVICES FOR CITY OF LOUISVILLE PUBLIC WORKS – 2026

GIS AND IMPLEMENTATION CONSULTING SERVICES

SUBMITTED BY

InVision GIS, LLC
8466 Cindy Ln
Fort Collins, CO 80525
(970) 667-0501
info@invisiongis.com
www.invisiongis.com

Principal Contact Information:

Jill Fischer
8466 Cindy Ln
Fort Collins, CO 80525
Ph: (970) 776-6321
jillfischer@invisiongis.com

December 22, 2025

Introduction and Budget – Public Works

This scope of work includes tasks for implementing and supporting a Geographic Information System (GIS)-centric Work order System for The City of Louisville-Public Works (City). Louisville PW continues to enhance their current GIS for the growing needs of the City to support further integration with Lucity. Lucity is an asset management and work order system that is highly configurable and integrated with GIS. It requires server configuration, integration with GIS, and software configuration to model business processes. This scope also includes creating futher funtionality in desktop, online and mobile GIS applications.

The Public Works GIS budget for 2026 is $90,000.

Public Works Project Overview

The following section lists tasks that will be worked on this year. The City can modify the task list throughout the year if there is a desire to revise or reprioritize.

1. Coordinate with IT and Public Works on Server Requirements and Installation of Lucity and Esri components. Upgrades to Lucity and Esri products.
2. Coordination with IT on a new Sql Server implementation with new database owners and versioning structure
3. Conversion away from the Geometric Network for water and sewer which uses ArcMap to a new database schema using ArcPro.
4. Conversion of existing desktop and online maps to use the new database schema.
5. Conversion of Lucity to use the new database schema and ArcPro, including training in ArcPro for editing features synced to Lucity.
6. Coordinate with IT on data storage, data ownership, configuration and enterprise set-up.
7. Configure and coordinate security for Lucity, Arrow Eos, Trimble and ArcGIS Enterprise.
8. Serve as a business analyst to determine workflow processes and needs for implementing Lucity modules with Public Works staff.
9. Support, set-up and configure interfaces for WTP & WWTP.
10. Support, set-up and configure inventory for Ops, WTP & WWTP.
11. Configure and implement preventive maintenance and inspection workflow processes for engineering, water, wastewater, storm, facilities, environmental compliance and plants.
12. Support and meetings on Lucity products and enhancements desired by staff.
13. Configure and maintain the integration between Lucity and GIS for editing and updating through both GIS and Lucity software.
14. Create custom training and conduct training for the Lucity and Esri client interfaces.
15. Support and train users on GPS data collection. Manage data collection and updating of features by staff.
16. Support the update of GIS date based on GPS, as-builts and staff edits using Lucity tools.
17. Manage efforts to enhance and maintain an asset management program.
18. Support, train and manage projects of Public Works GIS staff.
19. Work with external consultants to incorporate pavement surveys, traffic counts and asset collection surveys.
20. Create and support web and mobile applications such as Public Works Asset viewer, Field Maps asset data collection, CIP management, Pavement management Traffic Counts and Traffic Calming.
21. Project management and updates.
22. Phone, Email, Web and in-person support.

EXHIBIT B
Schedule of Rates

Tasks will be billed at an hourly rate in increments of 15 minutes and invoiced monthly.

Task	Rate
GIS Specialist	$75/hr
GIS Analyst	$80/hr
Senior GIS Analyst	$85/hr
GIS Professional Services and Project Manager	$110/hr
Travel Time	Same as rate, based on position
Phone, Email, Web Support	Same as rate, based on position

City of Louisville
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City Council Communication
Agenda Item 8.G.

Subject: Resolution No. 6, Series 2026 — A Resolution Encouraging the Regional Transportation District to Complete the Northwest Rail Corridor Project

Date: January 6, 2026

Prepared By: Kurt Kowar, Director

Presented By: Kurt Kowar, Director

Summary:
Adopt a Resolution to encourage the Regional Transportation District (RTD) to utilize reserve FasTracks Internal Savings Account (FISA) funds to complete the Northwest Rail Line to Longmont, through the City of Louisville, also known as the B-Line.

Background / Prior Discussions:
In September 2025, the Regional Transportation District (RTD) proposed using funds from the $190 million FasTracks Internal Savings Account (FISA) reserves for FasTracks maintenance needs and FasTracks debt over the next five years, including the diversion of millions in 2026. It was recently reported that RTD financial reserves are $1 Billion (including restricted funds).

Directing funds toward non FISA-related capital expenditures is inconsistent and noncompliant with RTD's Fiscal Policy which states "…the FISA will be used to provide to complete and operate additional FasTracks projects."

Residents of Louisville have paid millions to the dedicated FasTracks sales tax for 20 years and deserve to see commitments honored.

RTD's fiscal policy reflects a commitment to fiscal responsibility and long-term planning, ensuring that taxpayer dollars collected are reinvested in completing the voter-approved transit vision rather than being absorbed into general operations. The RTD budget proposals are not a reflection of that commitment.

The proposed Resolution would memorialize the City's position that RTD not divert FISA funds from its intended purpose and instead that RTD should complete the FasTracks corridors that the City was promised two decades ago.

Development Proposal:
N/A

Analysis:

Staff recommends that the City Council adopt a Resolution to request that FISA funds remain committed to the original stated purpose of completing the four unfinished FasTracks rail corridors and not be used for non FISA-related capital expenditures.

Council Work Plan:
This resolution supports aspirational goals of rail service in Louisville which indirectly impacts Economic Vitality, Core Services, Safety, and Housing.

Fiscal Impact:
There is no fiscal impact in supporting this resolution.

Alternatives:
The City Council can opt not to adopt Resolution 6, Series 2026, and stay silent regarding RTD funding decisions related to tax dollars collected from the residents of Louisville.

Recommendation:
Pass Resolution 6, Series 2025 - A Resolution Encouraging the Regional Transportation District to complete the Northwest Rail Corridor Project.

Attachments:
1. Resolution No. 6, Series 2026

RESOLUTION NO. 6
SERIES 2026

A RESOLUTION ENCOURAGING THE REGIONAL TRANSPORTATION DISTRICT TO COMPLETE THE NORTHWEST RAIL CORRIDOR PROJECT

WHEREAS, the City of Louisville strongly supports a regional passenger rail connection for the northwest corridor; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. the City of Louisville has taken significant steps to support regional passenger rail through rezoning, land use policy, incentives to vision-aligned development, and construction of parks and public infrastructure; and

Section 2. the residents of Louisville have paid millions in sales tax since 2004 as part of the FasTracks program which promised to provide multiple regional passenger rail stops within the City; and

Section 3. the Regional Transportation District (RTD) has not, to date, fulfilled its commitment to voters to complete the northwest commuter rail line (also known as the "B Line"); and

Section 4. RTD has announced the diversion of FasTracks funds for northwest rail construction to general operations, including maintenance and debt service, which is inconsistent with its stated Fiscal Policy; and

Section 5. the City of Louisville remains committed to contributing to regional transit service to reduce reliance on single occupant passenger vehicles; and

Section 6. the City of Louisville does not support using committed FasTracks funds for other purposes besides construction and completion of the northwest rail; and

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

City of Louisville
COLORADO • SINCE 1878

City Council Communication
Agenda Item 8.H.

Subject: Resolution No. 7, Series 2026 — A Resolution Supporting a Downtown Louisville Station as Part of the Joint Service / Front Range Passenger Rail Project

Date: January 6, 2026

Prepared By: Kurt Kowar, Director

Presented By: Kurt Kowar, Director

Summary:
Adopt a Resolution to support the findings of several major planning efforts completed by the City and the Louisville Revitalization Commission, including the Comprehensive Plan, 2003 Highway 42 Revitalization Area Framework Plan, 2019 Transportation Plan, Future 42 Highway 42 Corridor Plan, and several joint planning efforts with the Regional Transportation District and Front Range Passenger Rail, to place a Joint Service/Front Range Passenger Rail Station in Downtown Louisville, north of the BNSF Underpass at South Street and Front Street.

Background / Prior Discussions:
Northern Front Range Joint Passenger Rail Service (Joint Service) is a collaborative effort by the Regional Transportation District (RTD), the Front Range Passenger Rail (FRPR) District, Colorado Department of Transportation (CDOT), and the Governor's Office to initiate a starter service from Denver to Fort Collins by January 2029. The service would be a hybrid between NW Rail (Peak Rail) and FRPR service but maintain intercity passenger rail classification for federal purposes. The proposed service will serve major communities along the route, including Denver, Westminster, Broomfield, Louisville, Boulder, Longmont, Loveland, and Fort Collins. The proposed Louisville station is located north of the BNSF Underpass at South Street and Front Street. Initially, three daily round trips would be provided starting in 2029.

The City has had a long-term interest and investment in providing rail service to Louisville. Key actions are summarized below.

- The City has invested in the BNSF Underpass, Short Street Intersection on Highway 42, and the current South Street planning and design adjacent to the Downtown Louisville station in anticipation of rail service. These investments have resulted in supplementing the existing surrounding neighborhood and retail with new multifamily residences, new businesses, and support efforts of the Louisville Revitalization Commission and Downtown Business Association. Additionally, several more significant developments are planned that will increase the number of residents and businesses to the Downtown Louisville station.

- The City has invested significantly in supporting transit-oriented development by participating in the Northwest Area Mobility Study and the Future 42 Highway 42 Plans completed in partnership with CDOT, surrounding counties, and municipal agencies.
- Per multiple Downtown Specific Plans, the addition of a regional rail stop is a cornerstone of mobility and connectivity in the area. The Station's travel shed would serve residents from Louisville, Lafayette, Superior, Boulder, Broomfield and Adams Counties.
- Per City Council direction, Staff has been actively working on planning and preparation for passenger rail service for Downtown Louisville.

The City will continue to partner with the State to bring passenger rail to the Northwest Corridor with the proposed Station in Downtown Louisville.

Development Proposal:
N/A

Analysis:
The proposed Resolution is intended to demonstrate the City's commitment to the Joint Service/Front Range Passenger Rail Station in Downtown Louisville (Station) and, if adopted, will be shared with key State decision makers as part of the City's advocacy efforts for a Front Range Passenger Rail Station in Downtown Louisville located on the north side of the BNSF Underpass at South Street and Front Street.

Council Work Plan:
This resolution indirectly supports Economic Vitality, Core Services, Safety, and Housing goals and associated lenses and is correlated directly to efforts in the Council Work Plan such as the Comprehensive Plan, Downtown Vision Plan, Economic Vitality Committee, Building the Foundation, Accessibility, Transportation Infrastructure, and Advocacy.

Fiscal Impact:
This resolution does not commit to any current or future expenditures by the City. Development of a rail station in Downtown Louisville will support downtown businesses and future City economic development and housing goals.

Alternatives:
Alternative options would be to take no action or not to support the Downtown Louisville train station or its location. By not supporting this resolution, the City Council would jeopardize decades of planning efforts and an aggressive window for planning and construction of a rail station with target service starting January 1, 2029.

Recommendation:
Staff recommends approval of Resolution 7, Series 2026 - A Resolution Supporting the

Downtown Louisville Station as Part of the Joint Service / Front Range Passenger Rail Project.

Attachments:

1. Resolution No. 7, Series 2026

RESOLUTION NO. 7
SERIES 2026

A RESOLUTION SUPPORTING A DOWNTOWN LOUISVILLE STATION AS PART OF THE JOINT SERVICE / FRONT RANGE PASSENGER RAIL PROJECT

WHEREAS, The City Council finds development of a Front Range Passenger Rail station within Downtown Louisville at the intersection of South Street and Front Street to be of great importance to the City; and

WHEREAS, the City of Louisville has invested in station connectivity infrastructure, including multiple pedestrian underpasses and State Highway intersection improvements adjacent to the proposed rail station, and these investments have attracted new private sector multifamily and commercial developments; and

WHEREAS, he existing Downtown Louisville is a historic, well established, vibrant, mixed-use urban center in the heart of Louisville; and

WHEREAS, per the Highway 42 Revitalization Area Framework Plan, the addition of a regional rail stop is a cornerstone of mobility and connectivity in the area. The Station's travel shed would serve residents from Louisville, Lafayette, Superior, Boulder, Broomfield and Adams Counties; and

WHEREAS, by this resolution the City Council desires to demonstrate the City's commitment to the Joint Service/Front Range Passenger Rail Station in Downtown Louisville (the "Station").

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City hereby expresses its commitment to the development of the Joint/Service/Front Range Passenger Rail Station in Downtown Louisville and will provide resources for planning, supporting and facilitating such Station.

Section 2. City looks forward to continuing its partnership and cooperation with other involved agencies as the state brings passenger rail to the northwest corridor with the Station in Downtown Louisville.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 11A

SUBJECT: **CONTINUATION MEMORANDUM – COAL CREEK VILLAGE PRELIMINARY PUD/PLAT AND REZONING**

ORDINANCE NO. 1910, SERIES 2026 – AN ORDINANCE APPROVING A REZONING OF A PORTION OF THE CALEDONIA PLACE SUBDIVISION PLAT FROM COMMERCIAL COMMUNITY (C-C) AND RESIDENTIAL MEDIUM DENSITY (R-M) TO MISED USE-RESIDENTIAL (MU-R) AND APPROVING AN AMENDMENT TO EXHIBIT A, LAND USE PLAN EXHIBIT, REFERENCE IN LOUISVILLE MUNICIPAL CODE CHAPTER 17.14 – MIXED USE ZONE DISTRICTS – 2ND READING, PUBLIC HEARING (advertised City of Louisville website 11/19/25)

RESOLUTION NO. XX, SERIES 2026 – A RESOLUTION APPROVING A PRELIMINARY PLANNED UNIT DEVELOPMENT (PUD), PRELIMINARY PLAT, AND SPECIAL REVIEW USE TO ALLOW 188 DWELLING UNITS AND 13,534 SQUARE FEET OF COMMERCIAL SPACE AT 1032, 1034, AND 1040 EAST SOUTH BOULDER ROAD

DATE: **JANUARY 6, 2026**

PREPARED BY: **MATT POST, AICP, SENIOR PLANNER**

SUMMARY:
Following community and neighborhood engagement, the applicant has elected to revise certain elements of the originally submitted Preliminary Planned Unit Development (PUD). While this item was duly noticed for a public hearing before City Council for January 6, the revised plan was not included in the noticed packet materials. Accordingly, additional staff review is necessary to update the packet and ensure the public record and staff's recommendation accurately reflect the revised proposal. Staff recommends that this item be continued to February 3 to allow staff, the City Council, and the public adequate opportunity to review the updated information.

SUBJECT: **RESOLUTION NO. 9, SERIES 2026 – A RESOLUTION DESIGNATING THE RESIDENCE LOCATED AT 728 GRANT AVENUE A HISTORIC LANDMARK TO BE NAMED THE KOEPPLER HOUSE AND APPROVING A PRESERVATION AND RESTORATION GRANT**

DATE: **JANUARY 6, 2026**

PREPARED BY: **JESS DANIELS, SENIOR PLANNER**

PRESENTED BY: **JESS DANIELS, SENIOR PLANNER**

SUMMARY:
The applicant is requesting the following:

- Landmark designation of 728 Grant Avenue, to be named the Koeppler House.
- A Preservation and Restoration Grant of $40,000.00 to rehabilitate the existing porch and second story deck.

Historic Preservation Commission (HPC) recommendation:

- HPC recommends approval of the Landmark and Grant request.

Staff recommendation:

- Staff recommend approval of the Landmark and Grant request.

Vicinity Map

BACKGROUND / PRIOR DISCUSSIONS:

HISTORICAL BACKGROUND:
Information from Bridget Bacon, Louisville Historical Museum

The Boulder County Assessor estimates that 728 Grant Avenue was built c. 1904. The subdivision in which this house is located, the Pleasant Hill Addition, was platted in 1894. The subdivision was developed in the name of Orrin Welch, the half-brother of Charles C. Welch. Charles Welch was the person most responsible for the establishment of Louisville in 1878 after he established the first coal mine in this area in 1877.

It is believed that John Unger built the house at 728 Grant. He was a carpenter and builder by trade and bought the lots from Orrin Welch in 1904. He owned the property until 1907 when he sold to Harry Van Mater, who was the President of the National Fuel Company. In 1912, Van Mater transferred the ownership directly under the National Fuel Company. Van Mater himself lived and worked in Denver. His name appears in a number of national newspaper articles from 1914 relating to opposing the efforts of the miners who were on strike in Colorado at that time.

Minnie Rockley owned the home from 1936-1945, and based on City Directories, likely kept it as a rental property. The next owners, William & Flora Hutsell subdivided the property in the lots we know today on Grant. By doing so, they moved another house of theirs to 732 Grant. It appears William and his family lived at 732 Grant and William was a coal miner. From 1954 until 1979, Roy and Shirley Mullinex owned and lived at 728 Grant. Roy was a tile layer with Boulder Tile. In 1978, the County Assessor re-visited the property and took the photo below:

728 Grant Avenue, west (front) elevation – 1978 Boulder Assessors Card

728 Grant – LHM 2008.008.024 – c. 1970s/1980s photo

Please see attached Social History Report (Attachment No. 1) for more information.

Current photo of 728 Grant Avenue, November 2025

ARCHITECTURAL INTEGRITY

The PaleoWest Historic Context, *Stories in Places*, identifies 728 Grant Avenue as a property to target for landmarking and preservation. It is a rare example of Dutch Colonial Revival with adequate integrity, as identified by the report. The house is 2 stories with horizontal wood siding on the first floor and decorative shingling in the gable of the front gabled gambrel roof. The south elevation has a boxed bay window with decorative detailing, and the north has a cross gabled section in the center, also exhibiting decorative shingling in the gable. The porch has been altered since at least the 1978 Assessor's photo in which the porch railings are filled in horizontal siding and extend the full width of the house. The columns at that time appear to be of the Tuscan style, which were extremely common in Colonial Revivals in general.

A 1985 State of Colorado inventory record survey notes in the statement of significance that it was the only surveyed Dutch Colonial Revival in Louisville.

HISTORIC STRUCTURE ASSESMENT

A Historic Structure Assessment (HSA) was previously done for the property, completed by Conscious Design LLC in association with Hartronft Associates P.C. in 2023 and paid for by the Historic Preservation Fund. As per the HSA, the existing house at 728 Grant is in good condition overall. The following information was provided in relation to the proposed alteration certificate (alteration certificate is not part of this City Council request):

> *The 2nd floor deck on the front of the house appeared to show plywood sub-floor with a water-proof membrane on top. The wood framed rail appeared to be made of modern mill-work parts and dimensional lumber….For the west facing covered deck, we suggest the removing and replacing of the subroof, roof waterproofing, deck walking surface, deck wood fascia, gutters, most or all of the railing pickets, and fasteners. Upon removal of the subroofing, a more complete evaluation of the condition of the joists and structural members may be determined…*
>
> *…The following are items which are important to address from a safety, code, and/or serviceability standpoint and have been identified in the phasing plan:*
>
> *Phase I: Address Serious Deficiencies:*
> 1. *Rebuild the covered deck and associated second floor railings.*
> 2. *Provide a new foundation adjacent to the excavated cellar.*
> 3. *New cast-in-place footings in concert with new reorganized post and beam framing supporting the first.*

As per the HSA, the addition of the west side porch appears to be around 52 years old. However, effort has been undertaken to make it appear to fit within the original time period in which it was built.

ANALYSIS:

In order to receive a City Landmark designation, landmarks must be at least 50 years old and meet one or more of the criteria for architectural, social or geographic/environmental significance as described in Louisville Municipal Code (LMC) Section 15.36.050(A).

Staff analysis of the criteria is as follows:

Sec. 15.36.050. - Criteria for Designation

Criteria	Meets Criteria ?	Evaluation
A. Landmarks must be at least 50 years old and meet one or more of the criteria for architectural, social or geographic/environmental significance as described in this chapter.	**Yes**	728 Grant Avenue was constructed around 1904, making it approximately 121 years old.
1. a. Architectural. ***1) Exemplifies specific elements of an architectural style or period.*** *2) Example of the work of an architect or builder who is recognized for expertise nationally, statewide, regionally, or locally.* *3) Demonstrates superior craftsmanship or high artistic value.* *4) Represents an innovation in construction, materials or design.* *5) Style particularly associated with the Louisville area.* *6) Represents a built environment of a group of people in an era of history that is culturally significant to Louisville.* *7) Pattern or grouping of elements representing at least one of the above criteria.* *8) Significant historic remodel.*	**Yes**	Architectural Significance - *Exemplifies specific elements of an architectural style or period.* • 728 Grant Avenue is one of the best examples of the Dutch Colonial Revival style in Louisville. Dutch Colonial Revivals were extremely popular in and around the turn of the century and made their way westward from the East Coast. The decorative shingling detailed in the gables are distinctive and were an important character defining feature to many 1900s era homes.

Criteria	Meets Criteria ?	Evaluation
1. b. Social. *1) Site of historic event that had an effect upon society.* ***2) Exemplifies cultural, political, economic or social heritage of the community.*** ***3) Association with a notable person or the work of a notable person.***	**Yes**	Social Significance - *Exemplifies cultural, political, economic or social heritage of the community.* • Association with four different families occupying the home at different times related to professions such as carpentry and mining. •
1. c. Geographic/environmental. ***1) Enhances sense of identity of the community.*** *2) An established and familiar natural setting or visual feature that is culturally significant to the history of Louisville.*	**Yes**	The historic location of the house helps to create a sense of neighborhood identity.

Criteria	Meets Criteria ?	Evaluation
3. *All properties will be evaluated for physical integrity and shall meet one or more of the following criteria:* ***a. Shows character, interest or value as part of the development, heritage or cultural characteristics of the community, region, state, or nation.*** ***b. Retains original design features, materials and/or character.*** ***c. Remains in its original location, has the same historic context after having been moved, or was moved more than 50 years ago.*** *d. Has been accurately reconstructed or restored based on historic documentation.*	**Yes**	*Shows character, interest or value as part of the development, heritage or cultural characteristics of the community, region, state, or nation.* • The house is located in the Pleasant Hill Subdivision which was first platted by the founder of the Louisville area's first mine, Charles Welch. It retains all seven aspects of integrity: location, setting, design, materials, workmanship, feeling, and association. It also has numerous historical ties to Louisville's coal mining industry. *Retains original design features, materials and/or character.* • Has adequate integrity and same design features and character of rare dutch revival style house. *Remains in its original location, has the same historic context after having been moved, or was moved more than 50 years ago.* • The structure has not been moved.

GRANT REQUEST:
The applicant is requesting approval of a Preservation and Restoration Grant for rehabilitation work to reconstruct the existing porch and second story deck. The HSA (attached lists rebuilding the covered porch and associated second floor deck and railings as a serious deficiency (i.e. high priority item).

Preservation and Restoration Grant:
Under Resolution No. 102, Series 2025, residential applicants are eligible for a $7,700 unmatched incentive grant as a Landmark bonus. This grant would be in addition to the $4,000 grant for the Historic Structure Assessment previously approved for the property. Owners of a landmarked property will be eligible for this grant following the signing of the Landmark and grant agreements. The remaining $40,000 grant shall be conditioned based on the applicant matching one hundred percent of the amount for approved work. Approved work must fall under the categories of preservation, rehabilitation, and restoration.

> **Preservation** *is the act or process of applying measures necessary to sustain the existing form, integrity, and materials of an historic property as they now exist. Approved work focuses upon the repair of exterior historic materials and features rather than extensive replacement and new construction.*
>
> **Rehabilitation** *is the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values. Rehabilitation acknowledges the need to alter or add to a historic property to meet continuing or changing uses while retaining the property's historic character. The limited and sensitive upgrading of mechanical, electrical, and plumbing systems and other code-required work to make properties functional is appropriate.*
>
> **Restoration** *is the act or process of accurately depicting the form, features, and character of a property as it appeared at a particular period of time. Approved work focuses on exterior work and includes the removal of features from other periods in its history and reconstruction of missing features from the restoration period.*

Staff reviewed the Preservation and Restoration Grant request by evaluating whether each request line item qualified for grant funding as either preservation, rehabilitation, or restoration.

Findings are summarized in the following table:

Table 1. Analysis of Qualifying Grant Requests

Requests		**Analysis**	
Description	Amount	Preservation, Restoration, or Rehabilitation?	In HSA?
Drawings & Engineering	$2,500.00	N/A	X
Asbestos/Mold Mitigation	$200.00	Rehabilitation	✓
Site Work (Excavating/Backfill, Compaction, Material Import/Export)	$1,750.00	Rehabilitation	✓
Concrete – Porch (Foundation, Helicals, Concrete Sawing/Boring	$6,975.00	Rehabilitation	✓
General Wood/Materials, Carpentry, Labor (Frame Materials, Frame In-House Labor, Demo/Dust Mitigation, Demo In-House Labor, Exterior Trim Materials, Exterior Trim In-House Labor, Window and Door Installation, Deck Material/Rail, Deck Labor In-House, Project Management)	$48,775.00	Rehabilitation	✓
Thermal and Moisture Protection (Weatherproofing, Temporary Roofing, TPO, Membrane Roofing, Accessories Gutters and Downspouts)	$5,660.00	Rehabilitation	✓
Two Storm Doors and Hardware	$1,175.00	Rehabilitation	✓
Painting (eligible for replaced materials)	$3,750.00	N/A	✓
General Contractor Fees (20%) & Misc. Construction Costs	$14,791.00	N/A	✓
Total Project Cost	$85,576.00		
Total Recommended	$40,000.00		

Historic Preservation Commission (HPC) Recommendation
The Historic Preservation Commission (HPC) held a public hearing on the application at the November 17, 2025 meeting. The Commissioners voted to recommend approval of the local landmark designation and grant request, as well as an alteration certificate (not part of this City Council request). LINK: November 17, 2025, Historic Preservation Commission Communication.

2025 COUNCIL WORK PLAN:
This item is not on the 2025 City Council Work Plan.

FISCAL IMPACT:
Budgeted?: **Not Applicable**
Approval of the grant request allows for matched grants from the Historic Preservation Fund (HPF) of up to $ 83,000.00 (including stabilization work) plus a $7,700.00 landmark incentive grant (unmatched) as per Resolution No. 102, Series 2025. At the time of HPC consideration of the request, Resolution No. 17, Series 2019 governed the allowable grant incentive amounts, which were up to $40,000.00 for a residential property. Resolution No. 102, Series 2025 was adopted on December 16, 2025, and contains newly updated grant incentives amounts that will apply to the property when it is landmarked. Therefore, the property owner may be eligible to access additional funds at a future date as per the grant limits and criteria outlined in Resolution No. 102 Series 2025. The unencumbered fund balance is estimated at $2.1M and the average income of the Fund over the past two years is approximately $1M, thus, staff finds there are adequate funds to support the request.

ALTERNATIVES:
1. That Council does not approve Resolution No. 9, Series 2026, approving the landmark designation and restoration grant for 728 Grant Avenue.

2. That Council approve the landmark designation with an alternative Preservation and Restoration Grant amount.

These alternative actions would not align with the recommendation of the Historic Preservation Commission.

RECOMMENDATION:
1. Approval of Resolution No. 9, Series 2026, approving the landmark designation at 728 Grant Avenue, to be named the Koeppler House, and a Preservation and Restoration Grant of up to $40,000.00 to rehabilitate the existing porch and second story deck.

ATTACHMENTS:

1. Resolution No. 9, Series 2026
2. Social History Report
3. Historic Structure Assessment
4. Presentation

RESOLUTION NO. 9
SERIES 2026

A RESOLUTION DESIGNATING THE RESIDENCE LOCATED AT 728 GRANT AVENUE A HISTORIC LANDMARK TO BE NAMED THE KOEPPLER HOUSE AND APPROVING A PRESERVATION AND RESTORATION GRANT

WHEREAS, there has been submitted to the City Council an application requesting a landmark eligibility determination and a preservation and restoration grant for a historical residential structure located at 728 Grant Avenue on property legal described as the South Half of Lot 4 and all of Lot 5, Block 7, Pleasant Hill Subdivision, City of Louisville, County of Boulder, State of Colorado; and

WHEREAS, City staff and the Louisville Historic Preservation Commission have reviewed the application and found it to be in compliance with Chapter 15.36 of the Louisville Municipal Code;

WHEREAS, the Louisville Historic Preservation Commission held a properly noticed public hearing on the proposed landmark application and grant application and has forwarded to the City Council its recommendation of approval; and

WHEREAS, the City Council has duly considered the proposed landmark and grant applications and the Commission's recommendation and report, and has held a properly noticed public hearing on the applications; and

WHEREAS, the City Council finds the residence at 728 Grant Avenue meets the criteria set forth in Section 15.36.050.A.1.a of the Louisville Municipal Code for architectural significance because of the architectural integrity that is representative of the built environment in 1900s Louisville; and

WHEREAS, the City Council finds the residence at 1016 Main Street meets the criteria set forth in Section 15.36.050.A.1.b of the Louisville Municipal Code for social significance because it exemplifies the cultural, political, economic, or social heritage of the community considering its association with various Louisville families and Louisville's cultural heritage; and

WHEREAS, the City Council finds this architectural and social significance justifies the approval of the historic landmark application; and

WHEREAS, the City Council finds the repairs to the existing structure to be funded by the preservation and restoration grant will assist in the preservation of the Koeppler House, and the requested grant for the same should be approved.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The proposed historic landmark application for the residence located at 728 Grant Avenue is hereby approved and is hereby designated a historic landmark to be known as the Koeppler House

Section 2. As a historic landmark, the Koeppler House is eligible for incentives offered by the City for historic landmarks, including a **$7,700** landmark incentive grant that is hereby approved by the City Council.

Section 3. The City Council hereby approves the preservation and restoration grant application for the Koeppler House in the amount of **$40,000.00**, for work as described in **Exhibit A** attached hereto and incorporated herein by this reference.

Section 4. The City Clerk shall provide written notification of such designation to the property owners and cause a copy of this resolution to be recorded with the Boulder County Clerk and Recorder.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

EXHIBIT A

Table 1. Summary of staff analysis of qualification of Preservation Grant requests under Reso. 17, Series 2019.			
Requests		**Analysis**	
Description	Amount	Preservation, Restoration, or Rehabilitation?	In HSA?
Drawings & Engineering	$2,500.00	N/A	X
Asbestos/Mold Mitigation	$200.00	Rehabilitation	✓
Site Work (Excavating/Backfill/Compaction, Material Import/Export)	$1,750.00	N/A	✓
Concrete – Porch (Foundation, Helicals, Concrete Sawing/Boring	$6,975.00		✓
General Wood/Materials, Carpentry, Labor (Frame Materials, Frame In-House Labor, Demo/Dust Mitigation, Demo In-House Labor, Exterior Trim Materials, Exterior Trim In-House Labor, Window and Door Installation, Deck Material/Rail, Deck Labor In-House, Project Management)	$48,775.00	Rehabilitation	✓
Thermal and Moisture Protection (Weatherproofing, Temporary Roofing, TPO, Membrane Roofing, Accessories Gutters and Downspouts)	$5,660.00	Rehabilitation	✓
Two Storm Doors and Hardware	$1,175.00	Rehabilitation	✓
Painting (eligible for replaced materials)	$3,750.00	N/A	✓
General Contractor Fees (20%) & Misc. Construction Costs	$14,791.00	N/A	✓
Total Project Cost	$85,576.00		
Total Recommended	$40,000.00		

Louisville Historical Museum
October 2010

Property: 728 Grant Ave.

Legal description: South 1/2 Lot 4 & all of Lot 5, Block 7, Pleasant Hill Addition

Year of Construction: Boulder County says that the house was built in 1904. The house is shown in the correct location on the 1909 Drumm's Wall Map at the Louisville Historical Museum.

Architect/Builder: Unknown

Previous Addresses Used to Refer to this property:

- Prior to town wide address changes in late 1930s: none found
- Following town wide address changes in late 1930s: none found

---

1985 Survey of this Property

In 1985, this property was surveyed for the State of Colorado and the inventory record states the following:

"This is a Dutch Colonial Revival style structure. The foundation is rusticated ashlar with a brick foundation on the rear addition. The structure has a rectangular footprint. The doors and windows are in their original location, the windows are original. The roof is gamboled with asphalt shingles and a hipped roof over the addition. There are no associated outbuildings."

"This structure has an addition on the back and a wooden porch, both of which appear to be historic, dates unknown."

The inventory record also noted that "[i]t is not typical miner's housing since it is a two story Dutch Colonial Revival. It may have been the home of someone of supervisory level."

The statement of significance states: "This is the only surveyed Dutch Colonial Revival structure in Louisville. It has integrity of location and some structural integrity, despite an addition in back and a porch addition."

It is not known why the house was referred to as the "Koeppler House" in the 1985 survey, as a search of the property records indicates that Joseph Koeppler owned the property for just two months in 1936.

Orrin T. Welch and the Establishment of the Pleasant Hill Addition

The subdivision in which 728 Grant is located is the Pleasant Hill Addition. This addition was platted and recorded with Boulder County in 1894 by Orrin T. Welch. Orrin Welch was the half brother of Charles C. Welch, the prominent Colorado businessman who played the major role in the founding of Louisville and the opening of its first coal mine, the Welch Mine, back in the 1870s. In the 1890s, Charles Welch was still involved in the development of the town. An example of this is Welch's transfer of the property that would become the Pleasant Hill Addition to his half brother, Orrin, in 1893.

John Unger, 1904-1907

Orrin Welch, the Pleasant Hill Addition developer, sold Lots 3, 4, and 5 in Block 7 to John Unger in 1904. (The property would later be divided, resulting in 728 and 732 Grant. This occurred in the early 1950s.)

The significance of the ownership by John Unger is that Unger was a "carpenter & bldr," as stated in the 1906 directory for Louisville. He could well have been the builder of the house. The County's date of 1904 as the construction year seems consistent with this information.

Harry Van Mater and the National Fuel Company, 1907-1936 (29 years)

This house and property were then transferred to Harry Van Mater, a coal operator who was the President of the National Fuel Company. He transferred ownership to the National Fuel Company itself in 1912. It can be speculated that the house was the residence of someone in a management role at a local mine, perhaps as part of his compensation from the National Fuel Company.

Van Mater himself lived and worked in Denver. His name appears in a number of national newspaper articles from 1914 (available online) relating to opposing the efforts of the miners who were on strike in Colorado at that time.

Carolyn Conarroe's book *The Louisville Story* indicates that locally, the National Fuel Company owned at least the Monarch #1 Mine near Marshall, from 1902 to 1918.

The following photo taken from the school (where Memory Square Park is now located) shows the north side of 728 Grant with no buildings between it and Spruce Street; it is undated, but appears to have been taken in the 1920s. 728 Grant is on the right, in back of the car.

Minnie Rockley, 1936-1945 (9 years)

After a short period of ownership by Joseph Koeppler in 1936, the property was transferred to Minnie Rockley. During this period, however, she is listed in directories as living with her husband elsewhere in Louisville. The house may have been used as a rental or for a family member.

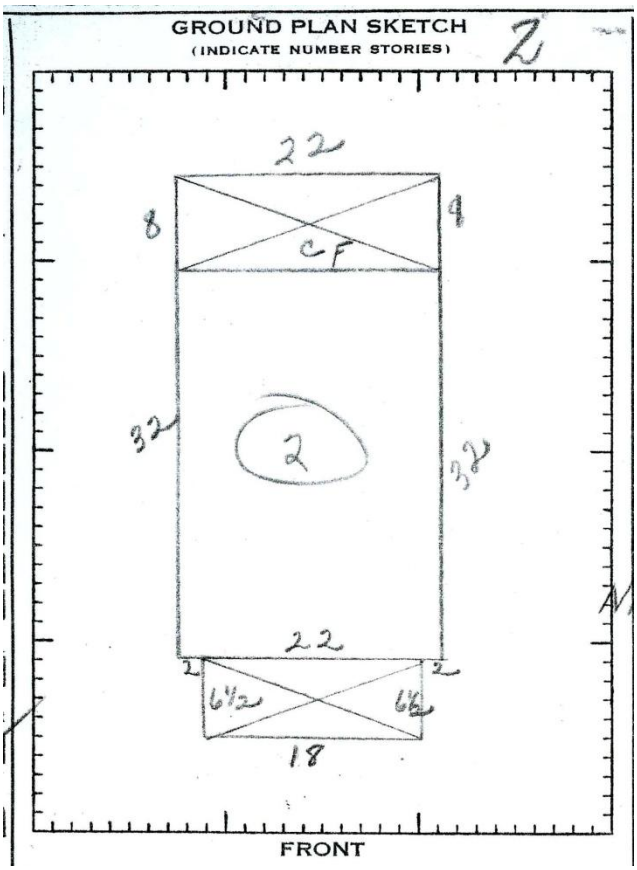
William & Flora Hutsell, 1945-1954 (9 years)

The next primary owners were the Hutsells, who then divided the property in 1954. The result was the sale of this property, 728 Grant, to Roy and Shirley Mullinex, while the Hutsells moved a house from the area of the University of Colorado in Boulder to 732 Grant in Louisville, where they then made their home.

William Hutsell was a coal miner and he and his wife, Flora, had at least three children, and perhaps more, who lived with them in the house. Donald, Wayne, and William Jr. are listed in the 1951 directory as residing with their parents at 728 Grant.

It was during the Hutsell ownership that the Boulder County Assessor surveyed the property in 1948. This shows the County's photo:

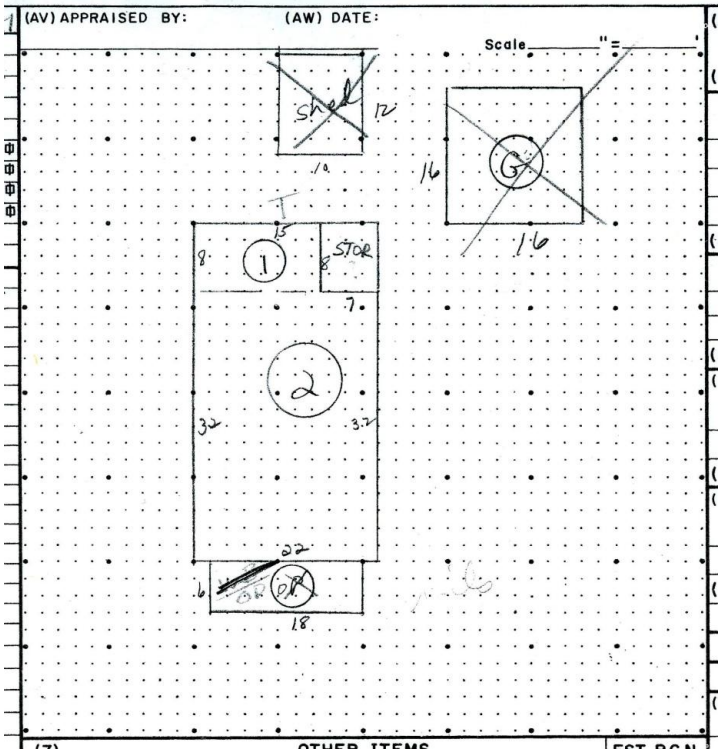
This shows the 1948 layout:



Roy & Shirley Mullinex, 1954 – 1979 (25 years)

Roy Mullinex was a tile layer with Boulder Tile and resided at 728 Grant, according to the 1956 directory for Louisville.

The County Assessor again surveyed the property in 1978 and took this photo and drew this layout:



728 GRANT AVENUE
HISTORIC STRUCTURE ASSESSMENT
LOUISVILLE, CO

THIS PROJECT WAS PAID FOR BY A LOUISVILLE,
HISTORICAL FUND GRANT

Date: July 14, 2023

Prepared For:
Cameron and Ann Wiese
728 Grant Avenue
Louisville, CO 80027

Prepared By:
Conscious Design LLC
in association with:
Hartronft Associates, P.C.
950 Spruce Street, Suite 2A
Louisville, CO 80027

728 GRANT
HISTORIC STRUCTURE ASSESSMENT

TABLE OF CONTENTS

1.0	**INTRODUCTION**	**2**
1.1	RESEARCH BACKGROUND / PROJECT PARTICIPANTS	2
1.2	BUILDING LOCATION	3
2.0	**HISTORY AND USE**	**5**
2.1	ARCHITECTURAL SIGNIFICANCE AND CONSTRUCTION HISTORY	5
2.2	FLOOR PLANS	5
2.3	PROPOSED USES	12
3.0	**STRUCTURE CONDITION ASSESSMENT**	**13**
3.0	RATING SYSTEM	13
3.1	SITE	13
3.2	FOUNDATION	14
3.3	STRUCTURAL SYSTEM	14
3.4	ENVELOPE – EXTERIOR WALLS	20
3.5	ENVELOPE – ROOFING AND WATERPROOFING	22
3.6	WINDOWS AND DOORS	24
3.7	INTERIOR FINISHES	28
3.8	MECHANICAL SYSTEMS	30
3.9	ELECTRICAL SYSTEMS	34
4.0	**ANALYSIS & COMPLIANCE**	**37**
4.1	HAZARDOUS MATERIALS	37
4.2	MATERIALS ANALYSIS	37
4.3	ZONING CODE COMPLIANCE	37
4.4	BUILDING CODE COMPLIANCE	37
4.5	ACCESSIBILITY COMPLIANCE	37
5.0	**PRESERVATION PLAN**	**38**
5.1	PRIORITIZED WORK	38
5.2	PHASING PLAN	39
5.3	ESTIMATE OF PROBABLE COST OF CONSTRUCTION	40
6.0	**PHOTOGRAPHS AND ILLUSTRATIONS**	**41**
7.0	**BIBLIOGRAPHY**	**42**

1.0 INTRODUCTION

1.1 RESEARCH BACKGROUND / PROJECT PARTICIPANTS

1.1.1 PROJECT BACKGROUND

Eric Ellis of Conscious Design LLC and Matt Berry of Ascent Structural Engineering conducted a Historical Structural Assessment at the house at 728 Grant Street in Louisville, CO to determine its viability as a candidate for a historic landmark status as defined under the Historic Preservation program of the City of Louisville.

Eric Ellis and Matt Berry reviewed the property on the afternoon of November 10th, 2022. The sky was clear and the temperature was in the mid 50s. Eric Ellis returned to the site on multiple occasions thereafter to review and measure additional areas of the site and structure.

1.1.2 PROJECT PARTICIPANTS

Property Owners:

Cameron and Ann Weise
728 Grant Avenue
Louisville, CO 80026
303.661.0294
Contact: Ann Weise

Historic Structure Assessment Consultants:

Preservation Architect: Conscious Design, LLC
in collaboration with Hartronft Associates p.c.
2260 Redwood Ave.
Lafayette, CO 80026
720.633.0936
Contact: Eric Ellis, Registered Architect, Principal

Structural Engineer: Ascent Group
4909 Pearl East Circle, Suite 201
Boulder, CO 80301
(w) 303/499-3022 (f) 303/499.3032
Contact: Matt Berry, PE

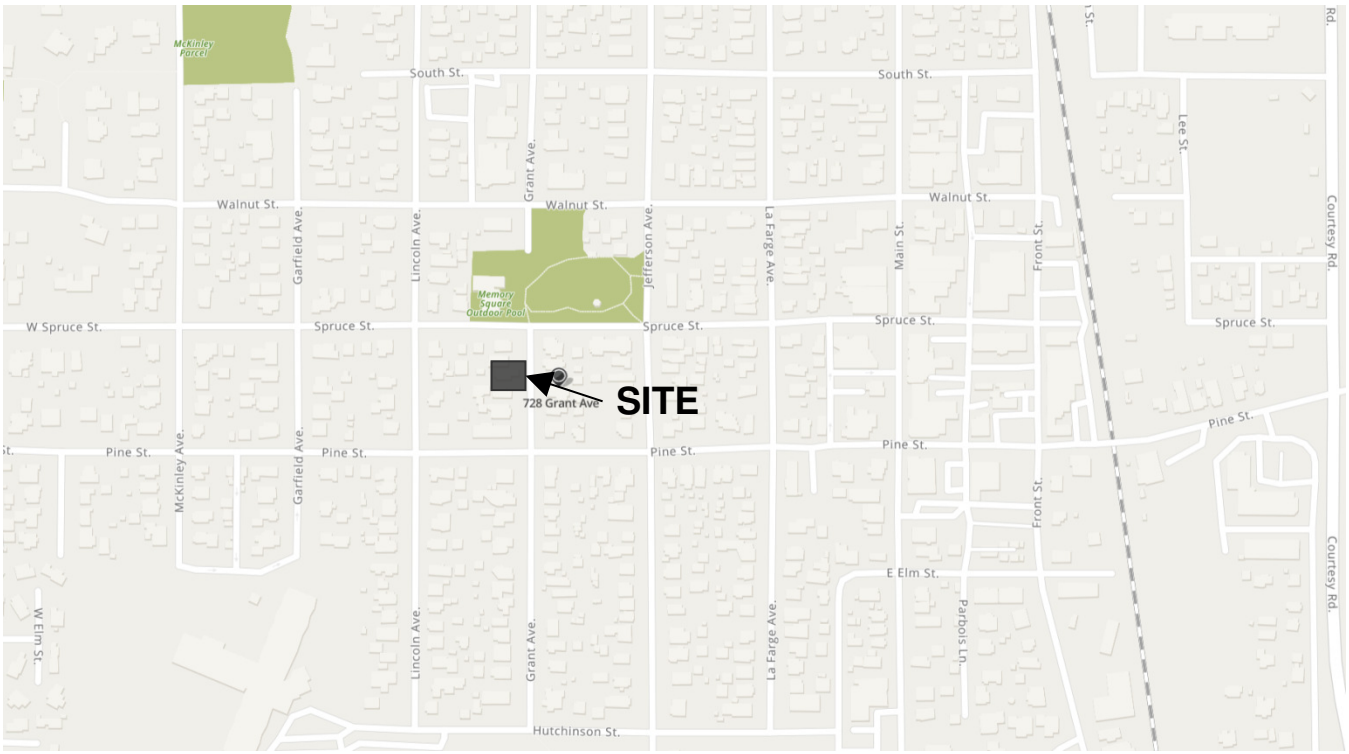
Sources:

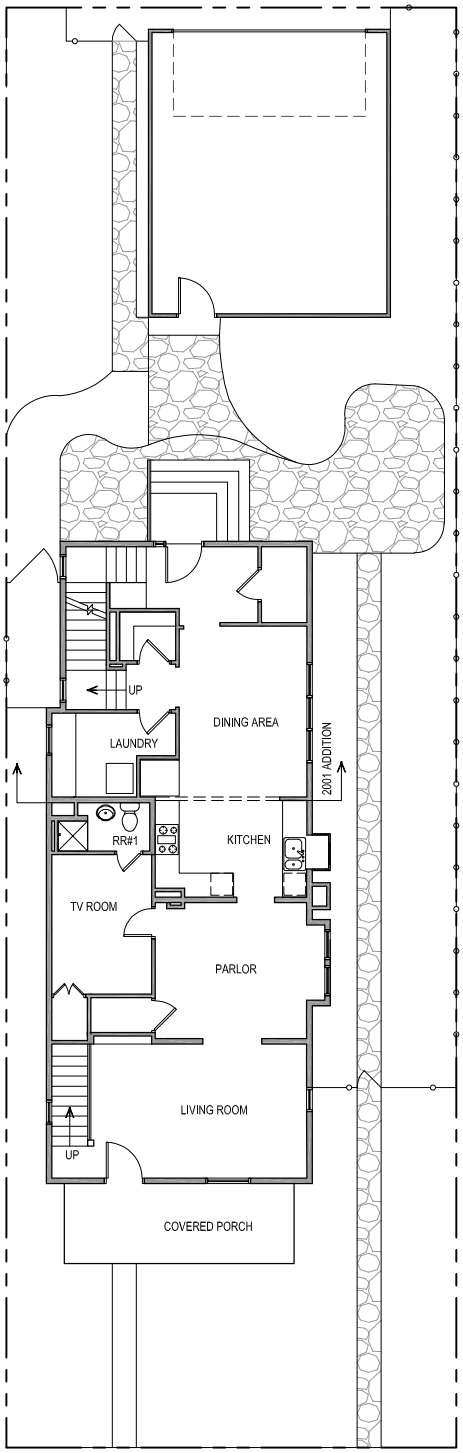
Louisville Historic Preservation Commission Staff Report, July 26, 2021
Louisville Historical Museum Report, October 2010
Ascent Structural Engineering Report, February 8, 2023

1.2 BUILDING LOCATION

1.2.1 VICINITY MAP

725 Grant Avenue, Louisville, CO 80027





SITE PLAN

1/16" = 1'-0"

NORTH

CD Conscious Design Awareness Architecture

ConsciousDesign, LLC

2260 Redwood Ave.
Lafayette, CO 80026
720.633.0936

728 Grant Ave
Historical Structure Assessment
728 Grant Ave, Louisville CO 80027

1

S ½ Lot 4, and all Lot 5 Block 7 of the Pleasant Hill Subdivision

2.0 HISTORY AND USE

2.1 ARCHITECTURAL SIGNIFICANCE AND CONSTRUCTION HISTORY

Information from Bridget Bacon, Louisville Historical Museum

The Boulder County Assessor's estimates that 728 Grant Avenue was built c. 1904. The subdivision in which this house is located, the Pleasant Hill Addition, was platted in 1894. The subdivision was developed in the name of Orrin Welch, the half-brother of Charles C. Welch. Charles Welch was the person most responsible for the establishment of Louisville in 1878 after he established the first coal mine in this area in 1877.

It is believed that John Unger built the house at 728 Grant. He was a carpenter and builder by trade and bought the lots from Orrin Welch in 1904. He owned the property until 1907 when he sold to Harry Van Mater, who was the President of the National Fuel Company. In 1912, Van Mater transferred the ownership directly under the National Fuel Company. Van Mater himself lived and worked in Denver. His name appears in a number of national newspaper articles from 1914 relating to opposing the efforts of the miners who were on strike in Colorado at that time. The following photo taken from the school (where Memory Square Park is now located) shows the north side of 728 Grant with no buildings between it and Spruce Street; it is undated, but appears to have been taken in the 1920s. 728 Grant is on the right, in back of the car.

Minnie Rockley owned the home from 1936-1945, and based on City Directories, likely kept it as a rental property. The next owners, William & Flora Hutsell subdivided the property in the lots we know today on Grant. By doing so, they moved another house of theirs to 732 Grant. It appears William and his family lived at 732 Grant and William was a coal miner.

From 1954 until 1979, Roy and Shirley Mullinex owned and lived at 728 Grant. Roy was a tile layer with Boulder Tile. In 1978 the County Assessor re-visited the property in 1978 and took the photo below:

728 Grant Avenue, west (front) elevation – 1978 Boulder Assessors Card

728 Grant Avenue, northwest elevation– 2013 photo

728 Grant Avenue, southwest elevation – 2013 photo

728 Grant – LHM 2008.008.024 – c. 1970s/1980s photo

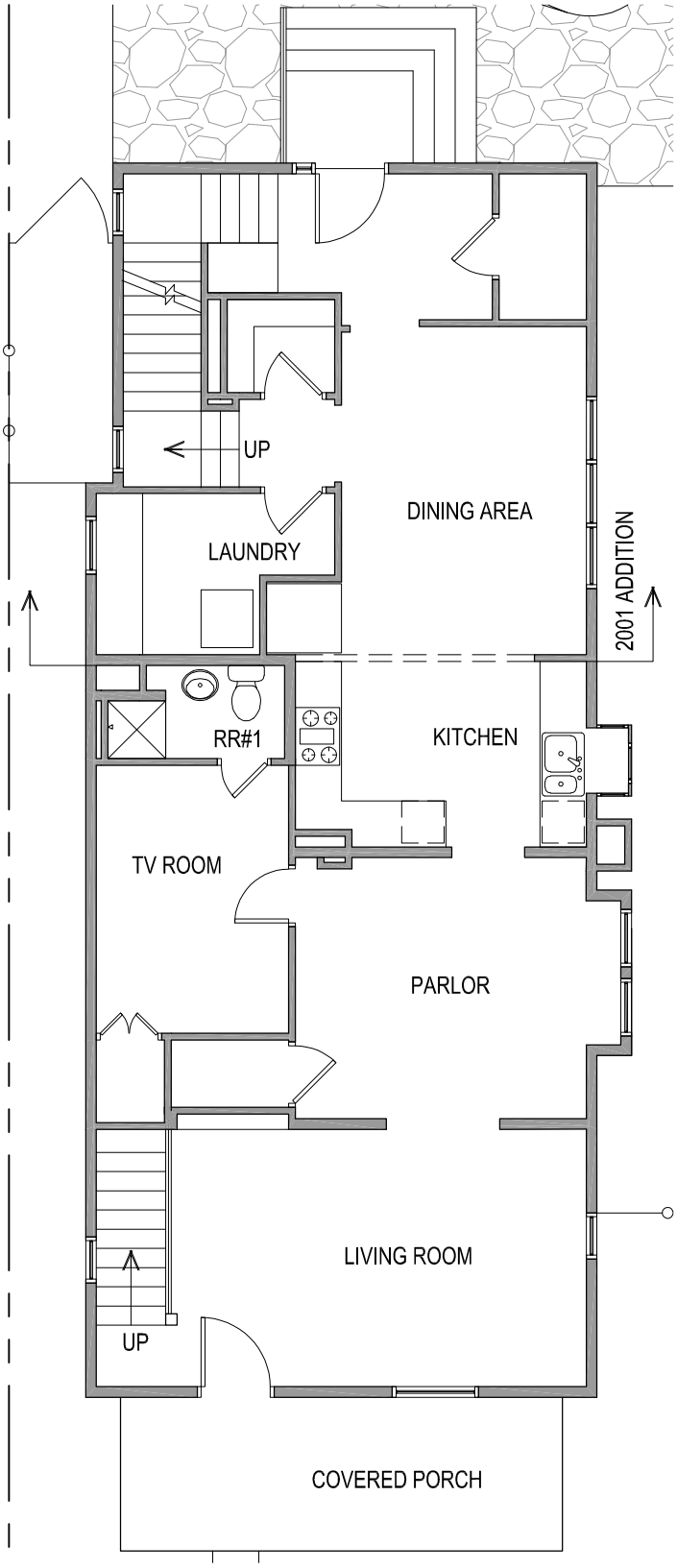
ARCHITECTURAL INTEGRITY:

728 Grant Avenue is an excellent example of Dutch Colonial Revival, a rare style for Louisville. The noticeable gambrel style roof is also a telling marker of Shingle style homes, though the Dutch Colonial Revival often exhibits a narrower front gambrel orientation which derived from the need to fit into suburban lots, among other key differences. A number of original windows appear original, as does the general form and feel of the home as it has not had any major additions that have greatly affected the mass or design of the home. There is an undated rear addition, that is very likely historic as it appears to match the sketch from the 1948 Assessor's card.

The house is two stories with horizontal wood siding on the first floor and decorative shingling in the gable of the front gabled gambrel roof. The south elevation has a boxed bay window with decorative detailing and the north has a cross gabled section in the center, also exhibiting decorative shingling in the gable. The porch has been altered since at least the 1948 Assessor's photo in which the porch railing is filled-in with horizontal siding and extends the full width of the house. The columns at that time appear to be of the Tuscan style, which were extremely common in Colonial Revivals in general.

A 1985 State of Colorado inventory record survey notes in the statement of significance that it was the only surveyed Dutch Colonial Revival in Louisville. That is not confirmed, but it is a very uncommon style to Old Town.

2.2 FLOOR PLANS



FIRST FLOOR PLAN

1/8" = 1'-0"

NORTH

CD Conscious Design Awareness Architecture

ConsciousDesign, LLC

2260 Redwood Ave.
Lafayette, CO 80026
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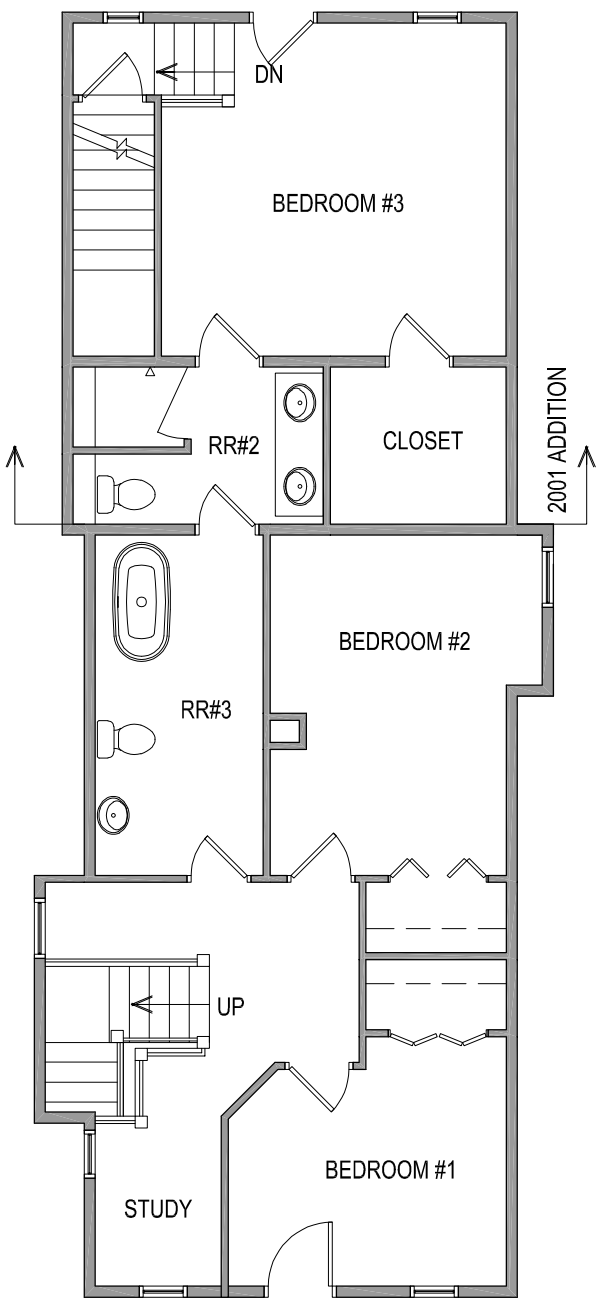
728 Grant Ave
Historical Structure Assessment
728 Grant Ave, Louisville CO 80027



SECOND FLOOR PLAN

1/8" = 1'-0"

NORTH

CD Conscious Design Awareness Architecture

ConsciousDesign, LLC

2260 Redwood Ave.
Lafayette, CO 80026
720.633.0936

728 Grant Ave
Historical Structure Assessment
728 Grant Ave, Louisville CO 80027

3

2.3 PROPOSED USES

There is no change to the current use as a home for the structure. However, there are several areas of the original construction which require rehabilitation. These areas of rehabilitation include the interior footings, floor framing, and second floor west deck. Per the SOI's Guidelines for rehabilitation, additions are appropriate if the existing building doesn't comfortably fit the proposed program. The addition must also meet the Secretary of the Interior's Standards for Rehabilitation, specifically standards #4.

Standard #4: Most properties change over time; those changes that have acquired historic significance in their own right shall be retained and preserved.
The addition of the west side porch appears to be around 50 years old. Another major two-story addition at the east of the existing structure was constructed in 2011 that included an enlargement of the kitchen/dining area on the first floor and new stairs that lead to the second-floor master suite including a master bedroom, closet, and bathroom. Some effort has been undertaken to make it appear to fit within the original time period in which it was built. The similar construction includes the size and placement of new windows, matching siding depth, foundation stone, and a continuation of the roof form.

3.0 STRUCTURE CONDITION ASSESSMENT

3.0 RATING SYSTEM

The following rating system is used throughout this report to evaluate each feature, element, or space.

GOOD CONDITION: An element, feature, or space is evaluated in good condition when it is meets the following criteria:

1. It is intact, structurally sound, and performing its intended purpose.
2. There are few or no cosmetic imperfections.
3. It needs no repair and only minor or routine maintenance.

FAIR CONDITION: An element, feature, or space is evaluated in fair condition when one or more of the following are evident:

1. There are early signs of wear, failure, or deterioration, although the feature or element is generally structurally sound and performing its intended purpose.
2. There is failure of a sub-component of the feature or element.
3. Replacement of up to 25% of the feature or element is required.
4. Replacement of a defective sub-component of the feature or element is required.

POOR CONDITION: An element, feature, or space is evaluated in poor condition when the following is evident:

1. It is no longer performing its intended purpose.
2. It is missing.
3. It shows signs of imminent failure or breakdown.
4. Deterioration/damage affects more than 25% of the feature/element and cannot be adjusted or repaired.
5. It requires major repair or replacement.

3.1 SITE

3.1.1 ASSOCIATED LANDSCAPE FEATURES

Description

The site has a gentle slope from the west to the east. There are several mature trees on the lot. At the front or west side of the lot, there is a deciduous trees at the southwest corner and an evergreen at the northwest corner of the house. The grade at the west side of the property slopes toward the porch and can accumulate water against the porch slab during heavy rainfall. (Image 1-3.1.1). The west side of the house is mainly turf with some small shrubs and ground cover. The north side of the house is mainly leafy groundcover. The south side of the house has a walkway that wraps to the east of the house. This side of the house has a few trees and leafy ground cover. The east side of the house has a stone deck from the back door and a stone patio with seating and access to the two car garage that faces the alley and a walkway at the north side of the garage that leads to alley access. (Image 2-3.1.1) This area at the east side of the lot has several garden boxes and leafy ground cover with small patches of turf. (Image 3-3.1.1)

Image 1-3.1.1

Image 2-3.1.1

Image 3-3.1.1

Condition Evaluation GOOD

The yard is well kept and trees appear to be healthy and pruned.

Recommended Treatment

The tree at the northwest corner of the lot is within four feet of the porch and has some branches very close to the second floor balcony. This tree could be pruned back as part of general maintenance. Extensions should be provided at downspouts to direct water five feet away from the foundation. It is advised that the front yard and the walk that leads to the front door be regraded higher to provide slope away from the foundation and direct water to the north and/or south side of the house.

3.2 STRUCTURAL SYSTEM

3.2.1 GENERAL STRUCTURAL SYSTEM DESCRIPTION

Description

This is a two-story wood-framed house with a framed front porch and a 2nd level deck along the front facade. The main level floor is over a combination of crawlspace and a dug-out cellar at the back of the original section of the house. A 2-story addition containing over a full height basement is on the rear of the house and constructed in 2011.

Figure 1: Front of House

3.2.2 FOUNDATION

Description

The foundation system consists of primarily a rubble stone foundation bearing on grade. It does not extend below the 36" frost depth. There is limited tuck-pointing in the mortar joints but the interior of the foundation is not readily visible because it is covered with spray-foam insulation. The front porch posts appear to bear on a concrete slab on grade. A topping slab was added at some point after a rain event brought flooding onto the front porch. The finished basement area below the new addition consists of a modern concrete foundation, and a concrete wall separates the addition from the original cellar/crawlspace. Interior footings were composed of a variety of construction types added throughout the life of the structure; Certain beams were supported on stacked sandstone, others on wood logs sitting on pre-cast concrete footings or blocks, and newer adjustable posts beating on pre-cast concrete footings. The foundation in the modern addition was not visible.

Figure 2: Exterior foundation with timber

Figure 3: Interior of perimeter Foundation and wood cellar walls

Condition Evaluation GOOD

The overall condition of the visible perimeter rubble stone foundation is good. Some cracks are visible and should be expected in construction of this type and age. The interior footings visible in the crawlspace are in poor condition due to the un-shored soil adjacent to their location, and inadequate sizing. This soil is sloughing away and may undermine these footings. Along the south and east sides of the cellar space is an older timber wall and a newer wall that appears to be pressure treated plywood and wood studs. These walls hold back the soil with the stone foundation wall just to the south or east of that. The bottom of this newer wood wall is sitting directly on grade and does not appear to be able to resist the lateral pressure of the sloughing soil. The grade around the house within 5 feet of the building is generally flat and sloping toward the front porch at the front of the house. It was conveyed by Ann Weise that before spray-foam was applied, daylight could be seen through multiple places in the stone foundation.

Figure 7: Precarious Beam Support

Figure 8: Supports near sloughing soil

Recommended Treatment

Ascent recommends a new foundation adjacent to the excavated cellar area be constructed of reinforced concrete and the area behind it backfilled to prevent the soil from sloughing off any further. The interior crawl-space framing and supports will be more readily accessible during this process and possible accessible for further evaluation and repair. New cast-in-place footings are recommended to be installed in concert with the framing recommendations below. Repair and repointing of the existing masonry will not reduce the possibility of future movement due to frost heave and expansive soils. Maintaining drainage away from the house is paramount to the foundation success. Some grading issues cause some water to pool against the house. This should be repaired to slope away from the house and gutter downspouts maintained to discharge away from the foundation. Additional tuckpointing of the stonework is also recommended.

Figure 12: Wood retaining wall

Figure 13: Gutter downspout

3.2.3 Perimeter Foundation Drainage

There is no evidence on site of a perimeter foundation drainage system. A perimeter foundation drainage system is not required provided adequate drainage away from the foundation for surface water and downspout discharge unless groundwater is determined to be an issue by a geotechnical engineer.

3.2.4 Floor & Ceiling Systems

Description

The primary floor framing that was visible consists of 2x6 nominal wood floor joists spaced at 16" centers generally spanning in the north/south direction with post and beam bearing lines at roughly 6 to 7 feet on center running perpendicular to the floor joists. The finished wood flooring is attached directly to the floor joists. There appears to be no sub-floor. The 2nd floor framing was not visible. The 2nd floor deck on the front of the house appeared to show plywood sub-floor with a water-proof membrane on top. The wood framed rail appeared to be made of modern mill-work parts and dimensional lumber.

Figure 4: 2nd Floor Deck Rail

Figure 5: Deck Surface

Condition Evaluation FAIR

There appears to have been multiple improvements of the existing floor post and beam bearing lines within the basement at some point over the life of the building. The newer steel posts are not installed properly with the adjustable extension extended too far and in one case a steel adjustment pin not properly installed. The beams under the floor framing are not properly sized and this, combined with the footings, result in an un-even floor above. A floor system of this type would not be used under current codes. There are some areas in the home where floor movement can be felt and this translates into the 2nd floor as well. Some joists have been notched for plumbing or electrical lines. The 2nd floor deck framing and rails are in poor condition. Rot is evident at the base of certain rail posts and it appears that water can infiltrate the deck surface. The deck joists were not visible, but further rot in these areas is likely.

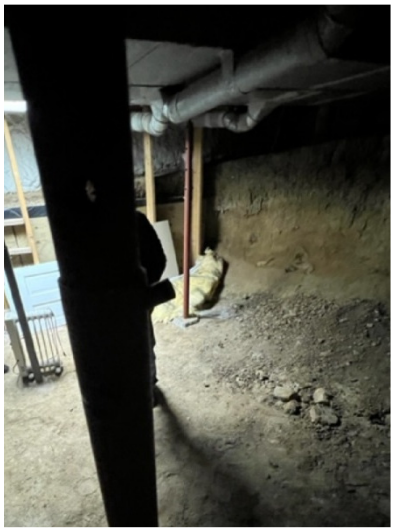


Figure 9: Improperly installed steel pin (Foreground)
Over-extended post cap (Background)

Figure 10: Logs under individual joists

Recommended Treatment

The floor joists should be reinforced and re-supported with an organized beam and foundation system as they become accessible during future work. This may be integrated with the cellar wall foundations. The existing adjustable steel posts may be re-used, but shall be properly installed per the manufacturer instructions. Any severely notched joists should be reinforced or replaced. The ends of the joists bearing directly on the foundation should be observed and protected from moisture. At the 2nd floor deck the decking should be removed and replaced. At this time the deck joist and beams may also be replaced. The guard rail shall be removed and replaced.

3.2.5 ROOF FRAMING SYSTEM

Description

The roof framing consists of a gambrel roof framed with 2x4 roof joists at 24” centers, and an integrated ceiling diaphragm framed with 2x rafters at running in the north/south direction. The roof sheathing consists of 1x “skip sheathing” but it was overlaid with ½” OSB (Oriented Strand Board) during a re-roofing at some point. The ceilings all consist of a plaster or drywall finish.

Figure 6: Roof Framing

Condition Evaluation GOOD

In the portions of the roof that were visible and accessible, no damage or excessive deflections were observed. Although there were some cracks in the plaster below, this is typical of a structure of this vintage. Future loading events such as snow loads and wind loads may result in some movement over the life of the structure. The ceiling finish appeared to be in good shape and no signs of excessive deflection were observed.

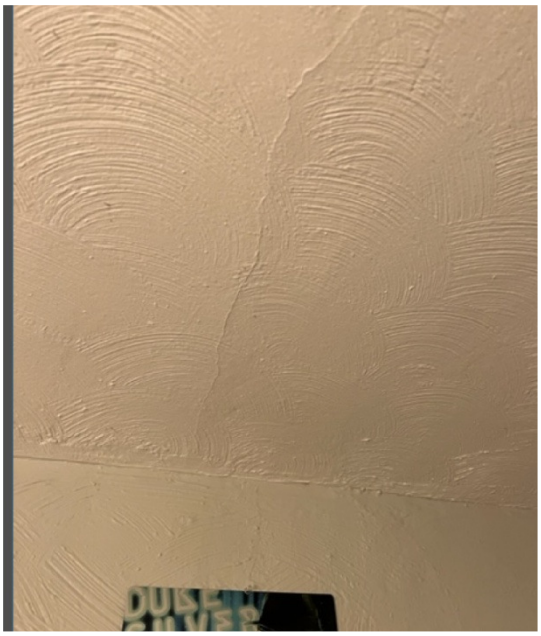


Figure 11: Painted over Ceiling Crack

Recommended Treatment

There are no recommendations at this time.

3.3 ENVELOPE – EXTERIOR WALLS

3.3.1 EXTERIOR WALL CONSTRUCTION

Description

Structural:
Wall framing was not visible and destructive testing was not performed.

Architectural:
It is unknown the state of or the type of wall insulation since no destructive observations were performed.

Condition Evaluation

Structural:
Refer to wall framing for any notations related to exterior walls.

Architectural:
Cavity conditions specific to the wall construction were not evaluated.

Recommended Treatment

Structural:
Refer to wall framing for any notations related to exterior walls.

Architectural:
Energy requirements per the International Energy Conservation Code (IECC) require specific envelope R-values and other energy efficiency requirements. The IECC, however, states that any building listed in the National Register of Historic Places is exempt from the code. It is still recommended that any future alterations be considerate to the intent of the code and energy concerns of the City. Any additions to the building do need to comply with current IECC.

Further exploration of the building envelope could include thermal imaging to determine the relative thermal resistance of the building components. This would be the basis for a recommendation for improving energy efficiency.

3.3.2 EXTERIOR FINISHES

Description

The building's siding and trim is wood with a painted finish. The original color of the building is unknown, but the historic photo from the 1970s or 1980s show the building as light green with white trim. (Refer to images in section 2.1) Today, the building is a medium green with red, dark green, white and dark grey trim accents.

Condition Evaluation GOOD

While the building looks as if the painting has been done in the last five years, there are signs of peeling. Some wood siding and trim exhibit signs of rotting and damage (Image 1&2 3.3.2).

Image 1-3.3.2

Image 2-3.3.2

Recommended Treatment

When the time comes to repaint, the siding and trim should be properly scraped to remove any loose paint or unsuitable substrate prior to application of the new paint. Some repair is advised for some rotted wood siding and trim.

3.3.3 EXTERIOR MASONRY

Description

The masonry foundation system as discussed in Section 3.2.2. A portion of a chimney is exposed within the basement.

Condition Evaluation

See Section 3.2.2

Recommended Treatment

See Section 3.2.2

3.3.4 EXTERIOR APPENDAGES – PORCH, STOOP, PORTICO, ETC.

Description

The front west facing stoop is constructed as a concrete slab against the existing wood siding and masonry foundation and appears in all historical photos. The back east facing porch is newer wood construction. The front west facing stoop has a second floor deck above. It is assumed that the second floor deck had a railing due to the existence of the second floor door onto the roof cover. However, a photo from 1978 does not show a railing but a photo from 1980s does. The railing itself seems to have been replaced and rebuilt differently over time. (Refer to photos in 2.1)

Condition Evaluation FAIR TO POOR

Refer to 3.2.4 for the structural condition evaluation for this west facing roof deck. The roofing/deck walking surface is in poor shape and will need to be replaced. Several areas show exposed rotting subroof. The railings are not secure due to apparent rotting of the subroof below. The railing and railing attachments do not appear to meet current code requirements for opening limitations, point loads, and general safety.

Recommended Treatment

Refer to 3.2.4 for structural repairs. For the west facing covered deck, we suggest the removing and replacing of the subroof, roof waterproofing, deck walking surface, deck wood fascia, gutters, most or all of the railing pickets, and fasteners. Upon removal of the subroofing, a more complete evaluation of the condition of the joists and structural members may be determined. The east deck and balcony above are of new construction and in good condition.

Image 1 – west deck - 3.3.4

Image 2 – east deck - 3.3.4

3.4 ENVELOPE – ROOFING AND WATERPROOFING

3.4.1 ROOFING SYSTEMS

Description

The existing roofing system is asphalt shingles. The shingles appear to be fairly new.

Condition Evaluation GOOD

Based on exterior observations, the shingles themselves exhibit no signs of abnormal wear and tear. No signs of moisture or condensation within the roof skip sheathing or within the roof cavity were seen.

Recommended Treatment

Future re-roofing should be done when as a part of typical maintenance. Regularly reviewing the roof sheathing for any signs of moisture is recommended.

Image 1 – 3.4.1

3.4.2 Sheet Metal Flashing

Description

Very little flashing could be observed. There appears to be some flashing at the brick chimney to roof intersection.

Condition Evaluation UNKNOWN

What can be observed from below does not show extensive damage.

Recommended Treatment

As a part of regular maintenance this area should be evaluated further and replaced if necessary.

3.4.3 Drainage System, Gutters & Downspouts

There is existing drip edge flashing at the intersection of the eave and gutter and newer drip edge flashing at the gable ends. Some roof eaves do not have gutters or drip edge flashing. The newer addition to the building has new gutters and drip edge flashing.

Condition Evaluation GOOD

Existing flashing at the new and older portions of the roof are in good condition.

Recommended Treatment

As a part of regular maintenance when the house is re-roofed, we suggest new drip edge flashing at portions of the roof where it is missing. Existing downspouts should be provided with extensions to direct roof water away from the foundation a minimum of five feet.

Image 1 – 3.4.3

3.4.4 Skylights / Cupolas and Chimneys

Description

The building does not have any skylights or cupolas nor is there evidence of any in the historic photograph. The chimney has been repurposed as a mechanical flue.

Condition Evaluation

Refer to section 3.3.3 for masonry.

Recommended Treatment

No treatment is recommended at this time.

Image 1 – 3.4.4

3.5 WINDOWS AND DOORS

3.5.1 DOORS

Description

Exterior:
There are four doors on the exterior of the building. The two doors on the west elevation appear to be original doors. The first level entry door and second level doors leading to the roof deck have observable checks, splits, and some missing wooden trim pieces in the decorative profiles. (Image1 & 2 1 3.5.1) The second floor door does not shut easily due to apparent damage to the threshold. The first floor entry door is wood with a stained finish and a 1/3rd lite. There are storm doors on both west facing doors that could use replacing. The east facing doors are new.

Exterior trim along the west side of the house appears to be original. These include 1x4 trim at doors and windows and multiple ogee trim profiles, trim banding, and decorative eave brackets.

Interior:
All original interior doors are four panel painted doors of various sizes. Doors located within the addition are wood stained doors.

Interior profile trim is provided at all wall openings and at door jambs and heads. All interior trim is painted white. The stair handrails are wood stained with white painted pickets with wood turned profiles.

Condition Evaluation GOOD TO FAIR

The second floor west facing door has visible checks presumably due to sun and/or moisture (Image 1 3.5.1). This door appears to be original. This door will need repairs but is in fair shape. All other doors are in good shape.

Recommended Treatment

Exterior:

The newer doors are not in need of immediate replacement. The first and second floor west facing doors require maintenance and replacement of some wood profiles and even some panels. Some sections of this door could be sanded and repaired by a skilled craftsman. Storm doors that protect both the west facing doors do not appear to seal adequately and could use replacement or repair.

Interior:
The doors are not in need of immediate replacement and are typically in good shape.

Image 1 – west side 2nd floor - 3.5.1

image 2 – west side 1st floor – 3.5.1

image 3 – original interior door
1st floor – 3.5.1

3.5.2 WINDOWS

Description

Most windows throughout the house are new double-hung vinyl windows. Some windows in the west side original portion of the house are painted wood double-hung windows.

Condition Evaluation GOOD

All new windows are in good shape. Some windows on the south elevation within the Parlor are original and appear to be painted shut. These windows are single pain and single or double hung windows and have a wood storm sash.

North Windows:
The first floor windows on the north side are in good condition with no apparent signs of deterioration. Paint is in good condition. These windows are newer double hung vinyl windows. The original wood trim appears to be still in place. (Image 1 – n. window – 3.5.2) The second floor north windows are original with one window adapted to receive a swamp cooler. This window shows obvious signs of decay and splits at the window stops. (Image 5 – n. window – 3.5.2)

It also appears that the glazing on these windows has a wood stop in place that is in good condition. It is unknown if the stop is original however it appears that windows originally had wood glazing stops. The wood storm sashes are also in good condition.

East Windows:
The windows on the east elevation are part of the recent addition and are white vinyl double pain windows. These windows are in good condition. (image 4 – new east windows – 3.5.2)

South Windows:
The double hung windows on the south side of the house are both new at the east end and original at the west end. The windows that are part of the original construction are in fair condition. The paint is exhibiting aligatoring as described in Section 3.4.2 and some rot is apparent on portions of the glazing stops. The windows have what appear to be original wood storm sashes. The windows are not currently operable which may be due to being painted shut or the counterweight system may be broken. (image 2 – original s. windows-3.5.2)

West Windows:
The second floor windows appear to be newer double hung vinyl windows. The larger picture window on the first floor is fixed on the bottom pane and has stained glass in the top pane. It is difficult to ascertain the exact stained glass in the historical photos to confirm if this is the original stained glass. However, the glass in this window has wood stops and appear to be original single pane glass. This window also has a wood storm sash and is in good condition.

Recommended Treatment

Overall, it is recommended that when the building is repainted care be taken when repainting sash and trim pieces. Overall, windows should be restored according to the National Parks Service's *Preservation Brief #9, The Repair of Historic Wooden Windows* which includes individual evaluation and a program for maintenance, repair, or replacement. Also, NPS's *Preservation Brief #10, Exterior Paint Problems on Historic Woodwork* should be followed when preparing the windows for new paint. Repair minimal rotted areas with epoxy.

North Windows:
First floor windows are newer windows are in good shape and need no repair. The second floor window will need the swamp cooler either removed or seals replaced. The window will need replacement. If the swamp cooler is to be used for this window, proper seals and retrofitting would be required to discourage sitting water that can increase rotting of original wood frames and trim.

East Windows:
These newer windows are in good shape and need no repair.

South Windows:

Newer windows are in good shape and need no repair. The pair of original windows in the parlor will require some repair. When the time comes to repaint the building, we would recommend the windows, sashes, jambs, sills, and storm sashes be properly prepared for repainting per *Preservation Brief #10* which includes sanding of loose, peeling paint only. Removing paint should be avoided and should only be removed to the next sound layer of paint. Sanding and scraping should be done carefully to avoid damaging wood and original profiles.

West Windows:

Newer second floor windows are in good shape and need no repair. Inspect sash and repair glazing stops/glazing putty where needed. When the time comes to repaint the building, we would recommend the windows, sashes, jambs, and sills be properly prepared for repainting per *Preservation Brief #10* which includes sanding of loose, peeling paint only. Removing paint should be avoided and should only be removed to the next sound layer of paint. Sanding and scraping should be done carefully to avoid damaging wood and original profiles.

Image 1 – n. window – 3.5.2

image 2 – original s. windows-3.5.2

image 3 – original w. window

image 4 – new east windows – 3.5.2

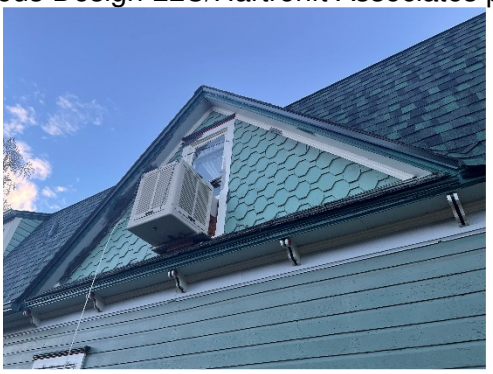


image 4 – new east windows – 3.5.2

3.6 INTERIOR FINISHES

3.6.1 WALL FINISH MATERIALS

Description

The walls finishes vary from plaster on wood lathe at the original house and gypsum board on wood framing at the newer east side addition. The interior wood trim at the new addition has been installed to match the existing trim in the original portion.

Condition Evaluation GOOD

The condition of the walls throughout is in good shape. No extensive cracking or water is visible. Although some wear and tear can be seen at interior wood trim at the base, at doors, and at openings, the trim is in good shape throughout.

Recommended Treatment

There are no recommendations to the interior wall finish or trim at this time.

Image 1 – parlor walls – 3.6.1

3.6.2 CEILING FINISH MATERIALS

Description

The ceiling finishes vary from plaster on wood lathe at the original house and gypsum board on wood framing at the newer east side addition.

Condition Evaluation GOOD

The ceiling finishes are generally in good shape throughout. Some cracking can be observed in the second floor west bedroom however, this is expected in homes this old. Extensive loading due to snow conditions can create plaster cracking over time. (figure 11 – 3.2.5.1)

The gypsum board ceiling in the restroom, hallway and backstage areas are in good condition.

Recommended Treatment

There are no recommended treatments at this time.

3.6.3 Floor Finish Materials

Description

The house has wood flooring in the original portion of the house and throughout the first floor. Some bathrooms have been covered with tile. All bedrooms and stairs are provided with carpet. The second floor is all carpet with the exception of bathrooms which have tile.

Condition Evaluation GOOD

The wood flooring in the original portion of the house is in good shape and shows no obvious signs of deterioration. The wood flooring in the kitchen does not appear to be level and tends to sag toward the west. This is not uncommon among older houses. The wood flooring in the kitchen is new and the owner indicated that the flooring was attempted to be leveled during the last renovation to moderate success. (Image 1 – 3.6.4)

Recommended Treatment

No recommendations at this time except routine cleaning and maintenance.

Image 1 – 3.6.4

3.6.4 Trim and Built-Ins

Description

Refer to 3.6.1.

Condition Evaluation GOOD

Trim is in good condition but minor wear in places is evident throughout.

Recommended Treatment

No recommendations at this time.

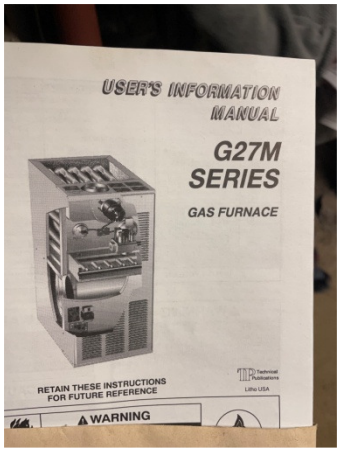
3.8 MECHANICAL SYSTEMS

3.8.1 HEATING & AIR CONDITIONING

Description

The two story house has approximately 2,060 sf. The landlord anecdotally reports that in general the heating and cooling of the space is adequate year round.

The space is served by a gas fired Lennox G27M Furnace located in the partial basement space. The furnace is gravity vented, 80% efficient, 120 MBH input model, and appears to be in fair to good condition. A smoke duct detector was observed on the return which is a safety feature in excess of code requirements. Photos of the furnace and owner's manual appear below.



Furnace and Owner's Manual

Furnace

Condition Evaluation GOOD

The systems appear to be in good condition. The system has had regular service and does not show any signs of deterioration.

Recommended Treatment

Recommendations for the heating and cooling systems are as follows:

- The addition of hard wired carbon monoxide detectors in the space would be advisable to protect against low combustion air available – particularly if upgrades to the envelope were made that resulted in a tighter building construction.
- Conduct a balance report to check duct leakage into crawl space and satisfactory return air availability.
- The crawlspace where the water heater and the furnace is located is unventilated and spray foam insulation has been added at the inside face of the original masonry foundation. Code requires that if a crawlspace is not ventilated then it must be conditioned. No supply air is currently being provided into the crawlspace. Also, no transfer grills are present from the crawlspace into the remaining portions of the house.

3.7.2 VENTILATION

Description

Primary ventilation appears to be through the original chimney for both the gas furnace and the gas water heater. See sections 3.7.1 and 3.4.1 outlined above related to crawlspace and roof ventilation.

Condition Evaluation GOOD

Other than roof and crawlspace ventilation, there are no concerns with current furnace ventilation. One first floor bathroom does not have a window or an outside ventilated bathroom fan. The second floor bathrooms both have bath fans; the master bathroom has a operable window and the west side bathroom has a vent into the attic space.

Recommended Treatment

Recommendations for the ventilation system are as follows:

An Energy Recovery Ventilator could be installed. This would exhaust air from the space – tying into the toilet exhaust systems as well as general space exhaust – at 500 cfm and bring in 625 cfm of outside air to keep the space under positive pressure. The energy recovery feature of the equipment would precondition the outside air enough to maintain equal comfort levels to what they have now.

3.7.3 WATER SERVICE, PLUMBING, & SEWER UTILITIES

Description

The building has a 5/8” water service with newer meter located in the crawl space. The water service size is typical for a residence and is adequate for the building. Photos of the service entrance are below.

Domestic water tap and meter

The domestic hot water is provided by an electric water heater located in the crawl space. It is a Bradford White 50 gallon, natural gas model and the nameplate is shown below.

Water Heater

Sewer Pipe

Condition Evaluation GOOD

The buildings sanitary lines and some exhaust ventilation lines are located in-line with key structural members of the house. Some structural members have been retrofitted to around the location of existing sewer lines. Structural recommendations have been provided in section 3.2.4.

The location and configuration of the water service appears to be a bit precarious and is not mounted to any structure. The owners have described a water main breakage event that occurred in the street several years ago that sent a flood of water into the front yard and into the crawlspace. The water seemed to have followed the water service line into the crawlspace. Some remnants of this water event are can be seen within the crawlspace.

It is in good condition and provided enough hot water for the current space. However, the water heater has overflow drainage directly into the crawlspace dirt. The water heater is at the very lowest part of the house and below the main sewer. It would be difficult to properly dispose of any overflow when regular maintenance is performed to drain down the water heater. A dry pit can be observed in the crawlspace where water has been previously expelled. We do not propose changes at this time.

The sewer and vent systems visible in the crawlspace are very difficult to access but what can be observed appears to be in good condition. The condition of the underground sewer and vent systems is unknown. No failures or imminent problems were observed and the age of the piping appeared to be newer and show signs of repair so it is expected that regular maintenance has been performed.

The plumbing fixtures in the restrooms were in good condition and most have been replaced within the last 10 years.

Recommended Treatment

Recommendations for the plumbing systems are as follows:

- An overflow pan and proper drainage to the sewer for the water heater is recommended. In this instance, however, it would be very problematic to achieve and would most likely require a lift station.
- The water service line is unsupported but does not show signs of any imminent failure. Regular inspections are proposed.

3.8.4 FIRE SUPPRESSION - SPRINKLERS

Description

The house does not have any fire suppression systems.

3.9 ELECTRICAL SYSTEMS

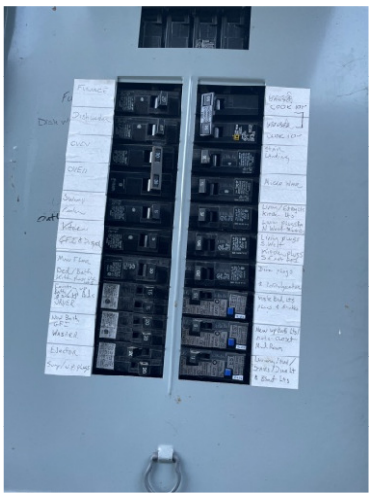
3.9.1 ELECTRICAL SERVICE & PANELS

Description

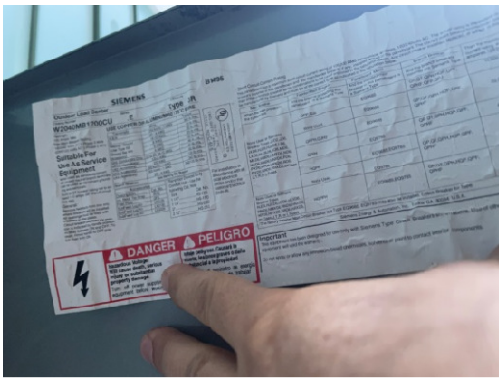
Electrical service is supplied to the existing building from an overhead utility service via a building mounted weather head located at the northwest corner of the garage. The meter and a subpanel for the garage are located at this location. The main electrical feed extends from the subpanel underground to the main panel located at the exterior face in the north side of the house. The electrical service is rated 200 Amps, 240/120 Volts, 1-phase, 3-wire.

Condition Evaluation

Both of the electrical panels were manufactured by Siemens, are estimated to be 10-15 years old and appear to be in good condition, showing some signs of wear but still performing its intended purpose.



Main electrical panel



electrical panel specs

Electrical masthead and garage subpanel

The electrical service appears to be adequately sized for the current building loads and has been reconfigured from the original house electrical when the previous renovation and addition was performed.

The panels appear to be in good condition, showing some signs of wear but still performing its intended purpose. With regular maintenance could continue to be used to serve the current building loads.

Recommended Treatment

No changes proposed.

3.9.2 Electrical Distribution System

Description

All electrical distribution is located within the walls of the house and cannot be evaluated. New portions of the house at the east side have new electrical distribution.

Condition Evaluation

The distribution feeders were reworked to some extent during the last renovation and appear to be in good condition.

Many receptacle outlets are located throughout the building providing a good distribution of convenience power. There are still numerous two-prong outlets in the original portion of the house. Newer, renovated portions of the house have 3-prong, grounded type and are in good condition.

Recommended Treatment

No recommendations at this time.

3.9.3 Lighting

Description

The lighting system consists mostly of newer, inefficient incandescent light fixtures which may not meet current energy codes.

The first floor general lighting consists of ceiling, wall and pendant mounted incandescent globe fixtures. The restroom lighting consists of incandescent vanity light fixtures. The crawlspace has two incandescent keyless porcelain lamp holders in the unfinished area. The installation date of these fixtures is unknown, but they appear to have been installed within the last 10 years. Lighting control is provided by manual wall switches in each respective room.

Condition Evaluation

The general lighting appears to be in good working condition.

Typical interior light fixtures

Typical wall sconce

Recommended Treatment

No recommendations at this time.

3.9.4 Fire Detection System

Description

The building fire detection system consists of local smoke detectors/alarms throughout the building.

There are a variety of local smoke detectors/alarms in the building. Bedrooms all had fire/smoke detectors. No fire/smoke or carbon monoxide detectors were observed within the crawlspace.

Condition Evaluation

All existing fire/smoke detectors appeared to be fairly new.

Recommended Treatment

All fire/smoke detectors should be regularly replaced with batteries. Missing fire/smoke detectors should be replaced. A fire/smoke and carbon monoxide detector should be provided within the crawlspace.

3.9.5 SECURITY ALARM SYSTEM

Description

There is currently no security alarm system installed in the building.

Condition Evaluation

There is currently no security alarm system installed in the building.

Recommended Treatment

No recommendations area proposed.

4.0 ANALYSIS & COMPLIANCE

4.1 HAZARDOUS MATERIALS

Given the age of the structure and the time period at which improvements were made, it is possible there is asbestos containing materials as well as the potential for lead paint. No tests were conducted for this assessment and no test data was provided by the Owner. It is always advisable to notify any contractors working on the building that hazardous materials may be present, perhaps concealed behind other construction, and that discovery of any suspect materials should be reported to the owner and properly handled, and tested, as required. Consultants and Contractors qualified in hazardous material abatement should be contacted if hazardous materials are suspect.

4.2 MATERIALS ANALYSIS

No materials analysis was performed for the assessment. A paint analysis should be done to ascertain the original paint color as well as to determine whether or not lead is present and a mortar analyses at the foundation and chimney, or any other areas needing repointing, should be performed.

4.3 ZONING CODE COMPLIANCE

The property is subject to the zoning regulations of the City of Louisville.

The current property is in the Residential Low Density (RL) zoning district and also within the Old Town Overlay District and is subject to the Old Town Overlay Zoning District Regulations. This structure is a single family home and fits within the zoning requirements.

This house is oriented with the entry facing west, the garage facing the alley on the east, and neighboring houses to the north and south. A survey was not conducted to verify exact locations of property lines. The required side yard setbacks for lots 30 to 60 feet is five feet. The required front yard setback is 20 feet with an exception that allows for a covered porch to extend six feet within this setback.

The setback on the north side is approximately 3’-6”. The setback on the south side is approximately 10’-6”. The west (front) setback is 22’-0”. The east (alley) setback is approximately 2’-0”. The house meets all required setbacks except for the north side which appears to set within the allowable setback 18”.

The parcel is estimated to be 4,519 per the Boulder County Assessor information. The allowable Floor Area Ratio for a lot area of 4,000 to 5,999 sf is .45 or 1,999 sf, whichever is greater. The total floor area is estimated to be 2,061 sf which is a floor area ratio of .456.

Lot coverage for a lot having an area of 4,000 to 5,999 sf is 1,600 sf or 37.5 percent, whichever is greater. The estimated lot coverage is 1,571sf or 34.7%, which is within the zoning requirements.

5.0 PRESERVATION PLAN

5.1 PRIORITIZED WORK

Recommended Treatments for elements, features, or spaces have been prioritized for the Phasing Plan and identified utilizing the following terms: Critical Deficiency, Serious Deficiency, and Minor Deficiency. “Critical Deficiencies” are included in the initial phase of work to be completed as soon as possible. Subsequent phases should address any other “Serious” or “Minor” deficiencies as indicated in the Phasing Plan.

Criteria/guidelines for each are as follows:

CRITICAL DEFICIENCY: One or more of the following indicate a critical deficiency:

1. Advanced deterioration has resulted in failure of the building element, feature, or space, or will result in its failure if not corrected within two years.
2. Accelerated deterioration of adjacent or related building materials has occurred as a result of the feature or element’s deficiency.
3. The feature or element poses a threat to the health and/or safety of the user.
4. The feature or element fails to meet a code/compliance requirement.

SERIOUS DEFICIENCY: One or more of the following indicate a serious deficiency:

1. Deterioration, if not corrected within two to five years, will result in failure of the feature or element.
2. Deterioration of a feature or element, if not corrected within two to five years, may pose a threat to the health and/or safety of the user.
3. Deterioration of adjacent or related building materials and/or systems will occur as a result of the deficiency of the feature or element.

MINOR DEFICIENCY: One or more of the following indicate a minor deficiency:

1. Standard preventive maintenance practices and building conservation methods have not been followed.
2. A reduced life expectancy of affected or related building materials and/or systems will result.
3. A condition exists with long-term impact beyond five years.

5.2 PHASING PLAN

In general, the existing house at 728 Grant is in good condition overall. There are no items that could be considered Critical Deficiencies. There are some items which are important to address from a safety, code, and/or serviceability standpoint. The recommendations have been divided into the relative levels of deficiencies described above, with the most serious deficiencies to be addressed in Phase I of an overall Preservation Plan for building rehabilitation, or as soon as it is practical as part of normal building maintenance. The less critical items are grouped into Phase II and III as appropriate from a practical standpoint. Note that the designation of "Phases" does not imply that the items within a given phase must be done concurrently, only that the items in any given phase have a similar level of urgency.

Phase I: Address Serious Deficiencies:

1. Rebuild the covered deck and associated second floor railings.
2. Provide a new foundation adjacent to the excavated cellar.
3. New cast-in-place footings in concert with new reorganized post and beam framing supporting the first floor.

Phase II: Address Minor Deficiencies:

1. Regrade some areas to ensure proper drainage away from house.
2. New roof drip edge flashing and gutters where missing.
3. Provide proper attic ventilation utilizing eave and roof vents.
4. Provide conditioned air into the crawlspace and transfer grills to circulate air per code requirements.
5. Provide downspout extensions where missing.
6. Repair the first and second floor west facing doors.
7. Provide additional carbon monoxide and fire/smoke detectors where required by code.
8. Provide bathroom ventilation where none is present.

These deficiencies include upgrades and repairs that are not currently threatening the condition of the historic structure, but should be addressed for continued use. These items would include:

1. Thermal imaging to determine possibilities for improving energy efficiency.
2. Repair or replace the pair of original south side windows to be operable.

5.3 ESTIMATE OF PROBABLE COST OF CONSTRUCTION

6.0 PHOTOGRAPHS AND ILLUSTRATIONS

Historic and contemporary photographs have been included in the text to provide context for the relevant section. Other photographs are included herein to better illustrate detailed findings and recommendations.

Southwest view

North view

East Elevation

7.0 BIBLIOGRAPHY

Colorado Historical Society, Office of Archaeology and Historic Preservation. “Historic Building Inventory Record” 03/03/1985

Louisville Historical Museum. “Property: 728 Grant.” Report Dated October 2010.

Historic Preservation Commission, Staff Report. “728 Grant Avenue Probable Cause Determination.” Prepared for the City of Louisville, July 26, 2021.

City of Louisville
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728 Grant Avenue - Landmark and Grant Request

Summary

The applicant is requesting:

- Landmark designation.
- A Preservation and Restoration Grant of $40,000.00.

City of Louisville

Conditions Over Time

Photo from 1948 Boulder County Assessor Card

Present-day images of the subject property.

City of Louisville

Landmark Criteria

Age

- ca. 1904 (approximately 121 years old)

Architectural Significance

- Identified as a target to landmark in *Stories in Place*
- Dutch Colonial Revival style
  - Best example in Louisville

Physical Integrity

- Maintained its architectural style and footprint

Social Significance

- Mining history

City of Louisville

Grant Request

Porch and second story deck rehabilitation:

Total cost: $85,576.00
Total recommended:
up to $40,000

Requests		Analysis	
Description	Amount	Preservation, Restoration, or Rehabilitation?	In HSA?
Drawings & Engineering	$2,500.00	N/A	X
Asbestos/Mold Mitigation	$200.00	Rehabilitation	✓
Site Work (Excavating/Backfill, Compaction, Material Import/Export)	$1,750.00	Rehabilitation	✓
Concrete – Porch (Foundation, Helicals, Concrete Sawing/Boring	$6,975.00	Rehabilitation	✓
General Wood/Materials, Carpentry, Labor (Frame Materials, Frame In-House Labor, Demo/Dust Mitigation, Demo In-House Labor, Exterior Trim Materials, Exterior Trim In-House Labor, Window and Door Installation, Deck Material/Rail, Deck Labor In-House, Project Management)	$48,775.00	Rehabilitation	✓
Thermal and Moisture Protection (Weatherproofing, Temporary Roofing, TPO, Membrane Roofing, Accessories Gutters and Downspouts)	$5,660.00	Rehabilitation	✓
Two Storm Doors and Hardware	$1,175.00	Rehabilitation	✓
Painting (eligible for replaced materials)	$3,750.00	N/A	✓
General Contractor Fees (20%) & Misc. Construction Costs	$14,791.00	N/A	✓
Total Project Cost	$85,576.00		
Total Recommended	$40,000.00		

City of Louisville

Staff Recommendation

- Approval of Resolution No. 9, Series 2026, recommending approval to City Council of a landmark designation at 728 Grant Avenue, to be named the Koeppler House, and approval of a Preservation and Restoration Grant of up to $40,000.00.

SUBJECT: **PRESENTATION: PROS LONG-RANGE PLAN AND TRAIL SYSTEM PLAN CONSULTANT UPDATE**

DATE: **JANUARY 6, 2026**

PREPARED BY: **BRYON WEBER, PROS PROJECT MANAGER**

PRESENTED BY: **ADAM BLACKMORE, PROS DIRECTOR**
KEITH WALZAK, DTJ DESIGN
BRYON WEBER, PROS PROJECT MANAGER

SUMMARY:
Lead consultant, DTJ Design, will present an update for the on-going planning efforts of the Parks, Recreation & Open Space (PROS) Department. The two-pronged project has been branded as the PROS Guidebook and includes a Long-Range Plan for the four PROS divisions (Parks, Recreation & Senior Center, Open Space, and Coal Creek Golf Course) along with a dedicated Trail System Plan to align with the City Charter. The update will focus on an overview of the planning process, work completed to date (including findings from community engagement), and the project's next steps.

BACKGROUND / PRIOR DISCUSSIONS:

- November 15, 2022 – Council Approval of 2023-28 Capital Improvements Plan
  Approval of the 2023 budget included the 5-year CIP plan with $300,000 in fiscal year 2024 for what was then called the "PROST Master Plan Update".

- November 6, 2023 – Council Approval of 2024 Budget
  Approval included $300,000 for the "PROST Master Plan Update" as part of the then Open Space & Parks Fund (then Fund 201).

- May 7, 2024 – City Council Budget Amendment
  Council approved an amendment of the 2024 budget which included (among other items) allocation of $100,000 for completion of the Trails Master Plan.

- June - July 2024 – Request for Proposal (RFP) Development
  Staff developed the RFP based on review of the previous PROS Master Plan completed 2012, research of other municipalities planning efforts and on-going conversations with PROS leadership and division staff.

- September – October 2024 – Advisory Board Review
  A draft Request for Proposal (RFP) was presented to the Open Space Advisory Board (OSAB), Parks and Public Landscaping Advisory Board (PPLAB) and Recreation Advisory Board (RAB) to allow board members to review and comment

on the staff's suggested approach, scope and strategy. Board comments were used to modify the RFP before submission to Council for additional feedback.

- October 15, 2024 – City Council Consent Agenda
  Council approved a revised Request for Proposal (RFP) outlining staff's desired planning approach and scope. This RFP was publicly advertised and used to solicit consulting proposals for both plans as part of a combined planning effort.

- March 18, 2025 – City Council Consent Agenda & Regular Meeting
  Contract approval was removed from the consent agenda and discussed as part of the regular meeting. No formal staff presentation was made, but the PROS Project Manager was present to answer questions from Council.

- May 6, 2025 – City Council Consent Agenda
  City Council voted to approve a consulting contract with DTJ Design as the project's lead consultant with a support team including:
  - ERO Resources – local experts in the environmental and natural resources topics that will direct many aspects of both plans
  - Ballard*King – specialists in recreation planning and administration
  - Toole Design Group – offering technical assistance on the trails master plan
  - RRC Associates – providing community research and a statistically valid survey
  - Studio 6 – supporting implementation of the public outreach and community engagement essential for successful completion of both plans

- Summer of 2025 (June – August)
  - Staff began assembling requested background information on each division to enable consultant's initial needs assessment activities.
  - A formal kick-off was completed with a Staff-led tour of select PROS amenities and a workshop held which engaged PROS leadership on topics such as what's working, what's not working, and what a successful project might look like upon completion.
  - Planning of the community engagement strategies began with an outline of engagement events and development of the public survey. Project branding and a dedicated website were created to support the engagement efforts.
  - The first Advisory Board engagement took place with the August meeting of the Open Space Advisory Board (OSAB).

- Fall of 2025 (September – November)
  - Consultants met with remaining PROS Advisory Boards (PPLAB, RAB, YAB) to provide a project overview and collect input from board members.
  - The online survey was launched with invite postcards sent to each Louisville household for participation in the statistically valid survey. An open-link survey was later made available to all members of the public.

  - Group interviews were held with stakeholder panels specific to each PROS division to collect input about current and desired future offerings.
  - A series of pop-up events were held at locations relevant to each division to collect public input and facilitate open dialogue with community members.
  - The first Open House events formally engaged the community on needs of each division with various opportunities to vote on preferences for future amenities, programs, services and priorities.
  - A focus group workshop brought together a blend of staff, industry professionals and local advocates to collaborate on trails planning and the overlaps pertaining to open space properties.

- Winter of 2025 (December - Present)
  - Draft needs assessment report is being finalized by consultants, along with a summary of the community engagement findings from various input and engagement events.
  - Results from the online survey have been analyzed and reported via a summary report.
  - Going into 2026, preliminary goals, strategies and priorities will be compiled for public input during engagement window #2 to be held in spring.

DEVELOPMENT PROPOSAL:
Not Applicable

ANALYSIS:
A vote by Council is not needed at this time.

Council should be aware that next steps for Staff and Consultants will be working on drafting preliminary goals, strategies and priorities based on the combined input from public engagement, division/department staff, consulting team and industry best practices. The drafts will then be subject to review and discussion as part of Public Engagement window #2, which will include Advisory Board reviews and another Open House to be held in spring/summer of 2026. Staff anticipates bringing the plan(s) back to City Council for review/approval in Q2 or Q3 of 2026.

2025 COUNCIL WORK PLAN:
The PROS Long-Range Plan and Trails Master Plan are listed in the Core Services section of the 2025 work plan. These plans incorporate Council's lens of EDI and sustainability.

FISCAL IMPACT:
Budgeted?: **Yes**

As outlined in the May 6, 2025 Council packet, the City currently has $300,000 allocated to the PROS Long-Range Plan and an additional $100,000 specifically for the Trails Master Plan. To date, the project is still aligned with the identified budget.

ALTERNATIVE(S):
No alternatives are necessary for consideration at this time.

RECOMMENDATION:
No recommendations are necessary for consideration at this time.

ATTACHMENT(S):
1. Presentation Slides DTJ Design

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GUIDING THE FUTURE

of Louisville Parks, Open Spaces, Trails, Recreation & Senior Center, and Golf Course

PROS GUIDEBOOK

City Council Update

January 6, 2026

City of Louisville

AGENDA

- Project Update
- Community Outreach + Engagement
  - Process + Findings
  - Trends + Preferences
- Next Steps
- Discussion

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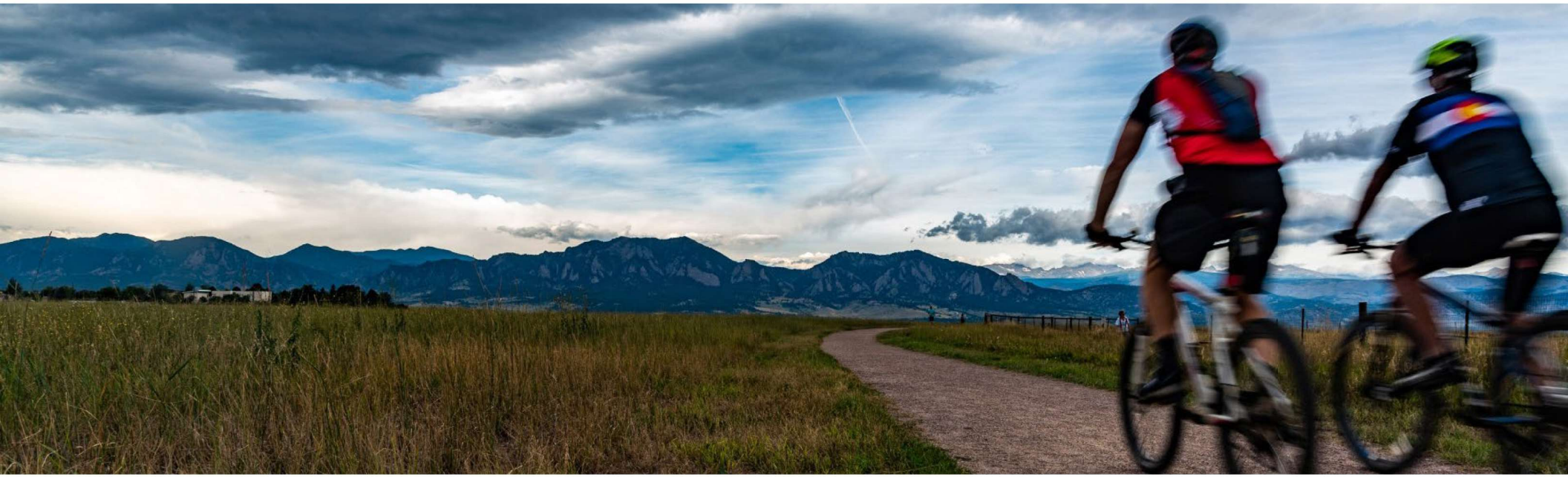
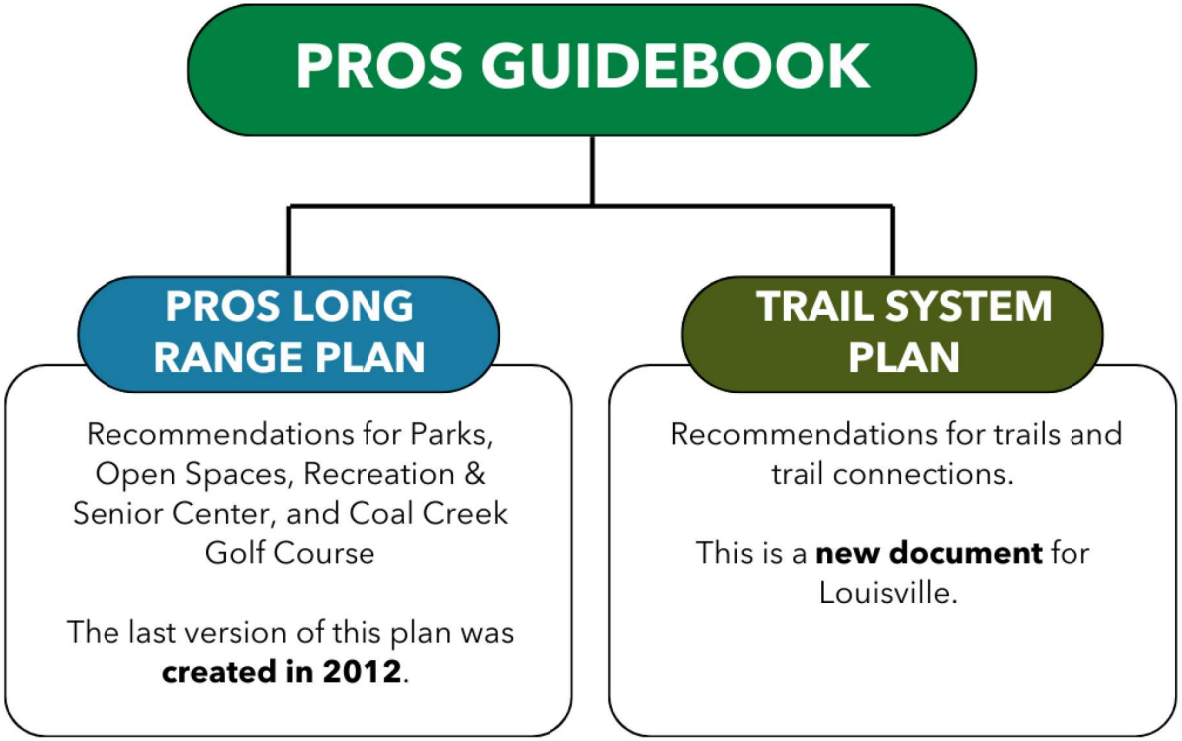


What is the PROS Guidebook?

Overview

Define PROS Long Range Plan Priorities
Next 10+ years

- **Parks**
- **Recreation + Senior Center**
- **Open Space**
- **Recreational Trails**
- **Golf Services**



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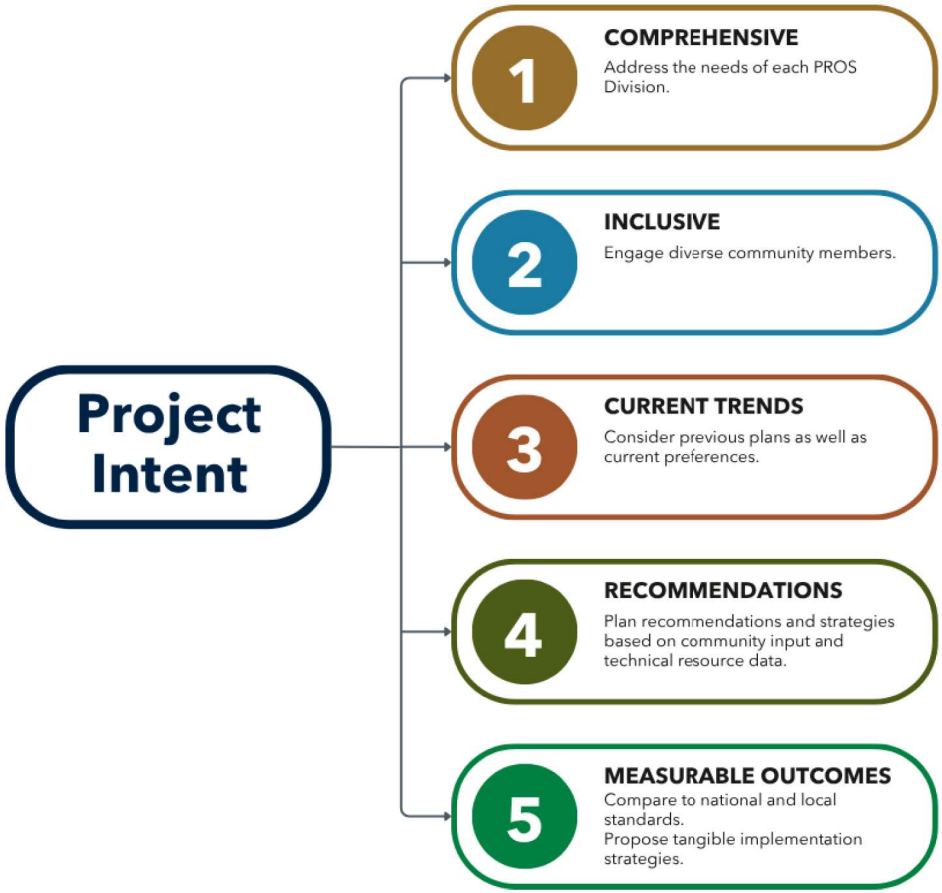
Plan Development Focus

- **Community Input**
  - Preferences Trends
- **Stakeholder Feedback**
  - Interviews + Community-based Discussions
- **Technical Needs Assessment Findings**
- **Best Practices**



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of Louisville Parks, Recreation, Senior Services, Golf, Open Space & Trails

Project Process

PHASE I
Project Initiation
June 2025

PHASE II
Exploration + Ideas
(July-November)

WE ARE HERE

PHASE III
Synthesis + Analysis
Plan Formation
(November-May)

PHASE IV
Plan Adoption
(June-July)

PROJECT COMPLETION
Summer 2026

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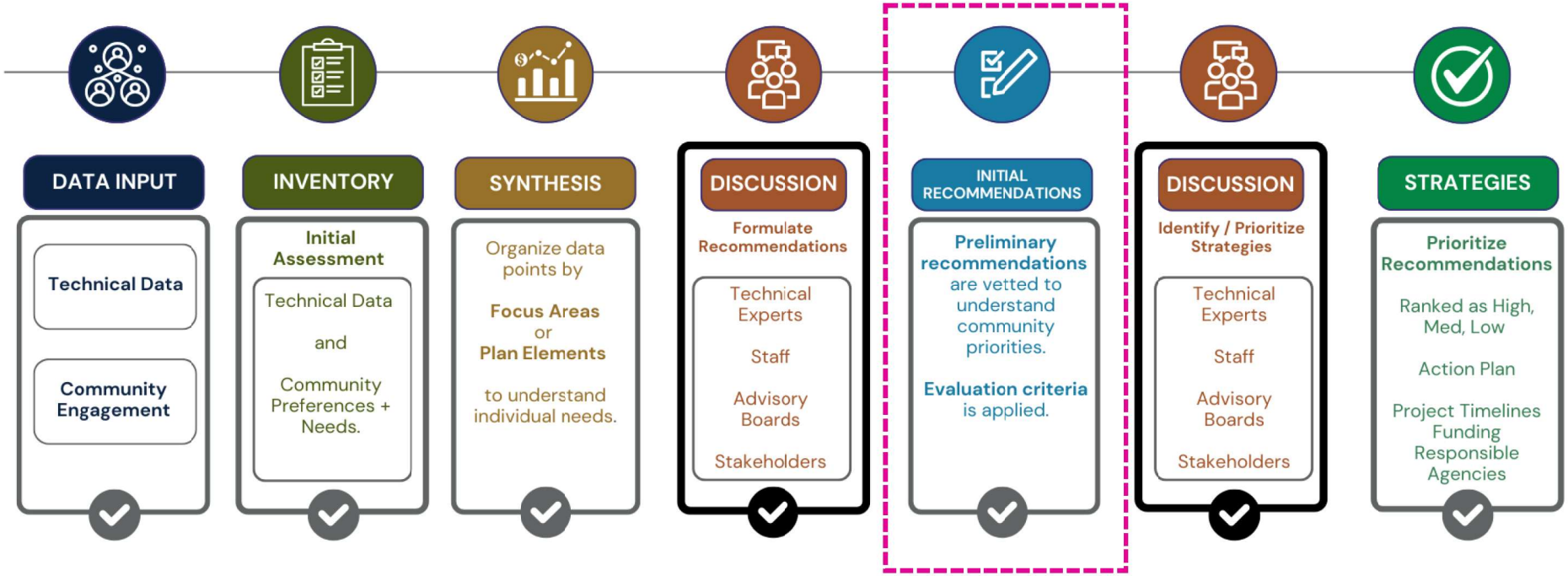
PROJECT TIMELINE

Process Diagram



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PHASE III
Synthesis + Analysis
Plan Formation

PROJECT TIMELINE

COMMUNITY ENGAGEMENT

OUTREACH PARTICIPATION

Pop-up Events (7) — **~150 plus participants**

- Recreation + Senior Center Health Fair
- Louisville Elementary Soccer
- Cottonwood Park
- Davidson Mesa Trailhead
- Coal Creek Golf Course
- Monster Dash At Community Park
- Open Space Grasslands Walk

Community Open House #1 — **182 participants**

Community Survey

Statistically Valid Survey — **766 responses**

+/- 3.5 margin of error

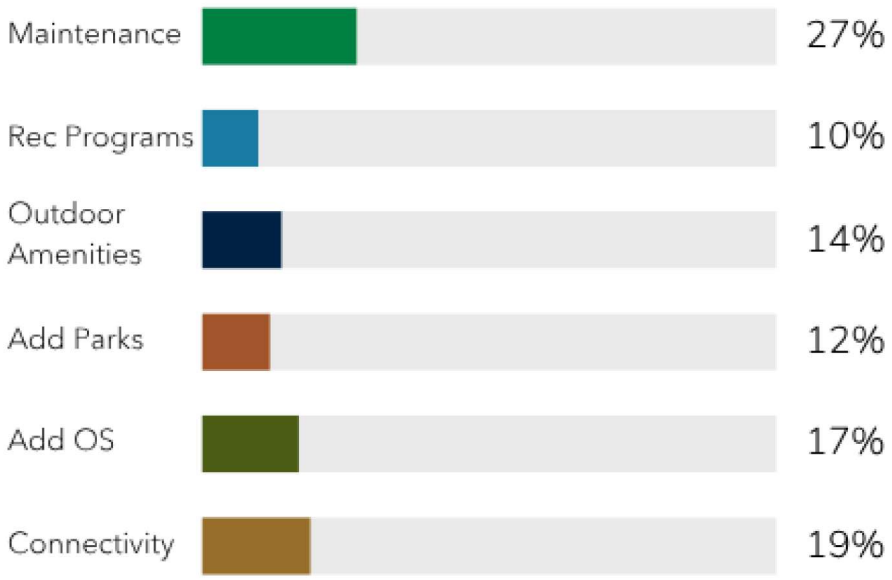
Open link Survey — **+1,400 responses**

Open Space/Trails Workshop — **23 participants**

COMMUNITY ENGAGEMENT

COMMUNITY PREFERENCES

Pop-ups + Open House Event



Marble / Jar Activity

Priority #1: Deferred Maintenance

Priority #2: Improve Trail Connectivity

Priority #3: Acquire More Open Spaces

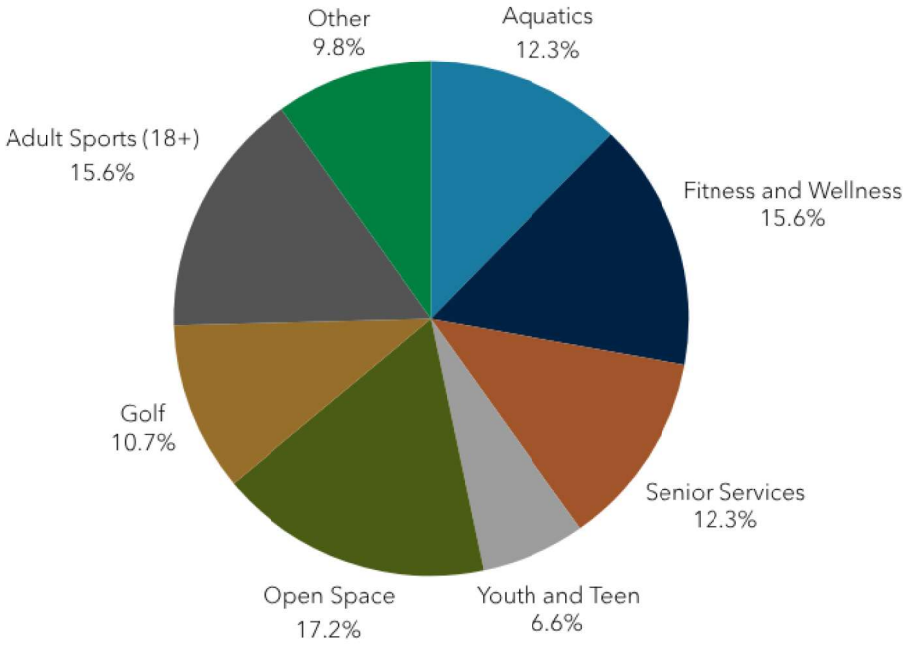
Priority #4: Enhance Outdoor Recreation Amenities

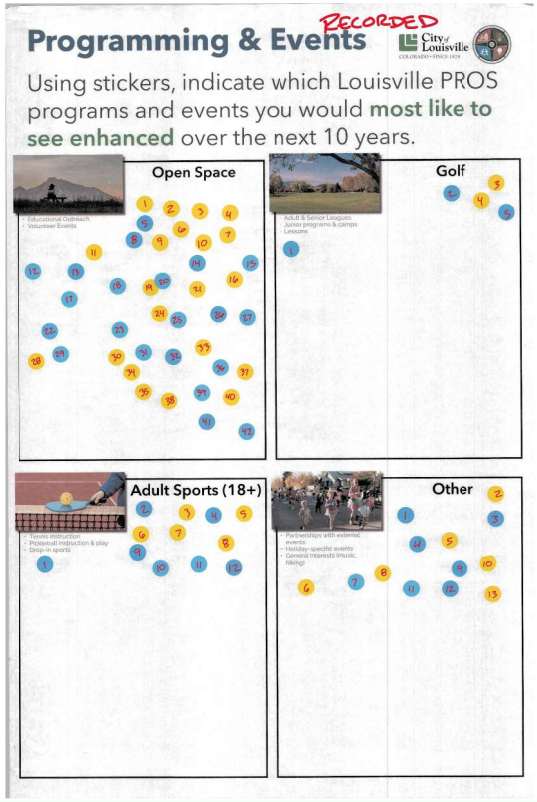
Priority #5: Build New Parks

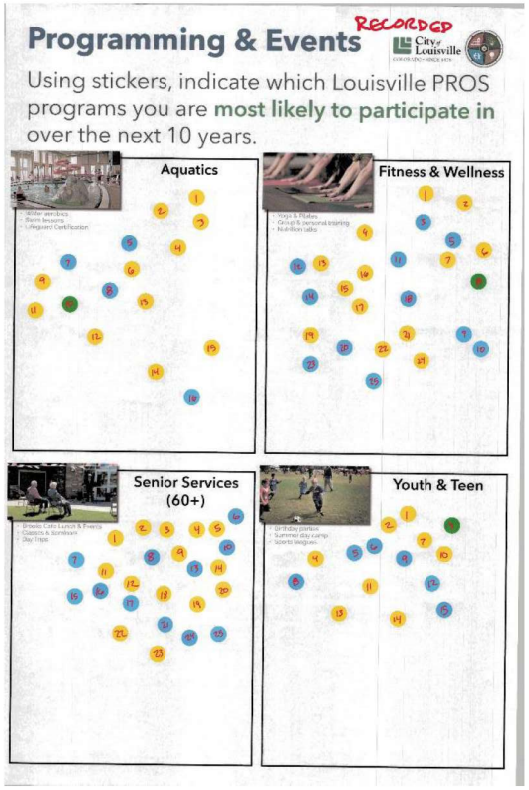
Add More Recreation Programs

COMMUNITY PREFERENCES
Open House Event: Programs

PROMPT: Using stickers, indicate which **PROS Programs** you are most likely to participate in over the next 10 years.

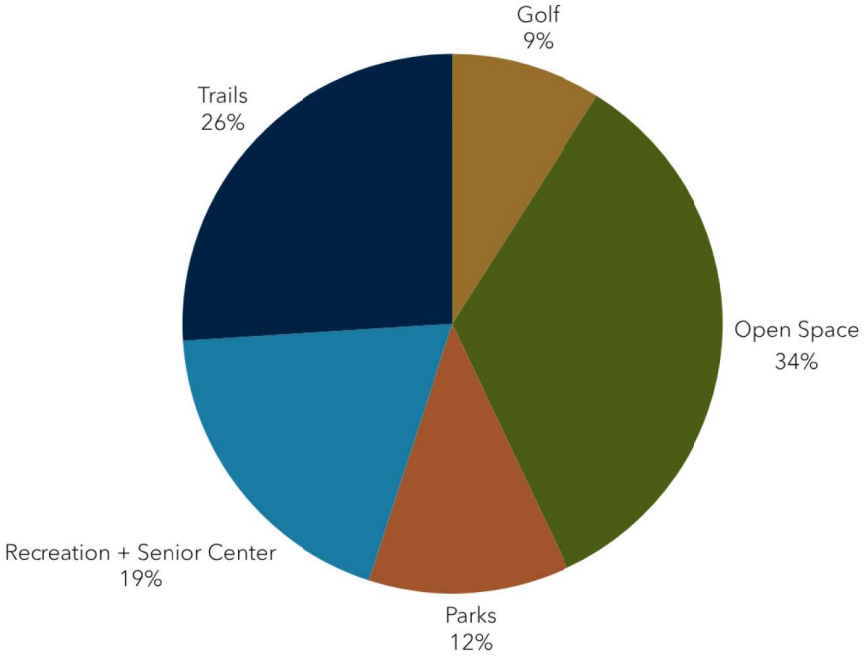


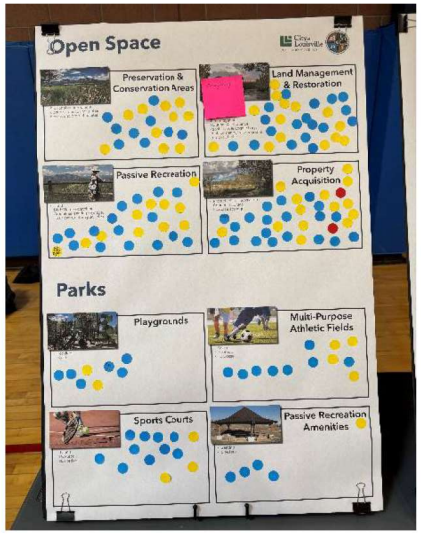


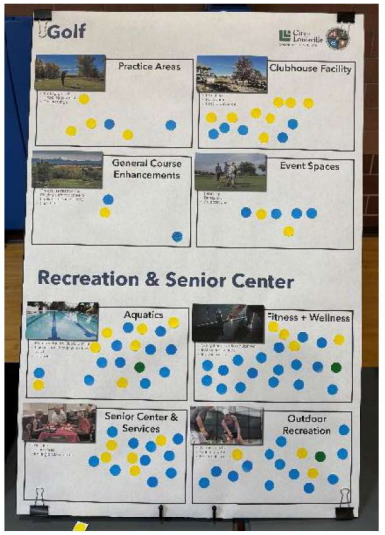


COMMUNITY PREFERENCES – Amenities
Open House Event

PROMPT: Using stickers, indicate which **PROS Amenities** you would most like to see enhanced over the next 10 years.



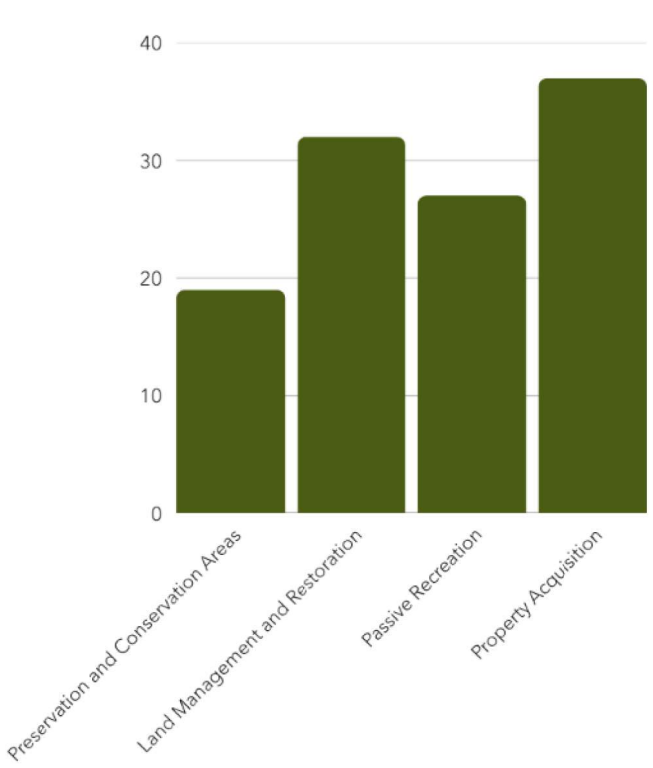




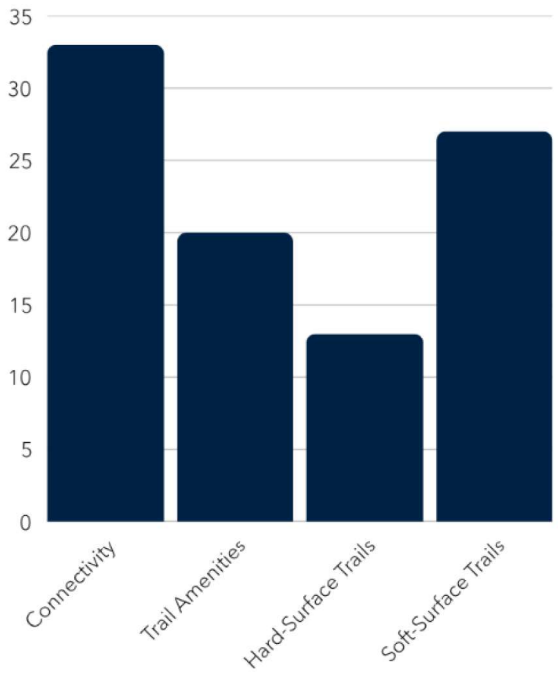
COMMUNITY PREFERENCES - Amenities

NUMBER OF RESPONSES BY CATEGORY

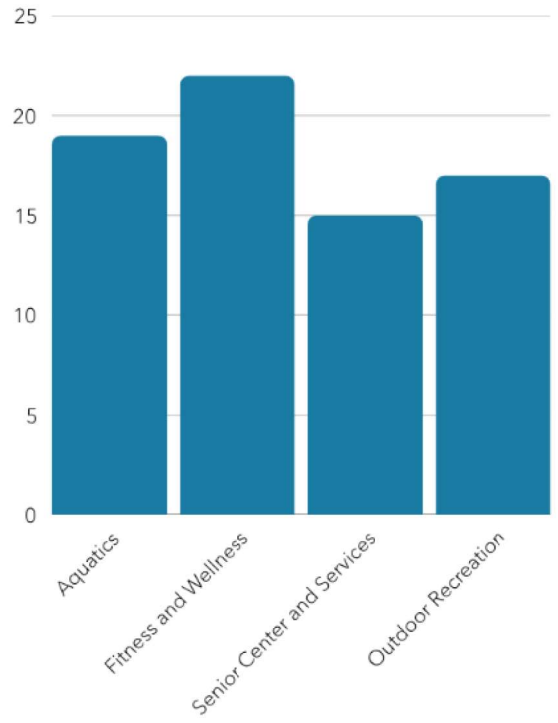
Open Space (34%)



Trails (26%)

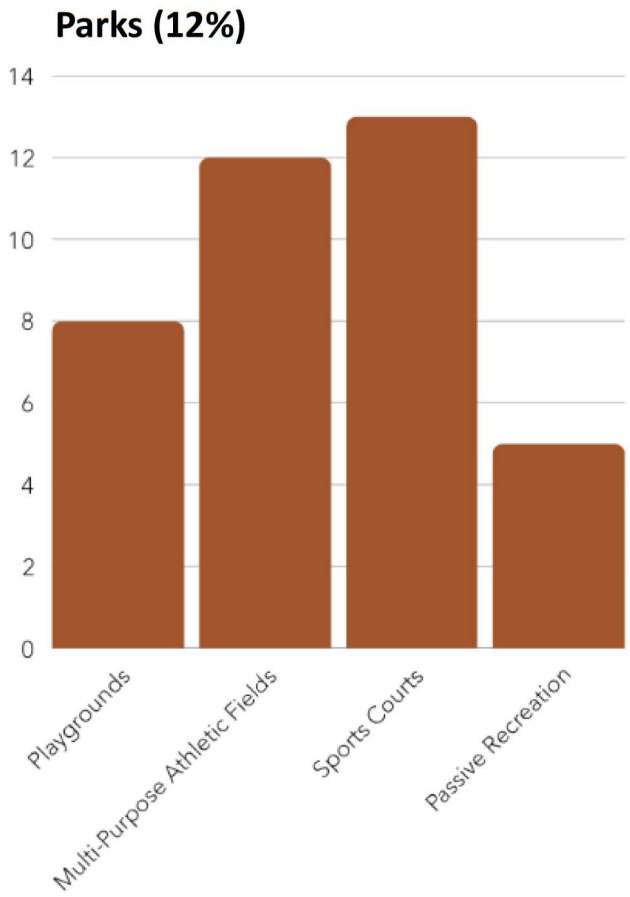


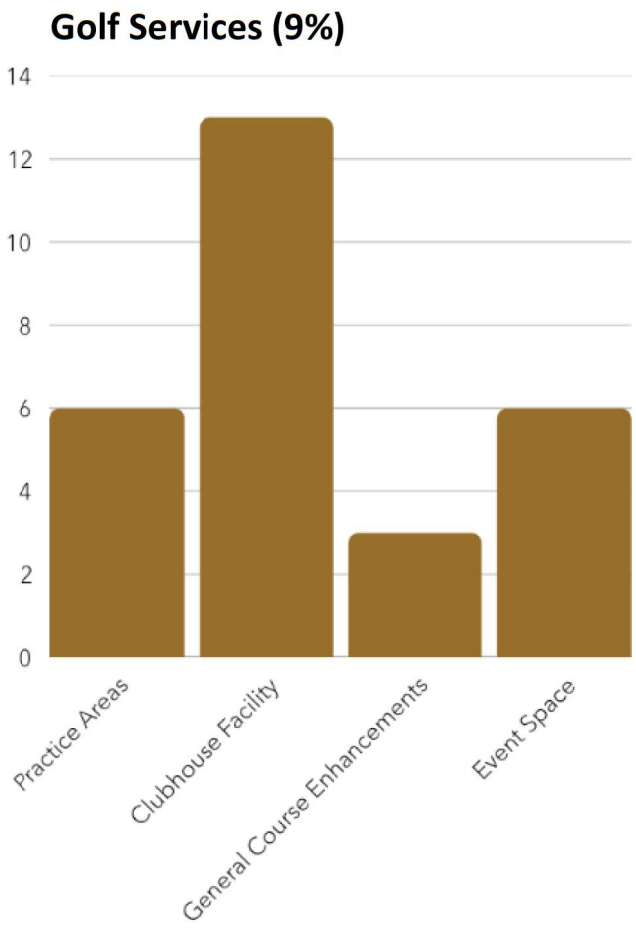
Recreation + Senior Center (19%)



COMMUNITY PREFERENCES - Amenities

BREAKDOWN OF NUMBER OF RESPONSES BY CATEGORY





MAP COMMENTS

Pop-Up + Open House Event

Parks
- Additional amenities
- Improve accessibility
- Preserve natural aesthetics

Recreation
- Sport courts
- User group variety
- Seasonal uses

Golf
- New clubhouse
- Allow after-hours trail use
- User group variety
- Connectivity - Reroute Coal Creek Trail through CCGC

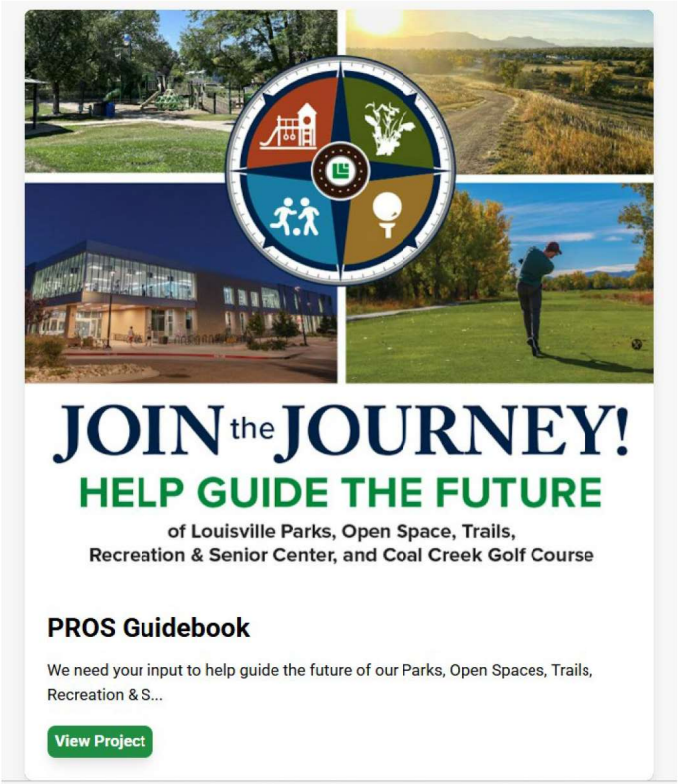
Open Space
- Maintain existing open space
- Protect sensitive habitat areas
- Improve weed and invasive species control
- Support for fire mitigation

Trails
- Expand trails and improve connections
- Address roadway crossings (safety and signage)
- Enforce e-bike regulations
- Maintenance - maintain trail quality
- Evaluate social trails and single-track routes and modify as required

PROJECT WEBSITE

www.engagelouisvilleco.org/join-the-journey

Engage Louisville CO



PROS Guidebook

Thank you for taking the survey and attending our open house. Stay tuned for more public engagement opportunities coming in 2026.

We need your input to help guide the future of our Parks, Open Spaces, Trails, Recreation & Senior Center, and Golf Course!

COMMUNITY ENGAGEMENT

COMMUNITY SURVEY RESULTS
Postcard Invite + Open Link Survey

METHODOLOGY

STATISTICALLY VALID (INVITE) SURVEY

1

Postcards were mailed to every residential address within the City of Louisville, with instructions to complete online through password protected website (1 response per household). Paper surveys and postage-paid return envelopes were also available upon request, and the survey was translated into Spanish.

766 Invitation surveys completed
+/- 3.5% Margin of Error

OPEN LINK SURVEY

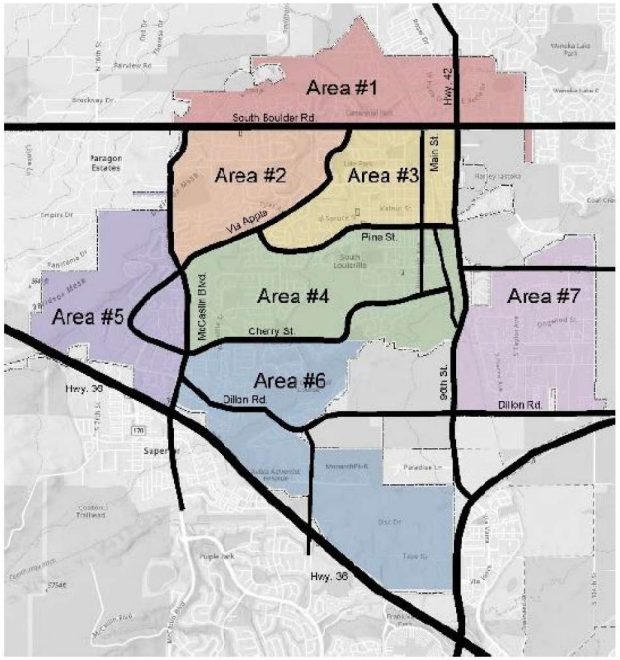
2

Later, the online survey was made available to all City of Louisville stakeholders, including non-residents (e.g., commuters, residents of nearby communities)

1,407 Open Link surveys completed

2,173
Total Surveys Completed

7,770 Postcards Mailed
7,601 Delivered



Using the map below, which area do you live in?

Invite

Area 1	19%
Area 2	14%
Area 3	21%
Area 4	35%
Area 5	0.4%
Area 6	11%
n=	766

Using the map below, which area do you live in?

Open

Area 1	17%
Area 2	17%
Area 3	14%
Area 4	28%
Area 5	3%
Area 6	16%
Area 7	0.3%
Other	4%
n=	950

COMMUNITY SURVEY RESULTS
Postcard Invite + Open Link Survey

Key Takeaways

- **93% of respondents identify parks, recreation, open spaces and trails as important to why people live in Louisville.**
- Most residents feel that the City's parks amenities meet community needs **(1/2 half of resident's rate parks as performing well).**
- Residents strongly prioritized **maintaining and enhancing existing amenities over building new ones**.
- **Residents are highly engaged trail users**, w/ exercise, nature connections, mental well being and passive recreation as the leading reasons.
- Fitness amenities (weight room, indoor pools, locker rooms, hot tubs) rate high in terms of community needs, suggesting that **current offerings align well with expectations.**
- **Open Space received high importance** w/trails and natural habitat areas and trailhead amenities consistently viewed as meeting community needs **w/4 or 5 ratings across categories.**

"...residents strongly prioritize maintaining and enhancing existing amenities over building new ones,..."

Source: RRC Associates, Inc.
2025 City of Louisville 2025 PROS Survey Report

Trails System Plan

Strategic Framework Document

Considerations

- Existing Open Space Land Classification System
- Land Management Practices
- Recreation Trail Access
- Multi-Modal Transportation Needs
  - Connecting Origins and Destinations
  - Eliminating Barriers
  - Wayfinding and Signage

Trail System Standards

- National Recreation and Park Association (NRPA)
  - CAPRA Accreditation (Commission for Accreditation of Park and Recreation Agencies)
- AASHTO Standards (American Association of State Highway and Transportation Officials)
  - Shared pathways and trails
- MUTCD Standards (Manual on Uniform Traffic Control Devices)
- USDA Forest Service Standards

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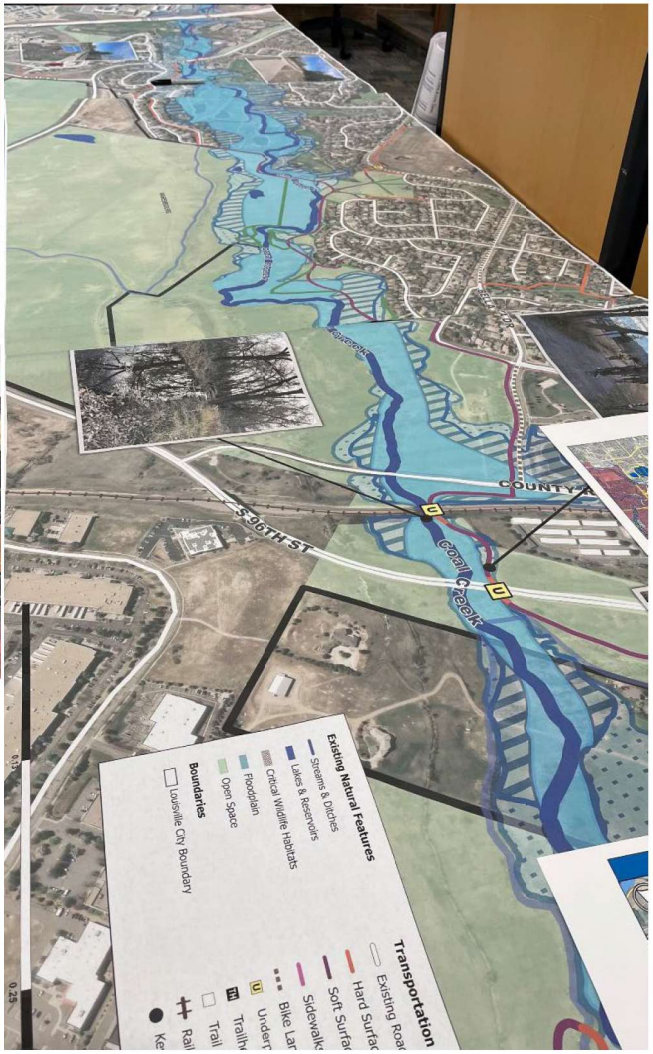
Open Space + Trails Workshop

November 14th
City Hall
Participants: 23 community members + staff
4 consultant team members

Workshop Topics

- Community Values
- Big Ideas
- Trail System Gaps
- Plan Recommendations
- Top Priorities



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WORKSHOP GOAL

COMMUNITY VALUES

Key Themes

Habitat + Ecosystem Protection

- Emphasis on conservation + sustainability
- Protect high-value areas
- Science based decision-making
- Balance recreation with ecological integrity

- **Safe, Connected + Accessible Trail Network**
  - Safety is a top priority
  - mobility and connectivity for all users
  - Provide equitable access for all abilities
  - Develop clear standards + policies for social trails

- **Recreation, Health + Community Engagement**
  - Trails as spaces for exercise, wellness + nature connection
  - Support multi-use opportunities while managing impacts
  - Foster education + stewardship; environmental learning
  - Encourage community involvement in planning

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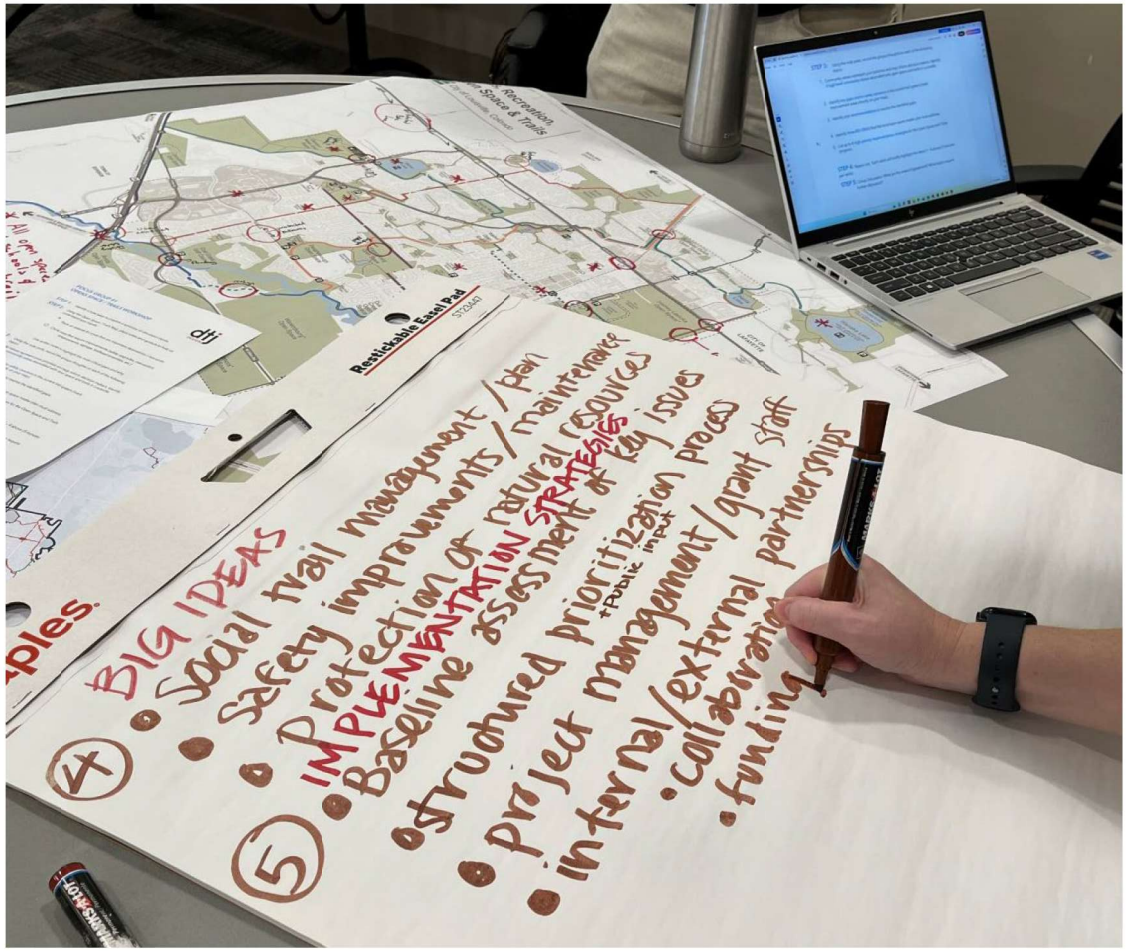
PLAN ‘BIG IDEAS’

Identify 3 Big Ideas for the Trails Plan.

Response

- Connectivity + Wayfinding
- Policy + Standards for Trails
- Habitat + Ecosystem Protection



WORKSHOP OUTCOMES

TRAIL SYSTEM GAPS

Define critical gaps in the current system
Prioritize infrastructure needs

Participants were asked to:

- Assess the current trails system
- Identified open space + trails compatibility issues (and areas of conflict)
- Identify physical gaps in the trails system
- Establish preliminary recommendations for future consideration

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WORKSHOP OUTCOMES

NEXT STEPS

- **Staff Review + Input** — **Ongoing**
  - Community Engagement Summary Report
  - Initial Draft Plan Recommendations
- **Draft Plan Strategies** — **Winter 2026**
- **Draft PROS Long Range Plan + Trails Plan** — **Spring 2026**

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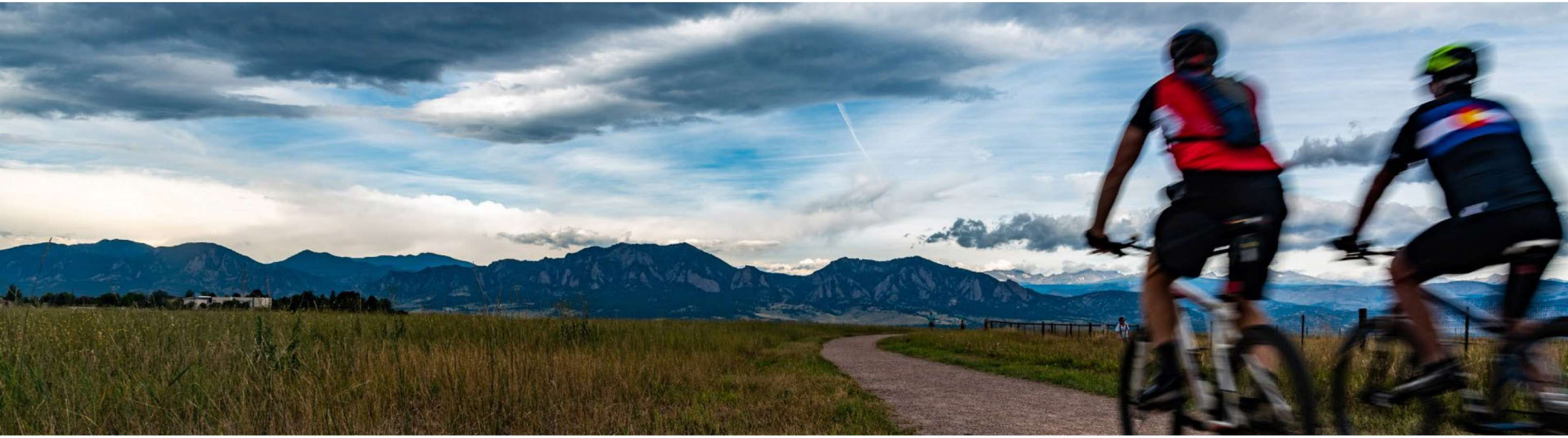
Upcoming Engagement Opportunities

- **Open Space Advisory Board #3** — **February**
- **Focus Group #2 (Recreation Amenities)** — **TBD**
- **Advisory Board Mtgs. (Round 2)** — **Spring 2026**
- **Community Open Hose #2 (Draft Plans)** — **Spring 2026**



Thank you!

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GUIDING THE FUTURE

of Louisville Parks, Recreation, Senior Services, Golf, Open Space & Trails

City of Louisville
COLORADO • SINCE 1878

City Council Communication
Agenda Item 11.D.

Subject: Water Meter Replacement and AMI Project

i. Resolution No. 10, Series 2026 — A Resolution Approving a Construction Contract for the Meter Replacement and AMI Project with Core & Main LP
ii. Resolution No. 11, Series 2026 — A Resolution Approving a Software as a Service and Spectrum Lease Agreement with Sensus USA Inc.

Date: January 6, 2026

Prepared By: Justin Ferron, Civil Engineer III

Presented By: Kurt Kowar, Director

Summary:
Staff recommends the approval of: (1) a construction contract with Core & Main in the amount of $3,775,121 along with a $590,583 allowance, and a 10% contingency of $434,166 for the City-wide water meter replacement project; and (2) a Software as a Service and Spectrum Lease Agreement with Sensus USA Inc.

Background / Prior Discussions:
This project represents a critical component of the overall water utility system and accounts for the majority of both the scope and cost of the planned metering improvements. In addition to this proposed approval of replacing of aging meter infrastructure, other related improvements include master meter implementation, installation inspection services, updating the utility billing system and the implementation of a new customer portal. Together, these elements form the foundation for a modern, accurate and efficient metering program.

Over the past several years, there have been steady investments in the water system to ensure reliable service for all water customers. As part of the ongoing efforts to maintain a modern system, staff routinely review the performance of existing infrastructure, including water meters and the associated communication equipment.

Many of the City's existing water meters were installed more than 15 years ago (2009/10) and are at the end of their typical service life range of 10–15 years. As meters age, they can gradually lose accuracy, become more difficult to maintain, develop nuisance sounds and require more staff time for manual reads, troubleshooting, and repairs. Although these issues do not pose an immediate risk to the water system, they can contribute to subtle inefficiencies and higher operational costs over time.

Replacing aging water meters is a proactive, best-practice approach to long-term system management. Modern meters provide significantly more accurate readings, reducing registration errors and ensuring that customers are billed accurately for the water they consume. Improved accuracy also provides the City with more reliable consumption data, which is used for planning, forecasting, conservation efforts and water rights administration.

Updated meters also reduce field time for staff. Newer models, especially those with automated capabilities, allow staff to focus more on system maintenance and customer service rather than manual meter reading retrieval. This efficiency reduces operational costs and helps extend the useful life of other components of the water system.

From a customer service perspective, modern meters offer additional advantages. Enhanced data resolution allows staff to quickly identify potential leaks, unusual use patterns or meter issues. Evaluated systems also provide customer portals, giving more transparency and control over their water use, enabling better participation in conservation initiatives and access to direct messaging of utility operations and programs.

Financially, meter replacement programs are predictable and necessary. Routine meter replacement is a core asset management practice that avoids the higher costs associated with emergency replacements or widespread failures.

The City's meters rely on older drive-by technology that has become increasingly difficult to support. While these systems continue to function, they lack the efficiency, range and reliability offered by newer communication platforms now widely adopted by most municipal water systems. In recent years, advancements in metering technology, including automated meter reading and improved data tracking, have become the standard. Many surrounding communities have already transitioned to updated meter models to improve accuracy, streamline operations, and provide customers with better visibility into their water use. With these factors in mind, staff initiated an evaluation of the City's current metering needs and future service expectations.

Pilot testing of meter technologies began in 2019, coinciding with the period when many of the City's existing meters were entering the beginning of the typical meter end of useful life range. Recognizing this, staff sought to be proactive in evaluating options for more modern and reliable metering technology. Working in coordination with the then existing supplier (Badger Meter), staff initiated a pilot of a cellular AMI system at select volunteer locations across the community. A total of 86 meters were installed as part of the pilot. While most meters performed well, some locations experienced issues with cellular coverage, providing valuable insight into both the strengths and limitations of this technology.

A major shift in this project occurred in 2022 during the rebuilding process from the Marshall Fire. To improve resiliency to meters and the water system, a new meter configuration was installed with integrated remote shutoff valves (Fenix, previously SET)

with replacement meters (Zenner) all located in outdoor meter pits. At the 3-year mark, the Fenix remote shutoff valves are functioning as intended but the Zenner meters are substandard, experiencing performance issues with connection failures and multiple warranty fixes.

City-wide replacement bid documents were completed in October of 2024 and publicly advertised on October 30 and November 6, 2024. Bids were received on December 20, 2024 and summarized as follows:

Contractor	Total Base Bid	Communication Method	Estimated Software and Communication Costs (20 Years)	Estimated Total System Cost (20 Years)
Core & Main (Xylem/Sensus)	**$3,744,276**	**Licensed Radio**	**$1,157,880**	**$4,902,156**
Texas Meter & Device Co. (Badger Meter)	$3,632,763	Cellular	$1,851,424	$5,484,187
Mountain States Pipe & Supply	$2,652,848	Cellular	$1,415,629	$4,068,477
Fenix USA	$3,049,249	Cellular	$745,388	$3,794,637
Metron-Farnier	$3,908,750	Cellular	Included	$3,908,750
H.D. Folwer/Kamstrup	$3,635,885	Licensed Radio	$1,560,765	$5,196,650
Ferguson Waterworks	$4,065,355	Cellular	$1,867,491	$5,932,846
Mueller	$2,885,862	Unlicensed Radio	$817,598	$3,703,460

Development Proposal:
N/A

Analysis:
Bids received were reviewed by a City Team of Public Works, Finance and IT for cost, meter technology, meter body material, communication method, software, meter installation contractor, prior project references, and expandability.

Following the bid review process, in-person interviews were conducted in February

2025 for the top four bidders: Core & Main, Fenix USA, Mountain States Pipe & Supply, and Texas Meter.

The interview process narrowed the prefer bidders to two: Core & Main (Xylem/Sensus) & Texas Meter (Badger Meter). The final staff determination came down to the preferred communication method being licensed radio vs. cellular and the long-term operating costs.

The radio system has three main advantages:
- Better connectivity over cellular resulting in fewer lost reads.
- A City-owned communication platform not reliant on a cell company.
- Lower projected long-term cost with a cheaper ability to add future users and other utility equipment.

The recommended radio option requires the installation of three collector antennas at a height of approximately 35 feet. To assess potential visual impacts, temporary mockup antennas have been in place at the two water treatment plants and the wastewater treatment plant since the end of August 2025. Should the project move forward, the installation of the permanent antennas will be subject to the City's standard planning and approval processes, including any required permitting, review, and public notification steps.

With the proposed selection of Core & Main, the original 2024 estimate from the bid summary table was updated to 2025 values to reflect market conditions and minor scope adjustments.

Public works staff will work with the communications department on advance notices through billing inserts and social media posts for the meter installation process. The subcontracted installer, D&B Construction Group will engage with customers via door hangers and customers will use QR codes provided to book their appointments for indoor installations. D&B will handle all rescheduling, cancellations, and customer communication. D&B will also provide scripts and support to City Staff to guide residents through the scheduling process if needed. D&B will wear uniforms, picture identification badges, and vehicles that are clearly marked. Digital photographs before and after installation will be documented into a work order tracking software so that staff can track project progress.

With approval of this contract Core & Main and the City will begin the construction as outlined in the schedule below:

Meter Replacement Phase	Estimated Timeline
Contract Award	Q1 2026
Radio Base Station: Permitting, Ordering, and Installation	Q1 2026 to Q2 2026

Meter Installation	Q2 2026 to Q3 2027
Project Closeout	Q4 2027
Related Phases (Future Council Approvals and Customer Engagement)	
#1: Mobile Home Master Meter	Q2 2026 to Q3 2026
#2: 3rd Party Meter Installation Field Inspection Services	Q2 2026 to Q3 2026
#3: Utility Billing System & Customer Portal	Q2 2026 to Q4 2027

A brief description of the Related Phases is as follows:

- Future Phase 1 - Convert mobile home parks to master metering. Staff are preparing a Municipal Code adjustment to address master metering for mobile home parks resulting in challenges in easily and safely accessing these meters within a private system. The scope of work includes the installation of a 6-inch diameter master meter, underground vault, and backflow device to replace the 100 individual meters currently in operation for the existing mobile home park. This will be an optional bid item under the 2026 annual water line replacement project.
- Future Phase 2 - Hire third-party field inspection services to support oversight of the meter installer. Existing on-call consultants will be utilized to inspect approximately 10% of the meter installations. This work will be awarded separately via the task order process.
- Future Phase 3 - Billing system improvements and a new customer portal. The Finance and Information Technology departments will manage this scope of work.

Council Work Plan:
This project is included in the City's current Capital Improvement Program and supports the 2025 Council Work Plan under Core Services. It is also aligned with the Utility Master Plan and the Water Efficiency Plan.

Fiscal Impact:
Budgeted?: **Yes**

Funding Description	**Account**	**Budget Amount**
Total Budget (2025 & 2026)	501498-640045	$3,800,000

Projected Expense Summary

Description		Amount
Bid Advertisement		($130)
Core & Main Base Contract		($3,775,121)
Allowances		($590,583)
Contingency (10%)		($434,166)
	Total Meter Expenses:	**($4,800,000)**
	Meter Funding Shortage:	**$1,000,000**

This project is budgeted under account 501498-640045 with a total budget of $3.8 million. The main meter replacement contract with Core & Main is under the existing budget at $3.78 million as detailed below:

Base Bid	
Mobilization/Demobilization & Recycling of Old Meters	$67,000
6,950 New Meters (Excluded Marshall Fire locations)	$2,566,997
6,950 Radio Communication Endpoints	$979,778
Supply and Installation of 3 Base Stations and Antennas	$161,346
Total for Base Contract	**$3,775,121**

A project allowance is requested for the following items:

- Replace all meters and endpoints within the Marshall Fire area as a result of poor performance and multiple warranty fixes. The replacement of these meters will allow for a single meter reading platform and better integration with the billing system. Existing remote shutoff valves to remain in place.
- Requested funding for replacement of 5% of all existing associated meter infrastructure (meter setters, curbstop valves/boxes, and meter lids). This is a staff developed percentage based on the estimated amount of associated meter infrastructure that will need to be replaced because of age, compatibility issues or damage found during the installation process.
- Add-on pressure monitoring capabilities are available for select meter sizes. Staff are proposing 10 add-ons to provide pressure monitoring in key areas across all three water distribution pressure zones to improve operations and system modeling.

Allowance costs are detailed as follows:

Allowance	

Replace Marshall Fire Meters (530 - 3/4" and 20 - 1" Meters)	$113,225
Replace Marshall Fire Meter Endpoints (550)	$78,403
Meter Setter Replacement (5% of the entire system)	$99,928
Curbstop Valve/Box Replacement (5% of the entire system)	$282,750
Meter Lid Replacement (5% of the entire system)	$11,827
Add-on Pressure Monitoring (10 Locations)	$4,450
Total Allowance	**$590,583**

A 10% contingency is requested along with this award to cover unanticipated or unforeseen expenses. The summation of contingency, allowance and base bid has a requested amount of $4,800,000 for this Council action.

Annual operating costs for the Sensus Utility platform and initial radio software platform and FCC licensing are outlined below:

Annual Sensus Utility Platform Fees Years 1-5 (2026-2030)	**Account 501463-550100**
Year 1 Fees with Initial Platform Setup	$105,170
Year 2 Fees	$37,050
Year 3 Fees	$37,816
Year 4 Fees	$40,965
Year 5 Fees	$46,479

With approval of the software as a service agreement, the initial term will start with the first 5 years and automatically renew for up to two additional terms of five (5) years each. This aligns with the expected life of the meters with the final 5-year period to be negotiated dependent on the timing of the next meter replacement project within the 15 to 20-year lifecycle. During the installation period (Years 1 and 2) the existing Itron drive by system annual software fees will be maintained at approximately $10,000 per year until all of the new meters installations are completed. Current 2026 operating budget under account 501463-550100 will need to be adjusted from the current budget of $8,350 to accommodate these expenses and subsequent years moving forward as

referenced in the above table.

In coordination with Finance, IT, and Public Works, preliminary projections of the three additional related future phases are provided for an estimated total cost impact to the water fund.

- Future Phase #1 – Mobile Home Park Master Metering - Placeholder amount of $300,000, bid as an optional bid item with the 2026 annual water line replacement project.
- Future Phase #2 – Third Party Field Inspections - Placeholder amount of $150,000.
- Future Phase #3 – Billing System Improvements - Placeholder amount of $250,00. A preliminary $1 million CIP has been included in the 2026 Budget adopted by Council on November 3, 2025 for a new system with 25% allocation to the Water Fund.

Full funding impacts are summarized in the table below:

Estimated Full Meter Project Costs	
Meter Replacement Project, Allowance, and Contingency (This Approval)	**$4,800,000**
Mobile Home Master Water Meter Conversion	$300,000
3rd Party Meter Installation Field Inspector	$150,000
Finance/IT Billing System Upgrade & Customer Portal (In Current Budget)	$250,000
Total Estimated Water Fund Impact	**$5,500,000**

The project will require additional funding that is not included in the current 2026 budget. A budget amendment in the amount of $1,450,000 will be needed and will be coordinated with the Finance Department as part of a future approval process. The full project cost, estimated at $5,500,000, has already been incorporated into the Utility Rate Model and will be reflected in the water rate adjustments planned for 2026. Based on the updated model, the preliminary rate impact shifts from the previously projected 6% increase to an adjusted 9% increase. Other remaining rate impacts are still under evaluation with more information to be provided during the standard rate-setting process to be conducted in early 2026.

Alternatives:
Although potential alternatives such as recalibration or refurbishment were reviewed,

approximately 90% of the 7,400 meters are nearing the end of service life. Meter replacement can be delayed at the expense of more water loss and more frequent meter failures. The resources to support maintaining current deteriorating meters are significantly more than replacement. To ensure equitable customer billing, operational efficiency, and long-term compliance, full replacement is the only practical and sustainable path forward.

Recommendation:
Staff recommends City Council approval of: (1) a construction contract with Core & Main in the amount of $3,775,121 along with a $590,583 allowance, and a 10% contingency of $434,166, authorize project manager to execute change orders for project contingency, and authorize execution of the contract documents on behalf of the City; and (2) a Software as a Service and Spectrum Lease Agreement with Sensus USA.

Attachments:
1. Resolution No. 10, Series 2026 - Construction
2. Water Meter Replacement and AMI Project Contract
3. Resolution No. 11, Series 2026 - Software
4. Software as a Service and FCC Form

RESOLUTION NO. 10
SERIES 2026

A RESOLUTION APPROVING A CONSTRUCTION CONTRACT FOR THE METER REPLACEMENT AND AMI PROJECT

WHEREAS, a Construction Contract has been proposed between the City and Core & Main LP for the Meter Replacement and AMI Project (the "Project"); and

WHEREAS, by this resolution the City Council desires to approve the Construction Contract and to authorize additional contingency for the Project.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the Construction Contract by and between the City of Louisville and Core & Main LP for the Project (the "Contract") in substantially the same form as the copy of such Contract accompanying this Resolution.

Section 2. The Mayor is hereby authorized to execute the Contract on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Contract as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Contract are not altered.

Section 3. The City Council hereby approves a $590,583 allowance and a 10% contingency of $434,166 for a total authorized amount of $4,799,970 for the Project. The City's Project Manager for the Contract may approve change orders deemed necessary for the Project, subject to the cost limits set forth in this Resolution.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

AGREEMENT

THIS AGREEMENT is made and entered into this 6th day of January in the year 2026 by and between:

CITY OF LOUISVILLE, COLORADO
(hereinafter called OWNER)

And

CORE & MAIN LP
(hereinafter called CONTRACTOR)

OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows.

ARTICLE 1. WORK

CONTRACTOR shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

PROJECT: METER REPLACEMENT AND AMI PROJECT
PROJECT NUMBER: 501498-640045

ARTICLE 2. CONTRACT TIMES

2.1 The CONTRACTOR shall substantially complete all work within **730 Consecutive Contract Days** after the date when the Contract Time commences to run. The Work shall be completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within **790 Consecutive Contract Days** after the date when the Contract Time commences to run. The Contract Times shall commence to run on the day indicated in Notice to Proceed.

2.2 LIQUIDATED DAMAGES. CONTRACTOR and OWNER recognize that time is of the essence as stated in Paragraph 2.1 above and that OWNER will suffer financial and other losses if the Work is not completed within the times specified in Paragraph 2.1 above, plus any extensions thereof allowed in accordance with the Contract Documents. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by OWNER if the Work is not completed on time. Accordingly, instead of requiring any such proof, OWNER and CONTRACTOR agree that, as liquidated damages for delay (but not as a penalty):

1. Substantial Completion: CONTRACTOR shall pay OWNER $750.00 for each day that expires after the time (as duly adjusted pursuant to the Contract Documents) specified in Paragraph 2.1 above for Substantial Completion until the Work is substantially complete.

2. Completion of Remaining Work: After Substantial Completion, if CONTRACTOR shall neglect, refuse, or fail to complete the remaining Work within the Contract Time (as duly adjusted pursuant to the Contract Documents) for completion and readiness for final payment, CONTRACTOR shall pay OWNER $750.00 for each day that expires after such time until the Work is completed and ready for final payment.

3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently. This liquidated damages provision constitutes the OWNER's sole and exclusive remedy for the CONTRACTOR's unexcused delay, except as provided Article 12 of the General Conditions.

ARTICLE 3. CONTRACT PRICE

3.1 The OWNER shall pay in current funds, and the CONTRACTOR agrees to accept in full payment for performance of the Work, subject to additions and deductions from extra and/or omitted work and determinations of actual quantities as provided in the Contract Documents, the Contract Price of **THREE MILLION SEVEN HUNDRED SEVENTY-FIVE THOUSAND ONE HUNDRED AND TWENTY-ONE DOLLARS ($3,775,121.00).** as set forth in the Bid Form of the CONTRACTOR dated August 4th, 2025.

As provided in paragraph 11.9 of the General Conditions estimated quantities are not guaranteed, and determinations of actual quantities and classification are to be made by ENGINEER as provided in paragraph 9.10 of the General Conditions. Unit prices have been computed as provided in paragraph 11.9 of the General Conditions.

ARTICLE 4. PAYMENT PROCEDURES

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by OWNER as provided in the General Conditions.

4.1 PROGRESS PAYMENTS. OWNER shall make progress payments on the basis of CONTRACTOR's Applications for Payment as recommended by ENGINEER, on or about the third Wednesday of each month during construction as provided below. All progress payments will be on the basis of the progress of the Unit Price Work based on the number of units completed as provided in the General Conditions.

4.1.1.1 Prior to final completion and acceptance, progress payments will be made in the amount equal to 95 percent of the calculated value of completed installation Work and 100 percent of the value of all other Work, including but not limited to mobilization, SaaS fees, demobilization, materials and equipment not incorporated in the Work (but delivered, suitably stored and accompanied by documentation satisfactory to OWNER as provided in 14.2 of the General Conditions), but in each case, less the aggregate of payments previously made and such less amounts as ENGINEER shall determine, or OWNER may withhold, in accordance with paragraph 14.7 of the General Conditions. Contractor agrees that each of its Applications for Payment shall include an itemization of completed installation Work and other Work.

If OWNER finds that satisfactory progress is being made in any phase of the Work, it may, in its discretion and upon written request by the CONTRACTOR, authorize final payment from the withheld percentage to the CONTRACTOR or subcontractors who have completed their work in a manner finally acceptable to the OWNER. Before any such payment may be made, the OWNER must, in an exercise of its discretion, determine that satisfactory and substantial reasons exist for the payment and there must be provided to the OWNER written approval from any surety furnishing bonds for the Work.

Nothing contained in this provision shall preclude the OWNER and CONTRACTOR from making other arrangements consistent with C.R.S. 24-91-105 prior to contract award.

4.2 FINAL PAYMENT. Upon final completion and acceptance of the Work in accordance with paragraph 14.13 of the General Conditions, OWNER shall pay the remainder of the Contract Price as provided in said paragraph 14.13 of the General Conditions.

ARTICLE 5. CONTRACTOR'S REPRESENTATIONS

In order to induce OWNER to enter into this Agreement CONTRACTOR makes the following representations:

5.1 CONTRACTOR has examined and carefully studied the Contract Documents, (including the Addenda listed in paragraph 6.10) and the other related data identified in the Bidding Documents including "technical".

5.2 CONTRACTOR has inspected the site and become familiar with and is satisfied as to the general, local and site conditions that may affect cost, progress, performance or furnishing of the Work.

5.3 CONTRACTOR is familiar with and is satisfied as to all federal, state and local Laws and Regulations that may affect cost, progress and furnishing of the Work.

5.4 CONTRACTOR has carefully studied all reports of exploration and tests of subsurface conditions at or contiguous to the site and all drawings of physical conditions relating to surface or subsurface structures at or contiguous to the site (Except Underground facilities) which have been identified in the General Conditions as provided in paragraph 4.2.1 of the General Conditions. CONTRACTOR accepts the determination set forth in paragraph 4.2 of the General Conditions. CONTRACTOR acknowledges that such reports and drawings are not Contract Documents and may not be complete for CONTRACTOR's purposes. CONTRACTOR acknowledges that OWNER and ENGINEER do not assume responsibility for the accuracy or completeness of information and data shown or indicated in the Contract Documents with respect to such reports, drawings or to Underground Facilities at or contiguous to the site. CONTRACTOR has conducted, obtained and carefully studied (or assume responsibility for having done so) all necessary examinations, investigations, explorations, tests, studies, and data concerning conditions (surface, subsurface and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress, performance or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto. CONTRACTOR does not consider that any additional examinations, investigations, explorations, tests, studies or data are necessary for the performance and furnishing of the Work at the Contract Price, within the Contract Times and in accordance with the other terms and conditions of the Contract Documents.

5.5 CONTRACTOR has reviewed and checked all information and data shown or indicated on the Contract Documents with respect to existing Underground Facilities at or contiguous to the site and assumes responsibility for the accurate location of said Underground Facilities. No additional examinations, investigations, explorations, tests, reports, studies or similar information or data in respect of said Underground Facilities are or will be required by CONTRACTOR in order to perform and furnish the Work at the Contract Price, within the Contract Time and in accordance with the other terms and conditions of the Contract Documents, including specifically the provisions of paragraph 4.3 of the General Conditions.

5.6 CONTRACTOR is aware of the general nature of work to be performed by OWNER and others at the site that relates to the Work as indicated in the Contract Documents.

5.7 CONTRACTOR has correlated the information known to CONTRACTOR, information and observations obtained from visits to the site, reports and drawings identified in the Contract Documents and all additional examinations, investigations, explorations, tests studies and data with the Contract Documents.

5.8 CONTRACTOR has given ENGINEER written notice of all conflicts, errors, ambiguities or discrepancies that CONTRACTOR has discovered in the Contract Documents and the written resolution thereof by ENGINEER is acceptable to CONTRACTOR, and the Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing the Work.

ARTICLE 6. CONTRACT DOCUMENTS

The Contract Documents, which constitute the entire agreement between OWNER and CONTRACTOR concerning the Work, are all written documents, which define the Work and the obligations of the Contractor in performing the Work and the OWNER in providing compensation for the Work. The Contract Documents include the following:

6.1 Invitation to Bid.

6.2 Instruction to Bidders.

6.3 Bid Form and proposal of CONTRACTOR.

6.4 This Agreement.

6.5 General Conditions.

6.6 Not Used.

6.7 General Requirements.
6.7.a. – Contractor's Scope of Work
6.7.b. – Statement of Work
6.7.c. – Addendum to Meter Replacement and AMI Project
6.7.d. – City of Louisville Warranty

6.8 Technical Specifications.

6.9 Drawings

6.10 Change Orders, Addenda and other documents which may be required or specified including:

6.10.1 Addenda No. 1 to 2 exclusive
6.10.2 Documentation submitted by CONTRACTOR prior to Notice of Award.
6.10.3 Schedule of Subcontractors
6.10.4 Anti-Collusion Affidavit
6.10.5 Certification of EEO Compliance
6.10.6 Notice of Award
6.10.7 Performance Bond
6.10.8 Labor and Material Payment Bond
6.10.9 Certificates of Insurance
6.10.10 Notice to Proceed

6.10.11 Contractor's Proposal Request
6.10.12 Contractor's Overtime Request
6.10.13 Field Order
6.10.14 Work Change Directive
6.10.15 Change Order
6.10.16 Application for Payment
6.10.17 Certificate of Substantial Completion
6.10.18 Claim Release
6.10.19 Final Inspection Report
6.10.20 Certificate of Final Completion
6.10.21 Guarantee Period Inspection Report

6.11 The following which may be delivered or issued after the Effective Date of the Agreement and are attached hereto: All Written Amendments and other documents amending, modifying, or supplementing the Contract Documents pursuant to paragraphs 3.5 and 3.6 of the General Conditions.

6.12 In the event of conflict between the above documents, the prevailing document shall be as follows:

1. Permits from other agencies as may be required.

2. Special Provisions and Detail Drawings.

3. Technical Specifications and Drawings. Drawings and Technical Specifications are intended to be complementary. Anything shown or called for in one and omitted in another is binding as if called for or shown by both.

4. Supplementary Conditions.

5. General Conditions.

6. City of Louisville Design and Construction Standards.

7. Reference Specifications.

In case of conflict between prevailing references above, the one having the more stringent requirements shall govern.

There are no Contract Documents other than those listed above in this Article 6. The Contract Documents may only be amended, modified or supplemented as provided in paragraphs 3.5 and 3.6 of the General Conditions.

ARTICLE 7. MISCELLANEOUS

7.1 Terms used in this Agreement, which are defined in Article 1 of the General Conditions, shall have the meanings indicated in the General Conditions.

7.2 No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation, moneys that may become due and moneys that are due may not be assigned without such consent (except to the extent that the effect of this restriction

may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment no assignment will release or discharge that assignor from any duty or responsibility under the Contract Documents.

7.3 OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.

ARTICLE 8. OTHER PROVISIONS

IN WITNESS WHEREOF, OWNER and CONTRACTOR have signed this Agreement in duplicate. One counterpart each has been delivered to OWNER and CONTRACTOR. All portions of the Contract Documents have been signed, initialed or identified by OWNER and CONTRACTOR.

This Agreement will be effective on January 6th, 2026.

OWNER: CITY OF LOUISVILLE, COLORADO	CONTRACTOR: CORE & MAIN LP
By: _____ Christopher M. Leh, Mayor	By: _____ Printed Name: _____ Title: _____
(CORPORATE SEAL)	(CORPORATE SEAL)
Attest: _____ Genny Kline, City Clerk	Attest: _____
Address for giving notices: 749 Main Street Louisville, Colorado 80027 Attention: Project Manager	Address for giving notices: 9451 Yosemite Henderson, CO 80640 Attention: Project Manager

GENERAL CONDITIONS

ARTICLE 1 - DEFINITIONS

Wherever used in these General Conditions or in the other Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof:

1.0 **Abnormal Weather** - Snowfall, rainfall, freezing temperatures, or wind conditions, in excess of those encountered in the project area of Boulder County during the past 10 years that necessitates cessation of Work and causes consequence to the project.

1.1 **Addenda** - Written or graphic instruments issued prior to the opening of Bids, which clarify, correct or change the Bidding Requirements or the Contract Documents.

1.2 **Agreement** - The written contract between OWNER and CONTRACTOR covering the Work to be performed; other Contract Documents are attached to the Agreement and made a part thereof as provided therein.

1.3 **Application for Payment** - The form accepted by ENGINEER which is to be used by CONTRACTOR in requesting progress or final payments and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

1.4 **Asbestos** - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

1.5 **Bid** - The offer or proposal of the Bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

1.6 **Bidding Documents** - The advertisement or invitation to Bid, instructions to Bidders, the Bid form, and the proposed Contract Documents (including all Addenda issued prior to receipt of Bids).

1.7 **Bidding Requirements** - The advertisement or invitation to Bid, instructions to bidders, and the Bid form.

1.8 **Bonds** - Performance and Payment bonds and other instruments of security.

1.9 **Change Order** - A document recommended by ENGINEER, which is signed by CONTRACTOR and OWNER and authorizes an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times, issued on or after the Effective Date of the Agreement.

1.9.1 **Contract Day** – A Contract Day specifies that construction will be completed Monday through Sunday, excluding OWNER-observed holidays and Abnormal Weather days.

1.10 **Contract Documents** - The Agreement, Addenda (which pertain to the Contract Documents), CONTRACTOR's Bid (including documentation accompanying the Bid and any post Bid documentation submitted prior to the Notice Award) when attached as an exhibit to the Agreement, the Notice to Proceed, the Bonds, these General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Agreement, together with all Written Amendments, Change Orders, Work

Change Directives, Field Orders and ENGINEER's written interpretations and clarifications issued pursuant to paragraphs 3.5, 3.6.1, and 3.6.3 on or after the Effective Date of the Agreement. Shop Drawing submittals approved pursuant to paragraphs 6.26 and 6.27 and the reports and drawings referred to in paragraphs 4.2.1.1 and 4.2.2.2 are not Contract Documents.

1.11 **Contract Price** - The moneys payable by OWNER to CONTRACTOR for completion of the Work in accordance with the Contract Documents as stated in the Agreement (subject to the provisions of paragraph 11.9.1 in the case of Unit Price Work).

1.12 **Contract Times** - The numbers of days or the dates stated in the Agreement: (i) to achieve Substantial Completion, and (ii) to complete the Work so that it is ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13.

1.13 **CONTRACTOR** - The person, firm or corporation with whom OWNER has entered into the Agreement.

1.14 **Defective** - An adjective which when modifying the work refers to Work that is unsatisfactory, faulty or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test or approval referred to in the Contract Documents, or has been damaged prior to ENGINEER's recommendation of final payment (unless responsibility for the protection thereof has been assumed by OWNER at Substantial Completion in accordance with paragraph 14.8 or 14.10).

1.15 **Drawings** - The drawings, which show the scope, extent and character of the Work to be furnished and performed by CONTRACTOR and which have been prepared or approved by ENGINEER and are referred to in the Contract Documents. Shop drawings are not Drawings as so defined.

1.16 **Effective Date of the Agreement** - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

1.17 **ENGINEER** - The word "ENGINEER" refers to the City of Louisville, Director of Public Works or his authorized representative, designated by the OWNER as its Engineering representative.

1.18 **OWNER'S Consultant** - A person, firm or corporation having a contract with OWNER to furnish services as OWNER's independent professional associate or consultant with respect to the Project and who is identified as such in the Supplementary Conditions.

1.19 **Field Order** - A written order issued by ENGINEER which orders minor changes in the Work in accordance with paragraph 9.5 but which does not involve a change in the Contract Price or the Contract Times.

1.20 **General Requirements** - Sections of Division 1 of the Specifications.

1.21 **Hazardous Waste** - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

1.22 **Laws and Regulation: Laws or Regulations** - Any and all applicable laws, rules, regulations, ordinances, codes and orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

1.23 **Liens** - Liens, charges, security interests or encumbrances upon real property or personal property.

1.24 **Milestone** - A principal event specified in the Contract Documents relating to an intermediate completion date or time prior to Substantial Completion of all the Work.

1.25 **Notice of Award** - The written notice by OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the conditions precedent enumerated therein, within the time specified, OWNER will sign and deliver the Agreement.

1.26 **Notice to Proceed** - A written notice given by OWNER to CONTRACTOR (with a copy to ENGINEER) fixing the date on which the Contract Times will commence to run and on which CONTRACTOR shall start to perform CONTRACTOR's obligations under the Contract Documents.

1.27 **OWNER** - The public body or authority, corporation, association, firm or person with whom CONTRACTOR has entered into the Agreement and for whom the Work is to be provided.

1.28 **Partial Utilization** - Use by OWNER of a substantially completed part of the Work for the purpose for which it is intended (or a related purpose) prior to Substantial Completion of all the Work.

1.29 **PCBs** - Polychlorinated biphenyls.

1.30 **Petroleum** - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

1.31 **Plans** - The term plans as used in these Contract Documents shall have the same meaning as Drawings.

1.32 **Product** - Includes materials, equipment and systems.

1.33 **Project** - The total construction of which the Work to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

1.34 **Provide** - Furnish and install specified materials and equipment, unless the context requires otherwise.

1.35 **Radioactive Material** - Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

1.36 **Resident Project Representative** - The authorized representative of ENGINEER who may be assigned to the site or any part thereof.

1.37 **Samples** - Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

1.38 **Shop Drawings** - All drawings, diagrams, illustrations, schedules and other data or information which are specifically prepared or assembled by or for CONTRACTOR and submitted by CONTRACTOR to illustrate some portion of the Work.

1.39 **Specifications** - Those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable thereto.

1.40 **Subcontractor** - An individual, firm or corporation having a contract with CONTRACTOR or with any other Subcontractor for the performance of a part of the Work at the site.

1.41 **Substantial Completion** - The Work (or a specified part thereof) has progressed to the point where, in the opinion of ENGINEER as evidenced by ENGINEER's definitive certificate of Substantial Completion, it is sufficiently complete, in accordance with the Contract Documents, so that the Work (or specified part) can be utilized for the purposes for which it is intended; or if no such certificate is issued, when the Work is complete and ready for final payment as evidenced by ENGINEER's written recommendation of final payment in accordance with paragraph 14.13. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

1.42 **Supplementary Conditions** - The part of the Contract Documents, which amends or supplements these General Conditions.

1.43 **Supplier** - A manufacturer, fabricator, supplier, distributor, material man or vendor having a direct contract with CONTRACTOR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CONTRACTOR or any Subcontractor.

1.44 **Underground Facilities** - All pipeline, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, sewage and drainage removal, traffic or other control systems or water.

1.45 **Unit Price Work** - Work to be paid for on the basis of unit prices.

1.46 **Work** - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. Work includes and is the result of performing or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

1.47 **Work Change Directive** - A written directive to CONTRACTOR, issued on or after the Effective Date of the Agreement and signed by OWNER and recommended by ENGINEER, ordering an addition, deletion or revision in the Work, or responding to differing or unforeseen physical conditions under which the Work is to be performed as provided in paragraph 4.2 or 4.3 or emergencies under paragraph 6.23. A Work Change Directive will not change the Contract Price or the Contract Times, but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times as provided in paragraph 10.2.

1.48 Written Amendment - A written amendment of the Contract Documents, signed by OWNER and CONTRACTOR on or after the Effective Date of the Agreement and normally dealing with the non-engineering or non-technical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 2 - PRELIMINARY MATTERS

Delivery of Bonds:

2.1 When CONTRACTOR delivers the executed Agreement to OWNER, CONTRACTOR shall also deliver to OWNER such Bonds and Certificates of Insurance as CONTRACTOR may be required to furnish in accordance with Article 5.

Copies of Documents:

2.2 OWNER shall furnish to CONTRACTOR up to four copies of the contract documents for the execution of the Work. Additional copies will be furnished, upon request, at the cost of reproduction.

Commencement of Contract Times; Notice to Proceed:

2.3 The Contract Times will commence to run on the day indicated in the Notice to Proceed. Timing and completion of the **Meter Replacement and AMI Project** requires that the CONTRACTOR shall substantially complete all work within 730 Consecutive Contract Days after the date when the Contract Time commences to run. The Work shall be completed and ready for final payment in accordance with paragraph 14.13 of the General Conditions within 790 Consecutive Contract Days after the date when the Contract Time commences to run. The OWNER and CONTRACTOR will mutually agree on a proposed project schedule.

2.3.1 Should work not be completed by within the time period specified, the Owner shall access liquidated damages in conformance with the Agreement, Article 2 – Contract Times, paragraph 2.2 Liquidated Damages.

Starting the Work:

2.4 CONTRACTOR shall start to perform the Work on the date when the Contract Times commence to run, but no Work shall be done at the site prior to the date on which the Contract Times commence to run.

Before Starting Construction:

2.5 Before undertaking each part of the Work, CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. CONTRACTOR shall promptly report in writing to ENGINEER any conflict, error, ambiguity or discrepancy which CONTRACTOR may discover and shall obtain a written interpretation or clarification from ENGINEER before proceeding with any Work affected thereby; however, CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any conflict, error, ambiguity or discrepancy in the Contract Documents, unless CONTRACTOR knew or reasonably should have known thereof.

2.6 Within ten days after the Effective Date of the Agreement (unless otherwise specified in the General Requirements), CONTRACTOR shall submit to ENGINEER for review:

2.6.1 a preliminary progress schedule indicating the times (numbers of days or dates) for starting and completing the various stages of the Work, including any Milestone specified in the Contract Documents;

2.6.2 a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing and processing such submittal.

Preconstruction Conference:

2.7 Before any Work at the site is started, a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to establish a working understanding among the parties as to the Work and to discuss the schedules referred to in paragraph 2.6, procedures for handling Shop Drawings and other submittal, processing Applications for Payment and maintaining required records.

Initially Acceptable Schedules:

2.8 Unless otherwise provided in the Contract Documents, at least ten days before submission of the first Application for Payment a conference attended by CONTRACTOR, ENGINEER and others as appropriate will be held to review the Application for Payment for acceptability to ENGINEER. No progress payment shall be made to CONTRACTOR until the schedules are submitted to and acceptable to ENGINEER as provided below. The progress schedule will be acceptable to ENGINEER as providing an orderly progression of the Work to completion within any specified Milestones and the Contract Times, but such acceptance will neither impose on ENGINEER responsibility for the sequencing, scheduling or progress of the Work nor interfere with or relieve CONTRACTOR from CONTRACTOR's full responsibility therefor. CONTRACTOR's schedule of Shop Drawing and Sample submissions will be acceptable to ENGINEER as providing a workable arrangement for reviewing and processing the required submittals.

ARTICLE 3 - CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

Intent:

3.1 The Contract Documents comprise the entire agreement OWNER and CONTRACTOR concerning the Work. The Contract Documents are complementary; what is called for by one is as binding as if called for by all. The Contract Documents will be construed in accordance with the law of the place of the Project.

3.2 It is the intent of the Contract Documents to describe a functionally complete Project (or part thereof) to be constructed in accordance with the Contract Documents. Any Work, materials or equipment that may reasonably be inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed whether or not specifically called for. When words or phrases, which have a well-known technical or construction industry or trade meaning are used to describe Work, materials or equipment, such words or phrases shall be interpreted in accordance with that meaning. Clarifications and interpretations of the Contract Documents shall be issued by ENGINEER as provided in paragraph 9.4.

3.3 Reference to Standards & Specifications of Technical Societies; Reporting and Resolving Discrepancies:

3.3.1. Reference to standards, specifications, manuals or codes of any technical society,

organization or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard, specification, manual, code or Laws or Regulations in effect at the time of opening of Bids (or, on the Effective Date of the Agreement if there were no Bids), except as may be otherwise specifically stated in the Contract Documents.

3.3.2 If, during the performance of the Work, CONTRACTOR discovers any conflict, error ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the Work or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, CONTRACTOR shall report it to ENGINEER in writing at once, and, CONTRACTOR shall not proceed with the Work affected thereby (except in an emergency as authorized by paragraph 6.23) until an amendment or supplement to the Contract Documents has been issued by one of the methods indicated in paragraph 3.5 or 3.6; provided, however, that CONTRACTOR shall not be liable to OWNER or ENGINEER for failure to report any such conflict, error, ambiguity or discrepancy unless CONTRACTOR knew or reasonably should have known thereof. Upon notification to the ENGINEER, the CONTRACTOR shall proceed with other parts of the Work not affected by the conflict, error, ambiguity or discrepancy.

3.3.3 Except as otherwise specifically stated in the Contract Documents or as may be provided by amendment or supplement thereto issued by one of the methods indicated in paragraph 3.5 or 3.6, the provisions of the Contract Documents shall take precedence in resolving any conflict, error, ambiguity or discrepancy between the provisions of the Contract Documents and:

3.3.3.1 the provisions of any such standard, specification, manual, code or instruction (whether or not specifically incorporated by reference in the Contract Documents); or

3.3.3.2 the provisions of any such Laws or Regulations applicable to the performance of the Work (unless such an interpretation of the provisions of the Contract Documents would result in violation of such Law or Regulation).

No provision of any such standard, specification, manual, code or instruction shall be effective to change the duties and responsibilities of OWNER, CONTRACTOR or ENGINEER, or any of their subcontractors, consultants, agents, or employees from those set forth in the Contract Documents, nor shall it be effective to assign to OWNER, ENGINEER or any of ENGINEER's Consultants, agents or employees any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility inconsistent with the provisions of paragraph 9.13 or any other provision of the Contract Documents.

3.4 Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable": "acceptable," "proper" or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review or judgment of ENGINEER as to the Work, it is intended that such requirement, direction, review or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise). The use of any such term or adjective shall not be effective to assign to ENGINEER any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of paragraph 9.13 or any other provision of the Contract Documents.

Amending and Supplementing Contract Documents:

3.5 The Contract Documents may be amended to provide for additions, deletions and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways:

3.5.1 a formal Written Amendment,
3.5.2 a Change Order (pursuant to paragraph 10.4), or
3.5.3 a Work Change Directive (pursuant to paragraph 10.1)

3.6 In addition, the requirements of the Contract Documents may be supplemented, and minor variations and deviations in the Work may be authorized, in one or more of the following ways:

3.6.1 a Field Order (pursuant to paragraph 9.5)
3.6.2 ENGINEER's approval of a Shop Drawing or Sample (pursuant to paragraphs 6.26 and 6.27), or
3.6.3 ENGINEER's written interpretation or clarification (pursuant to paragraph 9.4).

Reuse of Documents:

3.7 CONTRACTOR, and any Subcontractor or Supplier or other person or organization performing or furnishing any of the Work under a direct or indirect contract with OWNER (i) shall not have or acquire any title to or ownership rights in any of the Drawings, Specifica-

tions or other documents (or copies of any thereof) prepared by or bearing the seal of Engineer or Engineer's Consultant, and (ii) shall not reuse any of such Drawings, Specifications, other documents or copies on extensions of the Project or any other project without written consent of OWNER and ENGINEER and specific written verification or adaption by ENGINEER.

ARTICLE 4 - AVAILABILITY OF LANDS; SUBSURFACE AND PHYSICAL CONDITIONS; REFERENCE POINTS

Availability of Lands:

4.1 OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of CONTRACTOR. OWNER shall identify any encumbrances or restrictions not of general application but specifically related to use of lands so furnished with which CONTRACTOR will have to comply in performing the Work. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by OWNER, unless otherwise provided in the Contract Documents. If CONTRACTOR and OWNER are unable to agree on entitlement to or the amount or extent of any adjustments in the Contract Price or the Contract Times as a result of any delay in OWNER's furnishing these lands, rights-of-way or easements, CONTRACTOR may make a claim therefor as provided in Articles 11 and 12. CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment.

Subsurface and Physical Conditions:

4.2 BIDDER'S are responsible for examining and determining for themselves the location and nature of the proposed Work, the amount and character of the labor and materials required therefor, and the difficulties, which may be encountered. BIDDER's may not rely on oral or written representations made by the OWNER, including reports and drawings identified pursuant to 4.2.1 and subparagraphs thereof, unless the OWNER has guaranteed in writing that such representation is factually accurate, and by submitting a Bid, each BIDDER waives all liability for any error in any representation made by the OWNER to the BIDDER. BIDDER's shall inspect the site and its surroundings and conduct such supplementary examinations, investigations, and tests concerning conditions at or contiguous to the site (including surface, and subsurface) which may affect cost, progress, performance, or furnishing of the Work or which relate to any aspect of the means, methods, techniques, sequences, or procedures of construction to be employed by BIDDER and safety precautions and programs incident thereto for performing the Work in accordance with the Contract Documents. By failing to make such an inspection, the BIDDER waives all rights to claim extra payment or time extensions due to unexpected conditions, which could have been determined had the site been reasonably inspected. If concealed or unknown conditions differ materially from those ordinarily encountered and generally recognized as inherent in the Work, or differ materially from the conditions indicated in the Contract Documents, then an equitable adjustment in the Contract Price or in the Contract Time will be allowed by change order as provided in Article 11 or Article 12 respectively. By submitting a Bid, the BIDDER represents that the BIDDER's observations at the site are not inconsistent with the requirements of the proposed Contract Documents, unless otherwise noted by the BIDDER.

4.2.1 **Reports and Drawings:** Reference is made to the Supplementary Conditions for identification of:

The following reports of explorations and tests of subsurface conditions at the site of the Work:

4.2.1.1 **Subsurface Conditions:** Those reports of explorations and tests of subsurface conditions at or contiguous to the site that have been utilized by ENGINEER in preparing the Contract Documents; and

Report dated N/A , N/A, prepared by N/A entitled: N/A. The technical data contained in such report upon which CONTRACTOR may rely is N/A .

Copies of these reports that are not included with Bidding Documents may be examined at ENGINEER's office during regular business hours. Please call for appointment. Copies of such reports are not available for distribution. These reports and drawings are not part of the Contract Documents, but the technical data contained therein upon which CONTRACTOR is entitled to rely as provided in GC-4.2 and as identified and established above are incorporated therein by reference.

4.2.1.2 **Physical Conditions:** Those drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the site (except Underground Facilities) that have been utilized by ENGINEER in preparing the Contract Documents.

4.2.2 **Limited Reliance by CONTRACTOR authorized; Technical Data:** Reports and drawings identified pursuant to paragraph 4.2 are not Contract Documents. Unless otherwise set forth in the Contract Documents or OWNER has otherwise guaranteed in writing that such representation is factually accurate, CONTRACTOR may not rely upon or make any claim against the OWNER, ENGINEER or ENGINEER's consultants with respect to the accuracy of any "technical data" contained in reports and drawings and CONTRACTOR may not rely upon or make any claim against the OWNER, ENGINEER or ENGINEER's consultants with respect to:

4.2.2.1 The completeness of such reports and drawings for CONTRACTOR's purposes, including, but not limited to, any aspects of the means, methods, techniques, sequences and procedures of construction to be employed by CONTRACTOR and safety precautions and programs incident thereto, or

4.2.2.2 other data, interpretations, opinions and information contained in such reports or shown or indicated in such drawings, or

4.2.2.3 any CONTRACTOR interpretation of or conclusion drawn from any "technical data" or any such data, interpretations, opinions or information.

4.2.3 CONTRACTOR shall not be entitled to any adjustment in the Contract Price or Times if:

4.2.3.1 CONTRACTOR knew of the existence of such conditions at the time CONTRACTOR made a final commitment to OWNER in respect of Contract Price and Contract Times by the submission of a bid or becoming bound under a negotiated contract; or

4.2.3.2 the existence of such condition could reasonably have been discovered or revealed as a result of any examination, investigation, exploration, test or study of the site and contiguous areas required by the Bidding Requirements or Contract Documents to be conducted by or for CONTRACTOR prior to CONTRACTOR's making such final commitment.

If OWNER and CONTRACTOR are unable to agree on entitlement to or as to the amount or length of any such equitable adjustment in the Contract Price or Contract Times, a claim may be made therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages sustained by CONTRACTOR on or in connection with any other project or anticipated project.

4.3 Physical Conditions - Underground Facilities:

4.3.1 **Shown or Indicated:** The information and data shown or indicated in the Contract Documents with respect to existing Underground Facilities at or contiguous to the site is based on information and data furnished to OWNER or ENGINEER by the owners of such Underground Facilities or by others.

4.3.1.1 OWNER and ENGINEER shall not be responsible for the accuracy or completeness of any such information or data; and

4.3.1.2 The cost of all of the following will be included in the Contract Price and CONTRACTOR shall have full responsibility for: (i) reviewing and checking all such information and data, (ii) locating all Underground Facilities shown or indicated in the Contract Documents, (iii) coordination of the Work with the owners of such Underground Facilities during construction, and (iv) the safety and protection of all such Underground Facilities as provided in paragraph 6.20 and repairing any damage thereto resulting from the Work.

4.3.2 **Not Shown or Indicated:** If an Underground Facility is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, CONTRACTOR shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency as required by paragraph 6.23), identify the owner of such Underground Facility and give written notice to that owner and to OWNER and ENGINEER. CONTRACTOR shall be responsible for the safety and protection of such Underground Facility as provided in paragraph 6.20. CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Times, or both, to the extent that they are attributable to the existence of any Underground Facility that was not shown or indicated in the Contract Documents and that CONTRACTOR did not know of and could not reasonably have been expected to be aware of or to have anticipated. If OWNER and CONTRACTOR are unable to agree on entitlement to or the amount or length of any such adjustment in Contract Price or Contract Times, CONTRACTOR may

make a claim therefor as provided in Articles 11 and 12. However, OWNER, ENGINEER and ENGINEER's Consultants shall not be liable to CONTRACTOR for any claims, costs, losses or damages incurred or sustained by CONTRACTOR on or in connection with any other project or anticipated project.

Reference Points:

4.4 OWNER shall provide engineering surveys to establish baseline and benchmarks for construction, which in ENGINEER's judgment are necessary to enable CONTRACTOR to proceed with the Work. CONTRACTOR shall be responsible for laying out the Work, shall protect and preserve the established reference points and shall make no changes or relocations without the prior written approval of OWNER, CONTRACTOR shall report to ENGINEER whenever any reference point is lost or destroyed or requires relocation because of necessary changes in grades or locations, and shall be responsible for the accurate replacement or relocation of such reference points by professionally qualified personnel.

OWNER shall provide survey reference points, construction stakes, lines and grades required for the completion of the work specified in the specifications, on the plans, or in the Special Conditions. Additional staking requested by the Contractor will be at the CONTRACTOR'S expense. When the CONTRACTOR requires staking, he shall notify the OWNER of his requirements in writing a reasonable length of time in advance of starting work that require construction staking. Under no circumstances, shall a notice of less than 2 contract days be considered a reasonable length of time. Failure of the CONTRACTOR to provide 2 contract days written notice to the OWNER of his staking requests shall relieve the OWNER from any responsibility for additional costs or delays caused by such failure. Stakes set by the OWNER shall be carefully preserved by the CONTRACTOR. When stakes are destroyed or damaged, the CONTRACTOR will be charged for the cost of necessary replacement or restoration of stakes. The charge for replacement and restoration of stakes will be deducted from any moneys due or to become due the CONTRACTOR.

4.5 Asbestos, PCB's Petroleum, Hazardous Waste or Radioactive Material:

4.5.1 OWNER shall be responsible for any Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site which was not shown or indicated in Drawings or Specifications or identified in the Contract Documents to be within the scope of the Work and which may present a substantial danger to persons or property exposed thereto in connection with the Work at the site. OWNER shall not be responsible for any such materials brought to the site by CONTRACTOR, Subcontractor, Suppliers or anyone else for whom CONTRACTOR is responsible.

4.5.2 CONTRACTOR shall immediately: (i) stop all Work in connection with such hazardous condition and in any area affected thereby (except in an emergency as required by paragraph 6.23), and (ii) notify OWNER and ENGINEER (and thereafter confirm such notice in writing). OWNER shall promptly consult with ENGINEER concerning the necessity for OWNER to retain a qualified expert to evaluate such hazardous condition or take corrective action, if any. CONTRACTOR shall not be required to resume Work in connection with such hazardous condition or in any such affected area until after OWNER has obtained any required permits related thereto and delivered to CONTRACTOR special written notice: (i) specifying that such condition and any affected area is or has been rendered safe for the resumption of

Work, or (ii) specifying any special conditions under which such Work may be resumed safely. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of such Work stoppage or such special conditions under which Work is agreed by CONTRACTOR to be resumed, either party may make a claim therefor as provided Articles 11 and 12.

4.5.3 If after receipt of such special written notice CONTRACTOR does not agree to resume such Work based on a reasonable belief it is unsafe, or does not agree to resume such Work under such special conditions, then OWNER may order such portion of the Work that is in connection with such hazardous condition or in such affected area to be deleted from the Work. If OWNER and CONTRACTOR cannot agree as to entitlement to or the amount or extent of an adjustment, if any, in Contract Price or Contract Times as a result of deleting such portion of the Work, then either party may make a claim therefor as provided in Articles 11 and 12. OWNER may have such deleted portion of the Work performed by OWNER's own forces or others in accordance with Article 7.

4.5.4 The provisions of paragraphs 4.2 and 4.3 are not intended to apply to Asbestos, PCB's, Petroleum, Hazardous Waste or Radioactive Material uncovered or revealed at the site.

ARTICLE 5 - BONDS AND INSURANCE

Performance, Payment and Other Bonds:

5.1 CONTRACTOR shall furnish Performance and Payment Bonds, each in an amount at least equal to the Contract Price as security for the faithful performance and payment of all CONTRACT-OR's obligations under the Contract Documents. These Bonds shall remain in effect at least until one year after the date when final payment becomes due, except as provided otherwise by Laws or Regulations or by the Contract Documents. CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act. The CONTRACTOR shall furnish the performance and payment bond in the form provided in the Contract Documents or approved by the OWNER; the earlier of ten (10) days after the OWNER has issued the notice of award or delivery of the executed Agreement. The OWNER reserves the right to exclude any Surety Company on any ground it deems appropriate. The cost of the bonds shall be included in the bid.

5.2 If the surety on any Bond furnished by CONTRACTOR is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of paragraph 5.1, CONTRACTOR shall within ten days thereafter substitute another Bond and surety, both of which must be acceptable to OWNER.

5.3 Licensed Sureties and Insurers; Certificates of Insurance:

5.3.1 All Bonds and insurance required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety or insurance companies that are duly licensed to transact business in the State of Colorado and to issue Bonds or insurance policies for the limits and coverage so required. Such surety and insurance companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary Conditions.

5.3.2 CONTRACTOR shall deliver to OWNER, with copies to each additional insured identified in the Supplementary Conditions, certificates of insurance which CONTRACTOR is required to purchase and maintain accordance with paragraph 5.4. The certificates shall be reviewed and approved by OWNER prior to execution of the Agreement. The completed certificates of insurance shall be sent to: City of Louisville, 749 Main Street, Louisville, Colorado 80027, attention: CITY ENGINEER.

CONTRACTOR's Liability Insurance:

5.4 (a) The CONTRACTOR agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by the CONTRACTOR pursuant to paragraphs 6.12, 6.16, 6.31, 6.32 and 6.33, and 6.5 in addition to any other insurance requirements imposed by the Contract Documents or by law. The CONTRACTOR shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to paragraphs 6.12, 6.16, 6.31, and 6.33 by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations, or types.

(b) CONTRACTOR shall procure and maintain, and shall cause any Subcontractor of the CONTRACTOR to procure and maintain, the minimum insurance coverages listed below. All coverages shall be continuously maintained from the date of commencement of the Work to cover all liability, claims, demands, and other obligations assumed by the CONTRACTOR pursuant to paragraphs 6.31 and 6.33. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

(1) Workers' Compensation insurance to cover obligations imposed by the Workers' Compensation Act of Colorado and any other applicable laws for any employee engaged in the performance of Work under this contract, and Employers' Liability insurance with minimum limits of FIVE HUNDRED THOUSAND DOLLARS ($500,000) each accident, FIVE HUNDRED THOUSAND DOLLARS ($500,000) disease - policy limit, and FIVE HUNDRED THOUSAND DOLLARS ($500,000) disease - each employee. Evidence of qualified self-insured status may be substituted for the Workers' Compensation requirements of this paragraph.

(2) Comprehensive General Liability insurance with minimum combined single limits of ONE MILLION DOLLARS ($1,000,000) each occurrence and TWO MILLION DOLLARS ($2,000,000) aggregate. The policy shall be applicable to all

premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, independent contractors, products, and completed operations. The policy shall include coverage for explosion, collapse, and underground hazards. The policy shall contain a severability of interests' provision.

(3) Comprehensive Automobile Liability insurance with minimum combined single limits for bodily injury and property damage of not less than ONE MILLION DOLLARS ($1,000,000) each occurrence and ONE MILLION DOLLARS ($1,000,000) aggregate with respect to each of CONTRACTOR's owned, hired or non-owned vehicles assigned to or used in performance of the services. The policy shall contain a severability of interests' provision.

(4) Intentionally omitted.

(c) The policy required by paragraph (2) above, by paragraph (3) above shall be endorsed to include the OWNER, the ENGINEER and its consultants, and each of their officers, agents and employees as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the OWNER, its officers, or its employees, shall be excess and not contributory insurance to that provided by CONTRACTOR. No additional insured endorsement to the policy required by paragraph (1) above shall contain any exclusion for bodily injury or property damage arising from completed operations. The CONTRACTOR shall be solely responsible for any deductible losses under any policy required above.

(d) The certificate of insurance provided to OWNER shall be completed by the CONTRACTOR's insurance agent as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the OWNER prior to commencement of the contract.

(e) Failure on the part of the CONTRACTOR to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of contract upon which the OWNER may immediately terminate this contract.

(f) The parties hereto understand and agree that the OWNER, the City of Louisville, is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., 10 C.R.S., as from time to time amended, or otherwise available to the City of Louisville, its officers, or its employees.

OWNER's Liability Insurance:

5.5 In addition to the insurance required to be provided by CONTRACTOR under paragraph 5.4, OWNER, at OWNER's option, may purchase and maintain at OWNER's expense OWNER's own liability insurance as will protect OWNER against claims which may arise from operations under the Contract Documents.

Property Insurance:

5.6 The OWNER shall be responsible for maintaining its own property insurance and, at its option, may maintain such insurance as will protect it against claims which may arise from

operations under the Contract Documents.

ARTICLE 6 - CONTRACTOR'S RESPONSIBILITIES

Supervision and Superintendence:

6.1 CONTRACTOR shall supervise, inspect and direct the Work competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the Work in accordance with the Contract Documents. CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences and procedures of construction, but CONTRACTOR shall not be responsible for the negligence of others in the design or specification of a specific means, method, technique, sequence or procedure of construction which is shown or indicated in and expressly required by the Contract Documents. CONTRACTOR shall be responsible to see that the completed Work complies accurately with the Contract Documents.

6.2 CONTRACTOR shall keep on the Work at all times during its progress a competent resident superintendent, who shall not be replaced without written notice to OWNER and ENGINEER except under extraordinary circumstances. The superintendent will be CONTRACTOR's representative at the site and shall have authority to act on behalf of CONTRACTOR. All communications to the superintendent shall be as binding as if given to CONTRACTOR.

Labor, Materials and Equipment:

6.3 CONTRACTOR shall provide competent, suitably qualified personnel to survey, layout and construct the Work as required by the Contract Documents. CONTRACTOR shall at all times maintain good discipline and order at the site. Except as otherwise required for the safety or protection of persons or the Work or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all Work at the site shall be performed during regular working hours and CONTRACTOR will not permit overtime work or the performance of Work on Saturday, Sunday or any legal holiday without OWNER's written consent given after prior written notice to ENGINEER. No extra payment will be paid to the CONTRACTOR by the OWNER due to labor overtime or other increased costs of performing the Work on Saturdays, Sundays, OWNER- observed holidays, or at night. Should the CONTRACTOR desire to work on Saturdays, Sundays, OWNER-observed holidays, or at night between the hours of 8:00 p.m. and 6:00 a.m. on **Contract Days** the CONTRACTOR shall submit a written request to the ENGINEER 24 hours prior. If approval is given by ENGINEER to CONTRACTOR for authorized overtime work, ENGINEER's and ENGINEER's authorized personnel will charge overtime and other incidental administrative expenses if required by CONTRACTOR for performing inspections on Saturdays, Sundays, OWNER-observed holidays, or at night between the hours of 8:00 p. m. and 6:00 a. m.If CONTRACTOR requires the ENGINEER to perform such inspections outside of regular work hours, the CONTRACTOR will be responsible to pay for all such rates and charges, and shall not be granted a Contract Price increase for such charges. For clarity, the ENGINEER’s grant of CONTRACTOR’s request to work during overtime hours does not require ENGINEER to perform inspections outside of regular work hours. The parties agree that CONTRACTOR may be required to perform Work outside of regular work hours to accommodate OWNER’s commercial utility customers and ENGINEER will grant such reasonable requests. ENGINEER will not perform inspections outside of regular work hours as a result of granting such requests. Overtime and other incidental administrative expenses for Engineer and Engineer's authorized personnel are as follows:

DESCRIPTION	HOURLY RATE
Engineer	$100.00
Construction Inspector	$80.00
Operations Supervisor	$80.00
Maintenance Worker	$60.00
Clerical	$50.00
Vehicle	$25.00

6.4 Unless otherwise specified in the General Requirements, CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up and completion of the Work.

6.5 All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the CONTRACTOR's proposal and the City of Louisville Warranty, attached hereto as Attachment 6.7.d. shall expressly run to the benefit of OWNER. If required by ENGINEER, CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

Progress Schedule:

6.6 CONTRACTOR shall adhere to the progress schedule established in accordance with paragraph 2.8 as it may be adjusted from time to time as provided below:

6.6.1 CONTRACTOR shall submit to ENGINEER for acceptance (to the extent indicated in paragraph 2.8) proposed adjustments in the progress schedule that will not change the Contract Times (or Milestones). Such adjustments will conformgenerally to the progress schedule then in effect and additionally will comply with any provisions of the General Requirements applicable thereto.

6.6.2 Proposed adjustments in the progress schedule that will change the Contract Times (or Milestones) shall be submitted in accordance with the requirements of paragraph 12.1. Such adjustments may only be made by a Change Order or Written Amendment in accordance with Article 12.

6.7 Substitutes and "Or-Equal" Items:

6.7.1 Whenever an item of material or equipment is specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular Supplier, the specification or description is intended to establish the type, function and quality required. Unless the specification or description contains or is followed by words reading that no like, equivalent or "or-equal" item or no substitution is permitted, other items of material or equipment of other Suppliers may be accepted

by ENGINEER under the following circumstances:

6.7.1.1 **"Or-Equal"**: If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR is functionally equal to that named and sufficiently similar so that no change in related Work will be required, it may be considered by ENGINEER as an "or-equal" item, in which case review and approval of the proposed item may, in ENGINEER's sole discretion, be accomplished without compliance with some or all of the requirements for acceptance of proposed substitute items.

6.7.1.2 **Substitute Items:** If in ENGINEER's sole discretion an item of material or equipment proposed by CONTRACTOR does not qualify as an "or-equal" item under subparagraph 6.7.1.1, it will be considered a proposed substitute item. CONTRACTOR shall submit sufficient information as provided below to allow ENGINEER to determine that the item of material or equipment proposed is essentially equivalent to that named and an acceptable substitute therefor. The procedure for review by the ENGINEER will include the following as supplemented in the General Requirements and as ENGINEER may decide is appropriate under the circumstances. Requests for review of proposed substitute items of material or equipment will not be accepted by ENGINEER from anyone other than CONTRACTOR. If CONTRACTOR wishes to furnish or use a substitute items of material or equipment, CONTRACTOR shall first make written application to ENGINEER for acceptance thereof, certifying that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar in substance to that specified and be suited to the same use as that specified. The application will state the extent, if any, to which the evaluation and acceptance of the proposed substitute will prejudice CONTRACTOR's achievement of Substantial Completion on time, whether or not acceptance of the substitute for use in the Work will require a change in any of the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) to adapt the design to the proposed substitute and whether or not incorporation or use of the substitute in connection with the Work is subject to payment of any license fee or royalty. All variations of the proposed substitute from that specified will be identified in the application and available maintenance, repair and replacement service will be indicated. The application will also contain an itemized estimate of all costs or credits that will result directly or indirectly from acceptance of such substitute, including costs of redesign and claims of other contractors affected by the resulting change, all of which will be considered by ENGINEER in evaluating the proposed substitute. ENGINEER may require CONTRACTOR to furnish additional data about the proposed substitute.

6.7.1.3 **CONTRACTOR's Expense:** All data to be provided by CONTRACTOR in support of any proposed "or-equal" or substitute item will be at CONTRACTOR's expense.

6.7.2 **Substitute Construction Methods or Procedures:** If a specific means, method, technique, sequence or procedure of construction is shown or indicated in and

expressly required by the Contract Documents, CONTRACTOR may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to ENGINEER. CONTRACTOR shall submit sufficient information to allow ENGINEER, in ENGINEER's sole discretion, to determine that the substitute proposed is equivalent to that expressly called for by the Contract Documents. The procedure for review by ENGINEER will be similar to that provided in subparagraph 6.7.1.2.

6.7.3 **ENGINEER's Evaluation**: ENGINEER will be allowed a reasonable time within which to evaluate each proposal or submittal made pursuant to paragraphs 6.7.1.2 and 6.7.2. ENGINEER will be the sole judge of acceptability. No "or-equal" or substitute will be ordered, installed or utilized without ENGINEER's prior written acceptance, which will be evidenced by either a Change Order or an approved Shop Drawing. OWNER may require CONTRACTOR to furnish at CONTRACTOR's expense a special performance guarantee or other surety with respect to any "or-equal" or substitute. ENGINEER will record time required by ENGINEER and ENGINEER's Consultants in evaluating substitutes proposed or submitted by CONTRACTOR pursuant to paragraphs 6.7.1.2 and 6.7.2 and in making changes in the Contract Documents (or in the provisions of any other direct contract with OWNER for work on the Project) occasioned thereby. Whether or not ENGINEER accepts a substitute item so proposed or submitted by CONTRACTOR, CONTRACTOR shall reimburse OWNER for the charges of ENGINEER and ENGINEER's Consultants for evaluating each such proposed substitute item.

6.8 Concerning Subcontractors, Suppliers and Others:

6.8.1 CONTRACTOR shall not employ any Subcontractor, Supplier or other person or organization, whether initially or as a substitute, against whom OWNER or ENGINEER may have reasonable objection. CONTRACTOR shall not be required to employ any Subcontractor, Supplier or other person or organization to furnish or perform any of the Work against whom CONTRACTOR has reasonable objection.

6.8.2 The Contract Documents require the identity of certain Subcontractors, Suppliers or other persons or organizations (including those who are to furnish the principal items of materials or equipment) to be submitted to OWNER with the Bid in the Bid Formprior to the Effective Date of the Agreement for acceptance by OWNER and ENGINEER, and if CONTRACTOR has submitted a list thereof in accordance with the Contract Documents, OWNER'S or ENGINEER's acceptance (either in writing or by failing to make written objection thereto by the date indicated for acceptance or objection in Contract Documents) of any such Subcontractor, Supplier, or other person or organization so identified may be revoked on the basis of reasonable objection after due investigation, in which case CONTRACTOR shall submit an acceptable substitute. No acceptance by OWNER or ENGINEER of any such Subcontractor, Supplier or other person or organization shall constitute a waiver of any right of OWNER or ENGINEER to reject defective Work.

6.8.3 Subletting of Contract. The Contractor shall not sublet, sell, transfer, assign, or dispose of the Contract or Contracts, or any portion thereof without written consent of the Engineer. The Contractor will be permitted to sublet a portion of the Contract, however, the Contractor's organization shall perform work amounting to not less than 50 percent of the total contract cost.

The calculation of the percentage of subcontracted work shall be based on the prime contract unit prices rather than subcontract unit prices. Proportional value for a subcontracted partial contract item shall be verified by the Engineer. For the

purpose of calculating the value of subcontracted work, the cost of procuring materials and manufactured products can be included in either the prime contract or subcontract. However, when a firm both sells material to a prime contractor and performs the work of incorporating the materials into the project, these two phases shall be considered in combination and as constituting a single subcontract.

Subcontracts, or transfer of Contract shall not release the Contractor of liability under the Contract and bonds.

6.9.1 CONTRACTOR shall be fully responsible to OWNER and ENGINEER for all acts and omissions of the Subcontractors. Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR just as CONTRACTOR is responsible for CONTRACTOR's own acts and omissions. OWNER or ENGINEER may furnish to any such Subcontractor, Supplier or other person or organization, to the extent practicable, evidence of amounts paid to CONTRACTOR in accordance with CONTRACTOR's Applications for Payment. Nothing in the Contract Documents shall create for the benefit of any such Subcontractor, Supplier or other person or organization any contractual relationship between OWNER or ENGINEER and any such Subcontractor, Supplier or other person or organization, nor shall it create any obligation on the part of OWNER or ENGINEER to pay or to see to the payment of any moneys due any such Subcontractor, Supplier or other person or organization except as may otherwise be required by Laws and Regulations.

6.9.2 CONTRACTOR shall be solely responsible for scheduling and coordinating the Work of Subcontractors, Suppliers and other persons and organizations performing or furnishing any of the Work under a direct or indirect contract with CONTRACTOR. CONTRACTOR shall require all Subcontractors, Suppliers and such other persons and organizations performing or furnishing any of the Work to communicate with the ENGINEER through CONTRACTOR.

6.10 The divisions and sections of the Specifications and the identifications of any Drawings shall not control CONTRACTOR in dividing the Work among Subcontractors or Suppliers or delineating the Work to be performed by any specific trade.

6.11 All Work performed for CONTRACTOR by a Subcontractor or Supplier will be pursuant to an appropriate agreement between CONTRACTOR and the Subcontractor or Supplier, which specifically binds the Subcontractor or Supplier to the applicable terms and conditions of the Contract Documents for the benefit of OWNER and ENGINEER.

Patent Fees and Royalties:

6.12 CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product or device is specified in the Contract Documents for use in the performance of the Work and if to the actual knowledge of OWNER or ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by OWNER in the Contract Documents. To the fullest extent permitted by Laws and Regulations, CONTRACTOR shall indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultants and the officers, directors, employees, agents and other consultants of each and any of them from and against all claims, costs, losses and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the Work or resulting from the incorporation in the Work of any invention, design, process, product or device not specified in the Contract Documents.

Permits:

6.13 Unless otherwise provided in the Supplementary Conditions, CONTRACTOR shall obtain and pay for all construction permits and licenses. OWNER shall assist CONTRACTOR, when necessary, in obtaining such permits and licenses. CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the Work, which are applicable at the time of opening of Bids, or, if there are no Bids, on the Effective Date of the Agreement. CONTRACTOR shall pay all charges of utility owners for connections to the Work, and OWNER shall pay all charges of such utility owners for capital costs related thereto such as plant investment fees.

6.13.1 Prior to the commencement date for the Work set forth in the Notice to Proceed, The CONTRACTOR and all subcontractors shall be or shall become a CONTRACTOR licensed in accordance with the applicable ordinance of the City of Louisville, Colorado.

6.13.2 If water is required for the project, CONTRACTOR shall obtain a bulk water permit from the City of Louisville, Public Works Department in accordance with the permit requirements.

6.13.3 CONTRACTOR shall obtain a Right-of-Way Permit from the City of Louisville, Public Works Department for all Work to be completed within the City right-of-way.

6.13.4 CONTRACTOR shall obtain and pay for all other necessary construction permits and licenses.

Laws and Regulations:

6.14.1 CONTRACTOR shall give all notices and comply with all Laws and Regulations applicable to furnishing and performance of the Work. Except where otherwise expressly required by applicable Laws and Regulations, neither OWNER nor ENGINEER shall be responsible for monitoring CONTRACTOR's compliance with any Laws or Regulations.

6.14.2 If CONTRACTOR performs any Work knowing or having reason to know that it is contrary to Laws or Regulations, CONTRACTOR shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom: however, it shall not be CONTRACTOR's primary responsibility to make certain that the Specifications and Drawings are in accordance with Laws and Regulations, but this shall not relieve CONTRACTOR of CONTRACTOR's obligations under paragraph 3.3.2.

Taxes:

6.15 CONTRACTOR shall pay all sales, consumer, use and other similar taxes required to be paid by CONTRACTOR in accordance with the Laws and Regulations of the place of the Project, which are applicable during the performance of the Work. City of Louisville municipal taxes shall be waived upon application for and acceptance of "tax exemption."

The CONTRACTOR shall apply for and receive a Certificate of Exemption from the Colorado Department of Revenue for construction materials to be physically incorporated into the Work. This Certificate of Exemption provides that the CONTRACTOR shall neither pay nor include in his bid prices Sales and Use Taxes collected by the State of Colorado on those building and construction materials physically incorporated into the Work. Sales and Use Taxes of the State of Colorado, RTD and the County are collected by the State of Colorado. All applicable Sales and Use Taxes (including State collected taxes) on any

items other than construction and building materials physically incorporated into the Work are to be paid by the Contractor and are to be included in the appropriate bid items. CONTRACTOR and any Subcontractor assume all liability for the nonpayment of taxes, or the payment of exempt taxes resulting from a failure to use the Certificate of Exemption required by this paragraph.

Use of Premises:

6.16 CONTRACTOR shall confine construction equipment, the storage of materials and equipment and the operations of workers to the site and land and areas identified in and permitted by the Contract Documents and other land and areas permitted by Laws and Regulations, rights-of-way, permits and easements, and shall not unreasonably encumber the premises with construction equipment or other materials or equipment. CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any adjacent land or areas, to the extent caused by CONTRACTOR. Should any claim be made by any such owner or occupant for damages caused by CONTRACTOR, CONTRACTOR shall promptly settle with such other party by negotiation or otherwise resolve the claim by arbitration or other dispute resolution proceeding or at law. CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify and hold harmless OWNER, ENGINEER, ENGINEER's Consultant and anyone directly or indirectly employed by any of them from and against actual and direct claims, costs, losses and damages arising out of or resulting from any claim or action, legal or equitable, brought by any such owner or occupant against OWNER, ENGINEER, or any other party indemnified hereunder to the extent caused by CONTRACTOR's negligence. During the progress of the Work, CONTRACTOR shall keep the premises free from accumulations of waste materials, rubbish and other debris resulting from the Work. At the completion of the Work, CONTRACTOR shall remove all waste materials, rubbish and debris from and about the premises as well as all tools, appliances, construction equipment and machinery and surplus materials. CONTRACTOR shall leave the site clean and ready for occupancy by OWNER at Substantial Completion of the Work. CONTRACTOR shall restore to original condition all property not designated for alteration by the Contract Documents.

6.17 CONTRACTOR shall not load nor permit any part of any structure to be loaded in any manner that will endanger the structure, nor shall CONTRACTOR subject any part of the Work or adjacent property to stresses or pressures that will endanger it.

Record Documents:

6.18 CONTRACTOR shall maintain in a safe place at the site one record copy of all Drawings, Specifications, Addenda, Written Amendments, Change Orders, Work Change Directives, Field Orders and written interpretations and clarifications (issued pursuant to paragraph 9.4) in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to ENGINEER for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered to ENGINEER for OWNER.

Safety and Protection:

6.19 CONTRACTOR shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:

6.19.1 all persons on the Work site or who may be affected by the Work:

6.19.2 all the Work and materials and equipment to be incorporated therein, whether in storage on or off the site; and

6.19.3 other property at the site or adjacent thereto, including but not limited to trees, shrubs, lawns, walks, pavements, roadways, structures, fences, gates, ditches, utilities, and underground facilities not designated for removal, relocation, or replacement in and during the course of construction.

6.19.4 The CONTRACTOR shall take all measures necessary to mitigate the impact of weather so that the project may continue on schedule. In no event shall OWNER be liable for extra costs incurred on materials and any part of the Work due to CONTRACTOR's failing to take all measures necessary protect the Work from weather and CONTRACTOR shall not be entitled to such claims. Also, no extension of the Contract Time shall be allowed if the CONTRACTOR is able, notwithstanding the weather, to proceed with other Work of the Contract. CONTRACTOR shall comply with all applicable Laws and Regulations of any public body having jurisdiction for safety of persons or property or to protect them from damage, injury or loss; and shall erect and maintain all necessary safeguards for such safety and protection. CONTRACTOR shall notify owners of adjacent property and of Underground Facilities and utility owners when prosecution of the Work may affect them, and shall cooperate with them in the protection, removal, relocation and replacement of their property. All damage, injury or loss to any property referred to in paragraph 6.20.2 or 6.20.3 caused, directly or indirectly, in whole or in part, by CONTRACTOR, any Subcontractor, Supplier or any other person or organization directly or employed by any of them to perform or furnish any of the Work or anyone for whose acts any of them may be liable, shall be remedied by CONTRACTOR. CONTRACTOR's duties and responsibilities for safety and for protection of the work shall continue until such time as all the Work is completed and ENGINEER has issued a notice to OWNER and CONTRACTOR in accordance with paragraph 14.13 that the Work is acceptable (except as otherwise expressly provided in connection with Substantial Completion).

Safety Representative:

6.20 CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

Hazard Communication Programs:

6.21 CONTRACTOR shall be responsible for coordinating any exchange of material safety data sheets or other hazard communication information required to be made available to or exchanged between or among employers at the site in accordance with Laws or Regulations.

Emergencies:

6.22 In emergencies affecting the safety or protection of persons or the Work or property at the site or adjacent thereto, CONTRACTOR, without special instruction or authorization from OWNER or ENGINEER, is obligated to act to prevent threatened damage, injury or loss. CONTRACTOR shall give ENGINEER prompt written notice if CONTRACTOR believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If ENGINEER determines that a change in the Contract Documents is

required because of the action taken by CONTRACTOR in response to such an emergency, a Work Change directive or Change order will be issued to document the consequences of such action.

6.23 Shop Drawings and Samples:

6.23.1 After checking and verifying all field measurements, CONTRACTOR shall submit to ENGINEER for review and approval in accordance with the accepted schedule of shop drawings and sample submittal (see paragraph 2.8), three copies (or at ENGINEERS option, one reproducible copy) of all shop drawings, which shall have been checked and approved by the CONTRACTOR. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data to show ENGINEER the materials and equipment CONTRACTOR proposes to provide and to enable ENGINEER to review the information for the limited purposes required by paragraph 6.26.

6.23.2 CONTRACTOR shall also submit Samples to ENGINEER for review and approval in accordance with said accepted schedule of Shop Drawings and Sample submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which intended and otherwise as ENGINEER may require to enable ENGINEER to review the submittal for the limited purposes required by paragraph 6.26. The numbers of each Sample to be submitted will be as specified in the Specifications.

6.26 Submittal Procedures:

6.25.1 Before submitting each Shop Drawing or Sample, CONTRACTOR shall have determined and verified:

6.25.1.1 all field measurements, quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers and similar information with respect thereto,

6.25.1.2 all materials with respect to intended use, fabrication, shipping, handling, storage, assembly and installation pertaining to the performance of the Work, and

6.25.1.3 all information relative to CONTRACTOR's sole responsibilities in respect of means, methods, techniques, sequences and procedures of construction and safety precautions and programs incident thereto.

CONTRACTOR shall also have reviewed and coordinated each Shop Drawing or Sample with other Shop Drawings and Samples and with the requirements of the Work and the Contract Documents.

6.25.2 Each submittal will bear a stamp or specific written indication that CONTRACTOR has satisfied CONTRACTOR's obligations under the Contract Documents with respect to CONTRACTOR's review and approval of that submittal.

6.25.3 At the time of each submission, CONTRACTOR shall give ENGINEER specific written notice of such variations, if any, that the Shop Drawing or Sample submitted may have from the requirements of the Contract Documents, such notice to be in a written communication separate from the submittal; and, in addition, shall cause a specific notation to be made on each Shop Drawing and Sample submitted to

ENGINEER for review and approval of each such variation.

6.26 ENGINEER will review and approve Shop Drawings and Samples in accordance with the schedule of Shop Drawings and Sample submittals accepted by ENGINEER as required by paragraph 2.8. ENGINEER's review and approval will be only to determine if the items covered by the submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER's review and approval will not extend to means, methods, techniques, sequences or procedures of construction (except where a particular means, method, technique, sequence or procedure of construction is specifically and expressly called for by the Contract documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. CONTRACTOR shall make corrections required by ENGINEER, andshall return the required number of corrected copies of Shop Drawings and submit as required new Samples for review and approval. CONTRACTOR shall direct specific attention in writing to revisions other than the corrections called for by ENGINEER on previous submittals.

6.27 ENGINEER's review and approval of Shop Drawings or Samples shall not relieve CONTRACTOR from responsibility for any variation from the requirements of the Contract Documents unless CONTRACTOR has in writing called ENGINEER's attention to each such variation at the time of submission as required by paragraph 6.25.3 and ENGINEER has given written approval of each such variation by specific written notation thereof incorporated in or accompanying the Shop Drawing or Sample approval; nor will any approval by ENGINEER relieve CONTRACTOR from responsibility for complying with the requirements of paragraph 6.25.1.

6.28 Where a Shop Drawing or Sample is required by the Contract Documents or the schedule of Shop Drawings and Sample submissions accepted by ENGINEER as required by paragraph 2.8, any related Work performed prior to ENGINEER's review and approval of the pertinent submittal will be at the sole expense and responsibility of CONTRACTOR.

Continuing the Work:

6.29 CONTRACTOR shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with OWNER. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as permitted by paragraph 15.5 or as OWNER and CONTRACTOR may otherwise agree in writing.

6.30 CONTRACTOR's General Warranty and Guarantee:

6.30.1 CONTRACTOR warrants and guarantees to OWNER, ENGINEER and ENGINEER's Consultants that all Work will be in accordance with the Contract Documents and will not be **defective**. CONTRACTOR's warranty and guarantee hereunder excludes defects or damage caused by:

6.30.1.1 abuse, modification or improper maintenance or operation by persons other than CONTRACTOR, Subcontractors or Suppliers; or

6.30.1.2 normal wear and tear under normal usage.

6.30.2 CONTRACTOR's obligation to perform and complete the Work in accordance with the Contract Documents shall be absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a

release of CONTRACTOR's obligation to perform the work in accordance with the Contract Documents:

6.30.2.1 observations by ENGINEER;

6.30.2.2 recommendation of any progress or final payment by ENGINEER;

6.30.2.3 the issuance of a certificate of Substantial Completion or any payment by OWNER to CONTRACTOR under the Contract Documents; use or occupancy of the Work or any part thereof by OWNER;

6.30.2.4 any acceptance by OWNER or any failure to do so;

6.30.2.5 any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptability by ENGINEER pursuant to paragraph 14.13;

6.30.2.6 any inspection, test or approval by others; or

6.30.2.7 any correction of **defective** Work by OWNER.

6.30.3 Notwithstanding the forgoing or anything contained in any bid or contract documents to the contrary, the extent of the warranty to be provided by CONTRACTOR is set forth in the City of Louisville Warranty attached here to as Exhibit 6.7.d.

6.31 Indemnification:

The CONTRACTOR agrees to indemnify and hold harmless the OWNER (City of Louisville), ENGINEER, ENGINEER's consultants, and their officers, employees, and agents, from and against actual and direct liability, claims, and demands, on account of injury, loss, or damage, including without limitation claims arising from bodily injury, personal injury, sickness, disease, death, property loss or damage, or any other loss of any kind whatsoever, which arise out of or are in any manner connected with this contract, to the extent such injury, loss, or damage is caused by, the negligent act, omission, error, professional error, mistake, negligence, or other fault of the CONTRACTOR, any Subcontractor of the CONTRACTOR, or any officer, employee, representative, or agent of the CONTRACTOR or of any Subcontractor of the CONTRACTOR. The CONTRACTOR agrees to investigate, handle, respond to, and to provide defense for and defend against, any such liability, claims or demands to the proportionate extent caused by the CONTRACTOR. The CONTRACTOR also agrees to bear its proportionate share of other costs and expenses related thereto, including court costs and attorney fees.

6.32 In any and all claims against OWNER or ENGINEER or any of their respective consultants, agents, officers, directors or employees by any employee (or the survivor or personal representative of such employee) of CONTRACTOR, any Subcontractor, any Supplier, any person or organization directly or indirectly employed by any of them to perform or furnish any of the Work, or anyone for whose acts any of them may be liable, the indemnification obligation under paragraph 6.31 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for CONTRACTOR or any such Subcontractor, Supplier or other person or organization under workers' compensation acts, disability benefit acts or other employee benefit acts.

Survival of Obligations:

6.33 All representations, indemnifications, warranties and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the work and termination or completion of the Agreement.

ARTICLE 7 - OTHER WORK

Related Work at Site:

7.1 OWNER may perform other work related to the Project at the site by OWNER's own forces, or let other direct contracts therefor which shall contain General Conditions similar to these, or have other work performed by utility owners. If the fact that such other work is to be performed was not noted in the Contract Documents, then: (i) written notice thereof will be given to CONTRACTOR prior to starting any such other work, and (ii) CONTRACTOR may make a claim therefor as provided in Articles 11 and 12 if CONTRACTOR believes that such performance will involve additional expense to CONTRACTOR or requires additional time and the parties are unable to agree as to the amount or extent thereof.

7.2 CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (and OWNER, if OWNER is performing the additional work with OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such other work and shall properly connect and coordinate the Work with theirs. Unless otherwise provided in the Contract Documents, CONTRACTOR shall do all cutting, fitting and patching of the Work that may be required to make its several parts come together properly and integrate with such other work. CONTRACTOR shall not endanger any work of others by cutting, excavating or otherwise altering their work and will only cut or alter their work with the written consent of ENGINEER and the others whose work will be affected. The duties and responsibilities of CONTRACTOR under this paragraph are for the benefit of such utility owners and other contractors to the extent that there are comparable provisions for the benefit of CONTRACTOR in said direct contracts between OWNER and such utility owners and other contractors.

7.3 If the proper execution or results of any part of CONTRACTOR's work depends upon work performed by others under this Article 7, CONTRACTOR shall inspect such other work and promptly report to ENGINEER in writing any delays, defects or deficiencies in such other work that render it unavailable or unsuitable for the proper execution and results of CONTRACTOR's Work. CONTRACTOR's failure so to report will constitute an acceptance of such other work as fit and proper for integration with CONTRACTOR's Work except for latent or non-apparent defects and deficiencies in such other work. Coordination:

7.4 Unless otherwise provided in the Supplementary Conditions, OWNER shall have sole authority and responsibility in respect of such coordination.

Should CONTRACTOR cause damage to the Work or property of any separate CONTRACTOR at the site, or should any claim arising out of CONTRACTOR's performance of the Work at the site be made by any separate contractor against CONTRACTOR, OWNER, ENGINEER, or any other person, CONTRACTOR shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. CONTRACTOR shall, to the fullest extent permitted by Laws, and Regulations, indemnify and hold OWNER and ENGINEER harmless from and against all claims, damages, losses and expenses (including, but not limited to, fees of engineers, architects, attorneys and other professionals and court and arbitration costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against OWNER or ENGINEER to the extent based on a claim arising out of CONTRACTOR's performance of the Work. Should a separate contractor cause damage to the Work or property of CONTRACTOR or should the performance of Work by any separate CONTRACTOR at the site give rise to any other claim, CONTRACTOR shall not institute any action, legal or equitable, against OWNER or ENGINEER or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from OWNER or ENGINEER on account of any such damage or claim. If CONTRACTOR is delayed at any time in performing or furnishing Work by any act or neglect of a separate contractor and OWNER and CONTRACTOR are unable to agree as to the extent of any adjustment in Contract Time attributable thereto, CONTRACTOR may make a claim for an extension of time in accordance with Article 12. An extension of the Contract Time shall be CONTRACTOR's exclusive remedy with respect to OWNER and ENGINEER for any delay, disruption, interference or hindrance cause by any separate contractor. This paragraph does not prevent recovery from OWNER or ENGINEER for activities that are their respective responsibilities.

ARTICLE 8 - OWNER'S RESPONSIBILITIES

8.1 Except as otherwise provided in these General Conditions, OWNER shall issue all communications to CONTRACTOR through ENGINEER.

8.2 In case of termination of the employment of ENGINEER, OWNER shall appoint an engineer whose status under the Contract Documents shall be that of the former ENGINEER.

8.3 OWNER shall furnish the data required of OWNER under the Contract documents promptly and shall make payments to CONTRACTOR promptly when they are due as provided in paragraphs 14.4 and 14.13.

8.4 OWNER's duties in respect of providing lands and easements and providing engineering surveys to establish reference points are set forth in paragraphs 4.1 and 4.4.

8.5 OWNER is obligated to execute Change Orders as indicated in paragraph 10.4.

8.6 OWNER's responsibility in respect of certain inspections, tests and approvals is set forth in paragraph 13.4.

8.7 In connection with OWNER's right to stop Work or suspend Work, see paragraphs 13.10 and 15.1. Paragraph 15.2 deals with OWNER's right to terminate services of CONTRACTOR under certain circumstances.

8.8 The OWNER shall not supervise, direct or have control or authority over, nor be responsible for, CONTRACTOR's means, methods, techniques, sequences or procedures of construction or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. OWNER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

8.9 OWNER's responsibility in respect of undisclosed Asbestos, PCBs, Petroleum, Hazardous Waste or Radioactive Materials uncovered or revealed at the site is set forth in paragraph 4.5.

8.10 If and to the extent OWNER has agreed to furnish CONTRACTOR reasonable evidence that financial arrangements have been made to satisfy OWNER's obligations under the Contract Documents, OWNER's responsibility in respect thereof will be as set forth in the Supplementary Conditions.

ARTICLE 9 - ENGINEER'S STATUS DURING CONSTRUCTION

OWNER's Representative:

9.1 ENGINEER will be OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of ENGINEER as OWNER's representative during construction are set forth in the Contract Documents and shall not be extended without written consent of OWNER and ENGINEER.

Visits to Site:

9.2 ENGINEER will make visits to the site at intervals appropriate to the various stages of construction as ENGINEER deems necessary in order to observe as an experienced and qualified design professional the progress that has been made and the quality of the various aspects of CONTRACTOR's executed Work. Based on information obtained during such visits and observations, ENGINEER will endeavor for the benefit of OWNER to determine, in general, if the Work is proceeding in accordance with the Contract Documents. ENGINEER will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. ENGINEER's efforts will be directed toward providing for OWNER a greater degree of confidence that the completed Work will conform generally to the Contract Documents. On the basis of such visits and on-site observations, ENGINEER will keep OWNER informed of the progress of the Work and will endeavor to guard OWNER against **defective** Work. ENGINEER's visits and on-site observations are subject to all the limitations on ENGINEER's authority and responsibility set forth in paragraph 9.13 and particularly, but without limitation, during or as a result of ENGINEER's on-site visits or observations of CONTRACTOR's Work ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work.

Project Representative:

9.3 ENGINEER will furnish a Resident Project Representative, assistants and other field staff to assist ENGINEER in observing the performance of the Work of the CONTRACTOR. The responsibilities and authority and limitations thereon of any such Resident Project Representative and assistants will be as provided in paragraph 9.13 and in the Supplementary Conditions. If OWNER designates another representative or agent to represent OWNER at the site who is not ENGINEER's Consultant, agent or employee, the responsibilities and authority and limitations thereon of such other person will be as provided in the Supplementary Conditions.

9.3.1 Resident Project Representative is ENGINEER's Agent and will act as directed by and under the supervision of ENGINEER, and will confer with ENGINEER regarding his actions. His dealings in matters pertaining to the on-site Work will in general be with ENGINEER and CONTRACTOR keeping the ENGINEER advised as necessary. His dealings with Subcontractors will only be through or with the full knowledge and approval of CONTRACTOR.

Duties and Responsibilities:

Resident Project Representative will:

Schedules:

Review the progress schedule, schedule of Shop Drawing submittal, schedule of values and other schedules prepared by CONTRACTOR and consult with ENGINEER concerning acceptability.

Conferences and Meetings:

Attend meetings with CONTRACTOR, such as preconstruction conferences, progress meetings and other job conferences and other project related meetings.

Liaison:

Serve as ENGINEER's liaison with CONTRACTOR, working principally through CONTRACTOR's superintendent and assist him in understanding the intent of the Contract Documents. Assist ENGINEER in serving as OWNER's liaison with CONTRACTOR when CONTRACTOR's operations affect OWNER's on-site operations.

Assist in obtaining from ENGINEER additional details or information, when required for proper execution of the Work.

Shop Drawings and Samples:

Record date of receipt of Shop Drawings and samples.
Receive samples, which are furnished at the site by CONTRACTOR for ENGINEER's review, and notify ENGINEER of their availability for examination.

Advise ENGINEER and CONTRACTOR of the commencement of any Work requiring a Shop Drawing or sample submission if the submission has not been approved by ENGINEER.

Review of Work, Rejection of Defective Work, Inspections and Tests:

Conduct on-site observations of the Work in progress to assist ENGINEER in determining that the Work is proceeding in accordance with the Contract Documents.

Report to ENGINEER whenever he believes that any Work is unsatisfactory, faulty or defective or does not conform to the Contract Documents, or has been damaged, or does not meet the requirements of any inspections, tests or approvals required to be made; and advise ENGINEER when he believes Work should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection or approval.

Verify that tests, equipment and systems startups and operating and maintenance training are conducted in presence of the appropriate personnel, and that CONTRACTOR maintains adequate records thereof; observe, record and report to ENGINEER appropriate details relative to the test procedures and start-ups.

Accompany visiting inspectors representing public or other agencies having jurisdiction over the Project, record the results of these inspections and report to ENGINEER.

Interpretation of Contract Documents:

Report to ENGINEER when clarifications and interpretations of the Contract Documents are needed and Transmit to CONTRACTOR clarification and interpretation of the Contract Documents as issued by ENGINEER.

Modifications:

Consider and evaluate CONTRACTOR's suggestions for modification in Drawings or Specifications and report with his recommendations to ENGINEER. Transmit to CONTRACTOR decisions issued by ENGINEER.

Records:

Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and samples, reproductions or original Contract Documents including all Work Directive Changes, Addenda, Change Orders, Field Orders, additional Drawings issued subsequent to the execution of the Agreement, ENGINEER's clarifications and interpretations of the Contract Documents, progress reports and other Project related documents.

Keep a diary, daily report form, or log book, recording hours on the job site, weather conditions, data relative to questions of Work Directive Changes, Change Orders, or changed conditions, list of job site visitors, daily activities, decisions, observations in general and specific observations in more detail as in the case of observing test procedures.

Record names, addresses and telephone numbers of all CONTRACTOR's, subcontractors and major suppliers of equipment and materials.

Reports:

Furnish ENGINEER periodic reports as required of progress of the Work and of CONTRACTOR's compliance with the progress schedule and schedule of Shop Drawings and sample submittal.

Consult with ENGINEER in advance of scheduled major tests, inspections or start of important phases of the Work.

Draft proposed Change Orders and Work Directive Changes, obtaining backup material from CONTRACTOR and recommend to ENGINEER Change Orders, Work Directive Changes, and Field Orders.

Report immediately to ENGINEER upon the occurrence of any accident.

Payment Requests:

Review applications for payment with CONTRACTOR for compliance with the established procedure for their submission and forward with his recommendations to ENGINEER, noting particularly the relationship of the payment requested to the schedule of values, Work completed and materials and equipment delivered at the site but not incorporated in the Work.

Certificates, Maintenance and Operations Manuals:

During the Course of Work verify that certifications, maintenance and operation manuals and other data required to be assembled and furnished by CONTRACTOR are applicable to the items actually installed and in accordance with the Contract Documents, and have this material delivered to ENGINEER for review and forwarding to OWNER prior to final payment of the Work.

Completion:

Before ENGINEER issues a Certificate of Substantial Completion, submit to CONTRACTOR a list of observed items requiring correction or completion.

Conduct final inspection in the company of ENGINEER and CONTRACTOR and prepare a final list of items to be corrected or completed.

Observe that all items on final list have been corrected or completed and make recommendations to ENGINEER concerning acceptance.

Limitation of Authority:

Resident Project Representative shall not:

Authorize any deviations from the Contract Documents or accept any substitute materials or equipment, unless authorized by ENGINEER.

Exceed limitations of ENGINEER's authority as set forth in the Contract Documents.

Undertake any of the responsibilities of CONTRACTOR, Subcontractors, or CONTRACTOR's superintendent.

Advise on, or issue directions relative to or assume control over any aspect of the means, methods, techniques, sequences or procedures for construction unless such is specifically called for in the Contract Documents.

Advise on or issue directions regarding or assume control over safety precautions and programs in connection with the Work.

Shall not accept Shop Drawings or sample submittals from anyone other than CONTRACTOR.

Authorize OWNER to occupy the Work in whole or in part.

Participate in specialized field or laboratory tests or inspections conducted by others except as specifically authorized by ENGINEER.

Clarifications and Interpretations:

9.4 ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract Documents (in the form of Drawings or otherwise) as ENGINEER may determine necessary, which shall be consistent with the intent of and reasonably inferable from Contract Documents. Such written clarifications and interpretations will be binding on OWNER and CONTRACTOR. If OWNER or CONTRACTOR believes that a written clarification or interpretation justifies an adjustment in the Contract Price or the Contract Times and the parties are unable to agree to the amount or extent thereof, if any, OWNER or CONTRACTOR may make a written claim therefor as provided in Article 11 or Article 12.

Authorized Variations in Work:

9.5 ENGINEER may authorize minor variations in the work from the requirements of the Contract Documents which do not involve an adjustment in the Contract Price or the Contract Times and are compatible with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. These may be accomplished by a Field Order and will be binding on OWNER and also on CONTRACTOR who shall perform the Work involved promptly.

Rejecting Defective Work:

9.6 ENGINEER will have authority to disapprove or reject Work which ENGINEER believes to be **defective**, or that ENGINEER believes will not produce a completed Project that conforms to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. ENGINEER will also have authority to require special inspection or testing of the work as provided in paragraph 13.9, whether or not the work is fabricated, installed or completed.

Shop Drawings, Change Orders and Payments:

9.7 In connection with ENGINEER's authority as to Shop Drawings and Samples, see paragraphs 6.24 through 6.28 inclusive.

9.8 In connection with Engineer's authority as to Change Orders, see Articles 10, 11, and 12.

9.9 In connection with ENGINEER's authority as to Applications for Payment, see Article 14.

Determinations for Unit Prices:

9.10 ENGINEER will have authority to verify the actual quantities and classifications of items of Unit Price Work performed by CONTRACTOR.

Decisions on Disputes:

9.11 ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the Work thereunder. Claims, disputes and other matters relating to the acceptability of the Work or the interpretation of the requirements of the Contract Documents pertaining to the performance and furnishing of the Work and Claims under Articles 11 and 12 in respect of changes in the Contract Price or Contract Times will be referred initially to ENGINEER in writing with a request for a formal decision in accordance with this paragraph. Written notice of each such claim, dispute or other matter will be delivered by the claimant to ENGINEER and the other party to the Agreement promptly (but in no event later than fifteen days) after the start of the occurrence or event giving rise thereto, and written supporting data will be submitted to ENGINEER and the other party within thirty days after the start of such occurrence or event unless ENGINEER allows an additional period of time for the submission of additional or more accurate data in support of such claim, dispute of other matter. The opposing party shall submit any response to ENGINEER and the claimant within thirty days after receipt of the claimant's last submittal (unless ENGINEER allows additional time). ENGINEER will render a formal decision in writing within thirty days after receipt of the opposing party's submittal, if any, in accordance with this paragraph. ENGINEER's written decision on such claim, dispute or other matter will be final and binding upon OWNER and CONTRACTOR.

9.12 When functioning under paragraphs 9.10 and 9.11, ENGINEER will not show partiality to OWNER or CONTRACTOR and will not be liable in connection with any interpretation or decision rendered in good faith in such capacity. The rendering of a decision by ENGINEER pursuant to paragraphs 9.10 or 9.11 with respect to any such claim, dispute or other matter (except any which have been waived by the making or acceptance of final payment as provided in paragraph 14.15) will be a condition precedent to any exercise by OWNER or CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Laws or Regulations.

9.13 Limitations on ENGINEER's Authority and Responsibilities:

9.13.1 Neither ENGINEER's authority or responsibility under this Article 9 or under any other provision of the Contract Documents nor any decision made by ENGINEER in good faith either to exercise or not exercise such authority or responsibility or the undertaking, exercise or performance of any authority or responsibility by ENGINEER shall create, impose or give rise to any duty owned by ENGINEER to CONTRACTOR, any Subcontractor, any Supplier, any other person or organization, or to any surety for or employee or agent of any of them.

9.13.2 ENGINEER will not supervise, direct, control or have authority over or be responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of the Work. ENGINEER will not be responsible for CONTRACTOR's failure to perform or furnish the Work in accordance with the Contract Documents.

9.13.3 ENGINEER will not be responsible for the acts or omissions of CONTRACTOR or of any Subcontractor, any Supplier, or of any other person or organization performing or furnishing any of the Work.

9.13.4 ENGINEER's review of the final Application for Payment and accompanying documentation and all maintenance and operating instructions, schedules, guarantees, bonds and certificates of inspection, tests and approvals and other documentation required to be delivered by paragraph 14.12 will only be to determine generally that their content complies with the requirements of, and in the case of certificates of inspections, tests and approvals that the results certified indicate compliance with, the Contract Documents.

9.13.5 The limitations upon authority and responsibility set forth in this paragraph 9.13 shall also apply to ENGINEER's Consultants. Resident Project Representative and assistants.

ARTICLE 10 - CHANGES IN THE WORK

10.1 Without invalidating the Agreement and without notice to any surety, OWNER may, at any time or from time to time, order additions, deletions or revisions in the Work. Such additions, deletions or revisions will be authorized by a Written Amendment, a Change Order, or a Work Change Directive. Upon receipt of any such document, CONTRACTOR shall promptly proceed with the Work involved, which will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

10.2 If OWNER and CONTRACTOR are unable to agree as to the extent, if any, of an adjustment in the Contract Price or an adjustment of the Contract Times that should be allowed as a result of a Work Change Directive, a claim may be made therefor as provided in Article 11 or Article 12.

10.3 CONTRACTOR shall not be entitled to an increase in the Contract Price or an extension of the Contract Times with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented as provided in paragraphs 3.5 and 3.6 except in the case of an emergency as provided in paragraph 6.23 or in the case of uncovering Work as provided in paragraph 13.9.

10.4 OWNER and CONTRACTOR shall execute appropriate Change Orders recommended by ENGINEER (or Written Amendments) covering:

10.4.1 changes in the Work which are (i) ordered by OWNER pursuant to paragraph 10.1., (ii) required because of acceptance of **defective** Work under paragraph 13.13 or correcting **defective** Work under paragraph 13.14, or (iii) agreed to by the parties:

10.4.2 changes in the Contract Price or Contract Times which are agreed to by the parties; and

10.4.3 changes in the Contract Price or Contract Times, which embody the substance of any written decision rendered by ENGINEER pursuant to paragraph 9.11;

10.5 If notice of any change affecting the general scope of the Work or the provisions of the Contract Documents (including, but not limited to, Contract Price or Contract Times) is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be CONTRACTOR's responsibility, and the amount of each applicable Bond will be adjusted accordingly.

ARTICLE 11 - CHANGE OF CONTRACT PRICE

11.1 The Contract Price constitutes the total compensation (subject to authorized adjustments) payable to CONTRACTOR for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by CONTRACTOR shall be at CONTRACTOR's expense without change in the Contract Price.

11.2 The Contract Price may only be changed by a Change Order or by a Written Amendment. Any claim for an adjustment in the Contract Price shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than fifteen days) after the start of the occurrence or event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within thirty days after the start of such occurrence or event (unless ENGINEER allows additional time for claimant to submit additional or more accurate data in support of the claim) and shall be accompanied by claimant's written statement that the adjustment claimed covers all known amounts to which the claimant is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree on the amount involved. No claim for ad adjustment in the Contract Price will be valid if not submitted in accordance with this paragraph 11.2.

11.3 The value of any Work covered by a Change Order or of any claim for an adjustment in the Contract Price will be determined as follows:

11.3.1 where the Work involved is covered by unit prices contained in the Contract Documents, by application of such unit prices to the quantities of the items involved (subject to the provisions of paragraphs 11.9.1 through 11.9.3 inclusive);

11.3.2 where the Work involved is not covered by unit prices contained in the Contract Documents, by a mutually agreed lump sum (which may include an allowance for overhead and profit not necessarily in accordance with paragraph 11.6.2);

11.3.3 where the Work involved is not covered by unit prices contained in the Contract Documents and agreement to a lump sum is not reached under paragraph 11.3.2, on the basis of the Cost of the Work (determined as provided in paragraphs 11.4 and 11.5) plus a CONTRACTOR's fee for overhead and profit (determined as provided in paragraph 11.6).

Cost of the Work:

11.4 The term Cost of the Work means the sum of all costs necessarily incurred and paid by CONTRACTOR in the proper performance of the Work. Except as otherwise may be agreed to in writing by OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project, shall include only the following items and shall not include any of the costs itemized in paragraph 11.5:

11.4.1 Certified payroll record costs for employees in the direct employment of CONTRACTOR in the performance of the Work under schedules of job classifications shall be submitted to the ENGINEER with the claim. Such employees shall include without limitation superintendents, foremen and other personnel employed full-time at the site. Payroll costs for employees not employed full time on the Work shall be apportioned on the basis of their time spent on the Work. Payroll costs shall include, but not be limited to, salaries and wages plus the cost of fringe benefits which shall include social security contributions, unemployment, excise and payroll taxes, workers' compensation, health and retirement benefits, bonuses, sick leave, vacation and holiday pay applicable thereto. The expenses of performing Work after regular working hours, on Saturday, Sunday or legal holidays, shall be included in the above to the extent authorized by OWNER.

11.4.2 Invoices for cost of all materials and equipment furnished and incorporated in the Work, including costs of transportation and storage thereof, and Suppliers' field services required in connection therewith shall be submitted to the ENGINEER with the claim. All cash discounts shall accrue to CONTRACTOR unless OWNER deposits funds with CONTRACTOR with which to make payments, in which case the cash discounts shall accrue to OWNER. All trade discounts, rebates and refunds and returns from sale of surplus materials and equipment shall be in accordance with the State Department of Highways, Division of Highways, and State of Colorado Standard Specifications for Road and Bridge Construction 2005 Edition. If the materials used in performing the extra Work are taken from the CONTRACTOR's stock, then in lieu of invoices the CONTRACTOR shall furnish an affidavit, certifying that such materials were taken from its stock, that the quantity claimed was actually used in the Work, and that the price and transportation claimed represent the actual cost to the CONTRACTOR shall be submitted to the ENGINEER with the claim.

11.4.3 Payments made by CONTRACTOR to the Subcontractors for Work performed or furnished by Subcontractors. If required by OWNER, CONTRACTOR shall obtain competitive bids from subcontractors acceptable to OWNER and CONTRACTOR and shall deliver such bids to OWNER who will then determine, with the advice of ENGINEER, which bids, if any, will be accepted. If any subcontract provides that the Subcontractor is to be paid on the basis of Cost of the Work Plus a fee, the Subcontractor's Cost of the Work and fee shall be determined in the same manner as CONTRACTOR's Cost of the Work and fee as provided in paragraphs 11.4, 11.5, 11.6 and 11.7. All subcontracts shall be subject to the other provisions of the Contract Documents insofar as applicable.

11.4.4 Costs of special consultants (including but not limited to engineers, architects, testing laboratories, surveyors, attorneys and accountants) employed for services specifically related to the Work.

11.4.5 Supplemental costs including the following:

11.4.5.1 The proportion of necessary transportation, travel and subsistence expenses of CONTRACTOR's employees incurred in discharge of duties connected with the Work.

11.4.5.2 Cost, including transportation and maintenance, of all materials, supplies, equipment, machinery, appliances, office and temporary facilities at the site and hand tools not owned by the workers, which are consumed in the performance of the Work, and cost less market value of such items used but not consumed which remain the property of CONTRACTOR.

11.4.5.3 Rentals rates of all construction equipment and machinery and the parts thereof which has been authorized by the ENGINEER, the CONTRACTOR will be paid for the use of equipment in the manner hereinafter specified. Rental rates will be from the current edition of the Rental Rate Blue Book for Construction Equipment and will be determined as follows:

Hourly rate: RR = (ADJ BB/176)(RF)(SAF)+EOC

Where: RR = Hourly rental rate
ADJ BB/176 = Blue Book Monthly Rate adjusted for year of manufacture/176
RF = Regional Factor of 1.06
SAF = State Adjustment Factor of 1.05
EOC = Estimated Hourly Operating Costs from Blue Book

With each claim, the CONTRACTOR shall submit the rental rate calculations including copies of the appropriate pages of the Blue Book for each piece of equipment listed in the claim.

Rental of equipment not owned by the CONTRACTOR will be paid for by invoice cost plus operating cost (EOC). Copies of the applicable pages of the Rental Rate Blue Book for Construction Equipment shall be submitted to the ENGINEER with the claim.

The costs of transportation, loading, unloading, installation, dismantling, and removal thereof all in accordance with the terms of said rental agreements. If equipment is used intermittently and when not in use could be returned to its rental source at less expense to the OWNER than holding it at the Work site, it shall be returned unless the CONTRACTOR elects to keep it at the Work site at no expense to the OWNER. The rental of any such equipment, machinery or parts shall cease when the use of the equipment is no longer necessary for the Work. No payment will be made for the use of tools, which have a replacement value of $200.00 or less. Operators will be paid for separately as provided in paragraph 11.4.1. Certified invoices for rental cost of all construction equipment and machinery incorporated in the Work shall be submitted to the ENGINEER with the claim.

11.4.5.4 Sales, consumer, use or similar taxes related to the Work, and for which CONTRACTOR is liable, imposed by Laws and Regulations.

11.4.5.5 Deposits lost for causes other than negligence of CONTRACTOR, any Subcontractor or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable.

11.4.5.6 Losses and damages (and related expenses) caused by damage to the work, not compensated by insurance or otherwise, sustained by CONTRACTOR in connection with the performance and furnishing of the Work, (except losses and damages within the deductible amounts of property insurance established by OWNER in accordance with paragraph 5.9), provided they have resulted from causes other than the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable. Such losses shall include settlements made with the written consent and approval of OWNER. No such losses, damages and expenses shall be included in the Cost of the Work for the purpose of determining CONTRACTOR's fee. If, however, any such loss or damage requires reconstruction and CONTRACTOR is placed in charge thereof, CONTRACTOR shall be paid for services a fee proportionate to that stated in paragraph 11.6.2.

11.4.5.7 The cost of utilities, fuel and sanitary facilities at the site.

11.4.5.8 Minor expenses such as telegrams, long distance telephone calls, telephone service at the site, expressage and similar petty cash items in connection with the Work.

11.5 The term Cost of the Work shall not include any of the following:

11.5.1 Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, architects, estimators, attorneys, auditors, accountants, purchasing and contracting agents, expediters, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the Work and not specifically included in the agreed upon schedule of job classifications referred to in paragraph 11.4.1 or specifically covered by paragraph 11.4.4--all of which are to be considered administrative costs covered by the CONTRACTOR's fee.

11.5.2 Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.

11.5.3 Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the Work and charges against CONTRACTOR for delinquent payments.

11.5.4 Cost of premiums for all Bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same. (except for the cost of premiums covered by subparagraph 11.4.5.9 above).

11.5.5 Costs due to the negligence of CONTRACTOR, any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of **defective** Work, disposal of materials or equipment wrongly supplied and making good any damage to property.

Other overhead or general expense costs of any kind and the costs of any item not specifically and expressly included in paragraph 11.4.

11.6 The CONTRACTOR's fee allowed to CONTRACTOR for overhead and profit shall be determined as follows:

11.6.1 a mutually acceptable fixed fee; or

11.6.2 if a fixed fee is not agreed upon, then a fee based on the following percentages of the various portions of the Cost of the work:

11.6.2.1 for costs incurred under paragraphs 11.4.1 and 11.4.2, the CONTRACTOR's fee shall be fifteen percent;

11.6.2.2 for costs incurred under paragraph 11.4.3, the CONTRACTOR's fee shall be five percent;

11.6.2.3 where one or more tiers of subcontracts are on the basis of Cost of the Work plus a fee and no fixed fee is agreed upon, the intent of paragraphs 11.4.1, 11.4.2, 11.4.3 and 11.6.2 is that the Subcontractor who actually performs or furnishes the Work, at whatever tier, will be paid a fee of fifteen percent of the costs incurred by such Subcontractor under paragraphs 11.4.1 and 11.4.2 and that any higher tier Subcontractor and CONTRACTOR will each be paid a fee of five percent of the amount paid to the next lower tier Subcontractor;

11.6.2.4 no fee shall be payable on the basis of costs itemized under paragraphs 11.4.4, 11.4.5 and 11.5;

11.6.2.5 the amount of credit to be allowed by CONTRACTOR to OWNER for any change which results in a net decrease in cost will be the amount of the actual net decrease in cost plus a deduction in CONTRACTOR's fee by an amount equal to five percent of such net decrease; and

11.6.2.6 when both additions and credits are involved in any one change, the adjustment in CONTRACTOR's fee shall be computed on the basis of the net change in accordance with paragraphs 11.6.2.1 through 11.6.2.5, inclusive.

11.7 Whenever the cost of any Work is to be determined pursuant to paragraphs 11.4 and 11.5, CONTRACTOR will establish and maintain records thereof in accordance with generally accepted accounting practices and submit in form acceptable to ENGINEER an itemized cost breakdown together with supporting data.

Cash Allowances:

11.8 It is understood that CONTRACTOR has included in the Contract Price all allowances so named in the Contract Documents and shall cause the Work so covered to be furnished and performed for such sums as may be acceptable to OWNER and ENGINEER. CONTRACTOR agrees that:

11.8.1 the allowances include the cost to CONTRACTOR (less any applicable trade discounts) of materials and equipment required by the allowances to be delivered at the site, and all applicable taxes; and

11.8.2 CONTRACTOR's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the allowances have been included in the Contract Price and not in the allowances and no demand for additional payment on account of any of the foregoing will be valid.

Prior to final payment, an appropriate Change Order will be issued as recommended by ENGINEER to reflect actual amounts due CONTRACTOR on account of Work covered by allowances, and the Contract Price shall be correspondingly adjusted.

11.9 Unit Price Work:

11.9.1 Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, initially the Contract Price will be deemed to include for all Unit Price Work an amount equal to the sum of the established unit price for each separately identified item of Unit Price Work times the estimated quantity of each item as indicated in the Agreement. The estimated quantities of items of Unit Price Work are not guaranteed and are solely for the purpose of comparison of Bids and determining an initial Contract Price. Determinations of the actual quantities and classifications of Unit Price Work performed by CONTRACTOR will be made by ENGINEER in accordance with paragraph 9.10

11.9.2 Each unit price will be deemed to include an amount considered by CONTRACTOR to be adequate to cover CONTRACTOR's overhead and profit for each separately identified item.

11.9.3 OWNER or CONTRACTOR may make a claim for an adjustment in the contract Price in accordance with Article 11 if:

11.9.3.1 the quantity of any item of Unit Price Work performed by CONTRACTOR differs materially and significantly from the estimated quantity of such item indicated in the Agreement; and

11.9.3.2 there is no corresponding adjustment with respect to any other item of Work; and

11.9.3.3 if CONTRACTOR believes that CONTRACTOR is entitled to an increase in Contract Price as a result of having incurred additional expense or OWNER believes that OWNER is entitled to a decrease in Contract Price and the parties are unable to agree as to the amount of any such increase or decrease.

11.9.3.4 In the event of circumstances beyond the control of CONTRACTOR, including but not limited to, government

regulations, tariffs, and events of force majeure, CONTRACTOR reserves the right to adjust prices upon thirty (30) calendar days' notice.

ARTICLE 12 - CHANGE OF CONTRACT TIMES

12.1 The Contract Times (or Milestones) may only be changed by a Change Order or a Written Amendment. Any claim for an adjustment of the Contract Times (or Milestones) shall be based on written notice delivered by the party making the claim to the other party and to ENGINEER promptly (but in no event later than fifteen days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty days after such occurrence (unless ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Times (or Milestones) shall be determined by ENGINEER in accordance with paragraph 9.11 if OWNER and CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Times (or Milestones) will be valid if not submitted in accordance with the requirements of this paragraph 12.1.

12.2 Liquidated damages. The OWNER shall have the right to deduct liquidated damages from any amount due or that may become due to the CONTRACTOR, or to collect such liquidated damages from the CONTRACTOR or the Surety. The OWNER has the option to enforce liquidated damages or to waive such damages. The liquidated damages herein specified shall only apply to the CONTRACTOR's delay in performance. Such damages are uncertain in amount and difficult to measure and prove accurately. By executing this contract, the CONTRACTOR agrees that the liquidated damages specified in the Contract Documents are reasonable in amount and are not disproportionate to actual anticipated damages. Liquidated damages are not intended to include litigation or attorneys' fees incurred by the OWNER, or other incidental or consequential damages suffered by the OWNER due to the Contractor's performance. If the OWNER charges liquidated damages to the CONTRACTOR, this shall not preclude the Owner from commencing an action against the CONTRACTOR for other actual harm resulting from the CONTRACTOR's performance, which is not due to the CONTRACTOR's delay in performance. In order to recover liquidated damages, OWNER is under no obligation to prove the actual damages sustained by OWNER due to the CONTRACTOR's delay in performance. In no event shall the CONTRACTOR be assessed liquidated damages if the contract is suspended or terminated for events beyond the control of the CONTRACTOR for which a time extension beyond the original schedule of performance could be granted under 12.3.

The parties agree that liquidated damages shall be in the amount set forth in Article 2 of the Agreement.

12.3 Where CONTRACTOR is prevented from completing any part of the Work within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, abnormal weather conditions or acts of God, or non-price related unavailability of materials required for the Project. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.

12.4 The CONTRACTOR specifically waives any and all claims against the OWNER for

damages resulting from any hindrance or delay caused by circumstances beyond the control of CONTRACTOR that prevents completing any part of the Work within the Contract Times (or Milestones), whether or not caused by the OWNER. The CONTRACTOR may instead be granted an extension of the Contract Times for which the OWNER will not claim liquidated damages, provided that the hindrance or delay is beyond the control of the CONTRACTOR. An extension of the Contract Times (or Milestones) in an amount equal to the time lost due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall OWNER be liable to CONTRACTOR, any subcontractor, any supplier, any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from delays caused by or within the control of Contractor, or delays beyond the control of CONTRACTOR whether or not caused by the OWNER.

ARTICLE 13 - TESTS AND INSPECTIONS; CORRECTION, REMOVAL OR ACCEPTANCE OF DEFECTIVE WORK

Notice of Defects:

13.1 Prompt notice of all **defective** Work of which OWNER or ENGINEER has actual knowledge will be given to CONTRACTOR. All **defective** Work may be rejected, corrected or accepted as provided in this Article 13.

Access to Work:

13.2 OWNER, ENGINEER, ENGINEER's Consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the Work at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.

Tests and Inspections:

13.3 CONTRACTOR shall give ENGINEER timely notice of readiness of the Work for all required inspections, tests or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

13.4 OWNER shall employ and pay for the services of an independent testing laboratory to perform all inspections, tests, or approvals required by the Contract Documents except:

13.4.1 for inspections, tests or approvals covered by paragraph 13.5 below:

13.4.2 that costs incurred in connection with tests or inspections conducted pursuant to paragraph 13.9 below shall be paid as provided in said paragraph 13.9; and

13.4.3 as otherwise specifically provided in the Contract Documents.

13.4.4 any and all retesting of soil necessitated by the CONTRACTOR's operations or inability to obtain specified density test results on the first attempt shall be the sole responsibility and costs of the CONTRACTOR to achieve required passing test results. Retesting required because of non-conformance to specified requirements shall be performed by the independent firm employed by the OWNER. Payment for retesting will be charged to the CONTRACTOR by deducting inspection, testing and administrative charges from the Contract Price.

13.5 If Laws or Regulations of any public body having jurisdiction require any Work (or part thereof) specifically to be inspected, tested or approved by an employee or other representative of such public body, CONTRACTOR shall assume full responsibility for arranging and obtaining such inspections, tests or approvals, pay all costs in connection therewith, and furnish ENGINEER the required certificates of inspection, or approval. CONTRACTOR shall also be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests or approvals required for OWNER's and ENGINEER's acceptance of materials or equipment to be incorporated in the Work, or of materials, mix designs, or equipment submitted for approval prior to CONTRACTOR's purchase thereof for incorporation in the Work.

13.6 If any Work (or the work of others) that is to be inspected, tested or approved is covered by CONTRACTOR without written concurrence of ENGINEER, it must, if requested by ENGINEER, be uncovered for observation.

13.7 Uncovering Work as provided in paragraph 13.6 shall be at CONTRACTOR's expense unless CONTRACTOR has given ENGINEER timely notice of CONTRACTOR's intention to cover the same and ENGINEER has not acted with reasonable promptness in response to such notice.

Uncovering Work:

13.8 If any Work is covered contrary to the written request of ENGINEER, it must, if requested by ENGINEER, be uncovered for ENGINEER's observation and replaced at CONTRACTOR's expense.

13.9 If ENGINEER considers it necessary or advisable that covered Work be observed by ENGINEER or inspected or tested by others, CONTRACTOR, at ENGINEER's request, shall uncover, expose or otherwise make available for observation, inspection or testing as ENGINEER may require, that portion of the Work in question, furnishing all necessary labor, material and equipment. If it is found that such Work is **defective,** CONTRACTOR shall payall claims, costs, losses and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection and testing and of satisfactory replacement or reconstruction (including but not limited to all costs of repair or replacement of work of others); and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, may make a claim therefor as provided in Article 11.

OWNER May Stop the Work:

13.10 If the Work is **defective**, or CONTRACTOR fails to supply sufficient skilled workers or suitable materials or equipment, or fails to furnish or perform the Work in such a way that the completed Work will conform to the Contract Documents, OWNER may order CONTRACTOR to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of OWNER to stop the Work shall not give rise to any duty on the part of OWNER to exercise this right for the benefit of CONTRACTOR or any surety or other party.

Correction or Removal of Defective Work:

13.11 If required by ENGINEER, CONTRACTOR shall promptly, as directed, either correct all **defective** Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by ENGINEER, remove it from the site and replace it with Work that is not **defective.** CONTRACTOR shall pay all claims, costs, losses and damages caused by or resulting from such correction or removal (including but not limited to all costs of repair or replacement of work of others).

13.12 Correction Period:

13.12.1 If within one year after the date the installation Work is performed, any installation Work is found to be defective, CONTRACTOR shall within seven calendar days after receiving notice from OWNER, without cost to OWNER and in accordance with OWNER's written instructions: (i) commence efforts to correct such defective Work, or if its has been rejected by OWNER, remove it from the site and replace it with WORK that is not defective, and (ii) satisfactorily correct or remove and replace any damage to other Work or the work of others resulting therefrom. If CON- TRACTOR does not within seven calendar days after receiving notice from OWNER commence efforts to comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, OWNER may have the defective Work corrected or the rejected Work removed and replaced, and all claims, costs, losses and damages caused by or resulting from such removal and replacement (including but not limited to all costs of repair or replacement of work of others) will be paid by CONTRACTOR.

13.12.2 In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item will start to run from an earlier date.

Acceptance of Defective Work:

13.13 Intentionally omitted.

OWNER May Correct Defective Work:

13.14 If CONTRACTOR fails within a reasonable time after written notice from ENGINEER to commence efforts to correct **defective** Work or to remove and replace rejected Work as required by ENGINEER in accordance with paragraph 13.11, and thereafter fails to diligently pursue correction, or if CONTRACTOR fails to perform the Work in accordance with the Contract Documents, or if CONTRACTOR fails to comply with any other material provision of the Contract Documents, OWNER may, after seven days' written notice to CONTRACTOR, correct and remedy any such deficiency. In exercising the rights and remedies under this paragraph OWNER shall proceed expeditiously. In connection with such corrective and remedial action, OWNER may exclude CONTRACTOR from all or part of the site, take possession of all or part of the Work, and suspend CONTRACTOR's services related thereto, incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere. CONTRACTOR shall allow OWNER, OWNER's representatives, agents and employees, OWNER's other contractors and ENGINEER and ENGINEER's Consultants access to the site to enable OWNER to exercise the rights and remedies under this paragraph. All actual and direct claims, costs, losses and damages incurred or sustained by OWNER in exercising such rights and remedies will be charged against CONTRACTOR and a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and OWNER shall be entitled to an appropriate decrease in the Contract Price, and, if the parties are unable to agree as to the amount thereof, OWNER may make a claim therefor as provided in Article 11. Such claims, costs, losses and damages will include but not be limited to all costs of repair or replacement of work of others destroyed or damaged by correction, removal or replacement of CONTRACTOR's **defective** Work. CONTRACTOR shall not be allowed an extension of the Contract Times (or Milestones) because of any delay in the performance of the Work attributable to the exercise by

OWNER of OWNER's rights and remedies hereunder, and CONTRACTOR will not be assessed liquidated damages for any portion of the Work from which CONTRACTOR has been excluded by OWNER.

ARTICLE 14 - PAYMENTS TO CONTRACTOR AND COMPLETION

Schedule of Values:

14.1 Progress payments on account of Unit Price Work will be based on the number of units completed.

Application for Progress Payment:

14.2 At least twenty days before the date established for each progress payment (but not more often than once a month), CONTRACTOR shall submit to ENGINEER for review an Application for Payment filled out and signed by CONTRACTOR covering the Work completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents. CONTRACTOR will submit invoices for materials as they are delivered. The amount of retainage with respect to progress payments will be as stipulated in the Agreement. With each application for payment the CONTRACTOR shall submit a notarized waiver(s) of claim signed by the CONTRACTOR acceptable in form to the ENGINEER. The waiver of claim for payment for the work of the CONTRACTOR shall equal the amount of the previous payment distributed to the CONTRACTOR for work of the CONTRACTOR.

CONTRACTOR's Warranty of Title:

14.3 CONTRACTOR warrants and guarantees that title and risk of loss to all materials and equipment, whether incorporated in the Project or not, will pass to OWNER upon delivery to a location specified by OWNER. CONTRACTOR agrees to protect equipment or materials in the custody or control of CONTRACTOR or its Subcontractor and to be responsible for any damage or loss occasioned by its failure to do so.

Review of Applications for Progress Payment:

14.4 ENGINEER will, within ten days after receipt of each invoice or Application for Payment, either indicate in writing a recommendation of payment and present the Application to OWNER, or return the Application to CONTRACTOR indicating in writing ENGINEER's reasons for refusing to recommend payment. In the latter case, CONTRACTOR may make the necessary corrections and resubmit the Application. Ten days after presentation of the Application for Payment to OWNER with ENGINEER's recommendation, the amount recommended will (subject to the provisions of the last sentence of paragraph 14.7) become due and when due will be paid by OWNER to CONTRACTOR.

14.5 ENGINEER's recommendation of any payment requested in an Application for Payment will constitute a representation by ENGINEER to OWNER, based on ENGINEER's on-site observations of the executed Work as an experienced and qualified design professional and on ENGINEER's review of the Application for Payment and the accompanying data and schedules, that to the best of ENGINEER's knowledge, information and belief:

14.5.1 the Work has progressed to the point indicated.

14.5.2 the quality of the Work is generally in accordance with the Contract Documents (subject to an evaluation of the Work as a functioning whole prior to or upon

Substantial Completion, to the results of any subsequent tests called for in the Contract Documents, to a final determination of quantities and classifications for Unit Price Work under paragraph 9.10 and to any other qualifications stated in the recommendation), and

14.5.3 the conditions precedent to CONTRACTOR's being entitled to such payment appear to have been fulfilled insofar as it is ENGINEER's responsibility to observe the Work.

However, by recommending any such payment ENGINEER will not thereby be deemed to have represented that: (i) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to ENGINEER in the Contract Documents or (ii) that there may not be other matters or issues between the parties that might entitle CONTRACTOR to be paid additionally by OWNER or entitle OWNER to withhold payment to CONTRACTOR.

14.6 ENGINEER's recommendation of any payment, including final payment, shall not mean that ENGINEER is responsible for CONTRACTOR's means, methods, techniques, sequences or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of CONTRACTOR to comply with Laws and Regulations applicable to the furnishing or performance of Work, or for any failure of CONTRACTOR to perform or furnish Work in accordance with the Contract Documents.

14.7 ENGINEER may refuse to recommend the whole or any part of any payment if, in ENGINEER's opinion, it would be incorrect to make the representations to OWNER referred to in paragraph 14.5. ENGINEER may also refuse to recommend any such payment, or, because of subsequently discovered evidence or the results of subsequent inspections or tests, nullify any such payment previously recommended, to such extent as may be necessary in ENGINEER's opinion to protect OWNER from loss because:

14.7.1 the Work is **defective**, or completed Work has been damaged requiring correction or replacement,

14.7.2 the Contract Price has been reduced by Written Amendment or Change Order,

14.7.3 OWNER has been required to correct **defective** Work or complete Work in accordance with paragraph 13.14, or

14.7.4 ENGINEER has actual knowledge of the occurrence of any of the events enumerated in paragraphs 15.2.1 through 15.2.3 inclusive.

In addition to the retainages set forth in the Contract Documents, the Owner may retain an amount sufficient to protect the OWNER in the event of unsatisfactory performance of the Work, including without limitation:

Defective work or failure to repair or replace defective work;

Claims filed against the CONTRACTOR, or reasonable evidence indicating probable filing of such claims;

Failure of the CONTRACTOR to make adequate or proper payments to subcontractors or suppliers for materials, equipment or labor;

Failure to obtain necessary permits or licenses, or to comply with applicable laws, ordinances, codes, or regulations, unless such noncompliance is due to reasons

beyond the control of the CONTRACTOR, or due to act of the OWNER or and ENGINEER hired by the OWNER, or agents or employees thereof:

Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Price then unpaid;

Reasonable evidence that the Work will not be completed within the Contract Time and, once the Contract Time has expired, that the unpaid balance would not be adequate to cover liquidated damages for the anticipated delay;

Persistent failure to carry out the Work in accordance with the Contract Documents;

As a set off for amounts due the Owner on other items;

Collusion with other bidders in preparing the bid;

Actual knowledge of the occurrence of any of the events enumerated in paragraphs 14.7.1 through 14.7.3 or paragraphs 15.2.1 through 15.2.4 inclusive.

When the above reasons for withholding payment are removed and corrected to the OWNER's satisfaction, OWNER shall make payment to the CONTRACTOR of the sums withheld pursuant to this paragraph, subject to the amounts required to be retained by the Contract Documents.

Progress Payments to Suppliers and Subcontractors. The CONTRACTOR shall make partial payments of the amount due to each of the CONTRACTOR's suppliers and subcontractors in the same manner as the OWNER is required to pay the CONTRACTOR under Article 4 of the Agreement and Article 14 of the General Conditions, provided that the suppliers and subcontractors are performing to the CONTRACTOR's satisfaction. If the OWNER is notified that the CONTRACTOR is in arrears in payments to the CONTRACTOR's suppliers or subcontractors, the OWNER shall notify the CONTRACTOR and determine why such funds are being withheld. If the OWNER determines that no legitimate basis exists for the CONTRACTOR's withholding of such payments, the OWNER may, five (5) days after the mailing of written notice to the CONTRACTOR, make such payments directly to the CONTRACTOR's suppliers or subcontractors from funds which otherwise would be due the CONTRACTOR.

Substantial Completion:

14.8 When CONTRACTOR considers the entire Work ready for its intended use CONTRACTOR shall notify OWNER and ENGINEER in writing that the entire Work is substantially complete (except for items specifically listed by CONTRACTOR as incomplete) and request that ENGINEER issue a certificate of Substantial Completion. Within a reasonable time thereafter, OWNER, CONTRACTOR and ENGINEER shall make an inspection of the Work to determine the status of completion. If ENGINEER does not consider the Work substantially complete, ENGINEER will notify CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers the Work substantially complete, ENGINEER will prepare and deliver to OWNER a tentative certificate of Substantial Completion, which shall fix the date of Substantial Completion. There shall be attached to the certificate a tentative list of items to be completed or corrected before final payment. OWNER shall have seven days after receipt of the tentative certificate during which to make written objection to ENGINEER as to any provisions of the certificate or attached list. If, after considering such objections, ENGINEER concludes that the Work is not substantially complete, ENGINEER will within fourteen days after submission of the tentative certificate to OWNER notify CONTRACTOR in writing, stating the reasons therefor. If, after consideration of OWNER's objections,

ENGINEER considers the Work substantially complete, ENGINEER will within said fourteen days execute and deliver to OWNER and CONTRACTOR a definitive certificate of Substantial Completion (with a revised tentative list of items to be completed or corrected) reflecting such changes from the tentative certificate as ENGINEER believes justified after consideration of any objections from OWNER. At the time of delivery of the tentative certificate of Substantial Completion, ENGINEER will deliver to OWNER and CONTRACTOR a written recommendation as to division of responsibilities pending final payment between OWNER and CONTRACTOR with respect to security, operation, safety, maintenance, heat, utilities, insurance and warranties and guarantees. Unless OWNER and CONTRACTOR agree otherwise in writing and so inform ENGINEER in writing prior to ENGINEER's issuing the definitive certificate of Substantial Completion. ENGINEER's aforesaid recommendation will be binding on OWNER and CONTRACTOR until final payment.

14.9 OWNER shall have the right to exclude CONTRACTOR from the Work after the date of Substantial Completion, but OWNER shall allow CONTRACTOR reasonable access to complete or correct items on the tentative list.

Partial Utilization:

14.10 Use by OWNER at OWNER's option of any substantially completed part of the Work which: (i) has specifically been identified in the Contract Documents, or (ii) OWNER, ENGINEER, and CONTRACTOR agree constitutes a separately functioning and usable part of the Work that can be used by OWNER for its intended purpose without significant interference with CONTRACTOR's performance of the remainder of the Work, may be accomplished prior to Substantial Completion of all the Work subject to the following:

14.10.1 OWNER at any time may request CONTRACTOR in writing to permit OWNER to use any such part of the Work which OWNER believes to be ready for its intended use and substantially complete. If CONTRACTOR agrees that such part of the Work is substantially complete, CONTRACTOR will certify to OWNER and ENGINEER that such part of the Work is substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. CONTRACTOR at any time may notify OWNER and ENGINEER in writing that CONTRACTOR considers any such part of the Work ready for its intended use and substantially complete and request ENGINEER to issue a certificate of Substantial Completion for that part of the Work. Within a reasonable time after either such request, OWNER, CONTRACTOR and ENGINEER shall make an inspection of that part of the Work to determine its status of completion. If ENGINEER does not consider that part of the Work to be substantially complete, ENGINEER will notify OWNER and CONTRACTOR in writing giving the reasons therefor. If ENGINEER considers that part of the Work to be substantially complete, the provisions of paragraphs 14.8 and 14.9 will apply with respect to certification of Substantial Completion of that part of the Work and the division of responsibility in respect thereof land access thereto.

Final Inspection:

14.11 Upon written notice from CONTRACTOR that the entire Work or an agreed portion thereof is complete, ENGINEER will make a final inspection with OWNER and CONTRACTOR and will notify CONTRACTOR in writing of all particulars in which this inspection reveals that the Work is incomplete or **defective.** CONTRACTOR shall immediately take such measures as

are necessary to complete such Work or remedy such deficiencies.

Final Application for Payment:

14.12 After CONTRACTOR has completed all such corrections to the satisfaction of ENGINEER and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, Bonds, certificates or other evidence of insurance required by paragraph 5.4, certificates of inspection, marked-up record documents (as provided in paragraph 6.19) and other documents. CONTRACTOR may make application for final payment following the procedure for progress payments. The final application for payment shall be accompanied (except as previously delivered) by: (i) all documentation called for in the Contract Documents, including but not limited to the evidence satisfactory to the OWNER of the continuation of completed operations insurance and any insurance coverage written on a claims-made basis at final payment and one year thereafter; (ii) the consent of surety to final payment and that the performance bond shall remain in effect throughout the guarantee period; (iii) complete and legally effective claim releases signed by all suppliers and subcontractors in the form provided in the Contract Documents certifying that all outstanding claims for payment have been paid. The CONTRACTOR shall not receive final payment due under the Agreement until the CONTRACTOR obtains and files the foregoing items (i), (ii), and (iii).

14.12.1 LIENS. Colorado Statutes do not provide for any right of lien against public buildings. In lieu thereof, §38-26-107, Colorado Revised Statutes, as amended, provides adequate relief for any claimant having furnished labor, materials, rental machinery, tools, equipment, or services toward construction of the particular public work in that final payment may not be made to a CONTRACTOR until all such creditors have been put on notice by publication of such pending payment and given opportunity to stop payment to the CONTRACTOR in the amount of such claims. Pursuant to §38-26-107, C.R.S., any supplier may bring a suit and file a notice of lis pendens against the OWNER within ninety (90) days after the date set for final settlement. If any such supplier or person files any such claim and notice of lis pendens, the OWNER shall withhold retained amounts from final payments to the CONTRACTOR as are necessary to satisfy fully such claims. References to liens appearing in Article 14 shall be deemed as references to claims made pursuant to C.R.S §38-26-101 et seq. unless the context requires otherwise.

Final Payment and Acceptance:

14.13 If, on the basis of ENGINEER's observation of the Work during construction and final inspection, and ENGINEER's review of the final Application for Payment and accompanying documentation as required by the Contract Documents, ENGINEER is satisfied that the Work has been completed and CONTRACTOR's other obligations under the Contract Documents have been fulfilled, ENGINEER will, within ten days after receipt of the final Application for Payment, indicate in writing ENGINEER's recommendation of payment and present the Application to OWNER for payment. At the same time ENGINEER will also give written notice to OWNER and CONTRACTOR that the Work is acceptable subject to the provisions of paragraph 14.15. Otherwise, ENGINEER will return the Application to CONTRACTOR, indicating in writing the reasons for refusing to recommend final payment, in which case CONTRACTOR shall make the necessary corrections and resubmit the Application. Upon receipt of the ENGINEER's recommendation for payment and the final

Application for Payment, OWNER shall order the publication of Notice of Final Payment as required by C.R.S. §38-26-107(1) and shall make final payment in accordance with C.R.S. 38-26-107(3).

14.14 If, through no fault of CONTRACTOR, final completion of the Work is significantly delayed and if ENGINEER so confirms, OWNER shall, upon receipt of CONTRACTOR's final Application for Payment and recommendation of ENGINEER, and without terminating the Agreement, make payment of the balance due for that portion of the Work fully completed and accepted. . Such payment shall be made under the terms and conditions governing final payment, except that it shall not constitute a waiver of claims.

Waiver of Claims:

14.15 The making and acceptance of final payment will constitute:

14.15.1 a waiver of all claims by OWNER against CONTRACTOR, except claims arising from unsettled Liens, from **defective** Work appearing after final inspection pursuant to paragraph 14.11, from failure to comply with the Contract Documents or the terms of any special guarantees specified therein, or from CONTRACTOR's continuing obligations under the Contract Documents; and

14.15.2 a waiver of all claims by CONTRACTOR against OWNER other than those previously made in writing and still unsettled.

ARTICLE 15 - SUSPENSION OF WORK AND TERMINATION

OWNER May Suspend Work:

15.1 At any time and without cause, OWNER may suspend the Work or any portion thereof for a period of not more than ninety days by notice in writing to CONTRACTOR and ENGINEER, which will fix the date on which Work will be resumed. CONTRACTOR shall resume the Work on the date so fixed. CONTRACTOR shall be allowed an adjustment in the Contract Price or an extension of the Contract Times, or both, directly attributable to any such suspension if CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.

OWNER May Terminate:

15.2 Upon the occurrence of any one or more of the following events:

15.2.1 if CONTRACTOR persistently fails to perform the Work in accordance with the Contract Documents (including, but not limited to, failure to supply sufficient skilled workers or suitable materials or equipment or failure to adhere to the progress schedule established under paragraph 2.8 as adjusted from time to time pursuant to paragraph 6.6);

15.2.2 if CONTRACTOR disregards Laws or Regulations of any public body having jurisdiction;

15.2.3 if CONTRACTOR otherwise violates in any substantial way any provisions of the Contract Documents;

OWNER may, after giving CONTRACTOR (and the surety, if any,) seven days' written notice and to the extent permitted by Laws and Regulations, terminate the services of CONTRACTOR, exclude CONTRACTOR from the site and take possession of the Work and of all CONTRACTOR's tools, appliances, construction equipment and machinery at the site and use the same to the full extent they could be used by CONTRACTOR (without liability to CONTRACTOR for trespass or conversion), incorporate in the Work all materials and equipment stored at the site or for which OWNER has paid CONTRACTOR but which are stored elsewhere, and finish the Work as OWNER may deem expedient. In such case CONTRACTOR shall not be entitled to receive any further payment until the Work is finished. If the unpaid balance of the Contract Price exceeds all claims, costs, losses and damages sustained by OWNER arising out of or resulting from completing the Work such excess will be paid to CONTRACTOR. If such claims, costs, losses and damages exceed such unpaid balance, CONTRACTOR shall pay the difference to OWNER. Such claims, costs, losses and damages incurred by OWNER will be reviewed by ENGINEER as to their reasonableness and when so approved by ENGINEER incorporated in a Change Order, provided that when exercising any rights or remedies under this paragraph OWNER shall not be required to obtain the lowest price for the Work performed.

15.3 Where CONTRACTOR's services have been so terminated by OWNER, the termination will not affect any rights or remedies of OWNER against CONTRACTOR then existing or which may thereafter accrue. Any retention or payment of moneys due CONTRACTOR by OWNER will not release CONTRACTOR from liability.

15.4 Upon seven days' written notice to CONTRACTOR and ENGINEER, OWNER may, without cause and without prejudice to any other right or remedy of OWNER, elect to terminate the Agreement. In such case, CONTRACTOR shall be paid (without duplication of any items):

15.4.1 for completed and acceptable Work executed in accordance with the Contract Documents prior to the effective date of termination, including fair and reasonable sums for overhead and profit on such Work;

15.4.2 for expenses sustained prior to the effective date of termination in performing services and furnishing labor, materials or equipment as required by the Contract Documents in connection with uncompleted Work, plus fair and reasonable sums for overhead and profit on such expenses;

15.4.3 for all claims, costs, losses and damages incurred in settlement of terminated contracts with Subcontractors, Suppliers and others; and

15.4.4 for reasonable expenses directly attributable to termination.

CONTRACTOR shall not be paid on account of loss of anticipated profits or revenue or other economic loss arising out of or resulting from such termination.

CONTRACTOR May Stop Work or Terminate:

15.5 If, through no act or fault of CONTRACTOR, the Work is suspended for a period of more than ninety days by OWNER or under an order of court or other public authority, or

ENGINEER fails to act on any Application for Payment within thirty days after it is submitted or OWNER fails for thirty days to pay CONTRACTOR any sum finally determined to be due, then CONTRACTOR may, upon seven days' written notice to OWNER and ENGINEER, and provided OWNER or ENGINEER do not remedy such suspension or failure within that time, terminate the Agreement and recover from OWNER payment on the same terms as provided in paragraph 15.4. In lieu of terminating the Agreement and without prejudice to any other right or remedy, if ENGINEER has failed to act on an Application for Payment within thirty days after it is submitted, or OWNER has failed for thirty days to pay CONTRACTOR any sum finally determined to be due, CONTRACTOR may upon seven days' written notice to OWNER and ENGINEER stop the Work until payment of all such amounts due CONTRACTOR, including interest thereon. The provisions of this paragraph 15.5 are not intended to preclude CONTRACTOR from making claim under Articles 11 and 12 for an increase in Contract Price or Contract Times or otherwise for expenses or damage directly attributable to CONTRACTOR's stopping Work as permitted by this paragraph.

ARTICLE 16 - MISCELLANEOUS

Giving Notice:

16.1 Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

Computation of Times:

16.2.1 When any period of time is referred to in the Contract Documents by days, it will be computed to include the first and the last day of such period.

Notice of Claim:

16.3 Should OWNER or CONTRACTOR suffer injury or damage to person or property because of any error, omission or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, claim will be made in writing to the other party within a reasonable time of the first observance of such injury or damage. The provisions of this paragraph 16.3 shall not be construed as a substitute for or a waiver of the provisions of any applicable statute of limitations or repose.

Cumulative Remedies:

16.4 The duties and obligations imposed by these General Conditions and the rights and remedies available hereunder to the parties hereto, and, in particular but without limitation, the warranties, guarantees and obligations imposed upon CONTRACTOR by paragraphs 6.12, 6.16, 6.30, 6.31, 6.32, 13.1, 13.12, 13.14, 14.3 and 15.2 and all of the rights and remedies available to OWNER and ENGINEER thereunder, are in addition to, and are not to be construed in any way as a limitation of, any rights and remedies available to any or all of them which are otherwise imposed or available by Laws or Regulations, by special warranty or guarantee or by other provisions of the Contract Documents, and the provisions of this paragraph will be as effective as if repeated specifically in the Contract Documents in connection with each particular duty, obligation, right and remedy to which they apply.

Professional Fees and Court Costs Included:

16.5 Whenever reference is made to "claims, costs, losses and damages," it shall include in each case, but not be limited to, all fees and charges of engineers, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs.

Interest:

16.6 In the event that any payment of interest is to be made pursuant to any provision of the Contract Documents, excluding any bid bond, labor and materials bond or performance bond entered into by the CONTRACTOR, interest shall be paid at the average rate earned by the City of Louisville on its invested funds during the quarterly fiscal period prior to the period during which the interest was accrued.

Third Parties:

16.7 The contract is not intended to create any right in or for the public or any member thereof, any subcontractor or supplier, or any other third party, or to authorize anyone not a party to the contract to maintain a suit to enforce its terms. The duties, obligations, and responsibilities of the parties to the contract, with respect to third parties, shall remain as imposed by law. This paragraph shall not apply to any surety to the extent it is acting under any labor and materials bond or performance bond entered into by the CONTRACTOR.

Severability:

16.8 To the extent that the performance of the parties' obligations may be accomplished within the intent of the contract, the terms of the contract are severable, and should any term or provision of the contract be declared invalid or become inoperative for any reason, such invalidity or failure shall not affect the validity of any other contract term or provision.

Equal Opportunity Employer:

16.9 The CONTRACTOR will not discriminate against any employee or applicant for employment because of race, color, religion, age, sex, disability or national origin. The CONTRACTOR will take affirmative action to ensure that applicants are employed and that employees are treated during employment without regard for their race, color, religion, age, sex, disability or national origin. Such action shall include but not be limited to the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The CONTRACTOR agrees to post in conspicuous places, available to employees and applicants for employment, notice to be provided by an agency of the federal government, setting forth the provisions of the Equal Opportunity Laws.

The CONTRACTOR shall be in compliance with the appropriate areas of the Americans with Disabilities Act of 1990 as enacted and from time to time amended and any other applicable federal regulation. A signed, written certificate stating compliance with the Americans with Disabilities Act may be requested at any time during the life of any contract and with any contract entered by the OWNER.

Attachment 6.7.a.

CONTRACTOR'S SCOPE OF WORK

1. Water Shutoffs. Contractor, its agents and subcontractors, will be responsible for shutting off the water to each meter serviced as well as notifying each customer of the water shutoff. Some assistance may be required by the City with the notification of its customers. The installation team will knock on the doors of residential customers as well as leave notifications on their doors. In the case of large commercial customers such as schools, hospitals, nursing homes or any other commercial customer, special efforts will be made to ensure minimum disruption to water needs. In order to prevent any damage from plumbing fixtures that are sensitive to water shutoffs, Contractor will schedule replacements with these commercial customers and will notify the maintenance personnel when turning the water back on at these facilities. Regardless of any effort of Contractor, ultimate responsibility of any and all fixtures inside buildings will remain the responsibility of the end user and/or the City as detailed in any Service Contract that exists between the City and its Customers.

2. Meter Boxes. Contractor is responsible for repairing any damages to meter boxes and vaults caused by Contractor; provided, however, that Contractor shall not be liable for pre-existing conditions or leaks. Contractor will install new meter boxes as authorized by the City's representative, with appropriate lid selection to be mutually agreed upon.

3. Water Meter Replacement: Contractor is responsible for any damages that occur within six (6) inches on either side of the water meter in a pit-set meter installation, or within the immediate work area for inside-set installations, and in either case only damages that are caused by Contractor's negligence. Any such damages incurred within the areas set forth above will be promptly repaired by Contractor at its expense. Contractor is not liable for costs or repairs made by the City or any third parties without the advance written authorization of Contractor. Contractor is not liable for damages outside the areas set forth above, either on the water distribution side or on the customer side incurred from the Project installation including shutoff, temporary outage, and restart of water service. Contractor is not liable for any pre-existing conditions including leaks, faulty workmanship and materials from previous projects, rust, latent defects, or failures resulting from aged, corroded, or otherwise compromised materials outside of the immediate area of work. Should such conditions occur (*i.e.* leaks) Contractor may document them and at the City's written request, repair them for a negotiated price.

4. Non-Covered Work. Contracted meter change outs contemplate a standard like-for-like meter lay-length change out. In the event that locations exist which require nonstandard work (i.e., move a service location, move fences or other customer structures and items for access, install systems in heavy traffic locations, alleys, parking lots, re-piping, changing lay-length, adding flange adaptors, etc.), Contractor and the City will either agree on a price the City will pay Contractor to perform the work, or the City will exclude this work from the Project. Should

Contractor, in its sole discretion, determine that any portion of the Work is unsafe, that portion of the Work will be considered nonstandard and will be excluded from the Project.

5. Customer Notifications. Contractor will cause its subcontractor to provide written notice to utility customers to schedule installation appointments when required due to meters located inside structures. Such attempts will include a minimum of three attempts at contacting the utility customers, whether through door hangers, or, if contact information is available, through phone calls or e-mails. If Contractor's subcontractor is unsuccessful in scheduling installation appointments after reasonable attempts, Contractor will notify Owner that the location is Returned to Utility as defined below.

6. Return to Utility (RTU). In the event Contractor designates an installation location as RTU, including, but not limited to, situations wherein the work cannot be completed at a location, the Contractor will notify the City of the issue. The City will have ninety (90) days to correct the condition leading to the RTU and notify Contractor of the correction. If the condition is not corrected within the specified time period or cannot be corrected, the location will be excluded from the Project.

7. City-Furnished Data. The City shall provide Contractor all technical data and information in the City's possession, including previous reports, maps, surveys, necessary for Contractor to perform the Work. The City shall be responsible for identifying the location of meters. Should Contractor require assistance in finding the meter location, the City shall locate the meter in a timely manner.

8. City Billing Company Charges: The City is responsible for charges from its billing software provider related to providing the import/export file, including integration fees from its billing software provider.

9. City Point of Contact: The City designates the following individual(s) as its point of contact for the Project authorized to act on behalf of the City:

Justin Ferron, PE
Civil Engineer III
Public Works - Utilities
303.335.4607 (office)
951.852.0344 (cell)
JFerron@LouisvilleCO.gov

10. Itemized Unit Pricing: Quantities and unit pricing totals for the base contact are shown below for reference:

Base Meters	Total	Inside Quantity	Outside Quantity	Inside Unit Cost	Outside Unit Cost	Cost
3/4"	6100	4575	1525	$267.38	$204.05	$1,534,439.75
1"	480	360	120	$319.86	$253.93	$145,621.20
1.5"	190	143	47	$2,189.26	$2,034.45	$408,683.33
2"	140	105	35	$2,513.95	$2,355.27	$346,399.20
3"	35	26	9	$3,138.93	$2,929.43	$107,977.05
4"	5	4	1	$4,822.66	$4,585.38	$23,876.02
Total	6950	5213	1737			$2,566,996.55

Endpoints	Total	Inside Quantity	Outside Quantity	Inside Unit Cost	Outside Unit Cost	Cost
	6950	5138	1812	$140.42	$142.55	$979,778.56

Base Contract	
Mobilization and Demobilization & Recycling of Old Meters	$67,000
Base Price 6950 meters	$2,566,996.55
Radio Endpoints 6950 Meters	$979,778.56
Supply and installation of Radio Base Stations/Repeaters. Quoting 3 Base Stations, Antennas, Installation.	$161,346.36
Total	$3,775,121

Attachment 6.7.b.

STATEMENT OF WORK

General Responsibilities:

Core & Main will:

1. Provide a project manager to coordinate all FlexNet installation activities with the City and be the main contact point between the City and Sensus during the infrastructure and SmartPoint Module deployment phase. The project manager will coordinate training activities and all installation activities with Sensus field engineers and contract installation crews hired by City.
2. Provide City a Sensus certified propagation study that determines the locations best suited for installation of the BASESTATION's and to ensure proper communications with end point transmitters and the RNI.
3. Work with Sensus to commission the RNI hardware and software remotely.
4. Work with Sensus to obtain final network acceptance and approval to install endpoint devices
5. Schedule training familiarization / operators training for head end software to City identified personnel at the City's location.
6. Hire a qualified installation contractor to install the antennae and cable that runs between the basestation and the antenna.
7. Hire a qualified installation contractor to install the BASESTATION equipment and run all data and power cables between the power supply and the BASESTATION.

City will:

1. Provide a key point of contact, contact information, for project management activities to work with the Core & Main project manager to help facilitate a timely installation of the FlexNet system.
2. Be responsible to provide the network infrastructure in the Power and RNI Location areas in Diagram 1, including network cabling and power identified in blue in Diagram 1.
3. Be responsible for monthly and annual fees associated with the network access for all sites where network access is needed.
4. Be responsible to provide communications link between the Regional Network Interface (RNI) and BASESTATION.
5. Purchase any routers, hubs, mounting equipment, uninterruptible power supply and/or security equipment needed to connect the RNI to the City's internal network.
6. Be responsible for the installation of Meters, SmartPoint Modules, Load Control, Home Area Network, and Automation Devices.

RNI Responsibilities:

The RNI will be a SAAS model that will be stored at one of Sensus secure data sites.

Core & Main will:

1. Supply the RNI hardware and data management software necessary to operate on the RNI hardware.

2. Work with Sensus to obtain final configuration of all software and RNI hardware for operation with the FlexNet network.
3. Work with Sensus to Test, and verify proper network connectivity to access the BASESTATION.

City will:

1. Be responsible for fees associated with acquiring and maintaining the static IP addresses needed to access network equipment located at the BASESTATION site.
2. Provide the necessary static IP addresses for the FlexNet system components.
3. Be responsible to secure a suitable contractor to connect the data management software to the billing system to allow for data to be imported for billing purposes.
4. Provide remote network access to the FlexNet BASESTATION network to Sensus. This provides Sensus Technical Services personnel the ability to perform ongoing system support and troubleshooting.

Infrastructure Site Responsibilities

BASESTATION:

Core & Main will:

1. Instruct City concerning infrastructure site preparation work, and verify work is done correctly.
2. Coordinate the installation and commissioning of FlexNet Infrastructure for proper operation.
3. Hire a competent contractor to install the antenna and related components.
4. Provide the necessary antennas, mounts, cable and other antenna components for the BASESTATIONS.
5. Not be held responsible for damage to any interior/exterior coatings on water tanks that result from welding of antenna mounts to tanks. Parties will agree to a scope of work prior to installation.

City will:

1. Purchase the required number of BASESTATIONs.
2. Be responsible to provide an area at the BASESTATION site for installation if the BASESTATION is installed at a City provided site.
3. Be responsible to provide a 120 VAC power source to the BASESTATION. All necessary electric requirements which will include 120 VAC Non GFI receptacles to be at the final location of the BASESTATION installation. If trenching of the power line is needed, the City will be responsible to provide the necessary trenching, conduit, and cabling needed to supply power from the power source outlet to the base station cabinet. All electrical equipment will be installed in accordance with local codes.
4. Be responsible to provide network access at the site where the BASESTATION is located. City should consult with Core & Main about the available options for network connections between BASESTATION and RNI.
5. Be responsible to provide any conduit and/or trenching required to provide cabling requirements from the tower site to the BASESTATION installation.
6. Be responsible to provide CAT 5 UV and weather resistant network cable from the network service provider access link to the cabinet.

7. Be responsible to provide any conduit or trenching needed to run the data cable to the BASESTATION. City is responsible to assure that data cable is located to final location of the BASESTATION.
8. Be responsible to provide security at BASESTATION location.
9. Be responsible to provide sufficient foundation to secure the outdoor cabinet should an outdoor cabinet be required to house the BASESTATION. This foundation will consist of a concrete pad or steel structure that is designed to hold 600 lbs per square inch.
10. Be responsible to provide 240 VAC of power to the BASESTATION unit should an outdoor cabinet be required. Receptacles to be located within 1foot of the final location of the BASESTATION installation. If trenching of the power line is needed, the City will be responsible to provide the necessary trenching, conduit, and cabling needed to supply power from the power source outlet to the base station cabinet. All electrical equipment will be installed in accordance with local codes. 1
11. Be responsible for installing grounding material at the location of the BASESTATION installation. At a minimum, the material should consist of # 4 or #2 stranded copper wire which will connect to the BASESTATION.
12. Be responsible for proper ground field at the BASESTATION site.
13. Be responsible for getting access/permission to any structure that is not owned by the City.
14. Prepare the site for the BASESTATION by completing the below tasks:
    a. Site must have a network connection available for the BASESTATION to communicate with RNI. The Ethernet connector on the BASESTATION unit is an RJ-45 type, 10/100 auto signaling rate. Minimum WAN bandwidth requirements are 128 kbps with a redundant path. Any network equipment to interface the BASESTATION such as Juniper router / firewall, switches, etc. will be City provided.
    b. City will supply connectivity information to Sensus (IP address, default gateway, sub-net mask, etc.)
    c. Provide suitable antenna mounting structure such as a tower, mono-pole, or building that is capable of supporting the weight of the antenna, cable, mounting hardware and wind loading.
    d. Indoor site should have adequate room for the rack facilitating opening of both front and rear doors, and an available 120V grounded outlet within 10 feet.
    e. Outdoor site installation single phase 240 VAC 30 amp circuit from Meter bank to disconnect panel on BASESTATION
    f. Outdoor site shall have installation of BASESTATION concrete support pad or suitable steel support structure with a minimum loading capacity of 600lb. Sq.ft.
    g. Indoor site should have adequate environmental control/ventilation. Recommended environmental ranges are shown in Appendix A of the Tower Gateway Base Station Installation Manual. Although the unit is capable of operation in extreme temperatures, maintaining a moderate and constant temperature environment will promote trouble-free service and long life.
    h. Site must have all RF, and power connections properly surge arrested to prevent damage in the event of a major lightning strike. A Halo type building ground installation with a tie available to connect to the rack ground bar is recommended

Remote Transceiver Responsibilities

Core & Main will:

1. Provide mounting brackets for installation.
2. Identify the optimum location to install the Remote Transceiver and communicate those locations to City.
3. Remote Transceiver locations will be identified only after sufficient FlexNet Base Stations and endpoints have been installed and it is apparent that additional infrastructure in the form of Remote Transceivers is required to optimize system performance.
4. Install the Remote Transceiver units and ancillary equipment necessary to a structure.

City will:

1. Provide a 120 VAC power source and cable run, in compliance with local code, to the point where each Echo Transceiver/Remote Transceiver will be installed to supply all necessary power requirements. These boxes can be installed on top of poles, buildings, etc. For such cable runs, 18 AWG UV and weather resistant power cable for runs less than 470 ft. and 16 AWG for runs less than 750 ft. are needed.
3. Initiate, coordinate and acquire authorization for installation crews to climb poles, buildings and other structures necessary to safely affix cable runs as needed for the installation of the Echo Transceivers/Remote Transceivers.
4. Provide adequate electricity to the Remote Transceiver locations and be responsible for any and all recurring electricity charges for Echo Transceiver/Remote Transceiver operations.
5. Be responsible for on-going maintenance and support of the equipment after installation.

SmartPoint Module Installation Responsibilities

Core & Main will:

1. Install or hire a qualified installation contractor to install all Endpoints to be used in the AMI System.
2. Be responsible for quality assurance for their personnel and/or an installation contractor as it relates to proper installation of Endpoints.
3. Visit and troubleshoot Endpoints that are not reporting into the system. Investigate any non-reporting Endpoints to ensure that there are no cut wires, improper installations, improper programming and resolve all data entry errors in the system.
4. Assign an internal and/or installation contractor auditor to ensure installation work is correct. Core & Main will engage Sensus to train this individual to properly identify and correct any known problems in the field. This individual will be the primary contact to troubleshoot, identify and correct non reporting Endpoints and installation errors.
5. Once the installer has completed troubleshooting of installation issues, Core & Main will engage Sensus to investigate the remaining Endpoints to identify and fix any coverage issues.

6. Coordinate with Sensus to establish the Endpoints installation schedule, shipment quantities, and overall project timeline.

City will:

1. Purchase Endpoints. "Endpoint", in this Exhibit only, means a Sensus meter or a Sensus SmartPoint Module installed on a third party meter.

Miscellaneous Responsibilities

City will:

1. Be responsible for the payment of any taxes, renewal, regulatory or license fees associated with the network hardware and software.
2. Be responsible for applying for and purchasing any needed work permits.

Attachment 6.7.c.

ADDENDUM TO
Meter Replacement and AMI Project

This Addendum is attached to and made part of the Meter Replacement and AMI Project dated January 6th, 2026 ("Agreement") between Core & Main LP ("Vendor") and the **City of Louisville, Colorado** ("City").

WHEREAS, Vendor and City by this Addendum desire to amend the Agreement as set forth herein;

NOW THEREFORE, Vendor and City hereby agree to the following additions to the Agreement, and hereby agree **the provisions of this Addendum shall control in the event of any conflict**:

1. Service Level.

A. Vendor shall back up data provided by City and City customers ("City Data") at an off site location at least as frequently as follows: for the first seven (7) days after such data has been provided, every fifteen (15) minutes; for the second seven (7) days after such data has been provided, every four (4) hours; and, after fourteen (14) days since such data has been provided, daily. Vendor shall ensure City Data can be restored from such back ups in the event of server failure of other failure resulting in data loss. Vendor shall ensure City Data is retained in such back ups for the entire term of the Agreement.

2. Ownership and Confidentiality.

A. All City Data is and shall remain the sole and exclusive property of City and all right, title, interest in the same is reserved to City. All City Data shall be capable of export to Microsoft Excel, Word, CSV or fixed-length file formats (each a "Reproducible Format").

B. All City Data is and shall remain the confidential information of City. In fulfilling its obligations under the Agreement, Vendor shall exercise the same degree of care and protection with respect to City Data that it exercises with respect to its own confidential information, but in no event shall Vendor exercise less than a reasonable standard of care. Vendor shall only use, access and disclose City Data as necessary to fulfill its obligations under the Agreement. Except as provided in subsection (C), Vendor shall not directly or indirectly disclose, sell, copy, distribute, republish, market, demonstrate or allow any third party to have access to any City Data.

C. If, in fulfilling its obligations under this Agreement, Vendor should disclose any City Data to any third party or subcontractor, Vendor shall cause such third party or subcontractor, through written agreement, to exercise the same degree of care

and protection with respect to City Data as is required of Vendor under this Agreement. Vendor agrees that it is fully responsible to City for the acts and omissions of its subcontractors and of persons directly or indirectly employed by Vendor. Nothing contained herein shall create any contractual relations between City and any subcontractor of Vendor. Vendor shall remain responsible to City for all activities of its subcontractors to the same extent as if such activities had been undertaken by Vendor itself.

D. All domains and domain names used and/or created in connection with the products/services provided under the Agreement to City shall become, and all logos and information provided by City for use in such domains are and shall remain, the sole property of City.

3. Personal Identifying Information and Breach.

A. City Data will include City customer "Personal Identifying Information" (hereinafter referred to as "Personal Information"), as such term is defined in Title 24, Article 73, Part 1 of the Colorado Revised Statutes ("C.R.S."). Vendor shall not directly or indirectly disclose, sell, copy, distribute, republish, market, demonstrate or allow any third party to have access to any Personal Information except as required to comply with Vendor's obligations. Vendor shall cause such third party, through written agreement, to exercise the same degree of care and protection with respect to Personal Identifying Information as is required of Vendor under this Agreement. In maintaining, storing, and processing of Personal Information, Vendor shall comply with the obligations of a "Third-Party Service Provider" as such term is defined in Section 24-73-102, C.R.S. Such obligations include but are not limited to implementation and maintenance of reasonable security procedures and practices that are: (a) appropriate to the nature of the Personal Information disclosed to Vendor; and (b) reasonably designed to help protect Personal Information from unauthorized access, use, modification, disclosure, or destruction.

B. If Vendor becomes aware that a security breach of Personal Information may have occurred, Vendor shall notify the City within 3 days. Such notice shall at minimum contain (a) the date, estimated date, or estimated date range of the security breach; and (b) a description of the Personal Information that was acquired or reasonably believed to have been acquired as part of the security breach. The City may request, and upon such request Vendor shall provide, additional information relevant to the security breach; provided that, Vendor shall not be required to disclose confidential business information or trade secrets.

C. Vendor shall, at its sole expense, indemnify, defend and hold harmless City, its elected and appointed officers and its employees (the "Indemnified Parties"), from and against all actual and direct liability, claims, demands, costs, expenses, claims, damages, court awards, and other amounts (including reasonable attorneys' fees and related costs) incurred by any of the Indemnified Parties, on account

of any injury, loss, or damage, arising out of any third party claim, action or proceeding brought against any of the Indemnified Parties, for any security breach or unauthorized disclosure of Personal Information to the extent caused by Vendor.

4. Open Records Act Compliance.

A. City Data will include the names, addresses, and telephone numbers, and personal financial information of past or present users of public utilities, public facilities, or recreational or cultural services that are owned and operated by the City ("User Data"). The parties acknowledge that the Colorado Open Records Act, Section 24-72-201, et seq., C.R.S. ("CORA"), prohibits disclosure of User Data, except to the person in interest. As an independent contractor of City, Vendor shall comply with CORA, as it relates to User Data, as if Vendor were an "official custodian of any public records."

B. Vendor shall not directly or indirectly disclose, sell, copy, distribute, republish, market, demonstrate or allow any third party to have access to any User Data; provided that, Vendor may allow a customer to access such customer's own User Data; and provided, further, that, nothing in this subsection shall be construed to prohibit disclosure of information in an aggregate or statistical form so classified as to prevent the identification, location, or habits of individual customers.

C. If Vendor becomes aware that a security breach of User Data may have occurred, Vendor shall notify City within three (3) days. Such notice shall at minimum contain (a) the date, estimated date, or estimated date range of the security breach; and (b) a description of the User Data that was acquired or reasonably believed to have been acquired as part of the security breach. City may request, and upon such request Vendor shall provide, additional information relevant to the security breach; provided that, Vendor shall not be required to disclose confidential business information or trade secrets.

D. Vendor shall, at its sole expense, indemnify, defend and hold harmless the Indemnified Parties, from and against all actual and direct liability, claims, demands, costs, expenses, claims, damages, court awards, and other amounts (including reasonable attorneys' fees and related costs) incurred by any of the Indemnified Parties, on account of any injury, loss, or damage, arising out of any third party claim, action or proceeding brought against any of the Indemnified Parties for any security breach or unauthorized disclosure of User Data to the extent caused by Vendor.

5. Accessibility.

A. Vendor represents and warrants that of Vendor's hardware, software, products, content, and services furnished or licensed to the City under the Agreement fully complies with §§24-85-101, et seq., C.R.S., or the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.

B. If Vendor violates this Section 5, the City may either: (1) require Vendor's full compliance with §§24-85-101, et seq., C.R.S., and the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.; or (2) immediately terminate the Agreement for breach.

C. Vendor shall, at its sole expense, indemnify, defend, and hold harmless the Indemnified Parties, from and against any and all actual and direct liability, claims, demands, costs, expenses, claims, damages, court awards, and other amounts (including reasonable attorneys' fees and related costs) incurred by any of the Indemnified Parties, pursuant to § 24-34- 802 or otherwise, in relation to Vendor's failure, or the failure of any of Vendor's hardware, software, products, and services, to comply with §§24-85-101, et seq., C.R.S., or the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.

6. Location of Servers. The parties agree all Vendor products/services shall be hosted, primarily, on servers located in Boise, Idaho ("Primary Servers"). In the event of a failure in Primary Servers, such products/services shall be rolled over to servers located in Raleigh, North Carolina ("Backup Servers"). Vendor shall provide City with notice within one (1) hour of the roll over of the products/services to the Backup Servers.

7. Termination. In addition to City's right to terminate in accordance with Section 5(B), City may terminate the Agreement upon giving 30 days written notice to Vendor. Vendor may terminate this Agreement only if City fails to make a monthly payment in accordance with the Agreement, and fails to cure such failure within 5 days of receiving written notice from Vendor. Within 30 days of termination of the Agreement, Vendor shall provide to City the City Data in the Reproducible Format requested by City. If City does not request a particular Reproducible Format, Vendor shall provide City Data in CSV format. Vendor shall destroy all City Data after, but only after, it provides to the City the City Data in accordance with the requirements of this Section.

8. Payment Card Industry Data Security Standards Compliance.

A. Vendor represents and warrants that it is, and throughout the term of the Agreement shall remain, in compliance with the Payment Card Industry Data Security Standards ("PCI Standards"); provided that, the City shall use the TSYS TransExpress (TXP) platform and a Verifone VX-805 reader to complete all credit and debit transactions throughout the term of this Agreement; and, provided that, the City shall audit equipment from time to time to ensure no additional devices have been connected or disconnected from any Vendor products/services that may have an impact on compliance with PCI Standards.

B. Vendor shall, at its sole expense, indemnify, defend and hold harmless the Indemnified Parties, from and against all liability, claims, demands, costs,

expenses, claims, damages, court awards, and other amounts (including attorneys' fees and related costs) incurred by any of the Indemnified Parties, on account of any injury, loss, or damage, arising out of any third party claim, action or proceeding brought against the Indemnified Parties for non-compliance with PCI Standards by Vendor or any of its officers, employees, agents or subcontractors.

9. Tax Exempt. Vendor acknowledges City is a tax-exempt entity and Vendor shall not collect taxes on the transactions contemplated under this Agreement; provided that, City shall provide Vendor with all documentation needed to evidence City's tax-exempt status.

10. Survival. Each of Vendor's obligations under this Addendum to defend, indemnify, and hold the City harmless, shall survive termination of the Agreement.

11. Independent Contractor. It is the expressed intent of the parties that Vendor is an independent contractor and not the agent, employee or servant of City, and that: **VENDOR SHALL SATISFY ALL TAX OBLIGATIONS ON PAYMENTS MADE TO IT HEREUNDER INCLUDING BUT NOT LIMITED TO, PAYMENT OF STATE AND FEDERAL INCOME AND OTHER TAXES. NO FEDERAL, STATE OR LOCAL TAXES OF ANY KIND SHALL BE WITHHELD OR PAID BY CITY. VENDOR IS NOT ENTITLED TO WORKERS' COMPENSATION BENEFITS EXCEPT AS MAY BE PROVIDED BY THE INDEPENDENT CONTRACTOR NOR TO UNEMPLOYMENT INSURANCE BENEFITS UNLESS UNEMPLOYMENT COMPENSATION COVERAGE IS PROVIDED BY THE INDEPENDENT CONTRACTOR OR SOME ENTITY OTHER THAN CITY.**

12. Non-Appropriation. Nothing in this Agreement is intended or shall be deemed or construed as creating any multiple-fiscal year direct or indirect debt or financial obligation on the part of City within the meaning of Colorado Constitution Article X, Section 20 or any other constitutional or statutory provision. All financial obligations of City under this Agreement are subject to annual budgeting and appropriation by the Louisville City Council, in its sole discretion. Notwithstanding anything in this Agreement to the contrary, in the event of non-appropriation, City shall immediately notify Vendor of such occurrence, and this Agreement shall terminate effective December 31 of the then-current fiscal year.

13. Insurance; Non-waiver of Governmental Immunity. Vendor shall carry insurance of the type and in amounts sufficient to cover its indemnification obligations under this Agreement. The parties understand and agree that City is relying on, and does not waive or intend to waive by any provision of this contract, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., C.R.S., as from time to time amended, or otherwise available to City, its officers, or its employees.

THIS ADDENDUM ACCEPTED AND AGREED TO BY:

Core & Main LP	**City of Louisville, Colorado**
Signature:_____	Signature:_____
Name:_____	Name:_____
Title:_____	Title:_____
Date:_____	Date:_____

6.7.d.
CITY OF LOUISVILLE WARRANTY

The warranties on meters included in Project Materials and Supplies, and on Work, and Services shall be as follows:

1. Project Materials and Supplies.

(a) General. Meters and equipment included in Project Materials and Supplies that Owner purchases from Core & Main LP ("Core & Main") are warranted by the manufacturer to be free from Manufacturers' Defects for the period specified in the manufacturer's warranty. A copy of the present warranty of each manufacturer that will supply meters and equipment as part of the Project Materials and Supplies is attached hereto. The term of such manufacturer's warranty shall be as set forth in such attached manufacturer's warranty (as the same may be changed from time to time during the course of the performance of the Agreement, but with changes to apply only to purchases of meters or equipment occurring after the change becomes effective), but generally the start date for warranties is the date of the manufacturer's shipment of such meters or equipment as noted in the applicable Acceptance Certificate ("Manufacturer's Warranty Period"). PROJECT MATERIALS AND SUPPLIES OTHER THAN METERS AND EQUIPMENT ARE NOT WARRANTED. CORE & MAIN DOES NOT PROVIDE ANY SEPARATE WARRANTY FOR PROJECT MATERIALS AND SUPPLIES.

(b) Core & Main's Responsibility. Upon any breach of the manufacturer's warranty on meters or equipment noticed to Core & Main during the applicable Manufacturer's Warranty Period, Core & Main's sole responsibility shall be to cooperate with Owner in arranging for the manufacturer to repair or replace any defective meters or equipment.

2. Installation Work and Services.

(a) General. Core & Main warrants that all installation Work and Services provided by Core & Main shall be performed by Core & Main in a workmanlike manner and in compliance with any specifications set forth in this Agreement, with such warranty to expire ninety (90) days from the date when such installation Work is fully complete and the installation subcontractor has demobilized from the project (the "Warranty Period").

(b) Continuing Duty. Core & Main is under a continuing duty to warn the Owner of any possible defect in the design of the Work and materials incorporated in the Work and against potentially unsafe uses of products incorporated in the Work which may cause personal injury or property damage, as soon as the Core & Main discovers the possible defect or has notice that the product may be unsafe. Core & Main's duty under this paragraph shall be continuing, and shall not expire when the OWNER accepts the Work or when Core & Main's guarantee expires.

(c) Exclusive Remedy. Upon any breach of Core & Main's warranty as to installation Work or Services during the applicable Warranty Period, Core & Main's sole responsibility shall be to perform any corrective installation Work or Services necessary to bring Core & Main's installation Work and Services into compliance with such requirements.

3. DISCLAIMER OF FURTHER LIABILITIES. EXCEPT FOR THE FOREGOING EXPRESS WARRANTY, CORE & MAIN DISCLAIMS ALL EXPRESS AND IMPLIED WARRANTIES INCLUDING ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT, WHETHER ARISING OUT OF WARRANTY, TORT, CONTRACT OR OTHERWISE, SHALL CORE & MAIN BE LIABLE FOR ANY INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY OR CONSEQUENTIAL DAMAGES OF ANY KIND. IN NO EVENT WILL THE LIABILITY OF CORE & MAIN UNDER THIS AGREEMENT EXCEED THE TOTAL CONTRACT PRICE; EXCEPT THAT THE LIMITATION OF LIABILITY SHALL NOT APPLY WITH RESPECT TO CORE & MAIN'S: (A) FRAUD, GROSS NEGLIGENCE, OR WILLFUL MISCONDUCT; OR (B) INDEMNIFICATION OBLIGATIONS AND RESULTING LIABILITY.

RESOLUTION NO. 11
SERIES 2026

A RESOLUTION APPROVING A SOFTWARE AS A SERVICE AND SPECTRUM LEASE AGREEMENT FOR THE METER REPLACEMENT AND AMI PROJECT

WHEREAS, a Software as a Service and Spectrum Lease Agreement has been proposed between the City and Sensus USA Inc. for the Meter Replacement and AMI Project (the "Project"); and

WHEREAS, by this resolution the City Council desires to approve said agreement.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO:

Section 1. The City Council hereby approves the Software as a Service and Spectrum Lease Agreement by and between the City of Louisville and Sensus USA Inc. for the Project (the "Agreement") in substantially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The Mayor is hereby authorized to execute the Agreement on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Agreement as the Mayor determines are necessary or desirable for the protection of the City, so long as the essential terms and conditions of the Agreement are not altered.

PASSED AND ADOPTED this 6th day of January 2026.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, City Clerk

Software as a Service and Spectrum Lease Agreement

between

City of Louisville
("Customer")

and
Sensus USA Inc.
("Sensus")

IN WITNESS WHEREOF, the parties have caused this Software as a Service and Spectrum Lease ("Agreement") to be executed by their duly authorized representatives as of the day and year written below. The date of the last party to sign is the "Effective Date."

This Agreement shall commence on the Effective Date and continue for/until: Five (5) Years ("Initial Term"). At the end of the Initial Term, the Agreement shall automatically renew for up to two additional terms of five (5) years each (each a "Renewal Term"), unless sooner terminated pursuant to the terms of this Agreement. The "Term" shall refer to both the Initial Term and any Renewal Term.

This Agreement contains two parts: Part (1) is The FCC Notification for Spectrum Manager Lease, to be filed with the FCC by Sensus on behalf of the Customer and Part (2) is a Software as a Service and Spectrum Lease between Sensus and Customer. Together, these two parts create the Agreement.

Sensus USA Inc.		**Customer: City of Louisville**	
By:	_____	By:	_____
Name:	_____	Name:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

Contents of this Agreement:

Part 1: Notification for Spectrum Manager Lease
Part 2: Agreement
Exhibit A Software
Exhibit B Technical Support

Part 1: Notification for Spectrum Manager Lease

In order for Sensus to apply to the FCC on the Customer's behalf for a spectrum manager lease, Customer must complete the information below in boxes one (1) through ten (10) and certify via authorized signature. Customer's signature will indicate that Customer authorizes Sensus to file the spectrum manager lease notification on FCC Form 608 with the Customer as spectrum Lessee, and if Customer does not already have one, ownership disclosure information on FCC Form 602.

1.

Customer/Lessee Name: City of Louisville, Colorado			
Attention To: City Manager		**Name of Real Party in Interest**: City of Louisville	
Street Address: 749 Main Street			**City**: Louisville
State: CO	**Zip**: 80027		**Phone**: 303-666-6565
Fax:	**Email**: dlangley@louisvilleco.gov		

Is Customer contact information same as above? X ☐Yes ☐No (If No, complete box 2 below)

2.

Additional Customer/Lessee Contact Information

Company Name:			
Attention To:			
Street Address:			**City**:
State:	**Zip**:		**Phone**:
Fax:	**Email**:		

3.

Customer/Lessee is a(n) (Select one): ☐Individual | ☐ Unincorporated Association | ☐Trust
X Government Entity | ☐Corporation | ☐ Limited Liability Company | ☐General Partnership
☐Limited Partnership | ☐Limited Liability Partnership | ☐Consortium | ☐ Other _____

4.

FCC Form 602: FCC File Number of Customer's Form 602 Ownership Information: _____. If Customer has not filed a Form 602, Sensus will file one for Customer. Please complete questions 5, 6, and 7 below if Customer does not have a Form 602 on file.
Customer must complete items 8, 9 and 10 irrespective of whether Customer has an ownership report on file.

5.

Customer Tax ID: 84-6000689

6.

Individual Contact For FCC Matters

Please designate one individual (the Director of Public Works or similar person) who is responsible to the FCC for the operation of the FlexNet radio system.		
Name Kurt Kowar		
Title: Public Works Director		
Email: kurtk@louisvilleco.gov		Phone: 303-335-4601

7.

Ownership Disclosure Information

If Customer/Lessee is a government entity, list the names of the Mayor and all Council Members below, as well as verify citizenship and ownership interests in any entity regulated by the FCC. Such ownership must be disclosed where a mayor/council member owns 10% or more, directly or indirectly, or has operating control of any entity subject to FCC regulation. If any answer to Ownership question is Yes, or any answer to Citizenship question is No, provide an attachment with further explanation.

	US Citizen?	Ownership Disclosure?
Mayor: Christopher Leh	X Yes ☐No	☐Yes X No
Council Member: Caleb Dickinson	X Yes ☐No	☐Yes X No
Council Member: Josh Cooperman	X Yes ☐No	☐Yes X No
Council Member: Deborah Fahey	X Yes ☐No	☐Yes X No

Council Member: Judi Kern	X Yes ☐No	☐Yes X No
Council Member: Barbara Hamlington	X Yes ☐No	☐Yes X No
Council Member: Dietrich Hoefner	X Yes ☐No	☐Yes X No
Council Member:	X Yes ☐No	☐Yes X No
Council Member:	X Yes ☐No	☐Yes X No
Council Member:	X Yes ☐No	☐Yes X No

8.
Alien Ownership Questions (if the answer is Yes, provide an attachment explaining the circumstances)

1) Is the Customer/Lessee a foreign government or the representative of any foreign government?	☐Yes X No

9.
Basic Qualification Information

1) Has the Customer or any party to this application had any FCC station authorization, license, or construction permit revoked or had any application for an initial, modification or renewal of FCC station authorization, license or construction permit denied by the Commission?	☐Yes X No
2) Has the Customer or any party to this filing, or any party directly or indirectly controlling the Customer or any party to this filing ever been convicted of a felony by any state or federal court?	☐Yes X No
3) Has any court finally adjudged the Customer or any party directly or indirectly controlling the Customer guilty of unlawfully monopolizing or attempting to unlawfully monopolize radio communication, directly or indirectly, through control of manufacture or sale of radio apparatus, exclusive traffic arrangement, or any other means or unfair methods of competition?	☐Yes X No

10.
Customer/Lessee Certification Statements

1) The Customer/Lessee agrees that the Lease is not a sale or transfer of the license itself.	X Yes
2) The Customer/Lessee acknowledges that it is required to comply with the Commission's Rules and Regulations and other applicable law at all times, and if the Customer/Lessee fails to so comply, the Lease may be revoked, cancelled, or terminated by either the Licensee or the Commission.	X Yes
3) The Customer/Lessee certifies that neither it nor any other party to the Application/Notification is subject to a denial of Federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C § 862, because of a conviction for possession or distribution of a controlled substance (*See* Section 1.2002(b) of the rules, 47 CFR § 1.2002(b), for the definition of "party to the application" as used in this certification.)	X Yes
4) The Customer/Lessee hereby accepts Commission oversight and enforcement consistent with the license and lease authorization. The Lessee acknowledges that it must cooperate fully with any investigation or inquiry conducted either by the Commission or the Licensee, allow the Commission or the Licensee to conduct on-site inspections of transmission facilities, and suspend operations at the direction of the Commission or the Licensee and to the extent that such suspension of operation would be consistent with applicable Commission policies.	X Yes
5) The Customer/Lessee acknowledges that in the event an authorization held by a Licensee that has associated with it a spectrum leasing arrangement that is the subject of this filing is revoked, cancelled, terminated, or otherwise ceases to be in effect, the Customer/Lessee will have no continuing authority to use the leased spectrum and will be required to terminate its operations no later than the date on which the Licensee ceases to have any authority to operate under the license, unless otherwise authorized by the Commission.	X Yes
6) The Customer/Lessee agrees the Lease shall not be assigned to any entity that is not eligible or qualified to enter into a spectrum leasing arrangement under the Commission's Rules and Regulations.	X Yes
7)The Customer/Lessee waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by spectrum lease or otherwise.	X Yes
8) The Customer/Lessee certifies that it is not in default on any payment for Commission licenses and that it is not delinquent on any non-tax debt owed to any federal agency.	X Yes

The Customer/Lessee certifies that all of its statements made in this Application/Notification and in the schedules, exhibits, attachments, or documents incorporated by reference are material, are part of this Application/Notification, and are true, complete, correct, and made in good faith. The Customer/Lessee shall notify Sensus in writing in the event any information supplied on this form changes.

City of Louisville			
By:		Title:	
Name:		Date:	
FAILURE TO SIGN THIS APPLICATION MAY RESULT IN DISMISSAL OF THE APPLICATION AND FORFEITURE OF ANY FEES PAID.			
WILLFUL FALSE STATEMENTS MADE ON THIS FORM OR ANY ATTACHMENTS ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. Code, Title 18, Section 1001) AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. Code, Title 47, Section 312(a)(1)) AND/OR FORFEITURE (U.S. Code Title 47, Section 503).			

1. **General**
   - **A. Agreement Generally.** The scope of this Agreement includes Sensus providing the specified services, usage terms for Sensus' hosted Software solution, leased spectrum, technical support, and supporting terms and conditions for an advanced metering infrastructure solution in consideration of Customer's purchase and payment to Sensus' Authorized Distributor under separate agreement by and between Customer and Sensus' Authorized Distributor, for all such goods and services.
2. **Software.**
   - **A. Software as a Service ("SaaS")**
     - i Sensus shall provide Customer with SaaS, as defined in Exhibit A, and Technical Support during the Term and only so long as Customer is current in its payments for such services. Upon the expiration or termination of this Agreement, Sensus will have no obligation to provide any further Services or Technical Support.
     - ii Sensus will provide Technical Support for any given Release in accordance with Exhibit B for four (4) years from the date Sensus issues the Release. Sensus will provide Engineering Support of any given release for two (2) years from the date Sensus issues the Release. Notwithstanding the foregoing, in the event of a critical security vulnerability (in Sensus' reasonable discretion), Customer acknowledges (i) that in order to receive particular vulnerability or defect corrections (whether by Patch, Update or Upgrade), Customer may need to move to a more recent supported Release of the Software, and (ii) Sensus reserves the right to discontinue supporting Releases of the Software, including in the event such Software has been identified by Sensus as end of life. Sensus may declare Software "end of life" upon either (i) the relevant window of Technical Support or Engineering Support ending or (ii) becoming aware of a security incident or vulnerability.
   - **B. UCITA.** To the maximum extent permitted by law, the Parties agree that the Uniform Computer Information Transaction Act as enacted by any state shall not apply, in whole or in part, to this Agreement.
3. **Spectrum**
   - A. **Definitions in this Section.** In this Section only, "Sensus" shall mean Sensus USA Inc. and its wholly owned subsidiary, Sensus Spectrum LLC.
   - B. **Spectrum Lease.** Sensus hereby grants to Customer, and Customer accepts, a spectrum manager lease ("Spectrum Lease") over the frequencies of certain FCC license(s) ("FCC License") solely within Customer's Service Territory. (The frequencies of the FCC License within Customer's geographic Service Territory are called the "Leased Spectrum"). Customer shall pay the Ongoing Fees for use of the Leased Spectrum.
   - C. **FCC Forms.** At the Federal Communications Commission ("FCC"), Sensus will; (1) obtain an FCC Registration Number ("FRN")) for Customer; (2) submit on behalf of Customer the FCC Form 602 Ownership Disclosure Information if Customer has not already done so; and (3) file a FCC Form 608, notification/application for long-term spectrum manager lease. This Lease becomes effective when the FCC accepts the FCC Form 608.
   - D. **Lease Application.** In order to complete the FCC lease application, Customer will promptly:
     - i. Complete and sign the representations in Part 1 of this Agreement such that Customer demonstrates it qualifies for a spectrum lease under FCC rules. Customer's signature will indicate that Customer authorizes Sensus to; (1) obtain an FRN on behalf of Customer; (2) submit the FCC Form 602 Ownership Disclosure Information on behalf of Customer if Customer has not already done so; and (3) file the spectrum manager lease notification on FCC Form 608 with the Customer as spectrum lessee.
     - ii. Give Sensus the coordinates of the boundaries of Customer's Service Territory or, alternatively, approve Sensus' estimation of the same.
     - iii. If Customer has not already done so; Customer hereby authorizes Sensus to apply on Customer's behalf and obtain for Customer a Federal Registration Number (FRN, the FCC's unique identifier for each licensee) and shall supply Sensus with Customer's Taxpayer Identification Number ("TIN").
     - iv. Provide any other information or other cooperation reasonably necessary for the Parties to perform as set forth herein.
   - E. **Permitted Use of Spectrum Lease and Equipment.** Customer may transmit or receive over the Leased Spectrum only in the Service Territory and only using FlexNet equipment manufactured by Sensus and used in accordance with Sensus' specifications. Customer may use the Leased Spectrum only to read and direct Field Devices or any other operation approved by Sensus in writing. Without limiting the foregoing, Customer is prohibited from reselling, subleasing or sublicensing the FlexNet Equipment and Leased Spectrum, and from transmitting voice communications over the Leased Spectrum. For each piece of RF Field Equipment used by Customer, Customer shall affix a Sensus-supplied label to the exterior of the RF Field Equipment cabinet or other appropriate visible place to indicate that RF operation is conducted under authority of FCC License(s) issued to Sensus.
   - F. **Term of Spectrum Lease.** Unless terminated earlier (because, for example, Customer stops using the FlexNet equipment or because this Agreement terminates or expires for any reason), this Spectrum Lease will have the same term as the FCC license. If Customer is operating in compliance with this Agreement and is current on any payments owed to Sensus, when the FCC License renews, the Parties will apply to the FCC to renew this Spectrum Lease.
   - G. **Termination of Spectrum Lease.** The Spectrum Lease will terminate: (a) two months after Customer stops transmitting with FlexNet equipment manufactured by Sensus; (b) upon termination, revocation or expiration of the FCC License; (c) upon Customer's breach of this Agreement; or (d) upon termination or expiration of this Agreement for any reason.
   - H. **FCC Compliance.** The following FCC requirements apply
     - i. Pursuant to 47 CFR 1.9040(a);
       - a. Customer must comply at all times with applicable FCC rules. This Agreement may be revoked by Sensus or the FCC if Customer fails to so comply;
       - b. If the FCC License is terminated, Customer has no continuing right to use the Leased Spectrum unless otherwise authorized by the FCC;
       - c. This Agreement is not an assignment, sale or other transfer of the FCC License;
       - d. This Agreement may not be assigned except upon written consent of Sensus, which consent may be withheld in its discretion; and
       - e. In any event, Sensus will not consent to an assignment that does not satisfy FCC rules.
     - ii. Referencing 47 CFR 1.9010, Sensus retains *de jure* and *de facto* control over the applicable radio facilities, including that,
       - a. Sensus will be responsible for Customer's compliance with FCC policies and rules. Sensus is responsible for engineering the FlexNet equipment and accompanying software and other programs to comply with FCC rules. Customer will operate the FlexNet equipment subject to Sensus' supervision and control and solely in accordance with Sensus' specifications. Sensus retains the right to inspect Customer's radio operations hereunder and to terminate this Agreement or take any other necessary steps to resolve a violation of FCC rules, including to order Customer to cease transmission. Sensus will act as spectrum manager in assigning spectrum under the FCC License so as to avoid any harmful interference or other violation of FCC rules. Sensus will be responsible for resolving any interference complaints or other FCC rule violations that may arise; and

b. Sensus will file any necessary FCC forms or applications and Customer agrees to reasonably assist Sensus with such filing by providing any necessary information or other cooperation. Sensus will otherwise interact with the FCC with respect to this Agreement, the FCC License or FlexNet equipment.

iii. Customer must continue operations on the spectrum during the Term of this Agreement. If Customer stops operations for any period of time, Customer must notify Sensus by sending an email to legal@xyleminc.com. Customer may not pause or discontinue operations for more than 180 days.

I. **Interference.** Customer agrees to report to Sensus promptly, and in no event later than 72 hours afterward, any incident related to the Leased Spectrum, including where Customer experiences harmful interference, receives a complaint or other notice of having caused harmful interference, or receives any type of communication from the FCC or other government agency regarding radio transmission.

4. Equipment.

A. Purchase of Equipment. Customer shall purchase all Field Devices, and other goods (collectively, "Equipment") from Sensus' authorized distributor pursuant to the terms and conditions (including any warranties on such Equipment) agreed by Customer and Sensus' authorized distributor. This Agreement shall not affect any terms and conditions, including any warranty terms, agreed by Customer and Sensus' authorized distributor. If Customer elects to purchase any equipment or services directly from Sensus, or if Customer pays any fees or other costs to Sensus, then Sensus' Terms of Sale shall apply. The "Terms of Sale" are available at: https://www.sensus.com/tc, or 1-800-METER-IT

B. THERE ARE NO WARRANTIES IN THIS AGREEMENT, EXPRESS OR IMPLIED. SENSUS EXPRESSLY DISCLAIMS ANY AND ALL REPRESENTATIONS, WARRANTIES AND/OR CONDITIONS, EXPRESSED, IMPLIED, STATUTORY OR OTHERWISE, REGARDING ANY MATTER IN CONNECTION WITH THIS AGREEMENT, INCLUDING WITHOUT LIMITATION, WARRANTIES AS TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, NON-INFRINGEMENT AND TITLE. WITHOUT LIMITING THE FOREGOING, SENSUS MAKES NO WARRANTIES OR PROMISE (I) THAT ITS SOFTWARE AS A SERVICE, SOFTWARE OR OTHER SERVICES WILL OPERATE IN CONJUNCTION WITH ANY SOFTWARE, SERVICES OR PRODUCTS PROVIDED BY THIRD PARTIES, (II) THAT THE OPERATION OF THE SOFTWARE AS A SERVICE OR ANY SENSUS SOFTWARE WILL BE UNINTERRUPTED OR ERROR OR VULNERABILITY FREE, OR (III) THAT ALL DEFECTS, BUGS, ERRORS OR VULNERABILITIES CAN OR WILL BE FIXED OR REMEDIATED. CUSTOMER ACKNOWLEDGES THAT SENSUS DOES NOT CONTROL THE TRANSFER OF DATA OVER THE INTERNET OR ACROSS OTHER NETWORKS, AND THE SOFTWARE AS A SERVICE MAY BE SUBJECT TO LIMITATIONS, DELAYS, AND OTHER PROBLEMS INHERENT IN THE USE OR OPERATION OF SUCH INTERNET OR NETWORKS. SENSUS IS NOT RESPONSIBLE FOR ANY DAMAGES, INCIDENTS, DELAYS, DELIVERY PROBLEMS, OR OTHER PROBLEMS RESULTING FROM SUCH INTERNET OR NETWORK PROBLEMS. IN NO EVENT IS SENSUS RESPONSIBLE OR LIABLE FOR ANY ISSUES RELATED TO THE PERFORMANCE, OPERATION OR SECURITY OF THE SOFTWARE AS A SERVICE OR ANY SENSUS SOFTWARE THAT ARISE FROM CUSTOMER'S OR ITS THIRD PARTIES' ENVIRONMENT; FAILURE TO IMPLEMENT PATCHES, UPDATES OR UPGRADES; SYSTEMS; CONTENT; NETWORKS; OR DEVICES. EXCEPT AS OTHERWISE EXPRESSLY STATED IN THIS AGREEMENT, CUSTOMER ASSUMES ALL RESPONSIBILITY AND RISK FOR ITS USE OF THE SOFTWARE AS A SERVICE, SENSUS SOFTWARE AND OTHER SERVICES PROVIDED UNDER THIS AGREEMENT.

5. Services.

A. Installation of Equipment. Installation services for Field Devices, other goods, and RF Field Equipment will be as agreed between the Customer and Sensus' authorized distributor. Sensus will not provide installation services pursuant to this Agreement. Sensus is not responsible for any problems that arise from the installation services (e.g., faulty configuration).

B. Technical Support. Sensus shall provide Customer the technical support set forth in Exhibit B.

C. Project Management. Sensus' authorized distributor will provide project management services to Customer. Any project management of the FlexNet System provided by Sensus shall be subject to a separate agreement which describes the scope and pricing for such work.

D. Training. Sensus' authorized distributor will provide Customer with training on the use of the FlexNet System. Any training provided by Sensus shall be subject to a separate agreement which describes the scope and pricing for such work.

E. IT Systems Integration Services. Except as may otherwise be provided herein, integration of the Software into Customer's new or existing internal IT systems is not included in this Agreement. Any integration work shall be subject to a separate agreement which describes the scope and pricing for such work.

F. WAN Backhaul connection services are not included in this Agreement.

6. General Terms and Conditions.

A. Infringement Indemnity. Sensus shall indemnify and hold harmless Customer from and against any judgment by a court of competent jurisdiction or settlement reached by Sensus from any litigation instituted against Customer in the United States by a third party to the extent alleging that the FlexNet System as provided hereunder infringes upon the patents or copyrights of such third party, provided that Sensus shall have the right to select counsel in such proceedings and control such proceedings and any settlement. Notwithstanding the foregoing, Sensus shall have no obligation or liability under this indemnity unless Customer cooperates fully with and assists Sensus in any such proceedings and gives Sensus written notice of any claim hereunder within twenty (20) days of receiving. Further, Sensus shall have no obligation or liability hereunder if such claim is related to; (i) any change, modification or alteration made to the FlexNet System by Customer or a third party, (ii) use of the FlexNet System in combination with any goods or services not provided by Sensus hereunder, (iii) Customer's failure to use the most recent version of the Software or to otherwise take any corrective action as reasonably directed by Sensus, (iv) compliance by Sensus with any designs, specifications or instructions provided by Customer or compliance by Sensus with an industry standard, or (v) any use of the FlexNet System other than for the Permitted Use or in a manner that exceeds the licenses and rights provided herein. In the event the FlexNet System is adjudicated to infringe a patent or copyright of a third party and its use is enjoined, or, if in the reasonable opinion of Sensus, the FlexNet System is likely to become the subject of an infringement claim, Sensus, at its sole discretion and expense, may at its option; (i) procure for Customer the right to continue using the FlexNet System or (ii) modify or replace the FlexNet System so that it becomes non-infringing. THIS SECTION STATES CUSTOMER'S SOLE AND EXCLUSIVE REMEDY AND SENSUS' ENTIRE LIABILITY AND OBLIGATION FOR ANY CLAIM OF INFRINGEMENT.

B. Limitation of Liability. To the extent permitted by law and except for Sensus' indemnity obligations outlined in the Agreement, Sensus' aggregate liability in any and all causes of action arising under, out of or in relation to this Agreement, its negotiation, performance, breach or termination (collectively "Causes of Action") shall not exceed the greater of; (a) the total amount paid by Customer directly to Sensus or Sensus' authorized distributor under this Agreement; or (b) ten thousand US dollars (USD 10,000.00). This is so whether the Causes of Action are in tort, including, without limitation, negligence or strict liability, in contract, under statute or otherwise. As separate and independent limitations on liability, Sensus' liability shall be limited to direct damages. Sensus shall not be liable for; (i) any indirect, incidental, special or consequential damages; nor (ii) any revenue or profits lost by Customer or its Affiliates, including from any End User(s), irrespective whether such lost revenue or profits is categorized as direct damages or otherwise; nor (iii) any In/Out Costs; nor (v) damages arising from maincase or bottom plate breakage caused by freezing temperatures, water hammer conditions, or excessive water pressure. The limitations on liability set forth in this Agreement are fundamental inducements to Sensus entering into this Agreement. They apply unconditionally and in all respects. They are to be interpreted broadly so as to give Sensus the maximum protection permitted under law.

C. Termination. Either party may terminate this Agreement earlier if the other party commits a material breach of this Agreement and such material breach is not

cured within forty-five (45) days of written notice by the other party. Upon any expiration or termination of this Agreement, Sensus' and Customer's obligations hereunder shall cease and the software as a service and Spectrum Lease shall immediately cease.

D. **Force Majeure.** If Sensus becomes unable, either wholly or in part, by an event of Force Majeure, to fulfill its obligations under this Agreement, the obligations affected by the event of Force Majeure will be suspended during the continuance of that inability. The party affected by the force majeure will take reasonable steps to mitigate the Force Majeure. Notwithstanding anything herein to the contrary, in no event will Sensus be liable for the consequences or impact of any Force Majeure event.

E. **Temporary Service Suspension.** Sensus may suspend the Services without liability if: (i) Customer fails to pay Sensus or its authorized distributor when payment is due; (ii) Sensus reasonably believes that the Services are being used in violation of the Agreement; (iii) Sensus is required by applicable law or by a regulatory or government body to suspend Customer's access to the Services; (iv) a Force Majeure event requires Sensus to suspend Customer's access; or (v) there is another event for which Sensus reasonably believes that the suspension of Services is necessary to protect the Services. Sensus will give Customer advance notice of a suspension where reasonably possible under the circumstances. If a suspension is based on Customer's breach of Customer's obligations under the Agreement, Sensus may continue to charge Customer the fees for the Services during suspension.

F. **Intellectual Property Rights.**

i. Software and Materials. No Intellectual Property is assigned to Customer hereunder. Excluding Customer Data, Sensus shall own or continue to own all right, title, and interest in and to the Intellectual Property associated with the Software and related documentation, including any derivations and/or derivative works (the "Sensus IP"). To the extent, if any, that any ownership interest in and to such Sensus IP does not automatically vest in Sensus by virtue of this Agreement or otherwise, and instead vests in Customer, Customer agrees to grant and assign and hereby does grant and assign to Sensus all right, title, and interest that Customer may have in and to such Sensus IP. Customer agrees not to reverse engineer any Sensus Products purchased or provided hereunder.

ii. Customer Data. Notwithstanding the prior paragraph, as between Customer and Sensus, Customer remains the owner of all right, title or interest in or to any Customer Data. "Customer Data" means solely usage data collected by the Field Devices. To avoid doubt, Customer Data does not include non-End User usage data collected by the Field Devices, Software, or FlexNet System, such as network and equipment status information or the like. Customer represents to Sensus that Customer (i) has sufficient rights in all Customer Data, to hold the Customer Data and deliver it to Sensus as required for the Services to be performed as contemplated in the Agreement, and (ii) has obtained (and is responsible for maintaining) from all individuals, persons and third parties whose personal information is contained in the Customer Data all required consents and authorizations, and has provided to all individuals, persons, and third parties the notices with respect to the collection, retention, disclosure and use of the Customer Data as contemplated for the purposes of this Agreement that are required under applicable foreign, federal and state laws and regulations, including but not limited to relevant privacy laws and regulations.

iii. Consent to Use of Customer Data. Customer hereby irrevocably grants to Sensus a world-wide royalty-free, non-exclusive, irrevocable right and license to access, store, and use such Customer Data and any other data or information provided to Sensus, to (1) provide the Service; (2) analyze and improve the Service; (3) analyze and improve any Sensus equipment, software, or service; or (4) for any other internal use. As used herein, "Service" means Sensus' obligations under this Agreement, such as the Software as a Service.

iv. Access to Customer Data. Within 45 days of Customer's written request, Sensus will provide Customer a copy of the previous 24 months of data collected by the FlexNet System in a format of Sensus' discretion and deliver the file to a drop location specified by Customer.

G. **Data Privacy.** Customer acknowledges and agrees that Sensus and its Affiliates (collectively, "Xylem") may collect and process personal data for the purposes outlined in this Agreement and in Xylem's then-current privacy policy. Xylem's data privacy policy is available and maintained at https://www.xylem.com/en-us/support/privacy/ or any successor web page designated by Xylem from time-to-time. The collection and use of personal data by Customer, including providing necessary notices and obtaining required consents from end users, is Customer's sole responsibility.

H. **Right to use Feedback.** Customer grants Sensus a royalty-free, worldwide, irrevocable, perpetual license to use, aggregate, alter or incorporate into the Services any suggestions, enhancement requests, recommendations or other feedback provided by Customer or its employees and agents.

I. **Confidentiality.** Except as may be required under applicable law, court order, or regulation, or to the extent permitted under or required to perform and enforce this Agreement, both parties shall (and shall cause their employees and contractors to) keep all Confidential Information strictly confidential and shall not disclose it to any third party. For the avoidance of doubt, Customer shall have no obligation to keep and maintain any Confidential Information that is subject to disclosure under the Colorado Open Records Act, Part 2, Article 72, Title 24, C.R.S. (the "**Act**"), as determined by the Customer in Customer's sole discretion. Customer shall notify Sensus within five (5) business days of receiving a request under the Act for any records which would constitute Confidential Information and to the extent allowed by law, Customer shall apply exceptions to disclosure of the Confidential Information that are applicable under the Act. Without limiting any other obligations in this Agreement, Customer shall not provide Sensus' Confidential Information to any person who designs or develops software products or services that compete with Sensus' software products and services. Notwithstanding the foregoing, Confidential Information shall not include; (i) any information that is in the public domain other than due to Recipient's breach of this Agreement; (ii) any information in the possession of the Recipient without restriction prior to disclosure by the Discloser; or (iii) any information independently developed by the Recipient without reliance on the information disclosed hereunder by the Discloser. "**Discloser**" means either party that discloses Confidential Information, and "**Recipient**" means either party that receives it. The receiving party will return or destroy the other party's Confidential Information upon receiving written notice from the other party, provided that such return or destruction does not interfere with the receiving party's rights and obligations under this Agreement, including Sensus' right to use Customer Data. The foregoing does not require the receiving party to search its archived electronic back-up files of its computer systems for the other party's Confidential Information to purge such Confidential Information from its archived files; provided, however, that the receiving party must: (i) maintain the confidentiality of such archived Confidential Information as if this Agreement were still in effect and (ii) not use such archived Confidential Information for any purpose.

J. **Compliance with Laws.** Customer shall comply with all applicable country, federal, state, and local laws and regulations, as set forth at the time of acceptance and as may be amended, changed, or supplemented. Customer shall not take any action or permit the taking of any action by a third party, which may render Sensus liable for a violation of applicable laws.

i. **Export Control Laws**. Customer shall; (i) comply with all applicable U.S. and local laws and regulations governing the use, export, import, re-export, and transfer of products, technology, and services; and (ii) obtain all required authorizations, permits, and licenses. Customer shall immediately notify Sensus, and immediately cease all activities with regards to the applicable transaction, if the Customer knows or has a reasonable suspicion that the equipment, software, or services provided hereunder may be directed to countries in violation of any export control laws. By ordering equipment, software or services, Customer certifies that it is not on any U.S. government export exclusion list.

ii. **Anti-Corruption Laws**. Customer shall comply with the United States Foreign Corrupt Practices Act (FCPA), 15 U.S.C. §§ 78dd-1, et seq.; laws and regulations implementing the OECD's Convention on Combating Bribery of Foreign Public Officials in International Business Transactions; the U.N. Convention Against Corruption; the Inter-American Convention Against Corruption; and any other applicable laws and regulations relating to anti-corruption in the Customer's county or any country where performance of this Agreement, or delivery or use of equipment, software or services will occur.

K. **Non-Waiver of Rights.** A waiver by either party of any breach of this Agreement or the failure or delay of either party to enforce any of the articles or other provisions of this Agreement will not in any way affect, limit or waive that party's right to enforce and compel strict compliance with the same or other articles or provisions.

L. **Assignment and Sub-contracting.** Either party may assign, transfer or delegate this Agreement without requiring the other party's consent; (i) to an Affiliate; (ii) as part of a merger; or (iii) to a purchaser of all or substantially all of its assets. Apart from the foregoing, neither party may assign, transfer or delegate this Agreement without the prior written consent of the other, which consent shall not be unreasonably withheld. Furthermore, Customer acknowledges Sensus may use subcontractors to perform RF Field Equipment installation, the systems integration work (if applicable), or project management (if applicable), without requiring Customer's consent.

M. **Amendments.** No alteration, amendment, or other modification shall be binding unless in writing and signed by both Customer and by a vice president (or higher) of Sensus.

N. **Governing Law and Dispute Resolution.** This Agreement shall be governed by, construed and enforced in accordance with the laws of the State of Delaware. Any and all disputes arising under, out of, or in relation to this Agreement, its negotiation, performance or termination ("Disputes") shall first be resolved by mediation between the Parties.

O. **Survival.** The provisions of this Agreement that are applicable to circumstances arising after its termination or expiration shall survive such termination or expiration.

P. **Severability.** In the event any provision of this Agreement is held to be void, unlawful or otherwise unenforceable, that provision will be severed from the remainder of the Agreement and replaced automatically by a provision containing terms as nearly like the void, unlawful, or unenforceable provision as possible; and the Agreement, as so modified, will continue to be in full force and effect.

Q. **Four Corners.** This written Agreement, including all of its exhibits, represents the entire understanding between and obligations of the parties and supersedes all prior understandings, agreements, negotiations, and proposals, whether written or oral, formal or informal between the parties. Any additional writings shall not modify any limitations or remedies provided in the Agreement. There are no other terms or conditions, oral, written, electronic or otherwise. There are no implied obligations. All obligations are specifically set forth in this Agreement. Further, there are no representations that induced this Agreement that are not included in it. The ONLY operative provisions are set forth in writing in this Agreement. Without limiting the generality of the foregoing, no purchase order placed by or on behalf of Customer shall alter any of the terms of this Agreement. The parties agree that such documents are for administrative purposes only, even if they have terms and conditions printed on them and even if and when they are accepted and/or processed by Sensus. Any goods, software or services delivered or provided in anticipation of this Agreement (for e.g., as part of a pilot or because this Agreement has not yet been signed but the parties have begun the deployment) under purchase orders placed prior to the execution of this Agreement are governed by this Agreement upon its execution and it replaces and supersedes any such purchase orders.

R. **Counterparts.** This Agreement may be executed in any number of counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument. Additionally, this Agreement may be executed by facsimile or electronic copies, all of which shall be considered an original for all purposes.

S. **Accessibility.** Sensus represents that Sensus' FlexNet System furnished to the Customer under the Agreement intends to comply with §§24-85-101, et seq., C.R.S., or the Accessibility Standards for Individuals with a Disability as established by the Office of Information Technology pursuant to Section §24-85-103 (2.5), C.R.S.

T. **Non-Appropriation.** Nothing in this Agreement is intended or shall be deemed or construed as creating any multiple-fiscal year direct or indirect debt or financial obligation on the part of the Customer within the meaning of Colorado Constitution Article X, Section 20 or any other constitutional or statutory provision. All financial obligations of Customer under this Agreement are subject to annual budgeting and appropriation by the Louisville City Council, in its sole discretion. Notwithstanding anything in this Agreement to the contrary, in the event of non-appropriation, Customer shall immediately notify Sensus of such occurrence, and this Agreement shall terminate effective December 31 of the then-current fiscal year.

U. **Non-waiver of Governmental Immunity.** The parties understand and agree that Customer is relying on, and does not waive or intend to waive by any provision of this Agreement, the monetary limitations or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, § 24-10-101 et seq., C.R.S., as from time to time amended, or otherwise available to Customer, its officers, or its employee**s.**

V. **Personal Identifying Information.**

i. If Customer Data includes "Personal Identifying Information" (hereinafter referred to as "Personal Information"), as such term is defined in Title 24, Article 73, Part 1 of the Colorado Revised Statutes ("C.R.S."). Sensus shall not directly or indirectly disclose, sell, copy, distribute, republish, market, demonstrate or allow any third party to have access to any Personal Information. In maintaining, storing, and processing of Personal Information, Sensus shall comply with the obligations of a "Third-Party Service Provider" as such term is defined in Section 24-73-102, C.R.S. Such obligations include but are not limited to implementation and maintenance of reasonable security procedures and practices that are: (a) appropriate to the nature of the Personal Information disclosed to Sensus; and (b) reasonably designed to help protect Personal Information from unauthorized access, use, modification, disclosure, or destruction.

ii. If Sensus becomes aware that a security breach of Personal Information may have occurred, Sensus shall notify the Customer within 3 days. Such notice shall at minimum contain (a) the date, estimated date, or estimated date range of the security breach; and (b) a description of the Personal Information that was acquired or reasonably believed to have been acquired as part of the security breach. Customer may request, and upon such request Sensus shall provide, additional information relevant to the security breach; provided that, Sensus shall not be required to disclose confidential business information or trade secrets.

iii. Sensus shall, at its sole expense, indemnify, defend and hold harmless Customer, its elected and appointed officers and its employees (the "Indemnified Parties"), from and against all liability, claims, demands, costs, expenses, claims, damages, court awards, and other amounts (including attorneys' fees and related costs) incurred by any of the Indemnified Parties, on account of any injury, loss, or damage, arising out of any third party claim, action or proceeding brought against any of the Indemnified Parties, for any security breach or unauthorized disclosure of Personal Information. Sensus agrees that this section shall not be subject to the limitation of liability set forth in the Agreement.

7. **Definitions. As used in this Agreement, the following terms shall have the following meanings:**

A. **"*Affiliate*"** of a party means any other entity controlling, controlled by, or under common control with such party, where "control" of an entity means the ownership, directly or indirectly, of 50% or more of either; (i) the shares or other equity in such entity; or (ii) the voting rights in such entity.

B. "***Confidential Information***" means any and all non-public information of either party, including all technical or performance information about either party's products or services, pricing information, marketing and marketing plans, Customer's End Users' data, FlexNet System performance, FlexNet System architecture and design, FlexNet System software, other business and financial information of either party, and all trade secrets of either party. For the avoidance of doubt, information about the performance, operation, specifications, or features of the Services and FlexNet System is the Confidential Information of Sensus.

C. **"*End User*"** means any end user of electricity, water, and/or gas (as applicable) that pays Customer for the consumption of electricity, water, and/or gas, as applicable.

D. ***"Engineering Support"*** means providing Patches and Updates to Software.

E. "***Field Devices***" means the SmartPoint Modules.

F. "***FlexNet Base Station***" identifies the Sensus manufactured device consisting of one transceiver, to be located on a tower that receives readings from the SmartPoint Modules (either directly or via an R100 unit) by radio frequency and passes those readings to the RNI by TCP/IP backhaul communication. For clarity, FlexNet Base Stations include Metro Base Stations.

G. **"*FlexNet System*"** is comprised of the SmartPoint Modules, RF Field Equipment, Server Hardware, software licenses, Spectrum Lease, and other equipment provided to Customer hereunder. The FlexNet System only includes the foregoing, as provided by Sensus. The FlexNet System does not include goods, equipment, software, licenses or rights provided by a third party or parties to this Agreement.

H. "***Force Majeure***" means an event beyond a party's reasonable control, including, without limitation, acts of God, hurricane, flood, volcano, tsunami, tornado, storm, tempest, mudslide, vandalism, pandemic, illegal misconduct, sabotage, interruptions in power, communications or Internet service, acts of governments or government-backed actors, illegal or unauthorized radio frequency interference, strikes, lockouts, or other industrial disturbances, unavailability of component parts of any goods provided hereunder, acts of public enemies, wars, blockades, embargoes, insurrections, riots, epidemics, earthquakes, fires, restraints or prohibitions by any court, board, department, commission or agency of the United States or any States, any arrests and restraints, civil disturbances and explosion.

I. ***"Hosted Software"*** means those items listed as an Application in Exhibit A.

J. "***In/Out Costs***" means any costs and expenses incurred by Customer in transporting goods between its warehouse and its End User's premises and any costs and expenses incurred by Customer in installing, uninstalling and removing goods.

K. "***Intellectual Property***" means patents and patent applications, inventions (whether patentable or not), trademarks, service marks, trade dress, copyrights, trade secrets, know-how, data rights, specifications, drawings, designs, maskwork rights, moral rights, author's rights, and other intellectual property rights, including any derivations and/or derivative works, as may exist now or hereafter come into existence, and all renewals and extensions thereof, regardless of whether any of such rights arise under the laws of the United States or of any other state, country or jurisdiction, any registrations or applications thereof, and all goodwill pertinent thereto.

L. "***LCM***" identifies the load control modules.

M. ***"Licensed Software"*** means the Software licensed hereunder pursuant to the terms of the Agreement.

N. **"*Ongoing Fee*"** means the annual or monthly fees, as applicable, to be paid by Customer to Sensus' authorized distributor during the Term of this Agreement.

O. "***Patches***" means patches or other maintenance releases of the Software that correct processing errors and other faults, vulnerabilities and defects found in the Software. For clarity, Patches are not Updates or Upgrades.

P. "***Permitted Use"*** means only for reading and analyzing data from Customer's Field Devices in the Service Territory. The Permitted Use does not include reading third devices not provided by Sensus or reading Field Devices outside the Service Territory.

Q. ***"R100 Unit"*** identifies the Sensus standalone, mounted transceiver that takes the radio frequency readings from the SmartPoint Modules and relays them by radio frequency to the relevant FlexNet Base Station or directly to the RNI by TCP/IP backhaul communication, as the case may be.

R. **"*Release*"** means both Updates and Upgrades.

S. **"*Remote Transceiver*"** identifies the Sensus standalone, mounted relay device that takes the radio frequency readings from the SmartPoint Modules and relays them directly to the RNI by TCP/IP backhaul communication.

T. **"RF"** means Radio Frequency.

U. **"*RF Field Equipment*"** means, collectively, FlexNet Base Stations, R100 units (if any) and Remote Transceivers (if any).

V. **"*RNI*"** identifies the regional network interfaces consisting of hardware and software used to gather, store, and report data collected by the FlexNet Base Stations from the SmartPoint Modules. The RNI hardware specifications will be provided by Sensus upon written request from Customer.

W. **"*RNI Software*"** identifies the Sensus proprietary software used in the RNI and any Patches, Updates, and Upgrades that are provided to Customer pursuant to the terms of this Agreement.

X. ***"Security Breach"*** means a cybersecurity incident whereby an unauthorized third party intentionally compromises the security of Customer's tenant environment in Sensus' Software as a Service solution and gains access to Customer's tenant environment and data.

Y. ***"Service Territory"*** identifies the geographic area where Customer utilizes Sensus equipment to provide services to End Users as of the Effective Date. This area will be described on the propagation study in the parties' Spectrum Lease filing with the FCC.

Z. **"*Server Hardware*"** means the RNI hardware.

AA. ***"SmartPoint™ Modules"*** identifies the Sensus transmission devices installed on devices such as meters, distribution automation equipment and demand/response devices located at Customer's End Users' premises that communicate with the relevant devices and transmit those communications by radio frequency to the relevant piece of RF Field Equipment.

BB. **"*Software*"** means all the Sensus proprietary software provided as a service pursuant to this Agreement, and any Patches, Updates, and Upgrades that are provided to Customer pursuant to the terms of this Agreement. The Software does not include any third party software.

CC. ***"Technical Support"*** means the services set forth on Exhibit B.

DD. **"*Updates*"** means releases of the Software that constitute a minor improvement in functionality.

EE. **"*Upgrades*"** means releases of the Software which constitute a significant improvement in functionality or architecture of the Software.

FF. **"*WAN Backhaul*"** means the communication link between FlexNet Base Stations and Remote Transceivers and RNI.

Exhibit A
Software

Software as a Service

1. **Description of Services.**

This exhibit contains the details of the SaaS that Sensus shall provide to Customer if both; (i) pricing for the application of Software as a Service has been provided to the Customer; and (ii) the Customer is current in its payments to Sensus' authorized distributor for such application of Software as a Service.

A. Software as a Service Generally.

SaaS is a managed service in which Sensus will be responsible for the day-to-day monitoring, maintenance, management, and supporting of Customer's Software tenant in Sensus' (or its subcontractor's) data centers. In a Software as a Service solution, Sensus owns (or has third parties operate or provide on its behalf) all components of the solution (server hardware, storage, data center, network equipment, Sensus software, and all third-party software) required to run and operate the Applications listed below. These software applications consist of the following (each an "Application"):

- Regional Network Interface (RNI) Software
- Sensus Analytics Software
- Xylem Data Lake

The managed application systems consist of the hardware, Sensus Software, and other third-party software that is required to operate the Applications. Each Application will have a production and disaster recovery (as described below) environment Test environments are not provided unless otherwise specifically agreed by Sensus in writing. Sensus will manage the Applications by providing 24 x 7 x 365 monitoring of the availability and performance of the Applications.

B. Use of Software as a Service. Subject to the terms of this Agreement, Sensus shall make Software as a Service available to Customer to access and use solely for the Permitted Use and solely for so long as Customer is current in its payments to Sensus or its authorized distributor for Software as a Service. The Software as a Service term commences on the date that Sensus first makes Software as a Service available to Customer for use and ends upon the earlier of: (i) the expiration or termination of the Agreement; (ii) breach by Customer of this exhibit or the Agreement; or (iii) Customer's termination of Software as a Service as set forth in paragraph (C) below.

C. Termination of an Application. Customer shall have the option at any time before the end of the Term to terminate any Application by giving Sensus one hundred twenty (120) days prior written notice. Such notice, once delivered to Sensus, is irrevocable. Should Customer elect to terminate any Application, Customer acknowledges that; (a) Customer shall pay all applicable fees, including any unpaid Software as a Service fees due in the current calendar year, where such fee is calculated based on the annual Software as a Service fee due in the current calendar year; and (b) Software as a Service for such Application shall immediately cease. If Customer elects to terminate the RNI Application in the Software as a Service environment but the Agreement has not expired or terminated, then upon delivery of the notice to Sensus, Customer shall purchase the necessary (a) RNI hardware from a third party and (b) RNI software license at Sensus' then-current pricing. No portion of the Software as a Service fees shall be applied to the purchase of the RNI hardware or software license.

D. Software as a Service means only the following services:

i. Sensus will provide the use of required hardware and or virtual environments, located at Sensus' or a third-party's data center facility (as determined by Sensus), that is necessary to operate the Application.

ii. Sensus will provide production and disaster recovery environments for Applications.

iii. Sensus will provide Patches, Updates, and Upgrades to latest Sensus Hosted Software release.

iv. Sensus will configure and manage the equipment (server hardware, routers, switches, firewalls, etc.) in the data centers:
   a. Network addresses and virtual private networks (VPN)
   b. Standard time source (NTP or GPS)
   c. Security access points
   d. Respond to relevant alarms and notifications.

v. Capacity and performance management. Sensus will:
   a. Monitor capacity and performance of the Application server and software applications 24x7x365 using KPI metrics, thresholds, and alerts to proactively identify any potential issues related to system capacity and/or performance (i.e., database, backspool, logs, message broker storage, etc.)
   b. If an issue is identified to have a potential impact to the system, Sensus will open an incident ticket and manage the ticket through resolution per Exhibit B, Technical Support.
   c. Manage and maintain the performance of the server and perform any change or configuration to the server, in accordance to standard configuration and change management policies and procedures.
   d. Manage and maintain the server storage capacity and performance of the Storage Area Network (SAN), in accordance to standard configuration and change management policies and procedures.
   e. Exceptions may occur to the system that require Sensus to take immediate action to maintain the system capacity and performance levels, and Sensus has authority to make changes without Customer approval as needed, in accordance to standard configuration and change management policies and procedures.

vi. Database management. Sensus will:
   a. Implement the data retention plan and policy and will provide the policy upon request.
   b. Monitor space and capacity requirements.
   c. Respond to database alarms and notifications.
   d. Install database software Upgrades and Patches.
   e. Perform routine database maintenance and cleanup of database to improve capacity and performance, such as rebuilding indexes, updating indexes, consistency checks, run SQL query/agent jobs, etc.

vii. Incident and Problem Management. Sensus will:
   a. Proactively monitor managed systems (24x7x365) for key events and thresholds to detect and identify incidents.
   b. Respond to incidents and problems that may occur to the Application(s).
   c. Maintain policies and procedures for responding to incidents and performing root cause analysis for ongoing problems.
   d. Correlate incidents and problems where applicable.

e. Sensus personnel will use the self-service portal to document and track incidents.
f. In the event that Sensus personnel is unable to resolve an issue, the issue will be escalated to the appropriate Subject Matter Expert (SME).
g. Maintain responsibility for managing incident and problems through resolution (which may include workarounds) and will coordinate with Customer's personnel and/or any required third-party vendor to resolve the issue.
h. Provide telephone support consistent with Exhibit B, Technical Support in the case of undetected events.

viii. Security Management. Sensus will:
a. Monitor the physical and cyber security of the server and Application(s) 24x7x365 to ensure system is secure, consistence with NIST security standards.
b. Perform intrusion prevention and detection of the data center network and firewalls and monitor logs and alerts.
c. Conduct periodic penetration testing of the network and data center facilities.
d. Conduct monthly vulnerability scanning by both internal staff and external vendors.
e. Perform anti-virus and Malware patch management on systems.
f. Install updates to virus protection software and related files (including virus signature files and similar files) on all servers from the update being generally available from the anti-virus software provider.
g. Respond to threats found on the system and work to eliminate any virus or malware found.
h. Adhere to and submit certification to NERC/CIP Cyber Security standards.
i. Monitors industry regulations/standards regarding security – NERC, FERC, NIST, OpenSG, etc. through the Sensus security team.
j. Provide secure web portal access (SSL) to the Application(s).

ix. Backup and Disaster Recovery Management. Sensus will:
a. Perform daily backups of data providing one (1) year of history for auditing and restoration purposes.
b. Back-up and store data (on tapes or other storage media as appropriate) off-site to provide protection against disasters and to meet file recovery needs.
c. Conduct incremental and full back-ups to capture data, and changes to data, on the Application(s).
d. Replicate the Application(s) environments to a geographically separated data center location to provide a full disaster recovery environment for the Application production system.
e. Generate a report following each and any disaster measuring performance against the disaster recovery plan and identification of problem areas and plans for resolution.
f. Maintain a disaster recovery plan. In the event of a disaster, Sensus shall provide the services in accordance with the disaster recovery plan.
g. In the case of a disaster and loss of access to or use of the Application, Sensus would use commercially reasonable efforts per the Recovery Time Objectives ("RTO") and Recovery Point Objectives (RPO) specified herein to restore operations at the same location or at a backup location within forty-eight (48) hours.
h. The Application shall have a "RTO" of forty-eight (48) hours.
i. The RPO shall be a full recovery of the Application(s), with an RPO of one (1) hour, using no more than a twenty-four (24) hour old backup. All meter-related data shall be pushed from each Base Station/TGB restoring the database to real-time minus external interfaced systems from the day prior.
j. Data from external interfaced systems shall be recreated within a forty-eight (48) hour period with the assistance of Customer personnel and staff, as needed.

E. Customer Responsibilities:

i. Coordinate and schedule any changes submitted by Sensus to the system in accordance with standard configuration and change management procedures.
ii. Participate in all required configuration and change management procedures.
iii. Customer will log incidents related to the managed Application with Sensus personnel via email, web portal ticket entry, or phone call.
iv. Responsible for periodic processing of accounts or readings (i.e., billing files) for Customer's billing system for billing or other analysis purposes.
v. Responsible for any field labor to troubleshoot any SmartPoint modules or smart meters in the field in populations that have been previously deployed and accepted.
vi. First response labor to troubleshoot FlexNet Base Station, R100s, Remote Transceivers or other field network equipment.
vii. Responsible for local area network security, configuration, management, and support.
viii. Identify and research problems with meter reads and meter read performance.
ix. Create and manage user accounts, and periodically change and update account credentials with strong passwords in accordance with security best practices.
x. Customize application configurations.
xi. Support application users.
xii. Investigate application operational issues (e.g., meter reads, reports, alarms, etc.).
xiii. Respond to alarms and notifications.
xiv. Perform firmware upgrades over-the-air, or delegate and monitor field personnel for on-site upgrades.
xv. Maintain industry standard cybersecurity controls, standards, and best practices.
xvi. Monitor for and promptly implement Patches, Updates, and Upgrades, both as provided by Sensus and other third-party software and hardware providers.

F. Software as a Service does not include any of the following services:

i. Parts or labor required to repair damage to any field network equipment that is the result of a Force Majeure event.
ii. Any integration between applications, such as Harris MeterSense, would require a Professional Services contract agreement to be scoped, submitted, and agreed in a signed writing between Sensus and all the applicable parties.

If an item is not listed in subparagraphs in item (D) above, such item is excluded from the Software as a Service and is subject to additional pricing.

2. Further Agreements

A. System Uptime Rate.

i. Sensus (or its contractor) shall manage and maintain the Application(s) on computers owned or controlled by Sensus (or its contractors) and shall provide Customer access to the managed Application(s) via internet or point to point connection (i.e., Managed-Access use), according to the terms below. Sensus endeavors to maintain an average System Uptime Rate equal to ninety-nine (99.0) per Month (as defined below). The System Uptime Rate, cumulative across all Applications, shall be calculated as follows:

System Uptime Rate = 100 x (TMO – Total Non-Scheduled Downtime minutes in the Month)
TMO

ii. **Calculations**

a. ***Targeted Minutes of Operation*** or ***TMO*** means total minutes cumulative across all Applications in the applicable month minus the Scheduled Downtime in the Month.

b. ***Scheduled Downtime*** means the number of minutes during the Month, as measured by Sensus, in which access to any Application is scheduled to be unavailable for use by Customer due to planned system maintenance. Sensus shall provide Customer notice (via email or otherwise) at least seven (7) days in advance of commencement of the Scheduled Downtime.

c. ***Non-Scheduled Downtime*** means the number of minutes during the Month, as measured by Sensus, in which access to any Application is unavailable for use by Customer due to reasons other than Scheduled Downtime or the Exceptions, as defined below (e.g., due to a need for unplanned maintenance or repair).

iii. **Exceptions**. Exceptions mean the following events:

- Force Majeure;
- Emergency Work, as defined below; and
- Lack of Internet Availability, as described below.

a. **Emergency Work**. In the event that Force Majeure, emergencies, security incidents, dangerous conditions or other exceptional circumstances arise or continue during TMO, Sensus shall be entitled to take any actions that Sensus, in good faith, determines is necessary or advisable to prevent, remedy, mitigate, or otherwise address actual or potential harm, interruption, loss, threat, security or like concern to any of the Application(s) ("Emergency Work"). Such Emergency Work may include, but is not limited to: analysis, testing, repair, maintenance, re-setting and other servicing of the hardware, cabling, networks, software and other devices, materials and systems through which access to and/or use of the Application(s) by the Customer is made available (the "Managed Systems"). Sensus shall endeavor to provide advance notice of such Emergency Work to Customer when practicable and possible.

b. **Lack of Internet Availability.** Sensus shall not be responsible for any deterioration of performance attributable to latencies in the public internet or point-to-point network connection operated by a third party. Customer expressly acknowledges and agrees that Sensus does not and cannot control the flow of data to or from Sensus' networks and other portions of the Internet, and that such flow depends in part on the performance of Internet services provided or controlled by third parties, and that at times, actions or inactions of such third parties can impair or disrupt data transmitted through, and/or Customer's connections to, the Internet or point-to-point data connection (or portions thereof). Although Sensus will use commercially reasonable efforts to take actions Sensus may deem appropriate to mitigate the effects of any such events, Sensus cannot guarantee that such events will not occur. Accordingly, Sensus disclaims any and all liability resulting from or relating to such events.

iv. **System Availability.** For each month that the System Uptime Rates for the production RNI falls below 99.0%, Sensus will issue Customer the following Service Level Credits:

System Uptime Rate per calendar month	Service Level Credit
Less than 99.0% but at least 97.5%	5% of the monthly RNI SaaS Fees in which the service level default occurred (Note: SaaS fees are pre-paid annually and for purposes of Service Level Credits are computed on a monthly basis.)
Less than 97.5% but at least 95.0%	10% of the monthly RNI SaaS Fees in which the service level default occurred
Less than 95.0%	20% of the monthly RNI SaaS Fees in which the service level default occurred

Service Level Credits for any single month shall not exceed 20% of the RNI SaaS Fee associated with the month in which the service level default occurred. Sensus records and data will be the sole basis for all Service Level Credit calculations and determinations, provided that such records and data must be made available to Customer for review and agreement by Customer. To receive a Service Level Credit, Customer must issue a written request no later than ten (10) days after the Service Level Credit accrues. Sensus will apply each valid Service Level Credit to the Customer's invoice within 2 billing cycles after Sensus' receipt of Customer's request and confirmation of the failure to meet the applicable Service Level Credit. Service Level Credits will not be payable for failures to meet the System Uptime Rate caused by any Exceptions. No Service Level Credit will apply if Customer is not current in its undisputed payment obligations under the Agreement. Service Level Credits are exclusive of any applicable taxes charged to Customer or collected by Sensus. Sensus shall not refund an unused Service Level Credits or pay cash to Customer for any unused Service Level Credits. Any unused Service Level Credits at the time the Agreement terminates will be forever forfeited. THE SERVICE LEVEL CREDITS DESCRIBED IN THIS SECTION ARE THE SOLE AND EXCLUSIVE REMEDY FOR SENSUS' FAILURE TO MEET THE SYSTEM UPTIME REQUIREMENT OR ANY DEFECTIVE SAAS PERFORMANCE. IN NO EVENT SHALL THE AGGREGATE AMOUNT OF SERVICE LEVEL CREDITS IN ANY ANNUAL PERIOD EXCEED 20% OF THE ANNUAL RNI SAAS FEE.

B. Data Center Site-Security. Although Sensus may modify such security arrangements without consent or notice to Customer, Customer acknowledges the following are the current arrangements regarding physical access to and support of the primary hardware components of the Managed Systems:

i. The computer room(s) in which the hardware is installed is accessible only to authorized individuals.

ii. Power infrastructure includes one or more uninterruptible power supply (UPS) devices and diesel generators or other alternative power for back-up electrical power.

iii. Air-conditioning facilities (for humidity and temperature controls) are provided in or for such computer room(s) and can be monitored and adjusted for humidity and temperature settings and control. Such air systems are supported by redundant, back-up and/or switch-over environmental units.

iv. Such electrical and A/C systems are monitored on an ongoing basis and personnel are available to respond to system emergencies (if any) in real time.

v. Dry pipe pre-action fire detection and suppression systems are provided.

vi. Data circuits are available via multiple providers and diverse paths, giving access redundancy.

C. Responsibilities of Customer.

i. Customer shall promptly pay all Software as a Service fees.

ii. Customer may not (i) carelessly, knowingly, intentionally or maliciously threaten, disrupt, harm, abuse or interfere with the Application(s), Managed Systems or any of their functionality, performance, security or integrity, nor attempt to do so; (ii) impersonate any person or entity, including, but not limited to, Sensus, a Sensus employee or another user; or (iii) forge, falsify, disguise or otherwise manipulate any identification information associated with

Customer's access to or use of the Application(s).

iii. The provisioning, compatibility, operation, security, support, and maintenance of Customer's hardware and software ("Customer's Systems") is exclusively the responsibility of Customer. Customer is also responsible, in particular, for correctly configuring and maintaining (i) the desktop environment used by Customer to access the Application(s) managed by Sensus; and (ii) Customer's network router and firewall, if applicable, to allow data to flow between the Customer's Systems and Sensus' Managed Systems in a secure manner via the public Internet.

iv. Upon receiving the system administrator account from Sensus, Customer shall create strong username and passwords for each of Customer's authorized users and complete the applicable Sensus registration process (Authorized Users). Such usernames, and passwords will allow Authorized Users to access the Application(s). Customer shall be solely responsible for maintaining the security and confidentiality of each user ID and password pair associated with Customer's account, and Sensus will not be liable for any loss, damage or liability arising from Customer's account or any user ID and password pairs associated with Customer. Customer is fully responsible for all acts and omissions that occur through the use of Customer's account and any user ID and password pairs. Customer agrees (i) not to allow anyone other than the Authorized Users to have any access to, or use of Customer's account or any user ID and password pairs at any time; (ii) to notify Sensus immediately of any actual or suspected unauthorized use of Customer's account or any of such user ID and password pairs, or any other breach or suspected breach of security, restricted use or confidentiality; and (iii) to take the Sensus-recommended steps to log out from and otherwise exit the Application(s) and Managed Systems at the end of each session. Customer agrees that Sensus shall be entitled to rely, without inquiry, on the validity of the user accessing the Application(s) application through Customer's account, account ID, usernames, or passwords. Customer will ensure that its user ID and passwords are regularly (at least monthly) changed, and that only strong user ID and password pairs are used.

v. Customer shall be responsible for the day-to-day operations of the Application(s) and FlexNet System. This includes, without limitation, (i) researching problems with meter reads and system performance, (ii) creating and managing user accounts, (iii) customizing application configurations, (iv) supporting application users, (v) investigating application operational issues, (vi) responding to alarms and notifications, and (vii) performing over-the-air commands (such as firmware updates or configuration changes).

D. Software Solution Components.

i. **Description of Software Solutions**. Sensus software consists of a core communication module and a set of applications. Some applications are required to perform basic solution capabilities, other applications are optional and add additional capabilities and function to the overall solution. As Customer's business process expands and/or new Sensus offerings are made available, additional applications and functionality can dynamically be added to the solution, provided Customer purchases such additional applications.

ii. **Regional Network Interface.** The Regional Network Interface (RNI) or Sensus head-end is the centralized intelligence of the FlexNet network; the RNI's primary objective is to transfer endpoint (such as meters) data to the Customer and the advanced feature applications. The RNI is adaptable to Customer configurations by simultaneously supporting a wide range of FlexNet enabled endpoints; including but not limited to meters (electric, water, gas) and other sensing devices.

iii. **Xylem Data Lake**. Subject to the terms of this Agreement, Sensus will make the Xylem Data Lake ("XDL") available to Customer to access and use solely for the Permitted Use and solely for so long as Customer is current in its payments to Sensus or its authorized distributor for Software as a Service. Sensus shall provide up to three (3) years of FlexNet System data and scan up to five hundred (500) GB per month of FlexNet System data. If Customer exceeds the allotment of five hundred (500) GB per month of scanned data (regardless of the access method) an overage charge will be assessed to Customer and be payable according to the terms outlined by Sensus' authorized distributor. Sensus will also provide Customer XDL training, which includes up to eight (8) hours of professional services consulting time.

3. Sensus Analytics.

Sensus Analytics is a cloud-based solution and data platform that allows storage and retrieval of raw reads and data from other sources for analysis, exportation, and inquiry or reporting. The platform provides applications and reporting capabilities.

A. Integration of Sensus Analytics. Sensus shall provide integration support services to Customer only to the extent specifically provided below:

i. Sensus shall provide Customer with a simple flat file specification known as VFlex for the integration of the Customer's back-office system to the Sensus Analytics modules. The VFlex shall contain the following types of information: Device ids, end users in the system, end user status, end user account information, end username, and other end user details. This flat file may be delimited or fixed width. Customer shall produce this file and transmit it to the FTP location designated by Sensus. When sent to the Sensus FTP servers, this file exchange will enable the system to become operational with the Customer's systems. Customer shall produce this file and transmit it to the FTP location designated by Sensus. Sensus will provide reasonable support to explain to Customer the required vs. optional fields that are in the specification, testing and validation of the file format and content.

ii. In scope and included integration efforts: kick-off meeting to engage all required parties, mapping the Customer's fields to the VFlex specification, validation of expected output, and a two (2) hour system review of Sensus Analytics application and integration with the Customer's system (conducted remotely).

iii. Out of scope and subject to additional charges will be the transformation of data where business logic including code must be written to modify the field content or format of the data to meet the VFlex specification.

iv. Sensus' integration services consist of four (4) hours of assistance (remote or on-site, as determined by Sensus). If additional time is needed to complete the integration efforts, Sensus shall invoice Customer for additional fees on an actual time and materials basis.

v. **If an item is not listed in subparagraphs (i) or (ii) above, such item is excluded from the integration of Sensus Analytics Support and is subject to additional pricing.**

vi. **Data Import.** The Sensus Analytics Application contains adapters for the import of data from; (a) Customer's FlexNet System; and/or (b) AutoRead application for handheld and drive by systems, as applicable.

vii. **Customer Acknowledgements.**

a. Customer acknowledges that the Sensus Analytics Application provides up to fifty (50) user logins for Customer's use.

b. Customer acknowledges and agrees the Sensus Analytics Application is based upon the actual number of End Users within Customer's Service Territory. Pricing may increase if Customer's Service Territory or actual number of End Users expands.

c. Customer acknowledges that all data related to the Sensus Analytics Applications is geographically hosted within the United States of America. Customer accepts the geographic location of such hosting and indemnifies Sensus for any claims resulting therefrom.

d. Customer acknowledges and agrees that the Intellectual Property provisions of this Agreement apply in all respects to Customer's access to and use of the Sensus Analytics Applications.

e. Customer is responsible for validating the data analyzed by the Sensus Analytics Applications. Sensus makes no promises of improving Customer's operations or saving Customer money, nor is Sensus liable for any damages resulting from decisions made by Customer related to Customer's use of Sensus Analytics.

f. Customer acknowledges that data will be stored for three (3) years from upload and Sensus may delete the data after this time or upon termination of the Agreement.

4. **Third-Party Software.**

A. Sensus incorporates various third-party software in its Software, and such third-party software may change from time to time. Sensus takes reasonable efforts to implement patches or other fixes as they become available in accordance with a particular version's Engineering Support policy. Upon written request by Customer. Sensus shall provide a software bill of materials (SBOM) in a file format of Sensus' discretion which lists the third-party software applications and versions incorporated in the Sensus Software. To the extent required by a third-party software provider. Customer hereby agrees to abide by a third-party's end-user license agreement (EULA).

Exhibit B
Technical Support

1. **Introduction**

Sensus Technical Services provides utility customers with a single point of contact for Tier 1 support of technical issues as well as any coordination of additional resources required to resolve the issue. Requests that require specialized skills are to be forwarded to a senior support engineer or Technical Advisor within the team for further analysis. If Technical Services has exhausted all troubleshooting efforts for the product type, the issue will escalate to the Engineering Support Team. Occasionally, on-site troubleshooting/analysis may be required. The preferred order of on-site support is:

a. The Customer (for assistance with the easiest and lowest time-consuming activities such as power on/power off).

b. The local distributor.

c. Sensus employees or contracted personnel, if required to fulfill a contract commitment.

2. **Support Categories**

2.1. General questions regarding functionality, use of product, how-to, and requests for assistance on Sensus AMR, AMI, RF Network Equipment, Metering Products, Sensus Lighting Control, and Demand Response Management System (FlexNet Home).

2.2. Proactive reporting and resolution of problems.

2.3. Reactive reporting to isolate, document, and solve reported hardware/software defects.

2.4. Responding to service requests and product changes.

2.5. Addressing customer inquiries with printed or electronic documentation, examples, or additional explanation/clarification.

3. **Support Hours**

3.1. Standard Support Hours: Toll-free telephone support (1-800-638-3748 option #2) is available Monday thru Friday from 8:00 a.m. EST to 8:00 p.m. EST. After-hours, holiday and weekend support for Severity 1 and Severity 2 issues is available by calling 1-800-638-3748, option #8.

4. **Support Procedures**

4.1. Customer identifies an issue or potential problem and calls Technical Services at 1-800-638-3748 Option #2. The Customer Service Associate or Technical Support Engineer will submit a SalesForce ticket.

4.2. The Customer Service Associate or Technical Support Engineer will identify the caller name and utility by the assigned software serial number, city, and state based on where the call originated. The Customer Service Associate or Technical Support Engineer will require a brief description of the problem symptoms, or error messages depending on nature of the incident. The nature of the problem and severity levels will be mutually agreed upon by both parties (either at the time the issue is entered or prior to upgrading or downgrading an existing issue) using the severity definitions below as a guideline. The severity level is then captured into SalesForce for ticket creation and resolution processing. Any time during the processing of this ticket, if the severity level is changed by Sensus, the customer will be updated.

a. Severity Levels Description:

Sev1 Customer's production system is down. The system is unusable resulting in total disruption of work. No workaround is available and requires immediate attention.

Example: Network mass outage, all reading collection devices inoperable, inoperable head end software (e.g., FlexWare, Sensus MDM). Not able to generate billing files.

Sev2 Major system feature/function failure. Operations are severely restricted; there is a major disruption of work, no acceptable work-around is available, and failure requires immediate attention.

Examples: Examples: Network equipment failure (e.g., FlexNet Echo, FlexNet Remote, Base Station transceiver, or VGB); inoperable reading devices (e.g., AR5500, VXU, VGB, or CommandLink); head end software application has important functionality not working and cannot create export file for billing system operations.

Sev3 The system is usable and the issue doesn't affect critical overall operation.

Example: Minor network equipment failure (e.g., Echo/Remote false alarms or Base Station transceiver false alarms); head end software application operable but reports are not running properly, modification of view or some non-critical function of the software is not running.

4.3. The Customer Service Associate or Technical Support Engineer identifies whether or not the customer is on support. If the customer is not on support, the customer is advised of the service options as well as any applicable charges that may be billed.

4.4. Calls are placed in a queue from which they are accessible to Technical Support Engineers on a first-come-first-served basis. A 1st level Customer Service Associate may assist the customer, depending on the difficulty of the call and the representative's technical knowledge. Technical Support Engineers (Tier 1 support) typically respond/resolve the majority of calls based on their product knowledge and experience. A call history for the particular account is researched to note any existing pattern or if the call is a new report. This research provides the representative a basis and understanding of the account as well as any associated problems and/or resolutions that have been communicated.

a. Technical Services confirms that there is an issue or problem that needs further analysis to determine its cause. The following information must be collected: a detailed description of the issue's symptoms, details on the software/hardware product and version, a description of the environment in which the issue arises, and a list of any corrective action already taken.

b. Technical Services will check the internal database and product defect tracking system, to see if reports of a similar problem exist, and if any working solutions were provided. If an existing resolution is found that will address the reported issue, it shall be communicated to the customer. Once it is confirmed that the issue has been resolved, the ticket is closed.

c. If there is no known defect or support that defines the behavior, Technical Services will work with the customer to reproduce the issue. If the issue can be reproduced, either at the customer site or within support center test lab, Technical Services will escalate the ticket for further investigation / resolution.

If the issue involves units that are considered to be defective with no known reason, the representative will open a Special Investigation RMA through the SalesForce system. If it is determined that a sample is required for further analysis, the customer will be provided with instructions that detail where to send the product sample(s) for a root cause analysis. Once it is determined that the issue cannot be resolved by Tier 1 resources, the ticket will be escalated to Tier 2 support for confirmation/workarounds to resolve immediate issue. Technical Services will immediately contact the customer to advise of the escalation. The response and escalation times are listed in Section 5. At this time, screen shots, log files, configuration files, and database backups will be created and attached to the ticket.

5. **Response and Resolution Targets.**

Sensus Technical Support will make every reasonable effort to meet the following response and resolution targets:

Severity	Standard Target Response	Standard Target Resolution	Resolution (one or more of the following)
1	30 Minutes	Immediately assign trained and qualified Services Staff to correct the error on an expedited basis. Provide ongoing communication on the status of a correction (24 hours).	• Satisfactory workaround is provided. • Program patch is provided. • Fix incorporated into future release. • Fix or workaround incorporated into SalesForce Knowledge Base.
2	4 hours	Assign trained and qualified Services Staff to correct the error. Provide communication as updates occur (48 hours).	• Satisfactory workaround is provided. • Program patch is provided. • Fix incorporated into future release. • Fix or workaround incorporated into SalesForce Knowledge Base.
3	1 Business Day	30 business days	• Answer to question is provided. • Satisfactory workaround is provided. • Fix or workaround incorporated into SalesForce Knowledge Base. • Fix incorporated into future release.

6. **Problem Escalation Process.**

6.1. If the normal support process does not produce the desired results, or if the severity has changed, the issue may be escalated as follows to a higher level of authority.

6.1.1.1. Severity 1 issues are escalated by Sales or Technical Services to a Supervisor if not resolved within 2 hours; to the Manager level if not resolved within 4 hours; to the Director level if not resolved within the same business day; and to the VP level if not resolved within 24 hours.

6.1.1.2. A customer may escalate an issue by calling 1-800-638-3748, Option 2. Please specify the SalesForce ticket number and the reason why the issue is being escalated.

6.1.1.3. In the event that a customer is not satisfied with the level of support or continual problem with their products, they may escalate a given SalesForce ticket to Manager of Technical Services (1-800-638-3748, Option 2).

7. **General Support Provisions and Exclusions.**

7.1. Sensus provides online documentation for Sensus products, and all Sensus customers are provided access to this online database, which includes operation, configuration and technical manuals. The customer shall provide names and email accounts to Sensus so Sensus may provide access to the product documentation.

7.2. Specialized support from Sensus is available on a fee basis to address support issues outside the scope of this support plan or if not covered under another specific contract or statement of work. For example: specialized systems integration services or out of warranty network equipment repair.

7.3. In the event customer submits a ticket for a version of the Software outside of the Engineering Support window and is not able to resolve the problem without engineering resources. Sensus shall have no obligation to provide Engineering Support and Customer shall upgrade to the most current version of the Software.

7.4. Customer acknowledges that not all problems and bugs with the Software may or can be fixed. The Software and Software as a Service (including third party software used in connection with the Software as a Service) may have security vulnerabilities. Sensus may address vulnerabilities with its Software through Patches, Updates or Upgrades that it makes available from time-to-time. As between the parties, Customer has the obligation to timely implement Patches, Updates and Upgrades.

SUBJECT: 2026 CITY OF LOUISVILLE LEGISLATIVE AGENDA

DATE: JANUARY 6, 2026

PREPARED BY: GENNY KLINE, CITY CLERK
SAMMA FOX, DEPUTY CITY MANAGER

PRESENTED BY: DIANA LANGLEY, CITY MANAGER
SAMMA FOX, DEPUTY CITY MANAGER

SUMMARY:
The Legislative Agenda serves as a guiding framework for the City's engagement in legislative affairs prior to and during the legislative session. The proposed Legislative Agenda reflects the City's policy goals, as well as local and regional policy issues of importance to the Louisville community. Council held discussion and provided direction on the Legislative Agenda on October 14, 2025, and the intention of this meeting is to adopt the 2026 Legislative agenda

BACKGROUND / PRIOR DISCUSSIONS:
Council typically reviews their Legislative Agenda annually. For the 2025 cycle, Council held a discussion / direction on December 17, 2024 (materials start on pg. 373 of the packet) and adopted it on January 7, 2025 (materials start on pg. 250 of the packet).

During the year, Council may identify issues for future inclusion. During 2025, Council indicated interest in considering E-Bikes on the legislative agenda and staff has included proposed language for consideration. Council held discussion / direction on the 2026 Legislative Agenda October 14, 2025.

ANALYSIS:
In 2025, the Legislative Agenda was updated to include guiding language for council members on the purpose and use of the document. The City Council also provided feedback and supplied a number of changes. For 2026, staff has a few recommended changes, summarized below, and is interested in receiving direction from Council.

In addition, City Council encouraged advisory boards and commissions to submit memos with their recommendations for the 2026 Legislative Agenda. At this point in time, staff is aware of two memos from boards and has not heard of other boards drafting memos. The Open Space Advisory Board memo was provided to Council October 14, 2025 and the Louisville Sustainability Advisory Board provided a memo November 19, 2025. Both are attached.

The Colorado Municipal Leque is considering updates to their Policy Statement, and staff will pass that along to Council when available. In the meantime, their 2025-2026 Policy Statement is available online.

Changes:
**Changes resulting from the October meeting are indicated as NEW.*

- Home Rule/ Local Control
  - NEW – Language Adjustment - "Local Problems to Local Issues"
- Community Recovery and Resiliency
  - Propose removing the first bullet about the Wildfire Resiliency Code Board's efforts now that the code is on the books with the State.
  - Broadened to include more of an all-hazards approach
- Tax and Finance Policy
  - Moved item related to transition from fossil fuels from the Tax and Finance Policy section to the Energy and Environment section
- Public Health and Safety
  - Added support for efforts to improve and enhance traffic safety for all road users including vehicles, pedestrians, bicycles, and e-bikes
  - Added support of efforts to address children under 16 operating e-bikes, etc.
- Energy and Environment
  - Moved item related to transition from fossil fuels from the Tax and Finance Policy section to the Energy and Environment section
  - NEW
    - Removed: The bullet indicated City support for a regional approach to the implementation of energy efficient building codes.
    - Added: Collaboration language to the section's introduction.

2025 COUNCIL WORK PLAN:
Advocacy is a component of the Core Services priority in the 2025 Council Work Plan and expected to carry into the 2026 Council Work Plan. The Legislative Agenda is a key component of advocacy as it sets Council's agenda and provides guidelines for Council Members and staff in supporting state and regional policy work.

FISCAL IMPACT:
Budgeted?: **Not Applicable**
There is no anticipated fiscal impact.

ALTERNATIVE(S):
Council may choose not to adopt a Legislative Agenda. This would remove a guiding document for Council Members to use in their appointed roles, such as with the Metro Mayor's Caucus or Denver Regional Council of Governments, and may create an inefficient process of seeking council direction on each issue, which may not meet the timing requirements of the legislative session, resulting in Louisville not taking positions on items. Council may also choose to delay adoption and continue revisions. This may be a challenge for Council members and staff as work on the 2026 legislative session has already begun and Louisville is already being engaged.

RECOMMENDATION:
Staff recommends Council approve the 2026 Legislative Agenda.

ATTACHMENT(S):
1. 2025 Legislative Agenda
2. Draft 2026 Legislative Agenda – Redlines
3. OSAB 2026 Legislative Agenda Memo
4. LSAB 2026 Legislative Agenda Memo
5. Presentation

2025 City of Louisville Legislative Agenda

Purpose and Use

The legislative agenda serves as a guiding document for the City's engagement in legislative affairs and a resource for staff and council.

Members of the City Council may represent the City in regional efforts, such as the Colorado Municipal League Policy Committee; Denver Regional Council of Governments, Northwest Mayors and Commissioners Coalition, and Metro Mayors Caucus, and may guide or express positions on legislation.

Council members may express support, opposition, and/or recommend amendments regarding legislation if they are consistent with the legislative agenda. When this occurs, council members should share reports with all of council during the next regular council meeting. If the issue is not clearly addressed in this legislative agenda, council members should seek City Council approval before taking any formal action (such as signing a letter or taking a vote) to support or oppose legislation.

Home Rule/Local Control

The City supports local control and municipal government home rule authority. In most cases, local problems are best addressed at the local level and the current authority and powers of municipal governments such as land use, zoning, personnel matters, sales tax, etc. should not be diminished. However, certain issues require statewide and multi-jurisdictional response, which are best addressed through early and meaningful engagement and collaboration with local municipalities.

Positions:

- The City urges officials to respect Colorado's tradition of local control and allow municipal officials to address local problems at the local level.
- The City generally opposes legislation that creates unfunded mandates on local municipalities without funding or other sources of revenue. Unfunded mandates shift the cost burden of state or federal mandates onto local governments, limiting a municipality's ability to provide locally identified government services.
- The City supports liquor, marijuana, and natural medicine licensing that allows for local decision-making and collaboration between local and state licensing entities, including but not limited to local opt-in provisions for any new permitting or licensing requirements.
- The City supports local government authority to regulate oil and gas development at the local level, and the establishment of state rules and regulations that reflect such authority.
- The City supports legislation that provides local governments with additional flexibility, resources, and/or guidance in meeting the challenges of ensuring technology and digital resources are fully accessible.

Community Recovery and Resiliency

The Marshall Fire served as a sobering reminder that all communities in Colorado, regardless of socioeconomic status, must be prepared for climate disasters at all times. While the City continues to recover from the Marshall Fire, the community is working together to increase resilience and preparedness for the next disaster. Ongoing

state action and investment is needed in order to mitigate future disasters and ensure our communities are prepared when disaster strikes. The front-end investment in community resiliency will reduce the local, state, and federal costs of the severe climate disasters we are experiencing today.

Positions:

- The City supports the Colorado Wildfire Resiliency Code Board's efforts to explore a statewide minimum building code for wildfire risk reduction that addresses the expansion of the wildland urban interface into the plains areas, consider suburban community building patterns, and establish a minimum standard that can be applied across various environments and exceeded based on specific geographic needs.
- The City supports increased wildfire mitigation funding for local communities in the plains areas to establish and maintain risk reduction measures on public lands including climate change adaptation strategies.
- The City of Louisville supports insurance reform that helps residents be better prepared and able to recover from climate disasters, while promoting the roles and responsibilities of homeowners, renters, and landlords in securing insurance coverage. Examples of desired insurance reform include legislation that:
    - Reduces system-wide underinsurance
    - Improves the transparency of the coverage gap that a private property owner or renter has with their existing policy
    - Eliminates the practice of insurance companies requiring contents itemization in total losses to receive the contents' coverage stated in a policy
    - Supports regulating the loss ratio for property and casualty insurance so that premiums paid go to cover losses and do not become excessive
    - Supports exploration of reinsurance for disaster impacts
    - Addresses insurance availability to ensure community members have access to insurance
    - Supports the exploration of public insurance to address availability
    - Supports programs for affordable insurance.
- The City recommends CDPHE establish standards for acceptable levels of contaminants in water systems, soils, homes, businesses, and schools. Without these standards, there is no FEMA reimbursement opportunity or insurance standards for coverage.

Tax and Finance Policy

The City supports a fair and consistent tax policy that preserves and expands the authority of local governments and opposes exemptions that erode municipal sales taxes, use taxes, property taxes, and other revenue sources.

Positions:

- The City supports fiscally responsible government spending, and believes it is important the legislature understands the layers of constraints on local government budgets resulting from the Taxpayer's Bill of Rights (TABOR).
- The City supports equitable sharing with municipalities of existing and future state revenues derived from state-collected, locally shared revenues, such as the Cigarette/Tobacco/Vaping Tax, Highway Users Tax Fund, Lottery funds, and Marijuana tax funds.
- With the repeal of the Gallagher Amendment and new tax cuts and exemptions, the City believes it is critical to maintain ongoing residential and commercial property taxes to preserve public service revenues to the state, local governments, fire districts, schools, health providers, and others dependent on property taxes to deliver essential services.
- The City supports tax and financial incentives that speed the transition away from fossil fuels.

Municipal Administrative Services

The City's administrative services help ensure a high-performing government, including the effective and efficient use of taxpayer funds in providing City services. This includes information technology, human resources, records management, elections, and general government administration. The City supports efforts to ensure that these services can be delivered in a transparent and cost-effective manner.

Positions:

- The City supports increased funding and resources to elevate cyber-security prevention, response, and recovery/rebuilding when attacks occur.
- The City has implemented accessibility measures that assist persons with disabilities in accessing City information and services, as required by HB21-1110. The City supports accessible digital communications but opposes unfunded mandates on local governments without reasonable opportunity to remediate complaints. Given the expense involved with remediation, the City supports dedicated funding and amendments to HB21-1110 to allow reasonable time for municipalities to come into compliance.
- The City supports the exploration of an accessible database to facilitate information and data sharing between the state and municipal courts.
- The City supports funding for municipalities to help better serve non-English speakers.

Public Health and Safety

The City supports policies that ensure public health and safety, thereby improving the quality of life in partnership with the community.

Positions:

- The City supports state-level actions to address gun violence. While regional and local legislation can be effective in reducing gun violence, state action is needed to improve safety and regulatory consistency across jurisdictions.
- The City supports access to quality and affordable healthcare for residents and businesses across Colorado.
- The City supports continued efforts to improve municipal court and law enforcement practices and further refinement of such changes to ensure the public, victims, and defendants are adequately protected.
- The City supports statewide efforts to expand mental/behavioral health services, reduce barriers to care, and provide funding to support such initiatives. This includes additional assistance for law enforcement to address community-wide mental health impacts and mitigate the costs for healthcare and mental health services for persons in custody.
- The City opposes legislation that would prohibit the use of red-light cameras and speed radar.

Energy/Environment

The City supports legislation to address climate change by improving energy efficiency, increasing the use of cost-effective renewable energy, and reducing greenhouse gas emissions and dependence on fossil fuels while maintaining the reliability and resilience of energy delivery and local control.

Positions:

- The City supports the state's plan to reduce greenhouse gas emissions through reduced energy consumption, increased use of clean energy and transitioning away from fossil fuels.
- The City supports statewide policies that reduce overall energy demand and consumption, while preserving and expanding local governments' ability to reach their sustainability and climate action goals.

- The City supports the improvement of air quality, renewable energy production, and emission reductions through legislative, administrative, and regulatory actions.
- The City supports efforts to reduce noise impacts and air pollution, and lead pollution associated with local metropolitan airport activities.
- The City supports opportunities and funding for municipalities to implement local clean energy strategies and solutions.
- The City supports a regional approach to the implementation of energy efficient building codes.
- The City supports actions that effectively address the metro Denver region's violations of Clean Air Act standards in a timely manner.

Transportation

Colorado's transportation infrastructure, which connects our communities and facilitates the movement of people and goods, is essential to the economic vitality of our state and necessary to maintain the high quality of life enjoyed by Coloradans. Appropriate investments in transportation, as one of the largest sectors of greenhouse gas emissions, also further the City's energy and environmental goals.

Positions:

- The City supports ongoing state and federal funding sources for transportation projects, such as those along the CO Highway 42 and South Boulder Road, that provide funding for the maintenance of existing infrastructure, multimodal improvements, accessibility improvements, and other investments that reduce greenhouse gas emissions.
- The City supports regulation and investments that accelerate transportation electrification and other innovative transportation technologies that reduce emissions and congestion.
- The City supports investments that enhance safe, convenient, and accessible multimodal transportation, including Complete Streets which increase transportation options, improve mobility, and reduce congestion and greenhouse gas emissions, and Vision Zero strategies which improve safety. The City also supports funding for the design and construction of pedestrian underpasses, which achieve many of the goals of Complete Streets and Vision Zero programs.
- The City supports funding for the construction and operation of the Northwest Rail line and the Front Range Passenger Rail to expand multi-modal transportation in the northwest metro region. The City strongly supports the inclusion of a stop in Louisville, fulfilling the much-delayed obligation of RTD for transit investment in our community.
- The City supports full restoration of transit services that were reduced or cut by the Regional Transportation District (RTD) during the COVID pandemic.
- The City opposes efforts to divest state-owned roads to municipalities without adequate short and long-term funding to meet additional maintenance and operational responsibilities.

Utilities, Telecommunications, and Broadband

The City supports policies that protect Colorado's natural resources and allow the City to maintain facilities efficiently, allowing for reasonable and equitable rates while maintaining optimal quality. The City also supports the local authority to manage all matters related to local telecommunications policy, cable franchising, wireless communication facilities, broadband deployment, public safety communications, rights-of-way management and government access channels.

Positions:

- The City supports the inventorying and protection of water rights, including the protection of municipal water rights.
- The City supports appropriate water conservation efforts and sustainable water resource management practices by all users.

- The City supports efforts to improve water quality through compliance with state and federal regulations.
- The City supports state policy for consumer protections of utility customers, including broadband customers.
- The City opposes state and federal efforts that complicate deployment of small cell and other wireless infrastructure and create unfunded mandates on local governments while the City supports federal and state actions removing these preemptions of local control.
- The City supports state efforts to determine the most effective ways to distribute federal funding to promote broadband deployment and equity in the availability and accessibility of broadband services to all Coloradans.
- The City supports policy and funding to improve public safety telecommunications.
- The City supports the clarification that franchise fees do not include in-kind franchise obligations and supports the repeal of FCC action that creates these limitations on local franchising authority.
- The City supports efforts to generate more electricity renewably and transition away from fossil fuels.

Land Use, Development and Revitalization, Housing

The City believes local control should be the starting point of land use planning. Colorado's housing market has not kept pace with demand created by employment growth and other pressures, leading to increased housing costs that are inaccessible to many households. The challenges of housing affordability and supply require coordinated state and local solutions that expand opportunities while providing resources for implementation. The City is working to redevelop and revitalize certain areas within the community, and appropriate urban renewal tools must be preserved to support these efforts.

Positions:

- The City supports policies and investments that improve the coordination of land use and transportation, and regional cooperation in land use planning and economic development activities.
- The City supports increased funding for local communities' expansion of affordable, attainable, and workforce housing.
- The City supports increased local government and community engagement and impact analysis around the expansion and development of airports.
- The City supports enhancements to Colorado Urban Renewal law that do not unreasonably restrict the use of tax increment financing or eminent domain for redevelopment projects.
- The City supports legislation that encourages and facilitates historic preservation and rehabilitation.
- The City supports transit-oriented development principles but believes that House Bill 24-1313 – Housing in Transit Oriented Communities may not provide a feasible path for local implementation without bill amendments or clarifications. The City encourages collaborative amendment development with local governments.
- The City supports consideration of environmental sustainability in land use and development policies.
- The City supports state and federal efforts to protect open spaces.
- The City supports efforts to ensure equitable access to housing.

Economic Vitality and Business Development

Colorado's economic competitiveness requires coordinated state efforts to attract and retain employers while supporting workforce development.

Positions:

- The City supports legislation that provides resources to help local governments attract new employers and support business expansion.

- The City supports legislation that strengthens economic development tools and incentives for attracting and retaining primary employers.
- The City supports policies that enhance Colorado's competitiveness through strategic investments in transportation infrastructure, broadband connectivity, utility needs, and other critical systems that enable business growth and expansion.
- The City supports workforce development initiatives that align education and training programs with industry needs, including partnerships between employers and educational institutions.
- The City supports programs that encourage small business development and entrepreneurship through technical assistance, access to capital, and resources for startups and growing companies.
- The City opposes regulations that create significant new compliance costs or administrative burdens for businesses without demonstrating clear public benefit.
- The City opposes policies that reduce local flexibility to implement economic development strategies tailored to community needs and opportunities.

Approved January 7, 2025

2025~~5~~6 City of Louisville Legislative Agenda

Purpose and Use

The legislative agenda serves as a guiding document for the City's engagement in legislative affairs and a resource for staff and council.

Members of the City Council may represent the City in regional efforts, such as the Colorado Municipal League Policy Committee; Denver Regional Council of Governments, Northwest Mayors and Commissioners Coalition, and Metro Mayors Caucus, and may guide or express positions on legislation.

Council members may express support, opposition, and/or recommend amendments regarding legislation if they are consistent with the legislative agenda. When this occurs, council members should share reports with all of council during the next regular council meeting. If the issue is not clearly addressed in this legislative agenda, council members should seek City Council approval before taking any formal action (such as signing a letter or taking a vote) to support or oppose legislation.

Home Rule/Local Control

The City supports local control and municipal government home rule authority. In most cases, local ~~problems~~issues are best addressed at the local level and the current authority and powers of municipal governments such as land use, zoning, personnel matters, sales tax, etc. should not be diminished. However, certain issues require statewide and multi-jurisdictional response, which are best addressed through early and meaningful engagement and collaboration with local municipalities.

Positions:

- The City urges officials to respect Colorado's tradition of local control and allow municipal officials to address local ~~problem~~issues at the local level.
- The City generally opposes legislation that creates unfunded mandates on local municipalities without funding or other sources of revenue. Unfunded mandates shift the cost burden of state or federal mandates onto local governments, limiting a municipality's ability to provide locally identified government services.
- The City supports liquor, marijuana, and natural medicine licensing that allows for local decision-making and collaboration between local and state licensing entities, including but not limited to local opt-in provisions for any new permitting or licensing requirements.
- The City supports local government authority to regulate oil and gas development at the local level, and the establishment of state rules and regulations that reflect such authority.
- The City supports legislation that provides local governments with additional flexibility, resources, and/or guidance in meeting the challenges of ensuring technology and digital resources are fully accessible.

Community Recovery and Resiliency

~~The Marshall Fire~~ Disasters, such as the 2013 100-year Flood in Boulder County and the Marshall Fire~~served as~~are a sobering reminder that all communities in Colorado, regardless of socioeconomic status, must be prepared for ~~climate~~ disasters at all times.~~-~~ While the City continues to recover from the Marshall Fire, the community is working together to increase resilience and preparedness for ~~the next disaster~~for all hazards.

Ongoing state action and investment is needed in order to mitigate future disasters and ensure our communities are prepared when disaster strikes. The front-end investment in community resiliency will reduce the local, state, and federal costs of the severe ~~climate~~ disasters we are experiencing today.

Positions:

- ~~The City supports the Colorado Wildfire Resiliency Code Board's efforts to explore a statewide minimum building code for wildfire risk reduction that addresses the expansion of the wildland-urban interface into the plains areas, consider suburban community building patterns, and establish a minimum standard that can be applied across various environments and exceeded based on specific geographic needs.~~
- The City supports comprehensive hazard mitigation strategies and allocating funding for preparedness, response, and recovery efforts across all identified risks, including natural, technological, and human-caused hazards.
- The City supports increased wildfire mitigation funding for local communities in the plains areas to establish and maintain risk reduction measures on public lands including climate change adaptation strategies.
- The City of Louisville supports insurance reform that helps residents be better prepared and able to recover from climate disasters, while promoting the roles and responsibilities of homeowners, renters, and landlords in securing insurance coverage. Examples of desired insurance reform include legislation that:
    - Reduces system-wide underinsurance
    - Improves the transparency of the coverage gap that a private property owner or renter has with their existing policy
    - Eliminates the practice of insurance companies requiring contents itemization in total losses to receive the contents' coverage stated in a policy
    - Supports regulating the loss ratio for property and casualty insurance so that premiums paid go to cover losses and do not become excessive
    - Supports exploration of reinsurance for disaster impacts
    - Addresses insurance availability to ensure community members have access to insurance
    - Supports the exploration of public insurance to address availability
    - Supports programs for affordable insurance.
- The City recommends CDPHE establish standards for acceptable levels of contaminants in water systems, soils, homes, businesses, and schools. Without these standards, there is no FEMA reimbursement opportunity or insurance standards for coverage.

Tax and Finance Policy

The City supports a fair and consistent tax policy that preserves and expands the authority of local governments and opposes exemptions that erode municipal sales taxes, use taxes, property taxes, and other revenue sources.

Positions:

- The City supports fiscally responsible government spending, and believes it is important the legislature understands the layers of constraints on local government budgets resulting from the Taxpayer's Bill of Rights (TABOR).
- The City supports equitable sharing with municipalities of existing and future state revenues derived from state-collected, locally shared revenues, such as the Cigarette/Tobacco/Vaping Tax, Highway Users Tax Fund, Lottery funds, and Marijuana tax funds.
- With the repeal of the Gallagher Amendment and new tax cuts and exemptions, the City believes it is critical to maintain ongoing residential and commercial property taxes to preserve public service revenues to the state, local governments, fire districts, schools, health providers, and others dependent on property taxes to deliver essential services.

- ~~The City supports tax and financial incentives that speed the transition away from fossil fuels.~~

Municipal Administrative Services

The City's administrative services help ensure a high-performing government, including the effective and efficient use of taxpayer funds in providing City services. This includes information technology, human resources, records management, elections, and general government administration. The City supports efforts to ensure that these services can be delivered in a transparent and cost-effective manner.

Positions:

- The City supports increased funding and resources to elevate cyber-security prevention, response, and recovery/rebuilding when attacks occur.
- The City has implemented accessibility measures that assist persons with disabilities in accessing City information and services, as required by HB21-1110. The City supports accessible digital communications but opposes unfunded mandates on local governments without reasonable opportunity to remediate complaints. Given the expense involved with remediation, the City supports dedicated funding and amendments to HB21-1110 to allow reasonable time for municipalities to come into compliance.
- The City supports the exploration of an accessible database to facilitate information and data sharing between the state and municipal courts.
- The City supports funding for municipalities to help better serve non-English speakers.

Public Health and Safety

The City supports policies that ensure public health and safety, thereby improving the quality of life in partnership with the community.

Positions:

- The City supports state-level actions to address gun violence. While regional and local legislation can be effective in reducing gun violence, state action is needed to improve safety and regulatory consistency across jurisdictions.
- The City supports access to quality and affordable healthcare for residents and businesses across Colorado.
- The City supports continued efforts to improve municipal court and law enforcement practices and further refinement of such changes to ensure the public, victims, and defendants are adequately protected.
- The City supports statewide efforts to expand mental/behavioral health services, reduce barriers to care, and provide funding to support such initiatives. This includes additional assistance for law enforcement to address community-wide mental health impacts and mitigate the costs for healthcare and mental health services for persons in custody.
- The City opposes legislation that would prohibit the use of red-light cameras and speed radar.
- The City supports efforts to improve and enhance traffic safety for all road users to include vehicles, pedestrian, bicycle, and electric bicycles.
- The City supports efforts to address children under the age of 16 operating electric bicycles and the requirement for better disclosure related to requirements for operation of electric bicycles, motorcycles, dirt bikes, and scooters.
- ~~The City supports efforts to address children under the age of 16 operating electric bicycles and the requirement for better disclosure related to requirements for operation of electric bicycles, motorcycles, dirt bikes, and scooters.~~

Energy/Environment

The City supports legislation and collaboration with other municipalities and agencies to address climate change by improving energy efficiency, increasing the use of cost-effective renewable energy, and reducing greenhouse

gas emissions and dependence on fossil fuels while maintaining the reliability and resilience of energy delivery and local control.

Positions:

- The City supports the state's plan to reduce greenhouse gas emissions through reduced energy consumption, increased use of clean energy and transitioning away from fossil fuels.
- The City supports statewide policies that reduce overall energy demand and consumption, while preserving and expanding local governments' ability to reach their sustainability and climate action goals.
- The City supports the improvement of air quality, renewable energy production, and emission reductions through legislative, administrative, and regulatory actions.
- The City supports efforts to reduce noise impacts and air pollution, and lead pollution associated with local metropolitan airport activities.
- The City supports opportunities and funding for municipalities to implement local clean energy strategies and solutions.
- ~~The City supports a regional approach to the implementation of energy efficient building codes.~~
- The City supports actions that effectively address the metro Denver region's violations of Clean Air Act standards in a timely manner.
- The City supports tax and financial incentives that speed the transition away from fossil fuels.

Transportation

Colorado's transportation infrastructure, which connects our communities and facilitates the movement of people and goods, is essential to the economic vitality of our state and necessary to maintain the high quality of life enjoyed by Coloradans. Appropriate investments in transportation, as one of the largest sectors of greenhouse gas emissions, also further the City's energy and environmental goals.

Positions:

- The City supports ongoing state and federal funding sources for transportation projects, such as those along the CO Highway 42 and South Boulder Road, that provide funding for the maintenance of existing infrastructure, multimodal improvements, accessibility improvements, and other investments that reduce greenhouse gas emissions.
- The City supports regulation and investments that accelerate transportation electrification and other innovative transportation technologies that reduce emissions and congestion.
- The City supports investments that enhance safe, convenient, and accessible multimodal transportation, including Complete Streets which increase transportation options, improve mobility, and reduce congestion and greenhouse gas emissions, and Vision Zero strategies which improve safety. The City also supports funding for the design and construction of pedestrian underpasses, which achieve many of the goals of Complete Streets and Vision Zero programs.
- The City supports funding for the construction and operation of the Northwest Rail line and the Front Range Passenger Rail to expand multi-modal transportation in the northwest metro region. The City strongly supports the inclusion of a stop in Louisville, fulfilling the much-delayed obligation of RTD for transit investment in our community.
- The City supports full restoration of transit services that were reduced or cut by the Regional Transportation District (RTD) during the COVID pandemic.
- The City opposes efforts to divest state-owned roads to municipalities without adequate short and long-term funding to meet additional maintenance and operational responsibilities.

Utilities, Telecommunications, and Broadband

The City supports policies that protect Colorado's natural resources and allow the City to maintain facilities efficiently, allowing for reasonable and equitable rates while maintaining optimal quality. The City also supports the local authority to manage all matters related to local telecommunications policy, cable franchising, wireless communication facilities, broadband deployment, public safety communications, rights-of-way management and government access channels.

Positions:

- The City supports the inventorying and protection of water rights, including the protection of municipal water rights.
- The City supports appropriate water conservation efforts and sustainable water resource management practices by all users.
- The City supports efforts to improve water quality through compliance with state and federal regulations.
- The City supports state policy for consumer protections of utility customers, including broadband customers.
- The City opposes state and federal efforts that complicate deployment of small cell and other wireless infrastructure and create unfunded mandates on local governments while the City supports federal and state actions removing these preemptions of local control.
- The City supports state efforts to determine the most effective ways to distribute federal funding to promote broadband deployment and equity in the availability and accessibility of broadband services to all Coloradans.
- The City supports policy and funding to improve public safety telecommunications.
- The City supports the clarification that franchise fees do not include in-kind franchise obligations and supports the repeal of FCC action that creates these limitations on local franchising authority.
- The City supports efforts to generate more electricity renewably and transition away from fossil fuels.

Land Use, Development and Revitalization, Housing

The City believes local control should be the starting point of land use planning. Colorado's housing market has not kept pace with demand created by employment growth and other pressures, leading to increased housing costs that are inaccessible to many households. The challenges of housing affordability and supply require coordinated state and local solutions that expand opportunities while providing resources for implementation. The City is working to redevelop and revitalize certain areas within the community, and appropriate urban renewal tools must be preserved to support these efforts.

Positions:

- The City supports policies and investments that improve the coordination of land use and transportation, and regional cooperation in land use planning and economic development activities.
- The City supports increased funding for local communities' expansion of affordable, attainable, and workforce housing.
- The City supports increased local government and community engagement and impact analysis around the expansion and development of airports.
- The City supports enhancements to Colorado Urban Renewal law that do not unreasonably restrict the use of tax increment financing or eminent domain for redevelopment projects.
- The City supports legislation that encourages and facilitates historic preservation and rehabilitation.
- The City supports transit-oriented development principles but believes that House Bill 24-1313 – Housing in Transit Oriented Communities may not provide a feasible path for local implementation without bill amendments or clarifications. The City encourages collaborative amendment development with local governments.

- The City supports consideration of environmental sustainability in land use and development policies.
- The City supports state and federal efforts to protect open spaces.
- The City supports efforts to ensure equitable access to housing.

Economic Vitality and Business Development

Colorado's economic competitiveness requires coordinated state efforts to attract and retain employers while supporting workforce development.

Positions:

- The City supports legislation that provides resources to help local governments attract new employers and support business expansion.
- The City supports legislation that strengthens economic development tools and incentives for attracting and retaining primary employers.
- The City supports policies that enhance Colorado's competitiveness through strategic investments in transportation infrastructure, broadband connectivity, utility needs, and other critical systems that enable business growth and expansion.
- The City supports workforce development initiatives that align education and training programs with industry needs, including partnerships between employers and educational institutions.
- The City supports programs that encourage small business development and entrepreneurship through technical assistance, access to capital, and resources for startups and growing companies.
- The City opposes regulations that create significant new compliance costs or administrative burdens for businesses without demonstrating clear public benefit.
- The City opposes policies that reduce local flexibility to implement economic development strategies tailored to community needs and opportunities.

~~*Approved January 7, 2025*~~

City of Louisville
PARKS, RECREATION & OPEN SPACE

MEMORANDUM

To: **City Council**
From: **Open Space Advisory Board**
Date: **October 14, 2025**
Re: **Discussion/Direction Item 5: 2026 Legislative Agenda**

The Open Space Advisory Board appreciates the opportunity to review the 2026 Legislative Agenda and supports and recommends the following edits listed in red below:

Recommended revisions for consideration:

i. "The City supports increased wildfire mitigation funding for local communities in the plains areas to establish and maintain risk reduction measures on public lands including climate change adaptation strategies." and methods to effectively protect wildlife and plant life while maintaining habitat.
ii. "The City supports state and federal efforts to protect and preserve open spaces."

Link to Reference Materials:
https://www.louisvilleco.gov/home/showpublisheddocument/44218/638743530398870000

Memorandum

To: Louisville City Council Members
From: Louisville Sustainability Advisory Board
Date: November 19, 2025
Re: Louisville Sustainability Advisory Board Legislative Agenda for 2026

Dear Louisville City Council Members,

As the City Council begins to set legislative priorities for 2026, the Louisville Sustainability Advisory Board respectfully submits this legislative agenda for your consideration. Our recommendations are grounded in the City's Sustainability Action Plan and aim to support the Council adopted Climate Action Goals, reflecting the shared commitment to a sustainable, resilient, and equitable future for our community.

We believe that sustainability and resiliency should remain a central lens through which all major, long-term City decisions are evaluated. From infrastructure investments to housing, energy, and economic development, policies should prioritize outcomes that build resilience, reduce emissions, and support community well-being—especially for those most affected by climate change.

Louisville has already demonstrated strong leadership in this work through collaboration with regional partners such as the Denver Regional Council of Governments (DRCOG), sharing knowledge and aligning strategies to advance sustainability goals. The City's efforts to integrate sustainability into both the legislative agenda, Comprehensive Plan, and City Council Work Plan further underscore its dedication to environmental stewardship. Building on this momentum, the Board urges City Council to continue placing sustainability and resiliency at the center of decision-making, ensuring that every action taken today contributes to a thriving and climate-resilient future.

Vision for 2026 and Beyond

Louisville continues to face the complex challenges of climate change, resource management, and equitable growth. To meet these challenges, we urge the City to:

- Continue prioritizing sustainability and resiliency as core criteria in all significant, long-term policy and financial decisions.
- Advance the City's transition to renewable energy and reduce greenhouse gas (GHG) emissions through data-driven decision-making that focuses on the highest-impact strategies.
- Support communities disproportionately impacted by climate change through targeted adaptation strategies, financial incentives, and inclusive engagement.

These priorities reflect our belief that sustainable practices are not only environmentally necessary but also economically and socially beneficial.

Recommended Legislative Tasks for 2026

1. Integrate a Sustainability and Resilience Evaluation Framework into Major City Decisions
Formalize a decision-making framework requiring that all major capital projects, infrastructure investments, and policy initiatives include an evaluation of sustainability, resilience, and climate equity impacts. Embedding this framework into City processes ensures that sustainability and resilience considerations are consistently applied across all departments, fostering accountability and long-term planning.

2. Advance Renewable Energy Adoption and Data-Driven Emission Reduction
Accelerate Louisville's transition to renewable energy and ensure that greenhouse gas (GHG) reduction strategies are guided by accurate, data-driven analysis to achieve the greatest possible impact. By grounding decisions in emissions data and cost-benefit evaluation, the City can effectively progress toward its goals of reducing emissions by 60% by 2030 and achieving carbon neutrality by 2050. This includes continued investment in tools that enable staff to efficiently collect, analyze, and interpret emissions data, empowering them to make informed, strategic decisions about where to target reductions and how to expand renewable energy projects and initiatives most effectively.

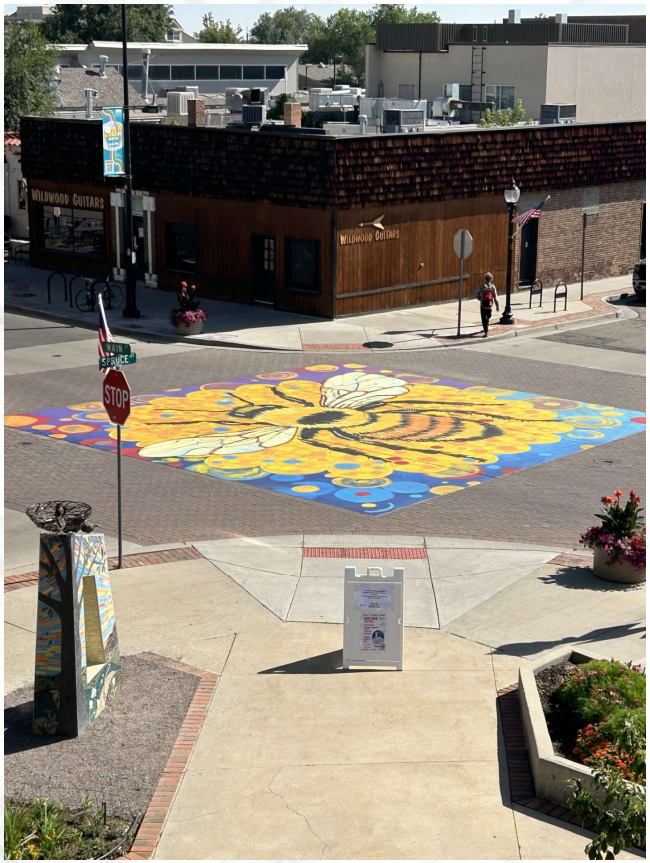
3. Strengthen Community Resilience and Climate Equity
Enhance Louisville's climate adaptation and disaster recovery planning to better support residents and neighborhoods most vulnerable to environmental change. Recognizing that climate impacts disproportionately affect low-income households, seniors, renters, and those lacking resilient housing or transportation, the City should prioritize equitable access to sustainability investments. Key actions include expanding energy-efficiency and home resilience programs for income-qualified residents, partnering with community organizations to improve heat mitigation, air quality, and emergency preparedness, and pursuing state and federal funding for local resilience projects that create green jobs and safeguard public health.

The Louisville Sustainability Advisory Board remains committed to supporting the City Council in advancing a resilient, equitable, and climate-conscious future. By continuing to integrate sustainability and resilience into every major City decision, we can safeguard our community's long-term well-being, strengthen economic stability, and position Louisville as a regional leader in sustainability innovation.

We thank the Council for its continued partnership and look forward to collaborating on the 2026 legislative agenda to ensure that sustainability remains at the heart of Louisville's vision for the future.

Sincerely,

The Louisville Sustainability Advisory Board



City of Louisville
COLORADO • SINCE 1878

Discussion / Direction
2026 Legislative Agenda

January 6, 2026

Diana Langley, City Manager

Samma Fox, Deputy City Manager

Purpose and Expectations

- To review revised the draft legislative agenda
  - NOTE – Changes since October denoted in the presentation as NEW
- Provide direction to staff for edits, if needed
- Adopt the 2026 Legislative Agenda
- Will review section by section

Purpose & Use

- 2026 – No Changes

- New section in 2025
- Legislative Agenda a guiding document for Council Members
- Used in Council assignments such as NW MCC, DRCOG, etc.
- Council members should share actions in their reports
- If unclear on the agenda, bring item to the full Council

Board/Commission Engagement

- All advisory boards and commissions encouraged to submit in joint meetings early in 2025
- OSAB Memo – October 14, 2025
- LSAB Memo - November 19, 2025

City of Louisville

Home Rule/Local Control

- 2026
  - **NEW** - Language Adjustment – "Local Problems" to "Local Issues"

- Continued advocacy for local control and meaningful collaboration on items that require statewide or multi-jurisdictional response

City of Louisville

Community Recovery & Resiliency

- 2026
  - Removed - Resiliency code board section (on the books with the state)
  - Broadened to include more of an all-hazards approach

- Continued advocacy for standards, funding, and support to promote resilience and expedite recovery.

City of Louisville

Tax and Finance Policy

- 2026 –
  - MOVED – An item related in incentives to transition from fossil fuels to the Energy/Environment section

- Continued advocacy for fair and consistent policy that preserves and expands the authority of local government and protects municipal revenue sources.

Municipal Administrative Services

- 2026 – No Changes

- Continued support of funding, resources, and accessibility to support high-performing and effective administrative services.

Public Health and Safety

- 2026
  - Added – Support for efforts to improve and enhance traffic safety for all road users including vehicles, pedestrians, bicycles, and e-bikes
  - Added - Support of efforts to address children under 16 operating e-bikes, etc.

- Continued advocacy for a variety of policies supporting public health including addressing gun violence, affordable health care, court and law enforcement practices, mental and behavioral health services, and redlight cameras / speed radar.

Energy and Environment

- 2026
  - Included item related to transition from fossil fuels, formerly in the Tax and Finance section
  - **NEW** – Change
    - Removed: The City supports a regional approach to the implementation of energy efficient building codes.
    - Added: Collaboration language in the introduction section.

- Continued advocacy for legislation to address climate change by improving efficiency, increasing renewable energy, reducing GHG emissions and dependence on fossil fuel.

Transportation

- 2026 – No Changes

- Continued advocacy for funding and investments in transportation including projects in Louisville, support for Complete Streets and Vision Zero, increase of RTD services, and rail.

Utilities, Telecommunications, and Broadband

- 2026 – No Changes

- Continued advocacy for policies to protect natural resources and allow the City to maintain facilities efficiently, allowing for reasonable and equitable rates while maintaining quality.

Land Use, Development and Revitalization, Housing

- 2026 – No Changes

- Continued advocacy for local control as the starting point of land use planning, as well as investments and meaningful collaboration on policy development.

City of Louisville

Economic Vitality and Business Development

- 2026 – No Changes

- New in 2025

- Continued advocacy for coordinated state efforts to attract and retain employers while supporting workforce development.

City of Louisville

2026 Legislative Agenda - Direction Needed

- Clear direction on edits, if needed

- Motion to adopt

  OR

- Staff can revise and bring on January 6 for adoption

City of Louisville

Thank you & Next Steps

City of Louisville