City Council

Agenda

Tuesday, May 20, 2025
Council Chambers
749 Main Street
6:00 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. APPROVAL OF AGENDA

4. 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.

5. 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. Resolution No. 29, Series 2025 – A Resolution Approving the HOME Consortium Intergovernmental Agreement

---

Citizen 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.

6. COUNCIL INFORMATIONAL COMMENTS AND COMMITTEE REPORTS

7. CITY MANAGER'S REPORT

8. REGULAR BUSINESS

A. SWEARING IN OF LOUISVILLE PET MAYOR – HAZEL THE CAT

- YAB Comments
- Mayor Leh to swear in Hazel the Cat as Pet Mayor

B. PRIDE MONTH PROCLAMATION

- Action

C. MEMORIAL DAY PROCLAMATION

- Action

D. NATIONAL GUN VIOLENCE AWARENESS DAY PROCLAMATION

- Action

E. 2025 BUDGET AMENDMENT

i. RESOLUTION NO. 30, SERIES 2025 – A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE GENERAL FUND, CONSERVATION TRUST-LOTTERY FUND, HISTORIC PRESERVATION FUND, RECREATION FUND, OPEN SPACE FUND, PARKS FUND, CAPITAL PROJECTS FUND, IMPACT FEE FUND, WATER UTILITY FUND, WASTEWATER UTILITY FUND, STORM WATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND, TECHNOLOGY MANAGEMENT FUND, AND FLEET MANAGEMENT FUND FOR CARRY FORWARD OF APPROPRIATIONS AND ADDITIONAL APPROPRIATIONS WITHIN SUCH FUNDS AND ADJUSTING BUDGETED REVENUE IN THE GENERAL FUND, CAPITAL PROJECTS FUND,

WASTEWATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND AND GOLF COURSE FUND

ii. RESOLUTION NO. 31, SERIES 2025 - A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS AND ADJUSTING BUDGETED REVENUE IN THE LOUISVILLE REVITALIZATION COMMISSION

- Mayor Opens Public Hearing
- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Mayor Closes Public Hearing
- Action

F. DISCUSSION / DIRECTION – ACCESSORY DWELLING UNIT TAP FEES

- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Action

G. ORDINANCE NO. 1892, SERIES 2025 – AN ORDINANCE AMENDING TITLE 17 AND TITLE 3 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING THE REGULATION OF ACCESSORY DWELLING UNITS IN THE CITY OF LOUISVILLE – 2ND READING PUBLIC HEARING – *CONTINUED FROM 04/15/2025* (advertised City of Louisville Website 03/21/2025)

- Mayor Opens Public Hearing
- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Public Comments (Please limit to three minutes each)
- Mayor Closes Public Hearing
- Action

H. RESOLUTION NO. 32, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT AND DEVELOPMENT AGREEMENT TO ALLOW A GROCERY STORE AND GASOLINE SERVICE STATION USE AT 1171 W. DILLON ROAD

- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Action

I. RESOLUTION NO. 33, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT TO ALLOW CONSTRUCTION OF A 16,294 SQUARE FOOT INDUSTRIAL / FLEX BUILDING AT 517 S. ARTHUR AVENUE

- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Action

J. CONTRACTOR LICENSING

i. ORDINANCE NO. 1895, SERIES 2025 – AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE CHAPTER 5.12 CONCERNING CONTRACTOR LICENSES – 2ND READING – PUBLIC HEARING (advertised City of Louisville Website 05/09/2025)

ii. RESOLUTION NO. 34, SERIES 2025 - A RESOLUTION ESTABLISHING INSURANCE REQUIREMENTS FOR CONTRACTOR LICENSES

- Mayor Opens Public Hearing
- Staff Presentation
- Public Comments (Please limit to three minutes each)
- Council Questions & Comments
- Mayor Closes Public Hearing
- Action

9. CITY ATTORNEY'S REPORT

10. IDENTIFICATION OF FUTURE AGENDA ITEMS

11. ADJOURN

ITEMS TENTATIVELY SCHEDULED FOR REGULAR MEETING 06/03/2025

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

- Arts Center Sign
- Parking Minimums – 1st Reading
- Yard and Bulk Requirements for GDPs – 1st Reading
- 380 S. Taylor Ave – Final PUD
- 100 Health Park Drive – PUD Amendment
- Award Phase 2 Trail Wayfinding Signage (Hecla Lake to Davidson Mesa)
- City of Boulder IGA – Davidson Mesa Open Space
- Award Phase 2 Median Landscape Renovations (Dillon / Via Appia)
- Indoor Batting Cages at Rec Center – Budget Amendment
- Boulder County Youth Corps IGA
- BAP – Raven Space Systems
- Flatbed Truck Purchase
- Electric Vehicle Purchase
- Engineering On-Call Contracts
- WWTP Expansion construction Contract – Budget Amendment?
- SCWTP Admin and Solida Residential Contract
- WTP Chlorine Dioxide Replacement
- Water Meter Replacement and Metering Project

SUBJECT: **RESOLUTION NO. 29, SERIES 2025 – A RESOLUTION APPROVING THE HOME CONSORTIUM INTERGOVERNMENTAL AGREEMENT**

DATE: **MAY 20, 2025**

PRESENTED BY: **JEFF HIRT, PLANNING MANAGER**
ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR

SUMMARY:
Attached is a resolution for City Council to approve an Intergovernmental Agreement (IGA) for the City of Louisville to participate in the Boulder Broomfield HOME Consortium ("Consortium"). The purpose of Louisville's participation in this IGA is to support regional collaboration related to housing affordability and to increase the Consortium's annual funding allocation by having more Boulder County communities formally participate. Participation in this IGA does not commit any City financial resources and requires minimal staff resources.

BACKGROUND:
The HOME Investment Partnership Program (HOME) was created by the National Affordable Housing Act of 1990 and HOME funds provide competitive funding to local government, non-profit, and private developers. The purpose of the HOME Program is to provide a wide range of activities that build, buy, and/or rehabilitate affordable housing for rent or ownership. The State Department of Local Affairs administers the program in Colorado.

The Boulder Broomfield Regional HOME Consortium currently includes the City of Boulder ("Lead Entity"), Boulder County, City of Longmont and the City & County of Broomfield. The Consortium operates on a rotation where Boulder, Boulder County and Longmont take turns receiving funds each year. Broomfield does not participate in the rotation but instead receives an annual allocation for a specific housing program. This means that in the years when Boulder County receives an allocation, an affordable housing project in Louisville could potentially be eligible to receive such funds under current conditions. The priority for the funding allocation is to support a single project where possible.

The IGA would commit the City to participate from October 1, 2025 to September 30, 2027. Starting on October 1, 2027, the IGA automatically renews with the City of Louisville a continued participant with the option for the City to opt out at that time.

ANALYSIS:
This Consortium and IGA do not guarantee Louisville receives any HOME funds, but it would potentially provide more funding if Boulder County chose a project in Louisville in their year within the rotation. Currently, the smaller communities in Boulder County are not members of the Consortium including but not limited to Louisville, Lafayette, Erie, and

Superior. These other communities have expressed their intent to participate in this IGA and the Consortium. Having these other communities sign this IGA increases the annual amount the Consortium gets from the HOME program by about $140,000. The average allocation the Consortium has received over the past five years has been about $1.2 million, with an outlier year when the Consortium received $4.2 million.

This Consortium and IGA do not require any City staff time or financial resources, other than general support as part of the group that includes review of the Consolidated Plan and review of the potential HOME projects. The expectation is participation by City staff in a once a quarter meeting of Consortium members.

City participation in this Consortium aligns with several adopted City policies. It would support the 2017 Regional Housing Strategy goal that 12% of Louisville's housing be permanently affordable by 2035, supported by City Council Resolution 28, Series 2017. It would also support the Louisville Housing Plan goals to address regional affordability challenges by expanding and maintaining access to affordable housing (p. 26) at a low cost to the City.

2025 COUNCIL WORK PLAN:
This IGA would align with the 2025 Council Work Plan's Housing priority that includes an emphasis on partnership with regional efforts for affordable housing (p. 6). The Louisville Housing Plan, which this IGA aligns with, was developed with an Equity, Diversity, and Inclusion (EDI) and Environmental Sustainability lens (Housing Plan, p. 2).

FISCAL IMPACT:
City participation in the IGA and Boulder Broomfield HOME Consortium would not result in a fiscal impact to the City and may increase funding available for any future projects applying for HOME funds in Louisville.

ALTERNATIVE(S):
Choosing not to participate in this IGA and Consortium would mean less funding available as part of the HOME annual allocations and be counter to the City's goals for regional collaboration to address affordable housing.

RECOMMENDATION:
Staff recommends approval of Resolution No. 29, Series 2025 approving an Intergovernmental Agreement between the City of Louisville and the City of Boulder and other political subdivisions for participation in the Boulder-Broomfield Regional Home Investment Program Consortium.

ATTACHMENT(S)/LINK(S):
1. Resolution No. 29, Series 2025
2. HOME Consortium Draft Intergovernmental Agreement

RESOLUTION NO. 29
SERIES 2025

A RESOLUTION APPROVING THE HOME CONSORTIUM INTERGOVERNMENTAL AGREEMENT

WHEREAS, the United States Government, through the National Affordable Housing Act of 1990, has established the HOME Investment Partnerships Act Program ("HOME" or "HOME Program"); and

WHEREAS, an Intergovernmental Agreement has been proposed between the City of Boulder, as lead agency, and other political subdivisions, including Louisville, for their participation in the HOME Program; and

WHEREAS, by this resolution the City Council desires to approve the Intergovernmental Agreement.

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

Section 1. The City Council hereby approves the HOME Consortium Intergovernmental Agreement (the "Agreement") by and between the City of Boulder, as the lead agency, the City of Louisville, and other political subdivisions, in substantially the same form as the copy of such Agreement accompanying this Resolution.

Section 2. The Mayor and City Clerk are 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 20th day of May 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

HOME CONSORTIUM INTERGOVERNMENTAL AGREEMENT

THIS AGREEMENT ("IGA") is made and entered into this ___ day of _____ 2025 by and between the City and County of Broomfield, Boulder County, the cities of Boulder, Longmont, Lafayette, and Louisville, and the towns of Lyons, Superior, Jamestown, Nederland, Ward and Erie (each a "Consortium Member," or collectively, the "Consortium Members") and the City of Boulder, a Colorado home rule city, (as the "Lead Entity"), to form a Consortium for the purpose of participating in the HOME Investment Partnership Program of the United States Department of Housing and Urban Development ("HUD").

RECITALS

WHEREAS, the United States Government, through the National Affordable Housing Act of 1990, has established the HOME Program and has designated the Lead Entity as a Participating Jurisdiction ("PJ") to administer such federal funds, subject to certain conditions, for the purpose of expansion and rehabilitation of the supply of decent, safe, sanitary, and affordable housing and to strengthen partnerships among all levels of government and the private sector; and

WHEREAS, Section 216 (2) of the Act, as defined in "Definitions", 42 U.S.C. 12746, provides that a consortium of geographically contiguous or overlapping geographical areas within which separate legal governmental subdivisions operate can be considered to be a single unit of general local government for the purposes of receiving an allocation and participating in the HOME Program and a determination has been made by HUD that the Lead Entity and Consortium Members are geographically contiguous or overlapping geographical areas within which separate legal governmental subdivisions operate and are eligible to participate in the HOME Program; and

WHEREAS, the Lead Entity and Consortium Members recognize the need to address the regional issues of increasing the supply of permanent affordable housing for lower income households, and develop affordable and supportive housing opportunities for lower- income persons and families and the homeless in Boulder and Broomfield counties and have determined that it will be mutually beneficial and in the public interest to enter into an intergovernmental agreement regarding regional participation in the HOME Program; and

WHEREAS, the Lead Entity desires to enter into this IGA with the Consortium Members to participate in a Consortium for the purpose of implementing a regional HOME Program authorized by the Act to enhance cooperation between jurisdictions and to maximize the use of resources available to local governments to affect the housing-related problems of lower-income people; and

WHEREAS, the Lead Entity has elected to administer such federal funds for itself and the Consortium Members through its Department of Housing and Human Services; and

WHEREAS, the City and County of Broomfield, Boulder County, the City of Longmont, and the City of Boulder agreed to participate in the HOME Investment Partnership Act Program

("HOME Program") and entered into a HOME Consortium Intergovernmental Agreement dated June 27, 2006; and

WHEREAS, the City and County of Broomfield, Boulder County, the City of Longmont, and the City of Boulder now wish to execute this IGA to also include the cities of Lafayette and Louisville, and the towns of Lyons, Superior, Jamestown, Nederland, Ward and Erie as Consortium Members; and

WHEREAS, participation in the HOME Consortium enhances cooperation between jurisdictions and maximizes the use of resources available to local governments to affect the housing-related problems of lower-income people; and

WHEREAS, the Lead Entity and Consortium Members are authorized to enter into cooperative agreements pursuant to the Colorado Constitution, Article XIV § 18, and § 29-1-203, C.R.S.; and

WHEREAS, the Lead Entity and Consortium Members desire to enter into this IGA to continue the HOME Consortium.

NOW THEREFORE, in consideration of the mutual covenants and promises contained in this IGA, the parties mutually agree to the following terms and conditions:

I. DEFINITIONS

For the purpose of this IGA, the terms defined in this section have the meanings given to them:

"Act" means Title II of the Cranston-Gonzalez National Affordable Housing Act of 1990, as amended, 42 U.S.C. 12701, *et seq*.

"Consolidated Plan" is a HUD required document. It serves as a planning document for the Consortium and a funding application under the Community Planning and Development formula grant programs (Community Development Block Grant ("CDBG"), and HOME Investment Partnership Program.

"Consortium" means the Consortium Members and Lead Entity acting pursuant to this IGA.

"HOME Consortium" means Units of General Local Government (UGLGs) that separately do not quality to receive HOME funds. The UGLGs may join together to form a consortium for the purpose of receiving a HOME allocation and administering the HOME program as a single participating Jurisdiction (PJ).

"HUD" means the United States Department of Housing and Urban Development.

"Participating Jurisdiction" means the City of Boulder as Lead Entity.

"Regulations" means the rules and regulations promulgated pursuant to the Act, including but not limited to 24 CFR Parts 91 and 92, as amended.

II. PURPOSE

The purpose of this IGA is to form a Consortium of units of general local government for designation as a PJ under the Act, said PJ is to be known and hereinafter referred to as the Boulder-Broomfield Regional HOME Consortium or the Consortium, as defined herein.

III. GENERAL PROVISIONS

1. **Term**. The term of this IGA commences October 1, 2025, and runs through September 30, 2027. This IGA shall remain in effect during the period necessary to complete all eligible activities funded during federal fiscal years 2026 and 2027. These three federal fiscal years comprise the Consortium's qualification period, and the Consortium Members are prohibited from withdrawing from the IGA during this period. Pursuant to 24 CFR 92.101(e), no member of the Consortium may withdraw from this IGA while this IGA remains in effect.

2. **Renewal**. This IGA shall automatically be renewed for the Consortium's participation in successive qualification periods of three federal fiscal years each. No later than the date specified by HUD's consortia designation notice or HOME consortia web page, the Lead Entity shall notify each Consortium Member in writing of its right to decide not to participate in the Consortium for the next qualification period and the Lead Entity shall send a copy of each notification to the HUD Field Office. If a Consortium Member decides not to participate in the Consortium for the next qualification period, the Consortium Member shall notify the Lead Entity, and the Lead Entity shall notify the HUD Field Office, before the beginning of the new qualification period.

3. **Notices**. The Lead Entity shall provide a minimum of 30 days advance written notice to each Consortium Member of the program requirements to be in effect for subsequent federal fiscal years or qualifying periods. Notice shall be sent by the Lead Entity to the following:

Housing Program Manager
City and County of Broomfield
One Descombes Drive
Broomfield, CO 80020

Director
Boulder County Housing Division
P.O. Box 471
Boulder, CO 80306

Housing and Community Investment Manager
Civic Center Complex
350 Kimbark Street
Longmont, CO 80501

Principal Planner
City of Lafayette
1290 S. Public Road
Lafayette, CO 80026

Planning Manager
City of Louisville
749 Main St.
Louisville, CO 80027

Planning & Building Director
City of Superior
124 E. Coal Creek Dr.
Superior, CO 80027

Affordable Housing Manager
Town of Erie
645 Holbrook St.
Erie, CO 80516

Town Administrator
Town of Lyons
432 5th Ave.
Lyons, CO 80540

Town Administrator
Town of Nederland
PO Box 396
Nederland, CO 80466

Mayor
Town of Jamestown
118 Main St.
Jamestown, CO 80455

Mayor
Town of Ward
PO Box 99
Ward, CO 80481

4. Termination.

a. This IGA shall terminate if: (i) any one of the Consortium Members or the Lead Entity provides written notice of its decision not to participate in a subsequent three-year qualification period, or (ii) the Lead Entity fails to adopt, and submit to HUD an

amendment to this IGA that incorporates all changes necessary to meet "Cooperation Agreement Requirements" as prescribed by HUD in the Consortia Qualification Notice that is applicable to any subsequent qualification period beyond the original three-year term. The Lead Entity shall, by the date specified in HUD's Consortia Qualification Notice for the next qualification period, notify the Consortium Members in writing of their right not to participate in the Consortium. All Consortium Members that are members of the Consortium will be on the same program year (January 1 to December 31) for the CDBG, HOME, ESG and HOPWA grant programs. Notices to the Consortium Members shall be sent to the addresses above in Section 3. Notices to the Lead Entity shall be sent to: Deputy Director of Housing, City of Boulder Housing and Human Services, PO Box 791, Boulder, CO, 80306. In the event this IGA is terminated its provisions must remain in effect until the HOME Program funds from each of the federal fiscal years of the qualification period are expended on eligible activities or returned to HUD.

b. **Termination Notices**. Termination notices, if any, shall be sent by any non-renewing Consortium Member to the Lead Entity.

5. Execution. This IGA shall be executed by the appropriate officers of each Consortium Member and the Lead Entity pursuant to authority granted them by their respective governing bodies, and a copy of the authorizing action and executed IGA shall be filed promptly at the offices of the Lead Entity.

6. Consolidated Plan. The Lead Entity and Consortium Members shall cooperate in the implementation of the HOME Program and shall cooperate in the preparation of the Consolidated Plan by providing funds proportionately to the annual funding percentage break down as allocated in **Exhibit A** to this IGA for the development of the Consolidated Plan, by providing input to the Consolidated Plan, and by holding any required public meetings during the preparation of the Consolidated Plan. Each Consortium Member must fully approve each Consolidated Plan for such Consolidated Plan to be considered to be approved and ready for submission to HUD.

7. Allocating HOME Program Funding. Program Funding will be allocated as set forth in Exhibit A.

8. Matching Funds. Each Consortium Member and the Lead Entity shall be responsible for providing matching funds required by federal regulations for any HOME Program funds allocated and accepted for use by that local government. As required by law, Consortium Members and Lead Entity allocations are subject to annual federal appropriations of HOME Program funds. No matching funds will be required from a Consortium Member that chooses not to participate for a particular program year.

All use of matching funds by Consortium Members must be reported to the Lead Entity, in a format to be determined by the Lead Entity, by the end of each federal fiscal year of this IGA.

9. Distribution of HOME Funds. Each Consortium Member will be responsible for deciding how to distribute its portion of HOME Program funds among eligible activities within its

jurisdiction, subject to the HOME Program requirements for a 15 percent set aside of funds for CHDO activities. It is the intent of the Consortium Members to meet the CHDO requirements jointly in the distribution of funds. In addition, each jurisdiction may choose to allocate some or all of its portion of HOME Program funds for one or more projects outside its jurisdiction, but within the Consortium boundaries, if the project is regional in scope and the jurisdiction determines that the project(s) benefits its residents.

10. Administrative Set Aside. As reflected below, each Consortium Member will be entitled to a percentage of the allowable HOME Program administrative set aside reflective of the HUD defined HOME Consortium Share, adjusted annually by HUD. The Consortium Members agree to provide a portion of their administrative fee to the Lead Entity. All administrative fees given to the Lead Entity shall be used to pay a portion of the administrative expenses of the entire Consortium. Furthermore, Consortium Member agree to provide an additional portion of their administrative fee to the government receiving the primary allocation each year.

Consortium Members	HOME Consortium Share	% of HOME Admin set aside	% of Admin Set Aside allocated to the Lead Entity
City of Boulder	Determined Annually by HUD	Determined Annually	n/a
City of Longmont	Determined Annually by HUD	Determined Annually	15%
Boulder County	Determined Annually by HUD	Determined Annually	100%
City and County of Broomfield	Determined Annually by HUD	Determined Annually	100%
CHDO Reserve	15%	-	-
Consortium Member receiving the annual primary allocation	-	10% of project costs	-

11. Affirmatively Furthering Fair Housing. The Consortium Members certify that they will affirmatively further fair housing with all distributed HOME Program funds under this IGA in compliance with 24 CFR 92.350. Each Consortium Member will be responsible for compliance with HUD regulations and, if applicable, for its own preparation and submission to HUD of the Impediments to Fair Housing Plan. The parties agree that the Lead Entity is prohibited from funding activities in or in support of a PJ that does not affirmatively further fair housing within its jurisdiction or that impedes the Lead Entity's actions to comply with the Consortium's fair housing certification. The Consortium Members acknowledge that noncompliance by the Consortium Members may constitute noncompliance by the Lead Entity which may provide cause for funding sanctions or remedial actions by HUD.

12. Citizen Participation. The Consortium Members certify that they will, with the Lead Entity, develop and adhere to a Citizen Participation Plan, concerning the use of HOME Program funds and low-income housing needs.

13. Program Income. "Program Income" as defined at 24 CFR 92.2 generated by a Consortium Member will be held by each Consortium Member in a separate account specific to the HOME Program. Program Income received by a Consortium Member shall be retained by that Consortium Member for additional eligible activities. Program Income must be disbursed before that Consortium Member requests funds from the Consortium. Appropriate documentation of the receipt and use of Program Income will be provided to the Lead Entity in a format to be determined by the Lead Entity.

IV. LEAD ENTITY RESPONSIBILITIES

1. Legal Liability and Responsibilities. The parties hereto recognize and understand that the Lead Entity will be the governmental entity required to execute all grant agreements received from HUD pursuant to the Lead Entity's request for HOME Program funds. The Lead Entity will thereby become and will be held by HUD to be legally liable and have full responsibility for the execution of the HOME Program. The Lead Entity will be responsible for the Consortium's annual Action Plan or Five-Year Consolidated Plan with an annual Action Plan component, when required, and for meeting the requirements of other applicable laws, overall administration, and performance of the HOME Program, including the HOME Program projects and activities to be conducted by the Consortium Members. The Lead Entity assumes overall responsibility for ensuring the Consortium's HOME Program is carried out in compliance with the requirements of the Act, including requirements concerning a Consolidated Plan as set forth in the HOME Program regulations.

2. Eligibility Review and Compliance Monitoring. The Lead Entity's supervisory, program and administrative obligations to the Consortium Members shall be limited to the performance of the administrative and program tasks necessary to make HOME Program funds available to the Consortium Members and to provide monitoring to various projects funded with HOME Program funds to ensure that they comply with applicable federal laws and regulations. The Lead Entity shall be responsible for determining eligibility and confirming the compliance of the HOME Program projects with applicable federal laws and regulations.

3. Reporting Requirements. The Consortium Members will provide the Lead Entity with an annual HOME Program activity report of HOME Program funded projects. The Consortium Members will also, on a quarterly reporting cycle, provide the Lead Entity with reports that capture and identify program income derived from the HOME Program funded activities.

V. CONSORTIUM MEMBERS' RESPONSIBILITIES

1. Action Plan/Consolidated Plan Submissions. The Consortium Members shall prepare and submit to the Lead Entity their own separate annual Action Plan for the CDBG program, if applicable. The Consortium Members will submit their Action Plan and/or Consolidated Plan and/or information on proposed annual use of HOME Program funds, as applicable, to the Lead

Entity within a time frame established by the Lead Entity to enable the Consortium's Annual Action or Consolidated Plan to be submitted as a joint submission to HUD.

The Consortium Members shall submit reporting information called for by the Citizen Participation Plan to Lead Entity staff for inclusion into the report or plan. The Consortium Members are also responsible for informing their citizens of the impact of and proposed use of HOME Program funds (and/or CDBG funds) within the Consortium Members' jurisdiction.

2. Reporting Requirements. The Consortium Members shall prepare and submit applicable information on the use of HOME Program funding to the Lead Entity for consolidation into the HOME Program report, the following reports, if applicable, for submission to HUD according to applicable deadlines are Impediments to Fair Housing, Citizen Participation Plan, Minority Business Enterprise/Women's Business Enterprise reports, and federal cash transaction reports. The annual HOME Consolidated Action Plan Evaluation Report (CAPER) will be a joint effort with the Consortium Members providing information on their annual use of HOME Program funds as applicable. The Consortium Members will also prepare and submit any other reporting requirements required by HUD.

3. Lead Entity and Consortium Member Cooperation. The Lead Entity shall cooperate and work with the Consortium Members in the preparation of detailed projects and other activities to be conducted or performed within the Consortium Member during the federal program years this IGA is in effect. The Consortium Members agree to cooperate with the Lead Entity to undertake or to assist in undertaking housing assistance activities for the HOME Program.

4. Disallowed Expenditures. The Consortium Members assume full responsibility for payment of HOME Program expenditures made in their jurisdictions that are disallowed by HUD.

VI. SPECIAL PROVISIONS

1. Indemnification. Each party assumes responsibility for the actions and omissions of its agents and its employees in the performance or failure to perform work under this IGA. It is agreed that such liability for actions or omissions of its own agents and employees is not intended to increase the amounts set forth in the Colorado Governmental Immunity Act, now existing, or as may be amended. By agreeing to this provision, the parties do not waive nor intend to waive the limitations on liability which are provided to the parties under the Colorado Governmental Immunity Act § 24-10-101, *et seq*., C.R.S., as amended.

2. Compliance with the Act. In the event there is a revision of the Act and/or regulations that would cause this IGA to be out of compliance with the Act or regulations, all parties to this IGA shall review this IGA to reasonably and in good faith renegotiate those items necessary to bring this IGA into compliance.

All parties understand that the refusal to renegotiate this IGA may result in the loss of the effective use of this IGA as of the date it is out of compliance with the Act and/or regulations as amended.

3. Monitoring and Accounting. The Lead Entity shall maintain financial, project, and other records and accounts for the Consortium in accordance with the requirements of the Act and regulations.

All Consortium Members agree to make available all records and accounts pertaining to HOME Program funded projects covered by this IGA at all reasonable times to their respective personnel and duly authorized federal officials.

4. Other Applicable Laws. All projects undertaken pursuant to this IGA shall be subject to any relevant state statutes, home rule charter provisions, assessment, planning, zoning, sanitary and building laws, ordinances and regulations applicable to each Consortium Member or smaller municipality in which a project receiving HOME Program funds is situated.

5. Authority to Amend IGA.

a. The Lead Entity is authorized to amend the IGA to add new members or to incorporate automatic renewal provisions, or for other reasons approved by HUD on behalf of the entire consortium, unless otherwise specified in its IGA. This IGA is an integration of the entire understanding of the parties, and any amendment must be signed by the authorized representatives of the parties.

b. Before the beginning of each new qualification period, the Lead Entity shall submit to the HUD Field Office a statement of whether or not any amendments have been made to this IGA, a copy of each amendment to this IGA, and, if the Consortium's membership has changed, the state certification required under 24 C.F.R. § 92.101(a)(2)(i). The Consortium shall adopt any amendments to this IGA that are necessary to meet HUD requirements for consortium agreements in successive qualification periods. The automatic renewal of the IGA will be void if: the Lead Entity fails to notify a Consortium member, or the HUD field office as required under this automatic renewal provision; a new Consortium member is added for the first year of a new qualification period; or the Lead Entity fails to submit a copy of each amendment to this IGA as required under this automatic renewal provision.

6. Lead Entity. Subject to the provisions of this IGA, the Lead Entity is authorized to act in a representative capacity for all of the Consortium Members for the purpose of the Act, and the Lead Entity assumes overall responsibility for ensuring that the Consortium's HOME Program is carried out in compliance with the Act including requirements concerning a Consolidated Plan. The lead entity for the Consortium shall be the City of Boulder.

7. Severability. Invalidation of any one or more of the provisions of this IGA shall in no way affect any of the other provisions thereof, which shall remain in full force and effect.

8. Financial Obligations of the Parties. Each party's financial obligations under this IGA are contingent upon appropriation, budgeting, and availability of specific funds to discharge those obligations. Nothing in this IGA constitutes a debt, a direct or indirect multiple fiscal year

obligation, a pledge of the credit of either party, or a payment guarantee by either party to the other party.

9. Execution by Counterparts; Electronic Signatures. This Agreement may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121.

EXECUTED as of the date first set forth above.

SIGNATURE PAGES TO FOLLOW

CITY AND COUNTY OF BROOMFIELD

_____

Mayor

SEAL

ATTEST:

_____

City Clerk, City and County of Broomfield

APPROVED AS TO FORM:

_____

City Attorney, City and County of Broomfield

BOULDER COUNTY

By:_____
Chair of the Board of County Commissioners

_____
Date

ATTEST:

_____
Clerk to the Board

CITY OF LONGMONT

_____
MAYOR

ATTEST:

_____ _____
CITY CLERK DATE

APPROVED AS TO FORM:

_____ _____
ASSISTANT CITY ATTORNEY DATE

_____ _____
PROOFREAD DATE

_____
APPROVED AS TO FORM AND SUBSTANCE:

_____ _____
ORIGINATING DEPARTMENT DATE

CITY OF LAFAYETTE

By:_____
Mayor, City of Lafayette

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

CITY OF LOUISVILLE

By:_____
Mayor, City of Louisville

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF SUPERIOR

By:_____
Mayor, Town of Superior

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF ERIE

By:_____
Mayor, Town of Erie

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF LYONS

By:_____
Mayor, Town of Lyons

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF NEDERLAND

By:_____
Mayor, Town of Nederland

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF JAMESTOWN

By:_____
Mayor, Town of Jamestown

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

TOWN OF WARD

By:_____
Mayor, Town of Ward

_____
Date

SEAL

ATTEST:

_____
Clerk to the City Council

CITY OF BOULDER,
a Colorado home rule city

_____
Nuria Rivera-Vandermyde
City Manager

Date:_____

ATTEST:

_____
City Clerk

Date: _____

APPROVED AS TO FORM:

_____
City Attorney's Office

Date: _____

EXHIBIT A

Allocation of Funding

The intention of the Consortium is to provide the majority of the annual HOME fund allocation to support a single project where possible. This annual allocation does not include the funds required to be set aside to support Community Housing Development Organization ("CHDO") development activities (15 percent), the program administration portion (10 percent), or Broomfield's annual allocation (13 percent). Funds will rotate to different Consortium Members each year with the exception of the City of Boulder which will receive allocations for two consecutive years. The proposed multi-year rotation cycle is intended to be comparable to the HOME Consortium shares set forth in the HUD HOME Consortium Builder or other HUD estimating tool. The estimated annual funding will be adjusted according to actual funding allocated by HUD.

Funds will generally rotate according to the following schedule:

Consortium Members & Lead Entity	Year 1 and 5	Year2 and 6	Year 3	Year4
City of Boulder (PJ or Lead Entity)			**X**	**X**
City of Longmont	**X**			
Boulder County		**X**		
City and County of Broomfield*	**X**	**X**	**X**	**X**
CHDO Reserve	**X**	**X**	**X**	**X**

*Broomfield is electing to maintain its annual allocation to support its ongoing TBRA program.

Funding priority will be guided by the agreed upon schedule. Each Consortium Member referenced above is in line to receive an allocation.

There is an exception to having a fixed position in the fund rotation if a Consortium Member elects to receive an annual program allocation. While this election excludes the Consortium Member from a fixed position in the rotation, it does not eliminate the possibility of this Consortium Member being considered for the allocation when another project is not identified. The cities of Lafayette, and Louisville, and the towns of Lyons, Superior, Jamestown, Nederland, Ward and Erie may access funds through Boulder County, who is the designated "fiscal agent" within the consortium for the smaller municipalities.

It is the intent of the Consortium Members to meet the CHDO requirements jointly in the distribution of funds. Annually, the CHDO set aside allocation will be distributed based on the location of a CHOO-eligible project. Priority will be given to a CHOO project located in the Consortium Member receiving the primary allocation in each year. If that Participating Jurisdiction cannot identify a CHDO-eligible project within their geographic boundary(ies) that will meet the HOME requirements (timeliness, set aside, etc.), it will be the responsibility of all Consortium Members to seek non-profit agencies that are eligible to receive CHDO funds.

Potential HOME projects will be presented, reviewed, prioritized and selected jointly by the Consortium Members. Following approval by the Consortium Members, if a governing body

exists in the jurisdiction receiving the HOME funding, the project(s) will be presented to the governing body for local approval. The City of Longmont Housing and Community Investment staff receives funding recommendations from two advisory groups with their City Council approving projects. The Broomfield County Commissioners approve projects located in the City and County of Broomfield. Projects located within the City of Boulder will be reviewed and recommended by the City Manager appointed Technical Review Group. The Board of County Commissioners approve projects located throughout Boulder County. Following local approval where applicable, as the Lead Entity assigned the fiduciary responsibility of the HOME Consortium, the City of Boulder City Manager will approve all HOME funding allocations.

SUBJECT: **SWEARING IN OF PET MAYOR HAZEL THE CAT**

DATE: **MAY 20, 2025**

PREPARED BY: **MANDY PERERA, RECREATION SUPERVISOR II**
JESSICA SCHWARTZ, LIBRARIAN I

PRESENTED BY: **YOUTH ADVISORY BOARD**

SUMMARY:
The City of Louisville Youth Advisory Board is excited to announce the winner of the City's 2025 Pet Mayor Election. Congratulations to Pet Mayor Hazel the Cat!

Keep your eye out for Hazel the Cat around the City as well as leading the Labor Day Pet Parade on Monday, September 1, 2025.

Thank you to all the pets that participated, the voters, City Council, and everyone else that made this PAWssible.

Thank you also to Arlo and Hops, the first Co-Pet Mayors of Louisville for their service!

BACKGROUND / PRIOR DISCUSSIONS:

Louisville's First Pet Mayors, Co-Pet Mayors, Arlo and Hops were sworn in by City Council on May 16th 2023. They led the 2023 Labor Day Pet Parade,

ANALYSIS:
The Youth Advisory Board's second pet mayor election drew 47 candidates with 10 moving into the final round of voting. There were 953 total votes cast, with Hazel the Cat garnering 216 votes for the win. The Pet Mayor Elections have the highest engagement on the City's Engage Louisville page. The 2023 election is in first place, the 2025 election is in second place and the Comprehensive Plan engagement is in third place.

Taking the lessons learned from the prior election, the Youth Advisory Board engaged in communications to the candidates with pun-filled emails, instituted a candidate Meet & Greet and required voters to register prior to casting their ballot.

The project's mission is to spread a sense of community and "paw-sitivity," educate youth on the power of voting, and how their voice impacts issues that affect their communities.

2025 COUNCIL WORK PLAN:
The Youth Advisory Board's Pet Mayor program supports council's work plan by engaging youth in their City, providing an opportunity to learn about voting and how their voice can impact the community, supporting council's equity, diversity, and inclusion lens.

FISCAL IMPACT:
Budgeted?: **N/A**
N/A – No anticipated fiscal impact.

ALTERNATIVE(S):
N/A - Presentation of the 2025-2027 Pet Mayor.

RECOMMENDATION:
Swear in new pet mayor.

ATTACHMENT(S):
1. 2025-2027 Pet Mayor Oath of Office

STATE OF COLORADO

COUNTY OF BOULDER

CITY OF LOUISVILLE

City of Louisville
COLORADO • SINCE 1878

OATH OF OFFICE

I, Hazel the Cat, do solemnly affirm that I will support the Constitution of the United States of America, the Constitution of the State of Colorado, the Ordinances and the Home Rule Charter of the City of Louisville, Colorado; and faithfully perform the duties of the office of Pet Mayor, upon which I am about to enter.

_____

Hazel the Cat, Pet Mayor of Louisville

Subscribed and sworn before me this 20th day of May 2025.

_____

Christopher M. Leh, Mayor

City of Louisville
COLORADO • SINCE 1878

Lesbian, Gay, Bisexual, Transgender, and Queer Plus Pride Month Proclamation June 2025

WHEREAS, June is celebrated nationally and internationally as LGBTQ+ Pride Month, commemorating the 1969 Stonewall Uprising in New York City, a pivotal event in the movement for LGBTQ+ rights and liberation; and

WHEREAS, although much progress has been achieved, efforts to undermine the rights and liberties of LGBTQ+ people nationwide have continued to result in discrimination, violence, and barriers to full participation in society; and

WHEREAS, Louisville recognizes that visibility, advocacy, local engagement and education are vital to creating a community where all individuals can live safely and free from discrimination; and

WHEREAS, the LGBTQ+ community has made and continues to make significant contributions to the cultural, civic, and economic successes of the City of Louisville and the State of Colorado; and

WHEREAS, the Progress Pride Flag symbolizes the history of the LGBTQ+ movement and solidarity with all members of the LGBTQ+ community as they continue to fight for recognition and liberation; and

WHEREAS, Pride Month is an opportunity to honor the history of the LGBTQ+ rights movement, to reflect on the ongoing struggle for equality, and to celebrate Louisville's LGBTQ+ residents; and

WHEREAS, in June and in every month, the City of Louisville is committed to supporting the right of all of its residents, regardless of their sexual orientation, gender identity, or gender expression, to live as their authentic selves; and

NOW, THEREFORE BE IT RESOLVED that we, the Louisville City Council, hereby proclaims the month of June 2025 as Pride Month in support of the LGBTQ+ community.

BE IT FURTHER RESOLVED the Pride flag will fly throughout the month of June, recognizing all LGBTQ+ residents whose influential and lasting contributions make Louisville an inclusive community in which to live, work and visit. The City of Louisville celebrates the resiliency and ongoing contributions of the Lesbian, Gay, Bisexual, Transgender, and Queer Plus communities, and reaffirms the City's dedication to collectively work in building a safe and inclusive society that values all people.

Dated this 20th day of May 2025

_____
Christopher M. Mayor Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

City of Louisville

2025 MEMORIAL DAY PROCLAMATION

WHEREAS, the first national observance of Memorial Day occurred on May 30, 1868, as Decoration Day; and

WHEREAS, in 1968 Congress changed the observance to the last Monday in May, and in 1971 standardized the name as "Memorial Day"; and

WHEREAS, from the opening battles of the American Revolution to today we remember the more than one million Americans who have made the ultimate sacrifice in selfless service to their country; and

WHEREAS, we especially remember the 16 Louisville residents that gave their lives in World War I and World War II; and

WHEREAS, this is also a day to remember the more than 500,000 citizens who were prisoners of war and the more than 80,000 who have been declared missing in action; and

WHEREAS, we honor the memories of all the fallen men and women who helped preserve the freedoms we enjoy today and pray their sacrifice will never be in vain; and

NOW, THEREFORE, we, the Louisville City Council, do hereby proclaim May 26, 2025, as a solemn day of reflection for those that shall never be forgotten.

DATED this 20th day of May 2025

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

NATIONAL GUN VIOLENCE AWARENESS DAY PROCLAMATION
JUNE 6, 2025

WHEREAS, every day, more than 125 Americans are killed by gun violence and Americans are 26 times more likely to be killed with guns than people in other developed countries; and

WHEREAS, city councils and law enforcement officers know their communities best, are the most familiar with local criminal activity and how to address it, and are best positioned to understand how to keep their citizens safe; and

WHEREAS, June 7, 2025, would have been the 28th birthday of Hadiya Pendleton, a teenager who marched in President Obama's second inaugural parade and was tragically shot and killed just weeks later; and

WHEREAS, to help honor Hadiya – and the 125 Americans whose lives are cut short and the countless survivors who are injured by shootings every day – a national coalition of organizations has designated June 6, 2025, as National Gun Violence Awareness Day; and

WHEREAS, the idea was inspired by a group of Hadiya's friends, who asked their classmates to commemorate her life by wearing orange; they chose this color because hunters wear orange to announce themselves to other hunters when out in the woods and orange is a color that symbolizes the value of human life; and

WHEREAS, anyone can join this campaign by pledging to Wear Orange on June 7 to help raise awareness about gun violence; and

WHEREAS, by wearing orange on June 6 - 8, Americans will raise awareness about gun violence and honor the lives and lost human potential of Americans stolen by gun violence; and

WHEREAS, we renew our commitment to reduce gun violence and pledge to do all we can to keep firearms out of the wrong hands and encourage responsible gun ownership to help keep our children safe.

NOW, THEREFORE BE IT RESOLVED, that, we the Louisville City Council, do hereby declare June 6, 2025, to be National Gun Violence Awareness Day in the City of Louisville to honor and remember all victims and survivors of gun violence and to declare that we as a country must do more to reduce gun violence.

DATED this 20th day of May 2025

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 8E

SUBJECT: **2025 BUDGET AMENDMENT**

i. **RESOLUTION NO. 30, SERIES 2025 – A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE GENERAL FUND, CONSERVATION TRUST - LOTTERY FUND, HISTORIC PRESERVATION FUND, RECREATION FUND, OPEN SPACE FUND, PARKS FUND, CAPITAL PROJECTS FUND, IMPACT FEE FUND, WATER UTILITY FUND, WASTEWATER UTILITY FUND, STORM WATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND, TECHNOLOGY MANAGEMENT FUND AND FLEET MANAGEMENT FUND FOR CARRY FORWARD OF APPROPRIATIONS AND ADDITIONAL APPROPRIATIONS WITHIN SUCH FUNDS AND ADJUSTING BUDGETED REVENUE IN THE GENERAL FUND, CAPITAL PROJECTS FUND, WASTEWATER UTILITY FUND, SOLID WASTE AND RECYCLING UTILITY FUND AND GOLF COURSE FUND**

ii. **RESOLUTION NO. 31, SERIES 2025 – A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE LOUISVILLE REVITALIZATION COMMISSION**

DATE: **MAY 20, 2025**

PREPARED BY: **RYDER BAILEY, CPA, FINANCE DIRECTOR**
MAHYAR MANSURABADI, FINANCIAL ANALYST

PRESENTED BY: **RYDER BAILEY, CPA, FINANCE DIRECTOR**
MAHYAR MANSURABADI, FINANCIAL ANALYST

SUMMARY:
Staff is seeking Council's approval of the First Amendment to the 2025 City and Louisville Revitalization Commission (LRC) Budgets necessary to complete budgeted and existing Capital projects and Department Operational functions and goals.

BACKGROUND/PRIOR DISCUSSIONS:
This information was presented and recommended for approval by the City Finance Committee on April 17. Budget amendments are done at least once a year to accommodate carry forwards and other adjustments.

ANALYSIS:

Attached to this communication are Appendices (A-F) to the proposed Resolutions. The amendment contains six general sections/purposes, which can be summarized as Capital carry forward of Prior Year appropriations, previously approved Council Capital and Operational Adjustments since the 2025 Budget Adoption, City Staff recommended appropriation adjustments, adjustments to City Sources/Revenue, adjustments to interfund transfers and adjustments to LRC appropriations and revenues, all of which correspond to the following appendices:

A. Carry forward of remaining and unused appropriations from 2024 to 2025 for capital projects that Council approved for 2024 but, for various reasons, need to extend into 2025. Staff is requesting unspent budgets for certain significant projects not completed or equipment not purchased in 2024 to be added to the 2025 budget. The total amount of this portion of the expenditure amendment, broken out by Fund as follows;

   a. Fund 101 – General Fund - $169,700
   b. Fund 202 – Conservation Trust - $261,035
   c. Fund 207 – Historical Preservation - $60,850
   d. Fund 208 – Recreation Center- $40,000
   e. Fund 210 – Open Space - $431,319
   f. Fund 211 – Parks - $778,617
   g. Fund 301 – Capital - $16,486,860
   h. Fund 501 – Utilities/Water - $10,982,972
   i. Fund 502 – Utilities/Wastewater - $4,532,833
   j. Fund 503 – Utilities/Storm - $878,098
   k. Fund 602 – Technology - $9,209
   l. Fund 603 – Fleet - $125,137
   Total - $34,756,631

   Line-item detail of this Section can be found in Appendix A

B. Adopt previous Council-approved operational and capital appropriation adjustments to the 2025 expenditure budget for items that staff did not anticipate, or were not measurable, at the time Council adopted the original 2025 budget last November. The total amount of this portion of the expenditure amendment, broken out by fund is as follows;

   a. Fund 101 – General - $127,000
   b. Fund 301 – Capital - $346,989
   c. Fund 501 – Utilities/Water - $550,500
   Total - $1,029,489

   Line-item detail of this Section can be found in Appendix B

C. Adopt other Staff Recommended operating appropriation adjustments to 2025 expenditures for grants, art sculpture funded by the LRC, adjustments to Solid Waste & Recycling to align with contract expense, and administrative close out entries. The total amount of this portion of the expenditure amendment, broken out by fund is as follows;

a. Fund 101 – General - $103,500
b. Fund 210 – Open Space - $(20,000)
c. Fund 510 – Solid Waste & Recycling - $400,000
Total - $483,500

Line-item detail of this Section can be found in Appendix C

D. Adopt Sources/ Revenue adjustments to the 2025 Budget. The total amount of this portion of the amendment, broken out by fund is as follows;

a. Fund 101 – General - $70,700
b. Fund 301 – Capital - $10,701,558
c. Fund 510 – Solid Waste & Recycling - $400,000
d. Fund 520 – Golf - $508,000
Total - $11,680,258

Line-item detail of this Section can be found in Appendix D

E. Adopt Sources and Uses transfer appropriations to the 2025 Budget. The total amount of this portion of the amendment, broken out by fund is as follows;

a. Fund 208 – Recreation - $945,000
b. Fund 301 – Capital - $(1,069,216)
c. Fund 302 – Impact Fee - $124,216
d. Fund 501 – Water - $600,000
e. Fund 502 – Wastewater - $(600,000)
Total - $0

Line-item detail of this Section can be found in Appendix E

F. Carry forward unused appropriations from 2024 to 2025 for the LRC that LRC and Council approved for 2024 but, for various reasons, need to extend into 2025 and Revenue adjustments to align with the timing of Bond.

a. Fund 221 – Urban Revitalization District - $850,700
Total - $850,700

Line-item detail of this Section can be found in Appendix F

Note: The proposed LRC budget amendment was reviewed and approved by the LRC at their April 9th meeting.

SUMMARY OF ADJUSTMENTS SINCE THE APRIL 17th FINANCE COMMITTEE MEETING:

No adjustments have been made to this item from the April Finance Committee presentation.

2025 COUNCIL WORK PLAN:
The budget amendments support all City work, including items on the 2025 Council City Work Plan, particularly supporting Core Services.

FISCAL IMPACT:
The proposed budget amendment increases the City expenditure budget by $37,938,836, offset by additional revenues in the amount of $13,349,474, for a net impact to all City funds of $24,589,362.

The proposed budget amendment increases the appropriations within the LRC 2025 budget by $4,073,170 to $6,173,870, offset by additional revenues in the amount of $1,250,000, for a net impact of $850,700.

The fiscal impact of the proposed amendment is summarized by Fund and found on Attachment (3) titled 'Summary Detail of the Impacts to the City's 2025 Budget'.

Upon approval of this adjustment, all funds with reserve requirements are to remain in full compliance with City Financial Reserve Policies.

ALTERNATIVES:
Council may choose to approve this amendment as recommended, and as supported by the Finance Committee. Council may propose to modify or not approve the amendment. It should be noted, many of the items presented have already been approved by Council and this represents the formal amendment to the budget subsequent to those individual approvals. Changing course at this point would likely incur greater costs to the City and will have service level impacts across many programs and services.

RECOMMENDATION:
Council is being asked to approve the proposed budget amendments to the Budget Year 2025 necessary to complete budgeted and existing Capital projects and Department Operational functions and goals.

ATTACHMENTS

1. Resolution No. 30, Series 2025 – Citywide
1a. Appendices A - E
2. Resolution No. 31, Series 2025 – Louisville Revitalization Commission
2a. Appendix F

3. Summary Detail of the Impacts to the City's 2025 Budget
4. PowerPoint Presentation

RESOLUTION NO. 30
SERIES 2025

A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE GENERAL FUND, CONSERVATION TRUST - LOTTERY FUND, HISTORIC PRESERVATION FUND, RECREATION FUND, OPEN SPACE FUND, PARKS FUND, CAPITAL PROJECTS FUND, IMPACT FEE FUND, WATER UTILITY FUND, WASTEWATER UTILITY FUND, STORM WATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND, TECHNOLOGY MANAGEMENT FUND AND FLEET MANAGEMENT FUND FOR CARRY FORWARD OF APPROPRIATIONS AND ADDITIONAL APPROPRIATIONS WITHIN SUCH FUNDS AND ADJUSTING BUDGETED REVENUE IN THE GENERAL FUND, CAPITAL PROJECTS FUND, WASTEWATER UTILITY FUND, SOLID WASTE & RECYCLING UTILITY FUND AND GOLF COURSE FUND

WHEREAS, the need exists to amend the 2025 budget by amending appropriations in the General Fund, Conservation Trust - Lottery Fund, Historic Preservation Fund, Recreation Fund, Open Space Fund, Parks Fund, Capital Projects Fund, Impact Fee Fund, Water Utility Fund, Wastewater Utility Fund, Storm Water Utility Fund, Solid Waste & Recycling Utility Fund, Technology Management Fund and Fleet Management Fund for carry forward of appropriations and additional appropriations within such funds and adjusting budgeted revenue in the General Fund, Capital Projects Fund, Wastewater Utility Fund, Solid Waste & Recycling Utility Fund and Golf Course Fund; and

WHEREAS, the need to amend the 2025 budget arises:

1. To carry forward unused appropriations from 2024 to 2025 for projects that Council approved for 2024 but, for various reasons, needed to extend into 2025;
2. To adopt other operating and capital adjustments to the 2025 expenditure budget for previously Council approved items since Council adopted the original 2025 budget;
3. To adopt other operating adjustments to the 2025 expenditure budget recommended by the Staff;

WHEREAS, funding for any increase in appropriations will come from new/increased revenue or from fund reserves.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO TO ADJUST APPROPRIATIONS AS FOLLOWS:

City of Louisville, Colorado
Schedule of Appropriations by Fund
2025 Budget

Fund Description	Adopted Budget	Sum of Budget Amendments	2025 Appropriations
General Fund	29,252,703	400,200	29,652,903
Conservation Trust-LotteryFund	300,100	261,035	561,135
Historic Preservation Fund	966,343	60,850	1,027,193
Recreation Center Fund	6,959,517	985,000	7,944,517
Open Space Fund	2,235,956	411,319	2,647,275
Parks Fund	2,782,984	778,617	3,561,601
Capital Projects Fund	20,917,113	16,833,849	37,750,962
Impact Fee Fund	340,000	124,216	464,216
Water Utility Fund	10,999,005	12,138,472	23,137,477
Wastewater Utility Fund	6,186,791	4,532,833	10,719,624
Storm Water Utility Fund	1,412,396	878,098	2,290,494
Solid Waste&Recyc Utility Fund	1,927,823	400,000	2,327,823
Technology Management Fund	146,300	9,209	155,509
Fleet Management Fund	169,700	125,137	294,837
Total Appropriations	$ 84,596,730	$ 37,938,836	$ 122,535,566

Summary of Revenue Adjustments

Fund Description	Adopted Budget	Sum of Budget Amendments	2025 Revenues
General Fund	27,093,241	70,700	27,163,941
Capital Projects Fund	18,856,013	11,770,774	30,626,787
Wastewater Utility Fund	5,714,795	600,000	6,314,795
Solid Waste&Recyc Utility Fund	1,903,631	400,000	2,303,631
Golf Course Fund	3,089,321	508,000	3,597,321
Total Revenues	$ 56,657,001	$ 13,349,474	$ 70,006,475

PASSED AND ADOPTED this 20th day of May 2025.

Christopher M Leh, Mayor

ATTEST:

Genny Kline, Interim City Clerk

Appendix A
City of Louisville, Colorado
2025 Budget Amendment Detail
Changes to 2025 Expenditure Budget - Carry Forward

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
101515-540910	Prof Serv-Consulting	450,000	150,000	600,000	Land code rewrite
101730-530820	Arts Opportunity Programming	25,000	19,700	44,700	Carry forward funds to cover the cost of the replacement sign at the Arts Center.
101 Total			**169,700**		
202511-630048	Playgrounds (40%)	-	197,279	197,279	Playground renovations ongoing at Enclave/Sunflower and planned for Memory Square winter 2025/26
202511-660015	Wayfinding & Signs	-	63,756	63,756	Phase two wayfinding under design for implementation
202 Total			**261,035**		
207542-620113	Historical Museum Structural	-	60,850	60,850	RFP expected in 2025 for remaining scope.
207 Total			**60,850**		
208535-620139	Miracote Deck	170,000	40,000	210,000	Bidding in progress for pool deck renovations to occur August 2025
208 Total			**40,000**		
210522-630188	PROS Long Range Plan	-	150,000	150,000	PROS LR and Trail MP Carry Forward - PY Was an operating acct
210524-660081	Trail Improvements	-	126,475	126,475	Hecla Lake trail resurfacing
210524-660300	Emergency & Maintenance Access	-	64,844	64,844	Construction in progress
210528-660316	Trails MasterPlan	-	50,000	50,000	PROS LR and Trail MP Carry Forward - PY Was an operating acct
210750-540900	Prof Services	50,000	40,000	90,000	Veg study is continuing into 2025
210 Total			**431,319**		
211511-630071	Parks and Open Space Signs	-	29,888	29,888	Carry Forward into 2025
211511-630101	Irrig Replacements & Improvs	-	463,702	463,702	Phase one irrigation controller replacements underway spring 2025 (funding combined with 301511-630101)
211511-630157	Park Site Furnishing Replacement	-	1,500	1,500	Carry Forward
211511-630188	PROS Long Range Plan	-	150,000	150,000	PROS LR and Trail MP Carry Forward - PY Was an operating acct
211511-640000	Additions to Fleet - Parks (60%)	-	13,228	13,228	Project continuing into 2025
211511-660292	Public Landscape Improvements	-	70,298	70,298	Planning for improvements on-going for spring/summer implementation (funding combined with 301511-660292)
211511-660316	Trails MasterPlan	-	50,000	50,000	PROS LR and Trail MP Carry Forward - PY Was an operating acct
211 Total			**778,617**		

Appendix A
City of Louisville, Colorado
2025 Budget Amendment Detail
Changes to 2025 Expenditure Budget - Carry Forward

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
301103-620133	Building Energy Efficiency	-	369,463	369,463	Part of Decarbonization Plan
301173-650058	City-Wide Telephone Syst Upgr	-	19,461	19,461	Project continuing into 2025
301173-660258	Middle Mile Fiber	100,000	20,221	120,221	Underway / In Progress (CF)
301191-640162	Generators for Critical Facili	-	4,900,556	4,900,556	Grant funded project continuing into 2025
301191-640165	City Svcs Security Cam Replace	-	44,727	44,727	Project underway
301211-620116	Police Dept Basement Restroom	-	137,257	137,257	Troubleshooting the new HVAC. Project will close in 2025.
301211-650106	Bi-Directional 700-800 Amplifier	-	187,000	187,000	Project is in-progress with equipment selection/vendor meetings. Item need for Emergency response/management space at PD
301211-650107	Communication Equip for EOC	-	29,500	29,500	Project is in-progress with equipment selection/prospective vendor meetings. Item need for Emergency response/management space in PD basement
301219-620120	Police Dept Electrical Work	-	20,083	20,083	Troubleshooting the new HVAC. Project will close in 2025.
301219-620148	Police/Court Roof Replacement	-	274,000	274,000	Expected to be completed in 2025
301312-660222	SH42 Corridor Improvements	-	6,860,617	6,860,617	Project is on-going
301313-630143	Median Landscape Reno	-	795,207	795,207	Phase two of median renovations being planned for fall 2025
301313-640000	Additions to Fleet - Parks (40%)	-	32,000	32,000	Project continuing into 2025
301313-660103	Median Improvements (& Playground	-	13,378	13,378	Median design on-going under this contract
301314-640001	Machinery & Equipment	-	70,735	70,735	Project continuing into 2025
301511-630048	Playgrounds (60%)	-	1,322,220	1,322,220	Construction underway at Enclave/Sunflower. planning for renovations at Memory Square for winter 2025/26
301511-630101	Irrig Replacements & Improvs	100,000	452,168	552,168	Phase one irrigation controller replacements underway spring 2025 (funding combined with 211511-630101)
301511-630118	Tennis Court Renovation	-	59,218	59,218	Project continuing into 2025
301511-630171	Irrigation Pump Replacement	-	30,000	30,000	Project continuing into 2025
301511-630172	Park Sign Replacement	-	2,792	2,792	Project continuing into 2025
301511-630175	Sports Field Lighting	-	247,944	247,944	Working on quotes for LED conversion
301511-630176	Tennis Court Rebuild	-	127,953	127,953	Completing work at mission green court spring 2025
301511-660292	Public Landscape Improvements	15,000	34,200	49,200	landscaping inventory improved for 2025 projects (funding combined with 211511-660292)
301511-660301	Surfacing Improvements	25,000	12,375	37,375	Surfacing at playgrounds and athletic infields in 2025
301524-660290	Open Space/Trail Improvements	-	32,374	32,374	Hecla Lake trail resurfacing
301537-620132	Golf Maint. Facility Improvements	-	119,734	119,734	Design of new maintenance building on-going
301537-630115	Cart Paths	-	15,711	15,711	Project continuing into 2025
301551-620036	Library Building Improvements	-	234,678	234,678	Project staring in April 2025
301552-620113	Historical Museum Structural	-	9,710	9,710	Project was on-hold. Expected to start in 2025
301553-620145	Fire Detection System	-	11,579	11,579	Completed in Jan 2025
301 Total			**16,486,860**		
501498-620146	NWTP HVAC Replacement	-	35,000	35,000	Part of Decarbonization Plan
501498-640045	Meters	1,900,000	1,899,871	3,799,871	Project to be awarded and begin this year
501498-640148	Chemical Mixing Equip Replace	-	13,604	13,604	May need additional repairs
501498-660141	Filter Media Replacement-No WTP	-	224,529	224,529	Project under construction
501498-660181	Water Line Replacement	1,398,000	300,000	1,698,000	Cary forward $300K from account 660181
501499-620149	SCWTP Administration Bldg	-	2,289,805	2,289,805	Currently in Design
501499-660289	Raw Water Infrastructure	-	495,770	495,770	Easement acquisitions are underway.
501499-660295	SCWTP Residual Management	-	5,724,393	5,724,393	Project in design
501 Total			**10,982,972**		
502498-640000	WWTP Vehicle & Equipment Replacem	82,100	516,214	598,314	Project continuing into 2025
502498-660297	Sewer Pipeline Rehab/Replace	-	125,019	125,019	Project continuing into 2025
502499-640159	Sewer Service Lateral Backflow	-	130,000	130,000	Project pushed to 2025
502499-660285	WWTP Solids Handling Upgrade	-	3,707,390	3,707,390	Project under construction
502499-660298	Fiber Optic Loop City Rd/Redtail	-	54,210	54,210	Dependent upon timing of Red Tail project
502 Total			**4,532,833**		
503499-640000	Motor Vehicle/Road Equipment	189,600	103,061	292,661	Project continuing into 2025
503499-660273	Storm Water Quality Master Plan	-	152,154	152,154	Project still ongoing
503499-660287	Storm Water Quality Master Plan	-	622,883	622,883	Project still ongoing
503 Total			**878,098**		
602120-650015	Computer-Hardware	142,550	3,419	145,969	PC replacement program
602120-650115	PW Electronic Review Conversio	-	5,790	5,790	Cameron wants to make a purchase
602 Total			**9,209**		
603511-640000	Motor Vehicle/Road Equipment	-	125,137	125,137	2024 funds are needed to support 2025 replacements- 2024 limited inventory available
603 Total			**125,137**		
Totals			**34,756,631**		

Appendix B

City of Louisville, Colorado

2025 Budget Amendment Detail

Changes to 2025 Expenditure Budget - Items Previously Approved by Council

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes/Council Approval Date
101141-51XXXX	Personnel	623,206	(122,500)	500,706	Shift appr. from personnel to contractor for mitigation (grant funded) 3/4/25
101141-540900	Prof Serv-Other	5,000	122,500	127,500	Shift appr. from personnel to contractor for mitigation (grant funded) 3/4/25
101145-532360	Vacancy Bonus Incentive	-	127,000	127,000	BAP Vacancy Bonuses for Kroger 8/6/24 and Shamrock Foods 7/11/23
101 Total			**127,000**		
301313-640183	Block party trailer	-	30,000	30,000	Block party trailer 4/1/25. Partially externally funded.
301313-660310	Downtown Vision CIP	1,000,000	192,773	1,192,773	Contract came in higher than anticipated 1/21/25
301551-620036	Library Building Improvements	-	124,216	124,216	Proposal came in higher than anticipated 2/18/25
301 Total			**346,989**		
501461-550020	Parts/Repairs/Maint-Equip	235,000	165,000	400,000	HBWTP Drying Bed Media Replacement 4/1/25
501499-660317	Lead & Copper Water srvc Line	-	390,500	390,500	Water Service Line 4/1/25
501 Total			**555,500**		
Totals			**1,029,489**		

Appendix C

City of Louisville, Colorado
2025 Budget Amendment Detail
Changes to 2025 Expenditure Budget - Staff Recommendations

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
101141-522500	Non-Capital Furn/Equip/Tools	4,000	7,300	11,300	ULI Grant expense (grant funded)
101610-538395	Museum Grant Expense	700	25,500	26,200	Aligning expense with grant SCFD revenue
101730-530820	Arts Opportunity Programming	25,000	13,800	38,800	Greg Fields Sculpture - Funded by LRC/URD *(532303)*
101600-538390	Library Grant Expense	11,000	56,900	67,900	Library Foundation grant funded expenses
101 Total			**103,500**		
210524-640001	Machinery and Equipment	20,000	(20,000)	-	Work complete in 2024, appropriations no longer needed
210 Total			**(20,000)**		
510481-540590	Prof Serv-Solid Waste Haulin	1,665,200	400,000	2,065,200	Adjusting budget to align with Republic contract expense
510 Total			**400,000**		
Totals			**483,500**		

Appendix D

City of Louisville, Colorado
2025 Budget Amendment Detail
Changes to 2025 Revenue Budget

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
101055-464111	Capital Contribution from URD	-	13,800	13,800	Greg Fields Sculpture, funding is provided by the LRC/URD
101055-464145	Library Foundation Contribution	-	56,900	56,900	Library Foundation provided funding
101 Total			**70,700**		
301001-431000	Federal Grants	-	4,379,139	4,379,139	FEMA HMGP - Generators
301001-431000	Federal Grants	-	2,809,419	2,809,419	HW42 federal grant
301001-432200	State Grant	-	3,000,000	3,000,000	HW42 state grant
301001-432500	State Grant - GOCO	-	500,000	500,000	GOCO Grant for playgrounds
301001-464114	Donations	-	13,000	13,000	Block party trailer funding (Marshall Together)
301 Total			**10,701,558**		
510032-443200	Residential User Fee	1,665,190	400,000	2,065,190	Adjusting budget to align with Republic contract expense
510 Total			**400,000**		
520053-431500	FEMA Grant 2013 Flood	-	435,000	435,000	2013 FEMA Flood Grant
520053-432200	State Grant - Misc	-	73,000	73,000	2013 FEMA Flood Grant - State portion
520 Total			**508,000**		
Totals			**11,680,258**		

Appendix E
City of Louisville, Colorado
2025 Budget Amendment Detail
Transfers

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
208539-990306	Transfer to Cap Project-Rec	-	200,000	200,000	Broncos Donation for Playgrounds
208053-990301	Transfer to Cap Project-Rec	-	745,000	745,000	Part of Decarb HVAC plan, transferring to capital fund for Rec Center Decarb
208 Total			**945,000**		
301001-980208	Transfer from Recreation	-	(200,000)	(200,000)	Broncos Donation for Playgrounds
301001-980208	Transfer from Recreation	-	(745,000)	(745,000)	Transfer for Rec Center Decarb HVAC
301001-980302	Tfer from Impact Fee Fund	-	(124,216)	(124,216)	Transferring Library impact fee to cover library Capital Project
301 Total			**(1,069,216)**		
302910-990301	Transfer to Cap Projects Fund		124,216	124,216	Transferring Library impact fee to cover library Capital Project
302 Total			**124,216**		
501910-990502	Transfer to Wastewater	-	600,000	600,000	Wastewater interfund loan Fund $600,000 in 2025, $300,000 in 2026
501 Total			**600,000**		
502001-980501	Tfer from Water Fund	-	(600,000)	(600,000)	Wastewater interfund loan Fund $600,000 in 2025, $300,000 in 2026
502 Total			**(600,000)**		
Totals			**-**		

RESOLUTION NO. 31
SERIES 2025

A RESOLUTION AMENDING THE 2025 BUDGET BY AMENDING APPROPRIATIONS IN THE LOUISVILLE REVITALIZATION COMMISSION

WHEREAS, the need exists to amend the 2025 budget by amending appropriations in the Louisville Revitalization Commission; and

WHEREAS, the need to amend the 2025 budget arises:

1. To carry forward unused appropriations from 2024 to 2025 for projects that Council approved for 2024 but, for various reasons, needed to extend into 2025;

WHEREAS, funding for any increase in appropriations will come from new/increased revenue or from fund reserves.

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

SECTION 1. That the 2025 Louisville Revitalization Commission appropriation be increased by $2,100,700, from $4,073,170 to $6,173,870.

PASSED AND ADOPTED this 20th day of May 2025.

Christopher M Leh, Mayor

ATTEST:

Genny Kline, Interim City Clerk

Appendix F
City of Louisville, Colorado
2025 Budget Amendment Detail
Adjustments to 2025 Urban Revitalization Budget

Account Number	Account Description	Current Budget	Proposed Amendment	Proposed Budget	Comments/Notes
221065-493100	Bond Proceeds	(1,000,000)	(1,250,000)	(2,250,000)	Timing of Bond
221 Total			**(1,250,000)**		
221120-532324	Cap Contr - COL - Dwntn Vis Pl	1,000,000	1,250,000	2,250,000	Timing of Bond funded project
221120-532713	Asst Agrmnt - 1303 Empire Rd	-	650,000	650,000	Project continuing into 2025
221120-540900	Prof Serv-Other	20,000	70,000	90,000	Additional Professional Service budget for additional TIF reviews and other needed services
221120-630015	Pymts fr Contr Fund-DELO Devel	-	130,700	130,700	Project continuing into 2025
221 Total			**2,100,700**		
		Net	**850,700**		

City of Louisville, Colorado
Summary of Revenue, Expenditures, and Changes to Fund Balances
All Funds
2025 Budget

Fund Number	Fund Description	Cash Basis Beginning Fund Balance	Revenue & Other Sources	Expenditures & Other Uses		Amendment Revenue & Other Sources	Amendment Expenditures & Other Uses	Projected Ending Fund Balance	Variance Ending Fund Balance	% of Ending Fund Balance / Working Capital
101	**General**	**$ 17,430,861**	**$ 27,093,241**	**$ 27,780,263**	*[1]*	**70,700**	**400,200**	**$ 16,414,339**	**$ (1,016,522)**	**58%**
	Special Revenue Funds:									
202	Conservation Trust - Lottery	679,553	283,344	300,100		-	261,035	$ 401,762	$ (277,791)	
203	Cemetery Perpetual Care	871,329	61,331	17,600		-	-	$ 915,060	$ 43,731	
204	Cemetery	246,132	228,143	280,372		-	-	$ 193,903	$ (52,229)	69%
205	PEG Fees	16,779	16,225	20,050		-	-	$ 12,954	$ (3,825)	
206	Parking Improvement	102,368	3,034	50		-	-	$ 105,352	$ 2,984	
207	Historic Preservation	3,913,463	1,116,801	966,343		-	60,850	$ 4,003,071	$ 89,608	
208	Recreation	5,817,604	6,532,180	6,654,337	*[4]*	-	985,000	$ 4,710,447	$ (1,107,157)	62%
210	Open Space	1,766,739	2,672,348	2,120,996	*[2]*	-	411,319	$ 1,906,773	$ 140,033	75%
211	Parks	1,607,146	2,646,805	2,607,004	*[3]*	-	778,617	$ 868,330	$ (738,816)	26%
	Total Special Revenue Funds	**15,021,113**	**13,560,211**	**12,966,852**		**-**	**2,496,821**	**13,117,651**	**(1,903,462)**	
	Capital Project Funds:									
301	Capital Projects	20,454,645	18,856,013	20,917,113		11,770,774	16,833,849	$ 13,330,470	$ (7,124,175)	
302	Impact Fee	540,172	352,429	340,000		-	124,216	$ 428,385	$ (111,787)	
	Total Capital Project Funds	**20,994,818**	**19,208,442**	**21,257,113**		**11,770,774**	**16,958,065**	**13,758,855**	**(7,235,962)**	
	Debt Service Funds:									
402	Recreation Center Debt Service	839,239	1,413,484	1,742,600		-	-	$ 510,123	$ (329,116)	
	Total Debt Service Funds	**839,239**	**1,413,484**	**1,742,600**		**-**	**-**	**510,123**	**(329,116)**	
	Enterprise Funds (WC Basis):									
501	Water Utility	20,114,289	9,050,505	10,613,505	*[5]*	-	12,138,472	$ 6,412,817	$ (13,701,472)	
502	Wastewater Utility	5,550,532	5,714,795	5,949,501	*[6]*	600,000	4,532,833	$ 1,382,993	$ (4,167,539)	27%
503	Stormwater Utility	2,190,477	1,708,622	1,373,186	*[7]*	-	878,098	$ 1,647,815	$ (542,662)	
510	Solid Waste & Recycling Utility	342,391	1,903,631	1,927,823		400,000	400,000	$ 318,199	$ (24,192)	
520	Golf Course	1,418,262	3,089,321	3,743,833	*[8]*	508,000	-	$ 1,271,750	$ (146,512)	34%
	Total Enterprise Funds	**29,615,951**	**21,466,874**	**23,607,848**		**1,508,000**	**17,949,404**	**11,033,574**	**(18,582,378)**	
	Internal Service Funds (WC Basis):									
602	Technology Management	47,816	146,255	146,300		-	9,209	$ 38,562	$ (9,254)	
603	Fleet Management	793,481	27,835	169,700		-	125,137	$ 526,479	$ (267,002)	
	Total Internal Service Funds	**841,296**	**174,090**	**316,000**		**-**	**134,346**	**565,041**	**(276,256)**	
	Total All Funds	**$ 84,743,278**	**$ 82,916,341**	**$ 87,670,675**		**$ 13,349,474**	**$ 37,938,836**	**$ 55,399,583**	**$ (29,343,695)**	

[1] Projected Expenditures Include a Projected Operational "Turnback" of 5.5% , which = 1,472,440
[2] Projected Expenditures Include a Projected Operational "Turnback" of 6.0% , which = 114,960
[3] Projected Expenditures Include a Projected Operational "Turnback" of 6.0% , which = 175,980
[4] Projected Expenditures Include a Projected Operational "Turnback" of 5.0% , which = 305,180
[5] Projected Expenditures Include a Projected Operational "Turnback" of 7.0% , which = 385,500
[6] Projected Expenditures Include a Projected Operational "Turnback" of 7.0% , which = 237,290
[7] Projected Expenditures Include a Projected Operational "Turnback" of 7.0% , which = 39,210
[8] Projected Expenditures Include a Projected Operational "Turnback" of 4.0% , which = 111,200

Harper Lake

City of Louisville

Budget Amendment City and LRC 2025 Budgets

Ryder Bailey, CPA
Finance Director
May 20th, 2025

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

- Staff is seeking City Council's approval of the First Budget Amendment to the 2025 City and First Budget Amendment to the Revitalization Commission's Adopted Budgets.
- The Budget Amendment is largely administrative and is primarily driven by the timing of large capital and utility projects.
- Finance Staff "batches" budget amendments from previously heard and approved Council items.

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

- Today's amendment can be broken out into the following categories;
  - Capital Project Carry-forward (driven by timing),
  - Previously Approved Council Adjustments to Operational Budgets and Capital Projects since original Budget Adoption,
  - Staff Recommended Adjustments;
  - Adjustments to Sources/Revenues;
  - Adjustments to Interfund Transfers; and
  - Adjustments to the LRC's Budget.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

- Resolution Nos. 30 & 31 are the official amending documents and present the amendments by fund, the City's legal level of budgetary control.
- The Resolutions present the budget changes summarized by Fund.
- Appendices A - F to the Resolutions present the amendment by line item account, the greatest level of amendment detail.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

- The proposed budget amendment increases the City expenditure budget by $37,938,836, offset by additional revenues in the amount of $13,349,474, for a net impact to all City funds of $24,589,362.

- The proposed budget amendment increases the appropriations within the LRC 2025 by $2,100,700 from $4,073,170 to $6,173,870 offset by additional revenues in the amount of $1,250,000, for a net impact of $850,700.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

A. The total amount of Carry-forward appropriations from 2024 to 2025 for capital projects that Council approved for 2024 but, for various reasons, need to extend into 2025, broken out by Fund is as follows;

a. Fund 101 – General Fund - $169,700
b. Fund 202 – Conservation Trust - $261,035
c. Fund 207 – Historical Preservation - $60,850
d. Fund 208 – Recreation Center- $40,000
e. Fund 210 – Open Space - $431,319
f. Fund 211 – Parks - $778,617
g. Fund 301 – Capital - $16,486,860
h. Fund 501 – Utilities/Water - $10,982,972
i. Fund 502 – Utilities/Waste Water - $4,532,833
j. Fund 503 – Utilities/Storm - $878,098
k. Fund 602 – Technology - $9,209
l. Fund 603 – Fleet - $125,137

Total -$34,756,631

*Detail can be found in Attachment – Appendix A.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

A. The total amount of Carry-forward appropriations from 2024 to 2025 for capital projects that Council approved for 2024 but, for various reasons, need to extend into 2025. A few examples of continuing projects;
   A. Critical Facilities Generators (Grant funded) – $4.9M
   B. SH HWY 42 Corridor (Grant funded) - $6.9M
   C. Playgrounds (Grant funded) – $1.3M
   D. Utility Meter Replacement - $1.9M
   E. Sid Copeland Water Treatment Plant - $8M
      A. Admin Building - $2.3M
      B. Residual Management – $5.7M
   F. Waste Water Treatment Plant Solids Handling - $3.7M

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

B. The total amount of previously Council-approved operational and capital appropriation adjustments to the 2025 budget for items that were not part of the originally adopted 2025 is broken out by Fund as follows;
   a. Fund 101 – General - $127,000
   b. Fund 301 – Capital - $346,989
   c. Fund 501 – Utilities/Water - $555,500
   Total - $1,029,489

*Detail can be found in Attachment – Appendix B.

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

C. The total amount Staff Recommended operating appropriation adjustments to 2025 expenditures for grants, art sculpture funded by URD, adjustments to Solid Waste & Recycling to align with contract expense, and administrative close out entries is broken out by Fund as follows;

a. Fund 101 – General - $103,500
b. Fund 210 – Open Space - $(20,000)
c. Fund 510 – Solid Waste - $400,000

Total - $483,500

*Detail can be found in Attachment – Appendix C.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

D. The total amount Sources/Revenue adjustments to the 2024 Budget is $11,680,258.

Broken out by Fund as follows;

a. Fund 101 – General - $70,700
b. Fund 301 – Capital - $10,701,558
c. Fund 510 – Solid Waste - $400,000
d. Fund 520 – Golf - $508,000

Total -$11,680,258

*Detail can be found in Attachment – Appendix D.

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

E. The total amount of Transfer appropriation adjustments for 2025.

Broken out by Fund as follows;

a. Fund 208 – Recreation - $945,000
b. Fund 301 – Capital - $(1,069,216)
c. Fund 302 – Impact Fee - $124,216
d. Fund 501 – Water - $600,000
e. Fund 502 – Wastewater - $(600,000)

Total - $0

*Detail can be found in Attachment – Appendix E.

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impacts:

F. The total amount of Carry-forward appropriations for Louisville Revitalization Commission (LRC) that LRC and Council approved for 2024 but, for various reasons, need to extend into 2025 and their associated Revenue adjustments;

a. Fund 221 – LRC – Revenues $1,250,000
b. Fund 221 – LRC - Expenditures <$2,100,700>

Net Impact to Fund - $850,700

*Detail can be found in Attachment – Appendix F.

City of Louisville

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Impacts to Financial Reserves:

- Upon budget amendment adoption, all Funds with reserve requirements are projected to remain in full compliance with the City's Reserve Policies.

Fund	Minimum Reserve Met (15%)	Target Reserve Met (25%)
General Fund	√	√
Open Space Fund	√	n/a
Parks Fund	√	n/a
Cemetery Fund	√	n/a
Combined Utility Funds	n/a	√*
Recreation Fund	√	n/a
Golf Course Fund	√	n/a

*- 25% Reserve is the Minimum for Combined Utility Funds

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

Fiscal Impact by Aggregated Fund Group Type:

Fund Group	Revenue Amendment	Expenditure Amendment
General Fund	$70,700	$400,200
Special Revenue Funds (Lottery CTF, Historical Preservation, Recreation, Open Space, and Parks)	-	$2,496,821
Capital Project Fund	$11,770,774	$16,958,065
Utility and Golf Funds *(Enterprise Funds)*	$1,508,000	$17,949,404
Internal Service Funds *(Technology and Vehicle Funds)*	-	$134,346
LRC Fund*	$1,250,000	$2,100,700
Total	$14,599,474	$40,039,536

Budget Amendment – Res. Nos. 30 & 31 Amending the 2025 City and LRC Budgets

The Finance Committee reviewed and supported approval of the proposed amendment at their April 17th meeting.

Staff's Recommendation is for Council to approve the Proposed Amendment to the 2025 City and Louisville Revitalization Commission's Budget.

Thank you, City Staff is available to answer questions.

SUBJECT: DISCUSSION / DIRECTION – ACCESSORY DWELLING UNIT TAP FEES

DATE: MAY 20, 2025

PREPARED BY: KURT KOWAR, P.E., DIRECTOR OF PUBLIC WORKS AND UTILITIES

PRESENTED BY: KURT KOWAR, P.E., DIRECTOR OF PUBLIC WORKS AND UTILITIES

SUMMARY:

Accessory Dwelling Unit (ADU) Water Tap Fees

Staff is proposing consideration of 2 options and recommendation of Option #2 for water tap fees for ADU's based upon review of water usage patterns within Louisville. Options considered:

1. Accessory Dwelling Unit Water Tap Fee
    a. 0.20 single family equivalents for ADU footprints eliminating irrigated turf.
    b. 0.30 single family equivalents for ADU's not eliminating irrigated turf.

2. Urban Single Family Residential Tap Fee – Free. This option recognizes water taps sold to parcels that service single family residential as a lot that by zoning code will be allowed multiple units in the form of a primary residence and an ADU. This new category would also eliminate differentiating between ¾" and 1" taps and just recognize the service as an overall parcel.

It is also recommended that regardless of the option selected that these considerations be reevaluated after a period of 5 years. (1-3 years of ADU construction, 1-4 years of usage data collection)

Utility staff performed an exhaustive analysis of water usage records to identify current usage patterns indoors within single family homes and multifamily units as well as usage patterns outdoors for landscape irrigation. Within the single-family home customer class there is a broad range of usage between small homes with small yards all the way up to large homes with large yards resulting in differences on average of 90,000 gallons per year per parcel. Indoor usage indicates minimal variances between small and large homes (10,000 – 15,000 gallons per year) while outdoor irrigation indicates the largest differences (25,000 – 75,000 gallons per year).

ADU annual water usage data is not readily available. Analysis of Louisville data for various multifamily and senior living usage patterns per unit and overall usage of indoor gallons per capita per day usage (gpcpd ~ terminology for the average amount of water one person uses in a day) provided information that could be utilized to estimate ADU annual usage. On average it is expected that an ADU could utilize 15,000 – 25,000 gallons per year indoor usage. A reduction of 5,000 gallons per year to that estimate could be applied if the footprint of the ADU is replacing irrigated turf.

Based upon overall average differences in usage (up to 90,000 gallons per year) within the same residential customer class, integration of an ADU (15,000 – 25,000 gallons per year) into an existing residential parcel will have significantly less impact on the overall system than year to year (wet to dry) seasonal impacts. Furthermore, ADU's that replace irrigated turf reduce seasonal variation and introduce smaller consistent baseline demands.

Overall, long term improvements in water conservation through State regulation, fixture technology and performance improvement, and customer sustainability awareness have resulted in decreases in overall home average indoor and outdoor annual water use.

Margins between indoor water use in varying product types have very small differences compared to historical averages prior to conservation and awareness and low to moderate infill for single family residential parcels through ADU's likely represent a de minimis impact over the recommended 5-year evaluation period relative to climate change and outdoor irrigation demands.

Primary Residence and ADU Service Line Sizing and Configuration

By Ordinance, the City requires a separate service line per premise unless otherwise approved by the Director of Public Works under specific circumstances.

Historically, with very few occurrences, the Utility has approved use of the same service line to service a primary residence and guest house through specific circumstance review approvals. This has not been an issue due to only a handful of occurrences over time given zoning code constraints.

With adoption of amended zoning code ordinances allowing for ADU's, the City will update Title 13, Water and Sewer ordinance to reflect a common service line between the Primary Residence and ADU as an approved means of physical service.

This does not preclude the responsibility of owners to have proper analysis done to determine the proper water service size given distribution system pressure, existing and proposed fixture demands, and internal and external service line length configurations. All these considerations can still have an impact that may require an upsize in the service line to provide adequate water flow. In this scenario, there would not be a tap fee for upsizing

from ¾" to 1" however there will be costs associated with new metering equipment and appurtenances that will be the responsibility of the owner.

BACKGROUND / PRIOR DISCUSSIONS:
Colorado House Bill HB24-1152 requires that on or after June 30, 2025, jurisdictions allow provision for one accessory dwelling unit as an accessory to a single unit detached dwelling. Accessory dwelling units provide solutions to mitigate housing affordability challenges and allow options to the community for aging in place and intergenerational living arrangements enabling child or elder care arrangements and may assist low to moderate income families with rental income.

The City recently adopted Ordinance No. 1893, Series 2025 modifying the definition of family and is progressing through the second reading of Ordinance No. 1892 Series 2025 regarding regulation of accessory dwelling units (ADU) to remove barriers to implementation of HB24-1152.

The City Council has requested the Utility to review water tap fees in relation to current policy changes and determine how ADU's may be integrated into Title 13, Water and Sewers, of the Louisville Municipal Code.

ANALYSIS:
Exhaustive analysis has been completed and is attached for detailed backup.

Essentially:

- 16 guiding principles incorporating the City Council Workplan priorities and lenses and the 2013 Utility Rate Study and Rate Task Force Pricing Objective Rankings were evaluated to support recommendation of Option 1 – 0.20-0.30 tap fee and Option 2 – free Urban Single Family Tap Fee dependent upon individual interpretation.

- ¾" and 1" single family equivalents do not have recognizable differences in usage to the system.

- There are significant usage variations within the single family customer class (up to 90,000 gallons per year per home) that represent internal class inequity.

- Estimated ADU impacts to the system (10,000 – 25,000 gallons per year per ADU) that are real but are anticipated to be minimal comparable to normal seasonal outdoor irrigation demand and variations.

- Review of neighboring and regional communities indicates a broad variety of methodologies and costs for an ADU. The most common community approach,

using fixture count and annual demand analysis would result in 40-65% of potential parcels requiring to pay a $41,800 upsize fee from ¾" to 1" depending on the size of ADU constructed. Analysis indicates low ¾" to 1" residential indoor use variance. Consolidating to the Urban Tap fee reduces applicant fixture count or annual demand anxiety and significantly reduces administrative overhead.

- Review of alternative fixture count methodologies such as the American Water Works Association M22 Manual + International Plumbing Code (IPC) versus the City's existing 2018 IPC methodology does provide different sizing results relative to the ADU analysis. In addition, consolidation of ¾" and 1" tap sizing into a proposed Urban Single Family Tap Fee eliminates fixture count anxiety for purposes of tap fee cost. Regardless, staff will explore the M22+IPC methodology through the City of Denver over the short to midterm to determine if there is value to change.

- Review of overall City customer water usage indicates that long term overall water conservation trends using billing data from test years 2012 and 2024 indicate potential opportunity to reduce the amount of water purchased for each single family equivalent (sfe) indirectly reducing the overall cost of a sfe tap fee. Additionally, analysis in the mid to long term will be conducted to determine if this trend provides for a confidence level to shift the base amount of water forecasting and purchasing for an sfe.

2025 COUNCIL WORK PLAN:
Approval of option 2 supports Affordable Housing, Core Services, Economic Vitality, EDI, and Environmental Sustainability.

FISCAL IMPACT:
Budgeted?: **No**

The City's Utility realizes revenue through monthly user rates for indoor and outdoor water usage and one time tap fees that buy in to existing infrastructure and purchase water rights.

ADU's represent new units or growth within the City and from a pure cost recovery standpoint could be considered required to pay a unit tap fee proportional to a single family equivalent.

Data analysis of Louisville customer billing records suggest a per unit approach would not take into consideration customer inequities within the single family equivalent customer class.

Seasonal outdoor irrigation variations combined with ongoing climate change represent significantly larger financial impacts to the system than ADU's.

The proposed Urban Tap Fee that provides for a free ADU with a 5 year evaluation period appears to present minimal overall risk versus benefits to the Utility and overall Community.

ALTERNATIVE(S):
The Utility could make no changes to its existing ordinances.

ADU's would be considered as a multifamily unit and charged 0.45 single family equivalents.
Common service lines would be approved under special consideration or new detached ADU's may be required to have a separate service line.

RECOMMENDATION:
Staff recommends approval to move forward with modifying Title 13, Water and Sewer ordinance provisions to:

1. Provide specific language approving a common properly sized water and sewer service line between a Primary Residence and Accessory Dwelling Unit.
2. Adopt an Urban Single Family Residential Tap Fee that considers a service line as a whole parcel or lot and allows for ¾" or 1" size service line servicing a primary residence and one (1) accessory dwelling unit.

ATTACHMENT(S):
1. Analysis and Background Data

Water Utility Usage Analysis

May 20, 2025

City of Louisville
COLORADO • SINCE 1878

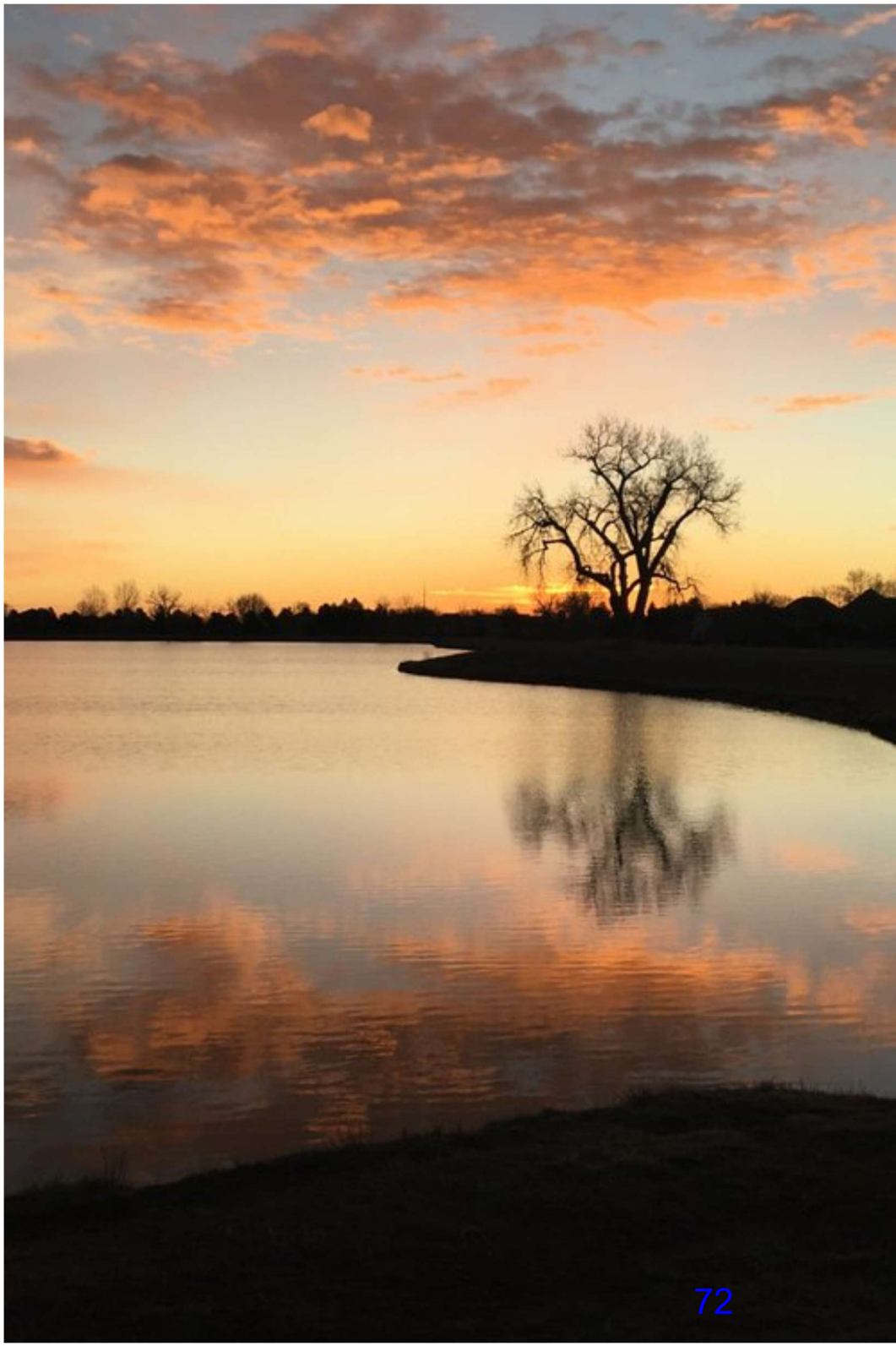
Staff Recommendations

Now - Change Single Family Tap charges to Per Lot or Urban Tap Fee without price differentiation between 3/4” and 1” taps. (Final fee structure may have an indoor base charge and then outdoor irrigation component by square foot of landscape.)

Now - Under Urban Tap Fee per Lot considerations do not charge for ADU’s.

Midterm - Explore M22+IPC Service Line Sizing

Mid - Long Term - Evaluate Base Water Forecasting and Purchasing for Single Family Equivalents and Consider Reduction based upon Long Term Water Conservation Trends. (May also be contingent on review of outdoor irrigation policies)



Bringing it All Together

Guiding Principles	Flat Fee 0.45	Flat Fee 0.30 w/o Turf and 0.20 w/ Turf	Flat Fee SFE (ADU w/ Lot)	Fixture Count / Sizing 3/4" - 1"
Economic Vitality	✓	✓	✓	✗
Core Services	✓	✓	✗	✓
Safety	✓	✓	✓	✓
Affordable Housing	✗	✓	✓	✗
TABOR	✓	✓	✓	✓
Lenses: Sustainability/EDI	✗	✓	✓	✗
Ordinance 13.12	✓	✓	✗	✓
HB24-1152 ADU's	✗	✓	✓	✗
Growth Pays for Itself (4.57)	✓	✓		✓
Cost of Service Equity (4.43)	✗			✗
Water Conservation (4.29)	✓	✓	✓	✓
Customer Acceptance (3.29)	✓	✓	✗	✗
Customer Impact (3.00)	✓	✓	✗	✗
Fixed Income / Affordability (2.86)	✗	✓	✓	✗
Administrative Ease (2.57)	✓	✓	✓	✗
Peak Usage Reduction (2.43)	✓	✓	✓	✓

Topics provided for **Background Data**.

1. Review **Utility Guiding Principles** ~ How are we making decisions?
2. Review **Utility Financial Principles** ~ How do we charge for services?
3. Review **Tap Fee Methodology** ~ How do we determine our fees?
4. Review **Water Planning Factors** ~ How do we know if we have enough?
5. Review **Fixture Count Methodology** ~ How are service lines and meters sized?
6. Review **Single Family Homes** ~ What does usage look like?
7. Review **Single Family Homes vs Multifamily** ~ What are the differences?
8. Review **Accessory Dwelling Units** ~ What are ways to incorporate them?

Administrative Background

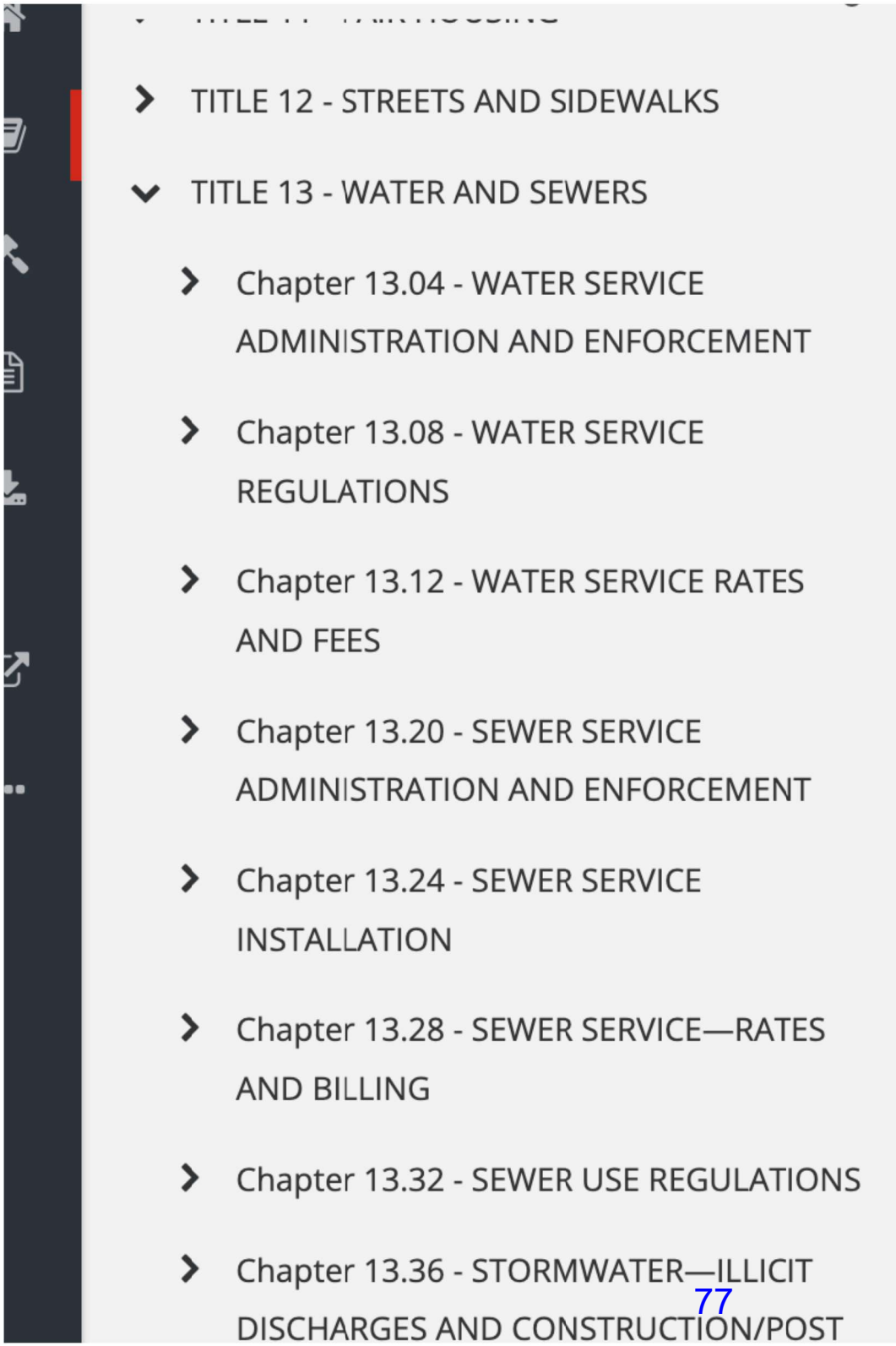
Colorado Law, Louisville Ordinance, Utility Guiding Principles, History

Colorado Tabor Law Enterprise Funds

- Restricted funds that only cover the cost of providing a specific service through user fees and charges.
- They must operate as a “standalone business” and generate the revenues necessary to provide services.
- The City’s Water Fund is an Enterprise Fund
- An Enterprise Fund for water service cannot incentivize Economic Development, Historical Preservation, or Housing Plan goals.
- An Enterprise Fund can indirectly provide support of community goals through infrastructure and affordable rates and charges based upon cost recovery.
- Utility is agnostic to external goals unrelated to water service goals.
- Utility operates from a cost recovery lens.

Current City Ordinance 13.12

- Requires City Manager to establish a table of City water tap fees annually. Established in 2000 by Ordinance 2000-1339.
- Tap fees shall be based on and used for growth related capital expansion costs for water resources, water supply, water storage, transmission, treatment and distribution facilities, related costs factors.
- Tap fees shall reflect the City's overall costs incurred to provide services for which the tap is requested and for which the tap is designed.



City of Louisville
COLORADO • SINCE 1878

2013/2014 Utility Rate Study

1. Task Force - 2 Homeowners, 2 Business/Developer, 2 HOA Representatives, 1 At Large Community Representative.

2. Reviewed Financial Planning, Cost of Service,Water Rate Structures, and Tap Fees

3. Recommended to move from CCI Index Estimated Tap Fees to Calculated Tap Fees

Water, Wastewater and Stormwater Utility Rate Study

Final Executive Summary Report

July 30, 2014

Report Prepared By:

RAFTELIS
FINANCIAL CONSULTANTS, INC.

2014 Utility Rate Task Force Pricing Objectives and Tap Fee Historical Discussions

- 2014 Rate Study Task Force ranked Growth Pays for Itself as #1.
- 2015 Utility Committee reviewed Live/Work Tap Fee and did not recommend tap fee changes. The "Live" portion was essentially an Accessory Dwelling Unit.
- 2017 City Managers Office and Utility Committee held discussions regarding Economic Development and Historical Preservation activities not able to be incentivized by Utility Fees due to Enterprise Fund status.
- 2017 Significant Discussions with Building Department regarding the definition of "Premise".
- 2019 City Council increased Water Tap Fees from $30,500 to $53,500 due to rising cost of water rights.
- Utility Committee up until 2021 prioritized Growth Pays for Itself.
- 2021 Utility Committee merged with Finance Committee.
- Staff monitor Tap Fee costs and have not adjusted Water Tap Fees since 2019.

Table 4
Task Force
Pricing Objectives Rankings

Pricing Objective	Total	Average	Rank
Growth pays for itself	32	4.57	1
Cost of service equity	31	4.43	2
Water conservation	30	4.29	3
Environmental enhancements	26	3.71	4
Customer acceptance	23	3.29	5
Customer impact	21	3.00	6
Fixed income / affordability	20	2.86	7
Revenue stability	19	2.71	8
Administrative ease	18	2.57	9
Peak usage reduction	17	2.43	10
Large volume customers	12	1.71	11

2000 - 2013 Tap Fee Structure Form

City Advertised Fee by Tap Size.

Problem: Ordinance did not sell taps by only tap size.

Consequence: Lots of Developer Confusion.

Also: No Irrigation Meter Fee - City was not recovering true cost of irrigation meters.

NOTICE

TAP FEE TABLE ESTABLISHED BY THE CITY MANAGER IN ACCORDANCE WITH SECTION 13 OF THE LOUISVILLE MUNICIPAL CODE

Pursuant to Section 13.12.020 of the Louisville Municipal Code delegating to the City Manager the authority to establish City water tap fees on a quarterly basis, effective, July 1, 2010 the table of tap fees shall be as follows:

Fee Calculations Deman (gpm)	Tap Size	Tap Fee
0-22	¾"	$24,140
23-45	1"	$42,910
46-80	1 ½ "	$96,540
81-140	2"	$171,630
141-280	3"	$386,160
281-500	4"	$693,400

For taps larger than 4 inches, the tap fee and other terms and conditions of the issuance of the tap shall be established by written agreement approved by the City Council.

A single-family sewer tap fee for residential properties is $3221.00.

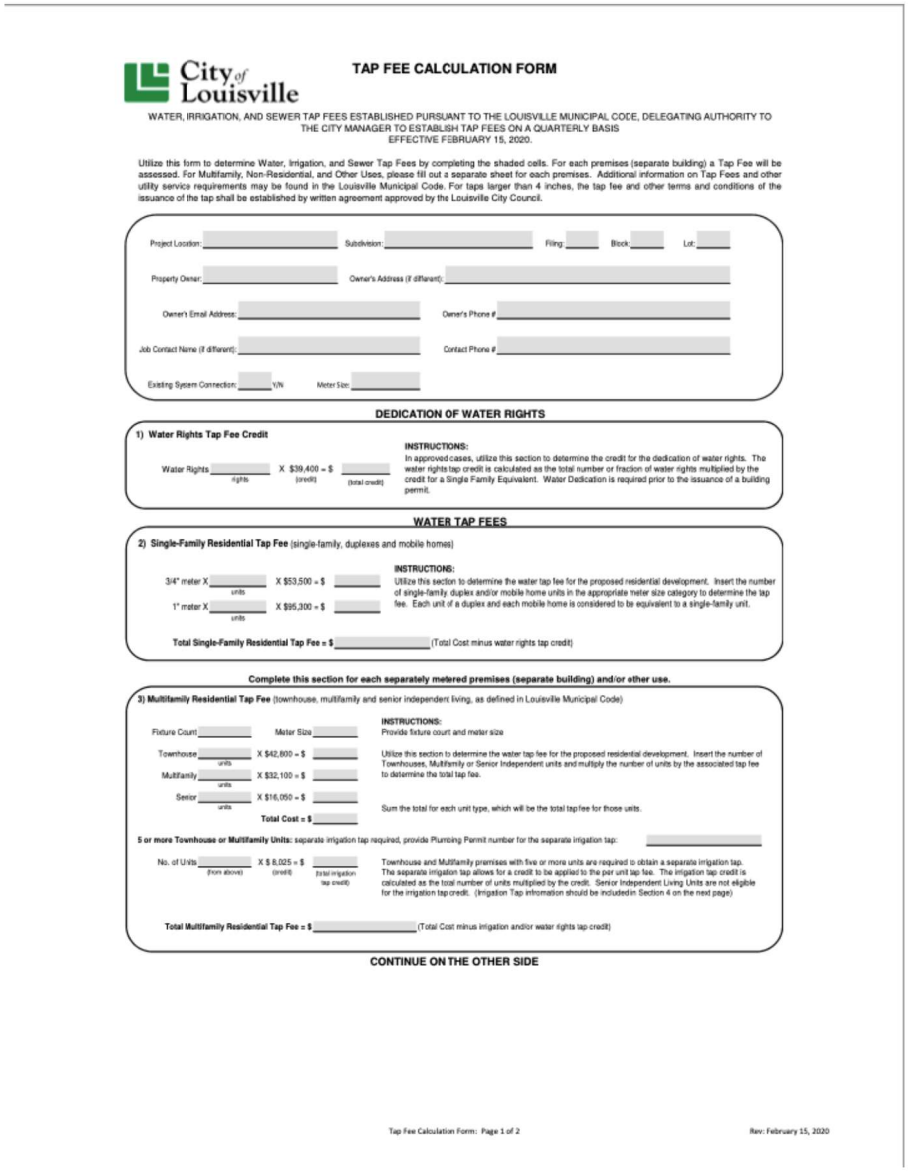
The posted table of city water tap fees is to be paid for the 3rd calendar quarter of 2010.

By:

Malcolm Fleming

Malcolm Fleming
City Manager

cc: Building Safety Division
Planning Department
Public Relations Manager (website)
Central Files (original)
Public Works
Finance Department



City of Louisville

TAP FEE CALCULATION FORM

WATER, IRRIGATION, AND SEWER TAP FEES ESTABLISHED PURSUANT TO THE LOUISVILLE MUNICIPAL CODE, DELEGATING AUTHORITY TO THE CITY MANAGER TO ESTABLISH TAP FEES ON A QUARTERLY BASIS
EFFECTIVE FEBRUARY 15, 2020.

Utilize this form to determine Water, Irrigation, and Sewer Tap Fees by completing the shaded cells. For each premises (separate building) a Tap Fee will be assessed. For Multifamily, Non-Residential, and Other Uses, please fill out a separate sheet for each premises. Additional information on Tap Fees and other utility service requirements may be found in the Louisville Municipal Code. For taps larger than 4 inches, the tap fee and other terms and conditions of the issuance of the tap shall be established by written agreement approved by the Louisville City Council.

Project Location: Subdivision: Filing: Block: Lot:

Property Owner: Owner's Address (if different):

Owner's Email Address: Owner's Phone #

Job Contact Name (if different): Contact Phone #

Existing System Connection: Y/N Meter Size:

DEDICATION OF WATER RIGHTS

1) Water Rights Tap Fee Credit

Water Rights rights X $39,400 (credit) = $ (total credit)

INSTRUCTIONS:
In approved cases, utilize this section to determine the credit for the dedication of water rights. The water rights tap credit is calculated as the total number or fraction of water rights multiplied by the credit for a Single Family Equivalent. Water Dedication is required prior to the issuance of a building permit.

WATER TAP FEES

2) Single-Family Residential Tap Fee (single-family, duplexes and mobile homes)

3/4" meter X units X $53,500 = $

1" meter X units X $95,300 = $

INSTRUCTIONS:
Utilize this section to determine the water tap fee for the proposed residential development. Insert the number of single-family duplex and/or mobile home units in the appropriate meter size category to determine the tap fee. Each unit of a duplex and each mobile home is considered to be equivalent to a single-family unit.

Total Single-Family Residential Tap Fee = $ (Total Cost minus water rights tap credit)

Complete this section for each separately metered premises (separate building) and/or other use.

3) Multifamily Residential Tap Fee (townhouse, multifamily and senior independent living, as defined in Louisville Municipal Code)

Fixture Count Meter Size

Townhouse units X $42,800 = $

Multifamily units X $32,100 = $

Senior units X $16,050 = $

Total Cost = $

INSTRUCTIONS:
Provide fixture count and meter size

Utilize this section to determine the water tap fee for the proposed residential development. Insert the number of Townhouses, Multifamily or Senior Independent units and multiply the number of units by the associated tap fee to determine the total tap fee.

Sum the total for each unit type, which will be the total tap fee for those units.

5 or more Townhouse or Multifamily Units: separate irrigation tap required, provide Plumbing Permit number for the separate irrigation tap:

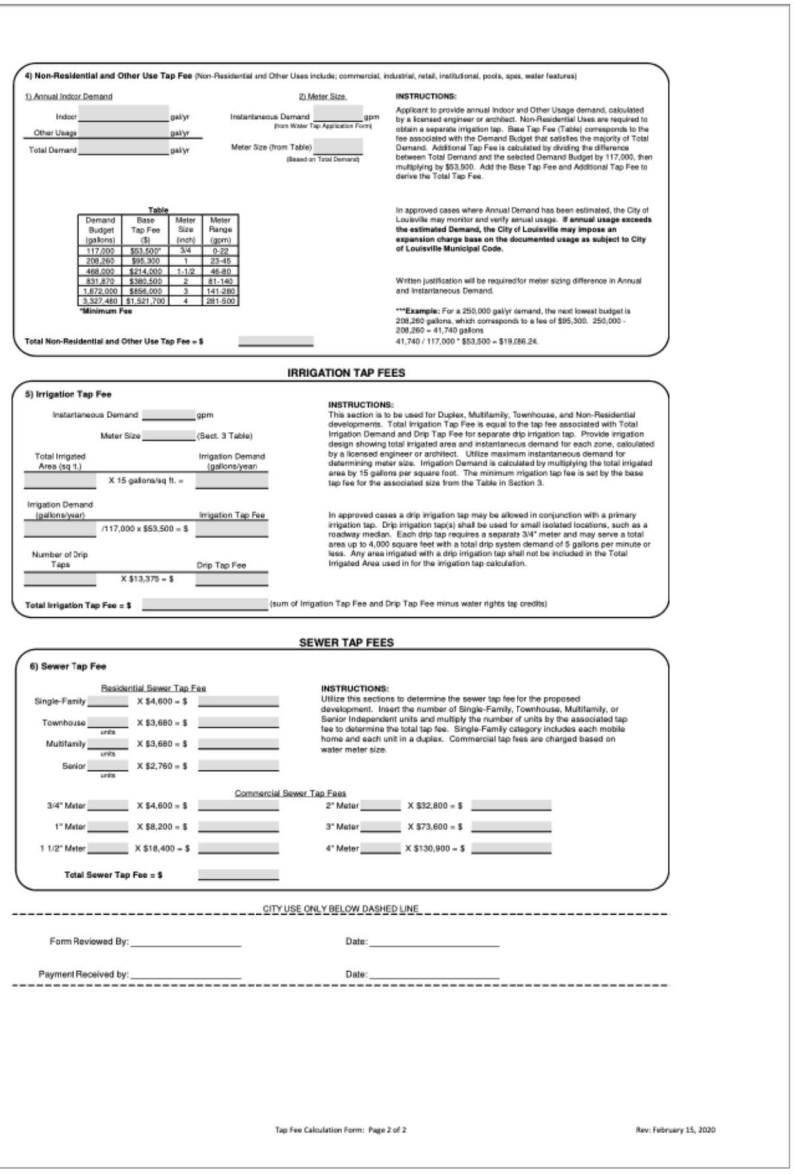
No. of Units (from above) X $ 8,025 (credit) = $ (total irrigation tap credit)

Townhouse and Multifamily premises with five or more units are required to obtain a separate irrigation tap. The separate irrigation tap allows for a credit to be applied to the per unit tap fee. The irrigation tap credit is calculated as the total number of units multiplied by the credit. Senior Independent Living Units are not eligible for the irrigation tap credit. (Irrigation Tap information should be included in Section 4 on the next page)

Total Multifamily Residential Tap Fee = $ (Total Cost minus irrigation and/or water rights tap credit)

CONTINUE ON THE OTHER SIDE

Tap Fee Calculation Form: Page 1 of 2 Rev: February 15, 2020



4) Non-Residential and Other Use Tap Fee (Non-Residential and Other Uses include; commercial, industrial, retail, institutional, pools, spas, water features)

1) Annual Indoor Demand

Indoor gal/yr

Other Usage gal/yr

Total Demand gal/yr

2) Meter Size

Instantaneous Demand gpm (from Water Tap Application Form)

Meter Size (from Table) (Based on Total Demand)

Table

Demand Budget (gallons)	Base Tap Fee ($)	Meter Size (inch)	Meter Range (gpm)
117,000	$53,500*	3/4	0-22
208,260	$95,300	1	23-45
468,000	$214,000	1-1/2	46-80
831,870	$380,500	2	81-140
1,872,000	$856,000	3	141-260
3,327,480	$1,521,700	4	261-500

*Minimum Fee

Total Non-Residential and Other Use Tap Fee = $

INSTRUCTIONS:
Applicant to provide annual Indoor and Other Usage demand, calculated by a licensed engineer or architect. Non-Residential Uses are required to obtain a separate irrigation tap. Base Tap Fee (Table) corresponds to the fee associated with the Demand Budget that satisfies the majority of Total Demand. Additional Tap Fee is calculated by dividing the difference between Total Demand and the selected Demand Budget by 117,000, then multiplying by $53,500. Add the Base Tap Fee and Additional Tap Fee to derive the Total Tap Fee.

In approved cases where Annual Demand has been estimated, the City of Louisville may monitor and verify annual usage. **If annual usage exceeds the estimated Demand, the City of Louisville may impose an expansion charge base on the documented usage as subject to City of Louisville Municipal Code.**

Written justification will be required for meter sizing difference in Annual and Instantaneous Demand.

*****Example:** For a 250,000 gal/yr demand, the next lowest budget is 208,260 gallons, which corresponds to a fee of $95,300. 250,000 - 208,260 = 41,740 gallons
41,740 / 117,000 * $53,500 = $19,086.24.

IRRIGATION TAP FEES

5) Irrigation Tap Fee

Instantaneous Demand gpm

Meter Size (Sect. 3 Table)

Total Irrigated Area (sq ft.) X 15 gallons/sq ft. = Irrigation Demand (gallons/year)

Irrigation Demand (gallons/year) /117,000 x $53,500 = $ Irrigation Tap Fee

Number of Drip Taps X $13,375 = $ Drip Tap Fee

Total Irrigation Tap Fee = $ (sum of Irrigation Tap Fee and Drip Tap Fee minus water rights tap credits)

INSTRUCTIONS:
This section is to be used for Duplex, Multifamily, Townhouse, and Non-Residential developments. Total Irrigation Tap Fee is equal to the tap fee associated with Total Irrigation Demand and Drip Tap Fee for separate drip irrigation tap. Provide irrigation design showing total irrigated area and instantaneous demand for each zone, calculated by a licensed engineer or architect. Utilize maximum instantaneous demand for determining meter size. Irrigation Demand is calculated by multiplying the total irrigated area by 15 gallons per square foot. The minimum irrigation tap fee is set by the base tap fee for the associated size from the Table in Section 3.

In approved cases a drip irrigation tap may be allowed in conjunction with a primary irrigation tap. Drip irrigation tap(s) shall be used for small isolated locations, such as a roadway median. Each drip tap requires a separate 3/4" meter and may serve a total area up to 4,000 square feet with a total drip system demand of 5 gallons per minute or less. Any area irrigated with a drip irrigation tap shall not be included in the Total Irrigated Area used in for the irrigation tap calculation.

SEWER TAP FEES

6) Sewer Tap Fee

Residential Sewer Tap Fee

Single-Family X $4,600 = $

Townhouse units X $3,680 = $

Multifamily units X $3,680 = $

Senior units X $2,760 = $

Commercial Sewer Tap Fees

3/4" Meter X $4,600 = $

1" Meter X $8,200 = $

1 1/2" Meter X $18,400 = $

2" Meter X $32,800 = $

3" Meter X $73,600 = $

4" Meter X $130,900 = $

Total Sewer Tap Fee = $

INSTRUCTIONS:
Utilize this sections to determine the sewer tap fee for the proposed development. Insert the number of Single-Family, Townhouse, Multifamily, or Senior Independent units and multiply the number of units by the associated tap fee to determine the total tap fee. Single-Family category includes each mobile home and each unit in a duplex. Commercial tap fees are charged based on water meter size.

CITY USE ONLY BELOW DASHED LINE

Form Reviewed By: Date:

Payment Received by: Date:

Tap Fee Calculation Form: Page 2 of 2 Rev: February 15, 2020

2013 - Present Tap Fee Form

- Categorized Fees by User
- Added Irrigation Tap Fee
- Review Annual and Instant Demands
- Tap Credits on Cash Paid or Volumetric
- Developer Provided Water Rights in Lieu of Fee

2024/2025 Approved Budget

"Ensure safe, **reliable**, great tasting water; properly treated wastewater; effective stormwater control; successfully managed solid waste; and **competitive prices for all services**."

~ Utility Goals

"Consistently provide safe and great tasting water, routinely testing quality for compliance with State and Federal Standards. Operate and maintain facilities efficiently, allowing for **reasonable** and **equitable rates** while maintaining optimal quality."

~ Water Utility Objective

Values

Innovation
Leading and embracing change and transformation through creative thinking, learning, and continuous improvement.

Collaboration
Proactively engaging colleagues and other stakeholders in developing solutions through open communication.

Accountability
Fulfilling our responsibilities, owning our actions, and learning from our mistakes.

Respect
Treating people, processes, roles, and property with care and concern.

Excellence
Doing our best work and exceeding expectations with responsive, efficient, and effective customer service.

Critical Success Factors

Financial Stewardship and Asset Management

The City of Louisville has established financial policies and internal controls to ensure financial sustainability and financial resiliency, and to safeguard the City's assets. The City's recurring revenues are sufficient to support desired service levels and proactively maintain critical infrastructure and facilities. The City practices long-term financial planning through a comprehensive budget process to proactively adjust for changes in financial forecasts. City employees are trusted stewards of the public's money and assets.

Reliable Core Services

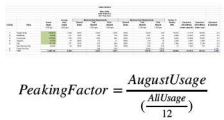
Louisville is a safe community that takes comfort in knowing core services, such as police, roads, water and basic maintenance, are fair, effective, consistent, and reliable. Excellent customer service is provided in the delivery of all City services. The City is prepared for emergencies and offers residents peace of mind knowing basic municipal services are planned for and carried out.

Financial Background

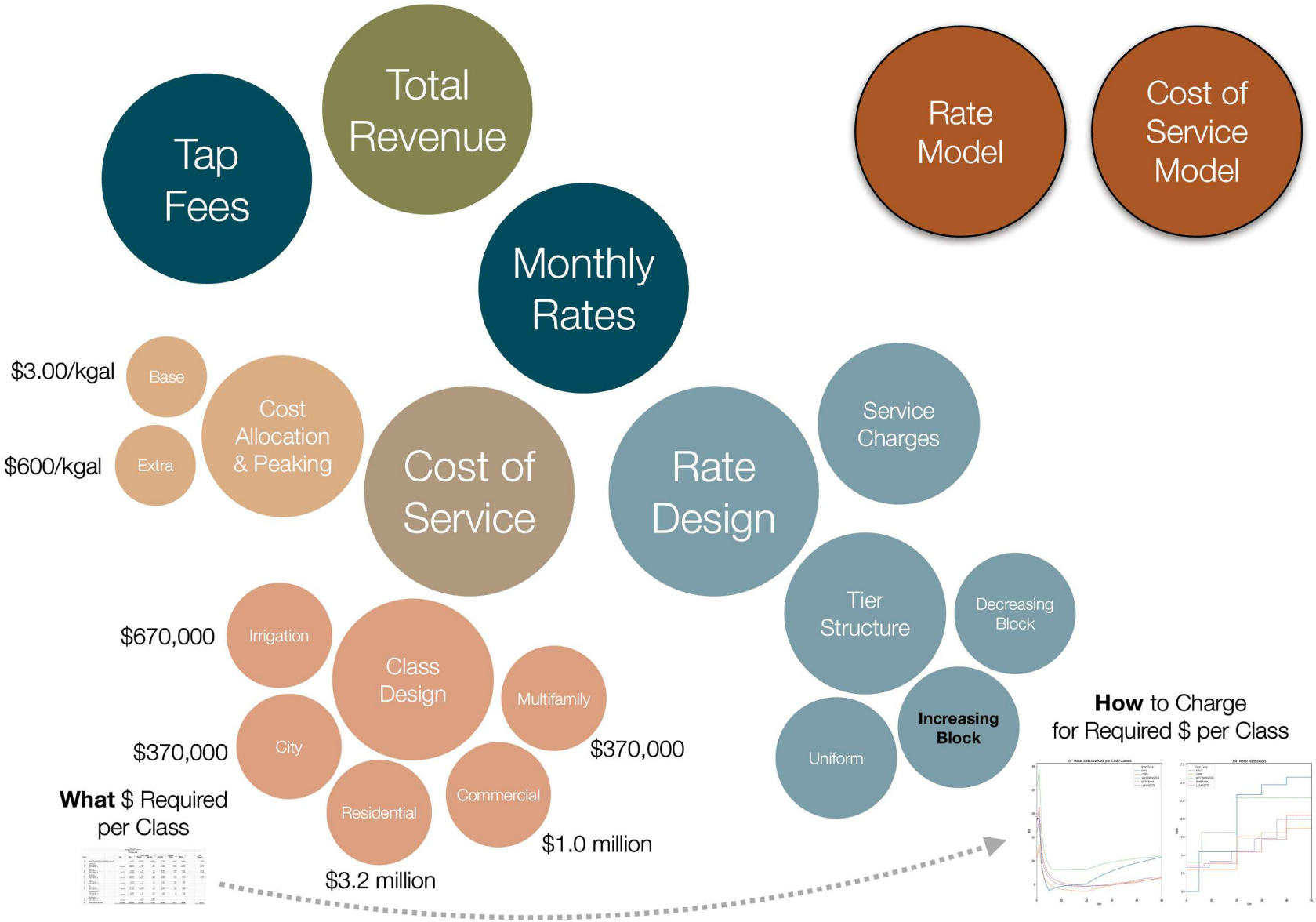
Financial Structure, Utility Revenues

The Pieces of the Utility Financing Picture

Base: $3.00/kgal and Extra: $600/kgal usage in 2021 Costs.
2024 Overall $12/kgal



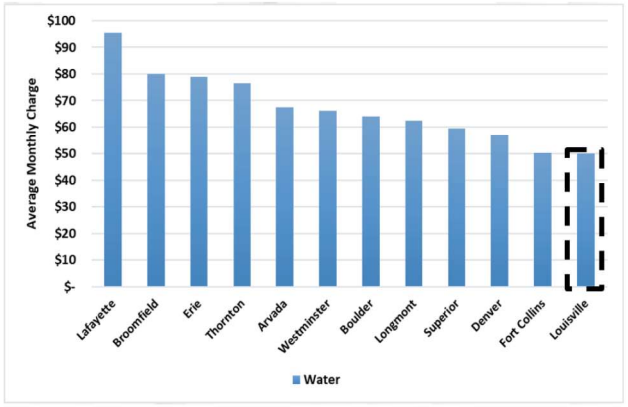
$$PeakingFactor = \frac{AugustUsage}{(\frac{AllUsage}{12})}$$

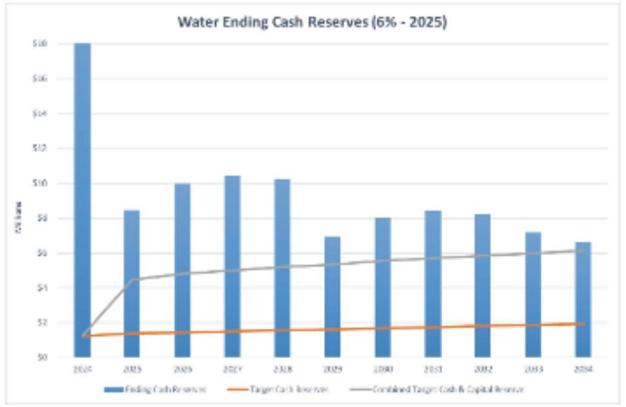


Utility Revenue Sources

User Rates

1. Monthly Bill





Tap Fees

2. Infrastructure

Backbone			
12	150,197	$185.00	$27,786,000
14	1,830	$189.00	346,000
16	17,212	$193.00	3,322,000
18	9,114	$197.00	1,795,000
24	21,733	$201.00	4,368,000
30	935	$206.00	193,000
36	5,770	$211.00	1,217,000
Total	206,791		$39,027,000

Water Treatment Plant	Max Day Capacity	Current Construction Cost per Staff	Current Cost
	gallons per day	*per gpd*	
Total Water Treatment Plant	13,000,000	$4.00	$54,200,000

Treated Water Storage	Volume	Current Construction Cost per Staff	Current Cost
	gallons	*per gallon*	
Total Treated Water Storage	8,500,000	$1.25	$10,625,000

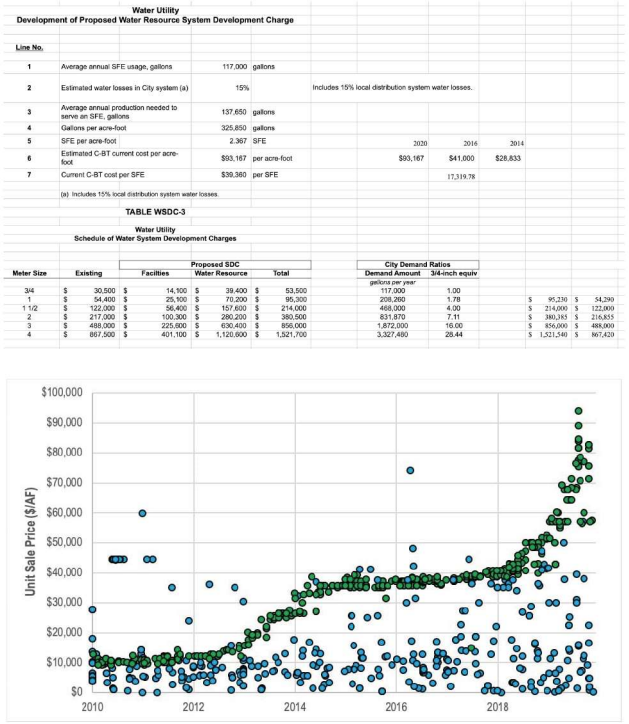
Treated Water Pumping	Current Construction Cost per Staff
Pump Station	$2,800,000
Pump Station	800,000
Total Treated Water Pumping	$3,600,000

Raw Water Infrastructure	Current Construction Cost per Staff
NCWCD Pipeline (Carter Lake to Broomfield)	$4,739,000
NCWCD Superior Louisville Pump Station	4,000,000
Louisville NWTP & NCWCD Connecting Line	5,900,000
Eldorado Intake Buildings & Dam	1,560,000
Harper Lake Pump Station	900,000
Louisville Pipeline Interconnect	581,000
Louisville Pipeline (16-in)	8,588,500
Louisville Lateral (open ditch)	250,000
Cherry Street Pipeline	2,393,000
Louisville Reservoir	1,450,000
Harper Lake	3,575,000
Total Raw Water Infrastructure	$33,936,500

Fee Calculation	
Total Facilities Current Cost	$ 141,388,500
Less Principal on Outstanding Debt	$ (5,900,000)
Water System Equity	$ 135,488,500
No. of Equivalents (a)	9,626
Water SDC, per equivalent	**$ 14,076**

(a) One equivalent represents the water service characteristics of a typical single family residential customer. One multifamily unit equals 0.8 equivalents. Nonresidential customer equivalents are based on 3/4-inch meter capacity ratios.

3. Water Rights



Water Utility
Development of Proposed Water Resource System Development Charge

Line No.				
1	Average annual SFE usage, gallons	117,000	gallons	
2	Estimated water losses in City system (a)	15%		Includes 15% local distribution system water losses.
3	Average annual production needed to serve an SFE, gallons	137,650	gallons	
4	Gallons per acre-foot	325,850	gallons	
5	SFE per acre-foot	2.367	SFE	
6	Estimated C-BT current cost per acre-foot	$93,167	per acre-foot	
7	Current C-BT cost per SFE	$39,360	per SFE	

	2020	2016	2014
	$93,167	$41,000	$28,833
		17,319.78	

(a) Includes 15% local distribution system water losses.

TABLE WSDC-3

Water Utility
Schedule of Water System Development Charges

Meter Size	Existing	Proposed SDC Facilities	Proposed SDC Water Resource	Proposed SDC Total	City Demand Ratios Demand Amount	City Demand Ratios 3/4-inch equiv		
					gallons per year			
3/4	$ 30,500	$ 14,100	$ 39,400	$ 53,500	117,000	1.00		
1	$ 54,400	$ 25,100	$ 70,200	$ 95,300	208,260	1.78	$ 95,230	$ 54,290
1 1/2	$ 122,000	$ 56,400	$ 157,600	$ 214,000	468,000	4.00	$ 214,000	$ 122,000
2	$ 217,000	$ 100,300	$ 280,200	$ 380,500	831,870	7.11	$ 380,365	$ 216,855
3	$ 488,000	$ 225,600	$ 630,400	$ 856,000	1,872,000	16.00	$ 856,000	$ 488,000
4	$ 867,500	$ 401,100	$ 1,120,600	$ 1,521,700	3,327,480	28.44	$ 1,521,340	$ 867,420

Growth Infrastructure **Facilities** Buy In $14,100

1. Raw Water Infrastructure
2. Pipes
3. Water Treatment
4. Water Storage
5. Water Pumping

Represents **Equity** via SFE's

Backbone				
12		150,197	$185.00	$27,786,000
14		1,830	$189.00	346,000
16		17,212	$193.00	3,322,000
18		9,114	$197.00	1,795,000
24		21,733	$201.00	4,368,000
30		935	$206.00	193,000
36		5,770	$211.00	1,217,000
	Total	206,791		$39,027,000

Water Treatment Plant			
	Max Day Capacity	**Current Construction Cost per Staff**	**Current Cost**
	gallons per day	***per gpd***	
Total Water Treatment Plant	13,000,000	$4.00	$54,200,000

Treated Water Storage			
	Volume	**Current Construction Cost per Staff**	**Current Cost**
	gallons	***per gallon***	
Total Treated Water Storage	8,500,000	$1.25	$10,625,000

Treated Water Pumping	
	Current Construction Cost per Staff
Pump Station	$2,800,000
Pump Station	800,000
Total Treated Water Pumping	$3,600,000

Raw Water Infrastructure	
	Current Construction Cost per Staff
NCWCD Pipeline (Carter Lake to Broomfield)	$4,739,000
NCWCD Superior Louisville Pump Station	4,000,000
Louisville NWTP & NCWCD Connecting Line	5,900,000
Eldorado Intake Buildings & Dam	1,560,000
Harper Lake Pump Station	900,000
Louisville Pipeline Interconnect	581,000
Louisville Pipeline (16-in)	8,588,500
Louisville Lateral (open ditch)	250,000
Cherry Street Pipeline	2,393,000
Louisville Reservoir	1,450,000
Harper Lake	3,575,000
Total Raw Water Infrastructure	$33,936,500

Fee Calculation	
Total Facilities Current Cost	$ 141,388,500
Less Principal on Outstanding Debt	$ (5,900,000)
Water System Equity	$ 135,488,500
No. of Equivalents (a)	9,626
Water SDC, per equivalent	**$ 14,076**

(a) One equivalent represents the water service characteristics of a typical single family residential customer. One multifamily unit equals 0.8 equivalents. Nonresidential customer equivalents are based on 3/4-inch meter capacity ratios.

Water Utility
Development of Proposed Water Resource System Development Charge

Line No.								
1	Average annual SFE usage, gallons	117,000	gallons					
2	Estimated water losses in City system (a)	15%		Includes 15% local distribution system water losses.				
3	Average annual production needed to serve an SFE, gallons	137,650	gallons					
4	Gallons per acre-foot	325,850	gallons					
5	SFE per acre-foot	2.367	SFE		2020	2016	2014	
6	Estimated C-BT current cost per acre-foot	$93,167	per acre-foot		$93,167	$41,000	$28,833	
7	Current C-BT cost per SFE	$39,360	per SFE			17,319.78		

(a) Includes 15% local distribution system water losses.

TABLE WSDC-3

Water Utility
Schedule of Water System Development Charges

		Proposed SDC			City Demand Ratios			
Meter Size	Existing	Facilties	Water Resource	Total	Demand Amount	3/4-inch equiv		
					gallons per year			
3/4	$ 30,500	$ 14,100	$ 39,400	$ 53,500	117,000	1.00		
1	$ 54,400	$ 25,100	$ 70,200	$ 95,300	208,260	1.78	$ 95,230	$ 54,290
1 1/2	$ 122,000	$ 56,400	$ 157,600	$ 214,000	468,000	4.00	$ 214,000	$ 122,000
2	$ 217,000	$ 100,300	$ 280,200	$ 380,500	831,870	7.11	$ 380,385	$ 216,855
3	$ 488,000	$ 225,600	$ 630,400	$ 856,000	1,872,000	16.00	$ 856,000	$ 488,000
4	$ 867,500	$ 401,100	$ 1,120,600	$ 1,521,700	3,327,480	28.44	$ 1,521,540	$ 867,420

Water Rights Acquisition

CBT Market Rate
Incremental Cost

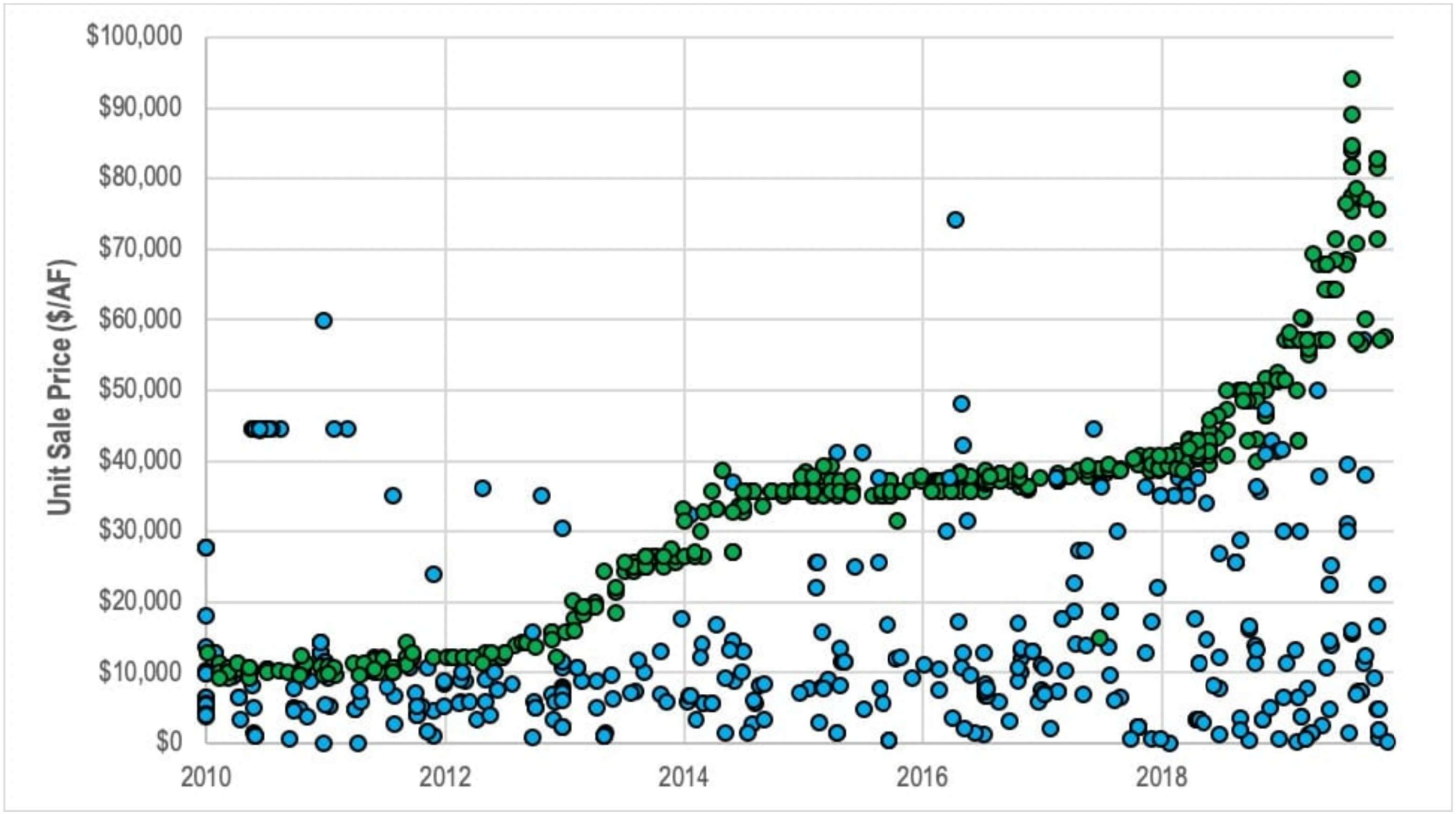
Current
3/4” Tap Fee

$14,100 **Facilities** (Equity)
$39,400 **Water** (Incremental)

$53,500 **Total Water System Fee ***

* Provision for Developers to provide acceptable water in lieu of Water Acquisition portion of fee.

Previous 2019 Fee was $30,500



Water Rights
Acquisition

CBT Market Rate Over Time
$93,000 per Acre Foot

Tap Fee Expenditures

2016 - 2025 Review - Someday is Now. Buildout is here.

- $26 million has been **collected** in **tap fees**.
- $26 million has been **spent** on **infrastructure** improvements and **water rights**.
- $8.3 million on water supply infrastructure **bond** payments.
- $4.7 million on **pumping** capacity improvements. (Marshall Fire Critical)
- $4.4 million on payments to Chimney Hollow **reservoir**.
- $4 million on new **water rights**.

Water Use and Forecasting

External Impacts, Housing, Forecasting, High Level Overview

Major Influences

A Lot of Big Educated Guesses

Utility Master Planning/Forecasting

Table 1-13: Water demand influent factors

Factor	Low Variability Range	High Variability Range
Drought	20%	25%
Climate	10%	15%
Conservation	-15%	-10%
Cumulative	**15%**	**30%**

Water Conservation

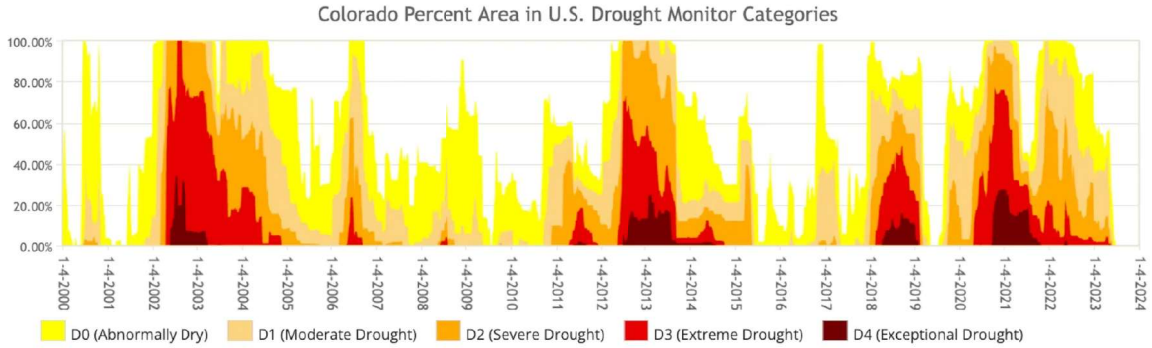
WaterSense/ENERGY STAR/WaterWise

we build WaterSense Meets EPA Criteria

ENERGY STAR

colorado waterwise

Drought/Climate Change Impacts



Community Planning/Needs

LOUISVILLE COMPREHENSIVE PLAN

City of Louisville Housing Plan

COL Housing Plan ~ Potential Impacts

Adopted May 7, 2024.

Exhibit 5: Population Forecast, Louisville and Boulder County, 2023-2047

Source: Colorado Department of Local Affairs, ECONorthwest

	2023	2047	# Change	% Change
Louisville	20,499	24,614	4,115	20%
Boulder County	331,429	389,233	57,804	17%

Exhibit 23. Illustration of Housing Needs Calculation

Sources: ECONorthwest.

The future needs analysis focuses on estimating housing needs based on future housing needed by 2047 and current needs based on housing underproduction.[8] The inclusion of current housing underproduction helps to ensure housing needs targets address current unmet housing needs not provided for in the existing housing inventory. More detail on assumptions and methodology for the future housing needs analysis can be found in the full HNA included in Appendix A.

Exhibit 24: Total Housing Need in Louisville by 2047

Source: ECONorthwest and DOLA

Future Need Based on Assumed Population Growth	2,075 housing units
Housing Underproduction (or *Housing Shortage*)	409 housing units
Total Housing Need	2,483 housing units

Combining the current housing underproduction (409 housing units) with the future housing units needed brings the total to 2,483 new housing units needed by 2047 based on the population forecasts in this section. On an annual basis this means an average of 96 new housing units per year.

Exhibit 1: Louisville Population Growth, 2011-2022

Source: DOLA

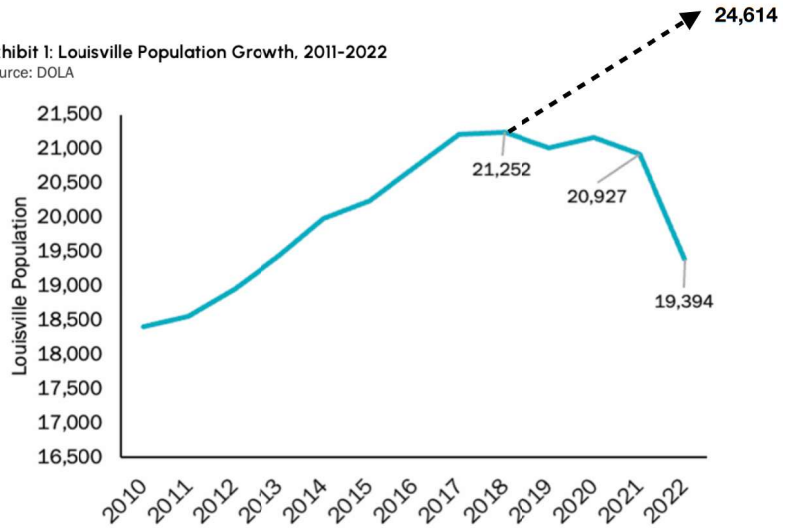
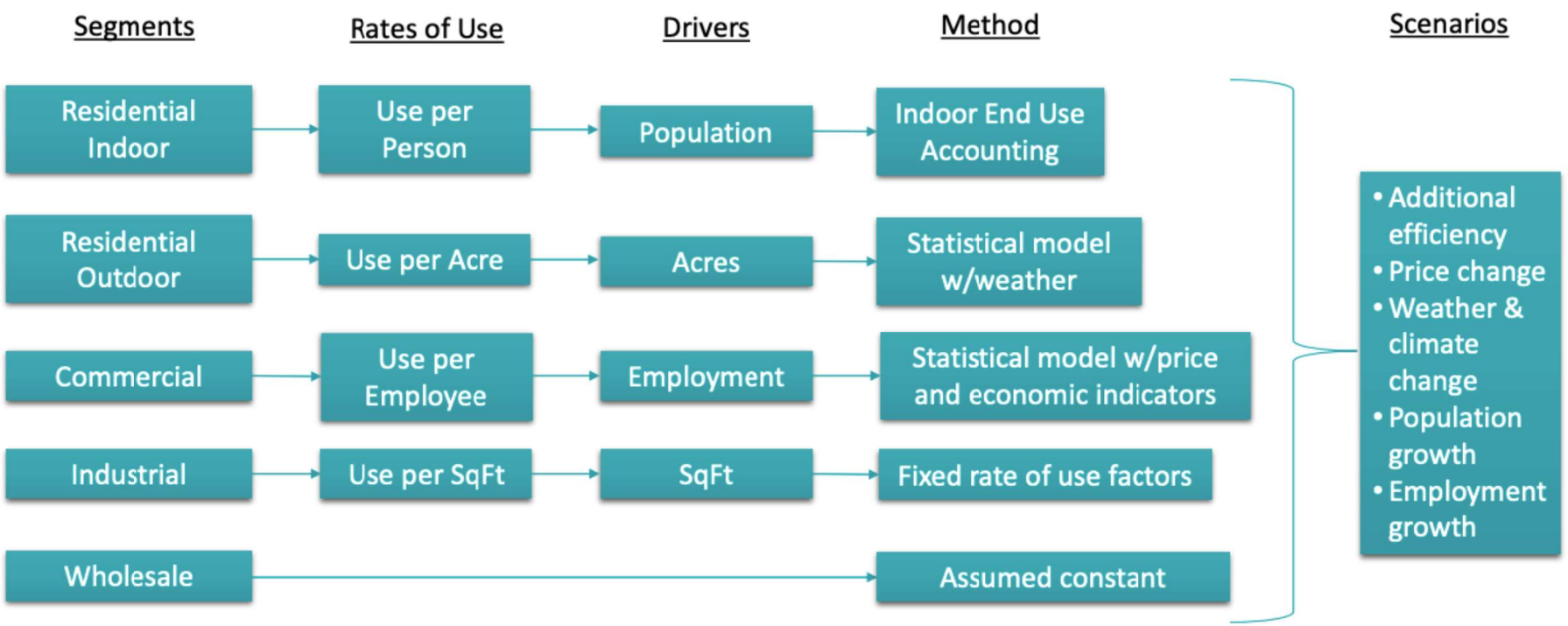


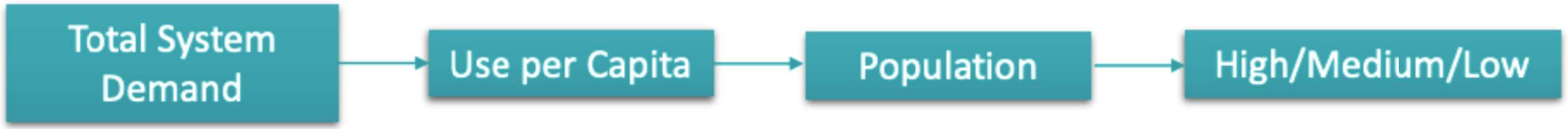
Exhibit 14: Change in Average Household Size, Louisville and Comparison Geographies, 2011-2021

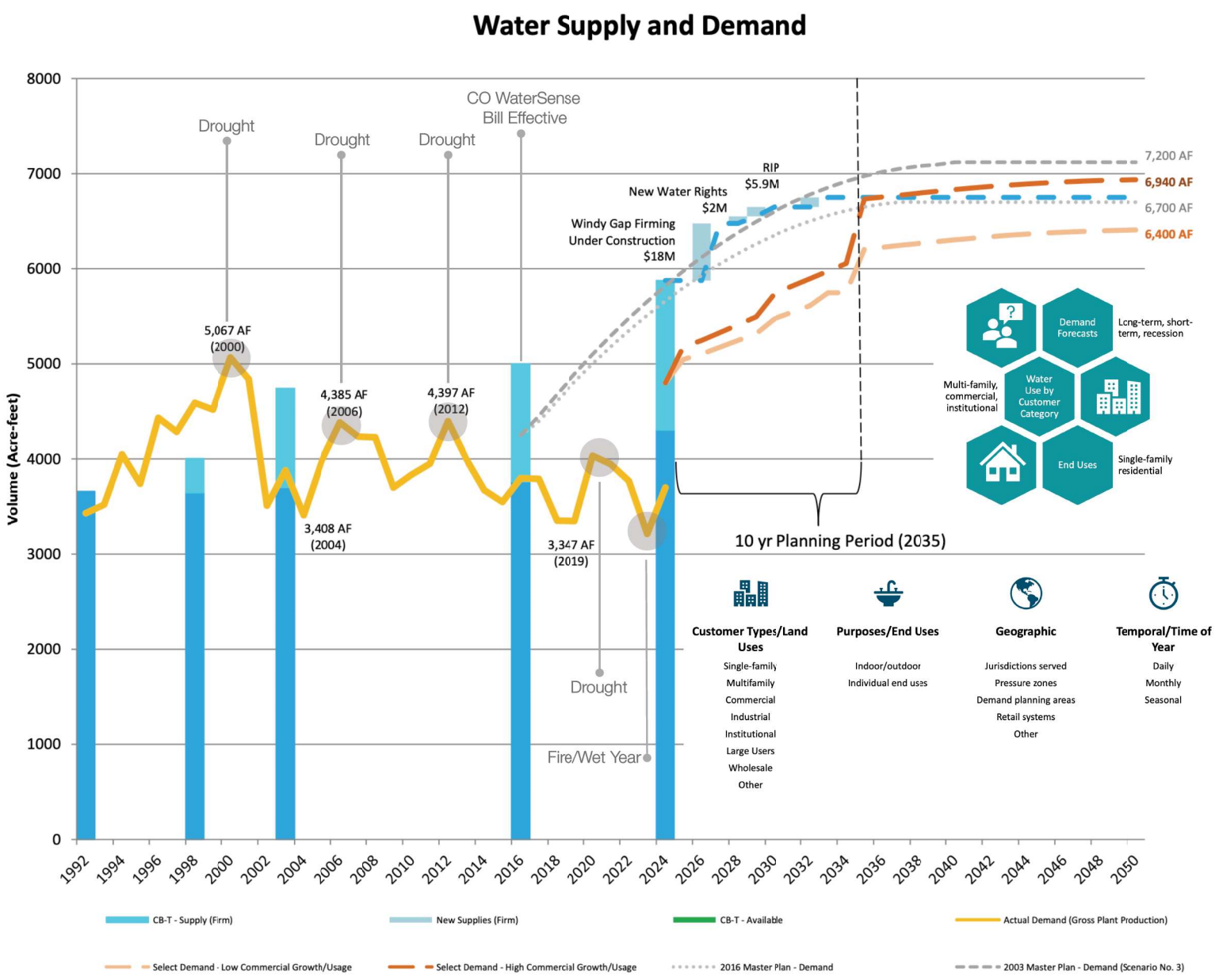
Source: ACS 5-Year Data Tables, 2007-2011, 2017-2021

	2011	2021	% Change
Superior	2.71	2.85	5.2%
Louisville	**2.43**	**2.50**	**2.9%**
Boulder	2.17	2.21	1.8%
Boulder County	2.39	2.41	0.8%
Erie	2.95	2.97	0.7%
Longmont	2.59	2.50	-3.5%
Lafayette	2.50	2.41	-3.6%

Perspectives on Customer Class Forecasting







Growth/Buildout Forecasting

- New Build/Growth
- Infill/Densification
- Drought
- Climate Change Impacts

Population and Water Demand Forecasting

50,000 Foot Overview - 1979 to 2047 - Policy, Climate, and Demographics Always Change
It Will Never Be Perfect or Predictable in the Forever Scope - Housing Plan close to Utility Master Plan

Year	Population	Avg. SF HH Size (1)	Avg. MF HH Size (2)	Population % Change	People Per Household % Change	Housing Source	Actual Water Demands (AF)	Projected Water Demands (AF)	Buildout Population	Water Source
1979	-	-	2.8	-	-	-	1,100	5,428 (to 1990)	-	1979 Comprehensive Water System Planning
1989	-	-	2.4	-	-	-	-	9,189 / 6,213 (Ultimate / Midpoint)	-	1989 Water Distribution System Study Update
1992	-	-	-	-	-	-	3,557	-	-	1992 Raw Water Master Plan
1998	-	-	2.4	-	-	-	4,650	-	-	1998 Raw Water Master Plan
2000	18,868	2.62	-	-	-	2013 Comp Plan	4,860	-	-	-
2003	-	-	-	-	-	-	3,793 -Drought (Restrictions)	7,120	-	2003 Raw Water Master Plan
2010	18,376	2.41	1.90	(2.60%)	SF: (7.31%)	2013 Comp Plan (1) NMHC - National (2)	3,704	-	-	-
2011	18,406	2.43	-	~ 0.00%	SF: ~ 0.00%	2024 Housing Plan	3,693	-	-	-
2012	-	-	-	-	-	-	4,239 - Drought (No	-	23,000	2012 Water System Facilities Plan
2013	-	2.67	1.68	-	SF: 9.87% MF: (15.15%)	2013 Comp Plan	3,507	6,500	-	2013 Drought Modeling
2015	-	-	-	-	-	-	3,671	6,100	22,145	2015 Water Efficiency Plan
2018	21,252	-	-	15.46%	-	2024 Housing Plan	3,357	6,700	-	2016 Raw Water Management Plan + Contingency
2021	20,855	2.50	-	(1.86%)	SF: (6.36%)	2024 Housing Plan	3,799	-	-	-
2022	-	-	1.69	-	MF: ~ 0.00%	RentCafe Analysis National	-	-	-	-
2023	-	-	2.12	-	MF: 25.44%	Self.Inc Colorado	-	-	-	-
2024	-	2.58	1.93	-	SF: 3.20% MF: (8.96%)	US Census (1) Point2Homes - Denver (2)	-	-	-	-
2025	-	-	-	-	-	-	-	6,940	**24,227**	2024/2025 Draft Utility Master Plan (UMP)
2047	**24,614**	-	-	-	-	2024 Housing Plan	-	-	-	-

Simplified Unit Level CBT Water Cost (Optimistic)

Based upon Average People per Household, Gallons per Capita Use, Gallons per SF Irrigation
500 - 800 square foot ADU with turf removal has significant net operational cost savings to system

	Daily (gallons)	Annually (gallons)	Annual Acre Feet (af)	Per 1,000 Units (af)	Buy In per Unit at @ $62,000 per CBT Share (One Time)	Irrigation Deduct/Add (7.70 gal/sf)	Water Rights Per 1,000 Units (One Time)
Person	40 per Person	14,600	0.04	40	$4,000 per person		$4,000,000
Irrigation - Turf per Square Foot		7,700 per 1,000 sf yard	0.02	20	$2,000 per 1,000 sf		$2,000,000
House Indoors 2.58 People	100 per House	36,500	0.11	110	$10,000 per House		$10,000,000
House Outdoors Irrigation - Turf Average Yard Use	140	51,340 per yard	0.16	160	$14,000 per Yard		$14,000,000
House All Avg House	240	87,840 per House	0.27	270	$24,000 per House		**$24,000,000**
Apartment 1.90 People (Separate Irrigation)	75 per Apartment	28,000	0.09	90	$8,000 per Apartment	Add Separate Irrigation Varies	**$8,000,000**
Accessory Dwelling Unit	40 - 80 1-2 People	14,600 - 29,200	0.04 - 0.08	40 - 80	$4,000 - $8,000 per ADU	Subtract 3,850 - 6,160 gal $1,000 - $1,700 500 sf - 800 sf	**$4,000,000 - $8,000,000** **$3,000,000 - $6,300,000 (I)**

Meter and Service Line Sizing ~ ie. Tap Size

Fixture Count Methodology, Multifamily and ADU Product Review

IPC Table E201.1

METER AND SERVICE PIPE (inches)	DISTRIBUTION PIPE (inches)	MAXIMUM DEVELOPMENT LENGTH (feet)									
Pressure Range 30 to 39 psi		40	60	80	100	150	200	250	300	400	500
3/4	1/2[a]	2.5	2	1.5	1.5	1	1	0.5	0.5	0	0
3/4	3/4	9.5	7.5	6	5.5	4	3.5	3	2.5	2	1.5
3/4	1	32	25	20	16.5	11	9	7.8	6.5	5.5	4.5
1	1	32	32	27	21	15	10	8	7	5.5	5
3/4	1 1/4	32	32	32	32	30	24	20	17	13	10.5
1	1 1/4	80	80	70	61	46	34	27	22	16	12
1 1/2	1 1/4	80	80	80	75	54	40	31	25	17.5	13
1	1 1/2	87	87	87	87	84	73	64	56	45	36
1 1/2	1 1/2	151	151	151	151	117	92	79	69	54	43
2	1 1/2	151	151	151	151	128	99	83	72	56	45
1	2	87	87	87	87	87	87	87	87	87	86
1 1/2	2	275	275	275	275	258	223	196	174	144	122
2	2	365	365	365	365	318	266	229	201	160	134
2	2 1/2	533	533	533	533	533	495	448	409	353	311

Fixture Counts

Currently the City's Fixture Count Form is based upon the 2018 International Plumbing Code (IPC).

Standardized plumbing value of various water fixtures in a house such as a sink, toilet, or shower to determine worst case water demands in gallons per minute (gpm)

IPC takes into account WaterSense fixtures to a certain degree.

The 30 fixture unit threshold for 3/4" to 1" water service line aligns with IPC Table E201.1 for the lowest system pressure servicing up to 150 feet in length of service line. Essentially, simplifying service line sizing for the average lot. Ultimately, service line and residential line sizing is required to be stamped by an engineer.

City of Louisville
COLORADO • SINCE 1878

Public Works
749 Main Street Louisville, CO 80027 303.335.4608 Fax 303.335.4505 www.louisvilleco.gov

RESIDENTIAL WATER FIXTURE COUNT FORM

Name of Applicant _____ Name of Owner _____
Address of Applicant _____ Address of Owner _____
Phone Number of Applicant (____) ____-____ Phone Number of Owner (____) ____-____

Address Location of Tap _____ Lot _____ Block _____ Subdivision _____

IPC Table P2903.6

TYPE OF FIXTURES Figure # of units times unit value = Total fixture units. Convert fixture units into gallons per minute (see table A) then figure tap size based on Demand (gpm) Go back to tap fee table to see cost.	# of units	Water supply fixture unit value (w.s.f.u.)	Water Supply Fixture units
Bar Sink		0.7	
Bathtub (with or without overhead shower head)		1.4	
Bidet		0.7	
Clothes Washer		1.4	
Dishwasher		1.4	
Full-Bath group with bathtub (with/without shower head) or shower stall		3.6	
Half-Bath group (water closet and lavatory)		2.6	
Hose Bbb (sillcock)		2.5	
Kitchen group (dishwasher and sink with/without garbage disposal)		2.5	
Kitchen sink		1.4	
Laundry group (clothes washer standpipe and laundry tub)		2.5	
Laundry tub		1.4	
Lavatory (bathroom sink)		0.7	
Shower stall		1.4	
Water Closet (tank type) (toilet)		2.2	

Total Fixture Units _____

IPC Table P2903.6(1)

Supply Systems Predominantly for Flush Tanks		
Load	Demand	Water Tap Size
Water Supply Fixture Units	*Gallons per Minute*	*(Meter Size Required)*
1	3.0	Requires 3/4 inch
2	5.0	Requires 3/4 inch
3	6.5	Requires 3/4 inch
4	8.0	Requires 3/4 inch
5	9.4	Requires 3/4 inch
6	10.7	Requires 3/4 inch
7	11.8	Requires 3/4 inch
8	12.8	Requires 3/4 inch
9	13.7	Requires 3/4 inch
10	14.6	Requires 3/4 inch
11	15.4	Requires 3/4 inch
12	16.0	Requires 3/4 inch
13	16.5	Requires 3/4 inch
14	17.0	Requires 3/4 inch
15	17.5	Requires 3/4 inch
16	18.0	Requires 3/4 inch
17	18.4	Requires 3/4 inch
18	18.8	Requires 3/4 inch
19	19.2	Requires 3/4 inch
20	19.6	Requires 3/4 inch
25	21.5	Requires 3/4 inch
30	23.3	Needs 1" Water Tap Size
35	24.9	Needs 1" Water Tap Size
40	26.3	Needs 1" Water Tap Size
45	27.7	Needs 1" Water Tap Size
50	29.1	Needs 1" Water Tap Size

Studio Apartment - 7.5 Fixture Units

354 sf - 507 sf

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

S1.A

Studio 1 Bath

354 Sq. Ft.

Call for details

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

S2.A

Studio 1 Bath

477 Sq. Ft.

Starting at **$1,639**

Specials Available

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

S3.A

Studio 1 Bath

504-507 Sq. Ft.

Starting at **$1,659**

Specials Available

Deposit: Varies

1 Bedroom Apartment - 7.5 Fixture Units

583 sf - 725 sf

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

1.1A

1 Bed 1 Bath

583-689 Sq. Ft.

Call for details

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

1.2BA

1 Bed 1 Bath

703 Sq. Ft.

Starting at **$2,100**

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

1.2C

1 Bed 1 Bath

706-725 Sq. Ft.

Starting at **$2,090**

Deposit: Varies

2/3 Bedroom Apartment - 11.1 Fixture Units

1,137 sf - 1,339 sf

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 2 x 3.6
Washer/Dryer ~ 1.4
Total ~ 11.1

2.1B

2 Bed 2 Bath

1,137 Sq. Ft.

Starting at $2,615

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 2 x 3.6
Washer/Dryer ~ 1.4
Total ~ 11.1

3.1A

3 Bed 2 Bath

1,250-1,330 Sq. Ft.

Call for details

Deposit: Varies

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 2 x 3.6
Washer/Dryer ~ 1.4
Total ~ 11.1

3.1B

3 Bed 2 Bath

1,339 Sq. Ft.

Call for details

Deposit: Varies

1 Bedroom ADU - 7.5 Fixture Units

550 sf

Fixture Units
Kitchen Group ~ 2.5
Bathroom Group ~ 3.6
Washer/Dryer ~ 1.4
Total ~ 7.5

In 15 carts

$15.00

1 Bedroom 1 Bath (550SF) ADU(Accessory Dwelling Unit) Floor Plan House Plan (24'-5"Width X 22'-7"Length)

BasicFloorPlans ★★★★★

Add to cart

Star Seller. This seller consistently earned 5-star reviews, shipped on time, and replied quickly to any messages they received.

Item details

Highlights

Designed by **BasicFloorPlans**

Digital download

Digital file type(s): 3 PNG, 2 PDF

Plan Name: Main_St_ADU_550SF

ADU Dimensions: (24'-5"Width X 22'-7"Length)

Report this item to Etsy

2 Bedroom ADU - 11.1 Fixture Units

800 sf

In 20+ carts

$15.00

2 Bedroom 2 Bath (800SF) ADU(Accessory Dwelling Unit) Floor Plan House Plan (20'-0"Width X 40'-0"Length)

BasicFloorPlans ★★★★★

Add to cart

Star Seller. This seller consistently earned 5-star reviews, shipped on time, and replied quickly to any messages they received.

Item details

Highlights

Designed by **BasicFloorPlans**

Digital download

Digital file type(s): 3 JPG, 2 PDF

Plan Name: ADU_Plan_101_800SF

ADU: (20'-0"Width X 40'-0"Length)

Report this item to Etsy

Comparison of Meter/Line Sizing Methodologies
2018 International Plumbing Code vs M22 (Water Demand Calculator)

3/4" to 1" Upsize Thresholds: 30 fixture units or 23.30 gallons per minute (gpm)

Description Base Home: Kitchen w/ Dishwasher, Laundry, Front and Back Spigot	COL (2018 IPC) Fixture Counts (gallons per minute)	Denver (2018 IPC,M22,WDC) gallons per minute	Difference (COL-Denver) COL Size | Denver Size
Small ADU Kitchen w/ DW, Laundry, 1 Bathroom	7.50 (12.3 gpm)	9 gpm	+3.30 gpm 3/4" | 3/4"
Large ADU Kitchen w/ DW, Laundry, 2 Bathroom	11.10 (15.46 gpm)	11 gpm	+4.46 gpm 3/4" | 3/4"
Home ~ 2.5 Bath	18.70 (19.08 gpm)	20.40 gpm	-1.32 gpm 3/4" | 3/4"
Home ~ 3.5 Bath	22.30 (20.47 gpm)	20.40 gpm	+0.07 gpm 3/4" | 3/4"
Home ~ 4.5 Bath	25.90 (21.82 gpm)	21.90 gpm	-0.08 gpm 3/4" | 3/4"
Home ~ 2.5 Bath + Small ADU	26.20 (21.93 gpm)	20.60 gpm	+1.33 gpm 3/4" | 3/4"
Home ~ 2.5 Bath + Large ADU	29.80 (23.23 gpm)	21.90 gpm	+1.33 gpm 3/4" | 3/4"
Home ~ 3.5 Bath + Small ADU	29.80 (23.23 gpm)	21.90 gpm	+1.33 gpm 3/4" | 3/4"
Home ~ 3.5 Bath + Large ADU	33.40 (24.39 gpm)	23.90 gpm	+0.49 gpm 1" | 1"

Denver Water ADU

- Accessory Dwelling Units are charged **$1,940** or **0.64** of the Base Charge Tap Fee of $3,030.
- The $1,940 tap fee is equivalent to the lowest cost multifamily tap fee that Denver Water recognizes. (Over 8 Dwelling Units)
- Denver sells a base residential tap that doesn't differentiate between 3/4" and 1". This likely eliminates fixture count anxiety and simplifies administrative overhead.

Accessory Dwelling Units

If you have or intend to add a carriage house, mother-in-law suite, guest house or any other detached accessory dwelling units (ADUs) to your property, you may need a new water supply license, and you may owe additional fees.

A detached accessory dwelling unit is a secondary living space that occupies the same lot as the main house, many times for use as a rental or to allow a family member to live nearby. To run water service to the ADU, customers need a water supply license, (under Tap Application Packet) and will owe an additional system development charge to finance system improvements, capital projects, efficiency projects and water right acquisitions.

Also, if the service line on the property is made of noncopper material, the customer must replace the service line from the water main to the first copper or brass fitting within the structure, and the tap cut must be witnessed by Denver Water, in accordance with our scrape-off policy.

Denver Water may suspend water service to premises that do not comply with this regulation, and customers will not benefit from the nonresidential billing rate they may be eligible for.

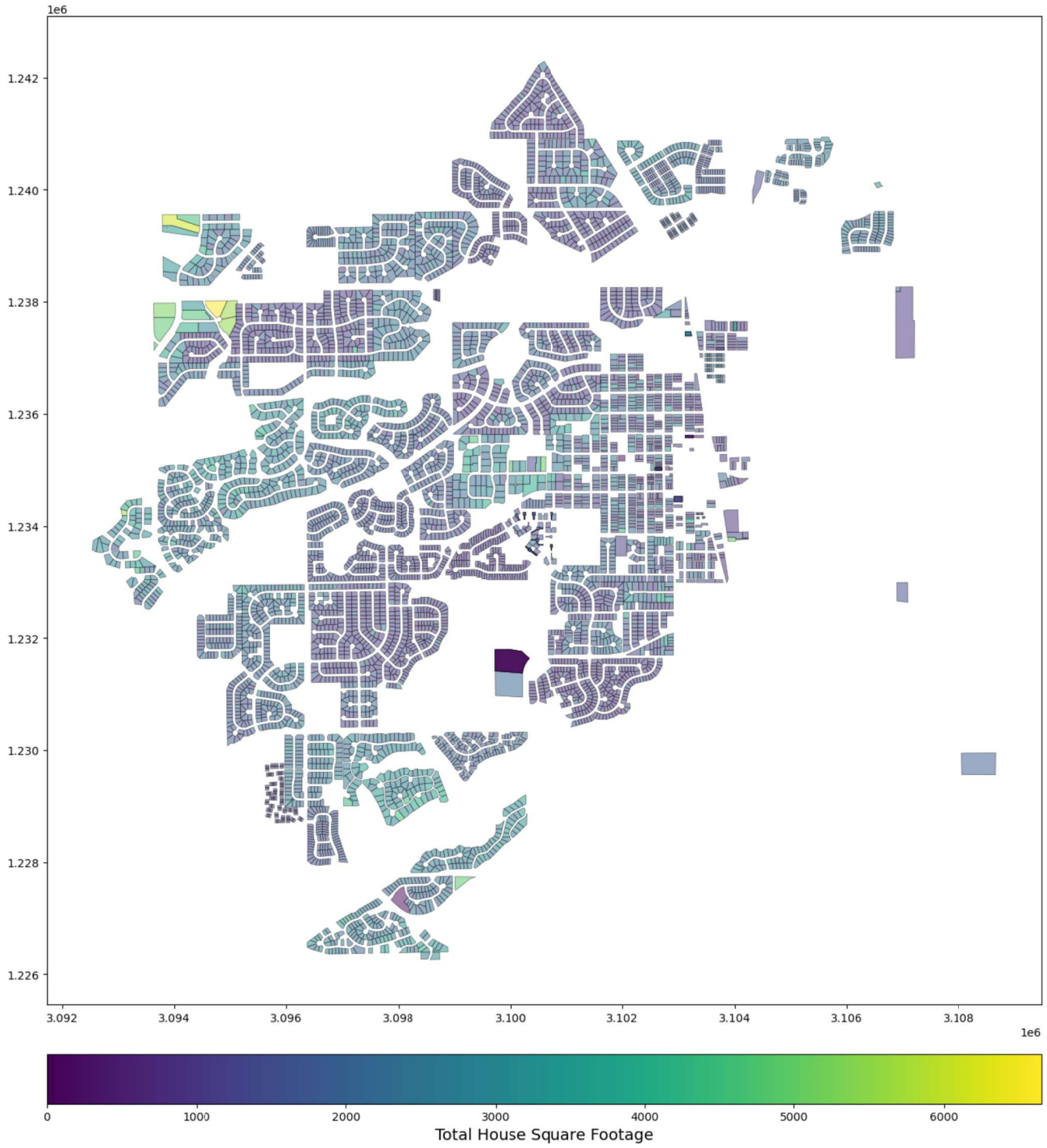
Questions? Contact Sales Administration at 303-628-6100 or watersales@denverwater.org.

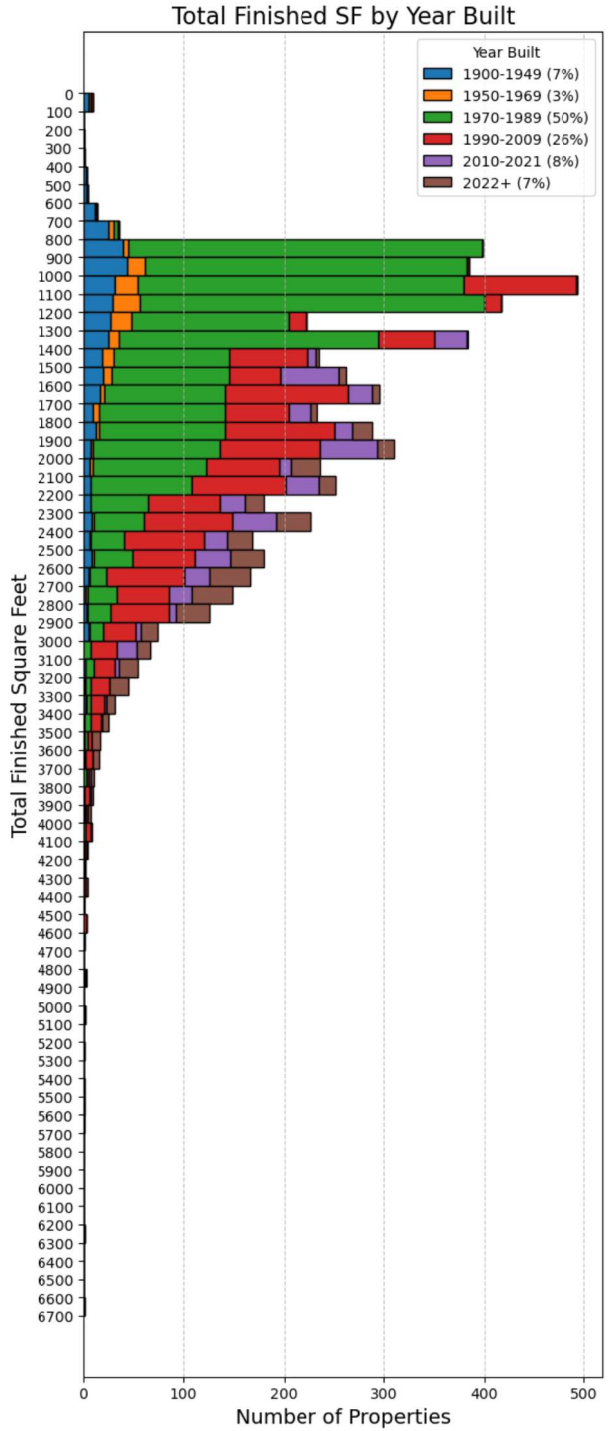
Denver Water System Development Charges fee schedule through Dec. 31, 2025

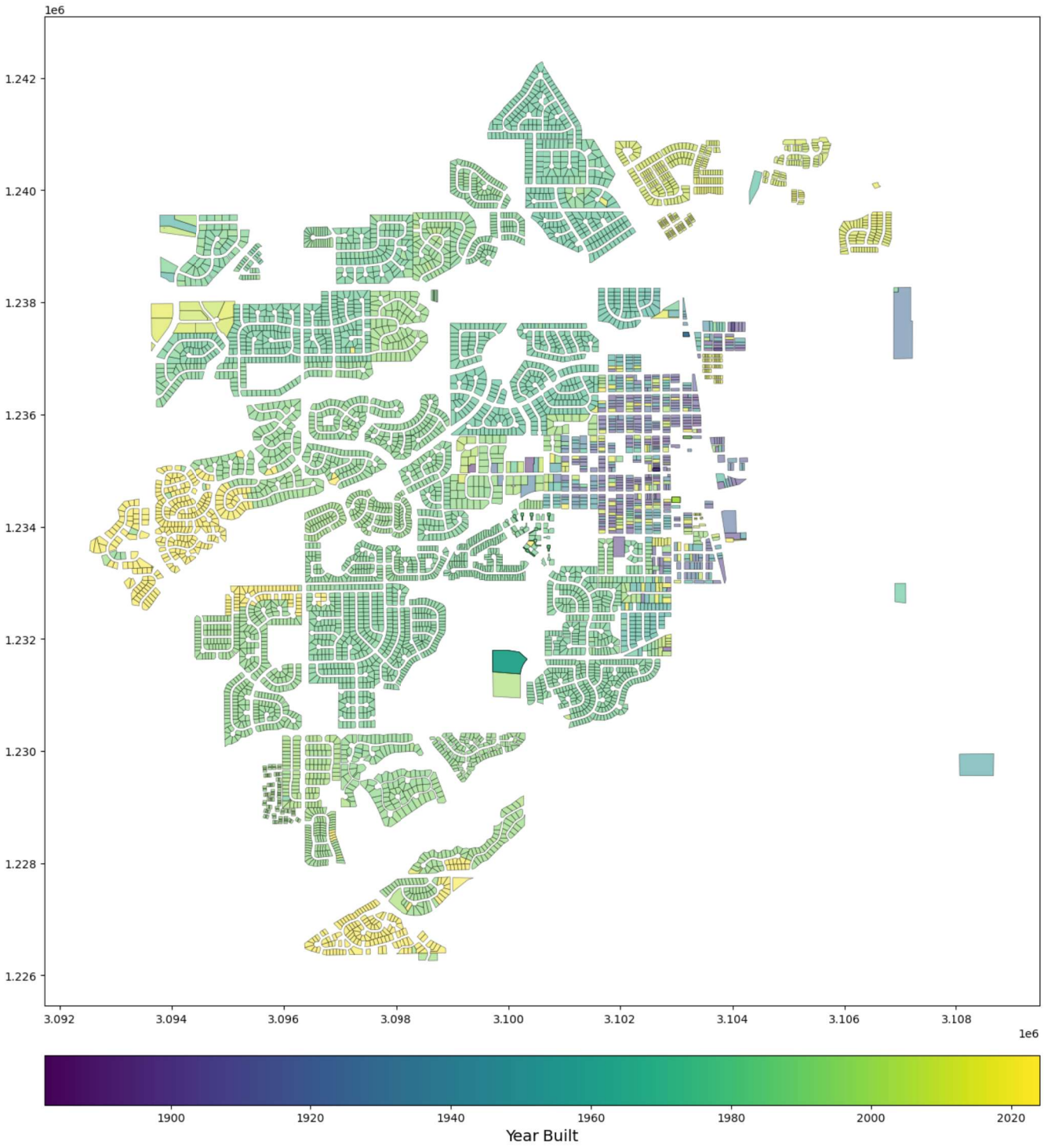
I. Single-family residential[7]		
	Treated Water	
	Inside Denver	Outside Denver
Base Charge	$3,030	$4,240
First 22,000 sq ft, $per sq ft (lot size)	$0.70	$0.98
Over 22,000 sq ft, $ per sq ft (lot size)	$0.35	$0.49
Accessory Dwelling Units[1]	$1,940	$2,710
II. Multifamily[7]		
	Treated Water	
	Inside Denver	Outside Denver
First two dwelling units	$10,040	$14,060
Next 6 dwelling units, $ per unit	$2,420	$3,390
Over 8 dwelling units, $ per unit	$1,940	$2,710

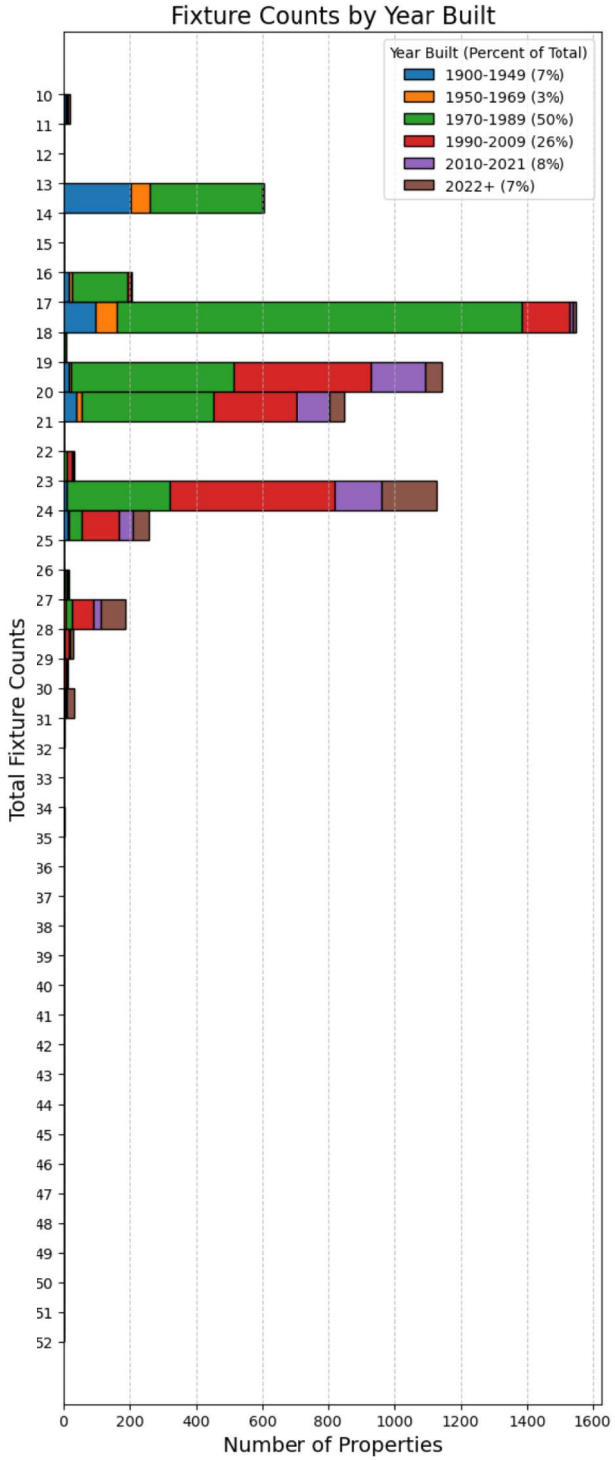
Single Family Residential (SFE)

Lot Square Footage, Home Square Footage, Fixture Units


1e6
1.242
1.240
1.238
1.236
1.234
1.232
1.230
1.228
1.226
3.092
3.094
3.096
3.098
3.100
3.102
3.104
3.106
3.108
1e6
0
1000
2000
3000
4000
5000
6000
Total House Square Footage

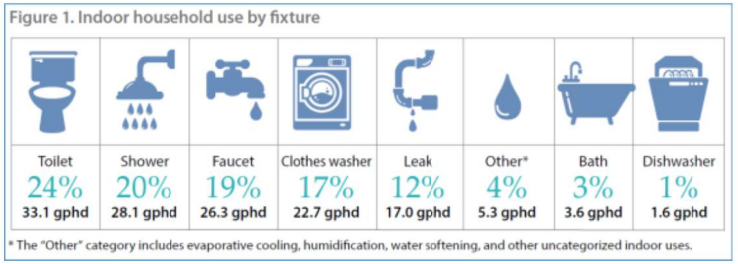

Total Finished SF by Year Built
Year Built
1900-1949 (7%)
1950-1969 (3%)
1970-1989 (50%)
1990-2009 (25%)
2010-2021 (8%)
2022+ (7%)
Total Finished Square Feet
0
100
200
300
400
500
Number of Properties

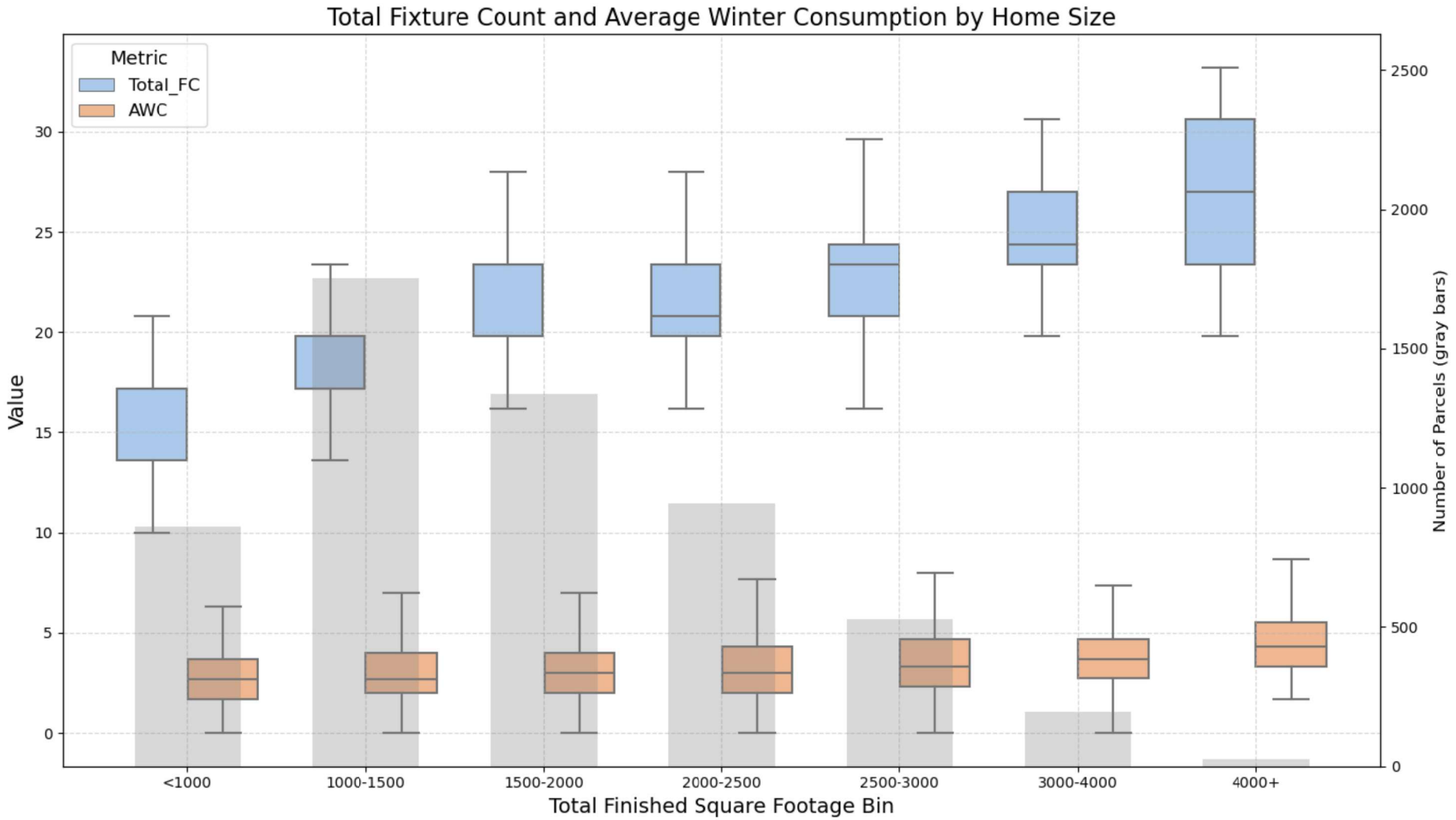

1e6
1.242
1.240
1.238
1.236
1.234
1.232
1.230
1.228
1.226
3.092
3.094
3.096
3.098
3.100
3.102
3.104
3.106
3.108
1e6
1900
1920
1940
1960
1980
2000
2020
Year Built


Fixture Counts by Year Built
Year Built (Percent of Total)
1900-1949 (7%)
1950-1969 (3%)
1970-1989 (50%)
1990-2009 (26%)
2010-2021 (8%)
2022+ (7%)
Total Fixture Counts
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
0
200
400
600
800
1000
1200
1400
1600
Number of Properties

Home Indoor Use Statistics

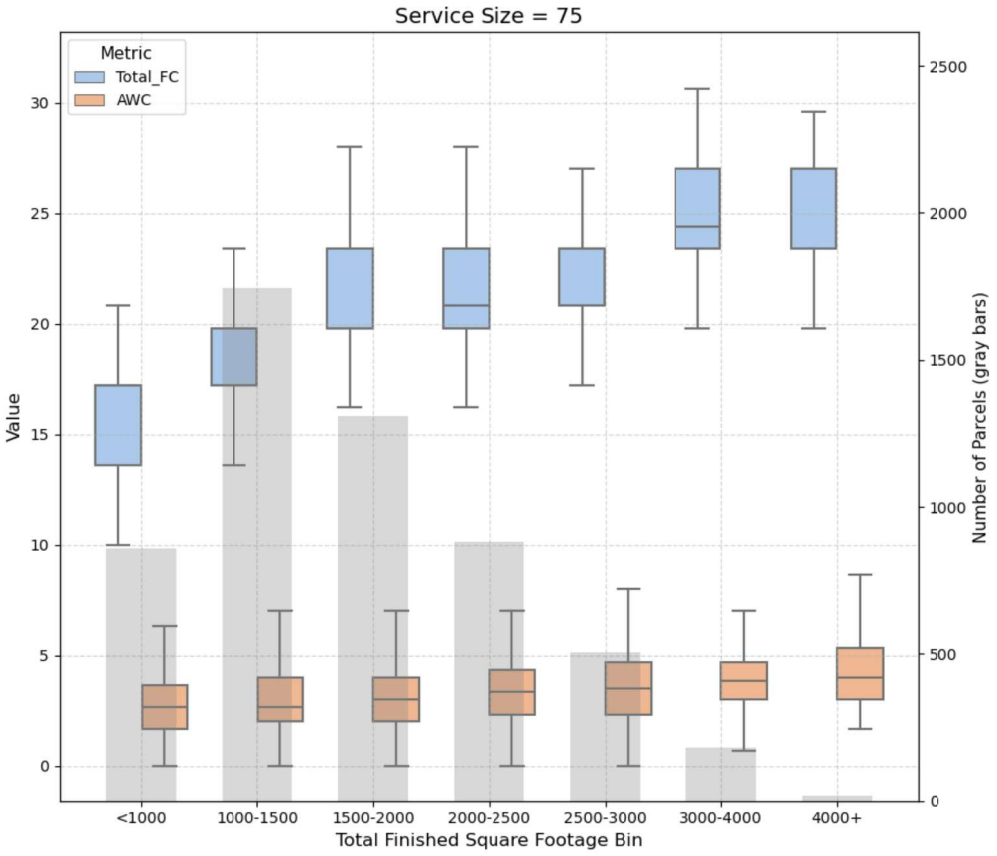
Square Footage vs Fixture Count vs Monthly Indoor Use

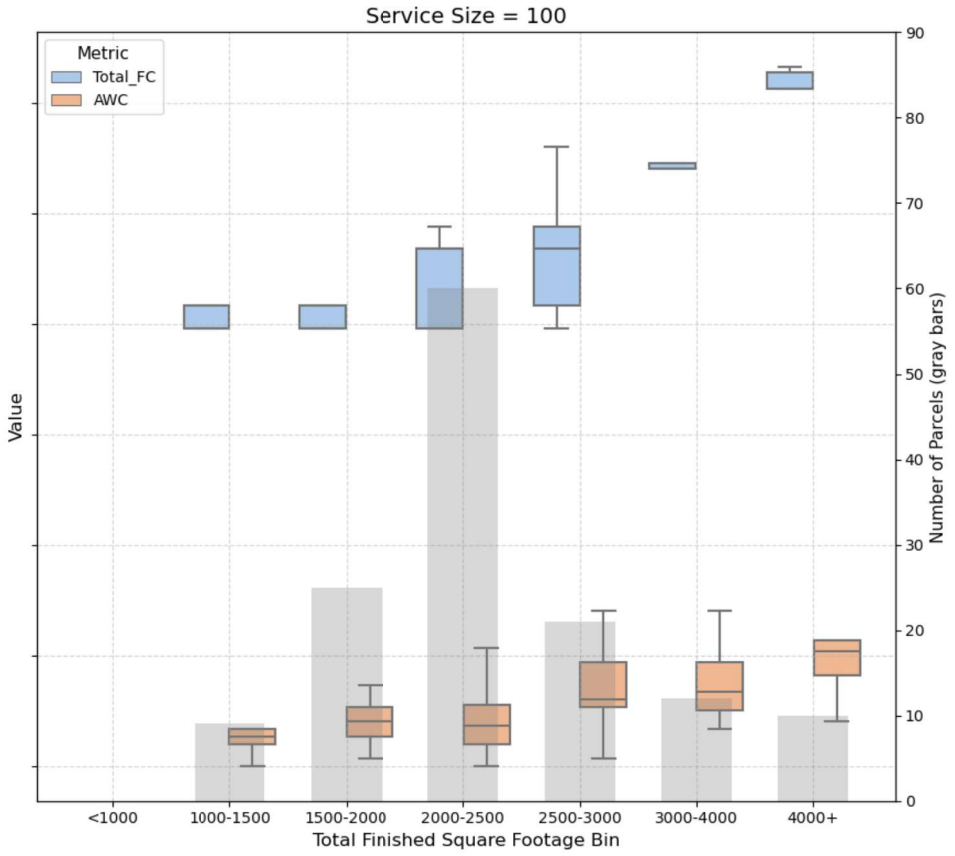




Home Indoor Use Statistics

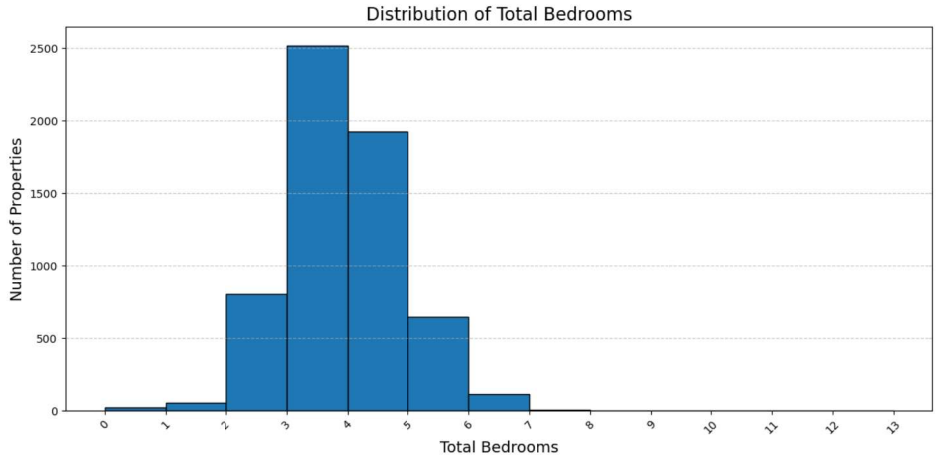
Do 3/4” meters vs 1” meters look different for Indoor Usage? **No**

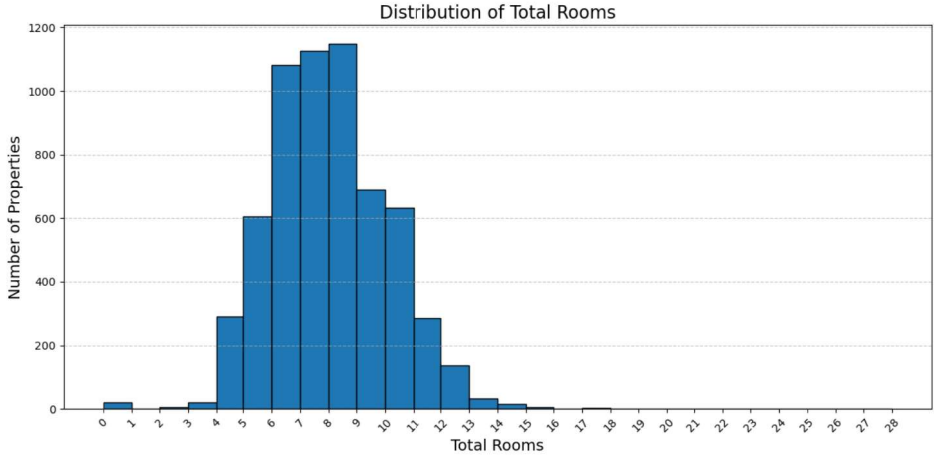


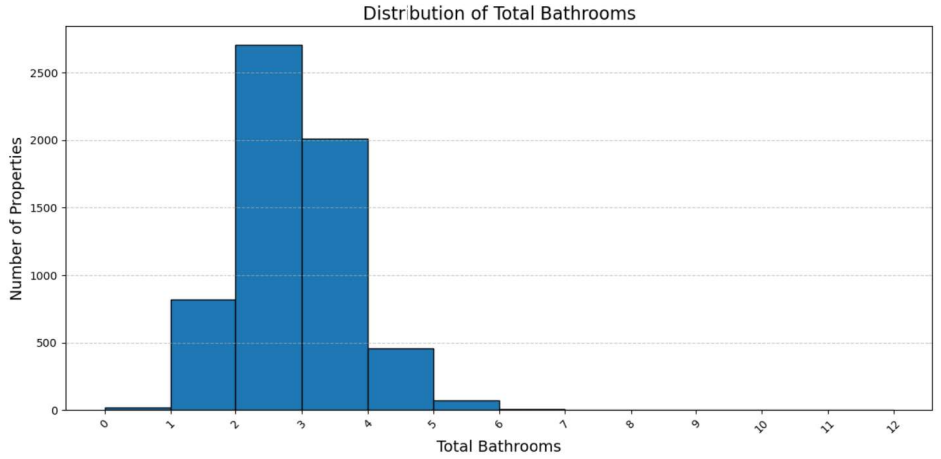


Average Home Room Profile

- Most homes have **3-4 bedrooms**.
- Most homes have **2-3 bathrooms**.
- Most homes have **6-8 total rooms** not bathrooms indicating kitchen, living room, family room, dining.
- The **difference** between a **small home** and a **large home** can be **1-2 bedrooms** and **1-2 bathrooms**.



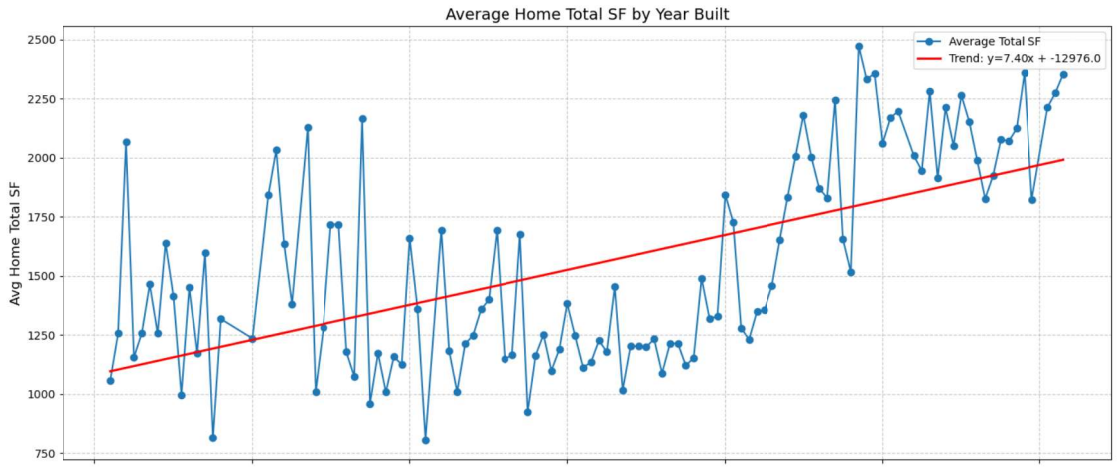


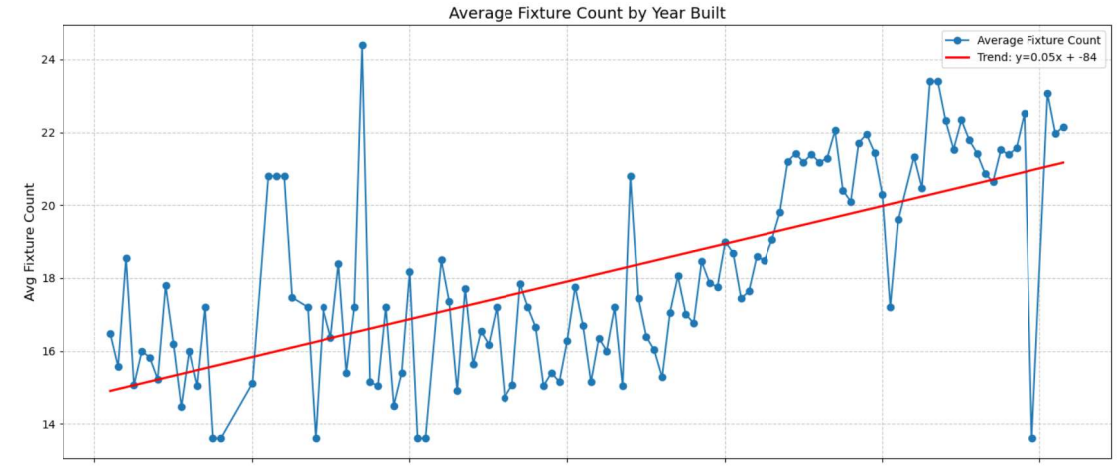


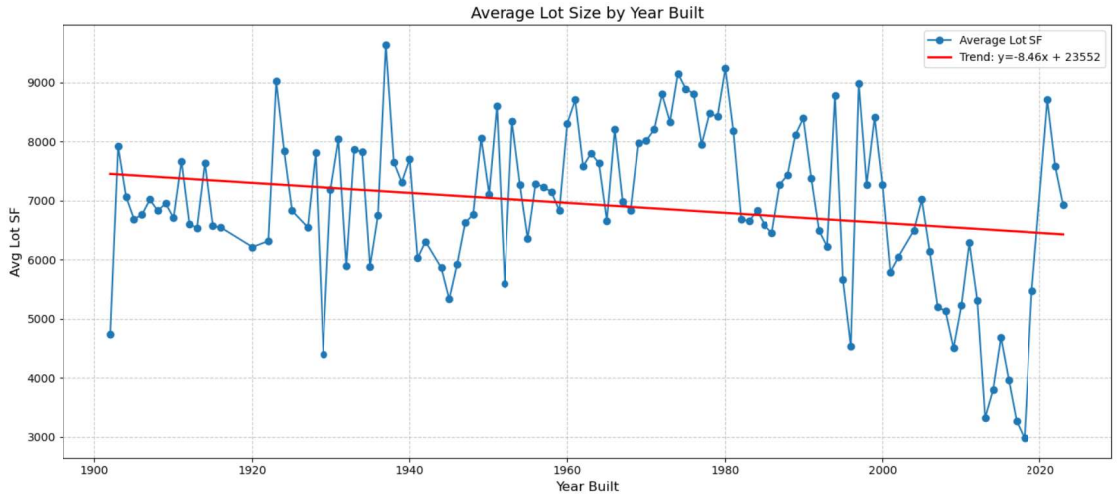
Home Size Trends

Averaged by Year Built

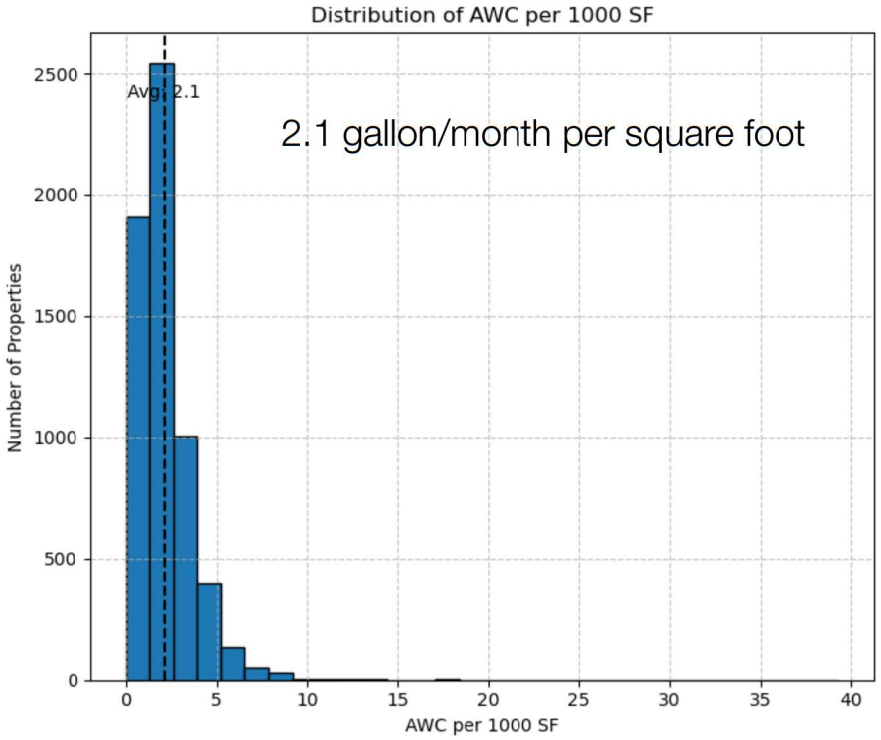
- Home total finished square footage increased by roughly 2x.
- Home fixture counts increased by roughly 1.5x.
- Average lot square footage was consistent and significantly decreased starting in the 2000's.
- Bigger homes less same or less lot size.

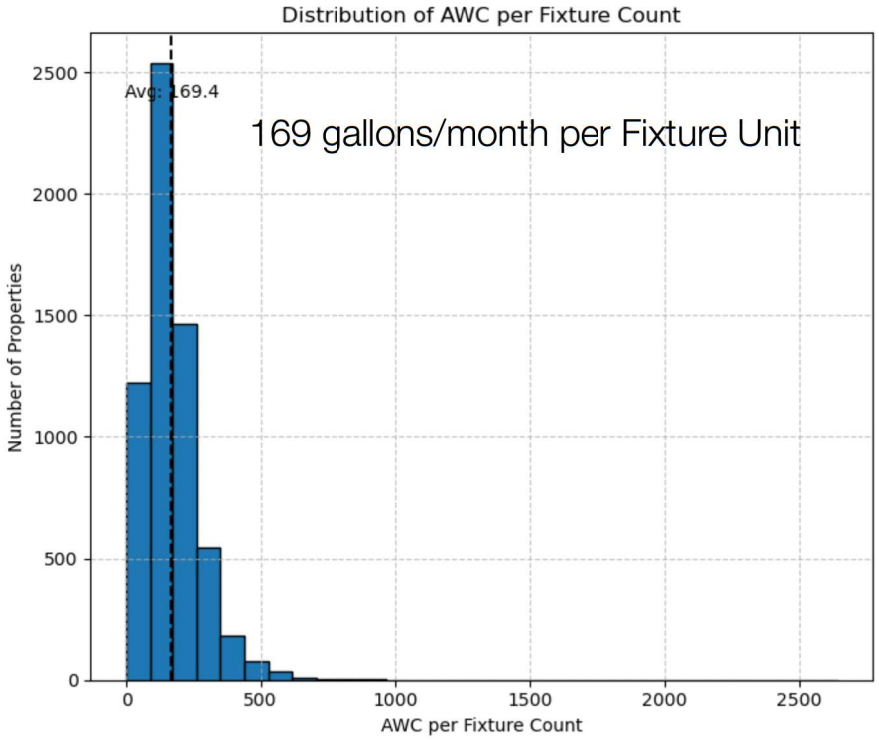


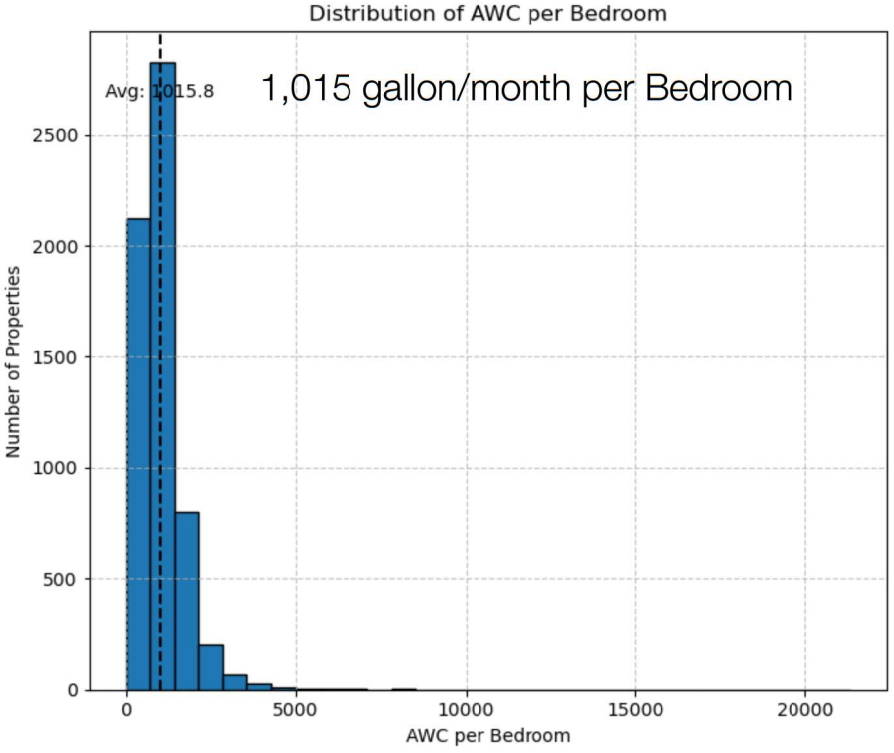


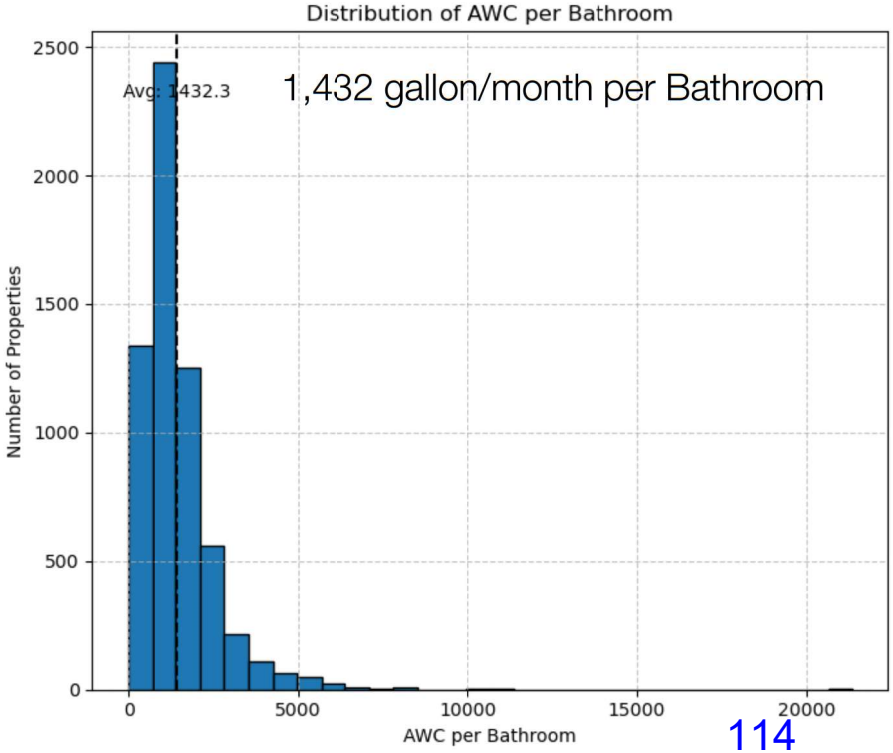


Residential Average Winter Consumption (AWC) Analysis
AWC is the Average of Dec,Jan,Feb or Indoor Usage

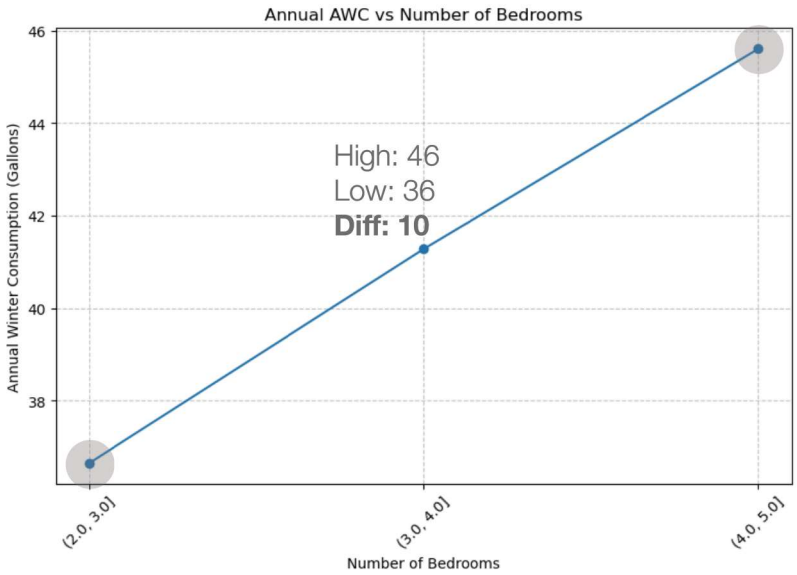


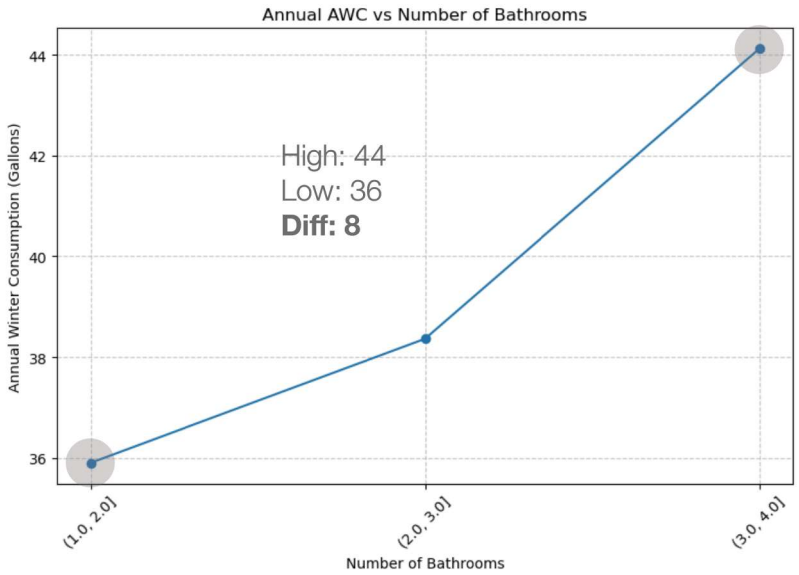


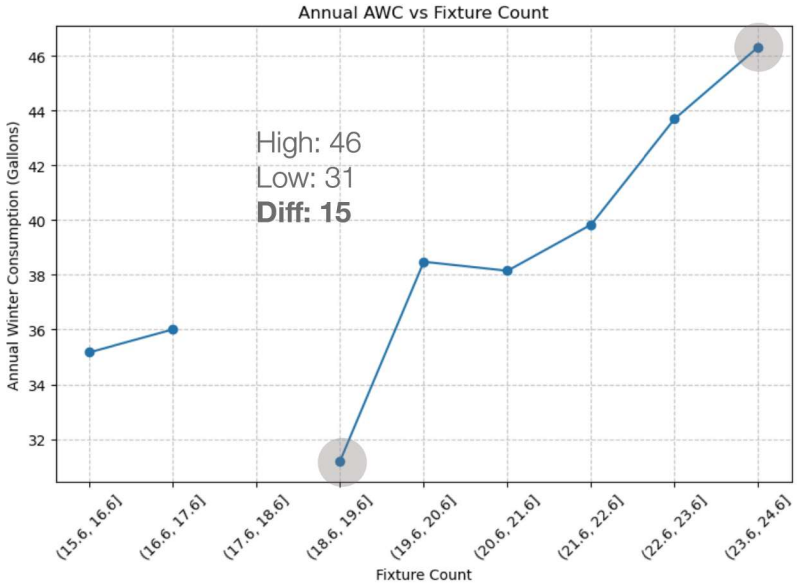


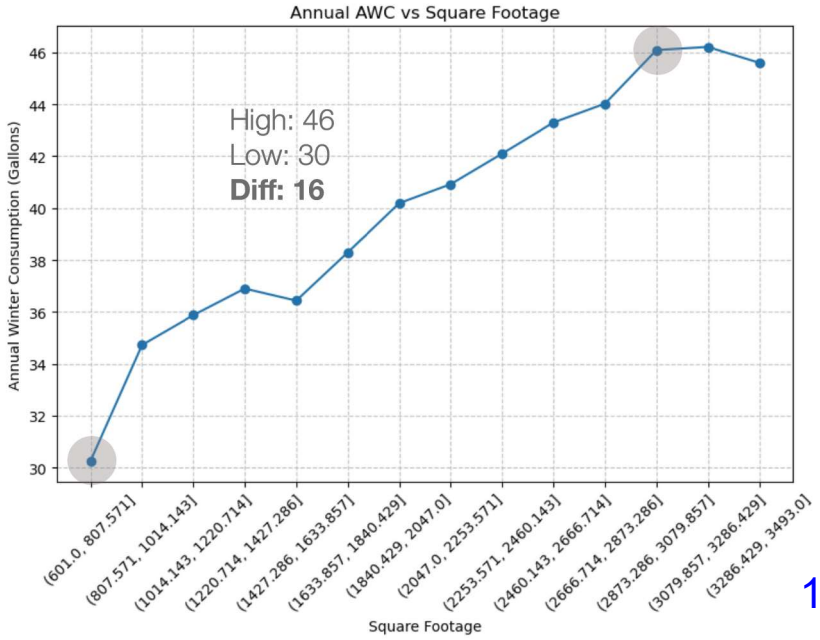


Residential - Homes Before 2022 (No Outliers)

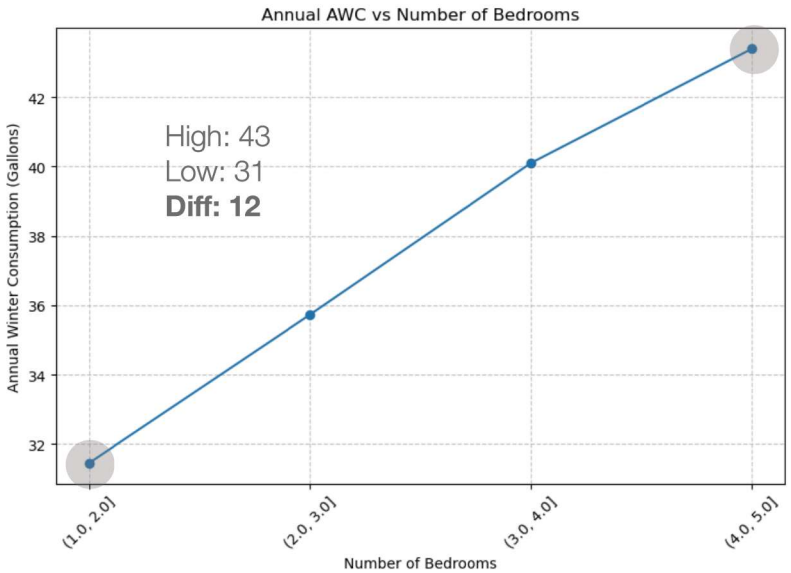


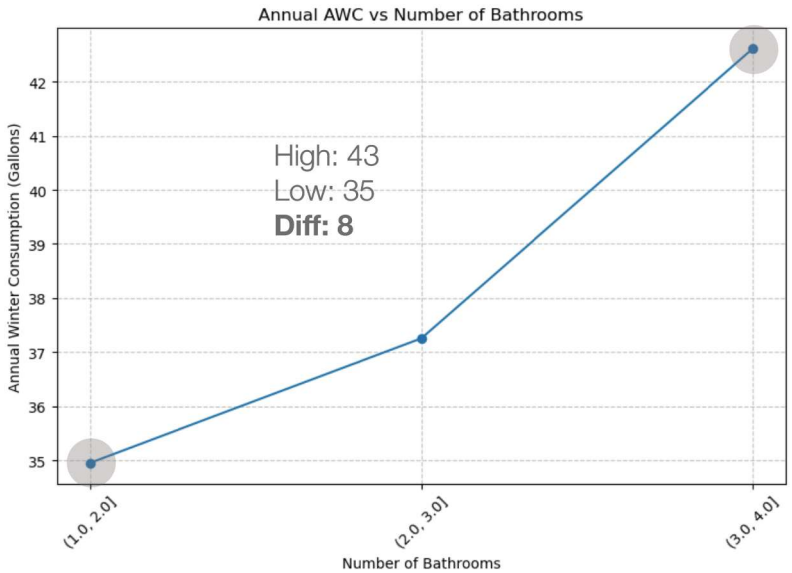


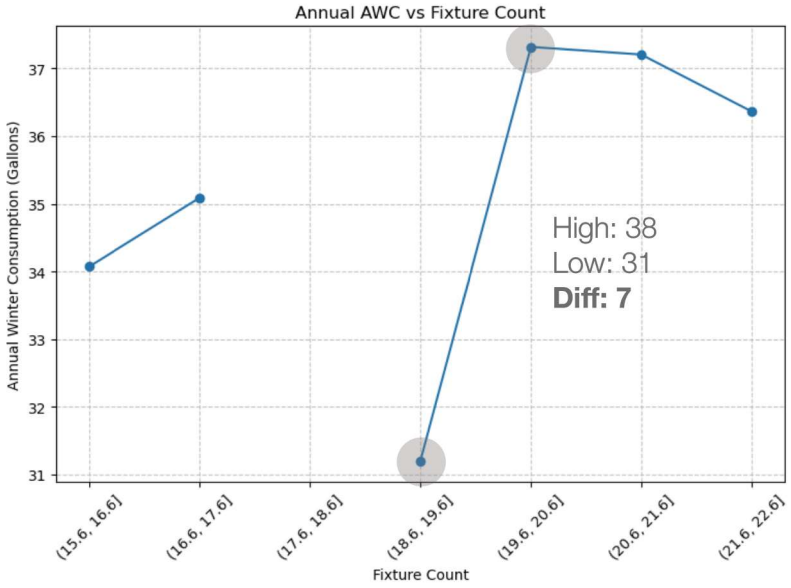


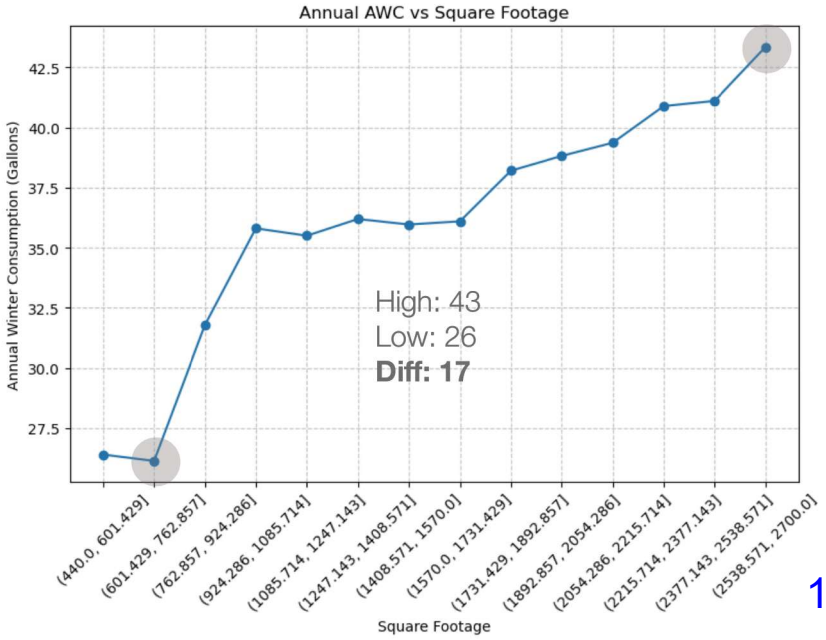


Residential - Homes Before 2022 (95th Percentile)









Small vs Large Home Indoor Use Statistics

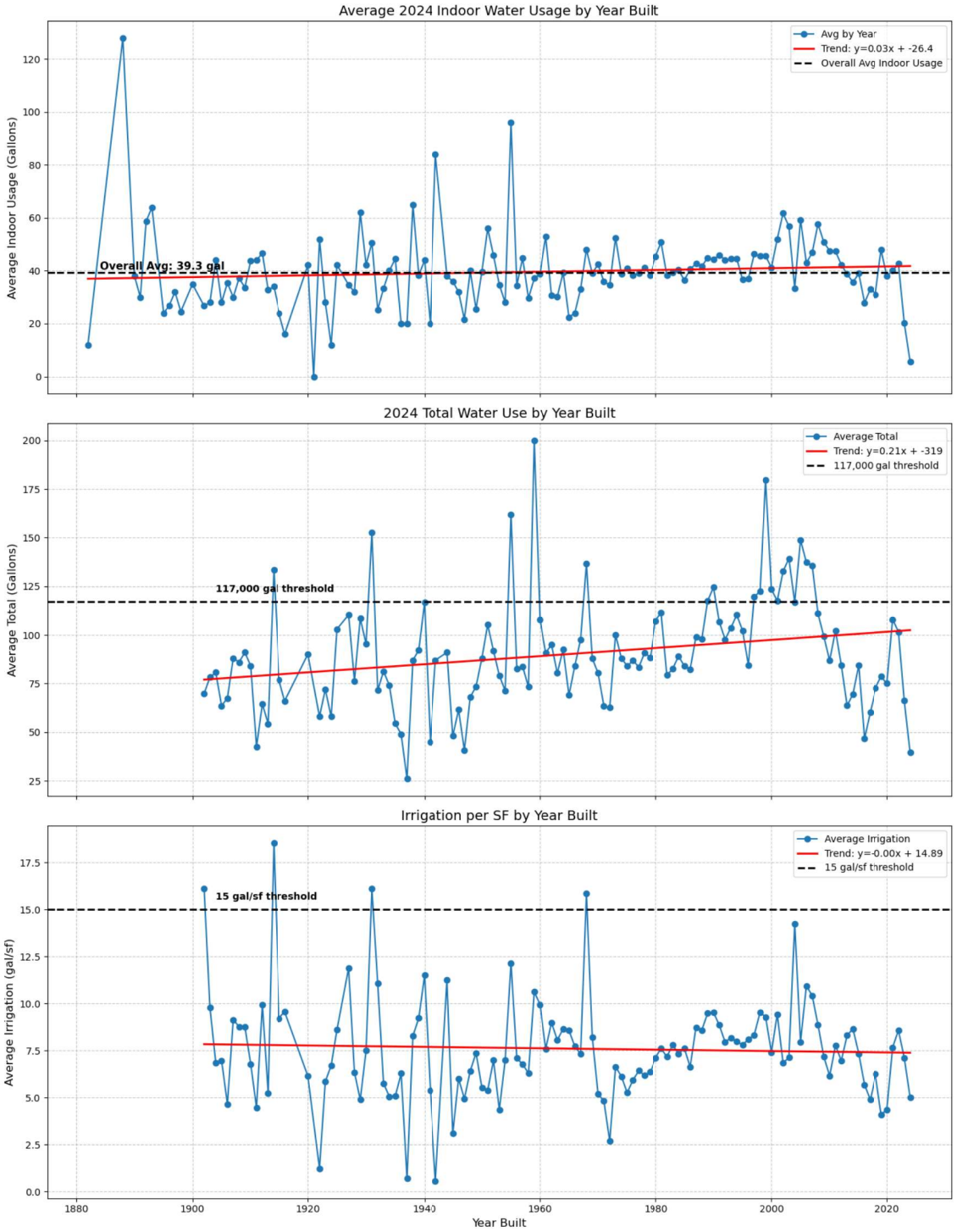
Small vs Large home indoor annual usage is 8,000 - 17,000 gallons depending on perspective.

Average AWC Versus (Annual Difference)	All Homes Partial Year Data (Fire Skewed)	All Homes Built Prior to 2022 (No Fire Skew)	All Homes Built Prior to 2022 No Outliers (25-75th Percentile)		All Homes Built Prior to 2022 High Confidence (95th Percentile)
# Bedrooms Most to Least 11,000 gallons (1,015 gal/bedroom)	High: 46 Low: 34 Difference: 12	High: 50 Low: 34 Difference: 16	High: 46 Low: 36 Difference: 10	Avg: 11	High: 43 Low: 31 Difference: 12
# Bathrooms Most to Least 8,000 gallons (1,432 gal/bathroom)	High: 45 Low: 38 Difference: 7	High: 52 Low: 37 Difference: 15	High: 44 Low: 36 Difference: 8	Avg: 8	High: 43 Low: 35 Difference: 8
Fixture Count Most to Least 11,000 gallons (169 gal/fu)	High: 51 Low: 30 Difference: 21	High: 60 Low: 35 Difference: 25	High: 46 Low: 31 Difference: 15	Avg: 11	High: 38 Low: 31 Difference: 7
Square Footage Most to Least 16,500 gallons (2.1 gal/sf)	High: 50 Low: 30 Difference: 20	High: 50 Low: 30 Difference: 20	High: 46 Low: 30 Difference: 16	Avg: 16.5	High: 43 Low: 26 Difference: 17

Home Usage Trends

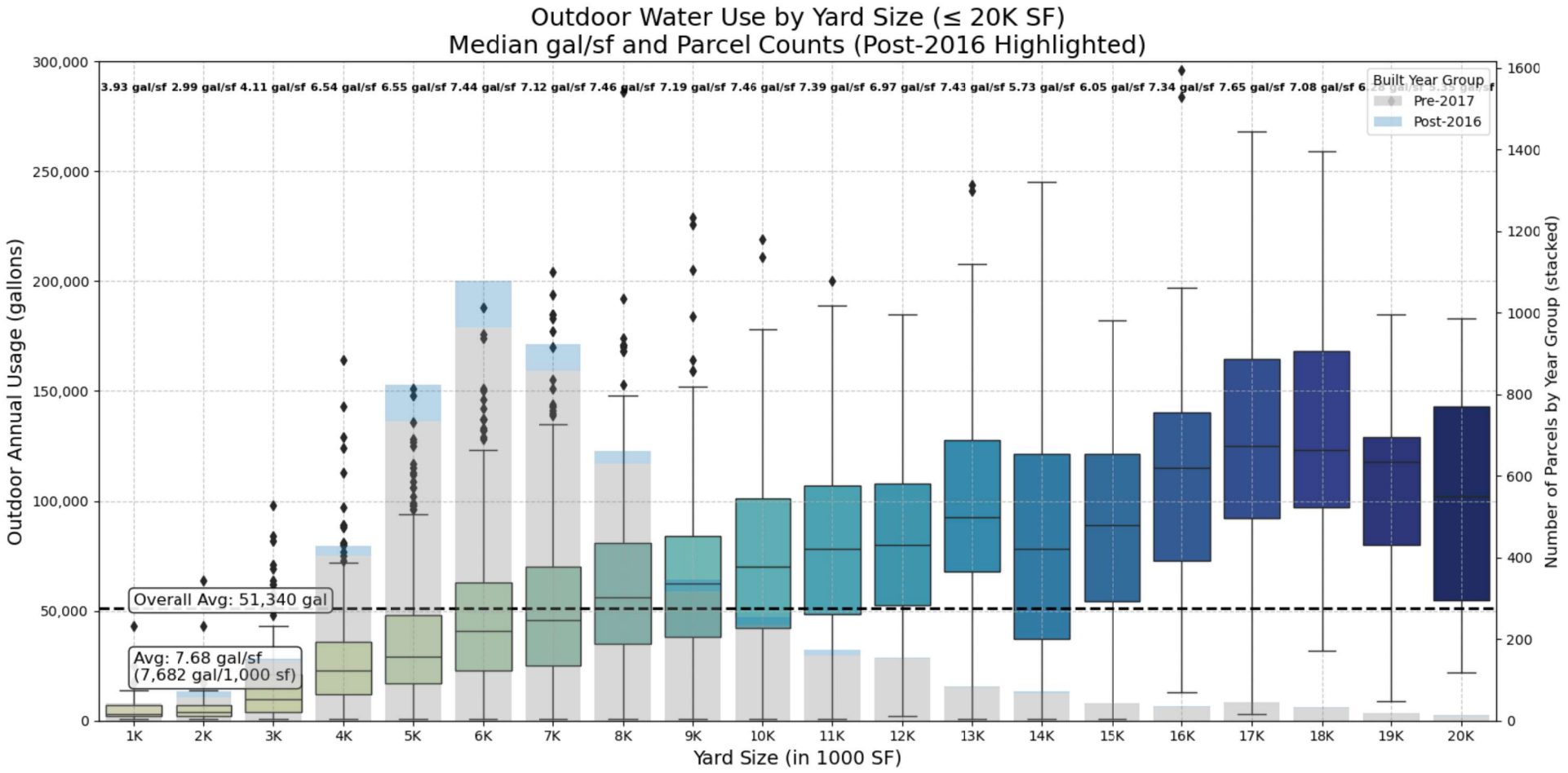
Averaged by Year Built.
2023+ Skewed By Incomplete Fire Rebuild Usage.

- **Indoor Usage** overall **average** is consistently **40,000** gallons per year with **smaller homes** averaging closer to **30,000** gallons and larger homes averaging **50,000** gallons.
- **Total Usage** varies greatly by year built and is **influenced** by **lot size** and **outdoor irrigation**.
- Statistically the **indoor usage difference** between a typical **large home** and typical **small home** is **10,000 - 15,000** gallons.



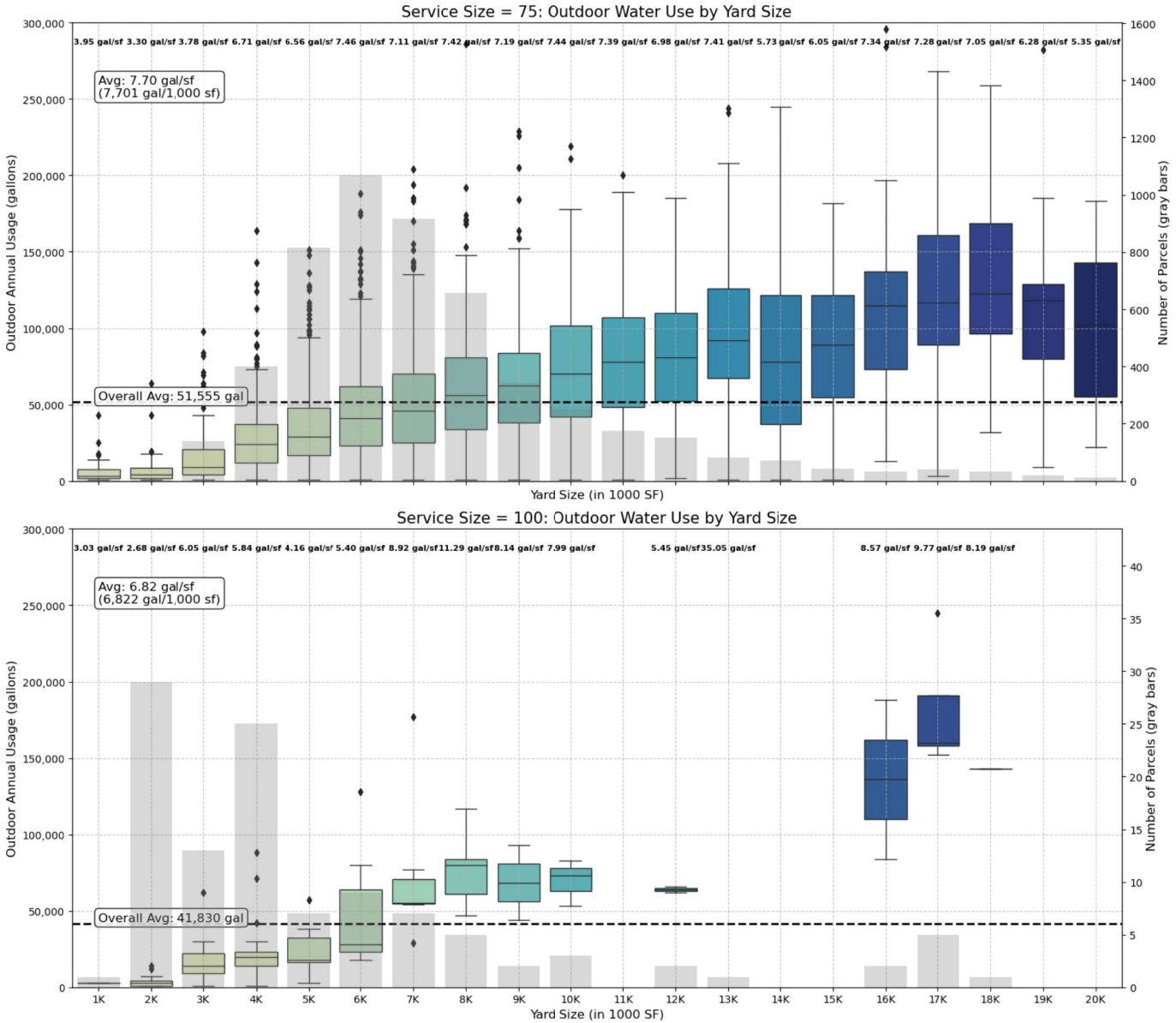
Home Irrigation Statistics

Yard Size calculated from Parcel Size - Main Floor SF (ie. driveway/walks not accounted for)



Home Irrigation Statistics

Do 3/4” meters vs 1” meters look different for Outdoor Irrigation? **No**

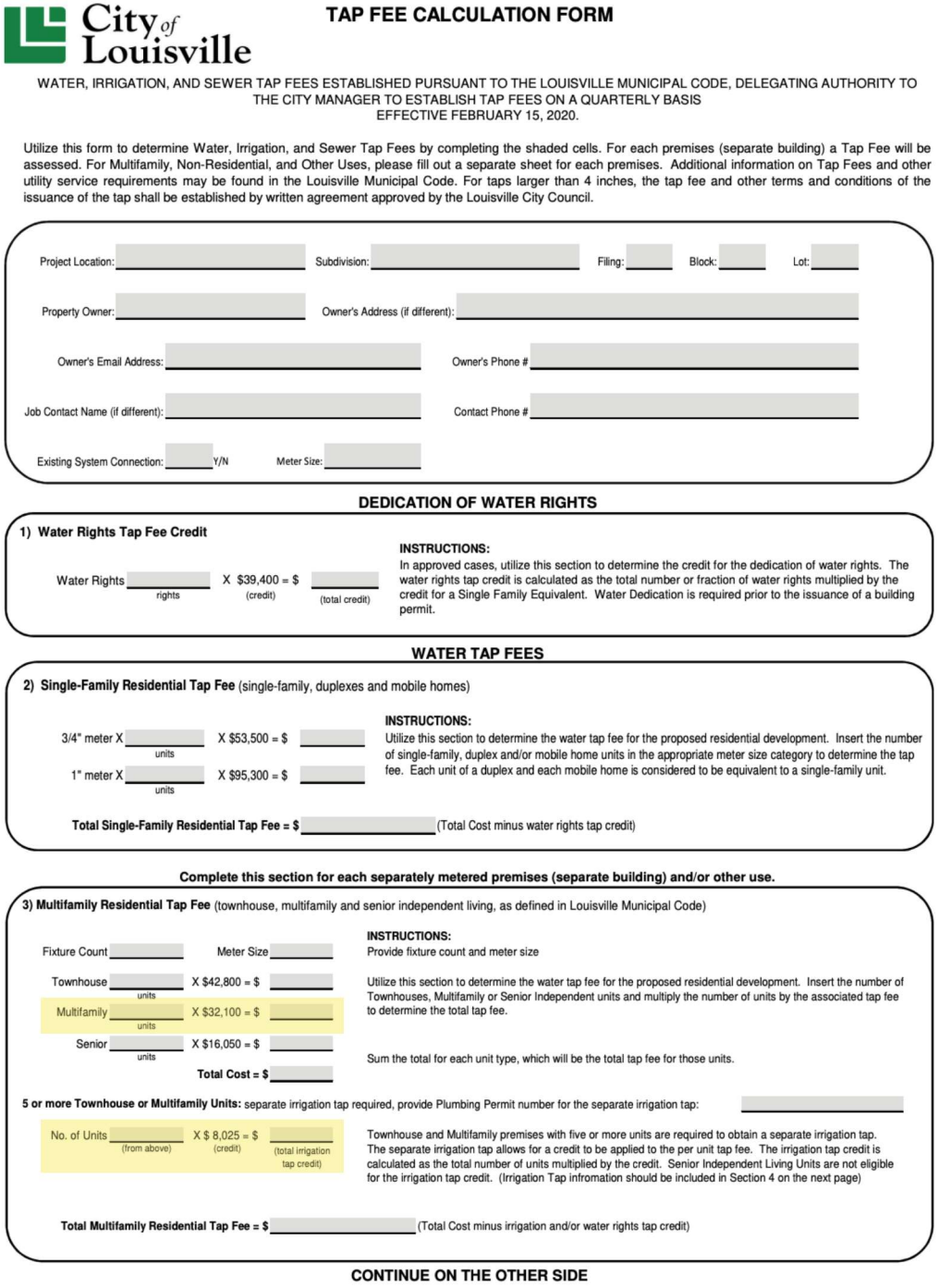


Single Family Residential (SFE) versus Multifamily vs ADU

Existing Perspective, Review of Usage Ranges, Proposed Perspective

Existing ADU Tap Fee Practice

- ADU's are considered as a Multifamily Unit if they are putting in fixtures beyond bathroom and small bar sink.
- Multifamily Units are **$32,100** per Unit or **0.60** of a Single Family Equivalent Unit (SFE).
- Primary Residences can be considered as the Irrigation Component. This provides a **$8,025** per Unit or **0.15** discount or allows for **0.45** ADU charge.
- ADU Water Tap Fee **$24,075**
- **1 Tap Fee Paid in History**



City of Louisville

TAP FEE CALCULATION FORM

WATER, IRRIGATION, AND SEWER TAP FEES ESTABLISHED PURSUANT TO THE LOUISVILLE MUNICIPAL CODE, DELEGATING AUTHORITY TO THE CITY MANAGER TO ESTABLISH TAP FEES ON A QUARTERLY BASIS
EFFECTIVE FEBRUARY 15, 2020.

Utilize this form to determine Water, Irrigation, and Sewer Tap Fees by completing the shaded cells. For each premises (separate building) a Tap Fee will be assessed. For Multifamily, Non-Residential, and Other Uses, please fill out a separate sheet for each premises. Additional information on Tap Fees and other utility service requirements may be found in the Louisville Municipal Code. For taps larger than 4 inches, the tap fee and other terms and conditions of the issuance of the tap shall be established by written agreement approved by the Louisville City Council.

Project Location: Subdivision: Filing: Block: Lot:

Property Owner: Owner's Address (if different):

Owner's Email Address: Owner's Phone #

Job Contact Name (if different): Contact Phone #

Existing System Connection: Y/N Meter Size:

DEDICATION OF WATER RIGHTS

1) Water Rights Tap Fee Credit

Water Rights ____ rights X $39,400 = $ ____ (credit) ____ (total credit)

INSTRUCTIONS:
In approved cases, utilize this section to determine the credit for the dedication of water rights. The water rights tap credit is calculated as the total number or fraction of water rights multiplied by the credit for a Single Family Equivalent. Water Dedication is required prior to the issuance of a building permit.

WATER TAP FEES

2) Single-Family Residential Tap Fee (single-family, duplexes and mobile homes)

3/4" meter X ____ units X $53,500 = $ ____

1" meter X ____ units X $95,300 = $ ____

INSTRUCTIONS:
Utilize this section to determine the water tap fee for the proposed residential development. Insert the number of single-family, duplex and/or mobile home units in the appropriate meter size category to determine the tap fee. Each unit of a duplex and each mobile home is considered to be equivalent to a single-family unit.

Total Single-Family Residential Tap Fee = $ ____ (Total Cost minus water rights tap credit)

Complete this section for each separately metered premises (separate building) and/or other use.

3) Multifamily Residential Tap Fee (townhouse, multifamily and senior independent living, as defined in Louisville Municipal Code)

Fixture Count ____ Meter Size ____

Townhouse ____ units X $42,800 = $ ____

Multifamily ____ units X $32,100 = $ ____

Senior ____ units X $16,050 = $ ____

Total Cost = $ ____

INSTRUCTIONS:
Provide fixture count and meter size

Utilize this section to determine the water tap fee for the proposed residential development. Insert the number of Townhouses, Multifamily or Senior Independent units and multiply the number of units by the associated tap fee to determine the total tap fee.

Sum the total for each unit type, which will be the total tap fee for those units.

5 or more Townhouse or Multifamily Units: separate irrigation tap required, provide Plumbing Permit number for the separate irrigation tap: ____

No. of Units ____ (from above) X $ 8,025 = $ ____ (credit) ____ (total irrigation tap credit)

Townhouse and Multifamily premises with five or more units are required to obtain a separate irrigation tap. The separate irrigation tap allows for a credit to be applied to the per unit tap fee. The irrigation tap credit is calculated as the total number of units multiplied by the credit. Senior Independent Living Units are not eligible for the irrigation tap credit. (Irrigation Tap infromation should be included in Section 4 on the next page)

Total Multifamily Residential Tap Fee = $ ____ (Total Cost minus irrigation and/or water rights tap credit)

CONTINUE ON THE OTHER SIDE

2022 City of Boulder ADU Update/Evaluation

Assume **50%** of ADU's are Rentals. **20%** Family. **20%** Convenience/Luxury. **10%** Other.

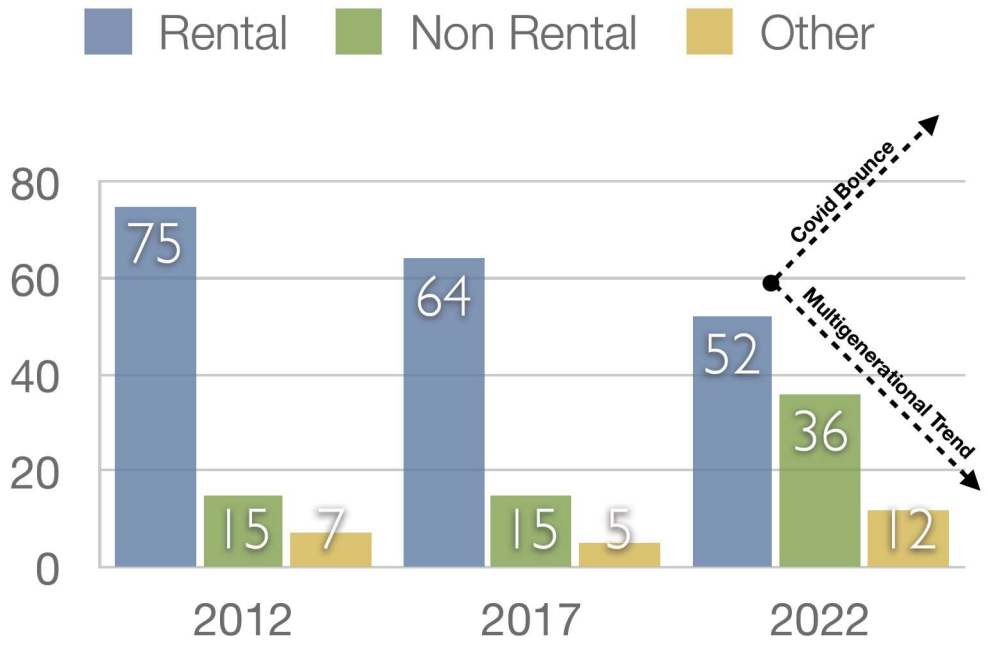


Figure 6. What do you consider to be the primary benefits of maintaining an ADU?

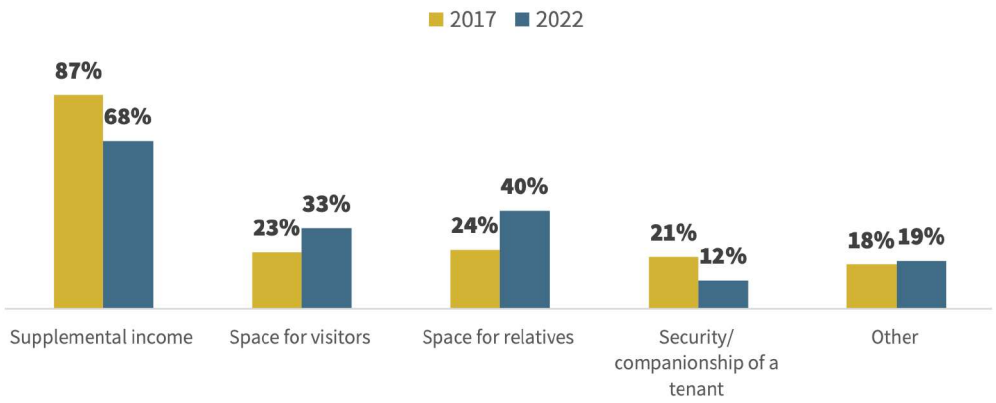
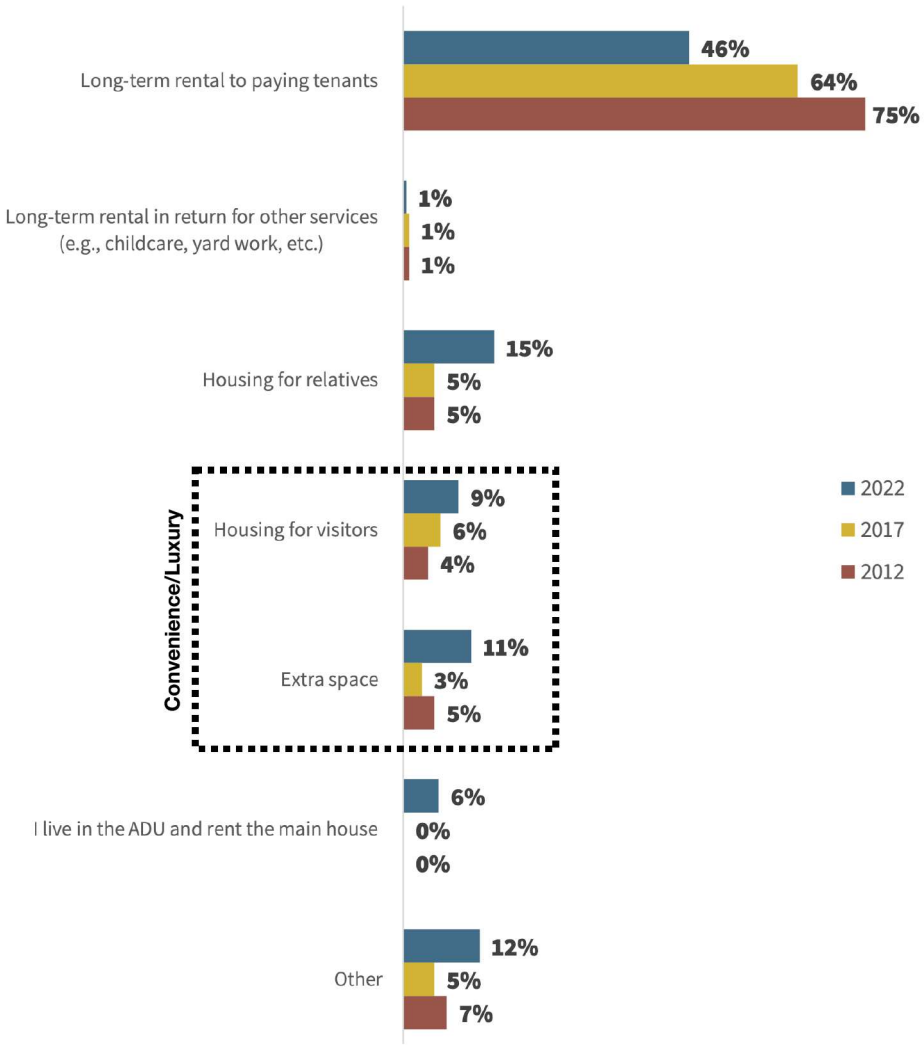
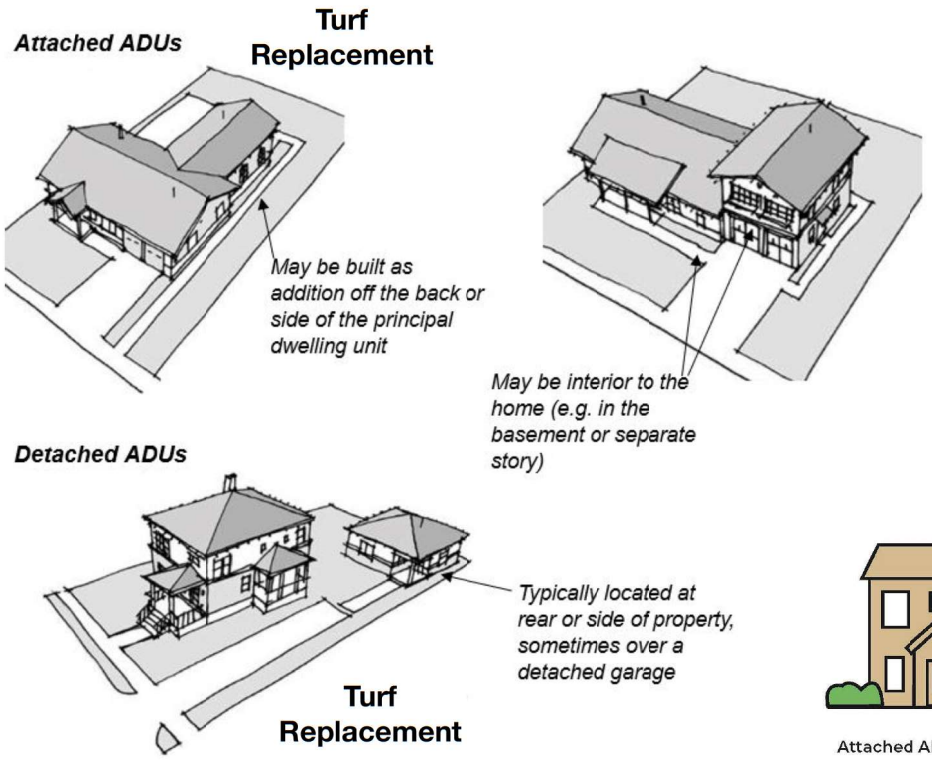
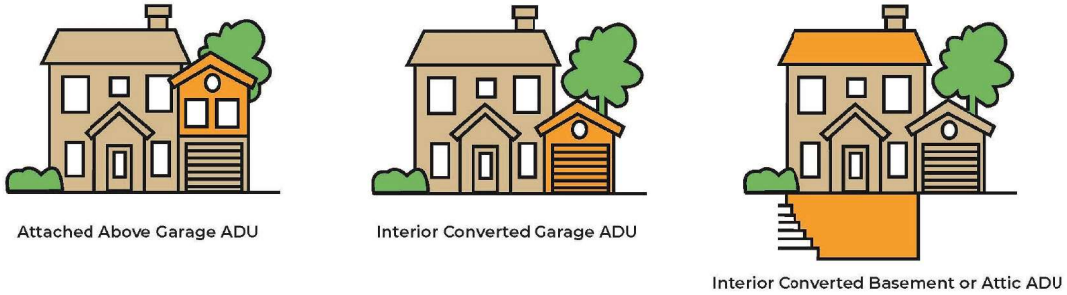


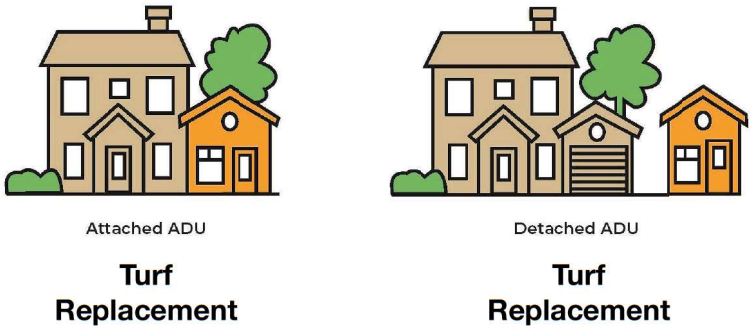
Figure 7. Current Use of the ADU (How do you currently use your ADU?)



ADU Layout Examples of Turf Replacement







ADU Community Fee Comparison

ADU Methodologies and Costs Vary Widely and are Difficult to Interpret at Times

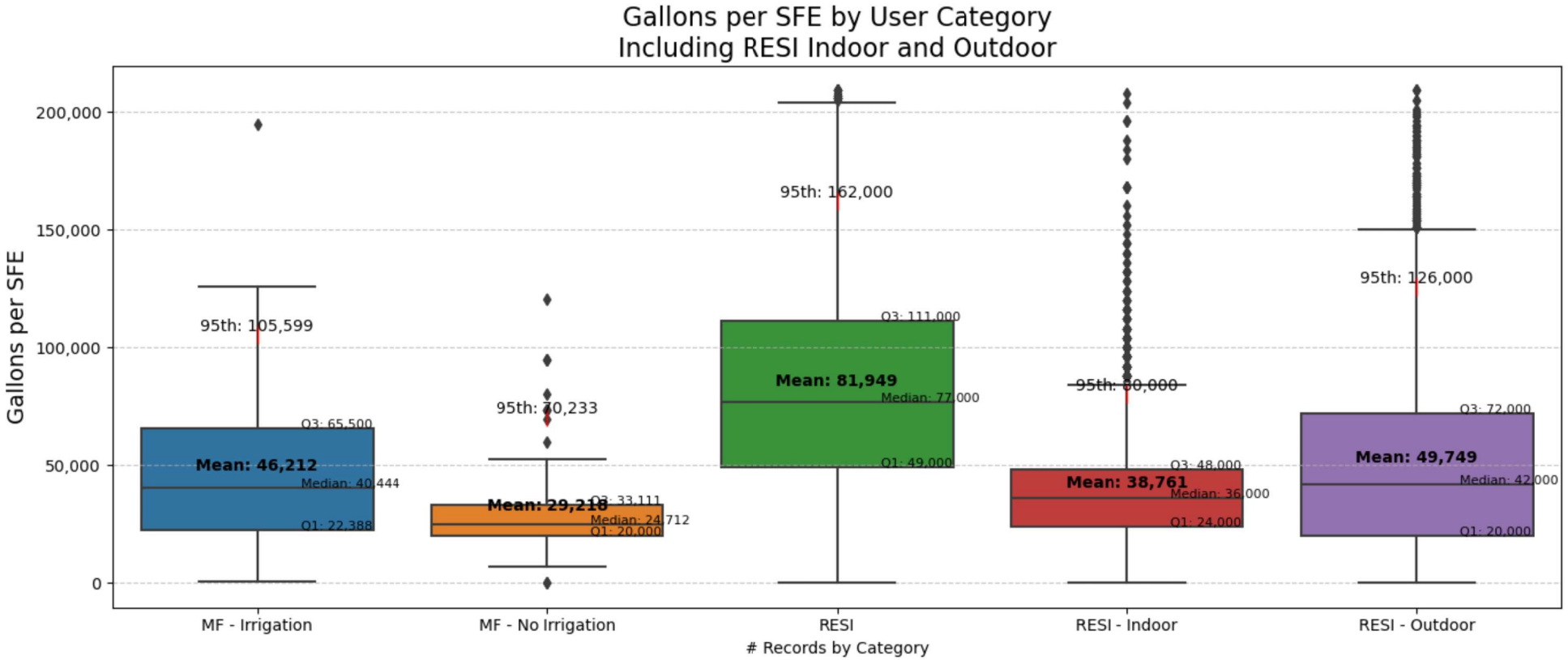
	Water Fee	Wastewater Fee	SFE Fee SFE Gallons	SFE Equivalents
Arvada	Fee if ADU triggers tap size increase. ($16,745 - $33,490)	Metro Water Recovery Fee ($5,910)	Water: $34,490 Sewer: $6,240 N/A	Duplex: 0.75 Multi-Family: 0.50
Boulder	Fee if ADU triggers tap size increase. (Unclear)	Fee if ADU triggers tap size increase. (Unclear)	Water: $12,167 + Irrig SF Sewer: $4,746 N/A	Multi-Family: 0.67 of Indoor Base
Broomfield	Fee if ADU triggers tap size increase. (Unclear)	Fee if ADU triggers tap size increase. (Unclear)	Water: $36,400 Sewer: $14,370 163,000	Townhouse: 0.60 Multi-Family: 0.40
Denver	Fee ($1,940)	Metro Water Recovery Unclear, Assumed ($5,930)	Water: $3,030 + Irrig SF Sewer: $5,930 N/A	Multi-Family: 0.64 of Indoor Base
Erie	Fee if ADU triggers tap size increase. ($8,030 + Raw Water)	Fee if ADU triggers tap size increase. ($5,907)	Water: $48,690 Sewer: $8,860 N/A	Unclear
Golden	Fee if ADU triggers tap size increase. ($26,182 w/ no Irrig)	Fee if ADU triggers tap size increase. ($2,325)	Water: $8,474 + Irrig SF Sewer: $3,486 N/A	Unclear
Lafayette	Fee - Same as MF Unit ($4,290)	Fee ($2,870)	Water: $62,584 Sewer: $6,360 N/A	Multi-Family: 0.45 + Water
Longmont	Unclear	Unclear	Water: $9,210 + Irrig SF Sewer: $8,617 N/A	Multi-Family: 0.61 of Base
Louisville - Current	Fee - Same as MF Unit ($24,075)	Fee - Same as MF Unit ($5,400)	Water: $53,500 Sewer: $6,800 117,000	Multi-Family: 0.60 w/ Irrig Multi-Family: 0.45 w/o Irrig
Superior	Fee if ADU triggers tap size increase. ($14,151)	Fee if ADU triggers tap size increase. (Unclear)	Water: $36,393 Sewer: $7,488 N/A	Unclear

ADU Fee if 3/4” to 1” Upsize is Triggered

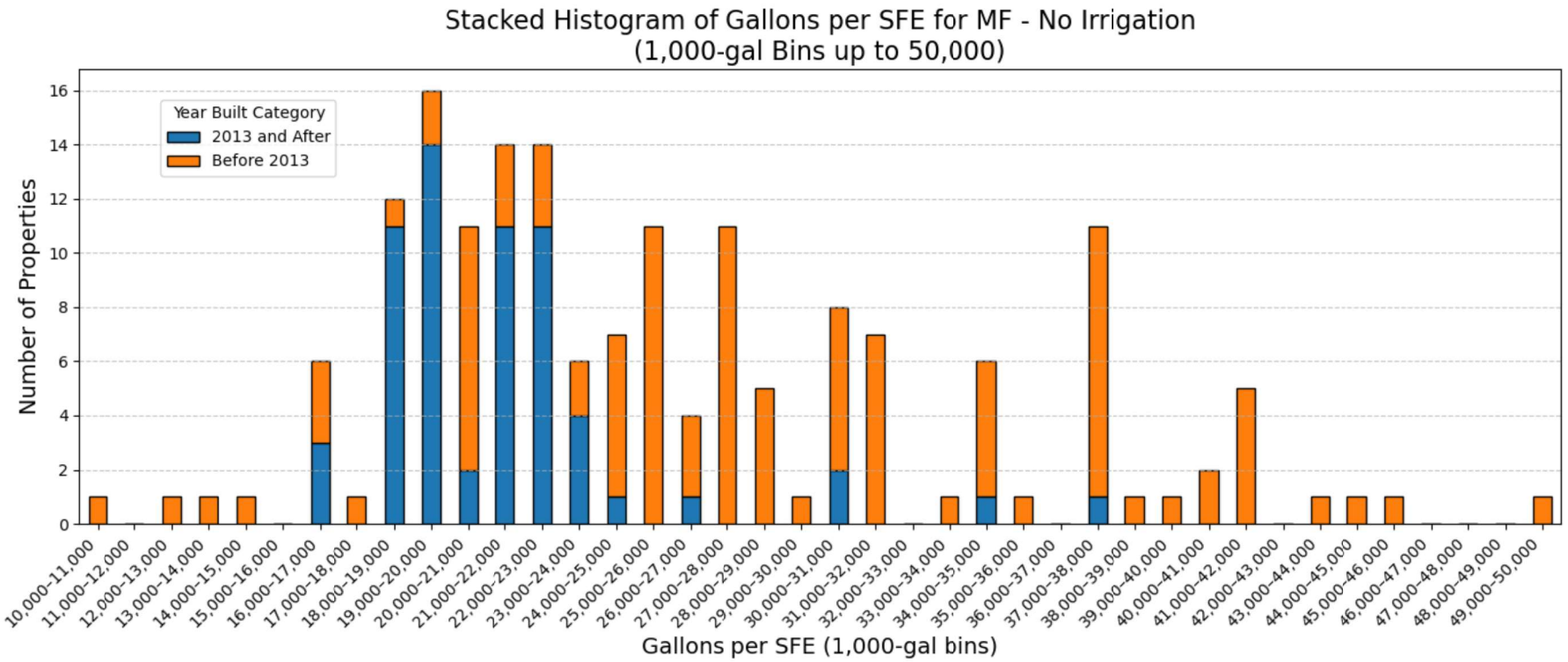
The Upsize Approach would create Inequity, Fixture Anxiety, and Administrative Overhead

Residential Meter Size	Percent of Meters	Fixture Units	Over Annual Usage Allocation	Estimated Over w/ Small ADU 1 Bathroom	Estimated Over w/ Large ADU 2 Bathroom
3/4” Meter	98%	< 1% (Over 30)	22% (Over 117,000 gal)	39%	65%
1” Meter	2%	N/A	9% (Over 208,000 gal)	9%	9%

Compare Indoor Gallons per SFE



Multifamily Indoor Gallos per SFE by Year Built



Multifamily vs Single Family Equivalents Review

2012

Ratio of MF to RESI - Gallons per SFE (Outliers Removed)

Statistic	MF - Irrigation to RESI	MF - No Irrigation to RESI
95th	0.67	0.34
Q3	0.62	0.34
Mean	0.66	0.4
Median	0.6	0.38
Q1	0.68	0.54

2024

Ratio of MF to RESI - Gallons per SFE (Outliers Removed)

Statistic	MF - Irrigation to RESI	MF - No Irrigation to RESI
95th	0.63	0.42
Q3	0.58	0.3
Mean	0.55	0.35
Median	0.53	0.32
Q1	0.46	0.41

COL Usage Ranges and Tap Fee Equivalents

Small ADU 25 x 23 = 575 sf. 575 x 7.5 gal/sf = 4,312 gallon irrigation deduction. ~ 4,000 (**)

Dwelling Type	Fixture Count Analysis	Fixture Count Equivalents	Water Usage 25th - 75th % Range (gallons/year)	Equivalent Residential Units (EQR)	COL Tap Existing Fee (EQR)	Other Considerations
Single Family Home (SFE)	15 - 35	1.0	49,000 - 112,000	1.0	117,000 gal/yr (Base SFE)	
Townhome	-	-	-	-	0.80 0.65 w/ Irrig	
1-Bedroom Apartment	7.5	0.21 - 0.30	20,000 - 33,000 20,000 - 69,000	.29 - .41 .29 - .62	0.60 0.45 w/ Irrig	Renting 93% Occupancy 1-2% Swings
2-Bedroom Apartment	7.5	0.21 - 0.30	20,000 - 33,000 20,000 - 69,000	.29 - .41 .29 - .62	0.60 0.45 w/ Irrig	Renting 93% Occupancy 1-2% Swings
3-Bedroom Apartment	7.5 - 11.2	0.32 - 0.50	20,000 - 33,000 20,000 - 69,000	.29 - .41 .29 - .62	0.60 0.45 w/ Irrig	Renting 93% Occupancy 1-2% Swings
Accessory Dwelling Unit (ADU) Existing	7.5 - 11.2	0.32 - 0.50	15,000 - 25,000 10,000 - 20,000	.22 - .30 .17 - .20	0.60 0.45 w/ Irrig	Family, Renting 50% Occupancy 25% Swings
Accessory Dwelling Unit (ADU) Option #1 Fee	7.5 - 11.2	0.32 - 0.50	15,000 - 25,000 10,000 - 20,000	.22 - .30 .17 - .20	0.30 0.20 w/Turf	Family, Renting 50% Occupancy 25% Swings
Senior Living Unit	-	-	-	-	0.30	
Commercial	Significant Variation	Significant Variation	Significant Variation	Significant Variation	Demand/ 117,000	

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 8G

SUBJECT: **ORDINANCE NO. 1892, SERIES 2025 – AN ORDINANCE AMENDING TITLE 17 AND TITLE 3 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING THE REGULATION OF ACCESSORY DWELLING UNITS IN THE CITY OF LOUISVILLE – 2ND READING PUBLIC HEARING – *CONTINUED FROM APRIL 15, 2025* (advertised City of Louisville Website 03/21/2025)**

DATE: **MAY 20, 2025**

PRESENTED BY: **JEFF HIRT, PLANNING MANAGER**
ROB ZUCCARO, COMMUNITY DEVELOPMENT DIRECTOR

SUMMARY:
Attached is a proposed ordinance to comply with Colorado House Bill 24-1152 that requires the City of Louisville to allow Accessory Dwelling Units (ADUs) in all single family residential zone districts by June 30, 2025. This item also implements several Housing Plan policies and is on the City Council 2025 Work Plan. City Council continued this item from the April 15, 2025 council meeting where changes were requested to the subject ordinance.

BACKGROUND / PRIOR DISCUSSIONS:
At the June 4, 2024 meeting council had discussion/direction on compliance with HB 24-1152 regarding Accessory Dwelling Units.

Planning Commission addressed the zoning code amendment at their February 13, 2025 meeting.

City Council requested the following changes to the ordinance at the April 15 meeting that are reflected in Attachment 1:

- Allow detached ADUs to be up to 25 feet tall citywide, not just in the Old Town overlay district.
- Allow with both single family detached and attached units. Such attached units include duplexes, townhomes, and rowhomes but do not include multifamily “stacked” units.
- Allow ADUs to be up to 75% of the size of the primary unit, whereas the April 15 ordinance only allowed up to 49%.
- Allow ADUs in basements to not count towards the maximum square footage allowed for ADUs.
- Allow attached ADUs in front of the primary single family unit citywide, and allow detached ADUs in front of the primary single family unit in Old Town.
- Allow front porches that are attached to ADUs to encroach into the front or street side setback in Old Town like they would be able to for the primary single family unit.
- Exempt the first 500 square feet of all ADUs from maximum lot coverage or floor area ratio requirements.

- Removed any provisions that address how ADUs relate to satisfying the 12% set aside requirement in the City's Inclusionary Housing Ordinance.

Attachment/Link 3 is the April 15, 2025, City Council staff report that includes more background on accessory dwelling units, including a summary of HB 24-1152 and related prior City Council discussions.

PROPOSAL

The ordinance in Attachment 1 addresses City Council's requested changes from the April 15 meeting summarized in the Background section above and is the ordinance that staff are recommending that City Council approve. Attachment 2 is a redlined version of the same ordinance as Attachment 1 that highlights the changes from the version provided in the April 15 meeting packet.

The April 15, 2025 City Council staff report includes the full summary of the ADU ordinance, excluding the changes described in the Background section above. City Council also discussed tap fees assessed on ADUs at the April 15 meeting, and staff indicated that would be addressed in a forthcoming, separate City Council discussion with the Public Works department.

ANALYSIS:

The April 15, 2025 City Council staff report includes analysis of the proposed accessory dwelling unit ordinance. The following is additional analysis addressing City Council's requested changes to the ordinance from April 15.

- **Areas Where ADUs Allowed** - Related to the allowance for ADUs with attached units, the April 15 staff report included a map of all single family zone districts – i.e., areas where ADUs would be allowed under the proposed ordinance. Since nearly all zone districts that allow single family *attached* units as defined by this ordinance also allow single family *detached* units, that map is still valid with a limited exception. The only place where a duplex, townhouse, or rowhouse is allowed by right and a single family detached residential use is prohibited is the Mixed Use Residential (MU-R) zone district. The only areas of the city with MU-R zoning are concentrated in the DELO area between Highway 42 and the railroad tracks downtown, and between South Boulder Road and South Street. Therefore, those areas could see some ADUs as accessory to townhomes or rowhomes, but not for any multifamily stacked units.
- **ADU Size Relative to Primary Unit** - Related to the increase in allowable ADU size from 49% to 75% of the primary single family unit, the maximum size of an ADU will still typically be capped at the maximum ADU size limit (e.g., 800 square feet for a detached ADU/1,000 square feet for an attached ADU). This increase will address scenarios with smaller primary single family units as highlighted in the table below.

Example Scenarios of ADU Size Limitations Under Proposed Ordinance			
Size of Principal Unit (SF)	**49% of Principal Unit (SF)**	**75% of Principal Unit (SF)**	**Allowable ADU Size**
800	392	600	Attached/Detached ADU size max. – 600 SF
1,200	588	900	Detached ADU size max. - 800 SF Attached ADU size max. – 900 SF
1,800	882	1,350	Detached ADU size max. - 800 SF Attached ADU size max. – 1,000 SF (up to 1,200 for certain ADUs)

- **ADUs in Basements** - Related to ADU square footage in basements, the proposed ordinance exempts any such square footage from the maximum allowable size for an ADU, except for ADUs in walk out basements. The intent is to focus on the visual impacts of the ADU square footage to align with City Council's direction on April 15. A walk out basement typically has similar visual impacts to an additional story on a house.
- **ADUs in Front of Primary Units** - Related to the allowance for ADUs in front of the primary single family unit, the April 15 ordinance prohibited such ADUs. At City Council's direction, the proposed ordinance in Attachment 1 allows attached ADUs in front of the primary unit citywide but only allows detached ADUs in front of the primary unit in the Old Town overlay district. The April 15 City Council discussion and stakeholder input on this topic was primarily related to the potential, unintended consequence of encouraging the demolition of existing, smaller dwelling units on Old Town properties where larger primary units may be located behind the existing, smaller dwelling unit. The proposed ordinance addresses this by tying the allowance for detached ADUs in front of the primary dwelling unit to whether it is in an existing building in Old Town.
- **Lot Coverage and Floor Area Ratio Flexibility for ADUs** - These standards govern the bulk and massing of buildings by setting forth the maximum building envelope. At City Council's direction, the ordinance allows the first 500 square feet of the ADU to be excluded from such lot coverage or floor area ratio calculations. Staff conducted a cursory analysis of single family lots relative to their lot coverage requirements and found that as many as 20-30% of single family lots are either at or above their current maximum lot coverage. Therefore, this change will provide significantly more flexibility for ADUs on such lots.

2025 COUNCIL WORK PLAN:
The accessory dwelling unit ordinance is on the 2025 Council Work Plan under the Housing priority topic. This ordinance implements the Louisville Housing Plan that included an Equity, Diveristy, and Inclusion and Environmental Sustainability lens summarized on page 2.

FISCAL IMPACT:
Implementation and administration of the ADU Ordinance will take additional staff time and City resources but will also include revenues from permit fees.

ALTERNATIVE(S):
City staff discussed alternatives for how to address ADUs with City Council in June 2024 and with Planning Commission in February 2025. Such alternatives included whether to focus solely on compliance with HB 24-1152 and whether and what type of Louisville-specific additional regulations would be appropriate. The ordinance reflects the discussions and direction provided at these meetings.

Inaction by City Council by June 30, 2025 will result in the City of Louisville being out of compliance with HB 24-1152.

RECOMMENDATION:
Staff recommends approval of Ordinance 1892, Series 2025 to amend Title 17 and Title 3 to allow Accessory Dwelling Units for the following reasons:

- To comply with Colorado HB 24-1152 that requires the City to allow ADUs on all single family lots with other specific standards;
- To implement the Housing Plan goals to Increase Residential Development Opportunities in Louisville, Expand and Maintain Access to Affordable Housing, and Diversify Louisville's Housing Stock. Allowing ADUs will provide a currently lacking housing option in Louisville that can address housing affordability challenges as set forth in HB 24-1152; and
- To implement Housing Plan Action Item 1.4.

ATTACHMENT(S)/LINK(S):
1. Ordinance No. 1892, Series 2025 – 2nd Reading Amendments
2. April 15 City Council Packet Link
3. Presentation

Second Reading Amendments

Ordinance No. 1892, Series 2025 is revised to read as follows (second reading amendments are shown in **bold underline** and ~~**bold strikeout**~~):

ORDINANCE NO. 1892
SERIES 2025

AN ORDINANCE AMENDING TITLE 17 AND TITLE 3 OF THE LOUISVILLE MUNICIPAL CODE CONCERNING THE REGULATION OF ACCESSORY DWELLING UNITS IN THE CITY OF LOUISVILLE

WHEREAS, the City of Louisville (the "City"), is a Colorado home rule municipal corporation duly organized and existing under laws of the State of Colorado and the City of Louisville Home Rule Charter (the "City Charter");

WHEREAS, the State of Colorado House Bill 24-1152 requires the City of Louisville to allow accessory dwelling units on all single family residential lots by June 30, 2025 and comply with detailed supplemental standards related to accessory dwelling units;

WHEREAS, allowing accessory dwelling units is consistent with the Louisville Housing Plan goals to increase residential development opportunities in Louisville, expand and maintain access to affordable housing, and diversify Louisville's housing stock;

WHEREAS, allowing accessory dwelling units is consistent with the Louisville Housing Plan Action Item 1.4 to remove barriers to and promote accessory dwelling units to help increase housing supply and diversity;

WHEREAS, after a duly noticed public hearing held February 13, 2025, where evidence and testimony were entered into the record, including the Louisville Planning Commission Staff Report dated February 13, 2025, the Louisville Planning Commission has recommended the City Council adopt the amendments to the LMC set forth in this ordinance; and

WHEREAS, City Council has provided notice of a public hearing on said ordinance by publication as provided by law and held a public hearing as provided in said notice.

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

Section 1. Chapter 17.08 of the Louisville Municipal Code (Definitions) is hereby amended by the addition of new Sections 17.08.011 to 17.08.013 to read as follows (words to be deleted ~~stricken~~; words to be added underlined):

Sec. 17.08.011. Accessory dwelling unit

Accessory dwelling unit means an internal, attached, or detached dwelling unit that is (i) subordinate in size and purpose to the principal single-family dwelling unit; (ii) provides complete independent living facilities for one or more individuals; (iii) is located on the same lot as a proposed or existing principal single-family dwelling unit; and (iv) includes facilities for living, sleeping, eating, cooking, and sanitation.

Sec. 17.08.012. Accessory dwelling unit, detached

Accessory dwelling unit, detached **means an** ~~An~~ accessory dwelling unit that is located within an accessory structure on the same lot as the principal single-family dwelling unit.

Sec. 17.08.013. – Accessory dwelling unit, attached

Accessory dwelling unit, attached **means an** **~~An~~** accessory dwelling unit that is a distinctly separate unit from the principal single-family dwelling unit but is physically attached to or is integrated within the same structure as the principal single-family dwelling unit, including a basement, addition, floor, or portion of a floor.

Section 2. Section 17.12.030 of the Louisville Municipal Code is hereby amended by the addition of a new line 42a to read as follows (words to be deleted ~~stricken~~; words to be added underlined):

Sec. 17.12.030 – Use groups.

Use Groups		Districts																	
		A	A-O	B-O	A-OT	R-RR	SF-R	SF-E	R-R R-E R-L	SF-LD SF-MD SF-HD	R-M	R-H	C-N	C-C	C-B	I	PCZD	MU-R	OS
									* *	*									
4.	Single-family dwellings	Yes	No	No		Yes	Yes	Yes	Yes	Yes	Yes	Yes	R	No	No	No			
42a	Accessory dwelling unit	Yes	No	No		Yes	Yes	Yes	Yes	Yes	Yes	Yes	R	No	No	No			

Section 3. The table set forth in Section 17.12.040 of the Louisville Municipal Code is hereby amended by the addition of a footnote 12 to read as follows (words to be added are underlined):

Sec. 17.12.040 – Yard and bulk requirements.

		Zoning Districts and Requirements																	
	Yard and Bulk Item	**A**	**A-O**	**B-O**	**R-RR**	**SF-R**	**SF-E**	**R-R**	**R-E**	**R-L**	**SF-LD**	**SF-MD**	**SF-HD**	**R-M**	**R-H**	**C-N**	**C-C**	**C-B**	**I**
3.	Minimum lot area per dwelling unit (sq. ft.)[12]	5 acres	—	1,750	20,000 [8]	1 acre [8]	1 acre	20,000	12,000	7,000	21,780	12,000	7,000	3,500	2,500	1,750	1,750	1,750	—
8.	Minimum rear yard setback for principal uses (ft.) [3, 12]	25	20	20	30	30	30	25	25	25	25	25	25	25	25	20	20	20	20
9.	Maximum height principal uses (ft.)	27	25	40	27	27	27	35	35	35	27	27	27	35	50				
	Accessory use (ft.)	45[12]	20	20	25	27	27	25	20	20	16	16	16	20	20	20	20	20	25

FOOTNOTES

12. See Sec. 17.16.035 for supplemental regulations applicable to accessory dwelling units.

Section 4. Louisville Municipal Code Chapter 17.16 – General Regulations, is hereby amended to include a new Section 17.16.035 to read as follows:

Sec. 17.16.035. – Accessory dwelling units.

Accessory dwelling units shall comply with the following regulations:

A. Maximum Number:

1. A maximum of one accessory dwelling unit shall be permitted ~~**per lot**~~ as an accessory use ~~**to**~~ **per** principal single-family dwelling. Accessory dwelling units are allowed only on lots used or developed as single family dwelling units.

2. For the purposes of this Sec. 17.16.035, a principal single-family dwelling shall include any detached dwelling unit, dwelling unit in a duplex building, or dwelling unit in a series of dwelling units, attached in a row, separated from each other by an unpierced wall extending from basement to roof.

B. Accessory Dwelling Unit Development Standards:

1. Detached accessory dwelling units shall comply with all applicable development standards for accessory structures and uses set forth in Sec. 17.12.040 – Yard and Bulk Requirements, Sec. 17.16.030 – Accessory Uses, ~~**and**~~ yard and bulk requirements for the Old Town overlay district**, and yard and bulk requirements for Planned Unit Developments, General Development Plans, and other city approved plans** except as provided herein.

2. Attached accessory dwelling units shall comply with all applicable development standards for principal uses set forth in Sec. 17.12.040 – Yard and Bulk Requirements, Sec. 17.16.030 – Accessory Uses, ~~**and**~~ yard and bulk requirements for the Old Town overlay district**, and yard and bulk requirements for Planned Unit Developments, General Development Plans, and other city approved plans** except as provided herein.

3. *Maximum Size*:

a. Accessory dwelling units shall not exceed ~~**49**~~**75**% of the square footage of the principal single-family dwelling unit **or**

the maximum square footage in this subsection, whichever is less. However, accessory dwelling units ~~**between**~~ **at least** 500 square feet ~~**and 750 square feet**~~ in size shall be allowed in all cases, provided all other requirements in this Sec. 17.16.035 are met.

b. Detached accessory dwelling units shall not exceed 800 square feet in size.

c. Attached accessory dwelling units shall not exceed 1,000 square feet in size.

d. Attached accessory dwelling units located in below-grade basements shall not count towards the maximum size limitations in this subsection 3. However, attached accessory dwelling units located in walkout basements shall be subject to the maximum size limitations in this subsection 3. For the purposes of this Sec. 17.16.035, a walkout basement is any basement having an exterior door, where the finished ground at the exterior door is lower than the finished floor of the basement.

~~**d**~~**e**. Garage areas shall not be included as part of the maximum size square footage calculation of an accessory dwelling unit.

4. *Maximum Height*: **the maximum height of detached accessory dwelling units shall be 25 feet.**

~~**a. The maximum height of detached accessory dwelling units in the Agricultural zone district shall be 20 feet.**~~

~~**b. The maximum height of detached accessory dwelling units n the Old Town overlay district shall be 25 feet.**~~

5. *Setbacks*: ~~**the**~~

a. The minimum rear setback for an attached accessory dwelling unit shall be ten feet.

b. Detached accessory dwelling units shall not be permitted in front of the primary single-family dwelling unit in the front yard setback except for in the Old Town overlay district as provided herein.

c. Detached accessory dwelling units that are in front of the primary single-family dwelling unit in the front yard setback in the Old Town overlay district shall only be permitted in existing buildings.

d. A covered porch attached to an accessory dwelling unit may extend not more than six feet into the required front yard setback and the required side yard setback from a street in the Old Town overlay district.

6. *Minimum Lot Area per Dwelling Unit*: a lawful accessory dwelling unit shall be excluded when calculating the minimum lot area per dwelling unit requirement in Sec. 17.12.040 or a residential density standard in an applicable Planned Unit Development, General Development Plan, or other City approved plan.

C. *Parking*: one off-street parking space shall be required for an accessory dwelling unit if on street parking is prohibited on the subject block and parking is not available on the subject lot.

D. *Lot Coverage Requirements*: the first 500 square feet of a lawful accessory dwelling unit shall not count towards the applicable maximum lot coverage and floor area ratio requirements in Sec. 17.12.040 – Yard and Bulk Requirements, Sec. 17.12.050 - Yard and bulk requirements; Old Town overlay district, and any maximum lot coverage or floor area ratio requirements for Planned Unit Developments, General Development Plans, and other city approved plans.

~~D~~**E**. *Incentives for Certain Accessory Dwelling Units:* **certain accessory dwelling units may be allowed one of the following size increases and other incentives, provided all other requirements in this Sec. 17.16.035 are met.**

1. *Accessible Housing Incentives* – Accessory dwelling units that meet the definition of ~~**a Type A Accessible**~~ **an accessible** dwelling unit according to the City's adopted building codes may be up to 1,000 square feet in size for detached accessory dwelling units~~,~~ **and** up to 1,200 square feet in size for attached accessory dwelling units, ~~**and**~~

~~**may exceed the minimum lot coverage requirements in Sec. 17.12.040 by 20 percent,**~~ provided all other requirements in this Sec. 17.16.035 are met.

2. *Affordable Housing Incentives* **–**

~~**a. Accessory dwelling units shall not be considered a dwelling unit for the purposes of complying with the inclusionary housing requirements set forth in Chapter 17.76.**~~

~~**b.**~~ Accessory dwelling units that are deed restricted as affordable housing in accordance with Chapter 17.76 may be up to 1,000 square feet in size for detached accessory dwelling units and up to 1,200 square feet in size for attached accessory dwelling units, provided all other requirements in this Sec. 17.16.035 are met.

3. *Historic Preservation Incentives* – an accessory dwelling unit, or portion thereof, that is a designated landmark in accordance with Chapter 15.36 – Historic Preservation may be up to 1,000 square feet in size for detached accessory dwelling units and up to 1,200 square feet in size for attached accessory dwelling units, provided all other requirements in this Sec. 17.16.035 are met.

~~**E**~~**F**. *Accessory Dwelling Units in Planned Unit Developments**, General Development Plans, or Other City Approved Plans***

1. A maximum of one accessory dwelling unit shall be permitted per ~~**lot as an accessory use to a**~~ principal single-family dwelling in all Planned Unit Developments, General Development Plans, or other City approved plans.

~~**2. No Planned Unit Development, General Development Plan, or other City approved plan may restrict the size of an accessory dwelling unit to less than 750 square feet.**~~

~~**3**~~**2**. Any required amendment to a Planned Unit Development or General Development Plan, to allow an accessory dwelling unit in accordance with this Sec. 17.16.035, is considered a minor change eligible for

administrative approval under Sec. 17.28.210 – Amendments to final plan and Sec. 17.72.060 – Amendment.

F. *Existing or New Principal Unit on Lot.* A single-family dwelling unit must exist as a primary dwelling unit on the lot or be constructed simultaneously with the accessory dwelling unit. A certificate of occupancy or completion for an accessory dwelling unit will only be issued after or coincident with issuance of the same for the primary **single-family** dwelling unit.

G. *Certificate of Exception*

1. Accessory dwelling units constructed prior to the effective date of this ordinance do not qualify as nonconforming uses pursuant to Chapter 17.36 of this Code because accessory dwelling units were not an allowed use in any zone district prior to the adoption of this ordinance.

2. On or before December 31, 2026, any person who has constructed an accessory dwelling unit in any zone district prior to the adoption of this ordinance may apply to the director for a Certificate of Exception, which shall allow such accessory dwelling use to continue, subject to the same requirements and limitations as a nonconforming use and any conditions of approval as may reasonably be imposed by the director. Following that date, and in the absence of City approval of an accessory dwelling unit under this section, unapproved or unpermitted accessory dwelling units shall be subject to enforcement as provided by law.

3. The director shall issue such Certificate of Exception upon a finding the applicant has demonstrated the accessory dwelling unit meets all the requirements of this Sec. 17.16.035. The director may also issue a Certificate of Exception for an accessory dwelling unit that does not fully comply with the requirements of this Sec. 17.16.035 if the director determines the issuance is not detrimental to the public good and will not impair the basic intent of this Section and subject to such conditions as may be imposed by the director.

4. A building permit shall be required for any construction or modification of the accessory dwelling unit to bring the structure into

compliance with applicable building codes, to the extent practical, as determined by the director.

5. Regardless of size, accessory dwelling units with an approved Certificate of Exception shall be exempt from paying impact fees for such units pursuant to Sec. 3.18.040.B.

Section 5. Louisville Municipal Code Chapter 17.72 – Planned Community Zone District, is hereby amended as follows (words to be added are underlined):

Sec. 17.72.080. - Residential.

A. *Generally.* It is the intention of this section to promote the development of balanced residential neighborhoods containing a variety of housing types and related recreational and community facilities.

B. *Uses permitted.* The following uses may be permitted within any planning area designated for residential use by the adopted planned community general development plan:

1. Single-family detached dwellings;
2. Single-family attached dwellings;
3. Multiple-family dwellings;
4. Churches and synagogues;
5. Public and private schools;
6. Municipal recreational areas;
7. Public libraries;
8. Golf courses and country clubs;
9. Institutions for higher education;
10. Clubs and lodges;
11. Private, noncommercial, recreational facilities;
12. Accessory structures and uses necessary and customarily incidental to the uses listed in this section, including accessory dwelling units;
13. Governmental and public facilities;
14. Family care home.

Section 6. Section 3.18.B.4 of the Louisville Municipal Code is hereby amended to read as follows (words to be added are underlined):

Sec. 3.18.040. - Development impact fees to be imposed

B. *Exemptions*. The following types of development shall be exempted from payment of the impact fees. Any claim for exemption shall be made no later

than the time when the applicant applies for the first building permit. Any claim for exemption not made at or before that time shall be waived. The city planning director or designee shall determine the validity of any claim for exemption pursuant to the standards set forth below.

4. Accessory structures. Construction of unoccupied accessory structures related to a residential unit and the first 500 square feet of an accessory dwelling unit as defined in Chapter 17.08 of this Code.

Section 7. If any portion of this ordinance is held to be invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part hereof irrespective of the fact that any one part be declared invalid.

Section 8. The repeal or modification of any provision of the Municipal Code of the City of Louisville by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture, or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings, and prosecutions for the enforcement of the penalty, forfeiture, or liability, as well as for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 9. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED this 18th day of March 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

APPROVED AS TO FORM:

Kelly PC

_____
Kathleen Kelly, City Attorney

PASSED AND ADOPTED ON SECOND AND FINAL READING, this __ day of _____, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

Accessory Dwelling Units Ordinance

City Council

May 20, 2025

Request

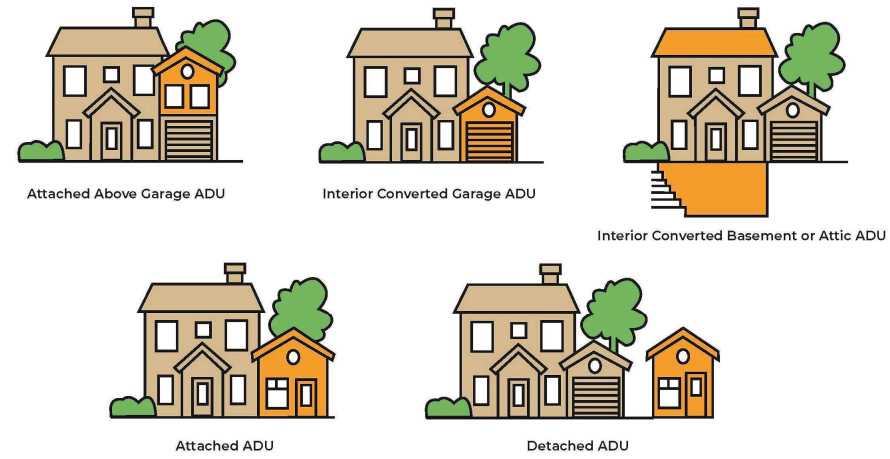
- **Continuation from April 15 public hearing.**
- Consideration of an ordinance amending Title 17 to allow Accessory Dwelling Units (ADUs) in accordance with Colorado House Bill 24-1152, and an ordinance amending Title 3 to address development impact fees for ADUs.
- On 2025 City Council work plan.
- Noticing requirements have been met.

Topics

1. Brief Recap of April 15 Ordinance
2. Recap of April 15 Requested Changes to Ordinance
3. Analysis of Changes to Ordinance from April 15
4. Ordinance Summary

City of Louisville

What is an ADU?



City of Louisville

What is an ADU?

City of Louisville

April 15 Ordinance Abbreviated

- One ADU allowed per detached single family unit.
- Detached ADUs treated like other types of accessory buildings related to yard and bulk requirements, 800 SF max. size.
- Attached ADUs treated like primary building related to yard and bulk requirements, 1,000 SF maximum size.
- ADUs maximum of 49% of size of primary unit.

City of Louisville

April 15 Ordinance Abbreviated

Cont'd

- Detached ADUs up to 25' tall in Old Town.
- Size incentives for "affordable", "accessible", and landmarked ADUs.
- Grace period for existing units.
- ADUs treated like other buildings relative to lot coverage, floor area ratio requirements.

City of Louisville

Council Requested Changes (April 15)

- One ADU allowed per single family detached and attached units (townhomes, rowhomes).
- ~~49%~~ **75%** of size of primary building.
- ADUs in basements don't count towards maximum ADU square footage.
- Attached ADUs allowed in front of primary building citywide, detached allowed in Old Town.

City of Louisville

Council Requested Changes (April 15)

Cont'd

- ADU front porches can encroach into setback like the primary building can in Old Town.
- First 500 square feet of ADU doesn't count towards lot coverage/floor area ratio requirements.
- Removal of tie to Inclusionary Housing Ordinance and 12% set aside requirement.

City of Louisville

Analysis of Changes from April 15

- With allowance with ADUs with attached units, will also include the Mixed Use Residential (MU-R) zoned areas in DELO with duplexes/townhomes/rowhomes.
- Allowing ~~49%~~ **75%** allows more ADU size with smaller primary units.
- ADU square footage in basements that doesn't count towards size limit defined by visual impacts at 4 feet above average grade.

City of Louisville

Analysis of Changes from April 15

Cont'd

- Detached ADUs in front of primary units in Old Town for existing buildings only to tie to neighborhood character factors.
- 500 square foot lot coverage encroachment would provide flexibility for up to 30% of residential lots that are maxed out on lot coverage already.

City of Louisville

Planning Commission Recommendation

On February 13, 2025:

- Planning Commission recommended approval with the condition that accessible units get a size and lot coverage bonus.
- Planning Commission requested that City Council consider reduced water tap fees for ADUs to the extent practical.

City of Louisville

Recommendation

Staff recommends approval of Ordinance 1892, Series 2025 to amend Title 17 to allow ADUs to comply with HB 24-1152 and Title 3 related to impact fees for ADUs to implement Housing Plan goals and action items.

City of Louisville

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 8H

SUBJECT: RESOLUTION NO. 32, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT AND DEVELOPMENT AGREEMENT TO ALLOW A GROCERY STORE AND GASOLINE SERVICE STATION USE AT 1171 W. DILLON RD

DATE: MAY 20, 2025

PREPARED BY: MATT POST, SENIOR PLANNER

PRESENTED BY: MATT POST, SENIOR PLANNER

VICINITY MAP:

SUMMARY:
The applicant, Galloway and Company, on behalf of The Kroger Company, is seeking approval of a Planned Unit Development (PUD) Amendment to allow a retail (grocery) store and gasoline service station use at 1171 W Dillon Road.

BACKGROUND / PRIOR DISCUSSIONS:
The subject property is located within the Planned Community Zone District – Commercial (PCZD-C) and falls under the regulations of the Centennial Valley General Development Plan (GDP). Originally approved in the early 1980s, the Centennial Valley GDP has undergone multiple amendments, the most recent in 2015, defining the land uses and densities within the area. Most of the remaining undeveloped land with the Centennial Valley GDP is designated for office, research, and corporate office development.

The site was most recently occupied by a Lowe's home improvement store. However, Lowe's relocated their store in 2022, and the site has remained vacant since that time. The City has approved three previous PUDs on this site:

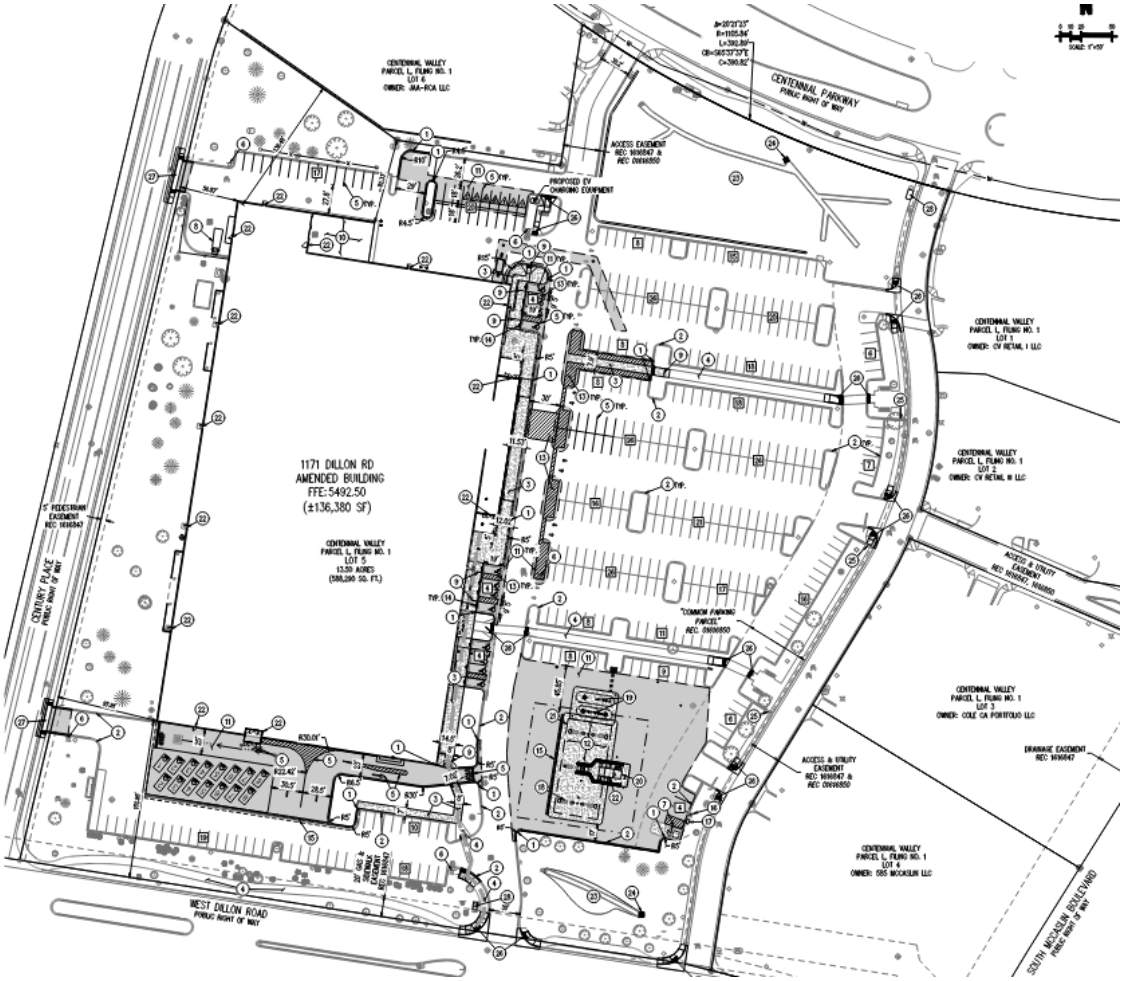
- The Centennial Valley, Parcel L, Filing No. 1 PUD was approved by the City Council in May of 1996. This PUD established the building and site development layout for the subject property and two commercial pads directly east of and adjacent to this site. The subject site was occupied by Eagle Hardware, a large-scale home-improvement retailer that was acquired by Lowes, HIW in 1999.

- The Centennial Valley, Parcel L, Filing No. 1, Amendment No. 1, PUD was approved by the City Council in October of 1996. This amendment reflected a change to the building setbacks and sign area approved on the previous PUD.

- The Centennial Valley, Parcel L, Lot 5, Filing No. 1, Amended PUD was approved by the City Council in March of 2001 and included site and building improvements to accommodate a new user at the site, Lowe's HIW.

In August of 2024, the City Council approved a business assistance package worth $15,280,000 to encourage King Soopers to take over and renovate the vacant building on the subject property. The incentives include rebates on permit fees, construction use tax, sales tax, and a vacancy bonus.

DEVELOPMENT PROPOSAL:
The applicant is requesting approval of a PUD Amendment to allow the modification of the existing 151,507 square-foot commercial building to establish a grocery store and accessory gasoline service station use.

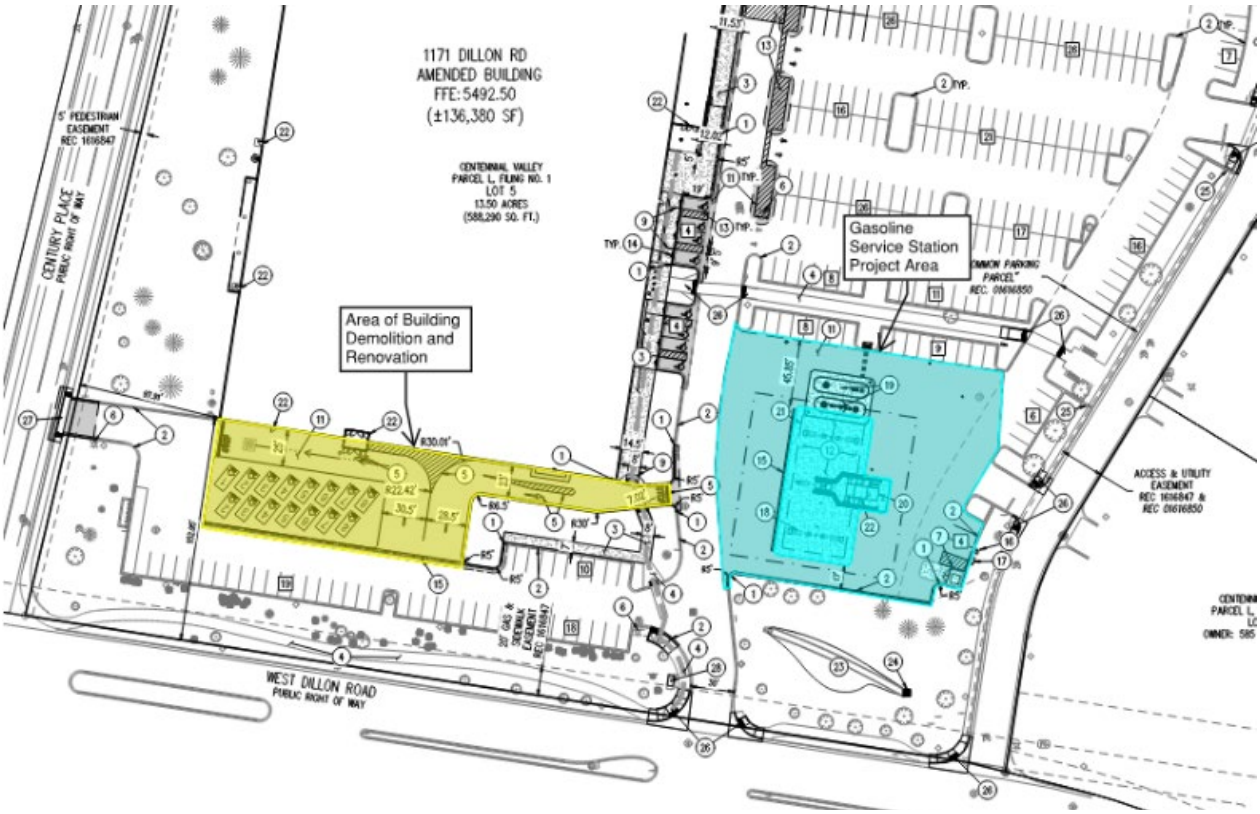


Site Plan

Occupying 13.5 acres, the site is bordered by Century Place to the west, Dillon Road to the south, and Centennial Parkway to the north. On the east side, four commercial pad sites are adjacent to the site, connected by a private access drive that leads to McCaslin Boulevard through a three-quarter movement, unsignalized intersection. Seven vehicle access points surround the site, three of which also provide access to the commercial pad sites to the east. The site includes 514 parking spaces, pedestrian walkways, and two detention areas located on the north and south sides.

The PUD Amendment includes the demolition of portions of the south side of the building, reducing the total footprint by 15,987 square feet to a final total of 135,520 square feet. The building will be utilized as a grocery/retail store that will be occupied by a King Soopers Marketplace. The demolition and subsequent reconstruction will support a

customer pickup area and a pharmacy drive through, which will include parking spaces and a vehicle queuing lane with pedestrian and landscape improvements.
As accessory to the primary retail use, a gasoline service station is proposed on the south side of the site in an existing parking area. Improvements related to the use will include a



Areas of Proposed Improvements

canopy and service kiosk just over 4,000 square feet in size, and five pump islands with a total of ten gasoline service pumps. The addition of the gasoline service station will require the installation of level three direct current (DC) or better electric vehicle (EV) charging stations, which are included with this application.

Other improvements proposed as part of this application include the addition of accessible parking spaces and associated striping, and new service and refuse areas on the west side of the building, which will include an architecturally compatible wall to screen the service use.

During deliberation of this application by the Planning Commission on March 13, the Commission raised concerns regarding the location of the gasoline service station in relation to Murphy's Tap House and outdoor dining area, and the placement of a propane storage cage in the parking area near the property boundary with the Goddard School of

Louisville. In response to the concerns raised during the hearing, the Planning Commission recommended approval of this application with three conditions:

- The applicant shall include landscape screening on the property boundary at 585 S McCaslin Blvd (Murphy's Tap House); and
- The applicant shall work with City staff to ensure proper drainage away from 585 S McCaslin Blvd (Murphy's Tap House): and
- The applicant should consider relocating the propane storage area on the north side of the site.

The applicant has indicated that an agreement has been reached with the owner of Murphy's Tap House to provide screening of the gasoline service station use on the Murphy's Tap House property and/or to install additional landscaping on the subject property. However, as of the date of this report, no documentation of such an agreement has been submitted. Accordingly, the condition imposed by the Planning Commission shall remain in effect as a condition of approval for this application.

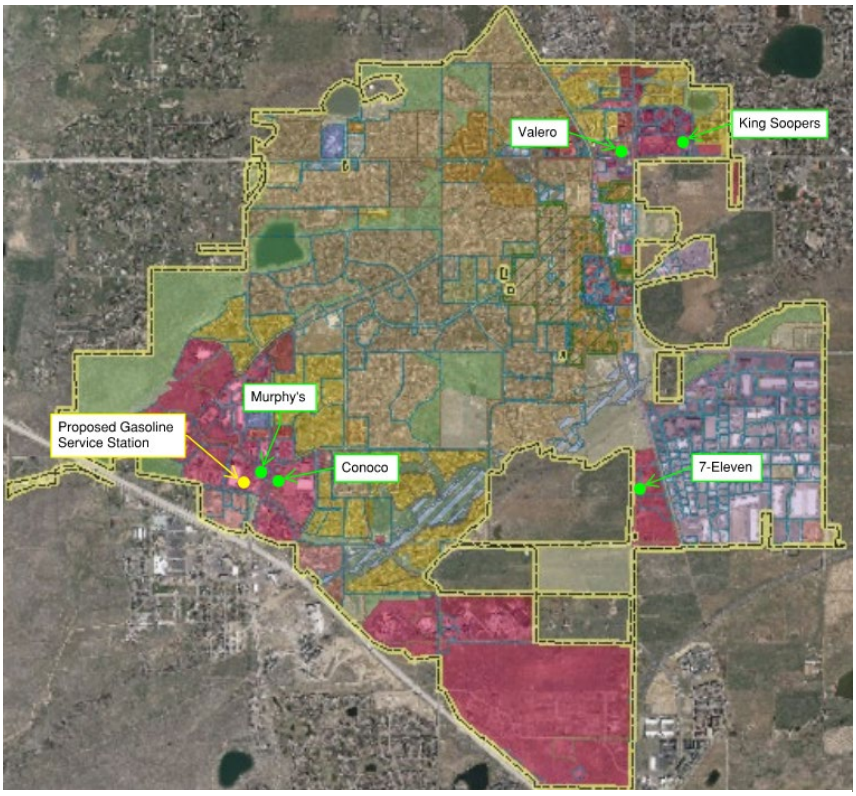
The applicant has revised the grading plan to capture and convey runoff north, in a concrete pan, before entering the shared drive with Murphy's Tap House. Staff are currently reviewing the civil construction plans associated with this project and will ensure compliance with all applicable engineering design standards and the applied condition. Staff find this condition to be satisfied.

Propane storage is not proposed on the north side of the site near the Goddard School and is instead proposed at the southeast corner of the site and along the front façade of the building, on the east side of the site. Staff find this condition to be satisfied.

ANALYSIS:
Staff analysis includes a review of applicable Commercial Design Standards and Guidelines (CDDSG), Louisville Municipal Code (LMC) Title 17 policies, and review of the requested waivers against applicable criteria. The PUD review criteria are included as an appendix.

Land Use
Pursuant to LMC Sec. 17.72.090, the grocery store use is permitted as a retail business in the Planned Community Commercial zoning district. Under the same provision, a gasoline service station is permitted as an automobile service station, subject to prescribed performance standards, and may be established as a by-right use in the Planned Community Commercial zoning district.

Louisville Municipal Code (LMC) Sec. 17.16.340 limits the number of gasoline and automobile service stations in the City to six. However, this cap may be increased to seven if a station is proposed as accessory to a single-use retail center of at least 80,000 square feet. There are currently five gasoline service stations operating in the City of Louisville (see inset). The LMC requires a minimum spacing of 1,000 feet between stations, though this requirement may be waived if the station is accessory to a qualifying retail center.



Existing and Proposed Gasoline Service Stations within the City of Louisville

With this application, the total number of gasoline stations in the City would increase to six, and the large-scale, single-use retail component as a primary use would qualify the station for an exemption from the 1,000-foot spacing requirement.

The establishment of a gasoline service station requires the installation of level three direct current (DC) or better electric vehicle (EV) charging stations in an amount equal to 20% of the total gasoline service pumps. With ten service pumps proposed, the applicant is required to provide two EV chargers.

Parking

The existing site includes 514 vehicle parking spaces. With the addition of the gasoline service station and other improvements, the total number of parking spaces will be reduced to 433. According to Sec. 2.2.1.K of the CDDSG, a retail use requires 4.5 parking spaces per 1,000 square feet of gross floor area. Based on the proposed 135,520 square feet, this project would require 614 parking spaces. As part of this application, the applicant is requesting a parking reduction pursuant to LMC Sec. 17.20.080, considering the parking needs of non-dwelling users and expected variations in usage periods.

Between the Planning Commission meeting and this City Council hearing, the total number of proposed parking spaces was reduced from 448 to 433. This adjustment

reflects further refinement of site details and consideration of staff comments, particularly related to the area designated for the gasoline service station use. The Planning Commission discussed the overall parking on site and expressed support for a parking reduction. Additional analysis of the parking reduction request is provided below.

Architecture
The existing split-face CMU material will be painted a muted color in accordance with CDDSG standards, while modification to the building façade will include architecturally enhanced pilasters on the south and east elevations, and a new, prominent entry feature and storefront system concurrent with the existing building entrance that provides contrast with the surrounding wall plane.

Northeast Elevation Rendering

Landscape
Existing landscaping on the perimeter of the site will remain in place while the interior of the site, including the parking lot and walkways will come into compliance with current CDDSG landscape standards. Sixty-six new trees will be planted to replace dead or dying trees, while 103 existing trees in healthy condition will remain. In addition to the existing, healthy shrubs on site, more than 1,000 Low-water shrubs and ornamental grasses will be planted in pedestrian areas, lot islands, and medians.

Lighting
The Lighting Plan proposed for this development provides adequate pole lighting in the parking lots and architecturally designed downcast lighting for the building facades. The wall lighting is situated above entry areas of the building. The proposed lighting is in compliance with the CDDSG.

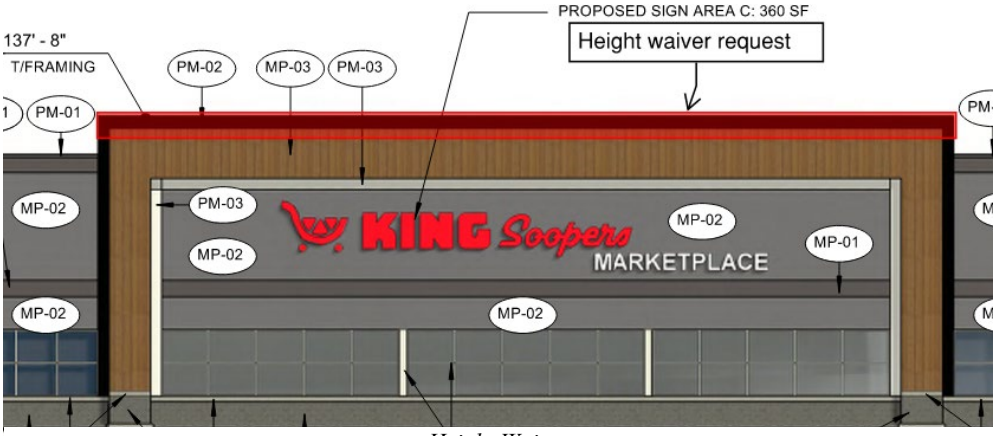
Traffic
A traffic impact study was submitted and reviewed as part of this application. The study concluded that all signalized intersections in the study area will operate at acceptable overall Level of Service (LOS) "D" or better during peak hours, except Dillon Rd & McCaslin Blvd, which will reach LOS "E" during the long range (2045) weekday PM peak hour. Unsignalized intersection movements will maintain an acceptable LOS "D" or better.

The study recommended that; 1): signal timings at Dillon Road and McCaslin Boulevard be optimized once the subject site is operational to improve overall operations at the intersection, and 2): that the eastbound left turn lane at Centennial Parkway and McCaslin Boulevard be extended to accommodate additional vehicle queuing. Public improvements to the median in Centennial Parkway are required to accommodate the increased length of the turn lane for additional queuing. These improvements will be covered by a development agreement that is included in the application materials.

Waivers and Parking Reduction

The applicant has requested two waivers and a parking reduction to facilitate redevelopment of this site.

The first waiver request is for relief from the maximum height of 35 feet in commercial areas. As part of the redesign of the main entrance, the applicant has proposed a parapet feature at 38’ 7” tall. The feature is just over 100 feet long on a building more than 500 feet in length. The requested waiver supports the adaptive reuse of the building and contributes to the enhanced architectural design of the structure, while minimizing impact on adjacent properties and public streets. **Staff support the waiver as requested.**



Height Waiver

The second waiver request is for relief from the sign code for wall signs and electronic message signs for single-tenant commercial users. Proposed signage details are included in the attached PUD. In commercial areas, single-tenant users are limited to:

- A maximum of two wall signs per building, located on either the primary, secondary, or alternative frontage.
- A maximum wall sign area of 100 square feet on a primary frontage, and a maximum area of 100 square feet on a secondary or alternative frontage.
- A maximum wall sign height of three feet.
- Electronic message signs on freestanding signs only.

The applicant is requesting the following sign waivers:

- A total of five wall signs to be located on primary, secondary, and alternative frontages.
- Maximum wall sign areas as identified in the attached PUD.
- Electronic message sign on the gasoline service station canopy.

Sign waiver requests shall be reviewed against the criteria provided in Sec. 2.3 of Sign Code. Staff's analysis of the sign waiver request is provided below:

a. The proposed sign(s) shall encourage excellence in design, exhibit improved creativity, promote community aesthetics, and be appropriate with the character of the area.

   The proposed signs enhance the building's design with high-quality materials and a cohesive aesthetic that aligns with the commercial character of Centennial Valley. They balance visibility and architectural enhancement, ensuring clear messaging and wayfinding without visual clutter. The signage provides an updated and professional appearance. **Staff find the proposal meets this criterion.**

b. The proposed sign(s) shall be compatible with the color, materials, and design of the on-site building(s).

   The proposed signs use colors, materials, and design elements that complement the building's façade, while defining the users brand. They align with the existing architectural finishes, ensuring a cohesive and integrated appearance. The signage enhances the overall aesthetic without overpowering the structure's design. **Staff find the proposal meets this criterion.**

c. The proposed signs(s) shall be scaled and located in a manner that is compatible with the scale of the lot and the massing of the building(s), with consideration of legibility of copy area.

   The proposed signs are appropriately scaled to complement the building's massing and lot size - the building is 136,380 square feet and located on a 13.5 acre property, behind existing commercial pad sites. The sign placement ensures visibility without overwhelming the facade, maintaining a balanced proportion. The copy area is designed for clear legibility while preserving architectural integrity of the building. **Staff find the proposal meets this criterion.**

d. The proposed sign(s) are otherwise in conformance with the regulations of this chapter and applicable design guidelines respecting the size, height, location, design, and appearance of the sign(s) involved,

The proposed signs align with the intent of the applicable design guidelines, maintaining appropriate size, height, and placement for the size of the building and site. While a waiver is requested, the signs maintain the intent of the sign code, ensuring a visually cohesive and appropriately scaled design. **Staff find the proposal meets this criterion.**

As part of this application, the applicant is requesting a parking reduction pursuant to LMC Sec. 17.20.080. The CDDSG require 4.5 spaces per 1,000 square feet of retail area, which would require 614 parking spaces on this site. The applicant is proposing 433 total parking spaces. The proposed spaces are sufficient to meet the grocery store's demand, given its hours of operation and customer flow. Additionally, evolving shopping habits, including curbside pickup and delivery services, reduce on-site parking demand. A reduction in required parking will support efficient land use, minimize unnecessary impervious surfaces, and align with sustainability goals while maintaining adequate access for patrons and employees. **Staff support the request for a parking reduction.**

2025 COUNCIL WORK PLAN:
This application supports the 2025 City Council Work Plan priority addressing Economic Vitality, specifically the continuation of a business-friendly approach and a focus on business attraction and retention. In August 2024, the City Council approved up to $15.28 million in incentives over 12 years for this project, including a 75% rebate of new general sales tax revenue and up to $180,000 in permit and construction tax rebates. This application supports the completion and implementation of a successful incentive program designed to attract and retain businesses.

FISCAL IMPACT:
Budgeted?: **Not Applicable**
The new King Soopers Marketplace is expected to be one of Louisville's top sales tax generators, with projected City revenue starting at nearly $1 million annually and growing to over $3 million by the end of the financial incentive term. All $15.28 million in incentives are performance-based, with no up-front costs to the City. The agreement is projected to have a significant fiscal impact, with long-term City revenue increasing after the incentive period ends.

ALTERNATIVES:
The City Council may approve, approve with conditions, or deny the application based on compliance with the relevant review criteria and waiver criteria.

PLANNINING COMMISSION RECOMMENDATION:
The Planning Commission recommended approval with the following conditions on March 13, 2025. The applicant has addressed each condition. Minutes of that meeting are provided as Attachment 3.

- The applicant shall include landscape screening on the property boundary at 585 S McCaslin Blvd (Murphy's Tap House); and
- The applicant shall work with City staff to ensure proper drainage away from 585 S McCaslin Blvd (Murphy's Tap House): and
- The applicant should consider relocating the propane storage area on the north side of the site.

RECOMMENDATION:
Staff recommend approval of Resolution X, Series 2025, approving a Planned Unit Development (PUD) Amendment to allow a retail and gasoline service station use at 1171 W Dillon Rd. with the following condition:

- The applicant shall include landscape screening on the property boundary at 585 S McCaslin Blvd (Murphy's Tap House).

ATTACHMENTS:
1. Resolution No. 32, Series 2025
2. Development Agreement
3. Planning Commission Resolution
4. Planning Commission Minutes
5. Application Materials
6. Traffic Impact Study
7. Presentation

APPENDIX: PUD Criteria Analysis

Criteria 17.28.120 (A)	Finding	Narrative
1. An appropriate relationship to the surrounding area.	Compliant	The design is appropriate for the area and permitted in the PCZD-C zone district. The site and building design are compatible with the CDDSG.
2. Circulation in terms of the internal street circulation system, designed for the type of traffic generated, safety, separation from living areas, convenience, access, and noise and exhaust control. Proper circulation in parking areas in terms of safety, convenience, separation and screening.	Compliant	The application provides for adequate and safe internal circulation. The City's engineering division and Fire District have reviewed the proposal and have no concerns.
3. Consideration and provision for low and moderate-income housing	Not Applicable	Commercial project
4. Functional open space in terms of optimum preservation of natural features, including trees and drainage areas, recreation, views, density relief and convenience of function	Compliant	The PUD complies with landscape requirements in the CDDSG and preserves existing, healthy trees.
5. Variety in terms of housing types, densities, facilities and open space	Not Applicable	Commercial project.

6. Privacy in terms of the needs of individuals, families and neighbors	Not Applicable	Commercial Project
7. Pedestrian and bicycle traffic in terms of safety, separation, convenience, access points of destination and attractiveness	Compliant	The PUD provides increased pedestrian walkways and paths.
8. Building types in terms of appropriateness to density, site relationship and bulk	Compliant	The application is compatible with surrounding development and compliant with the CDDSG, with waivers.
9. Building design in terms of orientation, spacing, materials, color, texture, storage, signs and lighting	Compliant	The PUD complies with the CDDSG.
10. Landscaping of total site in terms of purpose, such as screening, ornamental types used, and materials used, if any; and maintenance, suitability and effect on the neighborhood	Compliant	The PUD complies with landscape requirements in the CDDSG.
11. Compliance with all applicable development design standards and guidelines and all applicable regulations pertaining to matters of state interest, as specified in chapter 17.32	Compliant	The PUD complies with all applicable development design standards and guidelines with the proposed waivers.
12. None of the standards for annexation specified in chapter 16.32 have been violated	Not applicable	The property was previously annexed.
13. Services including utilities, fire and police protection, and other such services are available or can be made available to adequately serve the development specified in the final development plan	Compliant	The Public Works Department and Louisville Fire District reviewed the PUD and it meets their requirements.

Criteria 17.28.120 (B)	Finding	Narrative
1. Development shall be in accordance with the adopted elements of the comprehensive development plan of the city, and in accordance with any adopted development design standards and guidelines.	Compliant	The PUD complies with the adopted elements of the comprehensive plan, and the adopted development design standards and guidelines.
2. No structures in a planned unit development shall encroach upon the floodplain. Existing bodies of water and existing stream courses shall not be channelized or altered in a planned unit development plan.	Compliant	The property is not located in a floodplain, nor are there any existing bodies of water in the area.
3. No occupied structure shall be located on ground showing severe subsidence potential without adequate design and study approved specifically by the city.	Compliant	There is no known subsidence on the property.
4. The proposal should utilize and preserve existing vegetation, land forms, waterways, and historical or archeological sites in the best manner possible. Steep slopes and important natural drainage systems shall not be disrupted. How the proposal meets this provision, including an inventory of how existing vegetation is included in the proposal, shall be set forth on the landscape plan submitted to the city.	Compliant	The PUD is preserving all healthy trees and shrubs on the site while providing additional plantings.
5. Visual relief and variety of visual sitings shall be located within a development in the overall site plan. Such relief shall be accomplished by building placements, shortened or interrupted street vistas, visual access to open space and other methods of design.	Compliant	The PUD complies with site planning requirements of the CDDSG.

6. Open space within the project shall be located in such a manner as to facilitate pedestrian use and to create an area that is usable and accessible to residents of surrounding developments.	Compliant	The proposal includes pedestrian access to open space areas
7. Street design should minimize through traffic passing residential units. Suggested standards with respect to paving widths, housing setbacks and landscaping are set forth in public works standards of the city and applicable development design standards and guidelines. The system of streets, including parking lots, shall aid the order and aesthetic quality of the development.	Compliant	The PUD complies with requirements of the CDDSG
8. There shall exist an internal pedestrian circulation system separate from the vehicular system such that allows access to adjacent parcels as well as to parks, open space or recreation facilities within the development. Pedestrian links to trail systems of the city shall be provided.	Compliant	The PUD complies with bicycle and pedestrian requirements in the CDDSG
9. The project and development should attempt to incorporate features which reduce the demand for water usage.	Compliant	The PUD proposes retaining mature landscaping and planting new, low-water plants.
10. Landscape plans shall attempt to reduce heating and cooling demands of buildings through the selection and placement of landscape materials, paving, vegetation, earth forms, walls, fences, or other materials.	Compliant	The proposal includes 66 new trees in addition to over 100 existing trees.
11. Proposed developments shall be buffered from collector and arterial streets. Such buffering may be accomplished by earthen berms, landscaping, leafing	Not applicable	The PUD complies with the requirements of the CDDSG

patterns, and other materials. Entrance islands defining traffic patterns along with landscaping shall be incorporated into entrances to developments.		
12. There shall be encouraged the siting of lot arrangement, building orientation and roof orientation in developments so as to obtain the maximum use of solar energy for heating.	Compliant	The PUD provides unshaded roof structures so that solar energy may be utilized in the future.
13. The overall PUD shall provide a variety of housing types.	Not applicable	Commercial project
14. Neighborhoods within a PUD shall provide a range of housing size.	Not applicable	Commercial project
15. Architectural design of buildings shall be compatible in design with the contours of the site, compatible with surrounding designs and neighborhoods, shall promote harmonious transitions and scale in character in areas of different planned uses, and shall contribute to a mix of styles within the city.	Compliant	The PUD proposes architecture that is compatible in design with the surrounding area and meets the standards of the CDDSG.

RESOLUTION NO. 32
SERIES 2025

A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT AND DEVELOPMENT AGREEMENT TO ALLOW A GROCERY STORE AND GASOLINE SERVICE STATION USE AT 1171 W DILLON ROAD

WHEREAS, there has been submitted to the Louisville City Council an application for a Planned Unit Development Amendment ("PUD Amendment") to allow the redevelopment of an existing commercial site to allow a grocery store and gasoline service station use located at 1171 W Dillon Rd; Lot 5, Centennial Valley Parcel L Filing No. 1; and

WHEREAS, City staff has reviewed the information submitted and found that, with the two requested waivers, a parking reduction, and applied conditions, the application complies with the Louisville zoning regulations and other applicable sections of the Louisville Municipal Code; and

WHEREAS, Section 17.28.260 of the Louisville Municipal Code requires a development agreement for any PUD Amendment that requires onsite or off-site public improvements, to assure completion of the same; and

WHEREAS, the City Council has reviewed the terms of the proposed Development Agreement for King Soopers Marketplace – 1171 W Dillon Rd (the "Development Agreement"), a copy of which accompanies this resolution, and finds its terms acceptable and meet the requirements of the Louisville Municipal Code; and

WHEREAS, the City Engineer shall approve the final public improvement plans and cost estimate referenced in Exhibit A of the associated Development Agreement; and

WHEREAS, the Planning Commission considered the application at a duly noticed public hearing on March 13, 2025, where evidence and testimony were entered into the record and the Planning Commission voted unanimously in favor of recommending approval with conditions; and

WHEREAS, the City Council considered the application at a duly noticed public hearing on May 20, 2025, where evidence and testimony were entered into the record, including the findings in the Louisville City Council staff report dated May 20, 2025; and

WHEREAS, the City Council finds the application should be approved, as set forth herein.

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

Section 1. The City Council of the City of Louisville, Colorado does hereby approve the application for a Planned Unit Development Amendment.

Section 2. The proposed Development Agreement between the City of Louisville and G&I XI 1171 W DILLON LLC, a copy of which accompanies this resolution, is hereby approved. The Mayor and City Clerk are hereby authorized to execute the Development Agreement on behalf of the City, and the Mayor is hereby further authorized to negotiate and approve such revisions to the Development 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 Development Agreement are not altered.

PASSED AND ADOPTED this 20th day of May 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

DEVELOPMENT AGREEMENT
King Soopers Marketplace – 1171 W Dillon Rd

THIS DEVELOPMENT AGREEMENT ("Agreement") is made and entered into this _____ day of _____, 2025, by and between the **CITY OF LOUISVILLE**, a Colorado home rule municipal corporation ("City"), and **G&I XI 1171 W DILLON LLC**, a Delaware limited liability company ("Developer").

WHEREAS, Developer has submitted an application for a Final Planned Unit Development Plan Amendment (the "Plan") for development of real property located at 1171 West Dillon Road, Louisville, Colorado, and legally described as Lot 5, Centennial Valley, Parcel L, Filing No. 1, ("Development"), which Plan has been reviewed and approved by the Planning Commission and the City Council by Resolution No. _____, Series 2025 and recorded with the Boulder County Clerk and Recorder on _____, 2025 at Reception No. _____; and

WHEREAS, the development regulations of the City require that the public improvement obligations for the Development be guaranteed in a form acceptable to the City; and

WHEREAS, the Developer and City desire to enter into this Agreement relative to the completion of certain improvements and other matters related to the Development.

NOW, THEREFORE, in consideration of the foregoing, the parties hereto promise, covenant and agree as follows:

1.0 GENERAL CONDITIONS

1.1 Development Obligation. Developer shall be responsible for performance of the covenants set forth herein.

1.2 Engineering Services. Developer agrees to furnish, at its expense, all necessary engineering services relating to the design and construction of the improvements as set forth on the Schedule of Improvements described in **Exhibit A** (the "public improvements" or "improvements"), attached hereto and incorporated herein by this reference. The engineering services shall be performed by or under the supervision of a Registered Professional Engineer or Registered Land Surveyor, or other professionals as appropriate, licensed by the State of Colorado, and in accordance with applicable Colorado law; and shall conform to the standards and criteria for public improvements as established and approved by the City as of the date of submittal to the City.

1.3 Construction Standards. Developer shall construct all improvements required by this Agreement, and any other improvements constructed by Developer in relation to the Development, in accordance with plans and specifications approved in writing by the City, and with the Plan, and in full conformity with the City's construction specifications applicable at the time of construction plan approval.

1.4 Development Coordination. Unless specifically provided in this Agreement to the contrary, all submittals to the City or approvals required of the City in connection with this Agreement shall be submitted to the Planning Division of the City, who shall have general responsibility for coordinating development with Developer.

1.5 Timing of Development. Pursuant to Section 17.28.200 of the Louisville Municipal Code, Developer has three (3) years from City Council approval of the Plan on _____, 20___, within which to secure a building permit or building permits for the Development, subject to any extensions that may be granted by the Planning Commission and City Council. In addition to the foregoing, the Developer agrees that it shall complete the improvements for the Development and obtain Construction Acceptance thereof prior to the issuance of the first certificate of occupancy for any portion of the Development. In the event that Developer determines to not proceed with any portion of the Development and no building permits have been issued within three (3) years from City Council approval, or any extension thereof, then pursuant to Section 17.28.200, no building permits shall be issued for the Development and the Developer shall be relieved of all obligations to complete improvements under this Agreement; provided however that, in such event, the Developer shall be required to obtain approval of a new PUD development plan and execute a new development agreement with the City prior to receiving any building permits for or proceeding with any development of the property, excepting only work for which no PUD plan is required.

1.6 Plan Submission and Approval. Developer shall furnish to the City complete plans for all public improvements required for the Development and obtain approval thereof prior to commencing any construction work thereon. The City shall issue its written approval or disapproval of said plans as expeditiously as reasonably possible. Said approval or disapproval shall be based upon the standards and criteria for public improvements as established and approved by the City, and the City shall notify Developer of all deficiencies which must be corrected prior to approval. All deficiencies shall be corrected and plans shall be resubmitted to and approved by the City prior to construction.

1.7 Completion Deadline; Construction Acceptance.

(a) Construction of public improvements shall be complete, and construction acceptance for the public improvements shall be requested in accordance with subsection (b) of this Section 1.7 by no later than _____ (completion deadline may not be during winter season, November 1 – March 1).

(b) No later than ten (10) days after the public improvements are completed, Developer shall request inspection by the City, which request shall be in writing to the City Department of Public Works. If Developer does not request this inspection within ten (10) days of completion of the public improvements, the City may conduct the inspection without the approval of Developer and provide written notice to Developer of reasonable repairs, replacements, construction or other work required. Developer shall provide "as-built" drawings, both hard copy and electronic file format acceptable to the City, and a certified statement of construction costs no later than thirty (30) days after the public

improvements are completed. The certification shall be signed by an officer, member or agent on behalf of the Developer representing that amounts stated are the actual costs incurred. If Developer has not completed the public improvements on or before the completion deadline set forth in subsection (a) of this Section, the City may exercise its rights to secure performance as provided in this Agreement. If improvements completed by Developer are satisfactory, the City shall grant "Construction Acceptance" after which the Developer shall provide a warranty for the improvements and the same shall be subject to "Final Acceptance" as set forth herein. If improvements completed by Developer are unsatisfactory, the City shall provide written notice to Developer of the repairs, replacements, construction or other work required to receive Construction Acceptance. Developer shall complete all needed repairs, replacements, construction or other work within thirty (30) days of said notice, weather permitting. After Developer does complete the repairs, replacements, construction or other work required, Developer shall request of the City a re-inspection of such work to determine if Construction Acceptance can be granted, and the City shall provide written notice to Developer of the acceptability or unacceptability of such work prior to proceeding to complete any such work at Developer's expense. If Developer does not complete the repairs, replacements, construction or other work required within the time frame set forth in this Section, the City may exercise its rights to secure performance as provided in this Agreement. The City reserves the right to schedule re-inspections, depending upon scope of deficiencies. **No certificate of occupancy for the Development shall be issued by the Building Division prior to Construction Acceptance of the public improvements.**

1.8 Warranty & Maintenance of Improvements. For a two (2) year period from the date of Construction Acceptance of any improvements related to the Development, Developer shall, at its own expense, take all actions necessary to maintain said improvements and make all needed repairs or replacements which, in the reasonable opinion of the City, shall become necessary. If within thirty (30) days of Developer's receipt of written notice from the City requesting such repairs or replacements, the Developer has not completed such repairs, the City may exercise its rights to secure performance as provided in this Agreement. Notwithstanding the above, the Developer and each successor owner of the Development property shall be responsible for the warranty and maintenance obligations provided for herein, subject to Section 3.4 of this Agreement.

1.9 Final Acceptance. At least sixty (60) days before two (2) years have elapsed from the issuance of Construction Acceptance, or as soon thereafter as weather permits, Developer shall request a Final Acceptance inspection. The City shall inspect the improvements and shall notify the Developer in writing of all deficiencies and necessary repairs. After Developer has corrected all deficiencies and made all necessary repairs identified in said written notice, the City shall issue to Developer a letter of Final Acceptance. If Developer does not correct all deficiencies and make repairs identified in said inspection to the City's satisfaction within thirty (30) days after receipt of said notice, weather permitting, the City may exercise its rights to secure performance as is provided in this Agreement. If any mechanic's liens have been filed with respect to the public improvements, the City may retain all or a portion of the Improvement Guarantee up to the amount of such liens. If Developer fails to have improvements finally accepted within

two (2) years of the date of the issuance of Construction Acceptance or any improvements are found not to conform to this Agreement, or to applicable City standards and specifications, then Developer shall be in default of the Agreement and the City may exercise its rights under this Agreement.

1.10 Reimbursement to City. Upon Developer's breach of any of its obligations beyond any applicable cure period, the City may complete construction, repairs, replacements, or other work of Developer pursuant to this Agreement in which event Developer shall reimburse the City within thirty (30) days after receipt of written demand and supporting documentation from the City. If Developer fails to so reimburse City, then Developer shall be in default of the Agreement and the City may exercise its rights to enforce the Agreement.

1.11 Testing and Inspection.

Developer shall employ, at its own expense, a licensed and registered testing company, previously approved by the City in writing, to perform all testing of materials or construction that may be reasonably required by the City, and shall furnish copies of test results to the City together with maps clearly indicating the horizontal and vertical test locations on a timely basis for City review and approval prior to commencement or continuation of that particular phase of construction. In addition, at all times during said construction the City shall have access to inspect the materials and workmanship of said construction and all materials and work not conforming to the approved plans and specifications shall be repaired or removed and replaced at Developer's expense so as to conform to the approved plans and specifications.

All work shown on the approved public improvement plans requires inspection by the Public Works Department, Engineering Division. Inspection services are provided Monday through Friday, except legal holidays, from 8:00 a.m. to 4:00 p.m., November 1 through March 31, and from 7:00 a.m. to 5:00 p.m., April 1 through October 31. During the hours listed above, inspections shall be scheduled a minimum of 24 hours in advance with the Engineering Division. Requests for inspection services beyond the hours listed above, shall be submitted a minimum of 48 hours in advance to the Director of Public Works for approval. All requests for after hours inspection services shall be made on a form provided by the Engineering Division. If the request is approved, the Developer shall reimburse the City for all direct costs of the after hours inspection services. If the request is denied, the work shall not proceed after the hours listed above.

1.12 Improvement Guarantee.

(a) Developer shall install and pay for all improvements described in Exhibit "A" or otherwise required by the Development as shown on the approved Plan, utility plans, and other approved documents on file with the City.

(b) Developer shall submit to the City an Improvement Guarantee for all improvements, as set forth in **Exhibit A.** The guarantee may be in cash, certified funds, or a letter of credit in form and substance of **Exhibit B,** attached hereto and incorporated

herein by this reference. Said Improvement Guarantee, if a letter of credit, shall not expire during the winter season (November 1 - March 1), and shall be auto-renewing per Exhibit B. The Improvement Guarantee for public improvements shall include, but not by way of limitation, any street construction, landscaping and seeding, fencing, street lights, street signs, pavement markings, water, sewer, storm sewer, trail and trailhead improvements, and irrigation and drainage improvements. The total amount of the Improvement Guarantee for the Development shall be calculated as a percentage of the total estimated cost, including labor and materials, of all public improvements to be constructed in the Development, which costs are set forth on **Exhibit A.** The total minimum amounts are as follows:

1) Prior to issuance of building permits: 115% of estimated construction costs, as determined by the City;

2) Upon Construction Acceptance prior to Final Acceptance: reduced to 15%;

3) After Final Acceptance: reduced to 0%, subject to the terms and conditions of this Agreement.

(c) In addition to any other remedies it may have, the City may, at any time prior to Final Acceptance, and upon thirty (30) days prior written notice to Developer (pursuant to this Agreement), draw on any Improvement Guarantee issued pursuant to this Agreement if Developer fails to extend or replace any such Improvement Guarantee at least forty-five (45) days prior to expiration of such Improvement Guarantee. Except to the extent the City draws on the Improvement Guarantee to correct deficiencies and complete improvements as provided herein, any portion of said Guarantee not utilized in correcting the deficiencies and/or completing the same shall be released or returned to Developer within thirty (30) days after said Final Acceptance. In the event that the Improvement Guarantee expires or the entity issuing the Improvement Guarantee becomes non-qualifying, or the cost of the public improvements and construction thereof is reasonably determined by the City to be substantially greater than the amount of the Improvement Guarantee provided, then the City shall furnish written notice to Developer of the condition, and within thirty (30) days of receipt of such notice Developer shall provide the City with a substituted qualifying Improvement Guarantee, or augment the deficient security as necessary to bring the security into compliance with the requirements of this Agreement. If such an Improvement Guarantee is not submitted or maintained for the Development as required herein, then Developer is in default of this Agreement, and the City may exercise its rights and remedies hereunder, in equity, and at law to secure performance.

1.13 Indemnification and Release of Liability. Developer agrees to indemnify and hold harmless the City, its officers, employees, agents, or servants, and to pay any and all judgments rendered against said persons on account of any suit, action, or claim caused by, arising from, or on account of acts or omissions by the Developer, its officers, employees, agents, consultants, contractors, and subcontractors, and to pay to the City and said persons their reasonable expenses, including, but not limited to, reasonable

attorneys' fees and reasonable expert witness fees, incurred in defending any such suit, action or claim; provided however that, Developer's obligations herein shall not apply to the extent said suit, action or claim results from the acts or omissions of officers, employees, agents or servants of the City. Developer acknowledges that the City's review and approval of plans for the Development is done in furtherance of the general public's health, safety and welfare and that no immunity is waived and no specific relationship with, or duty of care to, the Developer or third parties is assumed by such review approval.

1.14 Insurance OSHA. Developer shall, through contract requirements and other normal means, guarantee and furnish to the City proof thereof that all employees and contractors engaged in the construction of improvements are covered by adequate Worker's Compensation Insurance and Public Liability Insurance, and shall require the faithful compliance with all provisions of the Federal Occupational Safety and Health Act (OSHA).

2.0 IMPROVEMENTS

2.1 Construction. Developer shall furnish and install, at its own expense, the improvements listed on the Schedule of Improvements attached as **Exhibit A,** in conformance with the Plan and all additional drawings, plans and specifications approved by the City prior to construction, and in accordance with the completion deadlines set forth in this Agreement. If Developer does not meet the above obligations then Developer shall be in default of the Agreement and the City may exercise its rights under this Agreement.

2.2 Sidewalks & Streets. All sidewalks, curb cuts, street improvements, and appurtenances thereto shall be constructed and installed by Developer pursuant to City approved plans and specifications and the Plan.

2.3 Landscaping. All landscaping, irrigation, and appurtenances thereto in the public right-of-way adjacent the Development property shall be constructed and installed by Developer pursuant to the City approved plans and specifications and the Plan. All landscape plans shall include construction plan details for irrigation system improvements. Developer shall obtain and pay all tap fees and other fees for any irrigation taps required for the Development.

2.4 Drainage Improvements and Owner Maintenance Obligations.

(a) Drainage improvements for the Development shall be constructed by Developer and, at the minimum, in accordance with plans and specifications approved by the City. No overlot grading shall be initiated by Developer until the City has granted written approval of drainage improvement plans. Developer shall provide temporary erosion control during overlot grading until drainage improvements are installed.

(b) All stormwater facilities for the Development shall be constructed by Developer according to plans and specifications approved by the City prior to the commencement of construction. All stormwater facilities owned by Developer will be

operated and maintained by Developer and its successors in title, at no expense to the City. Such maintenance shall include but not be limited to, repair and replacement of detention pond structures, mowing, control of weeds, removal of trash and debris, and other activities necessary to keep the stormwater facilities in proper working order. The Developer shall execute a Stormwater Best Management Practices (BMP) agreement for such facilities consistent with the requirements of the Louisville Municipal Code (Section 13.36.160) prior to Construction Acceptance.

(c) The City shall have the right but not the obligation, in its sole discretion, to maintain the improvements and facilities required to be maintained by Developer pursuant to subsections (a) and (b) above. If Developer fails to adequately maintain the improvements or facilities and, within fourteen (14) days after the date of written notice from City, fails to correct the maintenance problem, or fails to begin to clean, cure or correct such problem within fourteen (14) days if such problem cannot be reasonably cleaned, cured or corrected within fourteen (14) days, and fails to diligently prosecute such cleaning, cure or correction to completion, then City may do so at Developer's expense, and the City, its employees, agents and contactors shall have the right to enter, over, through and across the properties upon which such facilities are located for purposes of exercising the City's rights hereunder. Notwithstanding the foregoing, the City may, in the event of an emergency, as determined by the City in its sole discretion, clean, cure or correct any damage or condition caused by Developer's failure to adequately maintain the improvements or facilities. Developer shall reimburse the City for the cost of such maintenance. If Developer fails to reimburse the City for the cost of such maintenance, within thirty (30) days after receipt of an invoice from the City describing the corrective or maintenance action taken, the unpaid amount shall constitute a lien upon the property where the work occurred until paid in full, with priority over all other liens, except general tax liens, and which lien shall be certified to the County treasurer and collected in the same manner as other liens are collected. Developer further agrees that the City may also pursue any and all other remedies available at law or in equity.

2.7 Trash, Debris, Mud. Developer agrees that during construction of the Development and improvements described herein, Developer shall take any and all steps necessary to control trash, debris and wind or water erosion in the Development. If the City determines that said trash, debris or wind or water erosion causes damage or injury or creates a nuisance, Developer agrees to abate said nuisance and/or to correct any damage or injury within five working days after notification by City. If Developer does not abate said nuisance or if an emergency situation exists, to be determined by the City in its sole discretion, the City may abate the nuisance and/or correct any damage or injury without notice to Developer at Developer's expense. Developer also agrees to take any and all reasonable steps designed to prevent the transfer of mud or debris from the construction site onto public rights-of-way and to immediately remove such mud and debris from public rights-of-way after notification by the City. If Developer does not abate, or if an emergency exists, City may abate at Developer's expense.

2.8 Operation of Construction Equipment.

(a) Pursuant to Section 9.34.040 of the Louisville Municipal Code the operation of construction equipment outside an enclosed structure shall be prohibited between the hours of 8:00 p.m. and, on weekdays, the hour of 7:00 a.m. or, on legal holidays and weekends, the hour of 8:00 a.m. The Planning Director may, upon written application from Developer, alter the hours of operation for good cause.

(b) The operation of construction equipment for the purpose of grading or constructing either surface improvements or underground utilities, either public or private, shall be prohibited between the hours of 8:00 p.m. and 7:00 a.m. on weekdays and 4:00 p.m. and 8:00 a.m. on legal holidays and weekends. Upon written request from Developer, the hours of operations may be altered by the Director of Public Works.

3.0 MISCELLANEOUS TERMS

3.1 Breach of Agreement. In the event that the Developer should fail to timely comply with any of the terms, conditions, covenants and undertakings of the Agreement, and if such noncompliance is not cured and brought into compliance within thirty (30) days of written notice of breach of the Developer by the City, unless the City in writing and in its sole discretion designates a longer cure period, then the City has the right to begin work on some or all of the improvements at the expense of the Developer, and further may draw upon the Improvement Guarantee to complete the necessary improvements or such other action is necessary to cure the default, at Developer's expense. Developer's expense shall be limited to the costs incurred by the City, as defined herein. Notice by the City to the Developer will specify the conditions of default. If the City determines in its sole discretion that an emergency exists, such that the improvement must be completed in less than seven (7) days, the City may immediately draw upon the Improvement Guarantee, if available, and may complete the improvements at Developer's expense even if the Improvement Guarantee is not available; in such event, the City shall use its best efforts to notify Developer at the earliest practical date and time. The City may also, during the cure period and until completion of the improvements in compliance with this Agreement, withhold any additional building permits, certificates of occupancy, or provision of new utilities fixtures or services. Nothing herein shall be construed to limit the City from pursuing any other remedy at law or in equity which may be appropriate under city, state or federal law. Failure to timely complete construction of improvements which is due to inclement weather, unavailability of labor or materials, or force majeure shall not be considered a breach of the Agreement. Any costs incurred by the City, including, but not limited to, reasonable administrative costs and reasonable attorney's fees, in pursuit of any remedies due to the breach by the Developer shall be the responsibility of the Developer.

3.2 Recording of Agreement. The City shall record this Agreement at Developer's expense in the office of the Clerk and Recorder, County of Boulder, State of Colorado, and the City shall retain the recorded Agreement.

3.3 Binding Effect of Agreement. This Agreement shall run with the land included within the Development and shall inure to the benefit of and be binding upon the successors and assigns of the parties hereto.

3.4 Assignment, Delegation and Notice. This Agreement, or any part of this Agreement, may not be assigned by the Developer to any other party without the prior written approval of the City, which approval shall not be unreasonably withheld, conditioned or delayed. Developer shall provide to the City for approval written notice of any proposed assignment of any obligations under this Agreement to any successor, as well as arrangements, if any, for delegation of the obligations hereunder. Developer and any successor shall, until written City approval of the proposed assignment and delegation of obligations, be jointly and severally liable for the obligations of Developer under this Agreement; following such approval, Developer shall be released from such obligations from and after the date of such approval, but such approval shall not release any previously accrued liabilities unless expressly agreed by the City. The City may require as part of any such approval that the successor execute its consent to be bound by specified terms and conditions hereof and/or of applicable provisions of the Plan and other applicable documents.

3.5 Modification and Waiver. No modification of the terms of this Agreement shall be valid unless in writing and executed with the same formality as this Agreement, and no waiver of the breach of the provisions of any section of this Agreement shall be construed as a waiver of any subsequent breach of the same section or any other sections which are contained herein.

3.6 Addresses for Notice. Any notice or communication required or permitted hereunder shall be given in writing and shall be personally delivered, or sent by United States mail, postage prepaid, registered or certified mail, return receipt requested, addressed as follows:

CITY:

City of Louisville
City Manager
749 Main Street
Louisville, CO 80027

With a copy to:

Kelly PC
City Attorney
749 Main Street
Louisville, CO 80027

DEVELOPER:

G&I XI 1171 W DILLON LLC
C/O DRA ADVISORS LLC
575 FIFTH AVE 38TH FLOOR
NEW YORK, NY 10017

or to such other address or the attention of such other person(s) as hereafter designated in writing by the applicable parties in conformance with this procedure. Notices shall be effective three days after mailing or upon personal delivery in compliance with this paragraph.

3.6 Force Majeure. Whenever Developer is required to complete construction, maintenance, repair, or replacement of improvements by a given or agreed-upon deadline, such deadline shall be reasonably extended if Developer cannot as a practical matter, complete such performance by such deadline due to Acts of God or other circumstances constituting force majeure or beyond the reasonable control of Developer.

3.7 Approvals. Whenever approval or acceptance of a matter is required or requested of the City pursuant to any provisions of this Agreement, the City shall act reasonably in responding to such matter.

3.8 Previous Agreements. All previous written and recorded agreements between the parties or their predecessors, including, but not limited to, any Annexation Agreement, Subdivision Agreement or Development Agreement, shall remain in full force and effect and shall control this Development. If any prior agreements conflict with this Agreement, then this Agreement controls.

3.9 Title and Authority. Developer warrants to the City that it is the record owner of the Development property or is acting in accordance with the currently valid and unrevoked power of attorney of the record owner hereto attached. The undersigned further warrant to have full power and authority to enter into this Agreement.

3.10 Governing Law; Venue; Severability. This Agreement and all matters arising hereunder or in connection herewith shall be governed by and construed and enforced in accordance with the laws of the State of Colorado. Any disputes regarding or arising out of this Agreement shall be brought in the courts of Boulder County, Colorado, and in no other court. In the event that any provision of the Agreement is held to be violative of the city, state, or federal laws and hereby rendered unenforceable, the City, in its sole discretion, may determine whether the remaining provisions will or will not remain in force.

IN WITNESS WHEREOF, the parties have executed this Agreement as of the date first set forth above.

CITY:

CITY OF LOUISVILLE

By:_____
Christopher M. Leh, Mayor

Attest:

By:_____
Genny Kline, Interim City Clerk

DEVELOPER:

By:_____
XXXXXXXX

ACKNOWLEDGMENT

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing signature of _____, as _____, of _____, was subscribed and sworn to before me this ____day of _____, 20___.

Witness my hand and official seal.

_____
__
Notary Public
My commission expires:_____

EXHIBIT A
SCHEDULE OF IMPROVEMENTS

EXHIBIT B

IRREVOCABLE LETTER OF CREDIT
REQUIRED FORM

[date of Letter of Credit - the date the credit is opened]

City of Louisville
749 Main St
Louisville, CO 80027

Attn: City Clerk:

We hereby issue our Irrevocable Letter of Credit Number in your favor for the account of _____, in an amount not to exceed _____ effective immediately and expiring at our counters on (except November 1 - March 1) or any extended expiration date as indicated below.

Funds under this Letter of Credit are available for payment by sight, by presentation of your sight draft(s) substantially in the form of Exhibit "1" accompanied by your written certificate substantially in the form of Exhibit "2".

Partial and multiple drawings are permitted.

This Letter of Credit will automatically be extended for a period of sixty (60) days from the present or any future expiration date unless we notify you in writing by certified mail thirty (30) days prior to any expiration date that we elect not to renew this Letter of Credit for any additional period.

We hereby engage with you that all drawings in conformity with terms and conditions of the Letter of Credit will be duly honored upon presentation to our counters on or before any expiration date as indicated above.

All bank charges, including any advising bank charges, are to be charged to (account party's name).

If a demand for payment by you hereunder does not, in any instance, conform to the terms and conditions of this Letter of Credit, the bank shall give the City written notice, and send copy of this notice by FAX to the City of Louisville (Attn: City Clerk), within three business days of presentment of any nonconforming draft that the purported negotiation was not effective in accordance with the terms and conditions of the Letter of Credit, stating with particularity the reasons therefore. The bank will hold all documents at the bank for the City, or send them to the City, at the City's option. Any such nonconforming demand may be corrected and resubmitted within three (3) business days of receipt of the bank's mailed

notice of nonconformity. A resubmittal will be deemed to have been presented to the bank on the date of the original demand for payment.

We are a current member of (FDIC) (FSLIC).

This credit is subject to the Uniform Customs and Practice for Documentary Credits, 1993 revision, ICC publication number 500.

This Irrevocable Letter of Credit sets forth in full the terms of our undertaking and such undertaking shall not in any way be modified, amended or amplified by reference to any document or instrument referred to herein or in which the Irrevocable Letter of Credit relates and any such reference shall not be deemed to incorporate herein by reference any document or instrument.

Sincerely,

(Bank)

EXHIBIT 1 TO LETTER OF CREDIT

DRAFT FOR PAYMENT DRAWN UNDER

_____

IRREVOCABLE LETTER OF CREDIT NO._____

DATE:_____, 20__.

_____

PAY TO: The account of the City of Louisville, Colorado, Account

No. _____, at _____,

Colorado, THE SUM OF _____DOLLARS

($_____._____).

CITY OF LOUISVILLE, COLORADO

By:_____
City Clerk

EXHIBIT 2 TO LETTER OF CREDIT

To: _____
_____
_____

CERTIFICATE FOR PAYMENT

The undersigned, a duly appointed officer of the City of Louisville, Colorado (the "City"), hereby certifies to _____ (the "Bank"), with reference to the Bank's Irrevocable Letter of Credit No. _____ (the "Letter of Credit"), issued by the Bank in favor of the City, that:

(1) The undersigned is the City Clerk for the City.

(2) The City is authorized to make a drawing under the Letter of Credit.

(3) The amount which is due and payable from the Letter of Credit is $_____, and the amount of the sight draft accompanying this certificate does not exceed such amount.

IN WITNESS WHEREOF, the undersigned has executed and delivered this certificate as of the _____ day of _____, 20___.

CITY OF LOUISVILLE, COLORADO

By:_____
City Clerk

RESOLUTION NO. XX
SERIES 2025

A RESOLUTION RECOMMENDING APPROVAL OF A PLANNED UNIT DEVELOPMENT ALLOW A GROVERY STORE AND GAOSLINE SERVICE STATION USE AT 1171 W DILLON ROAD.

WHEREAS, there has been submitted to the Louisville Planning Commission an application for a planned unit development amendment to allow the redevelopment of an existing commercial site to allow a grocery store and gasoline service station use located at 1171 W Dillon Rd; Lot 5, Centennial Valley Parcel L Filing No. 1; and

WHEREAS, City staff have reviewed the information submitted and found that, with the two requested waivers, a parking reduction, and applied conditions, the application complies with the Louisville zoning regulations and other applicable sections of the Louisville Municipal Code; and

WHEREAS, the Planning Commission have considered the application at a duly noticed public hearing on March 13, 2025 where evidence and testimony where entered into the record.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend approval of a planned unit development amendment to allow the redevelopment of an existing commercial site to allow a grocery store and gasoline service station use at 1171 W Dillon Road.

PASSED AND ADOPTED this 13th day of March, 2025.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Ben Diehl, Secretary
Planning Commission

City of Louisville
COLORADO • SINCE 1878

Planning Commission
Meeting Minutes
March 13, 2025
City Hall, Council Chambers
749 Main Street
6:30 PM

Call to Order – Chair **Brauneis** called the meeting to order at 6:30 PM.

Roll Call was taken, and the following members were present:

Commission Members Present:	Steve Brauneis, Chair Debra Baskett, Vice Chair Cullen Choi, Secretary David Bangs Jennifer Hunt Jonathan Mihaly Jeff Moline
Staff Members Present:	Jeff Hirt, Planning Manager Matt Post, Senior Planner Ben Jackson, Planning Clerk

APPROVAL OF AGENDA

Motion to approve the agenda was moved by **Moline**, seconded by **Baskett**, and adopted by voice vote.

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

None were heard.

PUBLIC HEARING ITEMS – NEW BUSINESS

a. Planned Unit Development Amendment – King Soopers Marketplace: Consideration of Resolution 3 to approve a Planned Unit Development Amendment to allow a grocery store and gasoline service station at 1171 W Dillon Road.

Staff Presentation:

Post introduced the presentation for the PUD amendment. He covered history of the site, current zoning and applicable plans, and the current site layout. He explained proposed

layout and design for the site, and noted that it was permitted as use by right. He also covered proposed waivers and parking reduction.

Staff Recommendation:
Staff recommended approval of Resolution 3, Series 2025 with conditions.

Commissioner Questions of Staff:
Mihaly asked about the number parking spaces dedicated for the proposed pickup area.
Post deferred to the applicant.
Mihaly asked about who was responsible for the road that ran between Centennial Parkway and Dillon Road.
Post said that it was a city owned and maintained road.
Moline asked about the traffic study, and whether staff though that the 10,000 daily trips detailed in the report was an accurate projection.
Post noted that this seemed high, and said that staff had asked for clarification from the applicant on this.
Choi asked about the size of proposed signage, and about what staff counted as signage instead of exterior paint or iconography.
Post said that the signage area came from the polygonal area around the signs, and added that this would be clarified during the signage application process.
Choi asked about lumen limits for the proposed digital signage.
Post said that the City did not have a lumen limit, but said that they instead had limits on the types of lighting that could be used.
Choi asked whether the number of EV charging stations required for the gas station would come from the gas station as a standalone use, or if they would come from the broader retail use.
Post said that he thought that they would only apply to the accessory service station. He noted that they needed to be within vicinity of the gas station use.
Bangs asked to clarify that the number of EV charging stations required was based off of the number of gas pumps.
Post said that the number of chargers was based on the number of gas station pumps, and that the code was not applicable to the whole store because it was not a new PUD or development.
Bangs asked if there were any requirements for the hours of illumination for the signage.
Post said that he would have to check.
Mihaly asked if there had been any consideration of optimizing the traffic signals at the Centennial Parkway and McCaslin Boulevard intersection.
Post said that it had not been discussed.
Brauneis asked about process and timing for a new traffic study and traffic signal retiming.
Post deferred to the applicant.

Applicant Presentation:
Dan Kraus, non-resident, was part of the development team. He corrected the proposed signage sizes, and noted that they expected an increase of 27 square feet over the earlier presentation.

Brian Horan, non-resident, was the traffic engineer. He said that the 10,000 figure was accurate, but noted that each trip was in a singular direction, so they included trips both into and out of the site separately. He said that this assumption was a worst case scenario.

Commissioner Questions of Applicant:
Brauneis asked about the trigger for signal retiming.
Horan said that it was only if growth continued to occur on the McCaslin Corridor.
Bangs asked about unusual routes into and out of the site, and whether this was considered in the traffic study.
Horan said that it was factored into their analysis.
Choi asked to confirm that there would not be any new plain turf areas on the site.
Kraus said that their landscaping plan was to bring the site into compliance with code, and to replace the invasive species with native species. He added that they did not plan to install any new turf grass.
Choi asked about the potential cost if the height restriction waiver were not to be approved.
Kraus said that the waiver was so they could extend the parapet to hide the improved rooftop equipment from the view of customers. He added that they were trying to meet the intent of the City code.
Choi asked whether they had already specified the new rooftop equipment they intended to install.
Mark Breetz, non-resident, explained that they had already planned out the location of the equipment, and noted that the raised parapet would match the height of the existing metal structure on the rooftop.

Public Comment:
Doug van Riper, non-resident, was representing the neighboring Murphy's Tap House. He had concerns about the gas station, and noted that it would be uphill of and adjacent to their outdoor dining area. He said that no additional vegetation had been proposed between the gas station and their dining area. He also noted concerns that stormwater runoff would drain from the gas station into their restaurant, and that this could pose a flooding issue. He questioned whether there was a need for a gas station on the site.

Julie Avirett, resident, was a neighboring business owner. She was in favor of the new grocery store, but had concerns about the proposed location of the propane tanks as they were adjacent to their child care center's play area. She asked that the applicant consider moving the tanks to a different part of the premises.

Applicant Closing Statement:
Kraus said that they would address drainage and runoff concerns with staff, and said that they would work with staff to address the other public comment concerns.

Staff Closing Statement:
Post noted that past PUD had a generous allowance for signage, and that the amended PUD would have to come into compliance with the new signage code. He added that they had discussed the building screening and parapet design with the applicant.

Further Commissioner Questions of Applicant:
Mihaly asked about the proposed number of parking spaces, and how this compared to other King Soopers Marketplace locations.
Kraus said that it related to the shift from consumers shopping in store to more pick-up and delivery demand.
Karl Schmidtlein, non-resident, was from the development group. He said that their expectation was for around 3.5 to 4 parking spaces per thousand square feet of retail space, and noted that this ratio had declined over the past decade.
Bangs asked about the consideration that was given to the number of EV charging stations they intended to install.
Schmidtlein said that they were trying to comply with the code requirements, and said that they had proposed 8 EV charging stalls.
Bangs asked if this number of charging stalls was in line with their anticipated trends.
Schmidtlein said that he couldn't comment specifically, but suggested that they would consider installing more if they felt there was demand for it.
Nick Tompkins, non-resident, was representing Kroger. He said that regarding EV charging stations, there was a company initiative to increase number of available chargers, and that they tended to install more of them once the store's traffic patterns were better understood post opening.
Mihaly asked about the reasoning for the proposed positioning of the gas station.
Schmidtlein said that they typically tried to keep it on the pharmacy and general merchandise side of the store, and away from entrance.
Choi asked about their plans for ensuring that a chemical spill would not contaminate any of the proposed detention ponds.
Kraus said that they were working with staff on this issue.
Schmidtlein added that they could come up with additional mitigating measures for this if needed.

Brauneis asked whether they should include an additional condition related to a discussion of stormwater runoff mitigation.
Post said that this would be a reasonable thing for them to consider.
Baskett suggested that the condition be related to including an analysis of spill mitigation from gas pumps and runoff. She added that she also wanted to see specific conditions relating to the location of the propane tanks, and relating to the screening and drainage of the gas station.
Post said that staff would engage with the engineering team and the applicant regarding the proposed conditions.

Commissioner Discussion:
Baskett said that she was comfortable with the proposal given the discussed conditions. She added that she thought the proposed signage was appropriate for the site, and would be helpful for wayfinding.
Choi said that he was generally in support, and thought it was an appropriate use for this type of building. He said he would have been opposed to a standalone gas station, but was more supportive of it being connected to the grocery store. He appreciated the inclusion of EV charging stations.
Mihaly said that he was also generally in support, and added that he strongly supported the proposed conditions. He said that he would like to see improvements made to the surrounding roadways to accommodate the additional traffic flows. He also thought that the proposed signage waivers were an improvement over what would be allowed under the code.
Moline suggested specific language for the proposed conditions.
Choi said that the location of the propane tanks did not pose a significant safety hazard from an engineering perspective, and suggested screening the tanks would also be a viable option to address aesthetic concerns.
Moline said that he was in support, and was very happy to see the existing building be reused rather than having it torn down and replaced.
Bangs said that he was in support, but noted that the placement of the gas station was unfortunate given the number of other nearby gas stations.
Brauneis said that he was in support, and said that he liked the reuse of the existing building.
Hunt said that she was in support, and that she was excited to see reuse of the building. She also appreciated the willingness of the applicant to address the concerns of nearby businesses.

Motion to approve Resolution 3, Series 2025 with the proposed conditions that drainage plans are reviewed to ensure that stormwater is contained within existing curbing and the detention pond and to evaluate options to relocate the propane tanks away from the

adjacent school was moved by **Baskett** and seconded by **Hunt**. The motion was adopted by a vote of 7 to 0.

PLANNING COMMISSION COMMENTS

Baskett spoke about the Commuting Solutions breakfast she attended.

STAFF COMMENTS

Hirt spoke about the new City Manager and her expected start date of March 31. He also asked about the viability of holding a second meeting in April.

ADJOURNMENT

Motion to adjourn was moved by **Baskett**, seconded by **Choi**, and adopted by voice vote. The Commission adjourned at 8:00pm.

City of Louisville
COLORADO • SINCE 1878

Community Development Department

749 Main Street • Louisville CO 80027 • 303.335.4592 • www.louisvilleco.gov

Development Review Application Form

Please complete this form and include it with the submittal documents for your development review application. Applications will not be processed until all required information is provided to the satisfaction of the City of Louisville Planning Department.

Property Information

Common Address(es): 1171 Dillon Rd, Louisville, CO 80027

Legal Description:

Lot Lot 5 Block _____ Subdivision Centennial Valley, Parcel L, Filing No 1

Lot Area: 588,290 Sq. Ft. or 13.5 Acres

LAND USE PROCESS (check all that apply)

- ☐ Annexation
- ☐ Concept Plan
- ☐ Easement Vacation
- ☐ Oil and Gas
- ☐ General Development Plan (GDP)
  - ☐ Amendment
  - ☐ New GDP
- ☒ Planned Unit Development (PUD)
  - ☒ Amendment
  - ☐ Preliminary
  - ☐ New PUD
- ☐ Rezoning
- ☐ Special Review Use (SRU)
  - ☐ Amendment
  - ☐ New SRU
- ☐ Subdivision
  - ☐ Final or Replat
  - ☐ Preliminary Plat
- ☐ Temporary Use Permit
- ☐ Variance
- ☐ Vested Property Right
- ☐ Wireless Facility
- ☐ Other: _____

PROJECT DESCRIPTION:

Tenant finish to convert the existing building into a grocery store with minor modifications to include a drive-thru pharmacy and an online order pickup. Proposing a new fuel station with seven multi-product dispensers, kiosk, and canopy.

Property Owner Information

Name: Robert Hyman Entity (if applicable) G&I XI 1171 W Dillon JV LLC

Address: 1171 W Dillon Rd, Louisville, CO

Phone: 212-973-3853 Email: rhyman@draadvisor.scom

Application Representative Information

Name: Dan Kraus Entity (if applicable) Galloway and Company

Address: 5500 Greenwood Plaza Blvd, Suite 200, Greenwood Village, CO 80111

Phone: 303-962-8428 Email: dankraus@gallowayus.com

Certification/Signature

I certify that the information I have submitted is true and correct to the best of my knowledge and in filing the application and submittal documents, I am acting as and/or with the knowledge and consent of those persons who are owners of the subject property or are parties to this application.

Robert Hyman | Robert Hyman, Vice President | December 10, 2024

Signature* | Print Name | Date

***If acting as a representative/agent of the owner, include written authorization from the owner that certifies the agent's right to submit this application**

Galloway
5500 Greenwood Plaza Blvd, Suite 200
Greenwood Village, CO 80111
303.770.8884 • GallowayUS.com

April 14, 2025

PUD-000530-2024
PUD AMENDMENT
PROJECT NARRATIVE
King Soopers 142
1171 W. Dillon Rd.
Louisville, CO 80027

EXISTING SITE:

The existing site is included within the Centennial Valley GDP and previously approved Centennial Valley Lowes' PUD Amendment, near the intersection of W. Dillon Road and McCaslin Boulevard at 1171 W. Dillon Road. This site is zoned Planned Community Commercial and the zoning will remain with this proposal. The existing property is a single platted parcel approximately 588,290 SQFT (13.5 acres) with an existing vacant commercial building approximately 151,867 SQFT. All pedestrian and vehicular access points to S Centennial Parkway, McCaslin Boulevard, W Dillon Road, and Century Place will remain. Existing water quality and detention will remain without change unless the PUD Amendment review process identifies necessary improvements to facilitate the proposed site design. Existing landscaping, irrigation, and lighting will be analyzed to identify what needs to be replaced to meet previously approved PUD Amendments. All utilities currently connected to the existing building are anticipated to remain.

PROPOSED PUD AMENDMENT PROCESS:

Louisville Community Development Staff determined the proposed tenant finish and new fuel station with kiosk will require a PUD Amendment application. The proposed grocery store and fuel service stations are both permitted uses in Planned Community Commercial Zoning, Centennial Valley GDP, and Centennial Valley Lowe's PUD Amendment, see Louisville Code Details section of Narrative. This PUD Amendment will follow the City of Louisville PUD Amendment application process. PUD Amendment documents are created in accordance with Transportation Master Plan; Comprehensive Master Plan; City of Louisville Sign Code, Sustainability Action Plan; CDDSG; Dark Sky Lighting Practices; Chapter 9 – Special Guidelines for Large Retail Establishments; and Park, Recreation, Open Space, and Trails Comprehensive Master Plan.

The first Building Permit submittal will be uploaded after the first PUD Amendment submittal. The Building Permit approval date is targeting the PUD Amendment City Council approval date to expedite the Building Permit review.

PUD AMENDMENT DETAILS:

This proposal is to amend the existing approved Centennial Valley Lowes' PUD Amendment at 1171 W Dillon Road with the following:

1. Exterior and interior tenant finish of existing building.

2. New fuel station with canopy, kiosk, five (5) multi-product dispensers (MPD) that equal 10 pumps, and two (2) Installed EV parking spaces.

3. Replace missing, damaged, and dead elements approved in previous PUD Amendments which may include landscaping, site lighting, and parking lot striping.

4. Signage Waiver Request
    a. Proposed Waiver Request
        1. A waiver is requested to permit one (1) electronic message center sign for the display of variable pricing on the north elevation of the fuel station canopy, directed to Kings Soopers customers. Having electronic message center signs displaying variable fuel station pricing for King Soopers

customers is part of the prototypical King Soopers corporate architectural design and brand identity. The requested fuel canopy electronic message center sign is in addition to the electronic message centers already permitted to display fuel station variable pricing on freestanding signs.

b. Proposed Waiver Details:
    1. The proposed fuel canopy electronic message center sign can be proposed in addition to the electronic message centers and canopy signs already permitted for Commercial sites by the City of Louisville Sign Code Section 3 and Section 4.
    2. The proposed electronic message center sign shall meet the specific standards in the City of Louisville Sign Code Section 3.4.2.
    3. The proposed electronic message center sign shall not replace the fuel station freestanding signs with electronic message center signs as permitted in the City of Louisville Sign Code Section 3.4 Electronic Message Centers.
    4. The proposed electronic message center sign shall not replace the fuel station canopy signs as permitted in the City of Louisville Sign Code Section 4.3.a. Canopy Signs in Vehicular Areas.
b. Proposed Waiver Justification:
    1. Street frontage for this site is not directly on McCaslin Blvd, it is one (1) lot behind McCaslin Blvd.
    2. The two (2) freestanding monument signs permitted by the City of Louisville Sign Code are proposed along the Primary and Secondary Street Frontages. The Primary Frontage sign is proposed at the northeast corner of the existing detention pond, near the intersection of Centennial Parkway and the existing internal access drive. The Secondary Frontage sign is proposed along Dillon Road at the entrance between the existing building and proposed fuel station. Both freestanding signs will be visible from the Primary and Secondary Street frontages with permitted electronic message center signs displaying fuel station variable pricing.
    3. The requested electronic message center sign shall be proposed on the north elevation of the fuel station canopy for the greatest visibility to King Soopers customers, as required by King Soopers architectural design and brand identity.
    4. No change is requested for the two (2) signs permitted on the south and east canopy elevations.
    5. No change is requested for the freestanding monument signs permitted on the Primary and Secondary Street Frontages.
c. Additional Sign Waiver details including all existing signage to remain and all signage permitted with current code is outlined with the Signage Waiver Request Language document March 3, 2025.

5. Architectural Design Waiver Request
    a. Proposed Waiver Request
        1. An increase in the approved maximum parapet height is being requested at the re-designed front entry elevation to a new height of 37’-8” above the grade plane. This increase in height is needed to aid in screening the new and existing roof top equipment for the proposed grocery store. Additionally, the parapet height at the entry of the building is part of the prototypical King Soopers corporate architectural design and is included to maintain brand identity.
    b. Proposed Waiver Details:
        1. The proposed building shall meet all Architectural Design Requirements as permitted by the City of Louisville Code.
    c. Proposed Waiver Justification:

1. King Soopers intends to re-use as much of the existing building as possible. The previous tenants were a different use with different MEP and roof equipment demands.
2. To re-use the existing building, King Soopers needs to propose a taller parapet to meet the MEP and roof equipment screening intent as required by the City of Louisville Code.
3. The proposed front elevation height, as measured from the average grade plane, is greater than permitted when the parapet height is increased to screen the MEP and roof equipment as required by the City of Louisville Code.

d. Additional Architectural Design Waiver details are outlined with the Parapet Height Waiver Request Language document March 3, 2025.

SITE PLAN DETAILS:

Existing building and site are to remain with the proposed tenant revision to include:

1. East and South façade improvements to existing building
2. Interior improvements to existing building
3. Add trash compactor at northwest corner of existing building, adjacent to current loading docks and truck access
4. Add grease interceptor at northeast corner of existing building, tying into existing sewer
5. Add drive thru pharmacy window at southeast corner of existing building for greatest visibility
6. Add online order pickup area at southwest corner of existing building
7. Replace raised curb parking islands with striped parking islands adjacent to front entrance to accommodate more efficient parking and safer customer access
8. Replace existing parking lot island with proposed parking spaces along north property line
9. Add fuel service station including one (1) canopy, one (1) kiosk, and five (5) MPD which equal 10 fueling locations.
10. Add two (2) Installed EV parking spaces.

Grading and Drainage Plan, with an accompanying Drainage Report, are included with the first PUD Amendment submittal package due to the proposed revisions disturbing more than one (1) acre. The Civil Team is currently investigating the existing water quality and detention facilities to determine if they can facilitate the proposed flows without redesign or reconstruction.

Existing utility connections are anticipated to remain without change or minor modifications to the existing building. One (1) water, storm sewer, and gas connection are proposed from the existing building to the proposed fuel service station.

LOUISVILLE CODE DETAILS:

Comments provided by Matt Post after the Pre-Application meeting confirm the gas station offset requirement is waived for this proposal per Louisville Municipal Code:

- *Any new gasoline or automobile service station use shall be spaced a minimum of 1,000 feet, as measured from property boundaries, from the nearest existing gasoline or automobile service station. The spacing requirement may be waived if the proposed gasoline or automobile service station is proposed as an ancillary use to a single-use retailer of more than 80,000 square feet.*
- *Any new gasoline or automobile service station shall provide level three direct current (DC) or better electric vehicle charging stations in an amount equal to 20 percent of the number of gasoline pumps installed, rounded to the nearest whole number. These charging stations may be credited against, but not fully replace, the minimum total number of EV installed, ready, and capable stations required under LMC Sec. 17.20.170*

Comments provided by Matt Post after the Pre-Application meeting confirm grocery store and fuel service station are permitted uses per Louisville Municipal Code:

- *The grocery store is considered a retail use and is permitted in the underlying GDP and within the Planned Community Commercial zoning district pursuant to LMC Sec. 17.72.090.*
- *A gasoline service station may be permitted as an automobile service use in the Planned Community Commercial zoning district pursuant to LMC Sec. 17.72.090. In accordance with LMC Sec. 17.16.340, the number of gasoline or automobile service stations within city shall be limited to six. The limitation may be increased to seven if approved through a land use application for a single-use retailer greater than 80,000 square feet that includes a gasoline or automobile service station use as ancillary or accessory to the retail center. There are five currently operational gasoline service stations in the City of Louisville.*

Impact fees are not anticipated at this time per correspondence received from Matt Post on 11/13/2024. The Building Official will formally determine if impact fees need to be assessed. The design team anticipates receiving confirmation if impact fees are required with the first PUD Amendment application comments.

Sincerely,
GALLOWAY

Dan Kraus
Development Services Manager
(303) 962-8428
DanKraus@GallowayUS.com

Galloway
5500 Greenwood Plaza Blvd, Suite 200
Greenwood Village, CO 80111
303.770.8884 • GallowayUS.com

April 15, 2025

PUD-000530-2024
PUD AMENDMENT
PLANNING COMMISSION HEARING
CONDITION OF APPROVAL NARRATIVE
King Soopers 142
1171 W. Dillon Rd.
Louisville, CO 80027

PLANNING COMMISSION APPROVAL:

The proposed amendment to Centennial Valley Lowes' PUD Amendment, near the intersection of W. Dillon Road and McCaslin Boulevard, was unanimously approved with three (3) conditions of approval by the City of Louisville Planning Commission on March 31, 2025.

1. Evaluate the proposed propane storage and propane sales proximity to the existing Goddard School for safety concerns.
2. Drainage on southeast corner of existing property potentially contributes to existing flooding concerns on the existing Murphy's Tap House property, per the existing owner's anecdote.
3. Screen the proposed fuel canopy from Murphy's Tap House outdoor dining area as requested by the existing Murphy's Tap House owner.

Propane Storage:

1. Evaluate the proposed propane storage and propane sales proximity to the existing Goddard School for safety concerns.
    a. Propane is proposed on the southeast corner of the site, adjacent to the proposed fuel canopy. A second propane location is proposed along the front façade of the main building, south of the main entrance. Both locations are +/- 400-650 feet away from the Goddard School property.
    b. Propane was labeled by #17 in a circle on the 2nd Amendment PUD site plan that was reviewed for the Planning Commission hearing. The site plan shows #17 within a square, adjacent to the Goddard School. The #17 within a square signifies the number of parking spaces, not propane location. The propane storage comment was generated from a misinterpretation of the 2nd Amendment PUD Site Plan.

King Soopers Site Drainage:

2. Drainage on southeast corner of existing property potentially contributes to existing flooding concerns on the existing Murphy's Tap House property, per the existing owner's anecdote.
    a. No available data confirms the existing King Soopers property storm drainage impacts the Murphy's Tap House property.
    b. King Soopers team re-evaluated the proposed PUD Amendment site grading at the southeast corner of the property (east of proposed fuel canopy). The grading was revised to capture and convey runoff north, in a proposed concrete pan, before entering the shared drive downstream from Murphy's Tap House. These flows will be directed into the shared drive further north of the access drive, back into the shared drive, continuing to the north detention basin while complying with existing drainage patterns. This should help minimize flows that may potentially contribute to flooding at the access drives, while maintaining existing site drainage characteristics.
    c. Site drainage was only assessed and revised on the King Soopers property. Drainage improvements will not be proposed on the shared drive or the Murphy's Tap House property.
    d. This option has been discussed with the Murphy's Tap House owner to help mitigate their concerns in addition to the existing Murphy's Tap House drainage concerns.

1. Murphy's Tap House could have potential drainage issues from existing onsite conditions including but not limited to clogged area inlets and surface drainage patterns within the dumpster and utility area.

Fuel Canopy Screening:

3. Screen the proposed fuel canopy from Murphy's Tap House outdoor dining area as requested by the existing Murphy's Tap House owner.
    a. The current Murphy's Tap House owner is concerned that the proposed fuel canopy and kiosk will have a negative impact on the dining experience of their customers using the existing outdoor dining area, located on the southwest corner of the building.
    b. The King Soopers design and engineering team is working with the overall developer and the Murphy's Tap House owner to discuss screening options including:
        1. Increase the existing fence height along the west side of the outdoor dining area.
        2. Propose coniferous trees in the tree island along the east side of the shared private drive, located between the Murphy's Tap House outdoor dining area and the proposed fuel canopy and kiosk.
            - Not ideal, would block visibility to both businesses.
        3. Reevaluate after King Soopers construction is complete to determine if assumed concerns are valid and require screening.

Sincerely,
GALLOWAY

Dan Kraus
Development Services Manager
(303) 770-8884
DanKraus@GallowayUS.com

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024

APPLICANT/DEVELOPER
KING SOOPERS, INC.
65 TEJON ST
DENVER, CO 80223
TEL: (303) 778-3120
CONTACT: REBECCA MULLENIX

ENGINEER
GALLOWAY & COMPANY, INC.
5500 GREENWOOD PLAZA BLVD SUITE 200
GREENWOOD VILLAGE, CO 80111
TEL: (303) 770-8884
CONTACT: JOE PARK, PE

ARCHITECT
NAOS
4949 S SYRACUSE STREET, SUITE 460
DENVER, CO 80237
TEL: (303) 759-5777
CONTACT: MARC BREITZ

LANDSCAPE ARCHITECT
GALLOWAY & COMPANY, INC.
5500 GREENWOOD PLAZA BLVD SUITE 200
GREENWOOD VILLAGE, CO 80111
TEL: (303) 770-8884
CONTACT: JON ROMERO, PLA

SURVEYOR
GALLOWAY & COMPANY, INC.
1155 KELLY JOHNSON BLVD., SUITE 305
COLORADO SPRINGS CO 80920
TEL: (719) 900-7220
CONTACT: BRIAN DENNIS, PLS

PHOTOMETRICS
GALLOWAY & COMPANY, INC.
5500 GREENWOOD PLAZA BLVD SUITE 200
GREENWOOD VILLAGE, CO 80111
TEL: (303) 770-8884
CONTACT: JIM GALLOWAY

VICINITY MAP
0 100 300 600
SCALE: 1"=600'

SHEET INDEX	
SHEET NO.	SHEET TITLE
1	COVER
2	SITE PLAN
3	BUILDING ELEVATIONS
4	BUILDING ELEVATIONS
5	GRADING PLAN
6	UTILITY PLAN
7	PUD 4TH AMENDMENT – OVERALL LANDSCAPE
8	PLD, 4TH AMENDMENT – LANDSCAPE PLAN
9	PLD, 4TH AMENDMENT – LANDSCAPE PLAN
10	PLD, 4TH AMENDMENT – LANDSCAPE PLAN
11	PUD, 4TH AMENDMENT – LANDSCAPE DETAILS
12	OVERALL LANDSCAPE PLAN
13	LANDSCAPE PLAN
14	LANDSCAPE PLAN
15	LANDSCAPE PLAN
16	LANDSCAPE NOTES
17	LANDSCAPE DETAILS
18	PHOTOMETRIC PLAN

BENCHMARK

NGS BENCHMARK P-453, LOCATED 3.06 KM NORTHWEST OF THE INTERCHANGE OF US 36 AND INTERLOCKEN LOOP/STORAGE TECH DRIVE, IN COLORADO DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY.

NAVD88 ELEVATION: 5508.91

LEGAL DESCRIPTION

LOT 5, CENTENNIAL VALLEY PARCEL L, FILING NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED AT RECEPTION NUMBER 1616847, CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO.

PROJECT DESCRIPTION

TENANT FINISH TO CONVERT THE EXISTING BUILDING INTO A GROCERY STORE WITH MINOR MODIFICATIONS TO INCLUDE A DRIVE-THRU PHARMACY AND AN ONLINE ORDER PICKUP. PROPOSING A NEW FUEL STATION WITH SEVEN MULTI-PRODUCT DISPENSERS, KIOSK, AND CANOPY.

CITY OF LOUISVILLE GENERAL NOTE

THE CITY OF LOUISVILLE IS NOT RESPONSIBLE FOR DAMAGE TO, OR REPAIR OF, MONUMENT SIGNS, PAVEMENT SURFACES, OR LANDSCAPING CAUSED DURING REPAIR OR MAINTENANCE OF UTILITIES LOCATED WITHIN PUBLIC UTILITY EASEMENTS.

PARKING REDUCTION REQUEST

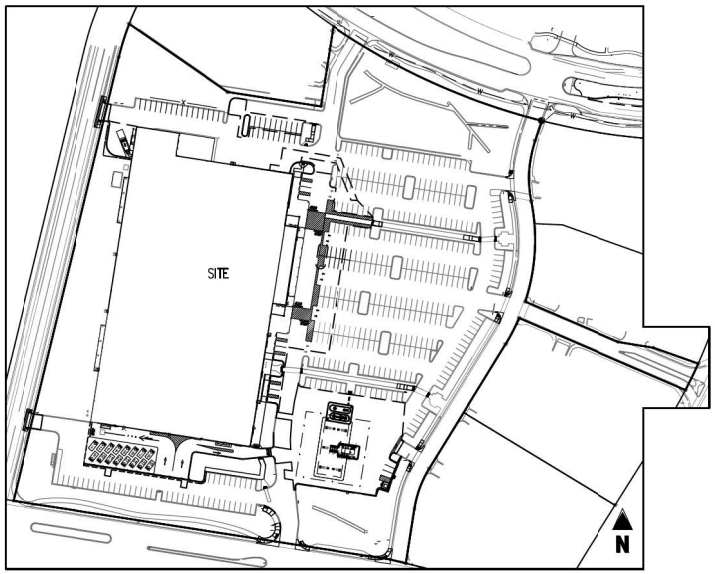
PARKING REDUCTION REQUEST: 613 SPACES REQUIRED,
421 STANDARD PARKING SPACES PROPOSED

SITE DATA TABLE			
	REQUIRED	EXISTING[1]	PROPOSED
ZONING		PCZD/C	PCZD/C
TOTAL SITE AREA	588,290	588,290	588,290
SITE COVERAGE	70% MAX/SQFT MAX	74.3%	66.0%
PARKING		83,268	72,844
BUILDING		151,507	131,613
DRIVEWAY		202,515	181,455
TOTAL:	411,803	437,290	391,912
LANDSCAPE COVERAGE	30% MAX/SQFT MAX	25.7%	32.0%
LANDSCAPE AREA	176,487	150,992	161,127
HARDSCAPE AREA		INCLUDED IN THE DRIVEWAY EST.	25,251
TOTAL:		150,992	186,378
BUILDING HEIGHT	35' MAX.	33'-4"	33'-4"
SETBACKS			
NORTH	50' MIN.	82'	82'
WEST	40' MIN.	57'	57'
SOUTH	50' MIN.	108'	152'
EAST (MCCASLIN PKWY)	50' MIN.	718'	718'
EAST (INTERNAL DRIVE)	10' MIN.	293'	296'
PARKING SPACES			
STANDARD	4.5/1000 SQFT = 613	502	421
ACCESSIBLE		12	12
EV. INSTALLED (LEVEL 3 DC OR BETTER)	20% OF FUELING LOCATIONS	N/A	2
BYCICLE	1/20 PARKING SPACES	26	23
PARKING SETBACKS			
NORTH	25' MIN.	34'	34'
WEST	15' MIN.	44'	44'
SOUTH	25' MIN.	40'	40'
EAST (MCCASLIN PKWY)	25' MIN.	363'	353'
EAST (INTERNAL DRIVE)	10' MIN.	24'	24'

[1]VALUES ESTIMATED FROM PREVIOUS PUD AMENDMENTS AND SURVEY.

PUD AMENDMENT WAIVER REQUEST

1. ARCHITECTURAL WAIVER REQUEST – PARAPET HEIGHT
   - PERMIT MAXIMUM BUILDING PARAPET HEIGHT TO BE 37'-8" ABOVE THE GRADE PLANE.
   - REQUEST APPROVAL OF MAXIMUM BUILDING HEIGHT AS PRESENTED IN THE CENTENNIAL VALLEY PARCEL L 5TH PUD AMENDMENT.
- SIGNAGE WAIVER REQUEST – BUILDING, CANOPY, AND SITE SIGNAGE
- PERMIT ALL SIGNAGE AS DEFINED AND OUTLINED IN THE CITY OF LOUISVILLE SIGN CODE ADOPTED OCTOBER 15, 2019.
- PERMIT ALL SIGNAGE AS DEFINED AND OUTLINED IN ALL PREVIOUSLY APPROVED CENTENNIAL VALLEY GENERAL DEVELOPMENT PLANS AND AMENDMENTS, AND ALL CENTENNIAL VALLEY PARCEL L PUD AND PUD AMENDMENTS.
- PERMIT ONE (1) ELECTRONIC MESSAGE CENTER SIGN FOR THE DISPLAY OF VARIABLE PRICING ON THE NORTH ELEVATION OF THE FUEL STATION CANOPY. THE REQUESTED ELECTRONIC MESSAGE CENTER SIGN IS IN ADDITION TO THE FUEL CANOPY SIGNS ALREADY PERMITTED BY THE CITY OF LOUISVILLE SIGN CODE.
- PERMIT A MONUMENT SIGN WHERE THE EXISTING MONUMENT IS LOCATED AT THE EXISTING DILLON ROAD ENTRANCE. THE REQUESTED MONUMENT SIGN IS PROPOSED TO BE A TOTAL OF 9 FEET TALL AND 8.5 FEET WIDE WITH A SIGN AREA OF 42.5 SQFT.
- PERMIT BUILDING SIGNAGE TOTALING 192 SQFT ON DILLON ROAD (PRIMARY/SOUTH) FRONTAGE, 86 SQFT ON CENTURY PLACE (SECONDARY/WEST) FRONTAGE, 500 SQFT ON INTERIOR STREET (ALTERNATIVE/EAST) FRONTAGE, AND 0 SQFT ON MCCASLIN BOULEVARD (ALTERNATIVE/NORTH) FRONTAGE.
- REQUEST APPROVAL OF SIGNAGE AS PRESENTED IN THE CENTENNIAL VALLEY PARCEL L, 5TH PUD AMENDMENT.



VICINITY MAP
0 20 50 100
SCALE: 1"=100'

PREVIOUS PUD AMENDMENTS

1. EXISTING PUD DEVELOPMENT PLAN PREPARED BY LANCE, MUELLER & ASSOCIATES, INCLUDING "SITE PLAN" LAST REVISED ON 06/11/1996.
2. EXISTING PUD DEVELOPMENT PLANS PREPARED BY DHM, INCLUDING "LANDSCAPE PLANS" L1 AND L2, LAST REVISED ON 05/10/1996.
3. EXISTING PUD DEVELOPMENT PLANS PREPARED BY APD ENGINEERING, INCLUDING "OVERALL PUD PLAN" LAST REVISED ON 12/14/2005.
4. EXISTING PUD DEVELOPMENT PLANS PREPARED BY WARE MALCOMB, INCLUDING "OVERALL PUD PLAN" LAST REVISED ON 03/21/2024.

OWNERSHIP SIGNATURE BLOCK

THE UNDERSIGNED AS THE OWNER OF THE LANDS DESCRIBED HEREIN, HEREBY AGREES ON BEHALF OF ITSELF, AND ITS HEIRS, SUCCESSORS AND ASSIGNS TO DEVELOP AND MAINTAIN THE PROPERTY DESCRIBED HEREON IN ACCORDANCE AND COMPLIANCE WITH THIS APPROVED PLAN AND THE LOUISVILLE MUNICIPAL CODE.

(FULL NAME OF THE OWNING ENTITY OR CORPORATION IF THE SUBJECT SITE IS NOT OWNED BY ONE OR MORE INDIVIDUALS)

WITNESS MY/OUR HAND(S) AND SEAL(S) THIS _____ DAY OF _____, 20___.

BY: _____
(OWNER)

STATE OF _____

COUNTY OF _____

SIGNED BEFORE ME ON _____, 20___,

BY _____ (NAME(S) OF INDIVIDUAL(S) MAKING STATEMENT).

_____
(NOTARY'S OFFICIAL SIGNATURE)

_____
(TITLE OF OFFICE)

_____
(COMMISSION EXPIRATION)

PLANNING COMISSION CERTIFICATE

RECOMMENDED APPROVAL THIS ____ DAY OF _____, 20___ BY THE PLANNING COMISSION OF THE CITY OF LOUISVILLE, COLORADO.
RESOLUTION NO. _____ SERIES _____

CITY COUNCIL CERTIFICATE

APPROVED THIS ____ DAY OF _____, 20___ BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO.
RESOLUTION NO. _____ SERIES _____

_____ _____ _____
MAYOR CITY CLERK SEAL

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KSS000142.02
Drawn By:	SE
Checked By:	JDP
Date:	APRIL 11, 2025

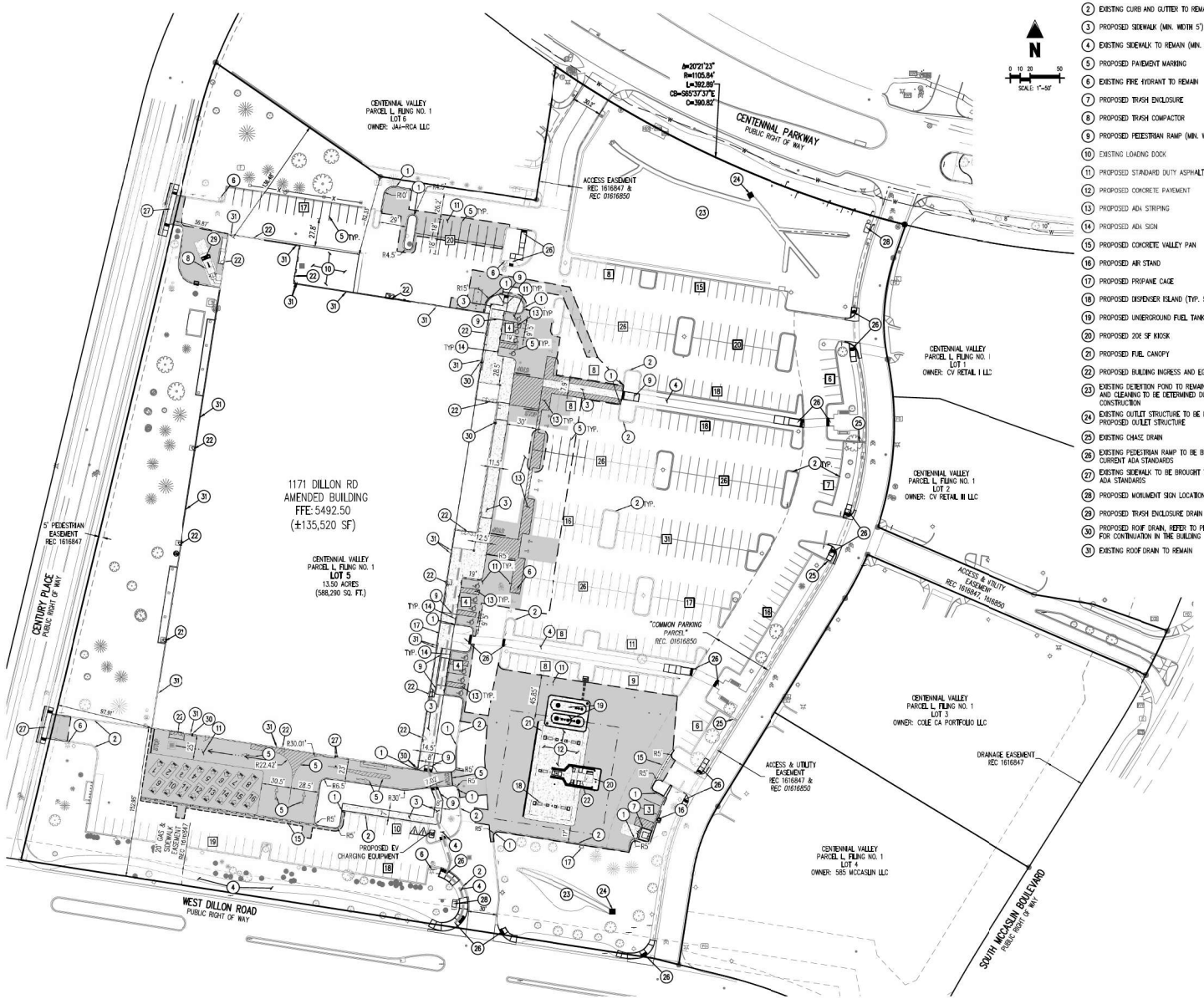
COVER SHEET

1
1 OF 18

202

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



SITE PLAN SCHEDULE

1. PROPOSED CURB AND GUTTER
2. EXISTING CURB AND GUTTER TO REMAIN
3. PROPOSED SIDEWALK (MIN. WIDTH 5')
4. EXISTING SIDEWALK TO REMAIN (MIN. WIDTH 5')
5. PROPOSED PAVEMENT MARKING
6. EXISTING FIRE HYDRANT TO REMAIN
7. PROPOSED TRASH ENCLOSURE
8. PROPOSED TRASH COMPACTOR
9. PROPOSED PEDESTRIAN RAMP (MIN. WIDTH 5')
10. EXISTING LOADING DOCK
11. PROPOSED STANDARD DUTY ASPHALT PAVEMENT
12. PROPOSED CONCRETE PAVEMENT
13. PROPOSED ADA STRIPING
14. PROPOSED ADA SIGN
15. PROPOSED CONCRETE VALLEY PAN
16. PROPOSED AIR STAND
17. PROPOSED PROPANE CAGE
18. PROPOSED DISPENSER ISLAND (TYP. 5 LOCATIONS)
19. PROPOSED UNDERGROUND FUEL TANKS
20. PROPOSED 206 SF KIOSK
21. PROPOSED FUEL CANOPY
22. PROPOSED BUILDING INGRESS AND EGRESS LOCATION
23. EXISTING DETENTION POND TO REMAIN, MAINTENANCE AND CLEANING TO BE DETERMINED DURING CONSTRUCTION
24. EXISTING OUTLET STRUCTURE TO BE REPLACED WITH PROPOSED OUTLET STRUCTURE
25. EXISTING CHASE DRAIN
26. EXISTING PEDESTRIAN RAMP TO BE BROUGHT TO CURRENT ADA STANDARDS
27. EXISTING SIDEWALK TO BE BROUGHT TO CURRENT ADA STANDARDS
28. PROPOSED MONUMENT SIGN LOCATION
29. PROPOSED TRASH ENCLOSURE DRAIN
30. PROPOSED ROOF DRAIN, REFER TO PLUMBING PLANS FOR CONTINUATION IN THE BUILDING
31. EXISTING ROOF DRAIN TO REMAIN

SITE LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED SAWCUT LINE
- EXISTING FENCE TO REMAIN
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- PROPOSED ADA STRIPING
- PROPOSED STANDARD DUTY ASPHALT
- PROPOSED CONCRETE PAVEMENT
- ADA PATH OF TRAVEL
- EXISTING SIGN
- PROPOSED SIGN
- PROPOSED BOLLARD
- PROPOSED ADA PARKING SYMBOL
- PROPOSED DETECTABLE WARNING TRUNCATED DOMES
- PROPOSED SITE LIGHTING
- EXISTING ELECTRICAL PULL BOX
- EXISTING LIGHT POLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER MANHOLE
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING TREE/BUSH TO REMAIN
- PARKING COUNT
- EXISTING PAD MOUNTED TRANSFORMER
- PROPOSED INSTALLED EV PARKING STALL
- PROPOSED EV CAPABLE PARKING STALL
- PROPOSED EV READY PARKING STALL

BENCHMARK

NGS BENCHMARK P-453, LOCATED 3.06 KM NORTHWEST OF THE INTERCHANGE OF US 36 AND INTERLOCKEN LOOP/STORAGE TECH DRIVE, IN COLORADO DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY.

NAVD88 ELEVATION: 5508.96

LEGAL DESCRIPTION

LOT 5, CENTENNIAL VALLEY PARCEL L, FILING NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED AT RECEPTION NUMBER 1616847, CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

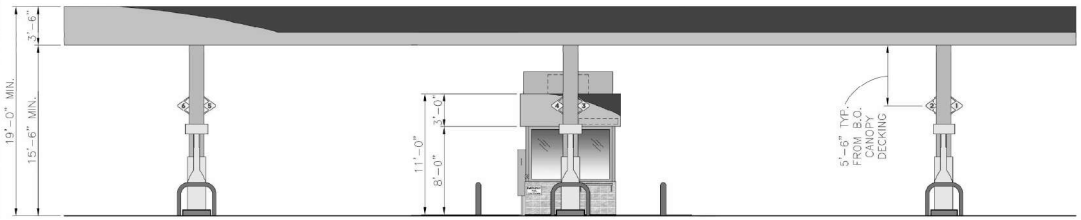
Project No:	KSS000014L02
Drawn By:	SE
Checked By:	JDP
Date:	APRIL 11, 2025

SITE PLAN

2
2 OF 18

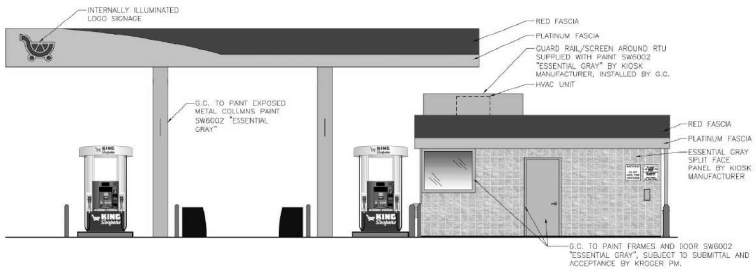
CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024

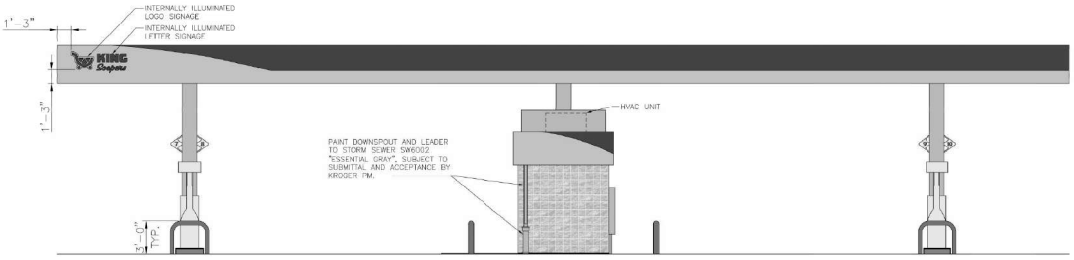


1 FRONT (WEST) ELEVATION
SCALE: 3/16"=1'-0"

2 LEFT (NORTH) ELEVATION
SCALE: 3/16"=1'-0"

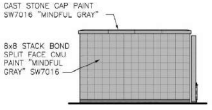


3 RIGHT (SOUTH) ELEVATION
SCALE: 3/16"=1'-0"

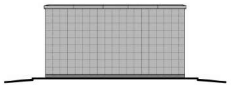


4 REAR (EAST) ELEVATION
SCALE: 3/16"=1'-0"

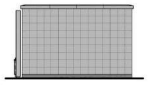
5 FRONT ELEVATION
SCALE: NTS



6 LEFT ELEVATION
SCALE: NTS



7 REAR ELEVATION
SCALE: NTS



8 RIGHT ELEVATION
SCALE: NTS

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

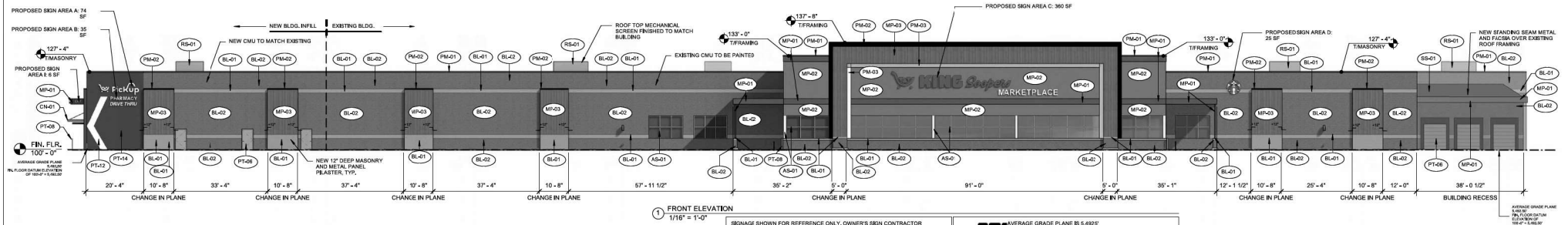
1171 DILLON ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP

Project No:	KS00000142.02
Drawn By:	CFS
Checked By:	DLJ
Date:	JANUARY 29, 2025

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMMENDMENT

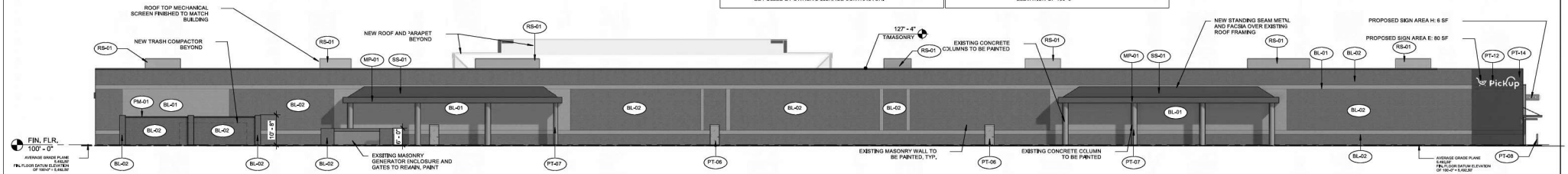
PARCEL L, LOT 5 FILING NO.1,
CASE# PUD-000530-2024



1 FRONT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY, OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE, ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

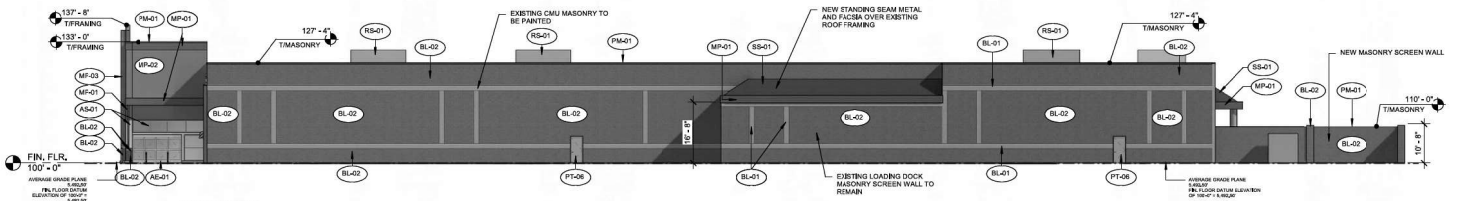
AVERAGE GRADE PLANE IS 5,492.5'
FINISH FLOOR IS 5'492,5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



2 REAR ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY, OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE, ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

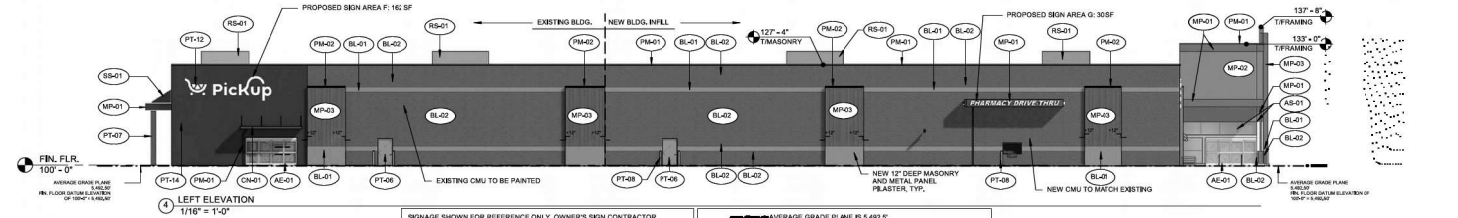
AVERAGE GRADE PLANE IS 5,492.5'
FINISH FLOOR IS 5'492,5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



3 RIGHT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY, OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE, ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

AVERAGE GRADE PLANE IS 5,492.5'
FINISH FLOOR IS 5'492,5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



4 LEFT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY, OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE, ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

AVERAGE GRADE PLANE IS 5,492.5'
FINISH FLOOR IS 5'492,5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"

PROPOSED BUILDING AND MONUMENT SIGN AREAS

BUILDING SIGNS	
LOCATION	**AREA**
FRONT ELEVATION	
SIGN 'A' - "PICK UP" - WALL MOUNTED	74 SQUARE FEET
SIGN 'B' - "PHARMACY DRIVE THRU" - WALL MOUNTED	35 SQUARE FEET
SIGN 'C' - "KING SOOPERS MARKETPLACE" - WALL MOUNTED	360 SQUARE FEET
SIGN 'D' - "STARBUCKS" - WALL MOUNTED	25 SQUARE FEET
SIGN 'I' - "EXIT" - MOUNTED TO DRIVE THRU CANOPY	6 SQUARE FEET
REAR ELEVATION	
SIGN 'E' - "PICK UP" - WALL MOUNTED	80 SQUARE FEET
SIGN 'H' - "ENTER" - MOUNTED TO DRIVE THRU CANOPY	6 SQUARE FEET
LEFT ELEVATION	
SIGN 'F' - "PICK UP" - WALL MOUNTED	162 SQUARE FEET
SIGN 'G' - "PHARMACY DRIVE THRU" - MOUNTED TO DRIVE THRU CANOPY	30 SQUARE FEET
BUILDING SUBTOTAL AREA	**778 SQUARE FEET**
MONUMENT SIGN	
SOUTH ENTRY (SEE NEXT SHEET FOR PROPOSED RENDERING)	78 SQUARE FEET

EXTERIOR FINISHES

MATERIAL	DESCRIPTION	MANUFACTURER	FINISH
AE-01	PREFINISHED ALUMINUM STOREFRONT DOOR +	STANLEY	CLEAR ANODIZED
AS-01	PREFINISHED ALUMINUM STOREFRONT		CLEAR ANODIZED
BL-01	EXISTING OR NEW TO MATCH EXISTING SMOOTH FACED CMU - PAINTED	SHERWIN WILLIAMS	MINDFUL GRAY, SW7016
BL-02	EXISTING OR NEW TO MATCH EXISTING SPLIT FACED CMU - PAINTED	SHERWIN WILLIAMS	GAUNTLET GRAY, SW7019
CN-01	PREMANUFACTURED CANOPY	ARCHITECTURAL FABRICATIONS INC.	SLATE GRAY
MP-01	METAL PANEL - SMOOTH		SLATE GRAY
MP-02	METAL PANEL - CORRUGATED		SILVERSMITH
MP-03	CONCEALED FASTENER LAP-SEAM METAL WALL PANEL	LIGHT CHERRY	CEDAR
PM-01	PREFINISHED METAL		SLATE GRAY
PM-02	PREFINISHED METAL		MATTE BLACK
PM-03	PREFINISHED METAL		WHITE
PT-06	PAINTED METAL	SHERWIN WILLIAMS	MINDFUL GRAY SW7016
PT-07	PAINTED METAL	SHERWIN WILLIAMS	GAUNTLET GRAY SW7019
PT-08	PAINT	SHERWIN WILLIAMS	SW6984 SAFETY YELLOW
PT-12	PAINT	SHERWIN WILLIAMS	WHITE
PT-14	PAINT	SHERWIN WILLIAMS	KROGER BLUE PMS 2728C
RS-01	ROOFTOP EQUIPMENT MOUNTED ROOF SCREEN	ENVISOR OR EQUIV.	VERTICAL BATTEN PATTERN COLOR TO MATCH BUILDING
SO-01	VINYL SOFFIT PANEL	CERTAINTEED	GRANITE GRAY
SS-01	STANDING SEAM / VERTICAL BATTEN METAL	WESTERN STATES METAL	BLACK ORE MATTE

Naos Design Group, LLC
4949 S. SYRACUSE STREET
SUITE 460
DENVER, COLORADO 80237
(p) 303.759.5777 (f) 720.360.4281
www.naosdg.com

KING SOOPERS 142

WEST DILLON ROAD AND CENTURY PLACE
LOUISVILLE, CO

4 of 18 - ELEVATIONS

JOB #: 2024047 DATE: 02/28/2025

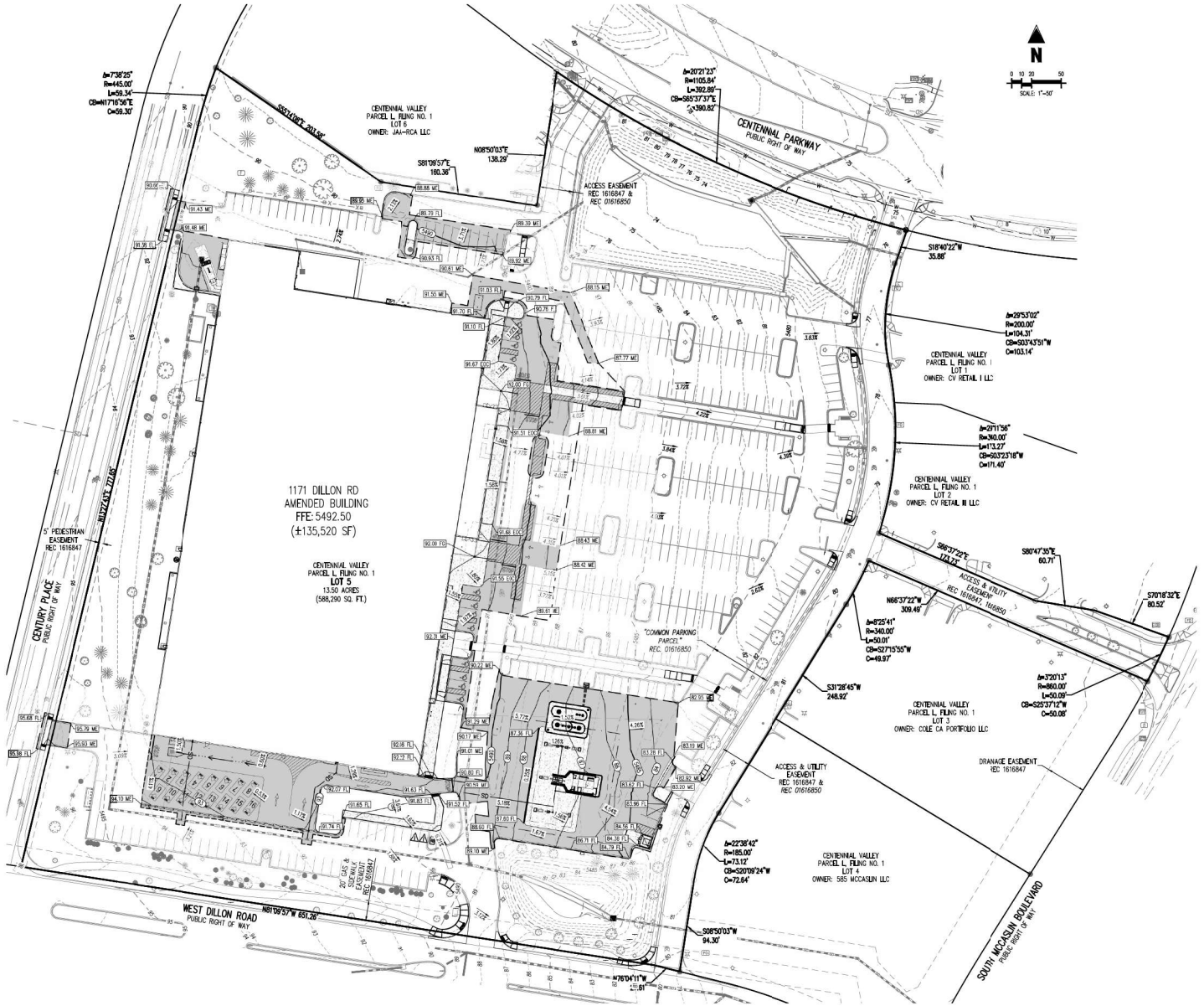
SCALE: 1/16" = 1'-0"

COPYRIGHT © 2023 NAOS DESIGN GROUP, LLC.
THESE DRAWINGS, OR PARTS THEREOF, MAY NOT BE REPRODUCED IN ANY FORM, BY ANY METHOD, FOR ANY PURPOSE, WITHOUT PRIOR WRITTEN CONSENT FROM NAOS

THESE DOCUMENTS ARE FOR REVIEW ONLY. DOCUMENTS MUST BE APPROVED BY THE JURISDICTION AND THE DEVELOPER. DIMENSIONS AND AREAS ARE APPROXIMATE.

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



GRADING LEGEND

- ZONE LOT LINE
- ADJACENT ZONE LOT LINE
- EXISTING EASEMENT LINE
- PROPOSED SAWCUT LINE
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- PROPOSED ADA STRIPING
- PROPOSED STANDARD DUTY ASPHALT
- PROPOSED CONCRETE PAVEMENT
- 5460 EXISTING MAJOR CONTOUR
- 52 EXISTING MINOR CONTOUR
- 5460 PROPOSED MAJOR CONTOUR
- 52 PROPOSED MINOR CONTOUR
- SD EXISTING STORM SEWER (LESS THAN 12")
- SD PROPOSED STORM SEWER (LESS THAN 12")
- 15.00 PROPOSED SPOT ELEVATION
- 15.00 FF FINISHED FLOOR
- 15.00 FG FINISHED GRADE
- 15.00 FL FLOWLINE
- 15.00 ME MATCH EXISTING
- 15.00 SW SIDEWALK
- 15.00 TC TOP OF CURB (BACK)
- XX.XX% EXISTING SLOPE
- XX.XX% PROPOSED SLOPE

BENCHMARK

NGS BENCHMARK P-453, LOCATED 3.06 KM NORTHWEST OF THE INTERCHANGE OF US 36 AND INTERLOCKEN LOOP/STORAGE TECH DRIVE, IN COLORADO DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY.

NAVD88 ELEVATION: 5508.96

LEGAL DESCRIPTION

LOT 5, CENTENNIAL VALLEY PARCEL L, FILING NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED AT RECEPTION NUMBER 1616847, CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

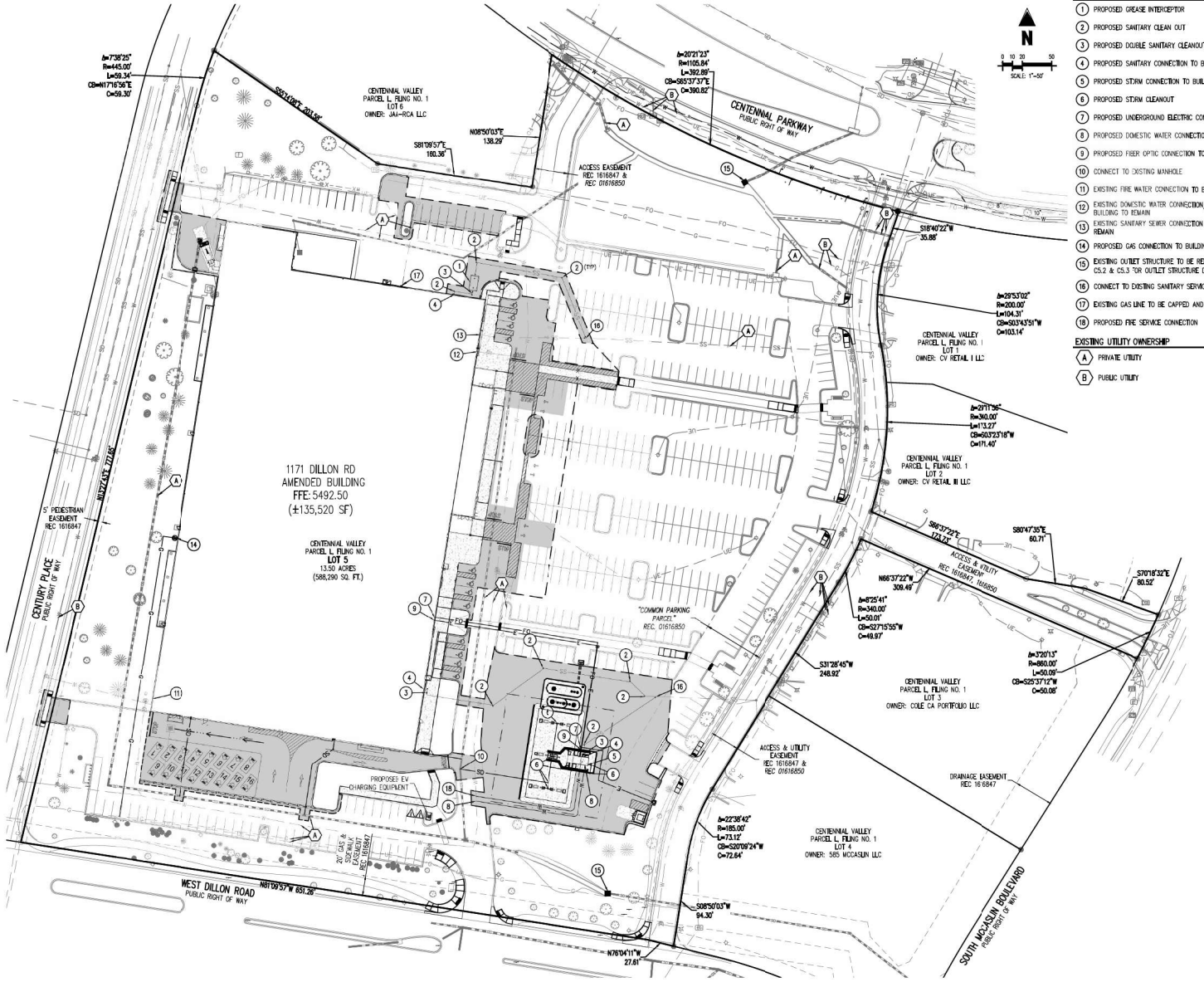
Project No:	KSS000014Z.02
Drawn By:	SE
Checked By:	JDP
Date:	APRIL 11, 2025

GRADING PLAN

5
5 OF 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-J00530-2024



SCHEDULE

1. PROPOSED GREASE INTERCEPTOR
2. PROPOSED SANITARY CLEAN OUT
3. PROPOSED DOUBLE SANITARY CLEANOUT
4. PROPOSED SANITARY CONNECTION TO BUILDING
5. PROPOSED STORM CONNECTION TO BUILDING
6. PROPOSED STORM CLEANOUT
7. PROPOSED UNDERGROUND ELECTRIC CONNECTION TO BUILDING
8. PROPOSED DOMESTIC WATER CONNECTION
9. PROPOSED FIBER OPTIC CONNECTION TO BUILDING
10. CONNECT TO EXISTING MANHOLE
11. EXISTING FIRE WATER CONNECTION TO BUILDING TO REMAIN
12. EXISTING DOMESTIC WATER CONNECTION/BACKFLOW TO BUILDING TO REMAIN
13. EXISTING SANITARY SEWER CONNECTION TO BUILDING TO REMAIN
14. PROPOSED GAS CONNECTION TO BUILDING
15. EXISTING OUTLET STRUCTURE TO BE REPLACED (SEE SHEETS C5.2 & C5.3 "OR OUTLET STRUCTURE DETAILS)
16. CONNECT TO EXISTING SANITARY SERVICE
17. EXISTING GAS LINE TO BE CAPPED AND ABANDONED.
18. PROPOSED FIRE SERVICE CONNECTION

EXISTING UTILITY OWNERSHIP

- (A) PRIVATE UTILITY
- (B) PUBLIC UTILITY

UTILITY LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED SAWCUT LINE
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- PROPOSED ADA STRIPING
- PROPOSED STANDARD DUTY ASPHALT
- PROPOSED CONCRETE PAVEMENT
- EXISTING WATER LINE
- PROPOSED WATER LINE
- EXISTING SANITARY SEWER
- PROPOSED SANITARY SEWER
- EXISTING STORM SEWER (12"ø AND LARGER)
- PROPOSED STORM SEWER (12"ø AND LARGER)
- EXISTING UNDERGROUND ELECTRICAL
- PROPOSED UNDERGROUND ELECTRICAL
- EXISTING FIBER OPTIC LINE
- PROPOSED FIBER OPTIC LINE
- EXISTING UNDERGROUND TELEPHONE
- PROPOSED UNDERGROUND TELEPHONE
- EXISTING GAS LINE
- PROPOSED GAS LINE
- EXISTING SIGN
- PROPOSED SIGN
- PROPOSED PIPE BOLLARD
- PROPOSED ADA PARKING SYMBOL
- PROPOSED WARNING TRUNCATED DOMES
- EXISTING ELECTRIC LIGHT POLE
- EXISTING ELECTRIC PULL BOX
- EXISTING ELECTRIC VAULT
- EXISTING ELECTRIC BOX
- EXISTING PAD MOUNTED TRANSFORMER
- EXISTING FIBER OPTIC PEDESTAL
- EXISTING FIBER OPTIC MANHOLE
- EXISTING FIBER OPTIC PULLBOX
- EXISTING TRAFFIC SIGNAL CABINET
- EXISTING TRAFFIC SIGNAL VAULT
- EXISTING TELEPHONE MANHOLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING TELEPHONE VAULT
- PROPOSED GAS METER
- PROPOSED SANITARY SEWER MANHOLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING SANITARY STORM MANHOLE
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING WATER MANHOLE
- EXISTING TREE

BENCHMARK

NGS BENCHMARK P-453, LOCATED 3.06 KM NORTHWEST OF THE INTERCHANGE OF US 36 AND INTERLOCKEN LOOP/STORAGE TECH DRIVE, IN COLORADO DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY.

NAVD88 ELEVATION: 5508.96

LEGAL DESCRIPTION

LOT 5, CENTENNIAL VALLEY PARCEL L, FILING NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED AT RECEPTION NUMBER 1616847, CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO.

FIRE SAFETY NOTES

1. ON-SITE EXISTING AND PROPOSED BUILDINGS SHALL BE SPRINKLED IN COMPLIANCE WITH LOUISVILLE FIRE PROTECTION DISTRICT STANDARDS

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

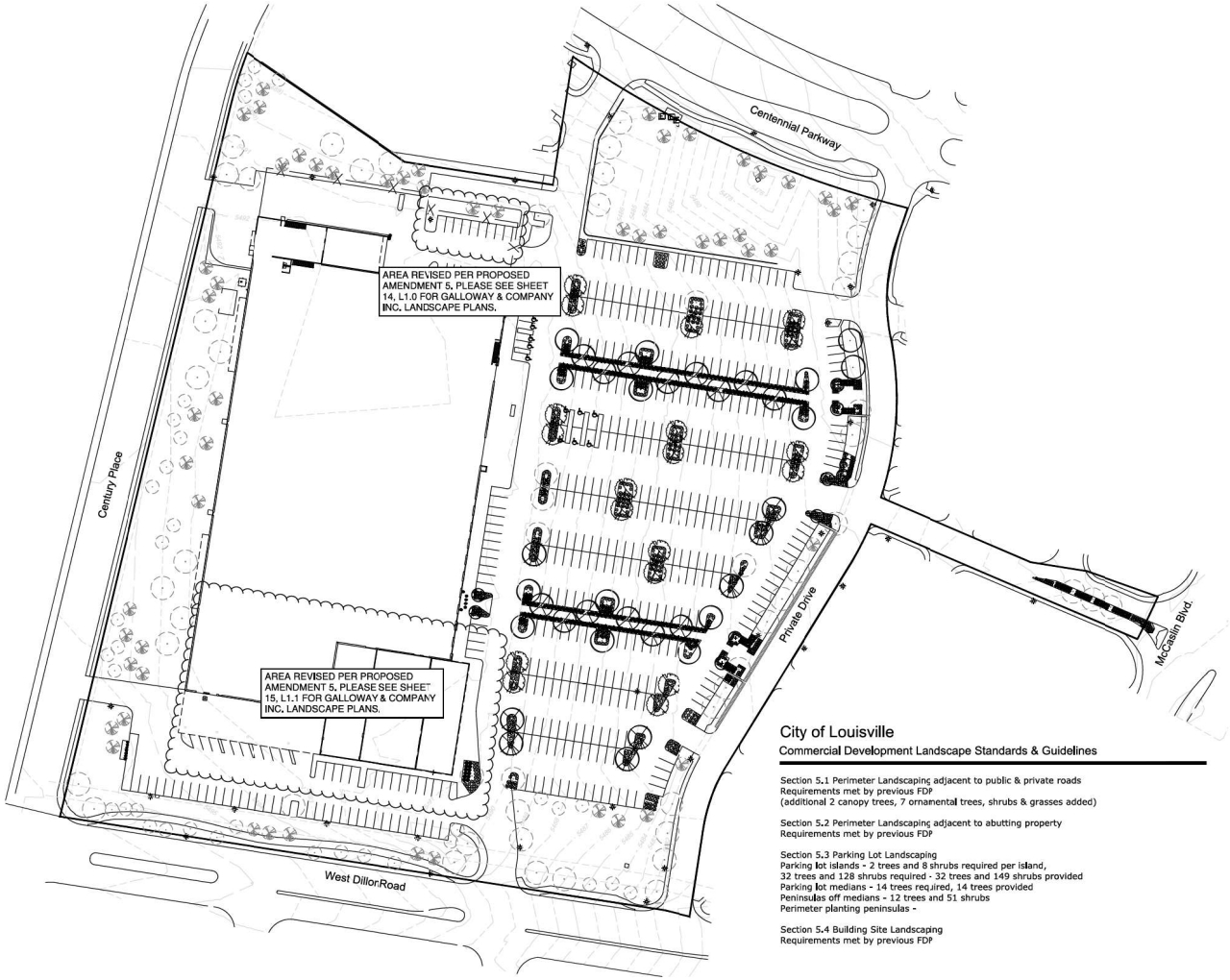
#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KSS00001402
Drawn By:	SE
Checked By:	JDP
Date:	APRIL 11, 2025

UTILITY PLAN

6
6 OF 18

CENTENNIAL VALLEY PARCEL L, LOT 5, FILING NO. 1
PLANNED UNIT DEVELOPMENT, 4TH AMENDMENT



0 60 120

North Scale 1"=60'

City of Louisville

Commercial Development Landscape Standards & Guidelines

Section 5.1 Perimeter Landscaping adjacent to public & private roads
Requirements met by previous FDP
(additional 2 canopy trees, 7 ornamental trees, shrubs & grasses added)

Section 5.2 Perimeter Landscaping adjacent to abutting property
Requirements met by previous FDP

Section 5.3 Parking Lot Landscaping
Parking lot islands - 2 trees and 8 shrubs required per island,
32 trees and 128 shrubs required - 32 trees and 149 shrubs provided
Parking lot medians - 14 trees required, 14 trees provided
Peninsulas off medians - 12 trees and 51 shrubs
Perimeter planting peninsulas -

Section 5.4 Building Site Landscaping
Requirements met by previous FDP

TIM DUNN DESIGN
LANDSCAPE ARCHITECTURE
tadunn1958@gmail.com
720.350.2411

1171 DILLON ROAD RENOVATION
Louisville, Colorado

Prepared for: Koebel

Overall Landscape Plan

DATE	REMARKS
2.14.24	CLIENT REVIEW
03.18.24	PUD 1ST AMENDMENT - City Comments

LA:
DRAWN BY.:
JOB NO.:

SHEET
7

Sheet 7 of 18

CENTENNIAL VALLEY PARCEL L, LOT 5, FILING NO. 1
PLANNED UNIT DEVELOPMENT, 4TH AMENDMENT

TIM DUNN DESIGN
LANDSCAPE ARCHITECTURE
tadunn1958@gmail.com
720.350.2411

1171 DILLON ROAD RENOVATION
Louisville, Colorado

Prepared for: Koebel

Landscape Plan South Half

DATE	REMARKS
2.14.24	CLIENT REVIEW
03.18.24	PUD 1ST AMENDMENT - City Comments

LA:
DRAWN BY.:
JOB NO.:

SHEET
8

CENTENNIAL VALLEY PARCEL L, LOT 5, FILING NO. 1
PLANNED UNIT DEVELOPMENT, 4TH AMENDMENT

TIM DUNN DESIGN
LANDSCAPE ARCHITECTURE
tadunn1958@gmail.com
720.350.2411

1171 DILLON ROAD RENOVATION
Louisville, Colorado

Prepared for: Koebel

Landscape Plan North Half

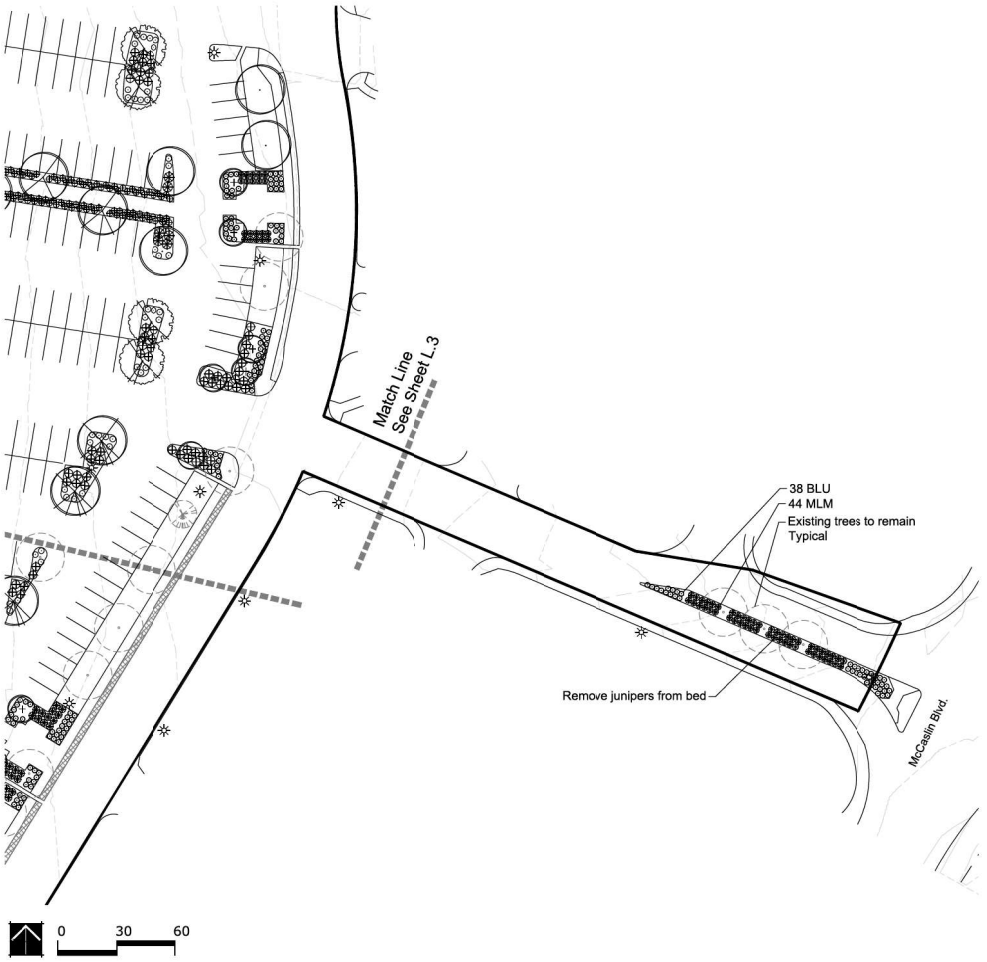
DATE	REMARKS
2.14.24	CLIENT REVIEW
03.18.24	PUD 1ST AMENDMENT - City Comments

LA:	
DRAWN BY.:	
JOB NO.:	

SHEET
9

Sheet 9 of 18

CENTENNIAL VALLEY PARCEL L, LOT 5, FILING NO. 1
PLANNED UNIT DEVELOPMENT, 4TH AMENDMENT



TIM DUNN DESIGN
LANDSCAPE ARCHITECTURE
tadunn1958@gmail.com
720.350.2411

1171 DILLON ROAD RENOVATION
Louisville, Colorado

Prepared for: Koebel

LANDSCAPE PLAN McCaslin Entry

DATE	REMARKS
2.14.24	CLIENT REVIEW
03.18.24	PUD 1ST AMENDMENT - City Comments

LA:	
DRAWN BY.:	
JOB NO.:	

SHEET
10

Sheet 10 of 18

CENTENNIAL VALLEY PARCEL L, LOT 5, FILING NO. 1
PLANNED UNIT DEVELOPMENT, 4TH AMENDMENT

Plant Schedule and Legend

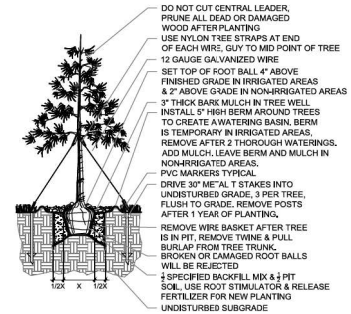
QUANTITY	KEY	COMMON NAME	BOTANICAL NAME	SIZE	CONDITION	HYDROZONE	MATURE SIZE
DECIDUOUS CANOPY TREES							
19	SHU	SHUMARD OAK	Quercus shummardi	2" CAL.	B&B	LOW	60'hix40'sp.
14	IHL	IMPERIAL HONEYLOCUST	Gleditsia triacanthos inermis 'Imperial'	2" CAL.	B&B	LOW	30'hix30'sp.
9	SMH	SHADE MASTER HONEYLOCUST	Gleditsia triacanthos inermis 'Shademaster'	2" CAL.	B&B	LOW	45'hix35'sp.
14	BTM	BIG TOOTH MAPLE	Gleditsia triacanthos inermis 'Shademaster'	2" CAL.	B&B	LOW	30'hix30'sp.
ORNAMENTAL TREE							
10	CHP	CHANTICLEER PEAR	Pyrus calleryana 'Chanticleer'	1.5" CAL.	B&B	MEDIUM	25'hix15'sp.
DECIDUOUS SHRUBS							
61	GLS	GRO LOW SUMAC	Rhus aromatica 'Gro-Low'	5 GAL.	CONTAINER	LOW	3'hix5'sp
72	MKL	MISS KIM LILAC	Syringa patula 'Miss Kim'	5 GAL.	CONTAINER	LOW	3'hix3'sp
95	POT	CORNONATION TRIUMPH POTENTILLA	Potentilla fruticosa 'Comoration Triumph'	5 GAL.	CONTAINER	LOW	3'hix3'sp
43	GFS	GOLD FLAME SPIREA	Spiraea japonica 'Goldflame'	5 GAL.	CONTAINER	LOW	3'hix3sp'
CLUMP/ ORNAMENTAL GRASS							
224	OFG	ORIENTAL FOUNTAIN GRASS	Pennisetum orientale	1 GAL.	CONTAINER	LOW	3'hi,x2'sp.
405	FRG	FEATHER REED GRASS	Calamagrostis acutifolia ' Karl Forester'	1 GAL.	CONTAINER	LOW	4'hix2'sp.
100	MLM	MORNING LIGHT MAIDEN GRASS	Miscanthus sinensis 'Morning Light'	1 GAL.	CONTAINER	LOW	4'hix2'sp.
119	BLU	BLONDE AMBITION GRAM	Bouteloua gracilis 'Blonde Ambition'	1 GAL.	CONTAINER	LOW	2'hix2'sp.

Gray river rock mulch, see image

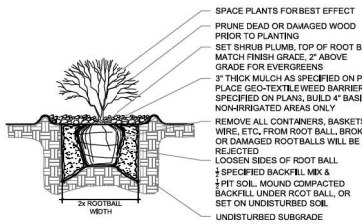
Existing deciduous tree

Existing evergreen tree

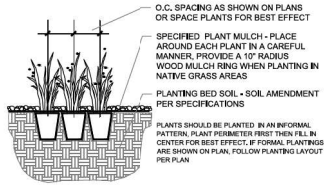
Existing ornamental tree



2/8 Evergreen Tree Planting Detail



3/8 Shrub Planting Detail



4/8 Perennial/Grass Planting Detail

General Landscape Nctes

1. ALL WORK SHALL CONFORM TO LOCAL CITY AND COUNTY CODES. ALL WORK SHALL BE IN ACCORDANCE WITH OSHA CODES AND STANDARDS.

2. THE OWNER, SUCCESSORS, AND ASSIGNS SHALL BE RESPONSIBLE FOR THE INSTALLATION, MAINTENANCE, AND REPLACEMENT OF ALL LANDSCAPING MATERIALS SHOWN OR INDICATED ON THE APPROVED SITE PLAN OR LANDSCAPE PLANS ON FILE WITH THE CITY PLANNING DEPARTMENT. ALL LANDSCAPING SHALL BE INSTALLED AS SHOWN ON THE LANDSCAPE PLANS PRIOR TO THE ISSUANCE FOR THE CERTIFICATE OF OCCUPANCY,

3. ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR USE OF MAINTENANCE EQUIPMENT ENTRY.

4. SEE CIVIL ENGINEER'S DRAWINGS FOR GRADING AND DRAINAGE, EROSION CONTROL, PAVING AND SLEEVES, UTILITIES, AND OTHER ENGINEERED DETAILS.

5. ALL LANDSCAPE AREAS SHALL RECEIVE SOIL PREPARATION AT A RATE OF (4) FOUR CUBIC YARDS PER 1,000 SQUARE FEET.

6. STEEL EDGER SHALL BE PROVIDED AROUND ALL PLANTING BEDS ADJACENT TURF AREAS. EDGER SHALL BE GALVANIZED STEEL, ROLLED TOP EDGE, AND INTERLOCKING. EDGER IS NOT NECESSARY ADJACENTLY-PARALLEL TO CURBS, WALLS, AND WALKS.

7. ALL PLANTING BEDS SHALL BE MULCHED WITH 3" THICK SHREDDED BARK MULCH. APPLY A PRE-EMERGENT HERBICIDE IN BED AREAS.

8. ALL PLANTS OF THE SAME SPECIES AND SIZE SHALL HAVE MATCHING HEIGHT AND FORM, UNLESS OTHERWISE NOTED. ALL PLANTS SHALL CONFORM TO THE "AMERICAN STANDARD FOR NURSERY STOCK."

10. A ONE YEAR WARRANTY SHALL BE PROVIDED FOR ALL PLANT MATERIAL FROM THE DATE OF FINAL INSPECTION, UNLESS OTHERWISE DIRECTED BY LANDSCAPE ARCHITECT, OWNER, OR CITY/ COUNTY.

11. FOR TREES NOT IN PLANTING BEDS, ALLOW A 4'-0" DIAMETER BED (TREE RING) WITHOUT SOD AROUND ROOT COLLAR. APPLY 3" DEPTH SHREDDED CEDAR MULCH AROUND COLLAR FOLLOWING SOD INSTALLATION. NO LANDSCAPE FABRIC OR EDGER IS NECESSARY FOR TREE RINGS.

12. ALL PLANTING BEDS AND TREES SHALL BE DRIP IRRIGATED. ALL IRRIGATION SHALL BE AN AUTOMATIC UNDERGROUND SYSTEM. REFER TO IRRIGATION PLANS

General Maintenance Notes

A. Turf Mowing:
Frequency of mowing shall be once every other week in April, then once per week during the months of May thru September and once every other week in thru Octoser 31. Ground trash will be picked up and removed from at each mowing.
B. Native Area Mowing:
Permanently seeded areas shall be moved once a year for the first 2 years from the time of initial seeding. Mowing shall occur between October 15th and November 15th of each year. Seed areas shall be evaluated after one growing season to determine whether additional maintenance, weed control or over seeding is needed.
C, Trimming and Edging:
All turf area is to be edged once a month from April 1st thru October 31st to ensure that no growth extends over curbs and gutters, sidewalks, median edging, or into onto other improved areas at any time.
D, Weed Control:
All turf areas within the specified maintenance areas shall be kept free of weeds. Weeding may be done manually or by the use of herbicides.
E. Aeration:
Common turf areas shall be aerated once in the spring (late March to early Apri) and once in the fall (late October to early November).
F. Fertilzing:
Fertilizer applications shall be performed once in the spring after the aeration has been performed and once in the fall after the aeration has been performed.

IRRIGATION
Conctractor will be expected to energize the system in the spring, winterize in the fall, adjust heads as needed, repair breaks in a timely manner and prevent any interruptions in the watering cycles for all landscaping.

TREE, SHRUB & PLANT CARE
A. Pruning:
All trees, shrubs and plant material shall be maintained by the contractor to ensure the health, vigor and aesthetic appearance according to accepted horticultural practices.
B. Weed Control:
All shrub beds, annual and perennial plant beds, tree bowls, rock beds and pattern concrete shall be kept free from weeds at all times. Weed control shall be done on a weekly basis.
C. Litter Removal:
All areas shall have trash and undesirable debris picked up once per week and prior to all mowing, trimming or edging operations.
D. Winter Snow Removal on Sidewalks:
Snow removal shal be performed on all sidewalks with any accumulation of snow. Snow removal will occur within 24 hours after the snow fall.

Landscape Renovation Notes

1. ALL EXISTING TREES ARE TO BE PRESERVED UNLESS OTHERWISE NOTED ON THE PLANS. CONTRACTOR TO PROVIDE PROTECTION OF EXISTING TREES AND LANDSCAPE DURING CONSTRUCTION PROCESS. PRUNE AND LIMB UP EXISTING TREES AS NEEDED.
2. IRRIGATION RETRO FIT BY CONTRACTOR, REPLACE OLD HEADS AND DRIP LINES AS NEEDED.
3. CONTRACTOR TO SAVE EXISTING ROCK MULCH AS POSSIBLE AND REPLACE MULCH AS NEEDED
   BARK MULCH TO BE REMOVED FROM BEDS AND REPLACED WITH ROCK MULCH. ALL BEDS TO BE WEEDED AND CLEANED UP.

Rock mulch image

Gray river rock mulch 1.5" size rounded
Timber Rock Landscape Center
Windsor, Co, 970-686-0442
Or approved equal by Owner

TIM DUNN DESIGN
LANDSCAPE ARCHITECTURE
tadunn1958@gmail.com
720.350.2411

LANDSCAPE ARCHITECT, TIM DUNN, COLORADO LICENSE #828

1171 DILLON ROAD RENOVATION
Louisville, Colorado

Prepared for: Koebel

LANDSCAPE DETAILS

REMARKS	DATE
CLIENT REVIEW	2.14.24
PUD 1ST AMENDMENT - City Comments	03.18.24

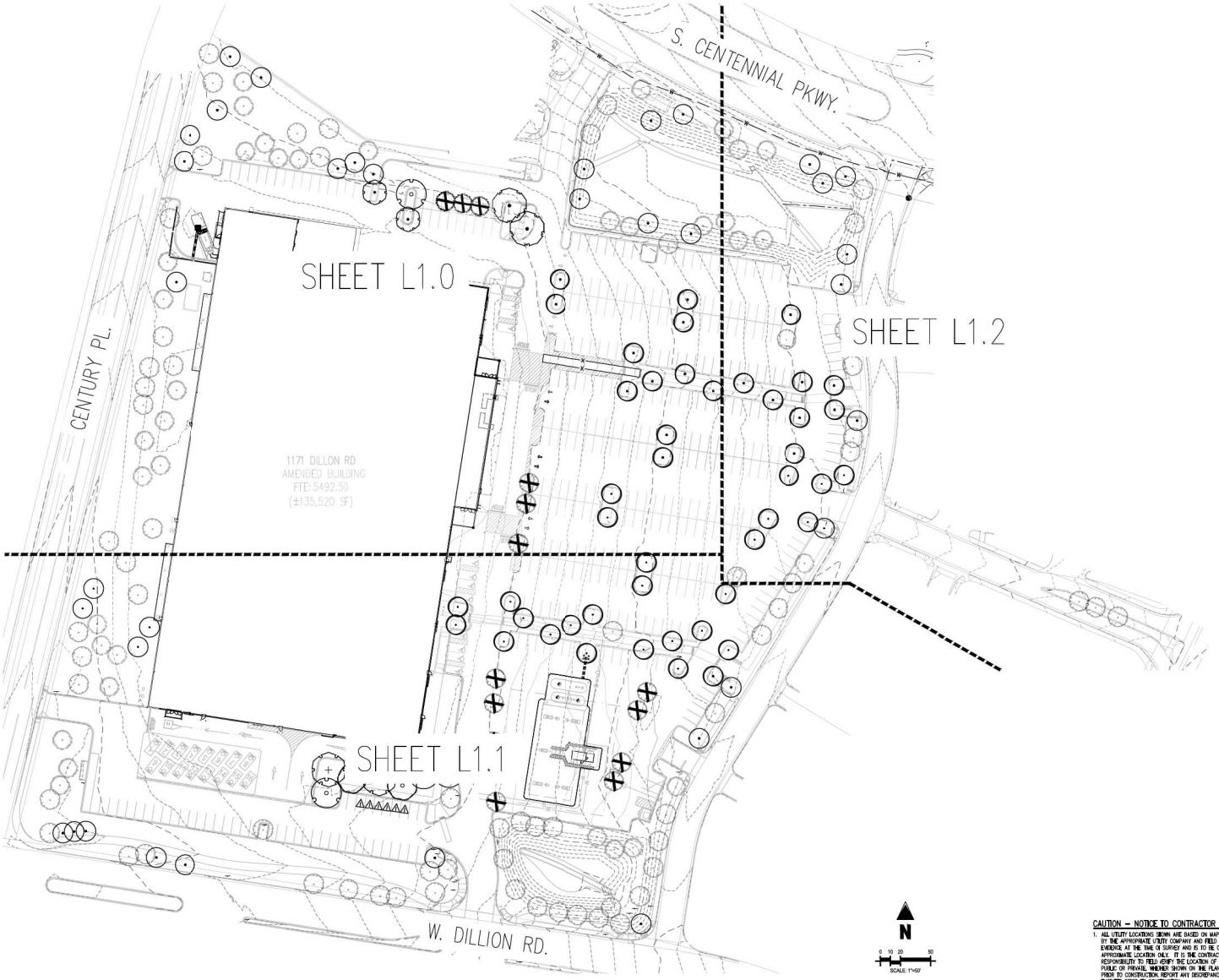
LA:
DRAWN BY.:
JOB NO.:

SHEET
11

Sheet 11 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



CAUTION – NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 Know what's Below. Call before you dig.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

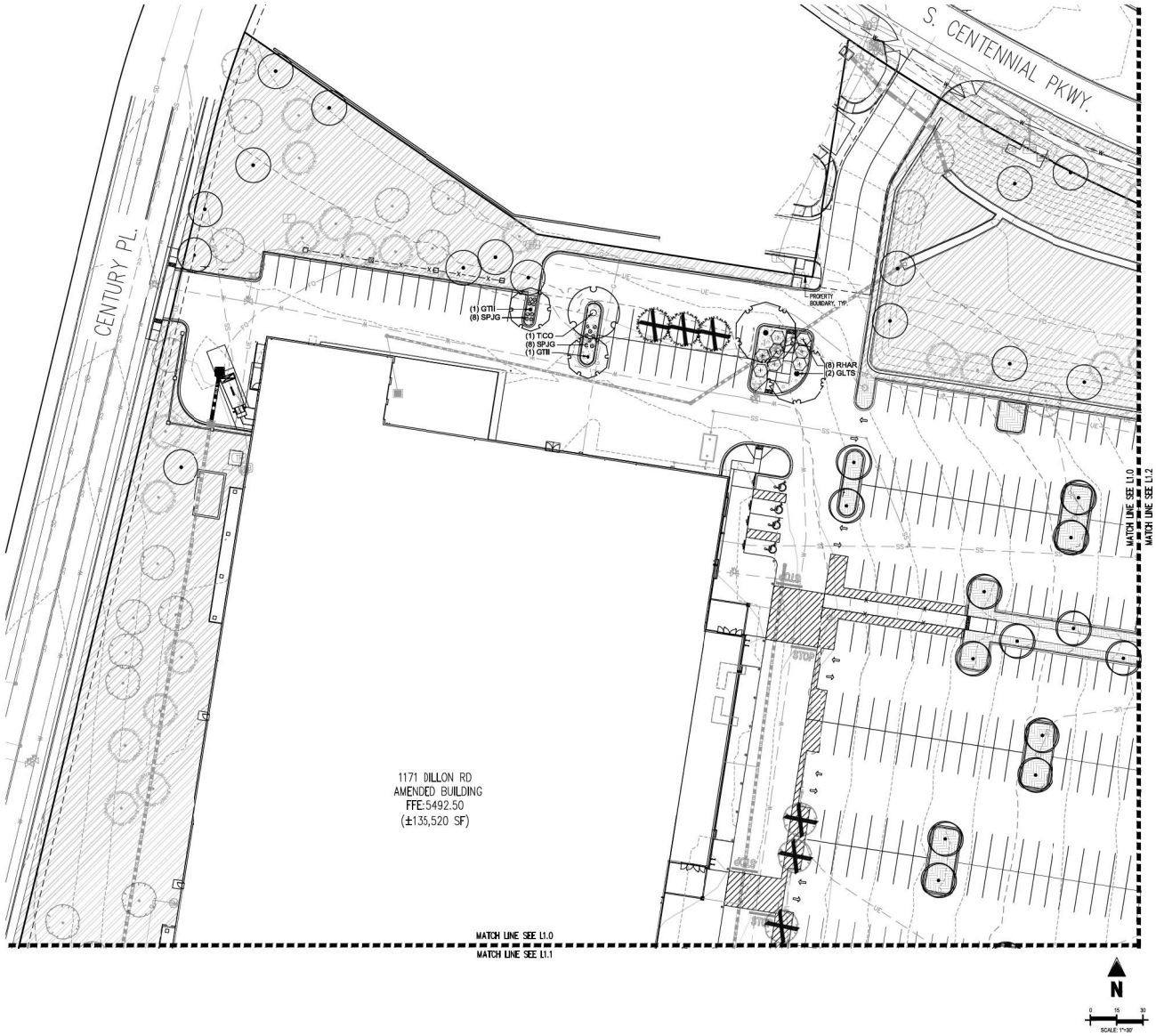
Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

OVERALL LANDSCAPE PLAN

L0.0
Sheet 12 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



PLANT LEGEND

SYMBOL	QTY	COMMON NAME
DECIDUOUS TREES		
	2	BIGTOOTH MAPLE
	2	FRONTIER ELM
	2	IMPERIAL HONEY LOCUST
	2	LITTLELEAF LINDEN
	2	SHADEMASTER HONEY LOCUST
	2	SHUMARD OAK
		TO REMAIN
EXISTING TREES		
	67	EXISTING DECIDUOUS TREE TO BE REMOVED
	12	EXISTING DECIDUOUS TREE TO REMAIN
	36	EXISTING EVERGREEN TREE TO BE REMOVED
	3	EXISTING EVERGREEN TREE PER FILING NO, 1, AMENDMENT 4
	45	TREE TO BE REPLACED PER FILING NO, 1
	35	TREE TO BE REPLACED
DECIDUOUS SHRUBS		
	43	GOLDFLAME JAPANESE SPIREA
	26	GRO-LOW FRAGRANT SUMAC
	14	MISS KIM KOREAN LILAC
ORNAMENTAL GRASSES		
	33	BLONDE AMBITION BLUE GRAMA

GROUNDCOVER SCHEDULE

SYMBO.	QTY	COMMON NAME
GROUND COVERS		
	13,970 SF	EXISTING LANDSCAPE TO BE REPLACED PER FILING NO, 1, AMENDMENT 4 - REFER TO SHEETS 8 - 12
	139,347 SF	EXISTING LANDSCAPE TO REMAIN
MULCH		
	2,201 SF	0.5"-1" GRAY RIVER ROCK FROM TIMBER ROCK
	1,401 SF	1"-2" GRAY RIVER ROCK FROM TIMBER ROCK
	3,681 SF	DARK BROWN SHREDDED HARDWOOD MULCH

CAUTION – NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 Know what's Below. Call before you dig.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

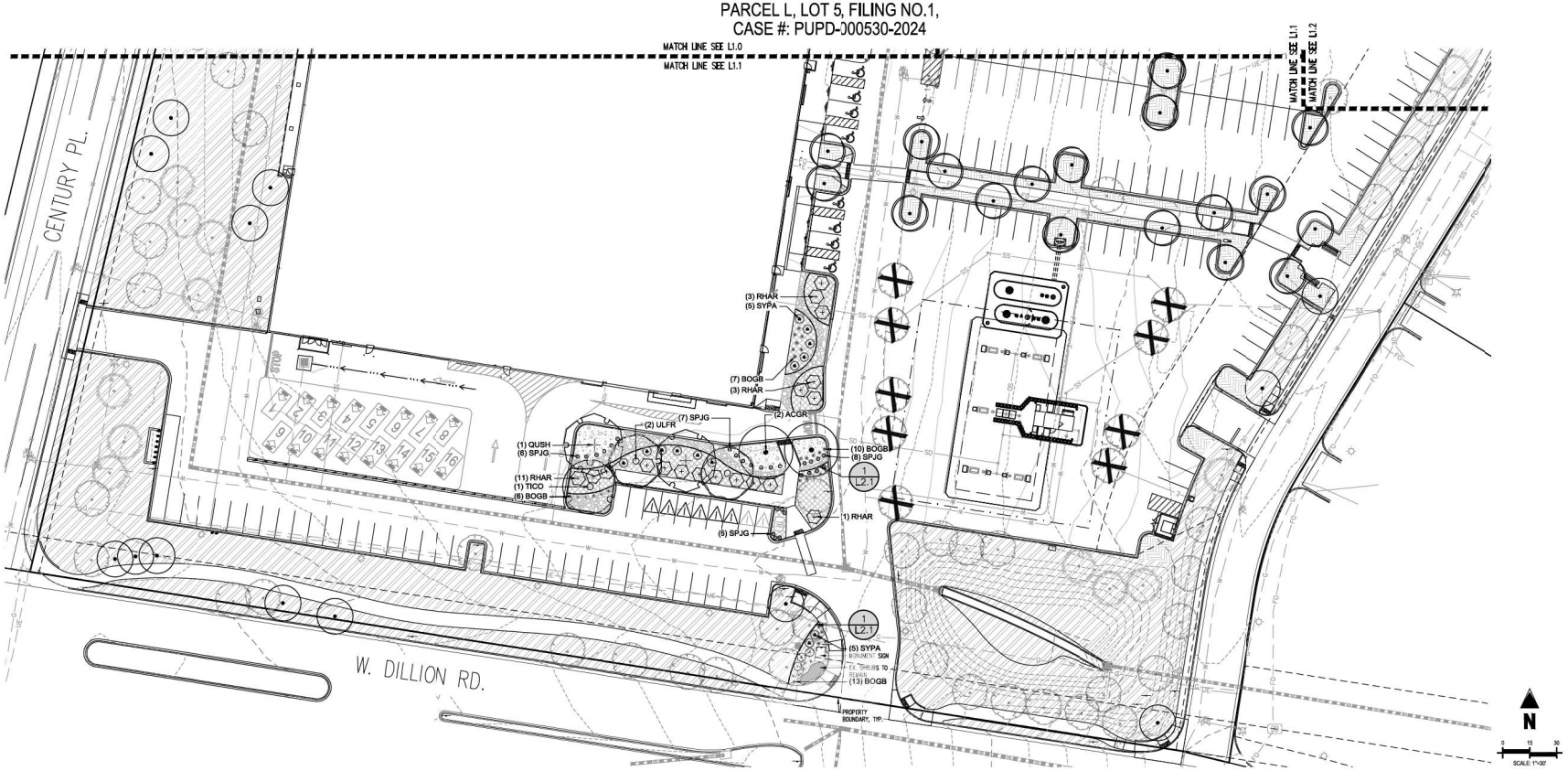
Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

LANDSCAPE PLAN

L1.0
Sheet 13 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



PLANT LEGEND

SYMBOL	QTY	COMMON NAME
DECIDUOUS TREES		
	2	BIGTOOTH MAPLE
	2	FRONTIER ELM
	2	IMPERIAL HONEY LOCUST
	2	LITTLELEAF LINDEN
	2	SHADEMASTER HONEY LOCUST
	2	SHUMARD OAK

EXISTING TREES		
	67	EXISTING DECIDUOUS TREE TO BE REMOVED
	12	EXISTING DECIDUOUS TREE TO REMAIN
	36	EXISTING EVERGREEN TREE TO BE REMOVED
	3	EXISTING EVERGREEN TREE PER FILING NO. 1, AMENDMENT 4
	45	TREE TO BE REPLACED PER FILING NO. 1
	35	TREE TO BE REPLACED

DECIDUOUS SHRUBS		
	43	GOLDFLAME JAPANESE SPIREA
	26	GRO-LOW FRAGRANT SUMAC
	14	MISS KIM KOREAN LILAC
ORNAMENTAL GRASSES		
	33	BLONDE AMBITION BLUE GRAMA

GROUNDCOVER SCHEDULE

SYMBOL	QTY	COMMON NAME
GROUND COVERS		
	13,970 SF	EXISTING LANDSCAPE TO BE REPLACED PER FILING NO. 1, AMENDMENT 4 - REFER TO SHEETS 8 - 12
	139,347 SF	EXISTING LANDSCAPE TO REMAIN
MULCH		
	2,201 SF	0.5"-1" GRAY RIVER ROCK FROM TIMBER ROCK
	1,401 SF	1"-2" GRAY RIVER ROCK FROM TIMBER ROCK
	3,681 SF	DARK BROWN SHREDDED HARDWOOD MULCH

CAUTION – NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 Know what's Below. Call before you dig.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

LANDSCAPE PLAN

L1.1
Sheet 14 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

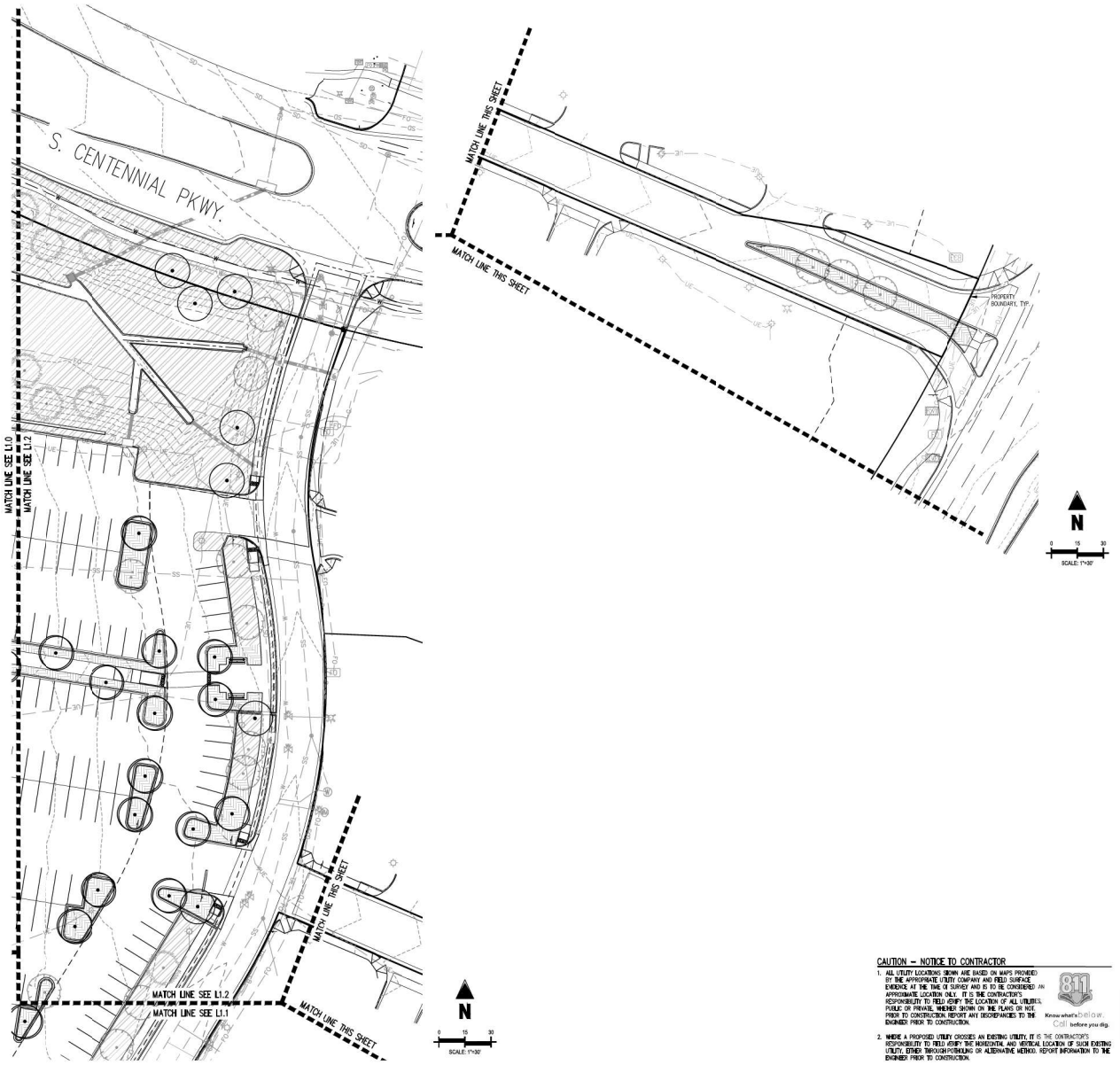
PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024

PLANT LEGEND

SYMBOL	QTY	COMMON NAME
DECIDUOUS TREES		
	2	BIGTOOTH MAPLE
	2	FRONTIER ELM
	2	IMPERIAL HONEY LOCUST
	2	LITTLELEAF LINDEN
	2	SHADEMASTER HONEY LOCUST
	2	SHUMARD OAK
		TO REMAIN
EXISTING TREES		
	67	EXISTING DECIDUOUS TREE TO BE REMOVED
	12	EXISTING DECIDUOUS TREE TO REMAIN
	36	EXISTING EVERGREEN TREE TO BE REMOVED
	3	EXISTING EVERGREEN TREE PER FILING NO. 1, AMENDMENT 4
	45	TREE TO BE REPLACED PER FILING NO. 1
	35	TREE TO BE REPLACED
DECIDUOUS SHRUBS		
	43	GOLDFLAME JAPANESE SPIREA
	26	GRO-LOW FRAGRANT SUMAC
	14	MISS KIM KOREAN LILAC
ORNAMENTAL GRASSES		
	33	BLONDE AMBITION BLUE GRAMA

GROUNDCOVER SCHEDULE

SYMBOL	QTY	COMMON NAME
GROUND COVERS		
	13,970 SF	EXISTING LANDSCAPE TO BE REPLACED PER FILING NO. 1, AMENDMENT 4 - REFER TO SHEETS 8 - 12
	139,347 SF	EXISTING LANDSCAPE TO REMAIN
MULCH		
	2,201 SF	0.5"-1" GRAY RIVER ROCK FROM TIMBER ROCK
	1,401 SF	1"-2" GRAY RIVER ROCK FROM TIMBER ROCK
	3,681 SF	DARK BROWN SHREDDED HARDWOOD MULCH



CAUTION – NOTICE TO CONTRACTOR

1. ALL UTILITY LOCATIONS SHOWN ARE BASED ON MAPS PROVIDED BY THE APPROPRIATE UTILITY COMPANY AND FIELD SURFACE EVIDENCE AT THE TIME OF SURVEY AND IS TO BE CONSIDERED AN APPROXIMATE LOCATION ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE LOCATION OF ALL UTILITIES, PUBLIC OR PRIVATE, WHETHER SHOWN ON THE PLANS OR NOT, PRIOR TO CONSTRUCTION. REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO CONSTRUCTION.
2. WHERE A PROPOSED UTILITY CROSSES AN EXISTING UTILITY, IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF SUCH EXISTING UTILITY, EITHER THROUGH POTHOLING OR ALTERNATIVE METHOD. REPORT INFORMATION TO THE ENGINEER PRIOR TO CONSTRUCTION.

811 Know what's Below. Call before you dig.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

LANDSCAPE PLAN

L1.2
Sheet 15 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-200530-2024

IRRIGATION CONCEPT

1. AN AUTOMATIC IRRIGATION SYSTEM SHALL BE INSTALLED AND OPERATIONAL BY THE TIME OF FINAL INSPECTION. THE ENTIRE IRRIGATION SYSTEM SHALL BE INSTALLED BY A QUALIFIED IRRIGATION CONTRACTOR.
2. THE IRRIGATION SYSTEM WILL HAVE APPROPRIATE BACKFLOW PREVENTION DEVICES INSTALLED TO PREVENT CONTAMINATION OF THE WATER SOURCE IF APPLICABLE.
3. ALL NON-TURFSEED PLANTED AREAS WILL BE DRIP IRRIGATED. TURF SODSEED SHALL RECEIVE POP-UP SPRAY IRRIGATION FOR HEAD TO HEAD COVERAGE.
4. ALL PLANTS SHARING SIMILAR HYDROZONE CHARACTERISTCS SHALL BE PLACED ON A VALVE DEDICATED TO PROVIDE THE NECESSARY WATER REQUIREMENTS SPECIFIC TO THAT HYDROZONE.
5. THE IRRIGATION SYSTEM SHALL BE DESIGNED AND INSTALLID, TO THE MAXIMUM EXTENT POSSIBLE, TO CONSERVE WATER BY USING THE FOLLOWING DEVICES AND SYSTEMS: MATCHED PRECIPITATION RATE TECHNOLOGY ON ROTOR AND SPRAY HEADS (WHEREVER POSSIBLE), RAIN SENSORS, AND SMART MULTI-PROGRAM COMPUTERIZED IRRIGATION CONTROLLERS FEATURING SENSORY INPUT CAPABILITIES.

LANDSCAPE GUARANTEE AND MAINTENANCE

1. THE LANDSCAPE CONTRACTOR SHALL GUARANTEE ALL TREES, SHRUBS, PERENNIALS, SOD, SEEDED AREAS, AND IRRIGATION SYSTEMS FOR A PERIOD OF ONE YEAR FROM THE DATE OF THE OWNER'S ACCEPTANCE. THE CONTRACTOR SHALL REPLACE, AT HIS OWN EXPENSE, ANY PLANTS WHICH DIE IN THAT TIME, OR REPAIR ANY PORTIONS OF THE IRRIGATION SYSTEM WHICH OPERATE IMPROPERLY.
2. THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE IN A NEAT, CLEAN, AND HEALTHY CONDITION FOR A PERIOD OF 90 DAYS. THIS SHALL INCLUDE PROPER PRUNING, MOWING AND AERATION OF LAWNS, WEEDING, REPLACEMENT OF MULCH, REMOVAL OF LITTER, AND THE APPROPRIATE WATERING OF ALL PLANTINGS. IRRIGATION SHALL BE MAINTAINED IN PROPER WORKING ORDER, WITH SCHEDULING ADJUSTMENTS BY SEASON AND TO MAXIMIZE WATER CONSERVATION. IF SITE OPENS DURING WINTER, TO AVOID FREEZE DAMAGE ON PLANTINGS, THE 90 DAYS SHOULD BEGIN AFTER ACCEPTANCE OF THE WORK.
3. DURING THE LANDSCAPE MAINTENANCE PERIOD, THE LANDSCAPE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM STRUCTURES IN ALL LANDSCAPE AREAS AT THE MINIMUM SLOPE SPECIFIED IN THE GEOTECHNICAL REPORT. LANDSCAPE AREAS WHICH SETTLE AND CREATE THE POTENTIAL FOR PONDING SHALL BE REPAIRED TO ELIMINATE PONDING POTENTIAL AND BLEND IN WITH THE SURROUNDING GRADES. SHOULD ANY CONFLICTS AND/OR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUA. CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCH ITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.

UTILITY NOTES

1. THE LANDSCAPE CONTRACTOR IS REQUIRED TO CONTACTTHE COUNTY PUBLIC WORKS DEPARTMENT, AND ANY OTHER PUBLIC OR PRIVATE AGENCY NECESSARY FOR UTILITY LOCATION PRIOR TO ANY CONSTRUCTION.
2. THIS DRAWING IS A PART OF A COMPLETE SET OF BID DOCUMENTS, SPECIFICATIONS, ADDITIONAL DRAWINGS, AND EXHIBITS. UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED FORCONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE, AND REVIEWING ALL RELATED DOCUMENTS.
3. THE LOCATION OF THE ALL UNDERGROUND UTILITIES ARE ,OCATED ON THE ENGINEERING DRAWINGS FOR THIS PROJECT. THE MOST CURRENT REVISION IS HERE IN MADE PART OF THIS DOCUMENT. UNDERGROUND UTILITIES EXIST THROUGHOUT THIS SITE AND MUST BE LOCATED PRIOR TO ANY CONSTRUCTION ACTIVITY. WHERE UNDERGROUND UTILITIES EXIST, FIELD ADJUSTMENT MAY BE NECESSARY AND MUST BE APPROVED BY A REPRESENTATIVE OF THE OWNER. NEITHER THE OWNER NOR THE LANDSCAPE ARCHITECT ASSUMES ANY RESPONSIBILITY WHATSOEVER IN RESPECT TO THE CONTRACTORS ACCURACY IN LOCATING THE INDICATED PLANT MATERIAL, AND UNDER NO CIRCUMSTANCES SHOULD THESE PLANS BE USED WITHOUT REFERENCING THE ABOVE MENTIONED DOCUMENTS.

IRRIGATION CONTRACTOR NOTE:

1. CONTRACTOR TO ENSURE IRRIGATION SYSTEM IS IN PLACE AND OPERATIONAL PRIOR TO INSTALLATION.
2. CONTRACTOR TO RETROFIT AND EXTEND THE EXISTING IRRIGATION SYSTEM TO NEWLY ADDED PLANT MATERIAL SHOWN ON THE LANDSCAPE PLAN.
3. ALL IRRIGATION EQUIPMENT AND COMPONENTS USED, SHALL MATCH THE EXISTING IRRIGATION SYSTEM.
4. CONTRACTOR TO ENSURE THE RETROFITTED IRRIGATION SYSTEM IS OPERATIONAL UPON COMPLETION.
5. CONTRACT THE LANDSCAPE ARCHITECT WITH ANY QUESTIONS REGARDING THIS RETROFIT.

PLANTING NOTES

GENERAL

1. ALL WORK SHALL CONFORM TO ALL APPLICABLE STATE AND LOCAL CODES, STANDARDS, AND SPECIFICATIONS.
2. LANDSCAPE DESIGN IS DIAGRAMMATIC IN NATURE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR HIS OWN TAKEOFFS AND QUANTITY CALCULATIONS. IN THE EVENT OF A DISCREPANCY BETWEEN THE PLAN AND THE LANDSCAPE LEGEND, THE PLANT QUANTITY AS SHOWN ON THE PLAN SHALL TAKE PRECEDENCE AND NOTIFY THE LANDSCAPE ARCHITECT OF THESE DISCREPANCIES. MINOR ADJUSTMENTS TO THELANDSCAPE MATERIAL AND LOCATIONS MAY BE PROPOSED FOR CITY CONSIDERATION AT THE CONSTRUCTION DOCUMENT STAGE TO RESPOND TO MARKET AND FIELD CONDITIONS, HOWEVER, THERE SHALL BE NO REDUCTION IN THE NUMBER AND SIZE OF MATERIALS.
3. CONTRACTOR SHALL MAKE HIMSELF AWARE OF THE LOCATIONS OF EXISTING AND PROPOSED UTILITIES, AND SHALL BE RESPONSIBLE FOR ANY DAMAGE TO THE UTILITIES AND/OR ANY INJURY TO ANY PERSON. THIS DRAWING IS PART OF A COMPLETE SET OF CONTRACT DOCUMENTS. UNDER NO CIRCUMSTANCES SHOULD THIS PLAN BE USED FOR CONSTRUCTION PURPOSES WITHOUT EXAMINING ACTUAL LOCATIONS OF UTILITIES ON SITE AND REVIEW ALL RELATED PLANS AND DOCUMENTS.
4. ALL UTILITY EASEMENTS SHALL REMAIN UNOBSTRUCTED AND FULLY ACCESSIBLE ALONG THEIR ENTIRE LENGTH FOR MAINTENANCE EQUIPMENT.
5. THE CONTRACTOR SHALL TAKE EXTREME CARE NOT TO DAMAGE ANY EXISTING PLANTS INDICATED AS "TO REMAIN". ANY SUCHPLANTS DAMAGED BY THE CONTRACTOR SHALL BE REPLACED WITH THE SAME SPECIES, SIZE, AND QUANTITY AT THE CONTRACTOR'S OWN EXPENSE, AND AS ACCEPTABLE TO THE OWNER. REFER TO THE TREE PROTECTION NOTES ON THE PLANS (AS APPLICABLE).
6. LANDSCAPE CONTRACTOR SHALL EXAMINE THE SITE CONDITIONS UNDER WHICH THE WORK IS TO BE PERFORMED AND NOTIFY THE GENERAL CONTRACTOR IN WRITING OF UNSATISFACTORY CONDITIONS. IF SITE CONDITIONS OR PLANT AVAILABILITY REQUIRE CHANGES TO THE PLAN, THEN AN APPROVAL WILL BE OBTAINED FROM THE CITY. DO NOT PROCEED UNTIL CONDITIONS HAVE BEEN CORRECTED.
7. ALL CONSTRUCTION DEBRIS AND MATERIAL SHALL BE REMOVED AND CLEANED OUT PRIOR TO INSTALLATION OF TOPSOIL, TREES, SHRUBS, AND TURF.
8. FOR ALL INFORMATION ON SURFACE MATERIAL OF WALKS, DRIVES, AND PARKING LOTS, SEE THE SITE PLAN. SEE PHOTOMETRIC PLAN FOR FREE STANDING LIGHTING INFORMATION.
9. THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT ONE WEEK PRIOR TO BEGINNING CONSTRUCTION.
10. WINTER WATERING SHALL BE AT THE EXPENSE OF THE CONTRACTOR UNTIL SUCH TIME AS FINAL ACCEPTANCE IS RECEIVED.
11. ALL LANDSCAPE CONSTRUCTION PRACTICES, WORKMANSHIP, AND ETHICS SHALL BE IN ACCORDANCE WITH INDUSTRY STANDARDS SET FORTH IN THE CONTRACTORS HANDBOOK PUBLISHED BY THE COLORADO LANDSCAPE CONTRACTORS ASSOCIATION.
12. LANDSCAPE AND IRRIGATION WORK SHALL BE COMPLETED PRIOR TO THE ISSUANCE OF THE FINAL CERTIFICATE OF OCCUPANCY.

FINISH GRADING AND SOIL PREPARATION

13. CONTRACTOR SHALL CONSTRUCT AND MAINTAIN FINISH GRADES AS RECOMMENDED BY THE GEOTECHNICAL REPORT. ALL LANDSCAPE AREAS SHALL HAVE POSITIVE DRAINAGE AWAY FROM STRUCTURES AT THE MINIMUM SLOPE SPECIFIED IN THE REPORT, AND AREAS OF POTENTIAL PONDING SHALL BE REGRADED TO BLEND IN WITH THE SURROUNDING GRADES AND ELIMINATE PONDING POTENTIAL. SHOULD ANY CONFLICTS ANDOR DISCREPANCIES ARISE BETWEEN THE GEOTECHNICAL REPORT, THE GRADING PLANS, THESE NOTES, AND ACTUAL CONDITIONS, THE CONTRACTOR SHALL IMMEDIATELY BRING SUCHITEMS TO THE ATTENTION OF THE LANDSCAPE ARCHITECT AND OWNER.
14. AFTER FINISH GRADES HAVE BEEN ESTABLISHED, IT IS RECOMMENDED THAT THE CONTRACTOR SHALL HAVE SOIL SAMPLES TESTED BY AN ESTABLISHED SOIL TESTING LABORATORY FOR THE FOLLOWING: GENERAL SOIL FERTILITY, PH, ORGANIC MATTER CONTENT, SALT (CEC), LIME, SODIUM ABSORPTION RATIO (SAR) AND BORON CONTENT. EACH SAMPLE SUBMITTED SHALL CONTAIN NO LESS THAN ONE QUART OF SOIL. CONTRACTOR SHALL ALSO SUBMIT THE PROJECTS PLANT LIST TO THE LABORATORY ALONG WITH THE SOIL SAMPLES. THE SOIL REPORT PRODUCED BY THE LABORATORY SHALL CONTAIN RECOMMENDATIONS FOR THE FOLLOWING (AS APPROPRIATE): GENERAL SOIL PREPARATION AND BACKFILL MIXES, PRE-PLANT FERTILIZER APPLICATIONS, AND ANY OTHERSOIL RELATED ISSUES. THE REPORT SHALL ALSO PROVIDE A FERTILIZER PROGRAM FOR THE ESTABLISHMENT PERIOD AND FOR LONG-TERM MAINTENANCE.
15. THE CONTRACTOR SHALL RECOMMEND INSTALLATION OF SOIL AMENDMENTS AND FERTILIZERS PER THE SOILS REPORT FOR THE THE OWNER/OWNER'S REPRESENTATIVE CONSIDERATION.
16. AT A MINIMUM, ALL TOPSOIL SHALL BE AMENDED WITH NITROGEN STABILIZED ORGANIC AMENDMENT COMPOST AT A RATE OF 5.3 CUBIC YARDS AND AMMONIUM PHOSPHATE 16-20-0 AT A RATE OF 15 POUNDS PER THOUSAND SQUARE FEET OF LANDSCAPE AREA. COMPOST SHALL BE MECHANICALLY INTEGRATED INTO THE TOP 6" OF SOIL BY MEANS OF ROTOTILLING AFTER CROSS-RIPPING. GROUND COVER & PERENNIALBED AREAS SHALL BE AMENDED AT A RATE OF 8 CUBIC FEET PER THOUSAND SQUARE FEET OF NITROGEN STABILIZED ORGANIC AMENDMENT AND 10 LBS. OF 12-12-12 FERTILIZER PER CU. YD, ROTOTILLED TO A DEPTH OF 8", NO MANURE OR ANIMAL-BASED PRODUCTS SHALL BE USED FOR ORGANIC AMENDMENTS.
17. ALL PARKING ISLAND SOIL TO BE TILLED OR AMENDED TO A MINIMUM DEPTH OF 30".

PLANTING

18. ALL DECIDUOUS TREES SHALL HAVE FULL, WELL-SHAPED HEADS;ALL EVERGREENS SHALL BE UNSHEARED AND FULL TO THE GROUND; UNLESS OTHERWISE SPECIFIED. TREES WITH CENTRAL LEADERS WILL NOT BE ACCEPTED IF LEADERIS DAMAGED ,R REMOVED. PRUNE ALL DAMAGED TWIGS AFTER PLANTING.
19. ALL PLANTS WITHIN A SPECIES SHALL HAVE SIMILAR SIZE, AND SHALL BE OF A FORM TYPICAL FOR THE SPECIES. ANY PLANT DEEMED UNACCEPTABLE BY THE LANDSCAPE ARCHITECT SHALL BE IMMEDIATELY REMOVED FROM THE SITE AND SHALL BE REPLACED WITH AN ACCEPTABLE PLANT OF LIKE TYPE AND SIZE AT THE CONTRACTOR'S OWN EXPENSE. ANY PLANTS APPEARING TO BE UNHEALTHY, EVEN IF DETERMINED TO STILL BE ALIVE, SHALL NOT BE ACCEPTED. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE JUDGE AS TO THE ACCEPTABILITY OF PLANT MATERIAL.
20. ALL TREES SHALL BE GUYED AND WOOD STAKED AS PER DETAILS. NO "T-STAKES" SHALL BE USED FOR TREES.
21. ALL PLANT MATERIALS SHALL BE TRUE TO TYPE, SIZE, SPECIES, QUALITY, AND FREE OF INJURY. BROKEN ROOT BALLS, PESTS, AND DISEASES, AS WELL AS CONFORM TO THE MINIMUM REQUIREMENTS DESCRIBED IN THE "AMERICAN STANDARDFOR NURSERY STOCK". FOLLOW GREENCO TREE PLANTING RECOMMENDATIONS FOR MINIMUM QUALITY REQUIREMENTS FOR TREES.
22. ALL TREE AND SHRUB BED LOCATIONS ARE TO BE STAKEDOUT ON SITE FOR APPROVAL BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
23. ALL TREES PLANTED ADJACENT TO PUBLIC AND/OR PEDESTRIAN WALKWAYS SHALL BE PRUNED CLEAR OF ALL BRANCHES BETWEEN GROUND AND A HEIGHT OF EIGHT (8) FEET FOR THAT PORTION OF THE PLAN LOCATED OVER THE SIDEWALK ANDOR ROAD.
24. ALL PLANT MATERIAL SHALL NOT BE PLANTED PRIOR TO INSTALLATION OF TOPSOIL.
25. ALL PLANT BEDS SHALL BE CONTAINED WITH STEEL EDGER. STEEL EDGER IS NOT REQUIRED ALONG CURBS, WALKS OR BUILDING FOUNDATIONS. ALL EDGING SHALL OVERLAP AT JOINTS A MINIMUM OF 6-INCHES, AND SHALL BE FASTENED WITH A MINIMUM OF 4 PINS PER EACH 10 FOOT SECTION. THE TOP OF ALL EDGING MATERIAL SHALL BE A ROLLED TOP AND 1/2 INCH ABOVE THE FINISHED GRADE OF ADJACENT LAWN OR MULCH AREAS. COLOR: GREEN.
26. THE DEVELOPER, HIS SUCCESSOR, OR ASSIGNEE SHALL BE RESPONSIBLE FOR ESTABLISHING AND CONTINUING A REGULAR PROGRAM OFMAINTENANCE FOR ALL LANDSCAPED AREAS. SEE LANDSCAPE GUARANTEE AND MAINTENANCE NOTE.
27. A 3-FOOT CLEAR SPACE SHALL BE MAINTAINED AROUND THE CIRCUMFERENCE OF ALL FIRE HYDRANTS.
28. LANDSCAPE CONTRACTOR TO SUBMIT SAMPLES OF MISCELLANEOUS LANDSCAPING MATERIALS TO THE LANDSCAPE ARCHITECTS AND OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION, IE., MULCH, EDGER, LANDSCAPE FABRIC, ETC.

MULCHING

29. AFTER ALL PLANTING IS COMPLETE, THE CONTRACTOR SHALL INSTALL A MINIMUM 4" THICK LAYER OF MULCH AS SPECIFIED IN THE PLANTING LEGEND. INSTALL A 4" THICK RING OF DOUBLE SHREDDED CEDAR BARK MULCH AROUND ALL PLANT MATERIAL IN ROCK MULCH BEDS WHERE LANDSCAPING IS SHOWN ON THE PLANS. WOOD MULCH RING SIZE SHALL BE THE CONTAINER SIZE OF THE SHRUBS, PERENNIALS, AND ORNAMENTAL GRASSES. TREE RING SIZE SHALL A MIN OF 3' DIA.
30. ALL MULCH SHALL BE HARVESTED IN A SUSTAINABLE MANNER FROM A LOCAL SOURCE.
31. INSTALL DEWITT PRO-5 WEED BARRIER FABRIC UNDER ALLROCK MULCH SHRUB BEDS SPECIFIED ON THE PLANS ONLY. NO LANDSCAPE FABRIC SHALL BE USED IN WOOD MULCH AREAS. NO PLASTIC WEED BARRIERS SHALL BE SPECIFIED.
32. ABSOLUTELY NO EXPOSED GROUND SHALL BE LEFT SHOWING ANYWHERE ON THE PROJECT AFTER MULCH HAS BEEN INSTALLED.
33. ALL PLANTING AREAS WITH LESS THAN A 4:1 GRADIENT SHALL RECEIVE A LAYER OF MULCH; TYPE AND DEPTH PER PLANS. SUBMIT 1 CUBIC FOOT SAMPLE OF MULCH (ONE SAMPLE PER TYPE) TO LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE MULCH SHALL BE SPREAD EVENLY THROUGHOUT ALL PLANTING AREAS EXCEPT SLOPES 4:1 OR STEEPER, OR AS OTHERWISE DENOTED ON THE PLAN. ABSOLUTELY NO EXPOSED GROUND SHALL REMAIN IN AREAS TO RECEIVE MULCH AFTER MULCH HAS BEEN INSTALLED.
34. ALL PLANTING AREAS ON SLOPES OVER 4:1 SHALL RECEIVE COCONUT FIBER EROSION CONTROL NETTING FROM ROLLS. NETTING SHALL BE #CT-125, AS MANUFACTURED BY NORTH AMERICAN GREEN (OR EQUAL). INSTALL AND STAKE PER MANUFACTURER'S SPECIFICATIONS. SEE ALSO THE CIVIL ENGINEER'S EROSION CONTROL PLAN.

PLANT SCHEDULE

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT.	CAL / SIZE	HT. X SPD.	WATER USE
DECIDUOUS TREES								
	ACGR	2	BIGTOOTH MAPLE	ACER GRANDIDENTATUM	B&B	2" CAL	30'X30'	MODERATE
	GTII	2	IMPERIAL HONEY LOCUST	GLEDITSIA TRIACANTHOS INERMIS 'IMPCOLE' TM	B&B	2" CAL	35'X25'	LOW
	GLTS	2	SHADEMASTER HONEY LCCUST	GLEDITSIA TRIACANTHOS INERMIS 'SHADEMASTER'	B&B	2" CAL	50'X35'	LOW
	QUSH	2	SHUMARD OAK	QUERCUS SHUMARDII	B&B	2" CAL	50'X35'	LOW
	TICO	2	LITTLELEAF LINDEN	TILIA CORDATA	B&B	2" CAL	40'X30'	MODERATE
	ULFR	2	FRONTIER ELM	ULMUS X 'FRONTIER'	B&B	2" CAL	40'X30'	MODERATE
EXISTING TREES								
		45	TREE TO BE REPLACED	PER FILING NO. 1, 4TH AMENDMENT	B&B			
		35	TREE TO BE REPLACED	PER FILING NO.1	B&B			
		12	EXISTING DECIDUOUS TREE	TO BE REMOVED	EXISTING			
		3	EXISTING EVERGREEN TREE	TO BE REMOVED	EXISTING			
		67	EXISTING DECIDUOUS TREE	TO REMAIN	EXISTING			
		36	EXISTING EVERGREEN TREE	TO REMAIN	EXISTING			

SYMBOL	CODE	QTY	COMMON NAME	BOTANICAL NAME	CONT.	HT. X SPD.	WATER USE
DECIDUOUS SHRUBS							
	RHAR	26	GRO-LOW FRAGRANT SUMAC	RHUS AROMATICA 'GRO-LOW'	#5 CONT	3'X8'	LOW
	SPJG	43	GOLDFLAME JAPANESE SPIREA	SPIRAEA JAPONICA 'GOLDFLAME'	#5 CONT	3'X2'	LOW
	SYPA	14	MISS KIM KOREAN LILAC	SYRINGA PATULA 'MISS KIM'	#5 CONT	5'X5'	VERY LOW
ORNAMENTAL GRASSES							
	BOGB	33	BLONDE AMBITION BLUE GRAMA	BOUTELOUA GRACILIS 'BLONDE AMBITION'	#1 CONT	2'X2'	LOW

GROUNDCOVER SCHEDULE

SYMBOL	QTY	COMMON NAME
GROUND COVERS		
	13,970 SF	EXISTING LANDSCAPE TO BE REPLACED PER FILING NO. 1, AMENDMENT 4 - REFER TO SHEETS 8 - 12
	139,347 SF	EXISTING LANDSCAPE TO REMAIN
MULCH		
	2,201 SF	0.5"-1" GRAY RIVER ROCK FROM TIMBER ROCK
	1,401 SF	1"-2" GRAY RIVER ROCK FROM TIMBER ROCK
	3,681 SF	DARK BROWN SHREDDED HARDWOOD MULCH

LANDSCAPE MATERIALS SCHEDULE

CODE	DESCRIPTION	QTY	DETAIL
Landscape			
	STEEL EDGER	293 LF	L2.1/DETAIL 1

TREE PROTECTION NOTES:

1. USE TOWN OF LOUISVILLE TREE PROTECTION NOTES (IF AVAILABLE), TREE PROTECTION NOTES BELOW SHALL BE USED FOR FURTHER INTEGRATION.
2. "PROTECTED ZONE" FOR EXISTING TREES: BEFORE BEGINNING ANY DEMOTION OR CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL INSTALL TEMPORARY FENCING AROUND ALL EXISTING TREES WITHIN THE CONSTRUCTION ZONE THAT ARE TO BE SAVED. THE FENCE SHALL BE INSTALLED NO CLOSER TO THE TREE THAN THE EDGE OF THE TREE'S PROTECTED ZONE, GENERALLY DEFINED AS THE AREA BEGINNING FIVE FEET OUTSIDE OF THE TREE'S DRIPLINE AND EXTENDING TOWARDS THE TREE (OR AS FAR AWAY FROM THE TRUNK AS PRACTICABLE). THE FENCING SHALL BE OF A MATERIAL AND HEIGHT ACCEPTABLE TO THE LANDSCAPE ARCHITECT. ALL CONTRACTORS AND THEIR CREWS SHALL NOT BE ALLOWED INSIDE THIS "PROTECTED ZONE" NOR SHALL THEY BE ALLOWED TO STORE OR DUMP FOREIGN MATERIALS WITHIN THIS AREA. NO WORK OF ANY KIND, INCLUDING TRENCHING, SHALL BE ALLOWED WITHIN THE PROTECTED ZONE EXCEPT AS DESCRIBED BELOW. THE FENCING SHALL REMAIN AROUND EACH TREE TO BE SAVED UNTIL THE COMPLETION OF CONSTRUCTION OPERATIONS.
3. TEMPORARY MULCH: TO ALLEVIATE SOIL COMPACTON IN ANTICIPATED AREAS OF HIGH CONSTRUCTION TRAFFIC, AND ONLY WHERE FENCING CANNOT BE SET FIVE FEET OUTSIDE OF THEDRIPLINE, THE CONTRACTOR SHALL INSTALL A LAYER OF MULCH, 9"-12" THICK, OVER ALL EXPOSED EARTH FROM THE TREE TRUNK TO 5' OUTSIDE OF THE DRIPLINE. THIS LAYER SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. WHEN PLANTING OPERATIONS ARE COMPLETED, THE MULCH SHALL BE REDISTRIBUTED THROUGHOUT ALL PLANTING AREAS IN A 3" THICK "PERMANENT" MULCH LAYER.
4. NECESSARY WORK: WHEN IT BECOMES NECESSARY TO ENTER THE "PROTECTED ZONE", SUCH AS FOR FINE GRADING, IRRIGATION INSTALLATION, AND PLANTING OPERATIONS, THE CONTRACTOR SHALL STRICTLY ADHERE TO THE FOLLOWING RULES:
   A. EVERY EFFORT SHALL BE MADE TO PRESERVE THE EXISTING GRADE AROUND PROTECTED TREES IN NS WIDE AN AREA AS POSSIBLE.
   B. TRENCHING WITHIN THE PROTECTED ZONE OF EXISTING TREES SHALL BE PERFORMED BY HAND, AND WITH EXTREME CARE NOT TO SEVER ROOTS 1-1/2" IN DIAMETER AND LARGER. WHERE ROOTS 1-1/2" IN DIAMETER AND LARGER ARE ENCOUNTERED, THE CONTRACTOR SHALL TUNNEL UNDER SAID ROOTS. EXPOSED ROOTS THAT HAVE BEEN TUNNELED UNDER SHALL BE WRAPPED IN WET BURLAP AND KEPT MOIST WHILE THE TRENCH IS OPEN.
   C. WHERE ROOTS 1-1/2" IN DIAMETER OR LARGER MUST BE CUT DUE TO EXTENSIVE GRADE CHANGES, THOSE ROOTS MUST BE EXPOSED BY HAND DIGGING AND CUT CLEANLY. RAGGED CUTS GENERALLY DO NOT HEAL PROPERLY, AND MAY LEAVE THE TREE OPEN TO PESTS AND PATHOGENS.
   D. WHERE TRENCHING NEAR TREES HAS ALREADY OCCURRED FROM PREVIOUS CONSTRUCTION OPERATIONS, THE CONTRACTOR SHALL MAKE EVERY EFFORT TO CONFINE HIS TRENCHING OPERATIONS TO THE PREVIOUSLY-CREATED TRENCHES, WHILE ADHERING TO THE CONDITIONS SET FORTH IN 3B.
5. POTENTIAL CONFLICTS: THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARBORIST SHOULD ANY POTENTIAL CONFLICTS ARISE BETWEEN THESE SPECIFICATIONS AND/OR LARGE ROOTS ENCOUNTERED IN THE FIELD, AND CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT TAKE ANY ACTION IN SUCH CONFLICTS WITHOUT THE ARBORIST'S WRITTEN APPROVAL. THE ARBORIST SHALL HAVE FINAL AUTHORITY OVER ALL METHODS NECESSARY TO HELP ENSURE THE PROTECTION AND SURVIVAL OF EXISTING TREES.
6. PRUNING: PRUNE ONLY THE TREES THAT ARE INDICATED ON THE PLANS AS REQUIRING PRUNING. PRUNE TREES ACCORDING TO INTERNATIONAL SOCIETY OF ARBORICULTURE / ANSI A300 STANDARDS:
   A. REMOVE ALL DEAD WOOD.
   B. PRUNE LIVE WOOD FOR HEALTH OR STRUCTURAL REASONS ONLY, INCLUDING THE NEED TO ELIMINA'E DISEASED OR DAMAGED GROWTH, ELIMINATE STRUCTURALLY UNSOUND GRWHTH, REDUCE THE POTENTIAL FOR WIND TOPPLING OR WIND DAMAGE, OR TO MAINTAIN GROWTH WITHIN LIMITED SPACE. DO NOT REMOVE MORE THAN 25% OF ANY TREE'S LIVE FOLIAGE IN ANY ONE GROWING SEASON. PRUNE ONLY TO INTERNATIONAL SOCIETY OF ARBORICULTURE/ANSI A300 STANDARDS, AND ONLY UNDER THE DIRECT SUPERVISION OF A CERTIFIED ARBORIST.
   C. FINAL CUTS SHALL BE MADE JUST OUTSIDE THE SHOULDER RING AREA. EXTREMELY FLUSHED CUTS WHICH PRODUCE LARGE WOUNDS SHALL NOT BE MADE.
   D. ALL TRIMMING CUTS SHALL BE PERFORMED IN SUCH A MANNER AS TO PROMOTE THE NATURAL GROWTH AND SHAPE OF EACH TREE SPECIES.
   E. IMPROPER PRUNING METHODS INCLUDING, BUT NOT LIMITED TO, "TOPPING", "TIPPING", "HEADING BACK", "DEHORNING", AND "LIONTAILING" WILL NOT BE ALLOWED. THE CONTRACTOR SHALL PAY FOR ALL WORK NECESSARY TO CORRECT SUCH PRUNING WHEN PERFORMED BY HIS CREWS OR SUBCONTRACTORS.
   F. SHOULD THE CONTRACTOR REQUIRE MORE INFORMATION, THE CONTRACTOR SHALL CONTACT THE ISA AT (217) 355-9411 FOR A COPY OF THE ANSI A300 PRUNING STANDARDS. CONTRACTOR SHALL ADHERE TO THE METHODS AND PRACTICES SET FORTH IN THIS DOCUMENT.
6. LANDSCAPE AND IRRIGATION (NATIVE TREES ONLY) ANY FUTURE LANDSCAPE AND IRRIGATION SHOULD ADHERE TO THE FOLLOWING GUIDELINES:
   A. NO IRRIGATION OR PLANTING SHOULD OCCUR CLOSER THAN 8'-10' FROM THE TRUNK.
   B. WHERE IRRIGATION DOES OCCUR WITHIN THE PROTECTED ZONE, DRIP IRRIGATION SHOULD BE USED WHEREVER POSSIBLE. ADDITIONALLY, ONLY PLANTS WITH LOW WATER NEEDS SHOULD BE PLANTED WITHIN THE PROTECTED ZONE, SPACED FAR APART WHERE CLOSE TO THE TREE. PLANTS MAY BE SPACED CLOSER TOGETHER NEAR THE EDGE OF THE PROTECTED ZONE.

LANDSCAPE REQUIREMENTS					
CODE SECTION	CATEGORY	FORMULA	CALCULATION	REQUIRED	PROVIDED
CDDSG.1.4.B	SITE COVERAGE	30% MINIMUM OPEN SPACE	588,290 SF X 0.3	176,487 SF (30% MIN)	TOTAL: 188,378 SF LANDSCAPE: 163,341 SF (28%) HARDSCAPE: 25,037 SF (4%)
CDDSG.5.3.C	PARKING LOT LANDSCAPE	1 SHADE TREE PER 8 PARKING SPACES	34 SPACES / 8 X 1	4 TREES	5 TREES
CDDSG.5.3.H.2	PARKING LOT LANDSCAPE	2 SHADE TREES PER ISLAND	6 ISLANDS X 2	12 TREES	12 TREES
CDDSG.5.3.H.3	PARKING LOT LANDSCAPE	8 SHRUBS PER ISLAND	6 ISLANDS X 8	48 SHRUBS	48 SHRUBS
CDDSG.5.6.B.3	PLANT MATERIAL	MAXIMUM 20% SINGLE SPECIES	12 TREES X 0.2	2 TREES PER 1 SPECIES (20% MAX)	2 TREES PER 1 SPECIES (20%)
CDDSG.5.6.H.3	MULCH	MAXIMUM 50% DECORATIVE ROCK	7,283 SF X 0.5	3,642 SF (50% MAX)	3,602 SF (49%)
4.10.B.5	SIGN LANDSCAPE AREA	3 SF OF LANDSCAPE AREA PER 1 SF OF OF SIGN AREA	144 SF X 3	432 SF	432 SF

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

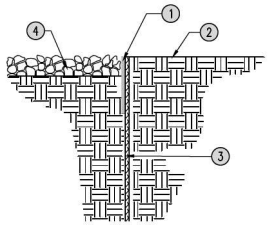
Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

LANDSCAPE NOTES

L2.0
Sheet 16 of 18

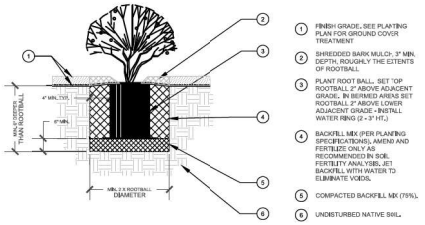
CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-J00530-2024



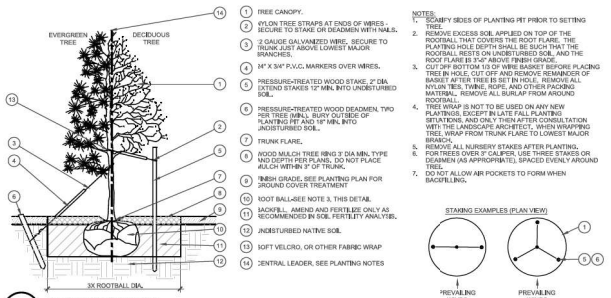
1. 3/16" x 4" RYERSON STEEL EDGING OR EQUAL
2. FINISH GRADE
3. 16" STAKES AT 30" O.C.
4. 4" DEPTH MULCH

1 STEEL EDGE
N.T.S.



1. FINISH GRADE, SEE PLANTING PLAN FOR GROUND COVER TREATMENT
2. SHREDDED BARK MULCH- 3" MIN. DEPTH, ROUGHLY THE EITENTS OF ROOTBALL
3. PLANT ROOT BALL, SET TOP ROOTBALL 2" ABOVE ADJACENT GRADE. IN BERMED AREAS SET ROOTBALL 2" ABOVE LOWER ADJACENT GRADE - INSTALL WATER RING (2 - 3" HT.)
4. BACKFILL MIX (PER PLANTING SPECIFICATIONS), AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS. JET BACKFILL WITH WATER TO ELIMINATE VOIDS.
5. COMPACTED BACKFILL MIX (75%).
6. UNDISTURBED NATIVE SOIL.

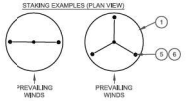
2 SHRUB AND PERENNIAL DETAIL
SCALE: NOT TO SCALE



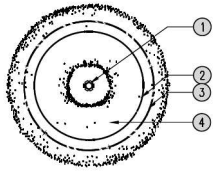
1. TREE CANOPY.
2. NYLON TREE STRAPS AT ENDS OF WIRES. SECURE TO STAKE OR DEADMEN WITH NAILS.
3. 2 GAUGE GALVANIZED WIRE. SECURE TO TRUNK JUST ABOVE LOWEST MAJOR BRANCHES.
4. 24" X 3/4" P.V.C. MARKERS OVER WIRES.
5. PRESSURE-TREATED WOOD STAKE, 2" DIA. EXTEND STAKES 12" MIN. INTO UNDISTURBED SOIL.
6. PRESSURE-TREATED WOOD DEADMEN, TYPO 1828 TREE WIRE, BURY OUTSIDE OF PLANTING PIT AND 18" MIN. INTO UNDISTURBED SOIL.
7. TRUNK FLARE.
8. WOOD MULCH TREE RING 3' DIA MIN. TYPE AND DEPTH PER PLANS. DO NOT PLACE MULCH WITHIN 3" OF TRUNK.
9. FINISH GRADE, SEE PLANTING PLAN FOR GROUND COVER TREATMENT
10. ROOT BALL-SEE NOTE 3, THIS DETAIL
11. BACKFILL. AMEND AND FERTILIZE ONLY AS RECOMMENDED IN SOIL FERTILITY ANALYSIS.
12. UNDISTURBED NATIVE SOIL
13. SOFT VELCRO, OR OTHER FABRIC WRAP
14. CENTRAL LEADER, SEE PLANTING NOTES

NOTES:
1. SCARIFY SIDES OF PLANTING PIT PRIOR TO SETTING TREE.
2. REMOVE EXCESS SOIL APPLIED ON TOP OF THE ROOTBALL THAT COVERS THE ROOT FLARE. THE PLANTING HOLE DEPTH SHALL BE SUCH THAT THE ROOTBALL RESTS ON UNDISTURBED SOIL, AND THE ROOT FLARE IS 3"-6" ABOVE FINISH GRADE.
3. CUT OFF BOTTOM 1/3 OF WIRE BASKET BEFORE PLACING TREE IN HOLE. CUT OFF AND REMOVE REMAINDER OF BASKET AFTER TREE IS SET IN HOLE. REMOVE ALL BURLAP, TIES, TWINE, ROPE, AND OTHER PACKING MATERIAL. REMOVE ALL BURLAP FROM AROUND ROOTBALL.
4. TREE WRAP IS NOT TO BE USED ON ANY NEW PLANTINGS, EXCEPT IN LATE FALL PLANTING SITUATIONS, AND ONLY THEN AFTER CONSULTATION WITH THE LANDSCAPE ARCHITECT. WHEN WRAPPING TREE, WRAP FROM TRUNK FLARE TO LOWEST MAJOR BRANCH.
5. REMOVE ALL NURSERY STAKES AFTER PLANTING.
6. FOR TREES OVER 3" CALIPER, USE THREE STAKES OR DEADMEN (AS APPROPRIATE), SPACED EVENLY AROUND TREE.
7. DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.

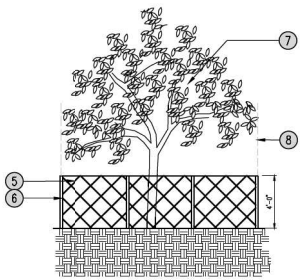
STAKING EXAMPLES (PLAN VIEW)



3 TREE PLANTING DETAIL
SCALE: NOT TO SCALE



1. TRUNK PROTECTION BOARDS MIN. 2" THICK. BENEATH BOARDS ARE 3-4 LAYERS OF BURLAP AROUND TRUNK. TIE BOARDS SECURELY AT TOP, BOTTOM & CENTER WITH HEAVY DUTY CORD, WIRE, OR CABEL CHOKERS.
2. OUTLINE OF TREE CROWN (EDGE OF DRIPLINE) CORRESPONDS WITH ROOT SPREAD.
3. CONSTRUCTION FENCING (MIN. 4' HEIGHT)
4. WOOD MULCH – SEE MULCH
5. PLASTIC ORANGE CONSTRUCTION FENCE TIED TO T-POST
6. T-POST AT 8'-0" O.C. (TYP.)
7. EXISTING TREE
8. DRIPLINE



4 TREE PROTECTION DETAIL
N.T.S.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KSS000142.02
Drawn By:	LJP
Checked By:	SRM
Date:	APRIL 11, 2025

LANDSCAPE DETAILS

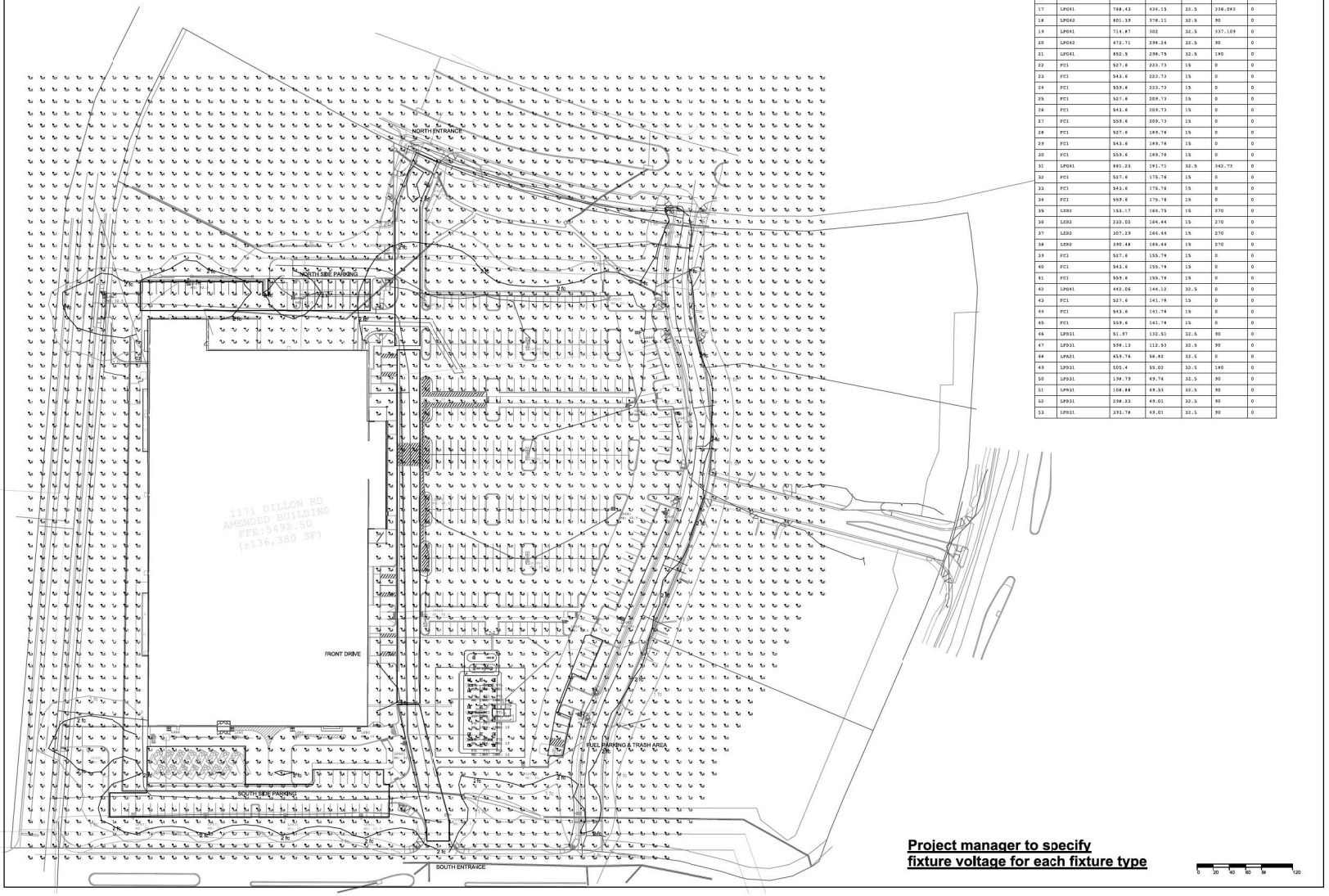
L2.1
Sheet 17 of 18

Luminaire Schedule								
Symbol	Qty	Label	Arrangement	Lum. Watts	Total Watts	Lum. Lumens	LLF	Description
	16	FC1	SINGLE	103	1654	19410	1.000	SCV-LED-15L-6C-W
	4	LPA21	Single	100,9	403,6	19856	0,941	GALN-SB2Q-740VOLT-T3-BZ
	8	LPB31	Single	218,1	1744,8	37926	0,941	GALN-SB3D-740VOLT-T4FT-XX
	2	LPB41	Single	293,6	587,2	42846	0,941	GALN-SB4D-740VOLT-T4FT-XX
	10	LPG41	Single	293,6	2936	43644	0,941	GALN-SB4D-740VOLT-WHQ-BZ
	7	LPG42	Back-Back	293,6	4116,4	43644	0,941	GALN-SB4D-740VOLT-SWQ-BZ
	4	LZB2	Single	124,5	498	19870	0,941	GWB-SA2F-740-VOLT-T4FT-BZ

Total Watts = 12134

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
CalcPts@Grids	Illuminance	Fc	1,68	11,2	0,0	N.A.	N.A.
FUEL CANOPY	Illuminance	Fc	44,41	53,4	37,5	1,18	1,42
FRONT DRIVE	Illuminance	Fc	3,90	5,6	2,0	1,95	2,80
FUEL PARKING & TRASH AREA	Illuminance	Fc	3,55	4,1	3,2	1,11	1,28
NORTH ENTRANCE	Illuminance	Fc	2,89	5,5	1,4	2,06	3,93
NORTH SIDE PARKING	Illuminance	Fc	2,54	3,7	1,6	1,59	2,31
SOUTH ENTRANCE	Illuminance	Fc	3,20	4,1	2,2	1,45	1,86
SOUTH SIDE PARKING	Illuminance	Fc	3,08	4,2	2,0	1,54	2,10

Luminaire Location Summary						
LumNr	Label	X	Y	Z	Orient	Tilt
1	LPA21	479.32	841.17	32.5	153.434	0
2	LPA21	769.91	789.41	32.5	0	0
3	LPB41	177.94	725.34	32.5	270	0
4	LPB41	71.82	708.73	32.5	270	0
5	LPG41	307.95	706.73	32.5	270	0
6	LPB31	702.52	705.4	32.5	270	0
7	LPG42	471.54	699.22	32.5	90	0
8	LPA21	755.5	695.36	32.5	0	0
9	LPG41	743.35	657.9	32.5	180	0
10	LPG42	601.59	643.73	32.5	90	0
11	LPG42	472.71	587.2	32.5	90	0
12	LPG41	731.61	566.57	32.5	180	0
13	LPG41	783.18	557.19	32.5	0	0
14	LPG42	601.39	506.22	32.5	90	0
15	LPG41	713.79	497.57	32.5	180	0
16	LPG42	472.71	437.19	32.5	90	0
17	LPG41	768.43	436.15	32.5	336.083	0
18	LPG42	601.39	376.11	32.5	90	0
19	LPG41	714.87	302	32.5	337.109	0
20	LPG42	472.71	298.24	32.5	90	0
21	LPG41	652.5	296.75	32.5	180	0
22	FC1	527.6	223.73	15	0	0
23	FC1	543.6	223.73	15	0	0
24	FC1	559.6	223.73	15	0	0
25	FC1	527.6	209.73	15	0	0
26	FC1	543.6	209.73	15	0	0
27	FC1	559.6	209.73	15	0	0
28	FC1	527.6	189.74	15	0	0
29	FC1	543.6	189.74	15	0	0
30	FC1	559.6	189.74	15	0	0
31	LPG41	881.23	181.71	32.5	382.73	0
32	FC1	527.6	175.74	15	0	0
33	FC1	543.6	175.74	15	0	0
34	FC1	559.6	175.74	15	0	0
35	LZB2	153.17	164.73	15	270	0
36	LZB2	232.02	164.44	15	270	0
37	LZB2	307.29	164.44	15	270	0
38	LZB2	390.44	164.44	15	270	0
39	FC1	527.6	155.74	15	0	0
40	FC1	543.6	155.74	15	0	0
41	FC1	559.6	155.74	15	0	0
42	LPG41	441.66	144.12	32.5	0	0
43	FC1	527.6	141.74	15	0	0
44	FC1	543.6	141.74	15	0	0
45	FC1	559.6	141.74	15	0	0
46	LPB31	91.97	132.51	32.5	90	0
47	LPB31	599.13	112.93	32.5	90	0
48	LPA21	459.76	96.82	32.5	0	0
49	LPB31	505.4	95.02	32.5	180	0
50	LPB31	134.73	49.74	32.5	90	0
51	LPB31	168.88	49.93	32.5	90	0
52	LPB31	208.23	49.01	32.5	90	0
53	LPB31	393.78	49.01	32.5	90	0



Project manager to specify fixture voltage for each fixture type

0 20 40 60 80 120

COOPER Lighting Solutions
Applications Engineering
1121 Highway 74 South
Peachtree City, GA 30269
tel no: 770-486-45xx
fax no: 770-486-4599
e-mail: mi4all@cooperlightingsolutions@cooperlighting.com

We make no representation as to its completeness, currency or accuracy because of reasons inherent to CAD and the additional digital data used to produce a lighting application. All data contained herein is provided "as is" without warranty of any kind, either expressed or implied, including but not limited to any implied warranties of merchantability, fitness for a particular purpose, or non-infringement. The user of this data takes full responsibility for the accuracy and correctness of all measurements, area, inventories or other data extracted from this, either manually or with the use of a computer. This light level analysis in an estimate only, and is based on estimated reflectance values for interior applications or estimated pole mounting heights for exterior applications. Actual light levels may vary due to reflectance values of surrounding surfaces, obstructions, and other factors. Cooper Lighting Solutions does not guarantee actual light levels obtained. This analysis is a mathematical model and can be only as accurate as is permitted by the third party software and the IES standards used. In addition tolerances and application variances. The presence of objects will decrease light levels and may cause some shadowing.
Lighting application drawings are being provided to the recipient of this disclaimer.

Project Name: KROGER KS-142 Louisville, CO

Client: The Kroger Co. Tara Shadowen

Drawn By: EL

Date: 4/8/2025

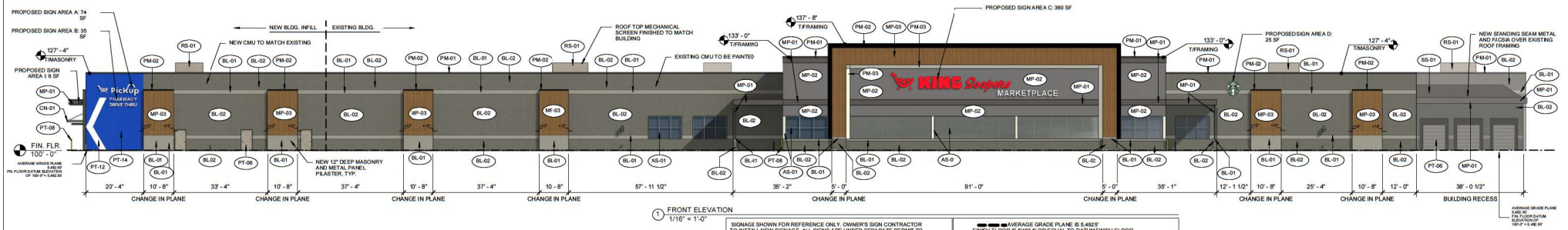
Scale: 1" = 60'

Project No: 2401285D.AGI

Sheet 18 of 18

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMMENDMENT

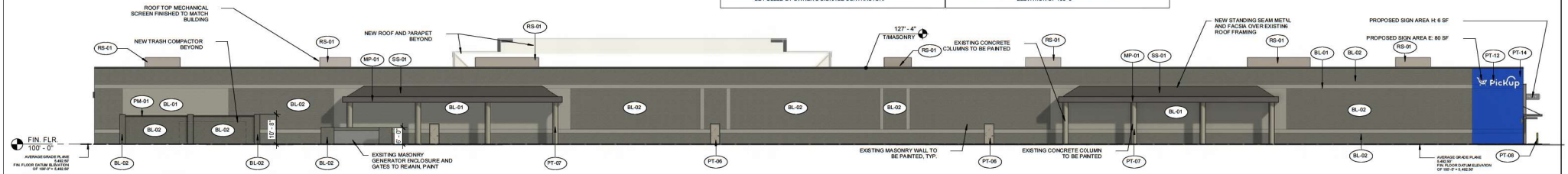
PARCEL L, LOT 5 FILING NO.1,
CASE#: PUD-000530-2024



1 FRONT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY. OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE. ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

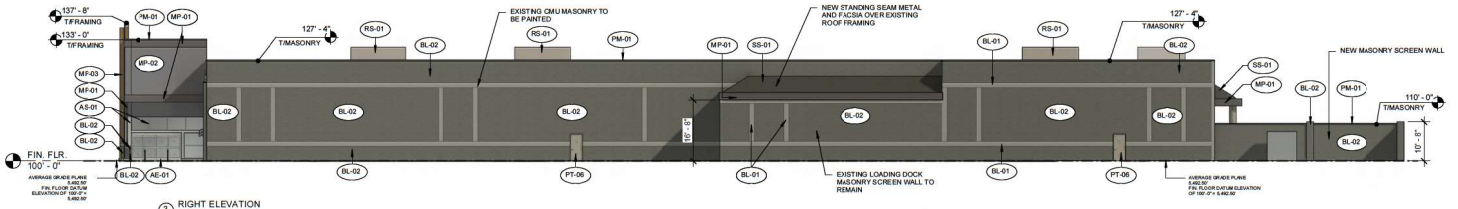
AVERAGE GRADE PLANE IS 5,492.5' FINISH FLOOR IS 5'492.5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



2 REAR ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY. OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE. ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

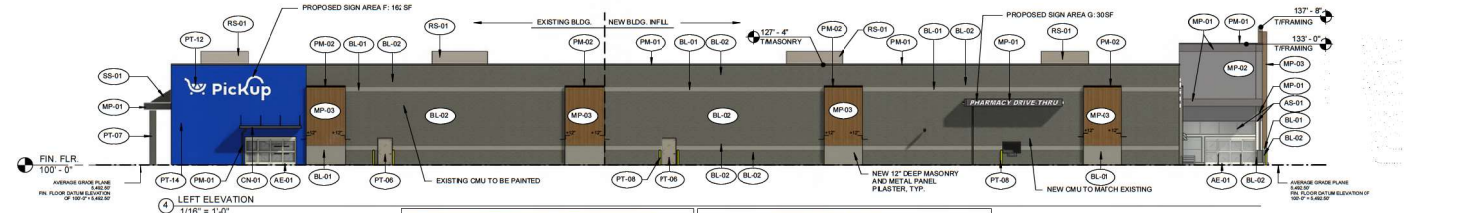
AVERAGE GRADE PLANE IS 5,492.5' FINISH FLOOR IS 5'492.5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



3 RIGHT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY. OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE. ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

AVERAGE GRADE PLANE IS 5,492.5' FINISH FLOOR IS 5'492.5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"



4 LEFT ELEVATION
1/16" = 1'-0"

SIGNAGE SHOWN FOR REFERENCE ONLY. OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE. ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

AVERAGE GRADE PLANE IS 5,492.5' FINISH FLOOR IS 5'492.5' OR EQUAL TO DATUM FINISH FLOOR ELEVATION OF 100'-0"

PROPOSED BUILDING AND MONUMENT SIGN AREAS	
BUILDING SIGNS	
LOCATION	**AREA**
FRONT ELEVATION	
SIGN 'A' - "PICK UP" - WALL MOUNTED	74 SQUARE FEET
SIGN 'B' - "PHARMACY DRIVE THRU" - WALL MOUNTED	35 SQUARE FEET
SIGN 'C' - "KING SOOPERS MARKETPLACE" - WALL MOUNTED	360 SQUARE FEET
SIGN 'D' - "STARBUCKS" - WALL MOUNTED	25 SQUARE FEET
SIGN 'I' - "EXIT" - MOUNTED TO DRIVE THRU CANOPY	6 SQUARE FEET
REAR ELEVATION	
SIGN 'E' - "PICK UP" - WALL MOUNTED	80 SQUARE FEET
SIGN 'H' - "ENTER" - MOUNTED TO DRIVE THRU CANOPY	6 SQUARE FEET
LEFT ELEVATION	
SIGN 'F' - "PICK UP" - WALL MOUNTED	162 SQUARE FEET
SIGN 'G' - "PHARMACY DRIVE THRU" - MOUNTED TO DRIVE THRU CANOPY	30 SQUARE FEET
BUILDING SUBTOTAL AREA	**778 SQUARE FEET**
MONUMENT SIGN	
SOUTH ENTRY (SEE NEXT SHEET FOR PROPOSED RENDERING)	78 SQUARE FEET

EXTERIOR FINISHES

MATERIAL	DESCRIPTION	MANUFACTURER	FINISH
AE-01	PREFINISHED ALUMINUM STOREFRONT DOOR	STANLEY	CLEAR ANODIZED
AS-01	PREFINISHED ALUMINUM STOREFRONT		CLEAR ANODIZED
BL-01	EXISTING OR NEW TO MATCH EXISTING SMOOTH FACED CMU - PAINTED	SHERWIN WILLIAMS	MINDFUL GRAY, SW7016
BL-02	EXISTING OR NEW TO MATCH EXISTING SPLIT FACED CMU - PAINTED	SHERWIN WILLIAMS	GAUNTLET GRAY, SW7019
CN-01	PREMANUFACTURED CANOPY	ARCHITECTURAL FABRICATIONS INC.	SLATE GRAY
MP-01	METAL PANEL - SMOOTH		SLATE GRAY
MP-02	METAL PANEL - CORRUGATED		SILVERSMITH
MP-03	CONCEALED FASTENER LAP-SEAM METAL WALL PANEL	LIGHT CHERRY	CEDAR
PM-01	PREFINISHED METAL		SLATE GRAY
PM-02	PREFINISHED METAL		MATTE BLACK
PM-03	PREFINISHED METAL		WHITE
PT-06	PAINTED METAL	SHERWIN WILLIAMS	MINDFUL GRAY SW7016
PT-07	PAINTED METAL	SHERWIN WILLIAMS	GAUNTLET GRAY SW7019
PT-08	PAINT	SHERWIN WILLIAMS	SW6494 SAFETY YELLOW
PT-12	PAINT	SHERWIN WILLIAMS	WHITE
PT-14	PAINT	SHERWIN WILLIAMS	KROGER BLUE PMS 2728C
RS-01	ROOFTOP EQUIPMENT MOUNTED ROOF SCREEN	ENVISOR OR EQUIV.	VERTICAL BATTEN PATTERN COLOR TO MATCH BUILDING
SO-01	VINYL SOFFIT PANEL	CERTAINTEED	GRANITE GRAY
SS-01	STANDING SEAM / VERTICAL BATTEN METAL	WESTERN STATES METAL	BLACK ORE MATTE

Naos Design Group, LLC
4949 S. SYRACUSE STREET
SUITE 463
DENVER, COLORADO 80237
(p) 303.759.5777 (f) 720.360.4281
www.naosdg.com

KING SOOPERS 142

WEST DILLON ROAD AND CENTURY PLACE
LOUISVILLE, CO

3 of 14 - ELEVATIONS

JOB #: 2024047 **DATE:** 02/28/2025

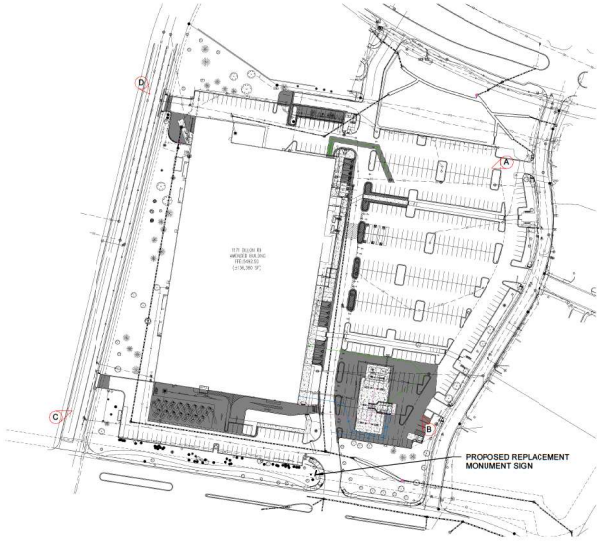
SCALE: 1/16" = 1'-0"

COPYRIGHT © 2023 NAOS DESIGN GROUP LLC.
THESE DRAWINGS, OR PARTS THERE OF, MAY NOT BE REPRODUCED IN ANY FORM, BY ANY METHOD, FOR ANY PURPOSE, WITHOUT PRIOR WRITTEN CONSENT FROM NAOS

THESE DOCUMENTS ARE FOR REVIEW ONLY. DOCUMENTS MUST BE APPROVED BY THE JURISDICTION AND THE DEVELOPER. DIMENSIONS AND AREAS ARE APPROXIMATE.

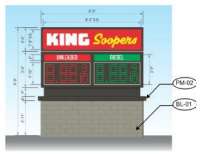
CENTENNIAL VALLEY PARCEL L PUD, 5TH AMMENDMENT

PARCEL L, LOT 5 FILING NO.1;
CASE#: PUD-000530-2024



SITE PLAN - VIEW POINT REFRENCE
SCALE: N.T.S FFE 5492.5'

NORTH

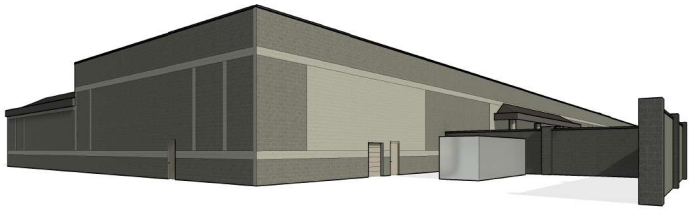


PRPOSED MONUMENT SIGN ELEVATION
SCALE: N.T.S.

A NORTH EAST CORNER FROM PARKING LOT PROPERTY LINE
SCALE: N.T.S. ELEVATION OF VIEW: 5.490'

B SOUTH EAST CORNER FROM PARKING LOT PROPERTY LINE
SCALE: N.T.S. ELEVATION OF VIEW: 5.490'

C SOUTH WEST CORNER FROM CENTURY PLACE PROPERTY LINE
SCALE: N.T.S. ELEVATION OF VIEW: 5.490'



D NORTH WEST CORNER FROM CENTURY PLACE PROPERTY LINE
SCALE: N.T.S. ELEVATION OF VIEW: 5.490'

SIGNAGE SHOWN FOR REFERENCE ONLY. OWNER'S SIGN CONTRACTOR TO INSTALL NEW SIGNAGE. ALL SIGNS ARE UNDER SEPARATE PERMIT TO BE PULLED BY OWNER'S SIGNAGE CONTRACTOR.

naos
Naos Design Group, LLC
4949 S. SYRACUSE STREET
SUITE 460
DENVER, COLORADO 80237
(p) 303.759.5777 (f) 720.360.4281
www.naosdg.com

KING SOOPERS 142

WEST DILLON ROAD AND CENTURY PLACE
LOUISVILLE, CO

THESE DOCUMENTS ARE FOR REVIEW ONLY. DOCUMENTS MUST BE APPROVED BY THE JURISDICTION AND THE DEVELOPER. DIMENSIONS AND AREAS ARE APPROXIMATE.

TRAFFIC IMPACT STUDY

KING SOOPERS 142

Louisville, CO

PREPARED FOR:
King Soopers

PREPARED BY:
Brian Horan, PE, PTOE
Daniela Gonzalez
Cooper Riddell-Brosig

Galloway & Company, Inc.
5500 Greenwood Plaza Blvd, Suite 200
Greenwood Village, CO 80111

DATE:
February 7, 2025
REVISED: April 14, 2025

TABLE OF CONTENTS

Executive Summary 5
Site Location and Study Area 5
Description of Proposed Development 5
Conclusions and Recommendations 5
Conclusions 5
Recommendations 6
I. Introduction 7
Overview 7
Site Location and Study Area 7
Site Description and Access 8
Figure 1-1 Site Location 9
Figure 1-2 Site Plan 10
Figure 1-3 Existing Zoning 11
II. Background Information 12
Study Area 12
Study Assumptions 12
Study Methodology 12
Existing Roadway Network 12
Figure 2-1 Existing Lane Use and Traffic Control 14
III. Analysis of Existing Conditions 15
Traffic Volumes 15
Existing Levels of Service 15
Existing Intersection Queues 15
Figure 3-1 Existing Volumes 16
Figure 3-2 Existing Levels of Service 17
Table 3-1 Existing Levels of Service 18
Table 3-2 Existing Queues 19
IV. Analysis of Future Conditions without Site Development 20
Methodology 20
Regional Growth 20
Pipeline Developments 20
Background Traffic Forecasts 20
Background Future Levels of Service 20
Background Future Queueing 21

Figure 4-1 Background Growth 2026 22
Figure 4-2 Background Growth 2045 23
Figure 4-3 Pipeline Location 24
Figure 4-4 Pipeline Site Trips 25
Figure 4-5 Background Future Forecasts 2026 26
Figure 4-6 Background Future Forecasts 2045 27
Figure 4-7 Background Future Levels of Service 2026 28
Figure 4-8 Background Future Levels of Service 2045 29
Table 4-1 Background Levels of Service 30
Table 4-2 Background Queues 31
V. Site Analysis 32
Overview 32
Proposed Site Access 32
Trip Generation 32
Figure 5-1 Pass-by Trips 34
Figure 5-2 Site Trips 35
Table 5-1 Site Trip Generation 36
VI. Analysis of Future Conditions with Site Development 37
Total Future Traffic Forecasts 37
Total Future Levels of Service with Proposed Development 37
Total Future Queuing 37
Figure 6-1 Total Future Forecasts 2026 38
Figure 6-2 Total Future Forecasts 2045 39
Figure 6-3 Total Future Levels of Service 2026 40
Figure 6-4 Total Future Levels of Service 2045 41
Table 6-1 Future Levels of Service 42
Table 6-2 Future Queues 43
VII. Conclusions and Recommendations 44
Conclusions 44
Recommendations 44

Appendices:

A. Full Sized Conceptual Site Plan
B. LOS Descriptions
C. Traffic Counts
D. Existing Synchro Outputs
E. Background (without site development) Synchro Outputs
F. Future (with site development) Synchro Outputs

Executive Summary

Site Location and Study Area

The property that comprises the application area for the proposed redevelopment is approximately 13.5 acres in size and is identified as Boulder County Parcel Numbers 157713016001 and 157713016002. It is located south of Centennial Pkwy, north of Dillon Rd, east of Century Pl, and west of McCaslin Blvd in Louisville, CO. It is zoned Planned Community Commercial (P-C) and is currently occupied by a vacant commercial building, previously serving as a home improvement superstore use.

The study area is generally bounded by Centennial Pkwy to the north, Century Pl to the west, McCaslin Blvd to the east, and Dillon Rd to the south. The study area for the project includes intersections that could be affected by the proposed development which were confirmed by review of City Staff:

- Centennial Pkwy & Century Pl
- Centennial Pkwy & N Site Access
- Centennial Pkwy & McCaslin Blvd
- E Site Access & McCaslin Blvd
- Dillon Rd & McCaslin Blvd
- Dillon Rd & S Site Access
- Dillon Rd & Century Pl

Description of Proposed Development

The Applicant, King Soopers, seeks to redevelop the property with commercial uses consisting of supermarket and gas station uses. No change to the site access is proposed.

Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the signalized intersections in the study area currently operate at acceptable overall levels of service (LOS) “D” or better during the weekday peak hours. The unsignalized intersection movements in the study area currently operate at acceptable LOS “B” or better during the weekday peak hours. All queues are contained within their effective storage.

- Under background future 2026 and 2045 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth. The signalized intersections in the study area are forecasted to operate at acceptable overall LOS “D” or better during the weekday peak hours with the exception of the Dillon Rd & McCaslin Blvd intersection which is forecasted to operate at LOS “E” during the long range (2045) weekday PM peak hour. The unsignalized intersection movements in the study area would operate at acceptable LOS “C” or better during the weekday peak hours. All queues are expected to be contained within their effective storage with the exception of the eastbound left movement at the Centennial Pkwy & McCaslin Blvd intersection during the long range (2045) weekday AM peak hour.

- The proposed site redevelopment would generate, upon completion and full occupancy, 399 net new weekday AM and 755 net new weekday PM peak hour vehicle trips as well as 10,301 net new weekday daily trips.

- Under total future 2026 and 2045 traffic conditions with development of the site, the signalized intersections within the study area would continue to operate at acceptable overall LOS “D” or better during the weekday peak hours in all total future scenarios with the exception of the Dillon Rd & McCaslin Blvd intersection which would operate at LOS “E” during the weekday PM peak hour for total future 2026 and 2045 conditions. The unsignalized intersection movements in the study area would operate at acceptable LOS “D” or better during the weekday peak hours in all future scenarios.

- Under total future 2026 and 2045 traffic conditions with development of the site, all queues are expected to be contained within their effective storage with the exception of the eastbound left turn lane at the intersection of Centennial Pkwy & McCaslin Blvd which would exceed the available storage during all total future scenarios.

Recommendations

- It is recommended that the Applicant provide access consistent with the site plan contained herein.

- It is recommended that the signal timings at Dillon Rd & McCaslin Blvd be optimized once the subject site is operational to improve overall operations of the intersection including better LOS and accommodate anticipated queues.

- It is recommended that the eastbound left turn lane at Centennial Pkwy & McCaslin Blvd be extended to accommodate the queue.

I. Introduction

Overview

This report presents the results of a Traffic Impact Study (TIS) conducted in support of a site plan to redevelop a property with commercial uses consisting of supermarket and gas station uses in Louisville, CO. Currently the site is occupied by a vacant commercial building, previously serving as a home improvement superstore use.

Per the requirements of the City of Louisville, a Transportation Impact Study is required to support the proposed redevelopment.

Site Location and Study Area

The property that comprises the application area for the proposed redevelopment is approximately 13.5 acres in size and is identified as Boulder County Parcel Numbers 157713016001 and 157713016002. It is located south of Centennial Pkwy, north of Dillon Rd, east of Century Pl, and west of McCaslin Blvd in Louisville, CO, as shown in Figure 1-1. It is zoned Planned Community Commercial (P-C) and is occupied by a vacant commercial building, previously serving as a home improvement superstore use. Site access is proposed via the existing right-in/right-out (RIRO) access on Centennial Pkwy, full movement access on Centennial Pkwy, ¾ movement access on McCaslin Blvd, RIRO access on Dillon Rd, two full movement accesses on Dillon Rd, and two full movement accesses on Century Pl. No change in site access is proposed.

The Applicant, King Soopers Stores, seeks to redevelop the property with a supermarket and a gas station use. A reduction of the Applicant's proposed conceptual site plan is provided in Figure 1-2. A full-size copy of the plan is provided in Appendix A.

The study area is generally bounded by Centennial Pkwy to the north, Century Pl to the west, McCaslin Blvd to the east, and Dillon Rd to the south.

Tasks undertaken during this study included the following:

1. Reviewed the Applicant's proposed development plans and other background data.
2. Conducted a virtual field reconnaissance of existing roadway and intersection geometries, traffic controls, and speed limits.
3. Collected peak hour turning movement counts at the key intersections.
4. Analyzed existing levels of service at each of the key study intersections based on the methodologies set forth in the Highway Capacity Guidelines (HCM) 7th Edition and reports generated by Synchro as reported by Synchro version 12 software.
5. Forecasted background future traffic volumes based on baseline traffic counts, pipeline projects, and regional traffic growth for 2026 (build-out) and 2045 (long-range) conditions.
6. Calculated background levels of service at each of the key study intersections for the projected build-out years based on background future traffic forecasts, and the existing lane use and traffic controls.

7. Estimated the number of AM and PM peak hour trips that would be generated by the proposed uses based on the Institute of Transportation Engineers (ITE) Trip Generation 11th Edition rates/equations and methodologies.

8. Prepared AM and PM peak hour total future traffic forecasts based on background traffic forecasts plus site traffic assignments for the 2026 (build-out), as well as 2045 (long-range) conditions.

9. Calculated total future levels of service for each of the key study intersections based on projected total future traffic forecasts, and existing lane use and traffic controls.

10. Identified roadway improvements required to accommodate future traffic volumes, as necessary.

Sources of data for this analysis included the Institute of Transportation Engineers (ITE) Trip Generation, 11th edition, the Highway Capacity Guidelines HCM 7th, Synchro 12, King Soopers Stores, City of Louisville, Colorado, CDOT, and the files/library of Galloway.

Site Description and Access

Site Conditions
The terrain proximate to and surrounding the site is generally classified as “level”.

Hazardous Conditions
Based on the field reconnaissance in the vicinity of the subject site, no hazardous features or constraints were identified.

Proposed Site Access
Access to the site is proposed via the existing right-in/right-out (RIRO) access on Centennial Pkwy, full movement access on Centennial Pkwy, ¾ movement access on McCaslin Blvd, RIRO access on Dillon Rd, two full movement accesses on Dillon Rd, and two full movement accesses on Century Pl.

Existing Zoning
The subject site is currently zoned Planned Community Commercial (P-C) and is currently occupied by a vacant commercial building, previously serving as a home improvement superstore use. Figure 1-3 depicts the existing zoning associated with the subject property, as well as neighboring properties as shown on the City of Louisville zoning map.

Nearby Uses
The properties surrounding the subject site are generally developed with commercial uses to the east and south, and office uses to the west and north.

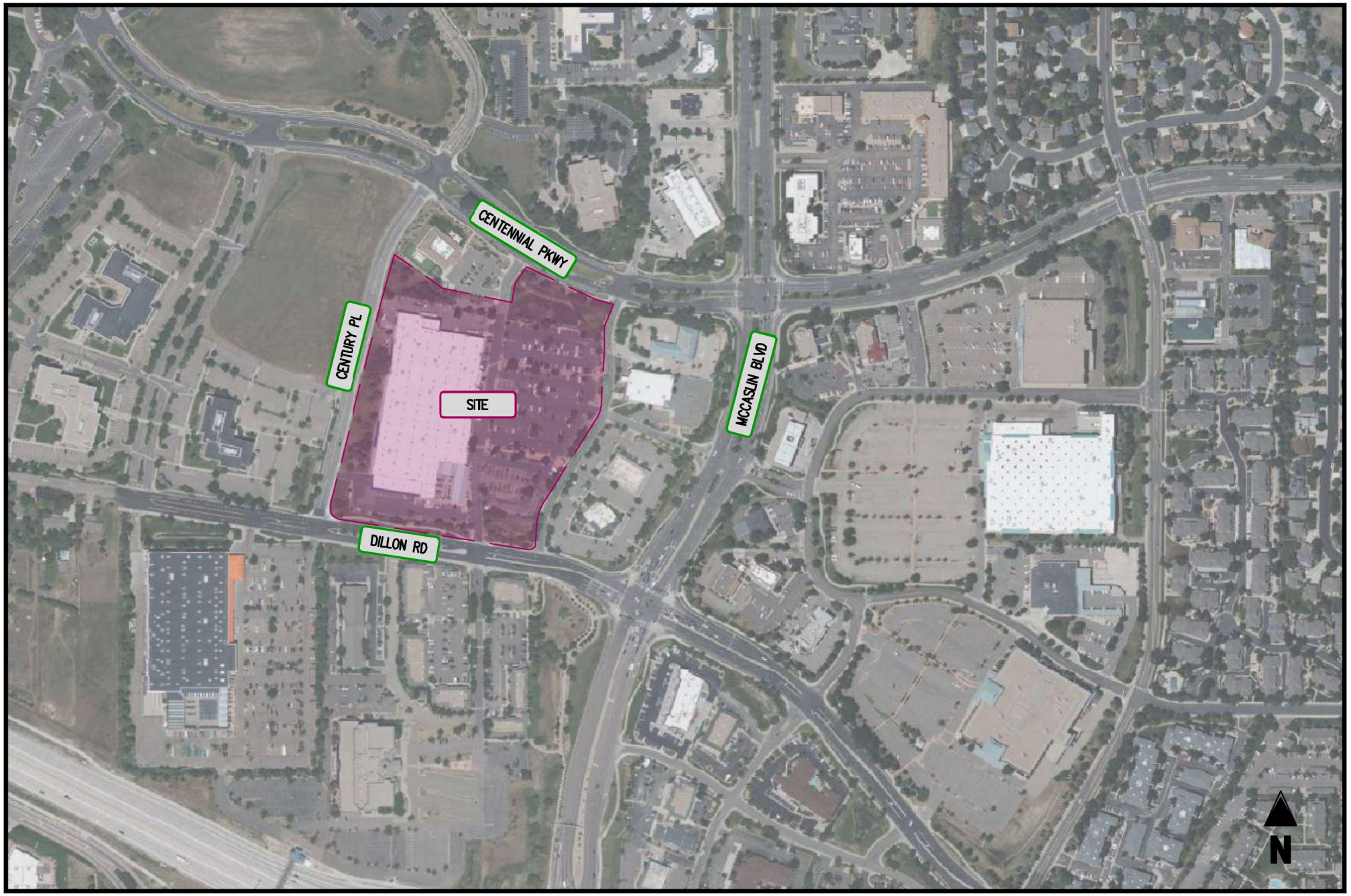


FIGURE 1-1
SITE LOCATION

KING SOOPERS
LOUISVILLE, CO

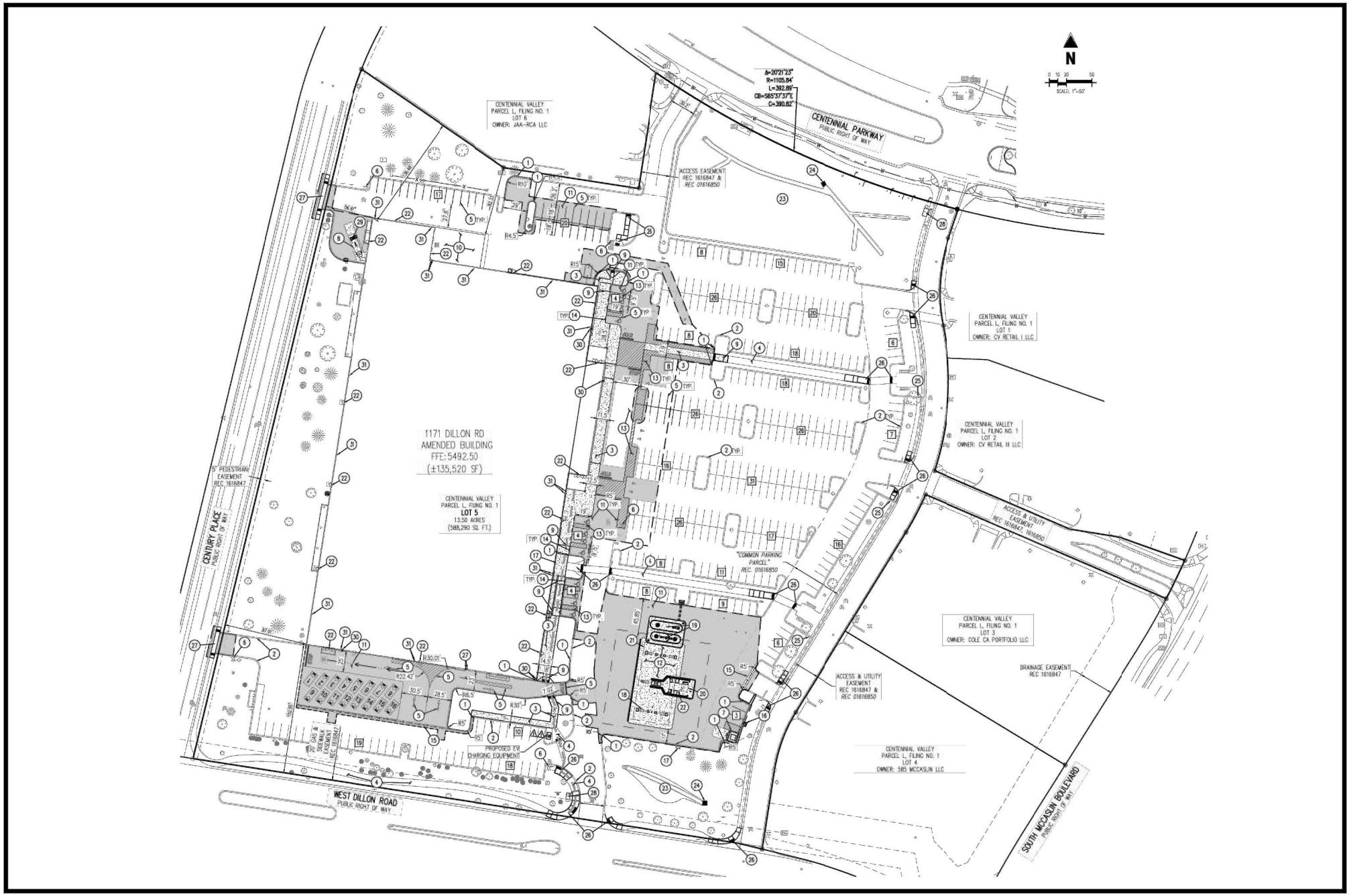


FIGURE 1-2
SITE PLAN

KING SOOPERS
LOUISVILLE, CO

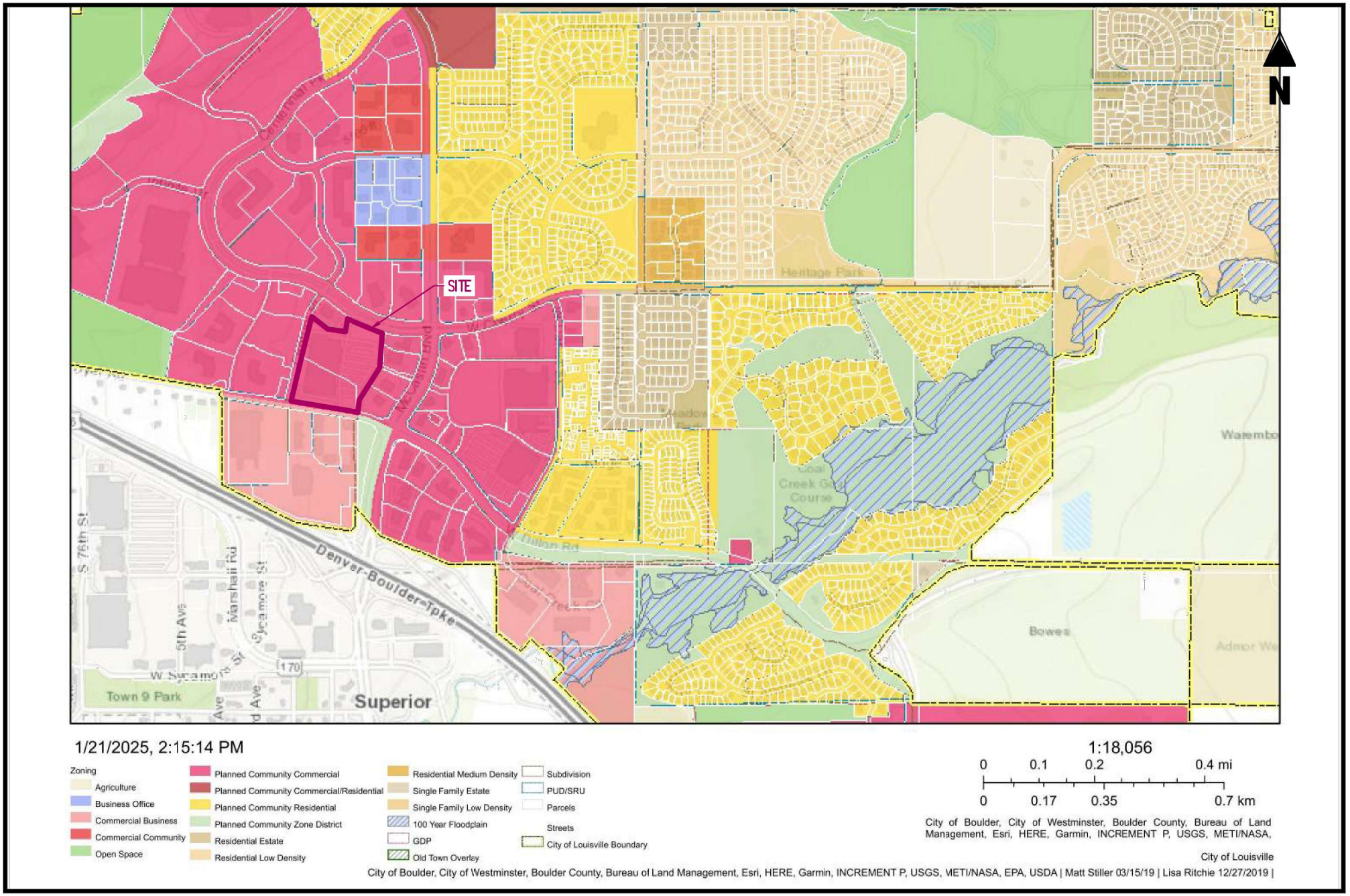


FIGURE 1-3
EXISTING ZONING

KING SOOPERS
LOUISVILLE, CO

II. Background Information

Study Area

The study area was determined by a review of intersections that would experience a significant portion of turning movement volumes generated by the site. As such, the traffic study focuses primarily on the following intersections:

Study Intersections

- Centennial Pkwy & Century Pl
- Centennial Pkwy & N Site Access
- Centennial Pkwy & McCaslin Blvd
- E Site Access & McCaslin Blvd
- Dillon Rd & McCaslin Blvd
- Dillon Rd & S Site Access
- Dillon Rd & Century Pl

Study Assumptions

For purposes of this analysis only, the proposed use was assumed to be built and occupied in one distinct phase. It was assumed that the use would be built and operational in study year 2026. A long-term analysis of 2045 is also provided.

Study Methodology

Synchro software version 12 was used to evaluate levels of service at each of the study intersections during the weekday AM and PM peak hours. Synchro is a macroscopic model used for optimizing traffic signal timing and performing capacity analyses. The software can model existing traffic signal timings or optimize splits, offsets, and cycle lengths for individual intersections, an arterial, or a complete network. Synchro allows the user to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings as well as optimize traffic signal timings.

The levels of service reported for the signalized and unsignalized intersections analyzed herein were taken from the Highway Capacity Manual (HCM) 7th and reports generated by Synchro. Level of service descriptions are included in Appendix B.

A default percent heavy vehicle (%HV) factor of 2% was used for all movements in the study area.

Existing Roadway Network

Regional access to the subject site is provided by McCaslin Blvd, and local access is provided via Centennial Pkwy/Cherry St and Dillon Rd. Figure 2-1 depicts existing lane use and traffic controls in the vicinity of the subject site. The following provides a description of each of the roadways within the study network.

McCaslin Blvd

McCaslin Blvd is constructed as a six-lane median divided section with turn lanes at major intersections. The posted speed limit is 35 mph in the vicinity of the subject site. The roadway functions as an arterial and provides north-south connection through the County and connection to Hwy 36 to the south. The intersections with Centennial Pkwy and Dillon Rd operate under signalized control.

Centennial Pkwy

Centennial Pkwy is constructed as a two-lane median divided roadway with turn lanes at major intersections. The roadway functions as an arterial providing east-west connection for a number of commercial and residential areas. The intersections along its length operate under stop control with the exception of the intersection with McCaslin Blvd which operates under signalized control.

Dillon Rd

Dillon Rd is constructed as a four-lane median divided roadway in the vicinity of the subject site. The posted speed limit is 30-40 mph going westbound in the vicinity of the subject site. There was no posted speed limit going eastbound on the roadway, so 30 mph was used for the analysis to be consistent with westbound speed limits. The roadway functions as an arterial providing east-west connection for a number of commercial and residential areas. The intersections along its length operate under stop control with the exception of the intersection with McCaslin Blvd which operates under signalized control.

FIGURE 2-1
EXISTING LANE USE AND TRAFFIC CONTROL

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN

III. Analysis of Existing Conditions

Traffic Volumes

Weekday AM and PM peak hour traffic volume counts were conducted on Tuesday January 14, 2025, from 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM at the study intersections by IDAX Data Solutions.

The existing volumes are summarized in Figure 3-1. Copies of traffic counts are included in Appendix C. Existing peak hour factors (PHF) were also computed by approach from the traffic counts and applied to the analysis with a minimum of 0.85 and a maximum of 0.92.

Existing Levels of Service

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the existing lane use and traffic controls shown in Figure 2-1 and existing baseline vehicular traffic volumes shown in Figure 3-1. The capacity analysis results are presented in Appendix D and summarized in Table 3-1 and in Figure 3-2.

As shown in Table 3-1 the signalized intersections in the study area currently operate at acceptable overall levels of service (LOS) “D” or better during the weekday peak hours. The unsignalized intersection movements in the study area currently operate at acceptable LOS “B” or better during the weekday peak hours.

Existing Intersection Queues

An analysis of intersection 95th-percentile queues was performed at key locations. The results of the queuing analysis, as reported by Synchro, are summarized in Table 3-2. As shown in the table, all queues are contained within their effective storage.

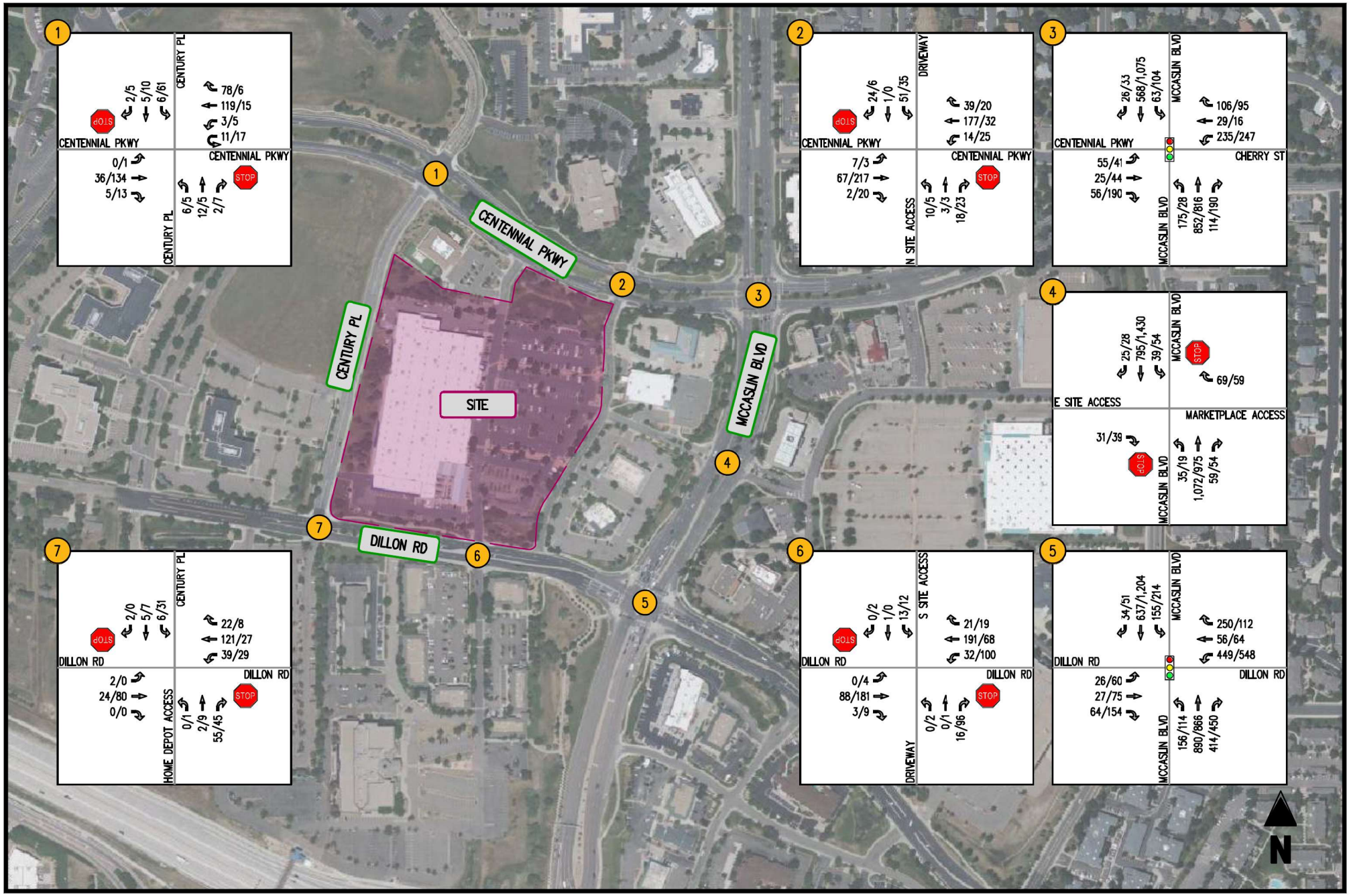


FIGURE 3-1
EXISTING VOLUMES

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT

SIGNALIZED INTERSECTION

STOP SIGN

YIELD SIGN

FIGURE 3-2
EXISTING LEVELS OF SERVICE

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

Table 3-1
King Soopers - Louisville, CO
Existing Intersection Level of Service Summary [1] [2]

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2025 AM Peak Hour	Existing 2025 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	A [0.0]	A [7.3]
			EBTR	A [0.0]	A [0.0]
		Centennial Pkwy	WBL	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]
		Century Pl	NBLTR	B [10.5]	A [9.9]
		Century Pl	SBL	B [10.2]	B [10.3]
			SBTR	B [10.3]	A [9.9]
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	A [7.7]	A [7.3]
			EBTR	A [0.0]	A [0.0]
			WBL	A [7.4]	A [7.9]
		Centennial Pkwy	WBT	A [0.0]	A [0.0]
			WBR	A [0.0]	A [0.0]
		N Site Access	NBLTR	A [9.9]	B [10.4]
		Driveway	SBLTR	B [11.2]	B [11.6]
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	E (55.5)	D (53.7)
		Centennial Pkwy	EBT	D (51.4)	D (51.9)
			EBR	A (0.0)	A (0.0)
			WBL	E (56.4)	E (56.8)
		Centennial Pkwy	WBT	D (49.5)	D (49.2)
			WBR	A (0.0)	A (0.0)
			NBL	B (10.1)	B (11.7)
		McCaslin Blvd	NBT	A (0.7)	A (7.8)
			NBR	A (0.0)	A (0.0)
			SBL	B (10.7)	A (10.0)
		McCaslin Blvd	SBT	B (15.3)	B (15.9)
			SBR	A (0.0)	A (0.0)
		Overall		**B (15.9)**	**B (18.6)**
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	A [9.7]	B [10.6]
		Centennial Marketplace Access	WBR	B [10.4]	B [10.2]
			NBL	B [10.7]	B [13.5]
		McCaslin Blvd	NBT	A [0.0]	A [0.0]
			NBTR	A [0.0]	A [0.0]
			SBL	B [12.2]	B [11.7]
		McCaslin Blvd	SBT	A [0.0]	A [0.0]
			SBTR	A [0.0]	A [0.0]
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	E (58.9)	E (59.3)
		Dillon Rd	EBT	D (52.1)	E (56.1)
			EBR	A (0.0)	A (0.0)
			WBL	E (63.7)	E (65.7)
		Dillon Rd	WBT	D (38.5)	D (36.9)
			WBR	A (0.0)	A (0.0)
			NBL	E (67.8)	E (59.4)
		McCaslin Blvd	NBT	C (22.6)	C (25.0)
			NBR	A (0.0)	A (0.0)
			SBL	E (57.8)	F (119.6)
		McCaslin Blvd	SBT	A (0.6)	C (30.8)
			SBR	A (0.0)	A (0.0)
		Overall		**C (30.3)**	**D (43.7)**
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	A [0.0]	A [7.4]
			EBTR	A [0.0]	A [0.0]
			WBL	A [7.5]	A [7.9]
		Dillon Rd	WBT	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]
		Colony Square Access	NBLTR	A [8.7]	A [9.7]
		S Site Access	SBLTR	B [11.8]	B [13.6]
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	A [7.6]	A [0.0]
			EBTR	A [0.0]	A [0.0]
			WBLT	A [7.3]	A [7.4]
		Dillon Rd	WBTR	A [0.1]	A [0.1]
		Home Depot Access	NBLTR	A [8.7]	A [9.1]
		Century Pl	SBLTR	B [10.8]	B [10.3]

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 3-2
King Soopers - Louisville, CO
Existing Intersection Queueing Summary [1]

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Existing 2025 AM Peak Hour	Existing 2025 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	100	0	0
			EBTR	-	0	0
		Centennial Pkwy	WBL	100	0	0
			WBTR	-	0	0
		Century Pl	NBLTR	-	3	3
		Century Pl	SBL	100	0	8
			SBTR	-	0	3
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	80	0	0
			EBTR	-	0	0
			WBL	100	0	3
		Centennial Pkwy	WBT	-	0	0
			WBR	50	0	0
		N Site Access	NBLTR	-	3	5
		Driveway	SBLTR	-	13	8
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	100	87	69
		Centennial Pkwy	EBT	-	24	37
			EBR	100	0	0
			WBL	300	135	142
		Centennial Pkwy	WBT	-	50	33
			WBR	-	0	0
			NBL	325	26	6
		McCaslin Blvd	NBT	-	377	70
			NBR	125	0	0
			SBL	315	45	63
		McCaslin Blvd	SBT	-	245	432
			SBR	50	0	0
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	-	3	5
		Centennial Marketplace Access	WBR	-	10	8
			NBL	150	5	3
		McCaslin Blvd	NBT	-	0	0
			NBTR	-	0	0
			SBL	250	8	8
		McCaslin Blvd	SBT	-	0	0
			SBTR	-	0	0
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	130	26	49
		Dillon Rd	EBT	-	53	110
			EBR	150	0	0
			WBL	500	263	336
		Dillon Rd	WBT	-	79	82
			WBR	250	0	0
			NBL	450	119	79
		McCaslin Blvd	NBT	-	360	372
			NBR	150	0	0
			SBL	250	110	189
		McCaslin Blvd	SBT	-	176	319
			SBR	100	0	0
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	-	0	0
			EBTR	-	0	0
			WBL	175	3	8
		Dillon Rd	WBT	-	0	0
			WBTR	-	0	0
		Colony Square Access	NBLTR	-	3	13
		S Site Access	SBLTR	-	3	3
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	-	0	0
			EBTR	-	0	0
			WBL	-	3	3
		Dillon Rd	WBTR	-	0	0
		Home Depot Access	NBLTR	-	5	5
		Century Pl	SBLTR	-	3	5

Notes : (1) Queue length, in feet, is based on the 95th percentile queue as reported by Synchro, Version 12.

IV. Analysis of Future Conditions without Site Development

Methodology

The future traffic forecasts, without the proposed new use, were developed for 2026 and 2045 conditions based on a composite of existing baseline traffic volumes, regional traffic growth, and pipeline developments. A 1.0% growth factor per year was applied to all movements of existing traffic on the study intersections.

Regional Growth

Increases in traffic associated with regional growth were estimated at 1.0 percent per year compounded for all movements on study intersections up to 2026 as well as to 2045. This growth was determined using CDOT'S Online Transportation Information System's (OTIS) count station #104952 on McCaslin Blvd south of Dillon Rd, and accounts for increases in traffic resulting from influences outside of the immediate study area. The resulting increases in volumes within the study area are reflected in Figure 4-1 for 2026 conditions and Figure 4-2 for 2045 conditions.

Pipeline Developments

One unbuilt/unoccupied (i.e., "pipeline") development was identified for consideration within the study. CU Boulder Faculty Housing is planned to be built at 1164 W Dillon Rd at the site of the vacant Cinebarre. No plans have been submitted to the City for this development, therefore the use for this site was assumed to be Multi-Family Housing (Low-Rise). The existing Cinebarre building is 45,000 square feet (SF), therefore it was assumed that the development could provide 50 dwelling units (DU). With this information, and the proximity to the park and ride, the following development program was included in the background and total future analysis for 2045 conditions:

CU Boulder Faculty Housing

50	DU	Multi-Family Housing (Low-Rise) - Close to Rail Transit

The location of the pipeline developments in relation to the Applicant's property is shown in Figure 4-3. The pipeline development site was assumed to have 80% of its trips going to and from the south on McCaslin Blvd, 10% going to and from the north on McCaslin Blvd, 5% going to and from the east on Centennial Pkwy/Cherry St, and 5% going to and from the east on Dillon Rd. The pipeline site trips are shown in Figure 4-4 for 2045 conditions.

Background Traffic Forecasts

The existing traffic forecasts depicted in Figure 3-1, the regional growth shown in Figure 4-1 (2026) and Figure 4-2 (2045), and the pipeline development site trips shown in Figure 4-4 (2045) were added together to yield the background future traffic forecasts shown in Figure 4-5 for 2026 conditions and Figure 4-6 for 2045 conditions.

Background Future Levels of Service

Capacity analyses of 2026 and 2045 future traffic conditions without the proposed development are provided in Appendix E and summarized in Table 4-1. The forecasted levels of service are also depicted graphically in Figure 4-7 for 2026 conditions and Figure 4-8 for 2045 conditions.

As shown on Table 4-1, under background future 2026 conditions the intersections in the study area are forecasted to operate consistent with existing conditions.

Under background future 2045 conditions the signalized intersections in the study area are forecasted to operate at acceptable overall LOS “D” or better during the weekday peak hours with the exception of the Dillon Rd & McCaslin Blvd intersection which is expected to operate at LOS “E” in the 2045 weekday PM peak hour. The unsignalized intersection movements in the study area are expected to operate at acceptable LOS “C” or better during the weekday peak hours.

Background Future Queueing

An analysis of intersection queues was performed at key locations under background future traffic conditions. The results of the queuing analysis are summarized in Table 4-2.

As shown in the table, queues within the study network will increase due to assumed regional traffic growth. All queues are expected to be contained in their effective storage during background conditions with the exception of the eastbound left movement at the Centennial Pkwy & McCaslin Blvd intersection during the background future long range (2045) weekday AM peak hour.

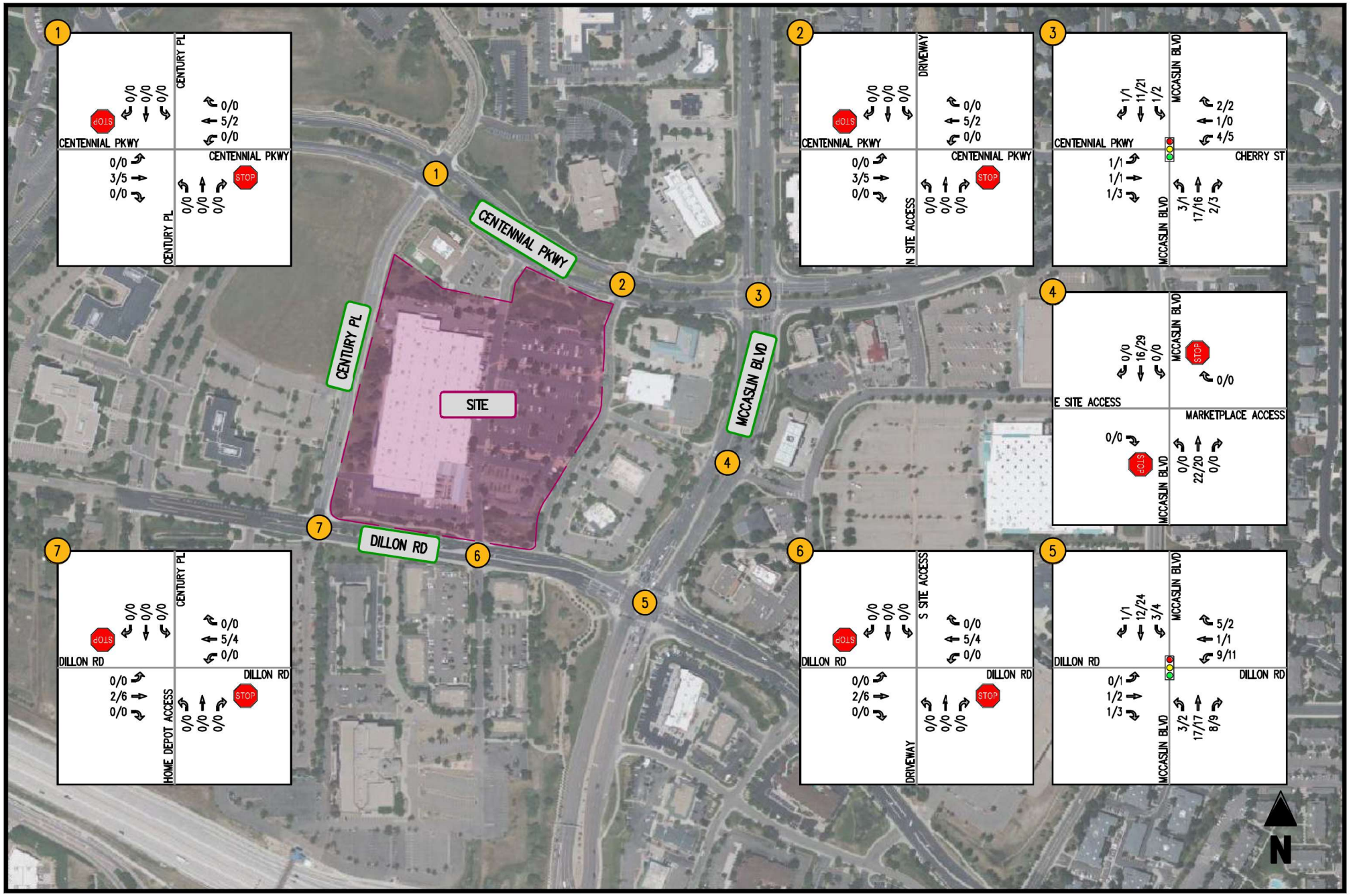


FIGURE 4-1
BACKGROUND GROWTH 2026

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

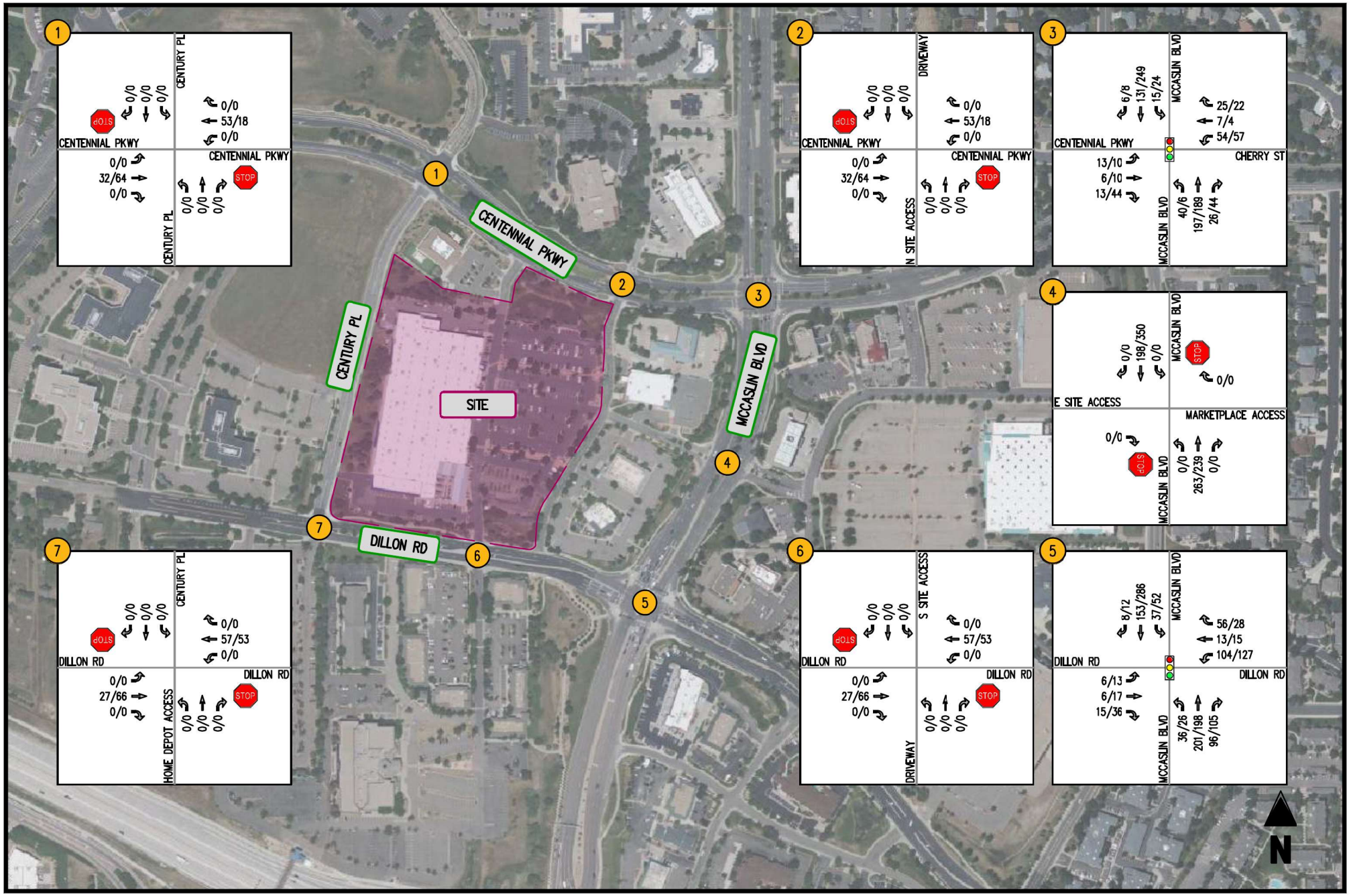


FIGURE 4-2
BACKGROUND GROWTH 2045

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT

SIGNALIZED INTERSECTION

STOP STOP SIGN

YIELD SIGN

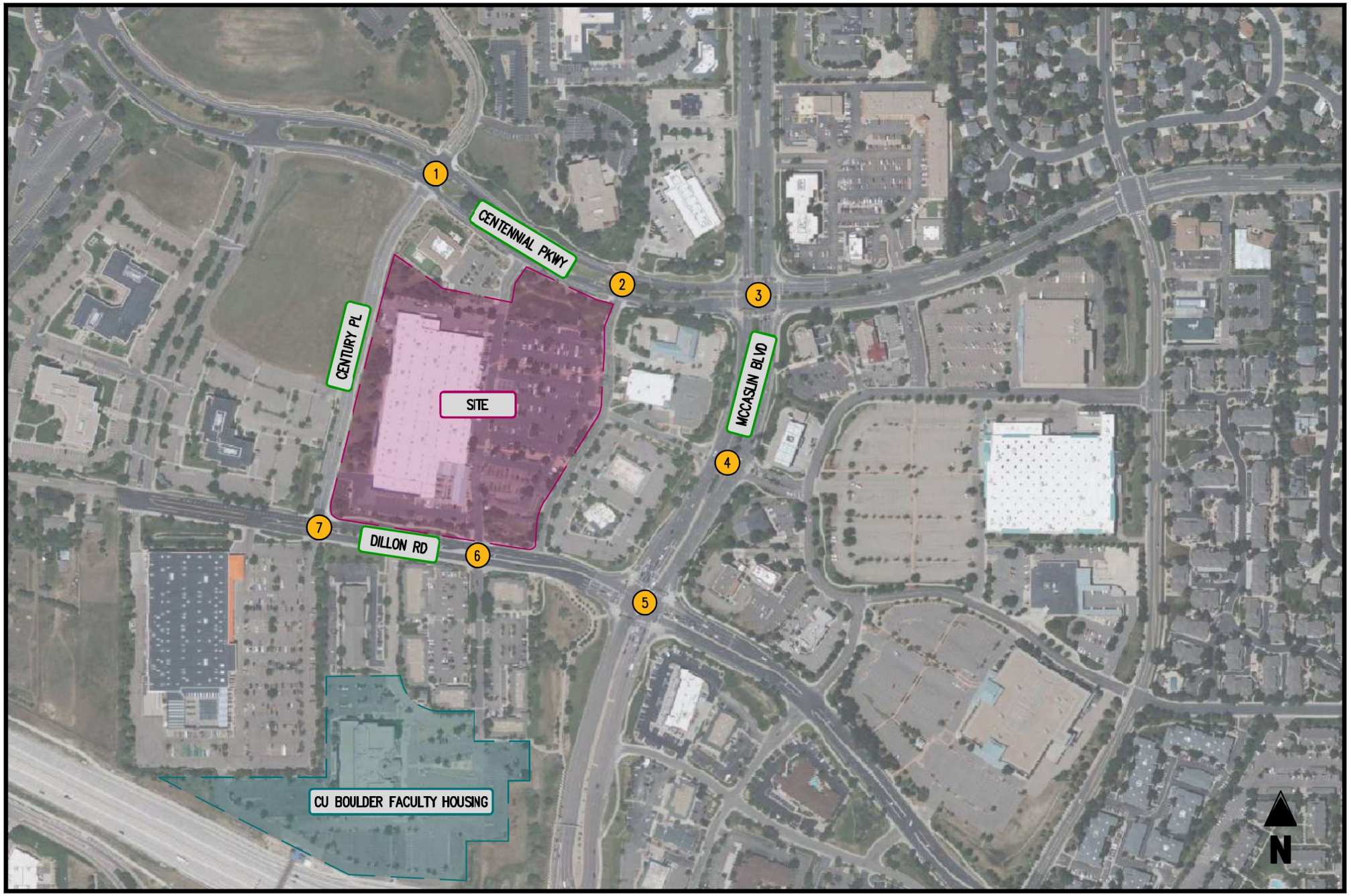


FIGURE 4-3
PIPELINE LOCATION

KING SOOPERS
LOUISVILLE, CO

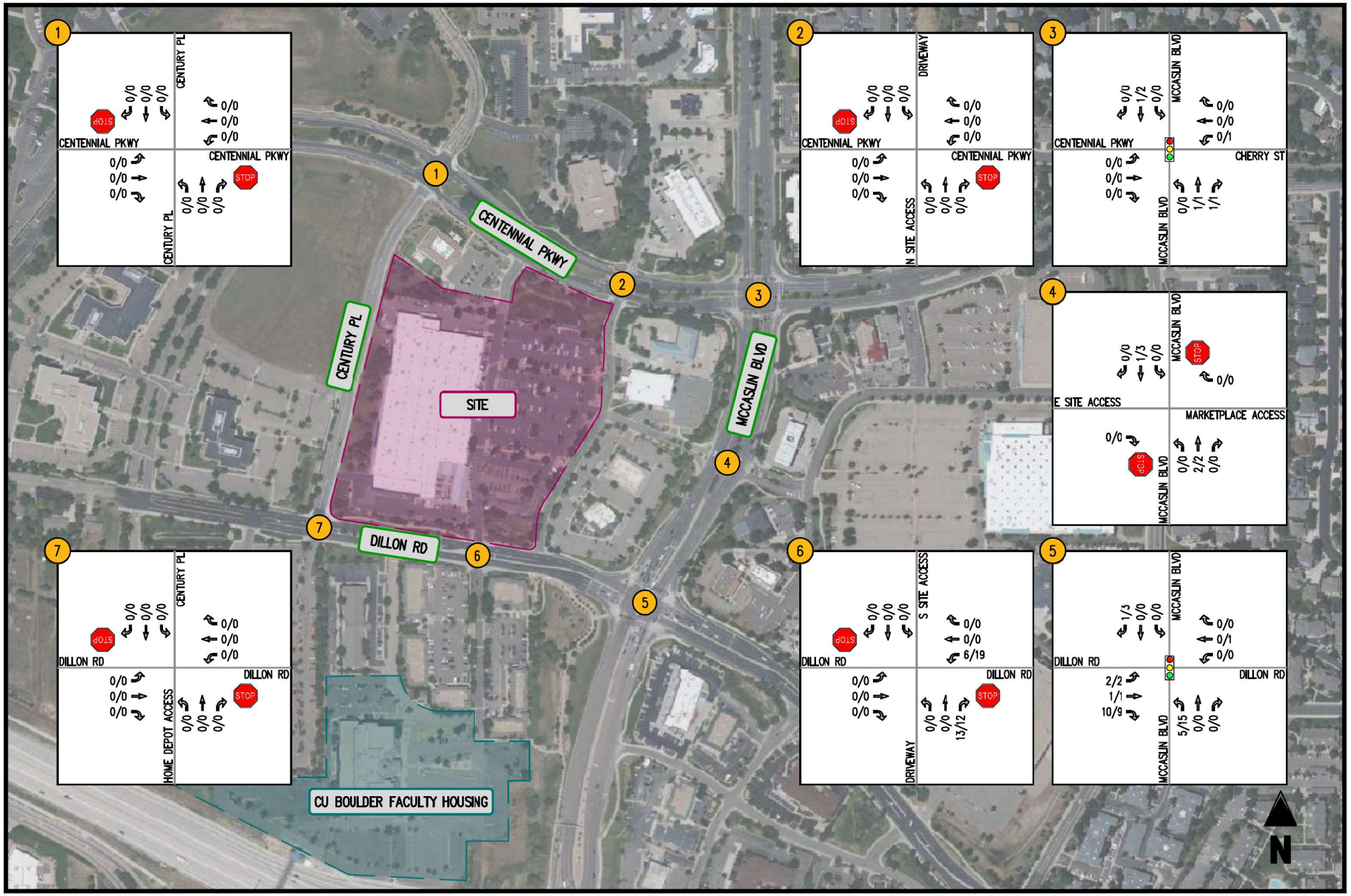


FIGURE 4-4
PIPELINE SITE TRIPS

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

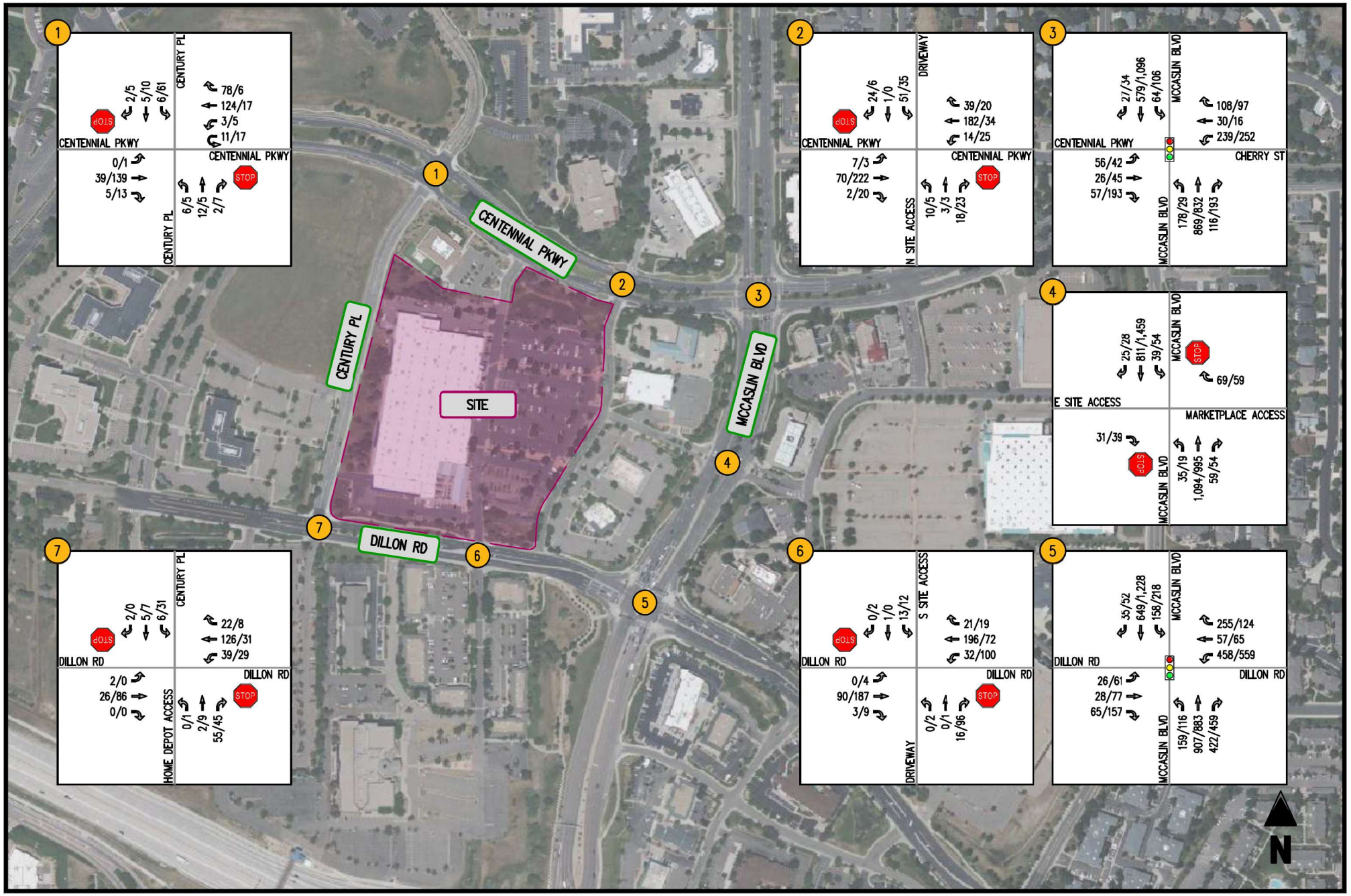


FIGURE 4-5
BACKGROUND FUTURE FORECASTS 2026

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

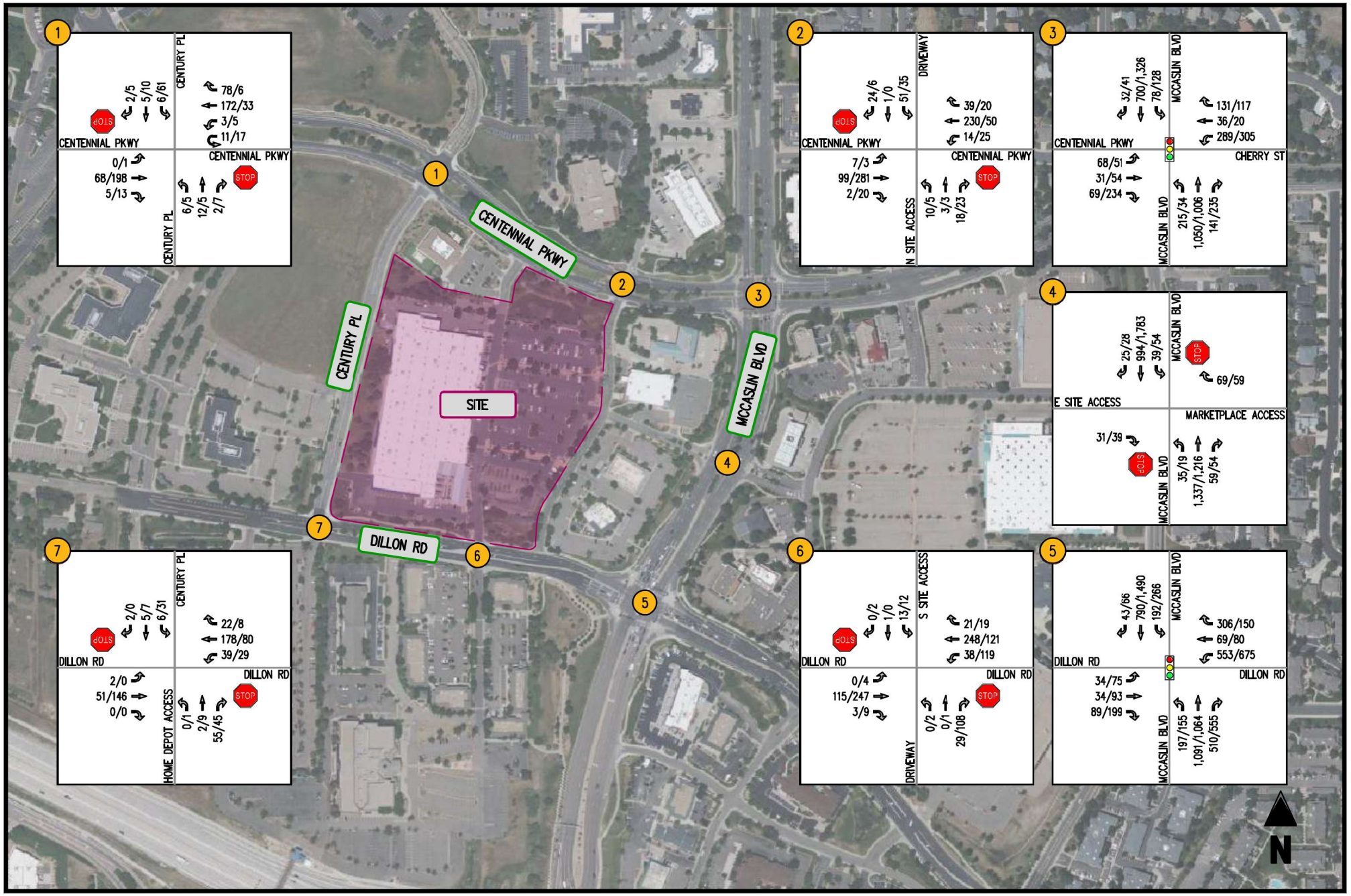


FIGURE 4-6
BACKGROUND FUTURE FORECASTS 2045

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN

FIGURE 4-7
BACKGROUND FUTURE LEVELS OF SERVICE 2026

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

FIGURE 4-8
BACKGROUND FUTURE LEVELS OF SERVICE 2045

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN

Table 4-1
King Soopers - Louisville, CO
Background Future Intersection Level of Service Summary [1] [2]

Intersection	Operating Condition	Street Name	Approach/ Movement	Existing 2025 AM Peak Hour	Existing 2025 PM Peak Hour	Background 2026 AM Peak Hour	Background 2026 PM Peak Hour	Background 2045 AM Peak Hour	Background 2045 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	A [0.0]	A [7.3]	A [0.0]	A [7.3]	A [0.0]	A [7.3]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Centennial Pkwy	WBL	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Century Pl	NBLTR	B [10.5]	A [9.9]	B [10.4]	A [9.8]	B [11.1]	B [10.3]
		Century Pl	SBL	B [10.2]	B [10.3]	B [10.2]	B [10.2]	B [10.9]	B [11.0]
			SBTR	B [10.3]	A [9.9]	B [10.2]	A [9.9]	B [10.8]	B [10.3]
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	A [7.7]	A [7.3]	A [7.7]	A [7.3]	A [7.9]	A [7.4]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBL	A [7.4]	A [7.9]	A [7.4]	A [7.8]	A [7.5]	A [8.0]
		Centennial Pkwy	WBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		N Site Access	NBLTR	A [9.9]	B [10.4]	A [9.9]	B [10.3]	B [10.4]	B [10.8]
		Driveway	SBLTR	B [11.2]	B [11.6]	B [11.2]	B [11.3]	B [12.0]	B [12.2]
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	E (55.5)	D (53.7)	E (55.2)	D (53.7)	E (56.2)	D (54.2)
		Centennial Pkwy	EBT	D (51.4)	D (51.9)	D (51.5)	D (51.9)	D (51.4)	D (51.9)
			EBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			WBL	E (56.4)	E (56.8)	E (56.7)	E (56.7)	E (55.6)	E (55.5)
		Centennial Pkwy	WBT	D (49.5)	D (49.2)	D (50.1)	D (49.0)	D (48.3)	D (47.1)
			WBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			NBL	B (10.1)	B (11.7)	A (9.8)	B (12.0)	B (11.4)	B (15.6)
		McCaslin Blvd	NBT	A (0.7)	A (7.8)	A (0.7)	A (8.0)	A (1.2)	A (1.2)
			NBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SBL	B (10.7)	A (10.0)	B (10.4)	B (10.1)	B (12.3)	B (10.7)
		McCaslin Blvd	SBT	B (15.3)	B (15.9)	B (14.9)	B (16.3)	B (18.2)	C (21.0)
			SBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
		Overall		**B (15.9)**	**B (18.6)**	**B (15.3)**	**B (18.9)**	**B (16.5)**	**B (18.6)**
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	A [9.7]	B [10.6]	A [9.7]	B [10.5]	A [9.9]	B [11.1]
		Centennial Marketplace Access	WBR	B [10.4]	B [10.2]	B [10.3]	B [10.1]	B [10.7]	B [10.5]
			NBL	B [10.7]	B [13.5]	B [10.6]	B [14.0]	B [11.3]	C [16.8]
		McCaslin Blvd	NBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			NBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			SBL	B [12.2]	B [11.7]	B [12.3]	B [11.9]	B [13.7]	B [12.9]
		McCaslin Blvd	SBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			SBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	E (58.9)	E (59.3)	E (59.0)	E (59.1)	E (58.7)	E (60.0)
		Dillon Rd	EBT	D (52.1)	E (56.1)	D (52.0)	E (55.7)	D (52.3)	E (57.8)
			EBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			WBL	E (63.7)	E (65.7)	E (64.3)	E (66.6)	F (84.4)	F (117.0)
		Dillon Rd	WBT	D (38.5)	D (36.9)	D (38.2)	D (36.5)	D (37.4)	D (36.9)
			WBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			NBL	E (67.8)	E (59.4)	D (38.3)	E (59.4)	F (95.7)	E (59.9)
		McCaslin Blvd	NBT	C (22.6)	C (25.0)	C (22.8)	C (25.5)	C (28.3)	C (28.8)
			NBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SBL	E (57.8)	F (119.6)	E (56.8)	F (124.3)	E (60.4)	F (203.6)
		McCaslin Blvd	SBT	A (0.6)	C (30.8)	A (0.8)	C (31.3)	A (2.0)	D (44.5)
			SBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
		Overall		**C (30.3)**	**D (43.7)**	**C (31.0)**	**D (44.4)**	**D (39.2)**	**E (64.7)**
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	A [0.0]	A [7.4]	A [0.0]	A [7.4]	A [0.0]	A [7.5]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBL	A [7.5]	A [7.9]	A [7.5]	A [7.9]	A [7.5]	A [8.1]
		Dillon Rd	WBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Colony Square Access	NBLTR	A [8.7]	A [9.7]	A [8.6]	A [9.6]	A [8.8]	A [10.0]
		S Site Access	SBLTR	B [11.8]	B [13.6]	B [11.6]	B [13.1]	B [12.7]	C [15.4]
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	A [7.6]	A [0.0]	A [7.5]	A [0.0]	A [7.7]	A [0.0]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBLT	A [7.3]	A [7.4]	A [7.3]	A [7.5]	A [7.4]	A [7.6]
		Dillon Rd	WBTR	A [0.1]	A [0.1]	A [0.1]	A [0.1]	A [0.2]	A [0.1]
		Home Depot Access	NBLTR	A [8.7]	A [9.1]	A [8.7]	A [9.1]	A [8.8]	A [9.5]
		Century Pl	SBLTR	B [10.8]	B [10.3]	B [10.6]	B [10.3]	B [11.3]	B [11.2]

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 4-2
King Soopers - Louisville, CO
Background Future Intersection Queueing Summary [1]

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Existing 2025 AM Peak Hour	Existing 2025 PM Peak Hour	Background 2026 AM Peak Hour	Background 2026 PM Peak Hour	Background 2045 AM Peak Hour	Background 2045 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	100	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0
		Centennial Pkwy	WBL	100	0	0	0	0	0	0
			WBTR	-	0	0	0	0	0	0
		Century Pl	NBLTR	-	3	3	3	3	3	3
		Century Pl	SBL	100	0	8	0	8	0	8
			SBTR	-	0	3	0	3	0	3
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	80	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0
			WBL	100	0	3	0	3	0	3
		Centennial Pkwy	WBT	-	0	0	0	0	0	0
			WBR	50	0	0	0	0	0	0
		N Site Access	NBLTR	-	3	5	3	3	5	5
		Driveway	SBLTR	-	13	8	10	5	13	8
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	100	87	69	88	72	103	82
		Centennial Pkwy	EBT	-	24	37	25	38	28	44
			EBR	100	0	0	0	0	0	0
			WBL	300	135	142	139	145	160	168
		Centennial Pkwy	WBT	-	50	33	53	33	58	38
			WBR	-	0	0	0	0	0	0
			NBL	325	26	6	24	6	36	6
		McCaslin Blvd	NBT	-	377	70	350	68	517	83
			NBR	125	0	0	0	0	0	0
			SBL	315	45	63	44	35	56	83
		McCaslin Blvd	SBT	-	245	432	238	447	333	670
			SBR	50	0	0	0	0	0	0
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	-	3	5	3	5	3	5
		Centennial Marketplace Access	WBR	-	10	8	8	8	10	8
			NBL	150	5	3	5	5	5	5
		McCaslin Blvd	NBT	-	0	0	0	0	0	0
			NBTR	-	0	0	0	0	0	0
			SBL	250	8	8	8	8	8	10
		McCaslin Blvd	SBT	-	0	0	0	0	0	0
			SBTR	-	0	0	0	0	0	0
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	130	26	49	26	49	32	58
		Dillon Rd	EBT	-	53	110	53	112	63	129
			EBR	150	0	0	0	0	0	0
			WBL	500	263	336	273	347	365	457
		Dillon Rd	WBT	-	79	82	80	83	93	96
			WBR	250	0	0	0	0	0	0
			NBL	450	119	79	123	79	163	102
		McCaslin Blvd	NBT	-	360	372	370	380	481	501
			NBR	150	0	0	0	0	0	0
			SBL	250	110	189	111	191	130	244
		McCaslin Blvd	SBT	-	176	319	180	329	216	443
			SBR	100	0	0	0	0	0	0
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	-	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0
			WBL	175	3	8	3	8	3	8
		Dillon Rd	WBT	-	0	0	0	0	0	0
			WBTR	-	0	0	0	0	0	0
		Colony Square Access	NBLTR	-	3	13	3	10	3	13
		S Site Access	SBLTR	-	3	3	3	3	3	3
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	-	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0
			WBLT	-	3	3	3	3	3	3
		Dillon Rd	WBTR	-	0	0	0	0	0	0
		Home Depot Access	NBLTR	-	5	5	5	5	5	5
		Century Pl	SBLTR	-	3	5	3	5	3	5

Notes : (1) Queue length, in feet, is based on the 95th percentile queue as reported by Synchro, Version 12.

V. Site Analysis

Overview

The Applicant is proposing to redevelop the approximately 13.5-acre site with commercial uses consisting of a supermarket and gas station use. For purposes of this study, the site is assumed complete and occupied in 2026. The following use and development programs were analyzed:

Build-Out 2026:

136,380	SF	Supermarket
14	FP	Gas Station

Proposed Site Access

As shown on the Applicant's conceptual plan (Figure 1-2), access to the development is being proposed via the existing right-in/right-out (RIRO) access on Centennial Pkwy, full movement access on Centennial Pkwy, ¾ movement access on McCaslin Blvd, RIRO access on Dillon Rd, two full movement accesses on Dillon Rd, and two full movement accesses on Century Pl. No change to the lane use and traffic control is being proposed.

Trip Generation

Overview

Trip generation estimates for the weekday AM and PM peak hours, as well as the weekday average daily traffic (ADT), were derived from the standard Institute of Transportation Engineers (ITE) Trip Generation Manual rates/equations, as published in the 11th edition. The trip generation analysis is presented in Table 5-1.

Internal Capture

Due to the mixed-use nature of the proposed development, it is assumed that a number of trips would be shared between the uses. These are trips that are going from one use on site to another use on site and should not be counted as separate trips for each use. An internal capture reduction of 10% was applied to the trip generation analysis consistent with ITE methodologies:

- Internal Capture: 10%

Pass-by Trips

According to ITE, in some cases the driveway volumes at a particular land use are different from the amount of traffic added to the adjacent street system. Uses such as commercial establishments attract a portion of their trips from traffic that is already present on the road network. Pass-by trips are those trips which are made as intermediate stops on the way to a primary destination. An example of a pass-by trip would be one in which a driver stops at a grocery store or a gas station on his/her way from work.

The proposed use would experience pass-by trips consistent with the primary uses located on site. In recognition of this phenomenon and consistent with ITE published data, the following pass-by reductions were applied to the trip generation analysis:

- Supermarket: 0% AM / 24% PM
- Gas Station: 63% AM / 57% PM

As shown in Table 5-1, the site in total is anticipated to generate 82 weekday AM and 315 weekday PM peak hour pass-by trips. Therefore, these trips would be drawn from the existing road network and assigned to the future site entrances accordingly. Trip distributions for pass-by trips were considered only along northbound and southbound McCaslin Blvd. It was assumed that 40% of pass-by trips would come from the north and 60% would come from the south. Pass-by trip assignments at key study intersections are shown in Figure 5-1.

Net Site Trips

The vehicle trips that would be generated by the proposed development plan are summarized in Table 5-1. As shown in Table 5-1, the site would generate upon completion and full occupancy 399 net new weekday AM and 755 net new weekday PM peak hour vehicle trips, as well as 10,301 net new weekday daily trips.

Site Trip Distributions

The distribution of the anticipated trips generated by the completion of the proposed development was based on an examination of existing traffic counts and local knowledge. Existing travel patterns indicate the following distribution is appropriate in the forecasting of net new future site traffic:

- To/from the north on McCaslin Blvd: 25%
- To/from the south on McCaslin Blvd: 40%
- To/from the east on Centennial Pkwy/Cherry St: 10%
- To/from the west on Centennial Pkwy/Cherry St: 5%
- To/from the east on Dillon Rd: 20%

Site Trip Assignments

The assignment of the new vehicle trips generated upon the future build-out of the development project was based on the above distribution. The net new trips assignments are depicted in Figure 5-2.

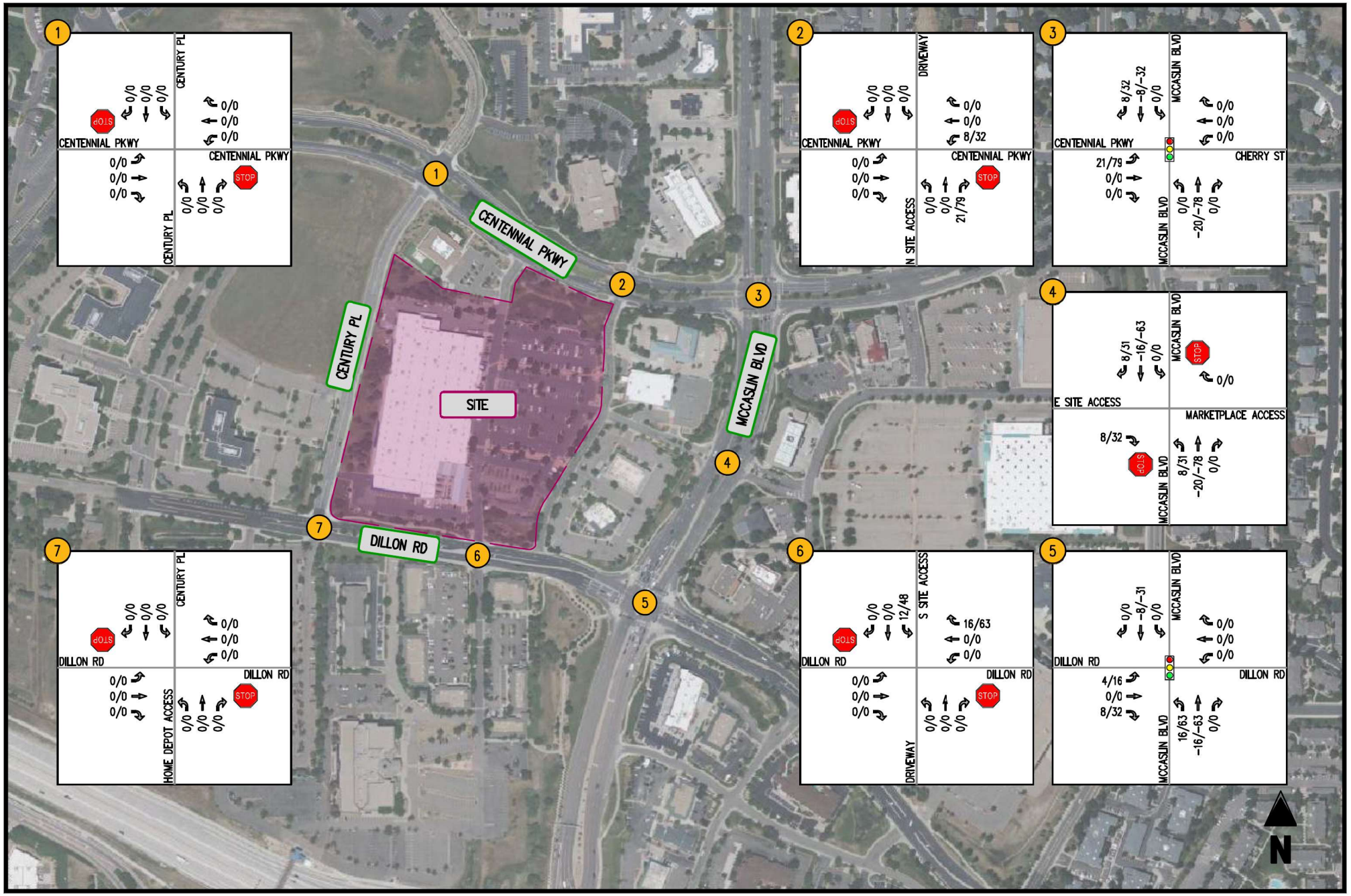


FIGURE 5-1
PASS-BY TRIPS

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

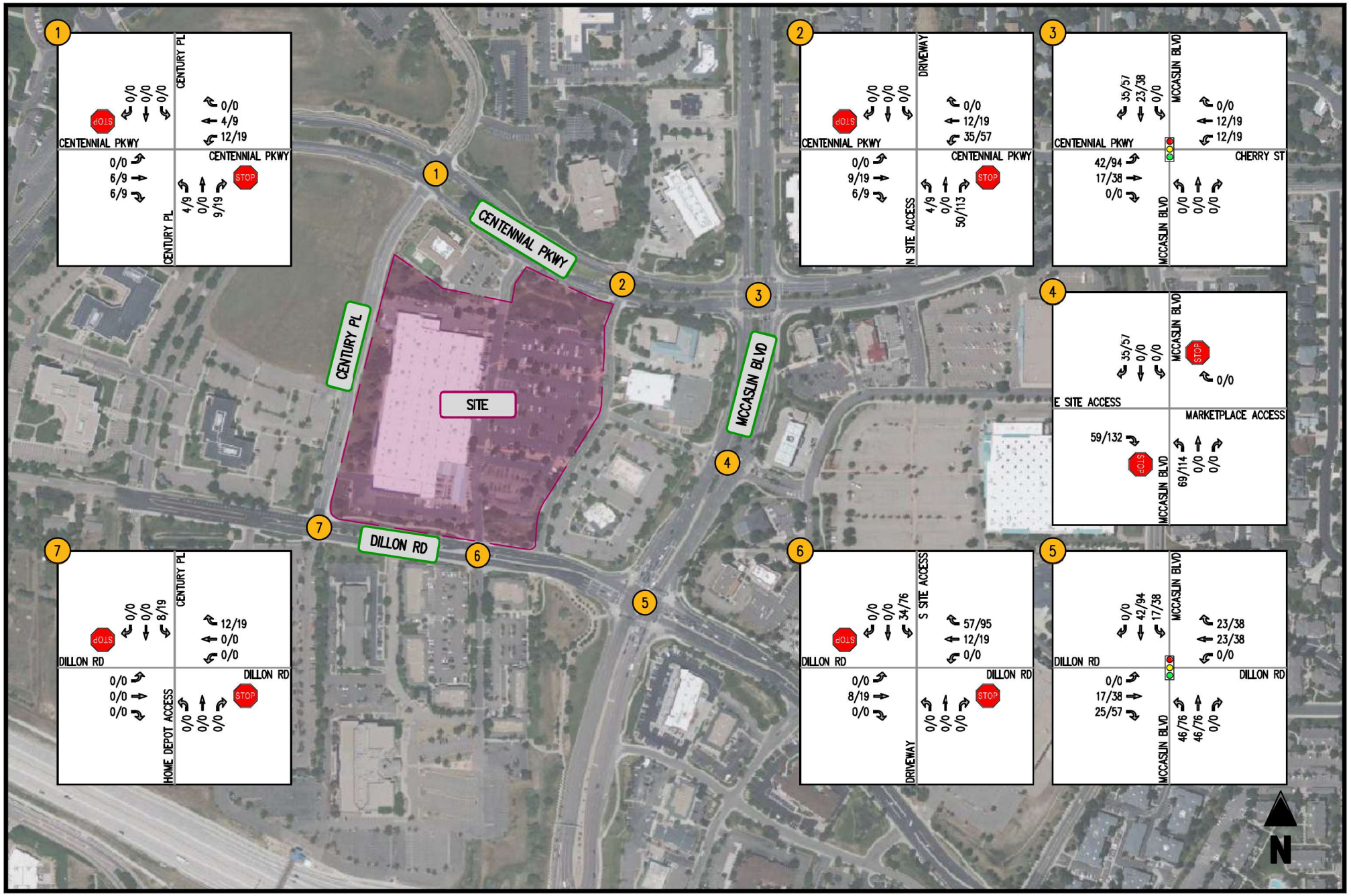


FIGURE 5-2
SITE TRIPS

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS

0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT

SIGNALIZED INTERSECTION

STOP SIGN

YIELD SIGN

Table 5-1

King Soopers - Louisville, CO

Site Trip Generation

Land Use	Land Use Code	Amount	Units	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total	Average Daily Trips
Proposed [1]										
Supermarket	850	136,380	SF	230	160	390	497	497	994	11,912
Internal Capture (10%)				*(23)*	*(16)*	*(39)*	*(50)*	*(49)*	*(99)*	*(1,191)*
External Trips				**207**	**144**	**351**	**447**	**448**	**895**	**10,721**
Pass-by's (0% AM / 24% PM)				*0*	*0*	*0*	*(107)*	*(108)*	*(215)*	*(1,287)*
Net New Trips				**207**	**144**	**351**	**340**	**340**	**680**	**9,434**
Gas Station	944	14	FP	72	72	144	98	97	195	2,408
Internal Capture (10%)				*(7)*	*(7)*	*(14)*	*(10)*	*(10)*	*(20)*	*(241)*
External Trips				**65**	**65**	**130**	**88**	**87**	**175**	**2,167**
Pass-by's (63% AM / 57% PM)				*(41)*	*(41)*	*(82)*	*(50)*	*(50)*	*(100)*	*(1,300)*
Net New Trips				**24**	**24**	**48**	**38**	**37**	**75**	**867**
Total Proposed Site Trips				302	232	534	595	594	1,189	14,320
Internal Capture (10%)				*(30)*	*(23)*	*(53)*	*(60)*	*(59)*	*(119)*	*(1,432)*
Total Proposed External Trips				**272**	**209**	**481**	**535**	**535**	**1,070**	**12,888**
Total Proposed Pass-by Trips				*(41)*	*(41)*	*(82)*	*(157)*	*(158)*	*(315)*	*(2,587)*
Proposed Net New Total				**231**	**168**	**399**	**378**	**377**	**755**	**10,301**

Note(s):

(1) Trip generation based on the Institute of Transportation Engineers' Trip Generation Manual, 11th Edition

257

VI. Analysis of Future Conditions with Site Development

Total Future Traffic Forecasts

The 2026 and 2045 total future traffic forecasts associated with the proposed development were developed by combining the background future forecasts shown in Figure 4-5 (2026) and Figure 4-6 (2045), the pass-by trips shown in Figure 5-1, and the site trip assignments shown in Figure 5-2. The resulting total future traffic forecasts are provided in Figure 6-1 for 2026 conditions and Figure 6-2 for 2045 conditions.

Total Future Levels of Service with Proposed Development

Future levels of service with the proposed development plan were estimated at key study intersections based on the future traffic volumes shown in Figures 6-1 and Figure 6-2, the existing lane use in Figure 2-1, and the HCM 7th methodologies for signalized and unsignalized intersections. The results of these analyses are provided in Appendix F and presented in Table 6-1. Total future levels of service are also presented graphically in Figure 6-3 (2026) and Figure 6-4 (2045).

As shown in Table 6-1, levels of service under future site development conditions would remain generally consistent with future background conditions (i.e., without site development). Overall delays would experience a minor increase due to site trips. The signalized intersections within the study area would continue to operate at acceptable overall LOS “D” or better during the weekday peak hours in all total future scenarios with the exception of the Dillon Rd & McCaslin Blvd intersection which would operate at LOS “E” during the total future 2026 and 2045 PM scenarios. The unsignalized intersection movements would operate at acceptable LOS “D” or better during the weekday peak hours in all future scenarios.

To mitigate the increased delay at the Dillon Rd & McCaslin Blvd intersection for total future conditions, it is recommended that the timings of the signal be optimized. As shown in Table 6-1, with signal timing adjustments, the intersection of Dillon Rd & McCaslin Blvd is expected to operate at overall acceptable LOS “D” for all total future scenarios.

Total Future Queuing

Total future queues were forecasted using Synchro software. The results of the queuing analysis are summarized in Table 6-2. All queues are expected to be contained in their effective storage with the exception of the eastbound left turn lane at the Centennial Pkwy & McCaslin Blvd intersection which would exceed its storage in all total future scenarios with existing signal timing. As shown in Table 6-2, with signal timing adjustments to the Dillon Rd & McCaslin Blvd intersection, all queues for that intersection are expected to continue to be contained within their effective storage for all total future scenarios.

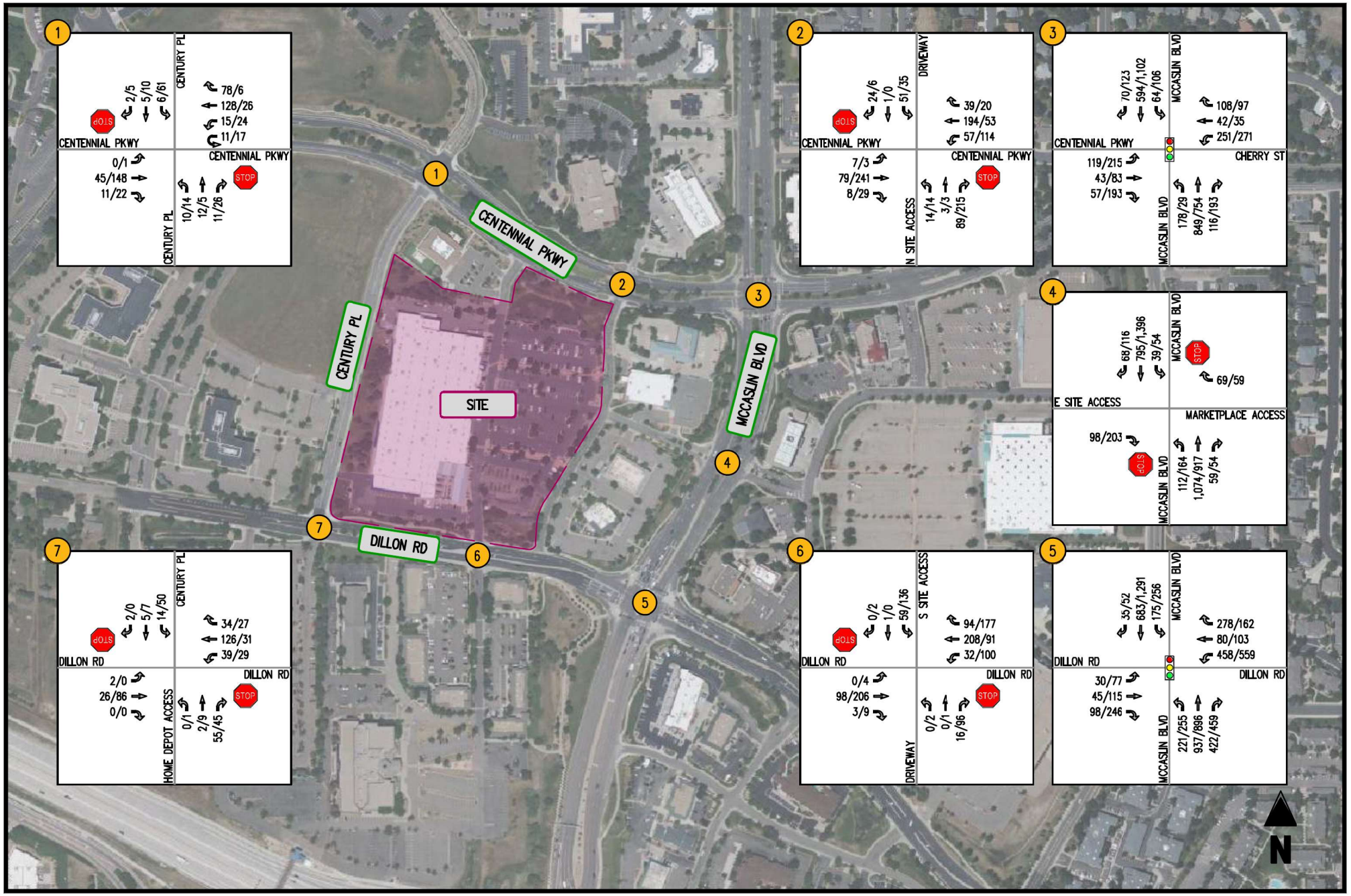


FIGURE 6-1
TOTAL FUTURE FORECASTS 2026

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)

MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN

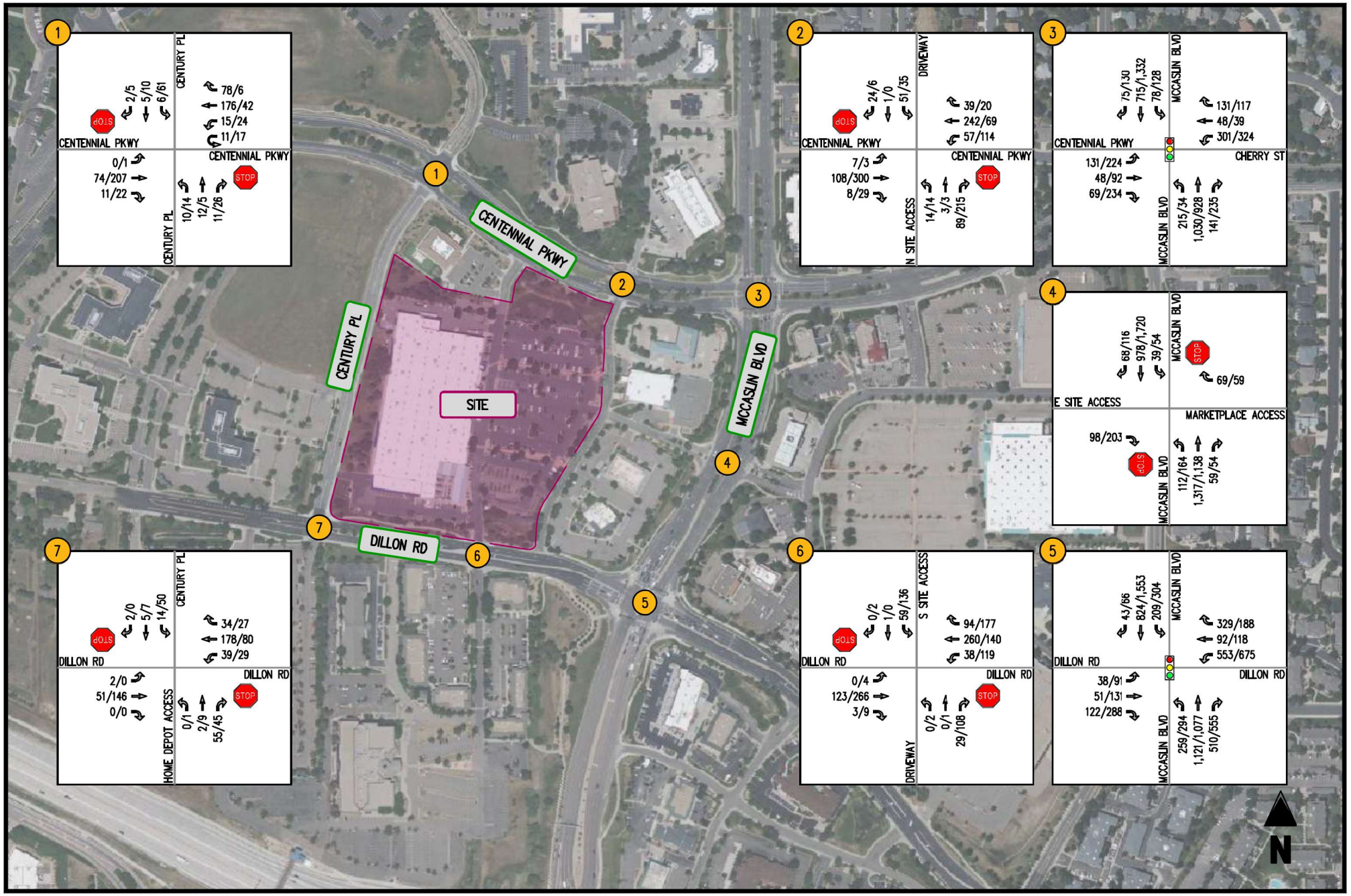


FIGURE 6-2
TOTAL FUTURE FORECASTS 2045

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

FIGURE 6-3
TOTAL FUTURE LEVELS OF SERVICE 2026

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP STOP SIGN
YIELD SIGN

FIGURE 6-4
TOTAL FUTURE LEVELS OF SERVICE 2045

KING SOOPERS
LOUISVILLE, CO

(A/A) INTERSECTION LOS
0000/0000 (AM PEAK HOUR/PM PEAK HOUR)
MOVEMENT
SIGNALIZED INTERSECTION
STOP SIGN
YIELD SIGN

Table 6-1
King Soopers - Louisville, CO
Total Future Intersection Level of Service Summary [1] [2]

Intersection	Operating Condition	Street Name	Approach/ Movement	Background 2026 AM Peak Hour	Background 2026 PM Peak Hour	Background 2045 AM Peak Hour	Background 2045 PM Peak Hour	Total Future 2026 AM Peak Hour	Total Future 2026 PM Peak Hour	Total Future 2045 AM Peak Hour	Total Future 2045 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	A [0.0]	A [7.3]	A [0.0]	A [7.3]	A [0.0]	A [7.3]	A [0.0]	A [0.0]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Centennial Pkwy	WBL	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Century Pl	NBLTR	B [10.4]	A [9.8]	B [11.1]	B [10.3]	B [10.2]	A [10.0]	B [10.8]	B [10.6]
		Century Pl	SBL	B [10.2]	B [10.2]	B [10.9]	B [11.0]	B [10.5]	B [10.9]	B [11.3]	B [11.8]
			SBTR	B [10.2]	A [9.9]	B [10.8]	B [10.3]	B [10.4]	B [10.2]	B [11.0]	B [10.7]
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	A [7.7]	A [7.3]	A [7.9]	A [7.4]	A [7.8]	A [7.4]	A [7.9]	A [7.4]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Centennial Pkwy	WBL	A [7.4]	A [7.8]	A [7.5]	A [8.0]	A [7.5]	A [8.1]	A [7.6]	A [8.3]
			WBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		N Site Access	NBLTR	A [9.9]	B [10.3]	B [10.4]	B [10.8]	A [10.0]	B [12.9]	B [10.4]	B [14.1]
		Driveway	SBLTR	B [11.2]	B [11.3]	B [12.0]	B [12.2]	B [13.1]	C [19.2]	B [14.3]	C [22.3]
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	E (55.2)	D (53.7)	E (56.2)	D (54.2)	E (62.7)	E (63.4)	E (62.1)	E (64.0)
		Centennial Pkwy	EBT	D (51.5)	D (51.9)	D (51.4)	D (51.9)	D (50.3)	D (44.4)	D (49.5)	D (44.0)
			EBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			WBL	E (56.7)	E (56.7)	E (55.6)	E (55.5)	E (56.3)	E (56.0)	E (55.2)	D (54.9)
		Centennial Pkwy	WBT	D (50.1)	D (49.0)	D (48.3)	D (47.1)	D (50.1)	D (49.0)	D (48.3)	D (47.1)
			WBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			NBL	A (9.8)	B (12.0)	B (11.4)	B (15.6)	B (10.8)	B (17.3)	B (12.7)	C (22.8)
		McCaslin Blvd	NBT	A (0.7)	A (8.0)	A (1.2)	A (1.2)	A (0.8)	A (1.6)	A (1.3)	A (4.9)
			NBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SBL	B (10.4)	B (10.1)	B (12.3)	B (10.7)	B (11.5)	B (13.9)	B (13.8)	B (15.8)
		McCaslin Blvd	SBT	B (14.9)	B (16.3)	B (18.2)	C (21.0)	B (16.4)	C (23.7)	C (20.4)	C (32.0)
			SBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
		Overall		**B (15.3)**	**B (18.9)**	**B (16.5)**	**B (18.6)**	**B (18.2)**	**C (24.5)**	**B (19.2)**	**C (28.4)**
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	A [9.7]	B [10.5]	A [9.9]	B [11.1]	B [10.2]	B [12.6]	B [10.5]	B [13.4]
		Centennial Marketplace Access	WBR	B [10.3]	B [10.1]	B [10.7]	B [10.5]	B [10.3]	A [10.0]	B [10.7]	B [10.4]
			NBL	B [10.6]	B [14.0]	B [11.3]	C [16.8]	B [11.7]	C [20.6]	B [12.8]	D [34.9]
		McCaslin Blvd	NBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			NBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			SBL	B [12.3]	B [11.9]	B [13.7]	B [12.9]	B [12.1]	B [11.6]	B [13.4]	B [12.5]
		McCaslin Blvd	SBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			SBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	E (59.0)	E (59.1)	E (58.7)	E (60.0)	E (58.8)	E (60.2)	E (58.7)	E (60.1)
		Dillon Rd	EBT	D (52.0)	E (55.7)	D (52.3)	E (57.8)	D (53.0)	E (61.1)	D (53.3)	E (60.5)
			EBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			WBL	E (64.3)	E (66.6)	F (84.4)	F (117.0)	E (64.3)	E (66.6)	F (84.4)	F (117.0)
		Dillon Rd	WBT	D (38.2)	D (36.5)	D (37.4)	D (36.9)	D (38.9)	D (37.4)	D (38.1)	D (37.1)
			WBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			NBL	D (38.3)	E (59.4)	F (95.7)	E (59.9)	F (126.6)	E (76.2)	F (189.1)	F (107.7)
		McCaslin Blvd	NBT	C (22.8)	C (25.5)	C (28.3)	C (28.8)	C (23.7)	C (26.1)	C (29.7)	C (30.7)
			NBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
			SBL	E (56.8)	F (124.3)	E (60.4)	F (203.6)	E (58.5)	F (185.2)	E (64.8)	F (276.4)
		McCaslin Blvd	SBT	A (0.8)	C (31.3)	A (2.0)	D (44.5)	A (1.0)	D (44.0)	B (13.9)	D (49.5)
			SBR	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)
		Overall		**C (31.0)**	**D (44.4)**	**D (39.2)**	**E (64.7)**	**D (37.2)**	**E (56.2)**	**D (51.6)**	**E (75.9)**
Optimized Signal Timings											
	SIGNAL		EBL	-	-	-	-	-	E (60.2)	-	E (60.1)
		Dillon Rd	EBT	-	-	-	-	-	E (61.1)	-	E (60.7)
			EBR	-	-	-	-	-	A (0.0)	-	A (0.0)
			WBL	-	-	-	-	-	E (74.5)	-	E (74.6)
		Dillon Rd	WBT	-	-	-	-	-	D (38.1)	-	C (34.7)
			WBR	-	-	-	-	-	A (0.0)	-	A (0.0)
			NBL	-	-	-	-	-	E (68.7)	-	E (55.4)
		McCaslin Blvd	NBT	-	-	-	-	-	C (28.6)	-	D (44.2)
			NBR	-	-	-	-	-	A (0.0)	-	A (0.0)
			SBL	-	-	-	-	-	E (71.9)	-	E (56.0)
		McCaslin Blvd	SBT	-	-	-	-	-	D (43.8)	-	D (41.3)
			SBR	-	-	-	-	-	A (0.0)	-	A (0.0)
		Overall		-	-	-	-	-	**D (49.3)**	-	**D (50.2)**
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	A [0.0]	A [7.4]	A [0.0]	A [7.5]	A [0.0]	A [7.9]	A [0.0]	A [8.0]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Dillon Rd	WBL	A [7.5]	A [7.9]	A [7.5]	A [8.1]	A [7.5]	A [7.9]	A [7.6]	A [8.2]
			WBT	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
			WBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Colony Square Access	NBLTR	A [8.6]	A [9.6]	A [8.8]	A [10.0]	A [8.7]	A [9.7]	A [8.8]	B [10.1]
		S Site Access	SBLTR	B [11.6]	B [13.1]	B [12.7]	C [15.4]	B [13.0]	C [22.8]	B [14.6]	D [33.7]
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	A [7.5]	A [0.0]	A [7.7]	A [0.0]	A [7.6]	A [0.0]	A [7.7]	A [0.0]
			EBTR	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]	A [0.0]
		Dillon Rd	WBLT	A [7.3]	A [7.5]	A [7.4]	A [7.6]	A [7.3]	A [7.5]	A [7.4]	A [7.6]
			WBTR	A [0.1]	A [0.1]	A [0.2]	A [0.1]	A [0.1]	A [0.1]	A [0.2]	A [0.1]
		Home Depot Access	NBLTR	A [8.7]	A [9.1]	A [8.8]	A [9.5]	A [8.7]	A [9.2]	A [8.8]	A [9.5]
		Century Pl	SBLTR	B [10.6]	B [10.3]	B [11.3]	B [11.2]	B [10.9]	B [10.5]	B [11.6]	B [11.5]

Notes : (1) Numbers in brackets [] represent delay at unsignalized intersections in seconds per vehicle.
(2) Numbers in parenthesis () represent delay at signalized intersections in seconds per vehicle.

Table 6-2
King Soopers - Louisville, CO
Total Future Intersection Queueing Summary [1]

Intersection	Operating Condition	Street Name	Approach/ Movement	Available Storage	Background 2026 AM Peak Hour	Background 2026 PM Peak Hour	Background 2045 AM Peak Hour	Background 2045 PM Peak Hour	Total Future 2026 AM Peak Hour	Total Future 2026 PM Peak Hour	Total Future 2045 AM Peak Hour	Total Future 2045 PM Peak Hour
1 Centennial Pkwy & Century Pl	STOP	Centennial Pkwy	EBL	100	0	0	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0	0	0
		Centennial Pkwy	WBL	100	0	0	0	0	0	0	0	0
			WBTR	-	0	0	0	0	0	0	0	0
		Century Pl	NBLTR	-	3	3	3	3	5	5	5	5
		Century Pl	SBL	100	0	8	0	8	0	8	0	10
			SBTR	-	0	3	0	3	0	3	0	3
2 Centennial Pkwy & N Site Access	STOP	Centennial Pkwy	EBL	80	0	0	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0	0	0
			WBL	100	0	3	0	3	3	8	3	8
		Centennial Pkwy	WBT	-	0	0	0	0	0	0	0	0
			WBR	50	0	0	0	0	0	0	0	0
		N Site Access	NBLTR	-	3	3	5	5	13	40	13	45
		Driveway	SBLTR	-	10	5	13	8	15	13	15	15
3 Centennial Pkwy & McCaslin Blvd	SIGNAL		EBL	100	88	72	103	82	154	253	166	262
		Centennial Pkwy	EBT	-	25	38	28	44	34	53	36	57
			EBR	100	0	0	0	0	0	0	0	0
			WBL	300	139	145	160	168	143	153	165	176
		Centennial Pkwy	WBT	-	53	33	58	38	66	58	71	60
			WBR	-	0	0	0	0	0	0	0	0
			NBL	325	24	6	36	6	29	8	65	8
		McCaslin Blvd	NBT	-	350	68	517	83	407	256	539	511
			NBR	125	0	0	0	0	0	0	0	0
			SBL	315	44	35	56	83	51	88	63	109
		McCaslin Blvd	SBT	-	238	447	333	670	278	627	371	871
			SBR	50	0	0	0	0	0	0	0	0
4 E Site Access & McCaslin Blvd	STOP	E Site Access	EBR	-	3	5	3	5	13	35	13	38
		Centennial Marketplace Access	WBR	-	8	8	10	8	8	8	10	8
			NBL	150	5	5	5	5	18	55	20	93
		McCaslin Blvd	NBT	-	0	0	0	0	0	0	0	0
			NBTR	-	0	0	0	0	0	0	0	0
			SBL	250	8	8	8	10	5	8	8	10
		McCaslin Blvd	SBT	-	0	0	0	0	0	0	0	0
			SBTR	-	0	0	0	0	0	0	0	0
5 Dillon Rd & McCaslin Blvd	SIGNAL		EBL	130	26	49	32	58	29	59	34	68
		Dillon Rd	EBT	-	53	112	63	129	76	151	83	167
			EBR	150	0	0	0	0	0	0	0	0
			WBL	500	273	347	365	457	273	347	365	457
		Dillon Rd	WBT	-	80	83	93	96	104	116	116	128
			WBR	250	0	0	0	0	0	0	0	0
			NBL	450	123	79	163	102	189	188	228	228
		McCaslin Blvd	NBT	-	370	380	481	501	396	408	513	536
			NBR	150	0	0	0	0	0	0	0	0
			SBL	250	111	191	130	244	120	230	144	241
		McCaslin Blvd	SBT	-	180	329	216	443	186	456	222	581
			SBR	100	0	0	0	0	0	0	0	0
Optimized Signal Timings												
	SIGNAL		EBL	130	-	-	-	-	-	60	-	68
		Dillon Rd	EBT	-	-	-	-	-	-	151	-	167
			EBR	150	-	-	-	-	-	0	-	0
			WBL	500	-	-	-	-	-	359	-	422
		Dillon Rd	WBT	-	-	-	-	-	-	114	-	123
			WBR	250	-	-	-	-	-	0	-	0
			NBL	450	-	-	-	-	-	176	-	165
		McCaslin Blvd	NBT	-	-	-	-	-	-	427	-	760
			NBR	150	-	-	-	-	-	0	-	0
			SBL	250	-	-	-	-	-	180	-	157
		McCaslin Blvd	SBT	-	-	-	-	-	-	456	-	740
			SBR	100	-	-	-	-	-	0	-	0
6 Dillon Rd & S Site Access	STOP	Dillon Rd	EBLT	-	0	0	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0	0	0
			WBL	175	3	8	3	8	3	8	3	8
		Dillon Rd	WBT	-	0	0	0	0	0	0	0	0
			WBTR	-	0	0	0	0	0	0	0	0
		Colony Square Access	NBLTR	-	3	10	3	13	3	10	3	13
		S Site Access	SBLTR	-	3	3	3	3	10	53	13	78
7 Dillon Rd & Century Pl	STOP	Dillon Rd	EBLT	-	0	0	0	0	0	0	0	0
			EBTR	-	0	0	0	0	0	0	0	0
			WBLT	-	3	3	3	3	3	3	3	3
		Dillon Rd	WBTR	-	0	0	0	0	0	0	0	0
		Home Depot Access	NBLTR	-	5	5	5	5	5	5	5	5
		Century Pl	SBLTR	-	3	5	3	5	3	8	3	8

Notes : (1) Queue length, in feet, is based on the 95th percentile queue as reported by Synchro, Version 12.

VII. Conclusions and Recommendations

Conclusions

Based on the results of this traffic impact study, the following may be concluded:

- Under existing traffic conditions, the signalized intersections in the study area currently operate at acceptable overall levels of service (LOS) “D” or better during the weekday peak hours. The unsignalized intersection movements in the study area currently operate at acceptable LOS “B” or better during the weekday peak hours. All queues are contained within their effective storage.

- Under background future 2026 and 2045 traffic conditions, without the development of the subject site, delays would increase slightly at study intersections due to regional traffic growth. The signalized intersections in the study area are forecasted to operate at acceptable overall LOS “D” or better during the weekday peak hours with the exception of the Dillon Rd & McCaslin Blvd intersection which is forecasted to operate at LOS “E” during the long range (2045) weekday PM peak hour. The unsignalized intersection movements in the study area would operate at acceptable LOS “C” or better during the weekday peak hours. All queues are expected to be contained within their effective storage with the exception of the eastbound left movement at the Centennial Pkwy & McCaslin Blvd intersection during the long range (2045) weekday AM peak hour.

- The proposed site redevelopment would generate, upon completion and full occupancy, 399 net new weekday AM and 755 net new weekday PM peak hour vehicle trips as well as 10,301 net new weekday daily trips.

- Under total future 2026 and 2045 traffic conditions with development of the site, the signalized intersections within the study area would continue to operate at acceptable overall LOS “D” or better during the weekday peak hours in all total future scenarios with the exception of the Dillon Rd & McCaslin Blvd intersection which would operate at LOS “E” during the weekday PM peak hour for total future 2026 and 2045 conditions. The unsignalized intersection movements in the study area would operate at acceptable LOS “D” or better during the weekday peak hours in all future scenarios.

- Under total future 2026 and 2045 traffic conditions with development of the site, all queues are expected to be contained within their effective storage with the exception of the eastbound left turn lane at the intersection of Centennial Pkwy & McCaslin Blvd which would exceed the available storage during all total future scenarios.

Recommendations

- It is recommended that the Applicant provide access consistent with the site plan contained herein.

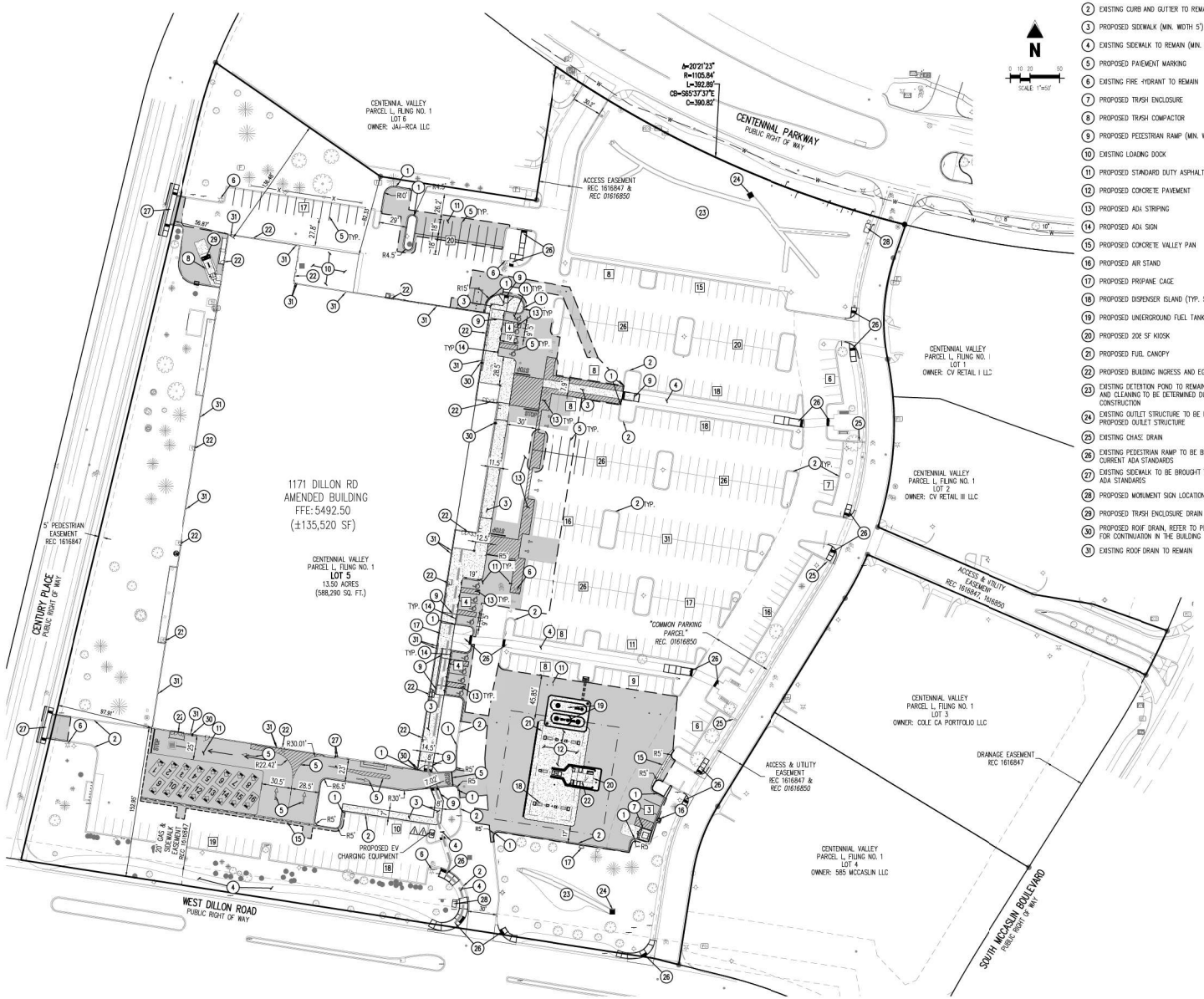
- It is recommended that the signal timings at Dillon Rd & McCaslin Blvd be optimized once the subject site is operational to improve overall operations of the intersection including better LOS and accommodate anticipated queues.

- It is recommended that the eastbound left turn lane at Centennial Pkwy & McCaslin Blvd be extended to accommodate the queue.

APPENDIX A – Full Sized Conceptual Plan

CENTENNIAL VALLEY PARCEL L PUD, 5TH AMENDMENT

PARCEL L, LOT 5, FILING NO.1,
CASE #: PUPD-000530-2024



SITE PLAN SCHEDULE

1. PROPOSED CURB AND GUTTER
2. EXISTING CURB AND GUTTER TO REMAIN
3. PROPOSED SIDEWALK (MIN. WIDTH 5')
4. EXISTING SIDEWALK TO REMAIN (MIN. WIDTH 5')
5. PROPOSED PAVEMENT MARKING
6. EXISTING FIRE HYDRANT TO REMAIN
7. PROPOSED TRASH ENCLOSURE
8. PROPOSED TRASH COMPACTOR
9. PROPOSED PEDESTRIAN RAMP (MIN. WIDTH 5')
10. EXISTING LOADING DOCK
11. PROPOSED STANDARD DUTY ASPHALT PAVEMENT
12. PROPOSED CONCRETE PAVEMENT
13. PROPOSED ADA STRIPING
14. PROPOSED ADA SIGN
15. PROPOSED CONCRETE VALLEY PAN
16. PROPOSED AIR STAND
17. PROPOSED PROPANE CAGE
18. PROPOSED DISPENSER ISLAND (TYP. 5 LOCATIONS)
19. PROPOSED UNDERGROUND FUEL TANKS
20. PROPOSED 206 SF KIOSK
21. PROPOSED FUEL CANOPY
22. PROPOSED BUILDING INGRESS AND EGRESS LOCATION
23. EXISTING DETENTION POND TO REMAIN, MAINTENANCE AND CLEANING TO BE DETERMINED DURING CONSTRUCTION
24. EXISTING OUTLET STRUCTURE TO BE REPLACED WITH PROPOSED OUTLET STRUCTURE
25. EXISTING CHASE DRAIN
26. EXISTING PEDESTRIAN RAMP TO BE BROUGHT TO CURRENT ADA STANDARDS
27. EXISTING SIDEWALK TO BE BROUGHT TO CURRENT ADA STANDARDS
28. PROPOSED MONUMENT SIGN LOCATION
29. PROPOSED TRASH ENCLOSURE DRAIN
30. PROPOSED ROOF DRAIN, REFER TO PLUMBING PLANS FOR CONTINUATION IN THE BUILDING
31. EXISTING ROOF DRAIN TO REMAIN

SITE LEGEND

- PROPERTY LINE
- ADJACENT PROPERTY LINE
- EXISTING EASEMENT LINE
- PROPOSED SAWCUT LINE
- EXISTING FENCE TO REMAIN
- PROPOSED SWALE FLOWLINE
- PROPOSED CURB AND GUTTER
- EXISTING CURB AND GUTTER
- PROPOSED ADA STRIPING
- PROPOSED STANDARD DUTY ASPHALT
- PROPOSED CONCRETE PAVEMENT
- ADA PATH OF TRAVEL
- EXISTING SIGN
- PROPOSED SIGN
- PROPOSED BOLLARD
- PROPOSED ADA PARKING SYMBOL
- PROPOSED DETECTABLE WARNING TRUNCATED DOMES
- PROPOSED SITE LIGHTING
- EXISTING ELECTRICAL PULL BOX
- EXISTING LIGHT POLE
- EXISTING SANITARY SEWER MANHOLE
- EXISTING STORM SEWER INLET
- EXISTING STORM SEWER MANHOLE
- EXISTING WATER METER
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING TREE/BUSH TO REMAIN
- PARKING COUNT
- EXISTING PAD MOUNTED TRANSFORMER
- PROPOSED INSTALLED EV PARKING STALL
- PROPOSED EV CAPABLE PARKING STALL
- PROPOSED EV READY PARKING STALL

BENCHMARK

NGS BENCHMARK P-453, LOCATED 3.06 KM NORTHWEST OF THE INTERCHANGE OF US 36 AND INTERLOCKEN LOOP/STORAGE TECH DRIVE, IN COLORADO DEPARTMENT OF TRANSPORTATION RIGHT-OF-WAY.

NAVD88 ELEVATION: 5508.96

LEGAL DESCRIPTION

LOT 5, CENTENNIAL VALLEY PARCEL L, FILING NO. 1, ACCORDING TO THE PLAT THEREOF RECORDED AT RECEPTION NUMBER 1616847, CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO.

Galloway
5500 Greenwood Plaza Blvd., Suite 200
Greenwood Village, CO 80111
303.770.8884
GallowayUS.com

NOT FOR CONSTRUCTION

COPYRIGHT
THESE PLANS ARE AN INSTRUMENT OF SERVICE AND ARE THE PROPERTY OF GALLOWAY, AND MAY NOT BE DUPLICATED, DISCLOSED, OR REPRODUCED WITHOUT THE WRITTEN CONSENT OF GALLOWAY. COPYRIGHTS AND INFRINGEMENTS WILL BE ENFORCED AND PROSECUTED.

KING SOOPERS STORE #142
5TH PUD AMENDMENT

1171 W. DILLION ROAD
CITY OF LOUISVILLE, BOULDER COUNTY, COLORADO

#	Date	Issue / Description	Init.
1	11/27/2024	1ST SUBMITTAL	JDP
2	01/29/2025	2ND SUBMITTAL	JDP
3	04/11/2024	3RD SUBMITTAL	JDP

Project No:	KS00000142.02
Drawn By:	SE
Checked By:	JDP
Date:	APRIL 11, 2025

SITE PLAN

2
2 OF 19

APPENDIX B – LOS Descriptions

Level of Service for Signalized Intersections

Level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort and frustration, fuel consumption, and lost travel time. Specifically, level-of-service (LOS) criteria are stated in terms of the average stopped delay per vehicle for a 15-min analysis period. The criteria are given in Exhibit 16-2. Delay may be measured in the field or estimated using procedures presented later in this chapter. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

LOS A describes operations with very low delay, up to 10 sec per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

LOS B describes operations with delay greater than 10 and up to 20 sec per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.

Exhibit 16-2. Level-of-Service Criteria for Signalized Intersections

LEVEL OF SERVICE	STOPPED DELAY PER VEHICLE (SEC)
A	≤10.0
B	> 10.0 and ≤20.0
C	> 20.0 and ≤ 35.0
D	> 35.0 and ≤ 55.0
E	> 55.0 and ≤ 80.0
F	>80.0

LOS C describes operations with delay greater than 20 and up to 35 sec per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with delay greater than 35 and up to 55 sec per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with delay greater than 55 and up to 80 sec per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with delay in excess of 80 sec per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. It may also occur at high *v/c* ratios below 1.0 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

Level of Service Criteria for Stop Sign Controlled Intersections

The level of service criteria are given in Table 17-2. As used here, control delay is defined as the total elapsed time from the time a vehicle stops at the end of the queue until the vehicle departs from the stop line; this time includes the time required for the vehicle to travel from the last-in-queue position to the first-in-queue position, including deceleration of vehicles from free-flow speed to the speed of vehicles in queue.

The average total delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. . . .

Table 17-2. Level of Service Criteria for TWSC Intersections

LEVEL OF SERVICE	AVERAGE CONTROL DELAY (sec/veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Average total delay less than 10 sec/veh is defined as Level of Service (LOS) A. Follow-up times of less than 5 sec have been measured when there is no conflicting traffic for a minor street movement, so control delays of less than 10 sec/veh are appropriate for low flow conditions. To remain consistent with the AWSC intersection analysis procedure described later in this chapter, a total delay of 50 sec/veh is assumed as the break point between LOS E and F.

The proposed level of service criteria for TWSC intersections are somewhat different from the criteria used in Chapter 16 for signalized intersections. The primary reason for this difference is that drivers expect different levels of performance from different kinds of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection. Additionally, several driver behavior considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, where drivers on the minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized than signalized intersections. For these reasons, it is considered that the total delay threshold for any given level of service is less for an unsignalized intersection than for a signalized intersection. . . .

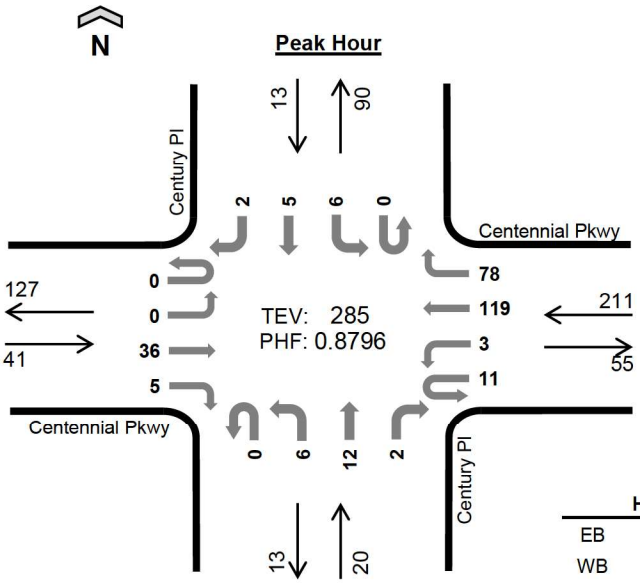
LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queueing on the minor approaches. The method, however, is based on a constant critical gap size - that is, the critical gap remains constant, no matter how long the side street motorist waits. LOS F may also appear in the form of side street vehicles' selecting smaller-than-usual gaps. In such cases, safety may be a problem and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior. The latter is more difficult to observe on the field than queueing, which is more obvious.

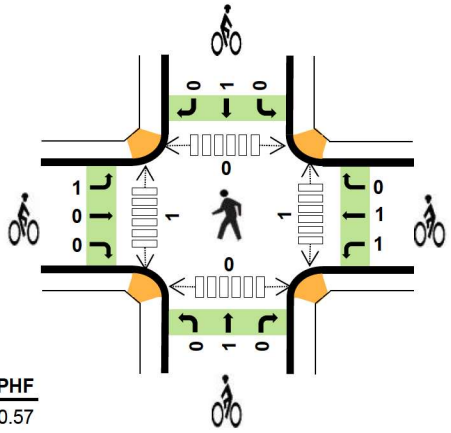
Source: Highway Capacity Manual, 2000. Transportation Research Board, National Research Council

APPENDIX C – Traffic Counts

Century Pl
Centennial Pkwy

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	2%	0.57
WB	1%	0.81
NB	5%	0.63
SB	0%	0.65
TOTAL	2%	0.88

Peak Hour Count Summaries

Peak Hour Interval Start		Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Century Pl Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	6	0	3	0	27	18	0	1	7	0	0	3	1	1	67	0
8:15 AM		0	0	5	3	5	2	36	22	0	2	2	1	0	2	1	0	81	0
8:30 AM		0	0	17	1	2	1	30	17	0	0	1	1	0	0	1	0	71	0
8:45 AM		0	0	8	1	1	0	26	21	0	3	2	0	0	1	2	1	66	285
Pk Hr	All	0	0	36	5	11	3	119	78	0	6	12	2	0	6	5	2	285	
	HV	0	0	1	0	0	0	1	2	0	1	0	0	0	0	0	0	5	
	HV%	-	-	3%	0%	0%	0%	1%	3%	-	17%	0%	0%	-	0%	0%	0%	2%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	2	0	0	*2*	0	1	1	0	*2*	0	1	0	0	*1*
8:15 AM	1	0	0	0	*1*	0	0	0	1	*1*	1	0	0	0	*1*
8:30 AM	0	0	0	0	*0*	1	1	0	0	*2*	0	0	0	0	*0*
8:45 AM	0	1	1	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	1	3	1	0	*5*	1	2	1	1	*5*	1	1	0	0	*2*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Century Pl Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	0	0	0	14	3	0	0	1	0	0	1	0	0	20	0
7:15 AM	0	0	1	0	2	0	15	4	0	0	2	0	0	0	0	0	24	0
7:30 AM	0	0	5	0	6	0	10	2	0	0	0	0	0	5	0	0	28	0
7:45 AM	0	0	6	1	5	0	25	14	0	0	2	1	0	1	0	0	55	127
8:00 AM	**0**	**0**	**6**	**0**	**3**	**0**	**27**	**18**	**0**	**1**	**7**	**0**	**0**	**3**	**1**	**1**	**67**	**174**
8:15 AM	**0**	**0**	**5**	**3**	**5**	**2**	**36**	**22**	**0**	**2**	**2**	**1**	**0**	**2**	**1**	**0**	**81**	**231**
8:30 AM	**0**	**0**	**17**	**1**	**2**	**1**	**30**	**17**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**0**	**71**	**274**
8:45 AM	**0**	**0**	**8**	**1**	**1**	**0**	**26**	**21**	**0**	**3**	**2**	**0**	**0**	**1**	**2**	**1**	**66**	**285**
Count Total	0	0	49	6	24	3	183	101	0	6	17	3	0	13	5	2	412	
Pk Hr All	**0**	**0**	**36**	**5**	**11**	**3**	**119**	**78**	**0**	**6**	**12**	**2**	**0**	**6**	**5**	**2**	**285**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	
Pk Hr HV%	**-**	**-**	**3%**	**0%**	**0%**	**0%**	**1%**	**3%**	**-**	**17%**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**2%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	1	0	0	*2*	0	0	0	0	*0*	1	0	0	0	*1*
7:30 AM	1	0	0	2	*3*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	1	1	0	*2*	2	1	0	0	*3*	0	0	0	0	*0*
8:00 AM	**0**	**2**	**0**	**0**	**2**	**0**	**1**	**1**	**0**	**2**	**0**	**1**	**0**	**0**	**1**
8:15 AM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**
8:45 AM	**0**	**1**	**1**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	3	5	2	2	*12*	3	3	1	1	*8*	2	1	0	0	*3*
Peak Hour	**1**	**3**	**1**	**0**	***5***	**1**	**2**	**1**	**1**	***5***	**1**	**1**	**0**	**0**	**2**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				Centennial Pkwy				Century Pl				Century Pl				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	2	0
7:30 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	2	0	0	3	0
7:45 AM	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	7
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**9**
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**8**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**5**
Count Total	0	0	3	0	0	0	3	2	0	1	1	0	0	2	0	0	12	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**5**	

Count Summaries - Bikes

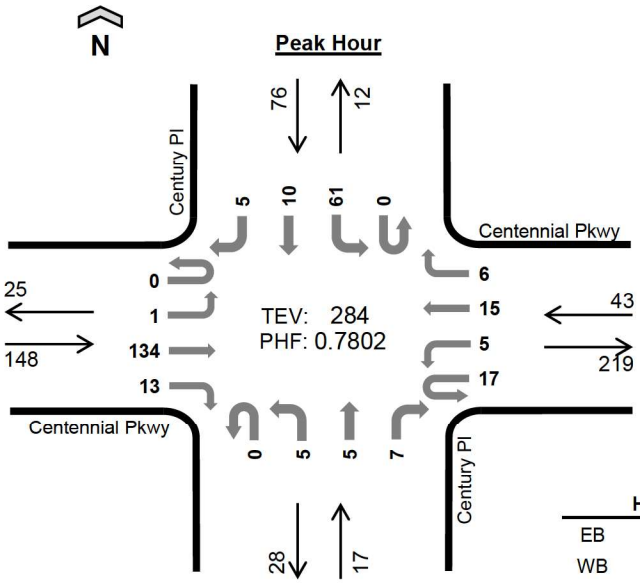
Interval Start	Centennial Pkwy				Centennial Pkwy				Century Pl				Century Pl				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	3	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**5**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**6**
8:30 AM	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**8**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**5**
Count Total	0	1	1	1	0	1	1	1	0	0	1	0	0	0	1	0	8	
Pk Hr Bike	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**5**	

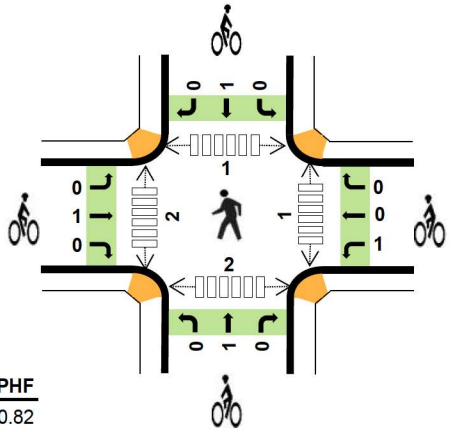
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Century Pl
Centennial Pkwy

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	1%	0.82
WB	2%	0.72
NB	0%	0.71
SB	1%	0.76
TOTAL	1%	0.78

Peak Hour Count Summaries

Peak Hour Interval Start		Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Century Pl Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	0	36	5	3	0	1	2	0	1	0	1	0	16	2	2	69	0
4:45 PM		0	0	36	4	3	2	5	2	0	2	1	1	0	16	3	0	75	0
5:00 PM		0	0	42	3	6	1	7	1	0	1	2	3	0	21	3	1	91	0
5:15 PM		0	1	20	1	5	2	2	1	0	1	2	2	0	8	2	2	49	284
Pk Hr	All	0	1	134	13	17	5	15	6	0	5	5	7	0	61	10	5	284	
	HV	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	1	3	
	HV%	-	0%	1%	0%	0%	0%	7%	0%	-	0%	0%	0%	-	0%	0%	20%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	0	1	0	0	*1*	0	1	0	0	*1*	0	0	0	0	*0*
4:45 PM	1	0	0	0	*1*	1	0	0	1	*2*	0	0	1	0	*1*
5:00 PM	0	0	0	0	*0*	0	0	1	0	*1*	1	0	0	0	*1*
5:15 PM	0	0	0	1	*1*	0	0	0	0	*0*	0	2	0	2	*4*
Peak Hour	1	1	0	1	*3*	1	1	1	1	*4*	1	2	1	2	*6*

TJ Wethington
(720) 646-1008
tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Century Pl Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	1	25	2	0	3	7	3	0	0	1	2	0	8	0	0	52	0
4:15 PM	0	0	16	1	1	0	4	1	0	0	0	2	0	8	1	0	34	0
4:30 PM	**0**	**0**	**36**	**5**	**3**	**0**	**1**	**2**	**0**	**1**	**0**	**1**	**0**	**16**	**2**	**2**	**69**	**0**
4:45 PM	**0**	**0**	**36**	**4**	**3**	**2**	**5**	**2**	**0**	**2**	**1**	**1**	**0**	**16**	**3**	**0**	**75**	**230**
5:00 PM	**0**	**0**	**42**	**3**	**6**	**1**	**7**	**1**	**0**	**1**	**2**	**3**	**0**	**21**	**3**	**1**	**91**	**269**
5:15 PM	**0**	**1**	**20**	**1**	**5**	**2**	**2**	**1**	**0**	**1**	**2**	**2**	**0**	**8**	**2**	**2**	**49**	**284**
5:30 PM	0	0	15	1	0	4	2	1	0	2	2	3	0	10	2	0	42	257
5:45 PM	0	1	15	1	0	2	0	4	0	1	1	1	0	6	1	0	33	215
Count Total	0	3	205	18	18	14	28	15	0	8	9	15	0	93	14	5	445	
Pk Hr All	**0**	**1**	**134**	**13**	**17**	**5**	**15**	**6**	**0**	**5**	**5**	**7**	**0**	**61**	**10**	**5**	**284**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	
Pk Hr HV%	**-**	**0%**	**1%**	**0%**	**0%**	**0%**	**7%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**0%**	**0%**	**20%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	2	0	*2*
4:30 PM	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**1**	**0**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**4**
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	0	0	*1*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	1	0	1	*4*	1	1	1	1	*4*	2	2	3	2	*9*
Peak Hour	**1**	**1**	**0**	**1**	***3***	**1**	**1**	**1**	**1**	***4***	**1**	**2**	**1**	**2**	**6**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				Centennial Pkwy				Century Pl				Century Pl				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**3**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	0	0	0	1	0	0	0	0	0	0	0	0	1	4	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**3**	

Count Summaries - Bikes

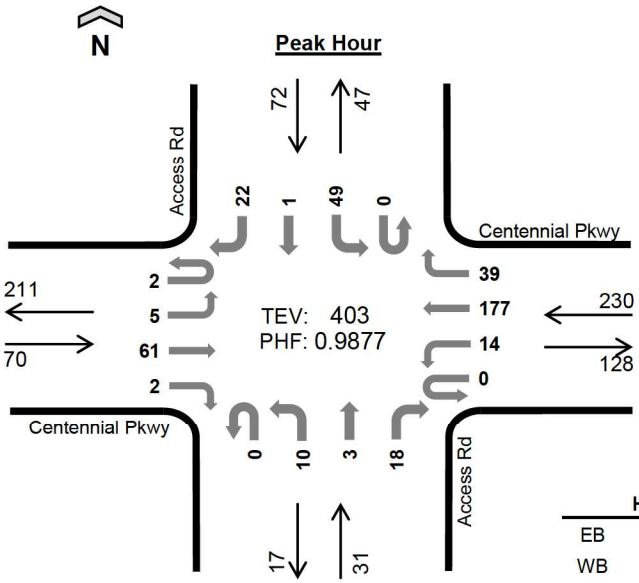
Interval Start	Centennial Pkwy				Centennial Pkwy				Century Pl				Century Pl				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**2**	**3**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	1	0	0	1	0	0	0	0	1	0	0	0	1	0	4	
Pk Hr Bike	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**4**	

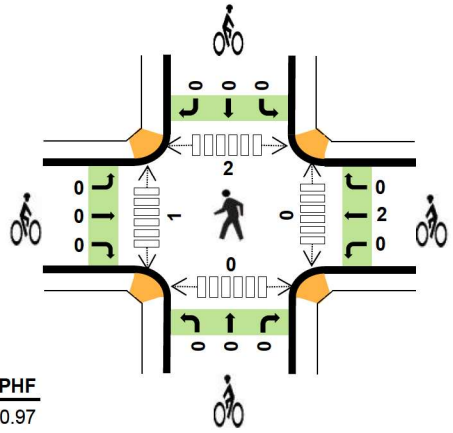
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Access Rd
Centennial Pkwy

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	1%	0.97
WB	1%	0.93
NB	0%	0.78
SB	1%	0.78
TOTAL	1%	0.99

Peak Hour Count Summaries

Peak Hour Interval Start		Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		1	1	14	0	0	6	42	10	0	2	0	3	0	19	0	4	102	0
8:15 AM		1	0	17	0	0	3	52	7	0	2	1	7	0	3	0	9	102	0
8:30 AM		0	3	14	1	0	3	43	13	0	5	0	4	0	13	0	3	102	0
8:45 AM		0	1	16	1	0	2	40	9	0	1	2	4	0	14	1	6	97	403
Pk Hr	All	2	5	61	2	0	14	177	39	0	10	3	18	0	49	1	22	403	
	HV	0	0	1	0	0	0	3	0	0	0	0	0	0	1	0	0	5	
	HV%	0%	0%	2%	0%	-	0%	2%	0%	-	0%	0%	0%	-	2%	0%	0%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	2	0	0	*2*	0	1	0	0	*1*	0	0	1	0	*1*
8:15 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	1	0	*1*
8:30 AM	0	0	0	0	*0*	0	1	0	0	*1*	0	1	0	0	*1*
8:45 AM	0	1	0	1	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	1	3	0	1	*5*	0	2	0	0	*2*	0	1	2	0	*3*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	1	1	0	0	15	3	0	4	0	0	0	7	0	1	32	0
7:15 AM	0	0	1	0	0	1	13	7	0	1	0	0	0	11	0	4	38	0
7:30 AM	0	1	10	0	0	1	14	8	0	3	2	7	0	12	1	1	60	0
7:45 AM	1	1	9	0	0	1	36	12	0	4	1	4	0	16	1	3	89	219
8:00 AM	**1**	**1**	**14**	**0**	**0**	**6**	**42**	**10**	**0**	**2**	**0**	**3**	**0**	**19**	**0**	**4**	**102**	**289**
8:15 AM	**1**	**0**	**17**	**0**	**0**	**3**	**52**	**7**	**0**	**2**	**1**	**7**	**0**	**3**	**0**	**9**	**102**	**353**
8:30 AM	**0**	**3**	**14**	**1**	**0**	**3**	**43**	**13**	**0**	**5**	**0**	**4**	**0**	**13**	**0**	**3**	**102**	**395**
8:45 AM	**0**	**1**	**16**	**1**	**0**	**2**	**40**	**9**	**0**	**1**	**2**	**4**	**0**	**14**	**1**	**6**	**97**	**403**
Count Total	3	7	82	3	0	17	255	69	0	22	6	29	0	95	3	31	622	
Pk Hr All	**2**	**5**	**61**	**2**	**0**	**14**	**177**	**39**	**0**	**10**	**3**	**18**	**0**	**49**	**1**	**22**	**403**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	
Pk Hr HV%	**0%**	**0%**	**2%**	**0%**	**-**	**0%**	**2%**	**0%**	**-**	**0%**	**0%**	**0%**	**-**	**2%**	**0%**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
7:00 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	3	0	0	0	*3*	0	0	1	0	*1*	0	0	0	0	*0*
7:45 AM	1	1	1	0	*3*	1	0	0	1	*2*	0	0	0	0	*0*
8:00 AM	**0**	**2**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**
8:15 AM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**
8:45 AM	**0**	**1**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	6	5	1	1	*13*	1	2	1	1	*5*	0	1	2	0	*3*
Peak Hour	**1**	**3**	**0**	**1**	***5***	**0**	**2**	**0**	**0**	***2***	**0**	**1**	**2**	**0**	**3**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				Centennial Pkwy				Access Rd				Access Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0
7:45 AM	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	8
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**9**
8:15 AM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**9**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**5**
Count Total	0	0	6	0	0	0	5	0	0	0	0	1	0	1	0	0	13	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**5**	

Count Summaries - Bikes

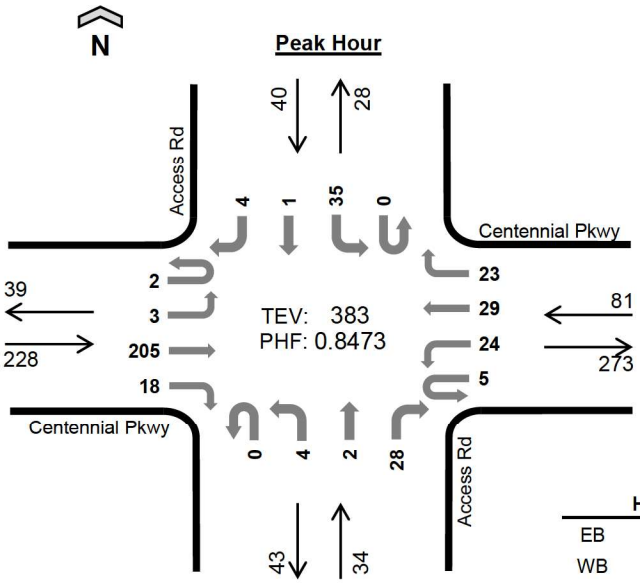
Interval Start	Centennial Pkwy				Centennial Pkwy				Access Rd				Access Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:45 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
Count Total	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	1	5	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	

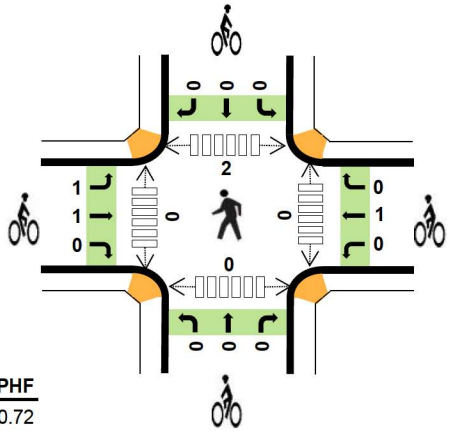
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Access Rd
Centennial Pkwy

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:15 PM to 5:15 PM





	HV%	PHF
EB	0%	0.72
WB	2%	0.78
NB	0%	0.85
SB	3%	0.63
TOTAL	1%	0.85

Peak Hour Count Summaries

Peak Hour Interval Start	Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:15 PM	0	2	31	0	2	4	6	9	0	0	0	10	0	5	1	1	71	0
4:30 PM	0	0	48	7	1	8	6	11	0	2	1	4	0	16	0	0	104	0
4:45 PM	0	0	58	3	0	6	6	2	0	1	1	6	0	10	0	2	95	0
5:00 PM	2	1	68	8	2	6	11	1	0	1	0	8	0	4	0	1	113	383
Pk Hr All	2	3	205	18	5	24	29	23	0	4	2	28	0	35	1	4	383	
Pk Hr HV	0	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	4	
Pk Hr HV%	0%	0%	0%	0%	0%	0%	3%	4%	-	0%	0%	0%	-	3%	0%	0%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	2	0	*2*
4:30 PM	0	2	0	0	*2*	0	1	0	0	*1*	0	0	0	0	*0*
4:45 PM	1	0	0	1	*2*	2	0	0	0	*2*	0	0	0	0	*0*
5:00 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	1	2	0	1	*4*	2	1	0	0	*3*	0	0	2	0	*2*

TJ Wethington
(720) 646-1008
tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy Eastbound				Centennial Pkwy Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	33	2	0	2	8	7	0	2	0	7	0	5	1	3	70	0
4:15 PM	**0**	**2**	**31**	**0**	**2**	**4**	**6**	**9**	**0**	**0**	**0**	**10**	**0**	**5**	**1**	**1**	**71**	**0**
4:30 PM	**0**	**0**	**48**	**7**	**1**	**8**	**6**	**11**	**0**	**2**	**1**	**4**	**0**	**16**	**0**	**0**	**104**	**0**
4:45 PM	**0**	**0**	**58**	**3**	**0**	**6**	**6**	**2**	**0**	**1**	**1**	**6**	**0**	**10**	**0**	**2**	**95**	**340**
5:00 PM	**2**	**1**	**68**	**8**	**2**	**6**	**11**	**1**	**0**	**1**	**0**	**8**	**0**	**4**	**0**	**1**	**113**	**383**
5:15 PM	0	0	40	2	0	2	9	5	0	1	1	5	0	5	0	1	71	383
5:30 PM	1	0	35	1	0	5	3	6	0	1	1	8	0	4	1	1	67	346
5:45 PM	0	0	21	2	0	3	4	3	0	1	0	9	0	3	1	1	48	299
Count Total	3	3	334	25	5	36	53	44	0	9	4	57	0	52	4	10	639	
Pk Hr All	**2**	**3**	**205**	**18**	**5**	**24**	**29**	**23**	**0**	**4**	**2**	**28**	**0**	**35**	**1**	**4**	**383**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	
Pk Hr HV%	**0%**	**0%**	**0%**	**0%**	**0%**	**0%**	**3%**	**4%**	**-**	**0%**	**0%**	**0%**	**-**	**3%**	**0%**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
4:00 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**
4:30 PM	**0**	**2**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**1**	**0**	**0**	**1**	**2**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	1	0	0	2	*3*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	1	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	2	1	1	*6*	2	1	0	0	*3*	1	0	2	2	*5*
Peak Hour	**1**	**2**	**0**	**1**	***4***	**2**	**1**	**0**	**0**	***3***	**0**	**0**	**2**	**0**	**2**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				Centennial Pkwy				Access Rd				Access Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**5**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	1
Count Total	0	0	2	0	0	0	1	1	0	0	0	1	0	1	0	0	6	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**4**	

Count Summaries - Bikes

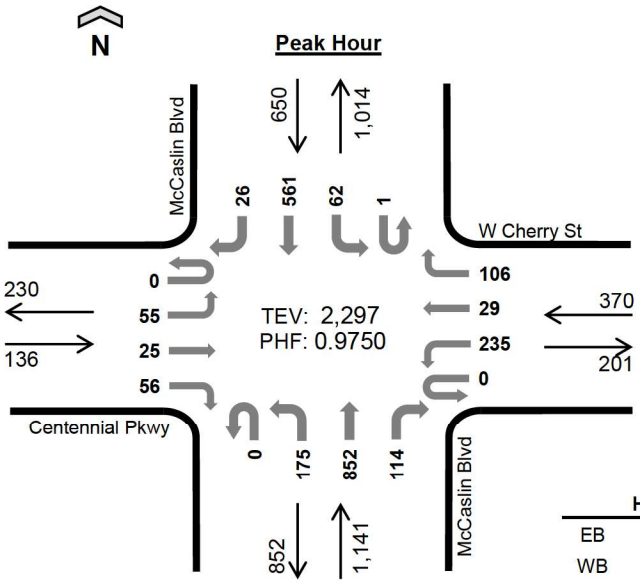
Interval Start	Centennial Pkwy				Centennial Pkwy				Access Rd				Access Rd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**
4:45 PM	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	1	1	0	0	0	1	0	0	0	0	0	0	0	0	0	3	
Pk Hr Bike	**0**	**1**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	

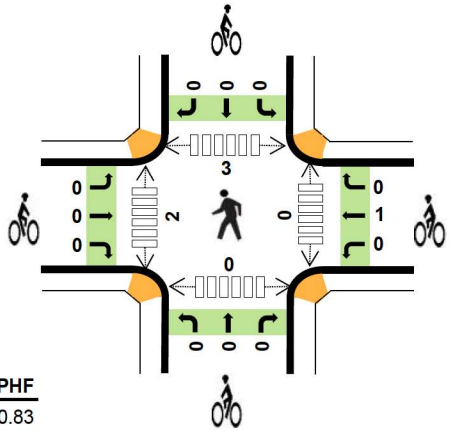
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Centennial Pkwy

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	2%	0.83
WB	2%	0.85
NB	4%	0.94
SB	3%	0.90
TOTAL	3%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Centennial Pkwy Eastbound				W Cherry St Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	17	9	15	0	75	10	24	0	39	195	18	0	14	144	7	567	0
8:15 AM		0	10	3	13	0	43	9	22	0	46	221	36	0	13	158	9	583	0
8:30 AM		0	12	6	14	0	52	5	39	0	48	207	27	0	15	127	6	558	0
8:45 AM		0	16	7	14	0	65	5	21	0	42	229	33	1	20	132	4	589	2,297
Pk Hr	All	0	55	25	56	0	235	29	106	0	175	852	114	1	62	561	26	2,297	
	HV	0	1	0	2	0	5	0	3	0	3	37	5	0	1	21	0	78	
	HV%	-	2%	0%	4%	-	2%	0%	3%	-	2%	4%	4%	0%	2%	4%	0%	3%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
8:00 AM	0	2	14	3	*19*	0	1	0	0	*1*	0	1	2	0	*3*
8:15 AM	1	3	9	7	*20*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	1	13	6	*20*	0	0	0	0	*0*	0	0	1	0	*1*
8:45 AM	2	2	9	6	*19*	0	0	0	0	*0*	0	1	0	0	*1*
Peak Hour	3	8	45	22	*78*	0	1	0	0	*1*	0	2	3	0	*5*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy Eastbound				W Cherry St Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	0	2	0	42	1	17	0	14	88	11	0	5	67	1	250	0
7:15 AM	0	3	1	5	0	50	5	21	0	14	129	25	0	6	91	4	354	0
7:30 AM	0	7	5	14	0	40	6	26	0	13	177	24	0	11	102	4	429	0
7:45 AM	0	10	3	16	0	49	12	25	0	31	211	23	0	3	145	6	534	1,567
8:00 AM	**0**	**17**	**9**	**15**	**0**	**75**	**10**	**24**	**0**	**39**	**195**	**18**	**0**	**14**	**144**	**7**	**567**	**1,884**
8:15 AM	**0**	**10**	**3**	**13**	**0**	**43**	**9**	**22**	**0**	**46**	**221**	**36**	**0**	**13**	**158**	**9**	**583**	**2,113**
8:30 AM	**0**	**12**	**6**	**14**	**0**	**52**	**5**	**39**	**0**	**48**	**207**	**27**	**0**	**15**	**127**	**6**	**558**	**2,242**
8:45 AM	**0**	**16**	**7**	**14**	**0**	**65**	**5**	**21**	**0**	**42**	**229**	**33**	**1**	**20**	**132**	**4**	**589**	**2,297**
Count Total	0	77	34	93	0	416	53	195	0	247	1,457	197	1	87	966	41	3,864	
Pk Hr All	**0**	**55**	**25**	**56**	**0**	**235**	**29**	**106**	**0**	**175**	**852**	**114**	**1**	**62**	**561**	**26**	**2,297**	
Pk Hr HV	**0**	**1**	**0**	**2**	**0**	**5**	**0**	**3**	**0**	**3**	**37**	**5**	**0**	**1**	**21**	**0**	**78**	
Pk Hr HV%	**-**	**2%**	**0%**	**4%**	**-**	**2%**	**0%**	**3%**	**-**	**2%**	**4%**	**4%**	**0%**	**2%**	**4%**	**0%**	**3%**	

Interval Start	Heavy Vehicle Totals EB	WB	NB	SB	Total	Bicycles EB	WB	NB	SB	Total	Pedestrians (Crossing Leg) E	W	N	S	Total
7:00 AM	0	1	6	2	*9*	0	0	0	1	*1*	0	2	1	0	*3*
7:15 AM	0	2	4	2	*8*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	4	0	5	4	*13*	0	0	0	0	*0*	0	1	2	0	*3*
7:45 AM	1	1	13	4	*19*	0	0	0	0	*0*	2	0	2	0	*4*
8:00 AM	**0**	**2**	**14**	**3**	**19**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**2**	**0**	**3**
8:15 AM	**1**	**3**	**9**	**7**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**1**	**13**	**6**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**
8:45 AM	**2**	**2**	**9**	**6**	**19**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
Count Total	8	12	73	34	*127*	0	1	0	1	*2*	2	5	8	0	*15*
Peak Hour	**3**	**8**	**45**	**22**	***78***	**0**	**1**	**0**	**0**	***1***	**0**	**2**	**3**	**0**	**5**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				W Cherry St				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	1	0	0	0	0	6	0	0	1	1	0	9	0
7:15 AM	0	0	0	0	0	2	0	0	0	1	3	0	0	0	2	0	8	0
7:30 AM	0	0	1	3	0	0	0	0	0	0	5	0	0	0	4	0	13	0
7:45 AM	0	1	0	0	0	1	0	0	0	1	10	2	0	0	4	0	19	49
8:00 AM	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**12**	**0**	**0**	**0**	**3**	**0**	**19**	**59**
8:15 AM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**0**	**7**	**2**	**0**	**0**	**7**	**0**	**20**	**71**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**11**	**2**	**0**	**0**	**6**	**0**	**20**	**78**
8:45 AM	**0**	**1**	**0**	**1**	**0**	**2**	**0**	**0**	**0**	**1**	**7**	**1**	**0**	**1**	**5**	**0**	**19**	**78**
Count Total	0	2	1	5	0	9	0	3	0	5	61	7	0	2	32	0	127	
Pk Hr Heavy	**0**	**1**	**0**	**2**	**0**	**5**	**0**	**3**	**0**	**3**	**37**	**5**	**0**	**1**	**21**	**0**	**78**	

Count Summaries - Bikes

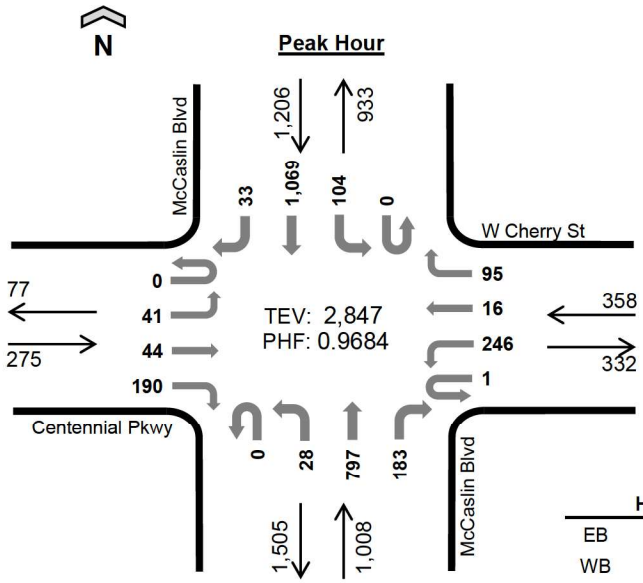
Interval Start	Centennial Pkwy				W Cherry St				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Count Total	0	0	0	0	0	0	1	0	0	0	0	0	0	0	1	0	2	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

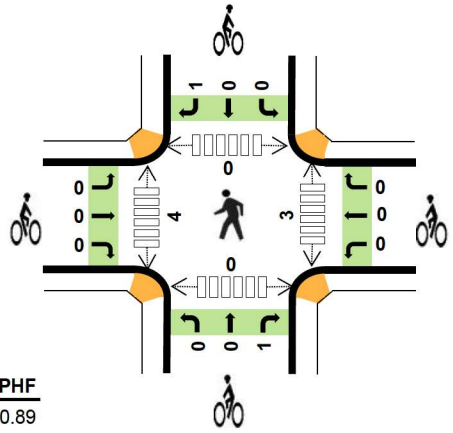
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Centennial Pkwy

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	1%	0.89
WB	0%	0.93
NB	1%	0.98
SB	1%	0.95
TOTAL	1%	0.97

Peak Hour Count Summaries

Peak Hour Interval Start		Centennial Pkwy Eastbound				W Cherry St Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	8	10	49	0	56	2	27	0	11	212	34	0	35	270	11	725	0
4:45 PM		0	16	14	44	0	65	4	27	0	6	198	51	0	25	277	8	735	0
5:00 PM		0	8	8	61	0	62	5	24	0	6	189	43	0	25	266	8	705	0
5:15 PM		0	9	12	36	1	63	5	17	0	5	198	55	0	19	256	6	682	2,847
Pk Hr	All	0	41	44	190	1	246	16	95	0	28	797	183	0	104	1,069	33	2,847	
	HV	0	0	0	2	0	0	0	0	0	2	7	1	0	0	9	0	21	
	HV%	-	0%	0%	1%	0%	0%	0%	0%	-	7%	1%	1%	-	0%	1%	0%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	0	0	5	5	*10*	0	0	0	1	*1*	1	0	0	0	*1*
4:45 PM	1	0	1	2	*4*	0	0	1	0	*1*	0	0	0	0	*0*
5:00 PM	1	0	3	2	*6*	0	0	0	0	*0*	1	2	0	0	*3*
5:15 PM	0	0	1	0	*1*	0	0	0	0	*0*	1	2	0	0	*3*
Peak Hour	2	0	10	9	*21*	0	0	1	1	2	3	4	0	0	7

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Centennial Pkwy				W Cherry St				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	2	6	32	0	47	4	18	0	8	208	49	0	17	240	5	636	0
4:15 PM	0	10	11	28	0	64	4	22	0	8	184	43	0	20	251	7	652	0
4:30 PM	**0**	**8**	**10**	**49**	**0**	**56**	**2**	**27**	**0**	**11**	**212**	**34**	**0**	**35**	**270**	**11**	**725**	**0**
4:45 PM	**0**	**16**	**14**	**44**	**0**	**65**	**4**	**27**	**0**	**6**	**198**	**51**	**0**	**25**	**277**	**8**	**735**	**2,748**
5:00 PM	**0**	**8**	**8**	**61**	**0**	**62**	**5**	**24**	**0**	**6**	**189**	**43**	**0**	**25**	**266**	**8**	**705**	**2,817**
5:15 PM	**0**	**9**	**12**	**36**	**1**	**63**	**5**	**17**	**0**	**5**	**198**	**55**	**0**	**19**	**256**	**6**	**682**	**2,847**
5:30 PM	0	10	10	28	0	39	2	24	0	3	190	59	0	29	254	10	658	2,780
5:45 PM	0	9	7	22	0	45	2	17	0	4	182	48	0	22	224	4	586	2,631
Count Total	0	72	78	300	1	441	28	176	0	51	1,561	382	0	192	2,038	59	5,379	
Pk Hr All	**0**	**41**	**44**	**190**	**1**	**246**	**16**	**95**	**0**	**28**	**797**	**183**	**0**	**104**	**1,069**	**33**	**2,847**	
Pk Hr HV	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**1**	**0**	**0**	**9**	**0**	**21**	
Pk Hr HV%	**-**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**0%**	**-**	**7%**	**1%**	**1%**	**-**	**0%**	**1%**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	2	5	*8*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**5**	**5**	**10**	**0**	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**0**	**1**
4:45 PM	**1**	**0**	**1**	**2**	**4**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**1**	**0**	**3**	**2**	**6**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**
5:15 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**3**
5:30 PM	0	0	1	3	*4*	1	0	0	0	*1*	1	1	0	0	*2*
5:45 PM	1	0	0	3	*4*	0	0	0	0	*0*	1	0	0	0	*1*
Count Total	4	0	13	24	*41*	1	0	1	1	*3*	5	6	0	0	*11*
Peak Hour	**2**	**0**	**10**	**9**	***21***	**0**	**0**	**1**	**1**	**2**	**3**	**4**	**0**	**0**	**7**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Centennial Pkwy				W Cherry St				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	0	0	0	0	0	2	0	0	0	5	0	8	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**5**	**0**	**10**	**0**
4:45 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**2**	**0**	**4**	**26**
5:00 PM	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**6**	**24**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**21**
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	15
5:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	3	0	4	15
Count Total	0	0	0	4	0	0	0	0	0	2	10	1	0	0	24	0	41	
Pk Hr Heavy	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**7**	**1**	**0**	**0**	**9**	**0**	**21**	

Count Summaries - Bikes

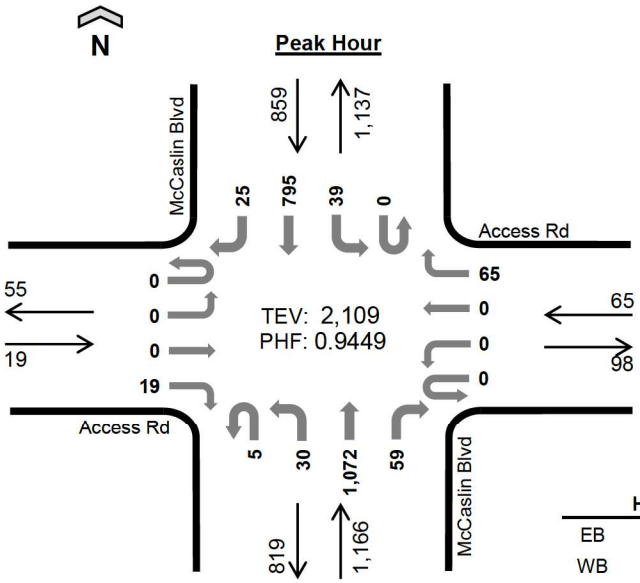
Interval Start	Centennial Pkwy				W Cherry St				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0	1	3	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**2**	

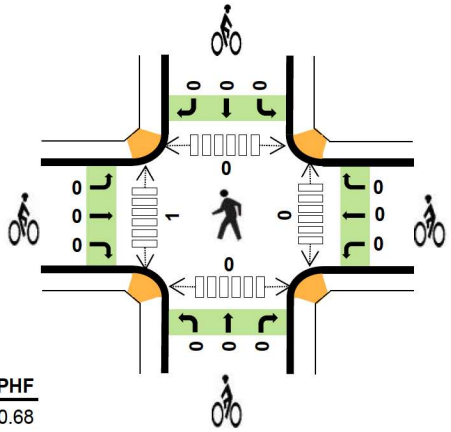
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Access Rd

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	0%	0.68
WB	0%	0.81
NB	4%	0.91
SB	3%	0.88
TOTAL	4%	0.94

Peak Hour Count Summaries

Peak Hour Interval Start		Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	0	5	0	0	0	12	1	6	232	11	0	6	231	8	512	0
8:15 AM		0	0	0	2	0	0	0	17	2	14	289	17	0	9	205	3	558	0
8:30 AM		0	0	0	7	0	0	0	20	0	4	258	21	0	13	172	5	500	0
8:45 AM		0	0	0	5	0	0	0	16	2	6	293	10	0	11	187	9	539	2,109
Pk Hr	All	0	0	0	19	0	0	0	65	5	30	1,072	59	0	39	795	25	2,109	
	HV	0	0	0	0	0	0	0	0	1	0	44	2	0	0	29	0	76	
	HV%	-	-	-	0%	-	-	-	0%	20%	0%	4%	3%	-	0%	4%	0%	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	0	0	11	7	*18*	0	0	0	0	*0*	0	1	0	0	*1*
8:15 AM	0	0	13	8	*21*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	0	0	12	8	*20*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	11	6	*17*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	0	0	47	29	*76*	0	0	0	0	*0*	0	1	0	0	*1*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	1	0	0	0	13	1	7	103	5	0	2	103	1	236	0
7:15 AM	0	0	0	3	0	0	0	11	0	4	156	11	0	6	141	0	332	0
7:30 AM	0	0	0	2	0	0	0	8	2	5	206	5	0	1	151	3	383	0
7:45 AM	0	0	0	7	0	0	0	11	0	10	257	16	0	7	199	0	507	1,458
8:00 AM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**12**	**1**	**6**	**232**	**11**	**0**	**6**	**231**	**8**	**512**	**1,734**
8:15 AM	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**17**	**2**	**14**	**289**	**17**	**0**	**9**	**205**	**3**	**558**	**1,960**
8:30 AM	**0**	**0**	**0**	**7**	**0**	**0**	**0**	**20**	**0**	**4**	**258**	**21**	**0**	**13**	**172**	**5**	**500**	**2,077**
8:45 AM	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**16**	**2**	**6**	**293**	**10**	**0**	**11**	**187**	**9**	**539**	**2,109**
Count Total	0	0	0	32	0	0	0	108	8	56	1,794	96	0	55	1,389	29	3,567	
Pk Hr All	**0**	**0**	**0**	**19**	**0**	**0**	**0**	**65**	**5**	**30**	**1,072**	**59**	**0**	**39**	**795**	**25**	**2,109**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**44**	**2**	**0**	**0**	**29**	**0**	**76**	
Pk Hr HV%	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**0%**	**20%**	**0%**	**4%**	**3%**	**-**	**0%**	**4%**	**0%**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	1	7	2	*10*	0	0	0	0	*0*	0	1	0	2	*3*
7:15 AM	0	0	5	4	*9*	0	0	1	0	*1*	0	0	0	0	*0*
7:30 AM	0	0	7	7	*14*	0	0	0	0	*0*	0	1	0	0	*1*
7:45 AM	0	1	12	4	*17*	0	0	0	0	*0*	0	1	0	0	*1*
8:00 AM	**0**	**0**	**11**	**7**	**18**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**1**
8:15 AM	**0**	**0**	**13**	**8**	**21**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**12**	**8**	**20**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	**0**	**0**	**11**	**6**	**17**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	2	78	46	*126*	0	0	1	0	*1*	0	4	0	2	*6*
Peak Hour	**0**	**0**	**47**	**29**	***76***	**0**	**0**	**0**	**0**	***0***	**0**	**1**	**0**	**0**	**1**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	7	0	0	0	2	0	10	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	3	2	0	0	4	0	9	0
7:30 AM	0	0	0	0	0	0	0	0	1	1	5	0	0	1	6	0	14	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	12	0	0	0	4	0	17	50
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**7**	**0**	**18**	**58**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**12**	**1**	**0**	**0**	**8**	**0**	**21**	**70**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**1**	**0**	**0**	**8**	**0**	**20**	**76**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**10**	**0**	**0**	**0**	**6**	**0**	**17**	**76**
Count Total	0	0	0	0	0	0	0	2	2	1	71	4	0	1	45	0	126	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**44**	**2**	**0**	**0**	**29**	**0**	**76**	

Count Summaries - Bikes

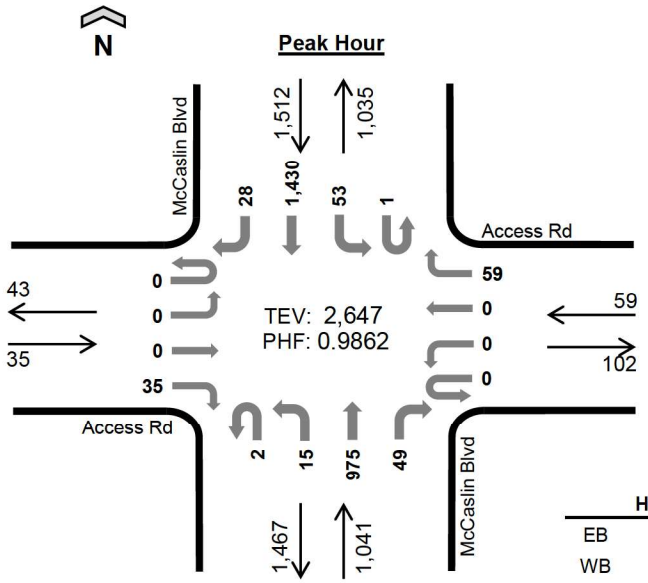
Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

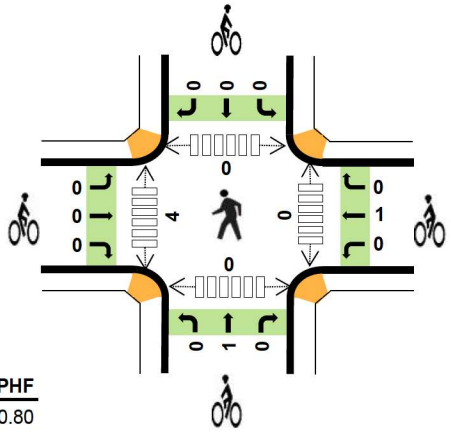
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Access Rd

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	0%	0.80
WB	0%	0.70
NB	1%	0.97
SB	1%	0.94
TOTAL	1%	0.99

Peak Hour Count Summaries

Peak Hour Interval Start		Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		**0**	**0**	**0**	**6**	**0**	**0**	**0**	**21**	**0**	**3**	**238**	**23**	**0**	**16**	**358**	**6**	**671**	**0**
4:45 PM		**0**	**0**	**0**	**10**	**0**	**0**	**0**	**15**	**0**	**5**	**249**	**10**	**0**	**13**	**358**	**11**	**671**	**0**
5:00 PM		**0**	**0**	**0**	**11**	**0**	**0**	**0**	**12**	**2**	**4**	**231**	**9**	**0**	**14**	**381**	**6**	**670**	**0**
5:15 PM		**0**	**0**	**0**	**8**	**0**	**0**	**0**	**11**	**0**	**3**	**257**	**7**	**1**	**10**	**333**	**5**	**635**	**2,647**
Pk Hr	All	**0**	**0**	**0**	**35**	**0**	**0**	**0**	**59**	**2**	**15**	**975**	**49**	**1**	**53**	**1,430**	**28**	**2,647**	
	HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**0**	**22**	
	HV%	-	-	-	**0%**	-	-	-	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	**0**	**0**	**6**	**5**	***11***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	***0***
4:45 PM	**0**	**0**	**1**	**3**	***4***	**0**	**0**	**1**	**0**	***1***	**0**	**0**	**0**	**0**	***0***
5:00 PM	**0**	**0**	**3**	**2**	***5***	**0**	**1**	**0**	**0**	***1***	**0**	**1**	**0**	**0**	***1***
5:15 PM	**0**	**0**	**1**	**1**	***2***	**0**	**0**	**0**	**0**	***0***	**0**	**3**	**0**	**0**	***3***
Peak Hour	**0**	**0**	**11**	**11**	***22***	**0**	**1**	**1**	**0**	***2***	**0**	**4**	**0**	**0**	***4***

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	13	0	0	0	27	1	2	232	24	0	7	296	12	614	0
4:15 PM	0	0	0	13	0	0	0	24	0	5	210	17	0	14	331	10	624	0
4:30 PM	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**21**	**0**	**3**	**238**	**23**	**0**	**16**	**358**	**6**	**671**	**0**
4:45 PM	**0**	**0**	**0**	**10**	**0**	**0**	**0**	**15**	**0**	**5**	**249**	**10**	**0**	**13**	**358**	**11**	**671**	**2,580**
5:00 PM	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**12**	**2**	**4**	**231**	**9**	**0**	**14**	**381**	**6**	**670**	**2,636**
5:15 PM	**0**	**0**	**0**	**8**	**0**	**0**	**0**	**11**	**0**	**3**	**257**	**7**	**1**	**10**	**333**	**5**	**635**	**2,647**
5:30 PM	0	0	0	10	0	0	0	21	1	2	222	19	0	16	288	9	588	2,564
5:45 PM	0	0	0	19	0	0	0	15	2	4	210	10	0	14	266	6	546	2,439
Count Total	0	0	0	90	0	0	0	146	6	28	1,849	119	1	104	2,611	65	5,019	
Pk Hr All	**0**	**0**	**0**	**35**	**0**	**0**	**0**	**59**	**2**	**15**	**975**	**49**	**1**	**53**	**1,430**	**28**	**2,647**	
Pk Hr HV	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**0**	**22**	
Pk Hr HV%	**-**	**-**	**-**	**0%**	**-**	**-**	**-**	**0%**	**0%**	**0%**	**1%**	**0%**	**0%**	**0%**	**1%**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	0	0	1	6	*7*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	**0**	**0**	**6**	**5**	**11**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**1**	**3**	**4**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**0**	**0**	**3**	**2**	**5**	**0**	**1**	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**3**
5:30 PM	0	0	1	3	*4*	0	0	0	0	*0*	0	0	0	0	*0*
5:45 PM	0	0	0	4	*4*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	0	0	13	28	*41*	0	1	1	0	*2*	0	4	0	0	*4*
Peak Hour	**0**	**0**	**11**	**11**	***22***	**0**	**1**	**1**	**0**	**2**	**0**	**4**	**0**	**0**	**4**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	6	0	7	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	4	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**6**	**0**	**0**	**0**	**5**	**0**	**11**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**4**	**26**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**0**	**2**	**0**	**5**	**24**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**2**	**22**
5:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	3	0	4	15
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	15
Count Total	0	0	0	0	0	0	0	0	0	0	13	0	0	1	27	0	41	
Pk Hr Heavy	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**11**	**0**	**0**	**0**	**11**	**0**	**22**	

Count Summaries - Bikes

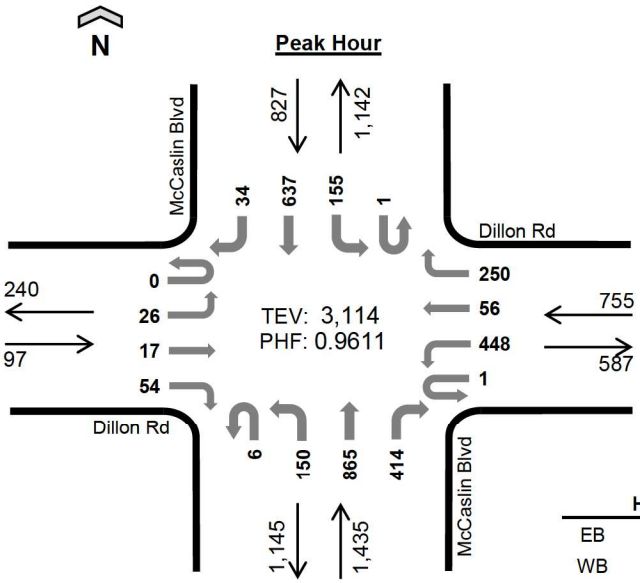
Interval Start	Access Rd Eastbound				Access Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	2	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	

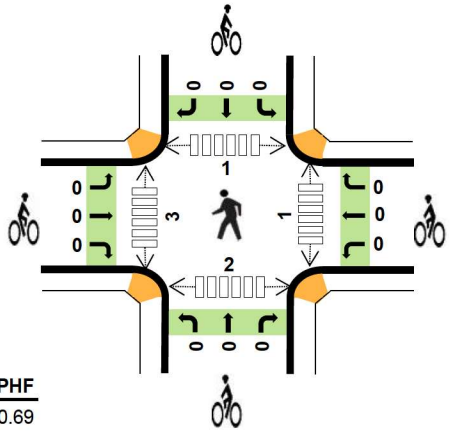
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Dillon Rd

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 7:45 AM to 8:45 AM





	HV%	PHF
EB	8%	0.69
WB	4%	0.94
NB	3%	0.94
SB	4%	0.85
TOTAL	4%	0.96

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:45 AM		0	2	1	13	0	129	11	52	1	27	220	114	0	32	160	9	771	0
8:00 AM		0	3	6	6	0	104	17	47	0	43	219	121	0	52	185	7	810	0
8:15 AM		0	10	4	21	1	110	10	79	2	44	219	92	1	45	157	11	806	0
8:30 AM		0	11	6	14	0	105	18	72	3	36	207	87	0	26	135	7	727	3,114
Pk Hr	All	0	26	17	54	1	448	56	250	6	150	865	414	1	155	637	34	3,114	
	HV	0	1	2	5	0	15	3	11	0	5	37	8	0	3	24	2	116	
	HV%	-	4%	12%	9%	0%	3%	5%	4%	0%	3%	4%	2%	0%	2%	4%	6%	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:45 AM	1	10	15	6	*32*	0	0	0	0	*0*	1	0	1	1	*3*
8:00 AM	1	4	14	5	*24*	0	0	0	0	*0*	0	3	0	1	*4*
8:15 AM	3	6	10	12	*31*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	3	9	11	6	*29*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	8	29	50	29	*116*	0	0	0	0	*0*	1	3	1	2	*7*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	2	3	5	0	43	3	21	0	8	106	64	0	10	105	7	377	0
7:15 AM	0	3	3	4	0	64	13	28	0	18	125	64	0	12	108	9	451	0
7:30 AM	0	4	2	15	0	91	12	37	0	22	188	79	0	22	137	6	615	0
7:45 AM	**0**	**2**	**1**	**13**	**0**	**129**	**11**	**52**	**1**	**27**	**220**	**114**	**0**	**32**	**160**	**9**	**771**	**2,214**
8:00 AM	**0**	**3**	**6**	**6**	**0**	**104**	**17**	**47**	**0**	**43**	**219**	**121**	**0**	**52**	**185**	**7**	**810**	**2,647**
8:15 AM	**0**	**10**	**4**	**21**	**1**	**110**	**10**	**79**	**2**	**44**	**219**	**92**	**1**	**45**	**157**	**11**	**806**	**3,002**
8:30 AM	**0**	**11**	**6**	**14**	**0**	**105**	**18**	**72**	**3**	**36**	**207**	**87**	**0**	**26**	**135**	**7**	**727**	**3,114**
8:45 AM	0	13	3	22	0	118	10	62	0	24	226	97	0	16	158	10	759	3,102
Count Total	0	48	28	100	1	764	94	398	6	222	1,510	718	1	215	1,145	66	5,316	
Pk Hr All	**0**	**26**	**17**	**54**	**1**	**448**	**56**	**250**	**6**	**150**	**865**	**414**	**1**	**155**	**637**	**34**	**3,114**	
Pk Hr HV	**0**	**1**	**2**	**5**	**0**	**15**	**3**	**11**	**0**	**5**	**37**	**8**	**0**	**3**	**24**	**2**	**116**	
Pk Hr HV%	**-**	**4%**	**12%**	**9%**	**0%**	**3%**	**5%**	**4%**	**0%**	**3%**	**4%**	**2%**	**0%**	**2%**	**4%**	**6%**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	1	8	1	*10*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	5	7	6	*18*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	2	6	6	*14*	0	0	0	0	*0*	1	1	0	0	*2*
7:45 AM	**1**	**10**	**15**	**6**	**32**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**1**	**3**
8:00 AM	**1**	**4**	**14**	**5**	**24**	**0**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**1**	**4**
8:15 AM	**3**	**6**	**10**	**12**	**31**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**3**	**9**	**11**	**6**	**29**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	2	4	9	5	*20*	0	0	0	0	*0*	0	0	1	0	*1*
Count Total	10	41	80	47	*178*	0	0	0	0	*0*	2	4	2	2	*10*
Peak Hour	**8**	**29**	**50**	**29**	***116***	**0**	**0**	**0**	**0**	***0***	**1**	**3**	**1**	**2**	**7**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd				Dillon Rd				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	1	0	0	6	2	0	0	1	0	10	0
7:15 AM	0	0	0	0	0	3	1	1	0	1	4	2	0	1	5	0	18	0
7:30 AM	0	0	0	0	0	0	1	1	0	0	5	1	0	0	6	0	14	0
7:45 AM	**0**	**0**	**0**	**1**	**0**	**6**	**0**	**4**	**0**	**2**	**9**	**4**	**0**	**0**	**6**	**0**	**32**	**74**
8:00 AM	**0**	**0**	**1**	**0**	**0**	**2**	**1**	**1**	**0**	**1**	**10**	**3**	**0**	**2**	**3**	**0**	**24**	**88**
8:15 AM	**0**	**0**	**0**	**3**	**0**	**2**	**1**	**3**	**0**	**1**	**9**	**0**	**0**	**1**	**9**	**2**	**31**	**101**
8:30 AM	**0**	**1**	**1**	**1**	**0**	**5**	**1**	**3**	**0**	**1**	**9**	**1**	**0**	**0**	**6**	**0**	**29**	**116**
8:45 AM	0	1	0	1	0	3	0	1	0	0	8	1	0	2	3	0	20	104
Count Total	0	2	2	6	0	21	5	15	0	6	60	14	0	6	39	2	178	
Pk Hr Heavy	**0**	**1**	**2**	**5**	**0**	**15**	**3**	**11**	**0**	**5**	**37**	**8**	**0**	**3**	**24**	**2**	**116**	

Count Summaries - Bikes

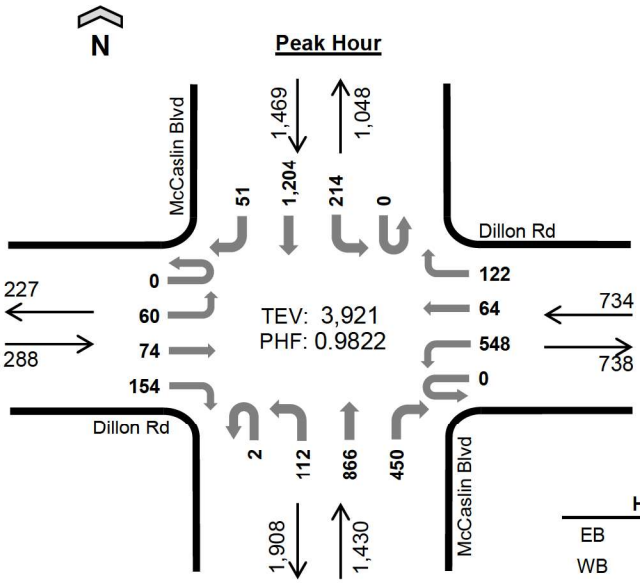
Interval Start	Dillon Rd				Dillon Rd				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

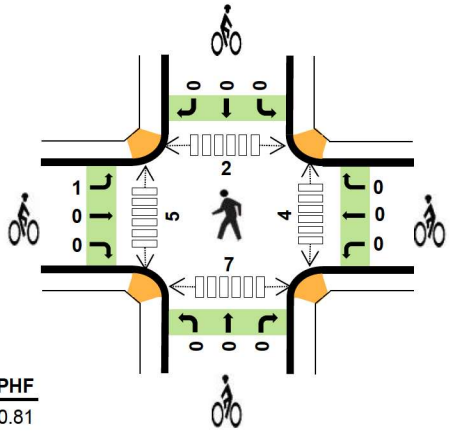
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

McCaslin Blvd
Dillon Rd

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:30 PM to 5:30 PM





	HV%	PHF
EB	1%	0.81
WB	1%	0.98
NB	1%	0.98
SB	1%	0.96
TOTAL	1%	0.98

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:30 PM		0	14	12	31	0	143	13	30	0	25	216	123	0	56	285	15	963	0
4:45 PM		0	9	24	38	0	124	17	34	0	23	232	106	0	50	329	5	991	0
5:00 PM		0	21	26	42	0	144	21	21	2	33	188	117	0	66	304	13	998	0
5:15 PM		0	16	12	43	0	137	13	37	0	31	230	104	0	42	286	18	969	3,921
Pk Hr	All	0	60	74	154	0	548	64	122	2	112	866	450	0	214	1,204	51	3,921	
	HV	0	0	2	0	0	4	0	4	0	0	5	4	0	0	9	1	29	
	HV%	-	0%	3%	0%	-	1%	0%	3%	0%	0%	1%	1%	-	0%	1%	2%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:30 PM	0	4	5	5	*14*	0	0	0	0	*0*	1	0	0	2	*3*
4:45 PM	1	0	1	3	*5*	1	0	0	0	*1*	1	0	0	1	*2*
5:00 PM	1	3	3	2	*9*	0	0	0	0	*0*	0	1	1	1	*3*
5:15 PM	0	1	0	0	*1*	0	0	0	0	*0*	2	4	1	3	*10*
Peak Hour	2	8	9	10	*29*	1	0	0	0	*1*	4	5	2	7	*18*

TJ Wethington
(720) 646-1008
tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				McCaslin Blvd Northbound				McCaslin Blvd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	18	24	38	1	145	16	53	2	25	172	128	0	63	237	10	932	0
4:15 PM	1	8	9	28	0	113	17	30	2	16	217	107	0	38	291	14	891	0
4:30 PM	**0**	**14**	**12**	**31**	**0**	**143**	**13**	**30**	**0**	**25**	**216**	**123**	**0**	**56**	**285**	**15**	**963**	**0**
4:45 PM	**0**	**9**	**24**	**38**	**0**	**124**	**17**	**34**	**0**	**23**	**232**	**106**	**0**	**50**	**329**	**5**	**991**	**3,777**
5:00 PM	**0**	**21**	**26**	**42**	**0**	**144**	**21**	**21**	**2**	**33**	**188**	**117**	**0**	**66**	**304**	**13**	**998**	**3,843**
5:15 PM	**0**	**16**	**12**	**43**	**0**	**137**	**13**	**37**	**0**	**31**	**230**	**104**	**0**	**42**	**286**	**18**	**969**	**3,921**
5:30 PM	0	15	18	30	0	128	9	31	1	24	183	127	0	54	226	11	857	3,815
5:45 PM	0	9	6	36	0	121	13	23	0	29	198	88	0	40	232	24	819	3,643
Count Total	1	110	131	286	1	1,055	119	259	7	206	1,636	900	0	409	2,190	110	7,420	
Pk Hr All	**0**	**60**	**74**	**154**	**0**	**548**	**64**	**122**	**2**	**112**	**866**	**450**	**0**	**214**	**1,204**	**51**	**3,921**	
Pk Hr HV	**0**	**0**	**2**	**0**	**0**	**4**	**0**	**4**	**0**	**0**	**5**	**4**	**0**	**0**	**9**	**1**	**29**	
Pk Hr HV%	**-**	**0%**	**3%**	**0%**	**-**	**1%**	**0%**	**3%**	**0%**	**0%**	**1%**	**1%**	**-**	**0%**	**1%**	**2%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	3	4	6	*14*	0	0	0	0	*0*	0	1	0	0	*1*
4:15 PM	0	2	2	3	*7*	0	0	0	0	*0*	2	0	1	2	*5*
4:30 PM	**0**	**4**	**5**	**5**	**14**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**3**
4:45 PM	**1**	**0**	**1**	**3**	**5**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**2**
5:00 PM	**1**	**3**	**3**	**2**	**9**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**1**	**3**
5:15 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**2**	**4**	**1**	**3**	**10**
5:30 PM	0	1	3	2	*6*	0	0	0	1	*1*	0	1	3	1	*5*
5:45 PM	0	0	2	6	*8*	0	0	0	0	*0*	0	0	0	1	*1*
Count Total	3	14	20	27	*64*	1	0	0	1	*2*	6	7	6	11	*30*
Peak Hour	**2**	**8**	**9**	**10**	***29***	**1**	**0**	**0**	**0**	***1***	**4**	**5**	**2**	**7**	**18**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd				Dillon Rd				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	1	0	2	0	1	0	0	0	4	0	0	6	0	14	0
4:15 PM	0	0	0	0	0	2	0	0	0	0	1	1	0	0	3	0	7	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**3**	**0**	**0**	**2**	**3**	**0**	**0**	**4**	**1**	**14**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**3**	**0**	**5**	**40**
5:00 PM	**0**	**0**	**1**	**0**	**0**	**2**	**0**	**1**	**0**	**0**	**2**	**1**	**0**	**0**	**2**	**0**	**9**	**35**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**29**
5:30 PM	0	0	0	0	0	0	1	0	0	0	2	1	0	0	2	0	6	21
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	2	0	0	6	0	8	24
Count Total	0	0	2	1	0	8	1	5	0	0	8	12	0	0	26	1	64	
Pk Hr Heavy	**0**	**0**	**2**	**0**	**0**	**4**	**0**	**4**	**0**	**0**	**5**	**4**	**0**	**0**	**9**	**1**	**29**	

Count Summaries - Bikes

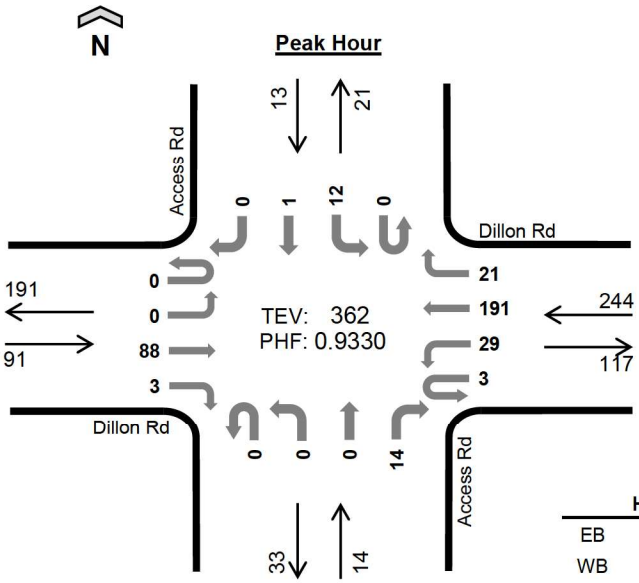
Interval Start	Dillon Rd				Dillon Rd				McCaslin Blvd				McCaslin Blvd				15-min Total	Rolling Hour Total
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	
Pk Hr Bike	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

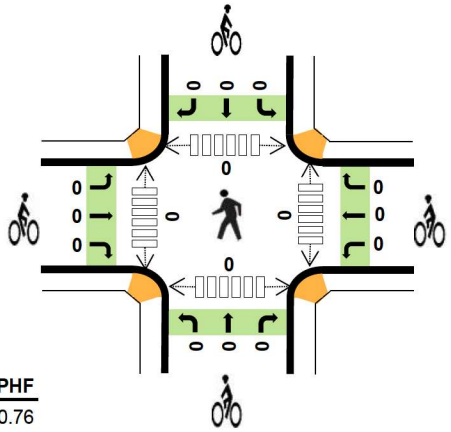
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Access Rd
Dillon Rd

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	7%	0.76
WB	4%	0.86
NB	14%	0.58
SB	0%	0.41
TOTAL	5%	0.93

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	15	1	0	7	56	8	0	0	0	0	0	3	0	0	90	0
8:15 AM		0	0	18	1	2	7	48	7	0	0	0	6	0	7	1	0	97	0
8:30 AM		0	0	25	1	0	8	44	3	0	0	0	4	0	1	0	0	86	0
8:45 AM		0	0	30	0	1	7	43	3	0	0	0	4	0	1	0	0	89	362
Pk Hr	All	0	0	88	3	3	29	191	21	0	0	0	14	0	12	1	0	362	
	HV	0	0	6	0	1	2	6	0	0	0	0	2	0	0	0	0	17	
	HV%	-	-	7%	0%	33%	7%	3%	0%	-	-	-	14%	-	0%	0%	-	5%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	1	3	0	0	*4*	0	0	0	0	*0*	0	0	0	0	*0*
8:15 AM	1	4	1	0	*6*	0	0	0	0	*0*	0	0	0	0	*0*
8:30 AM	2	2	1	0	*5*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	2	0	0	0	*2*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	6	9	2	0	*17*	0	0	0	0	*0*	0	0	0	0	*0*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	9	0	0	1	18	2	0	0	0	1	0	0	0	0	31	0
7:15 AM	0	0	9	0	1	6	28	2	0	0	0	0	0	0	0	0	46	0
7:30 AM	0	0	15	0	1	1	27	2	0	0	0	1	0	5	0	0	52	0
7:45 AM	0	0	12	0	2	5	36	1	0	0	0	1	0	3	1	2	63	192
8:00 AM	**0**	**0**	**15**	**1**	**0**	**7**	**56**	**8**	**0**	**0**	**0**	**0**	**0**	**3**	**0**	**0**	**90**	**251**
8:15 AM	**0**	**0**	**18**	**1**	**2**	**7**	**48**	**7**	**0**	**0**	**0**	**6**	**0**	**7**	**1**	**0**	**97**	**302**
8:30 AM	**0**	**0**	**25**	**1**	**0**	**8**	**44**	**3**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**86**	**336**
8:45 AM	**0**	**0**	**30**	**0**	**1**	**7**	**43**	**3**	**0**	**0**	**0**	**4**	**0**	**1**	**0**	**0**	**89**	**362**
Count Total	0	0	133	3	7	42	300	28	0	0	0	17	0	20	2	2	554	
Pk Hr All	**0**	**0**	**88**	**3**	**3**	**29**	**191**	**21**	**0**	**0**	**0**	**14**	**0**	**12**	**1**	**0**	**362**	
Pk Hr HV	**0**	**0**	**6**	**0**	**1**	**2**	**6**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**17**	
Pk Hr HV%	**-**	**-**	**7%**	**0%**	**33%**	**7%**	**3%**	**0%**	**-**	**-**	**-**	**14%**	**-**	**0%**	**0%**	**-**	**5%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	1	0	0	*1*	0	0	0	0	*0*
7:15 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:30 AM	0	2	0	0	*2*	0	0	1	0	*1*	0	0	0	0	*0*
7:45 AM	1	2	0	0	*3*	2	0	0	0	*2*	0	0	0	0	*0*
8:00 AM	**1**	**3**	**0**	**0**	**4**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:15 AM	**1**	**4**	**1**	**0**	**6**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:30 AM	**2**	**2**	**1**	**0**	**5**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	7	14	2	0	*23*	2	1	1	0	*4*	0	0	0	0	*0*
Peak Hour	**6**	**9**	**2**	**0**	***17***	**0**	**0**	**0**	**0**	***0***	**0**	**0**	**0**	**0**	**0**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	2	0
7:45 AM	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0	0	3	6
8:00 AM	**0**	**0**	**1**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**	**10**
8:15 AM	**0**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**6**	**15**
8:30 AM	**0**	**0**	**2**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**5**	**18**
8:45 AM	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**17**
Count Total	0	0	7	0	1	2	11	0	0	0	0	2	0	0	0	0	23	
Pk Hr Heavy	**0**	**0**	**6**	**0**	**1**	**2**	**6**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**17**	

Count Summaries - Bikes

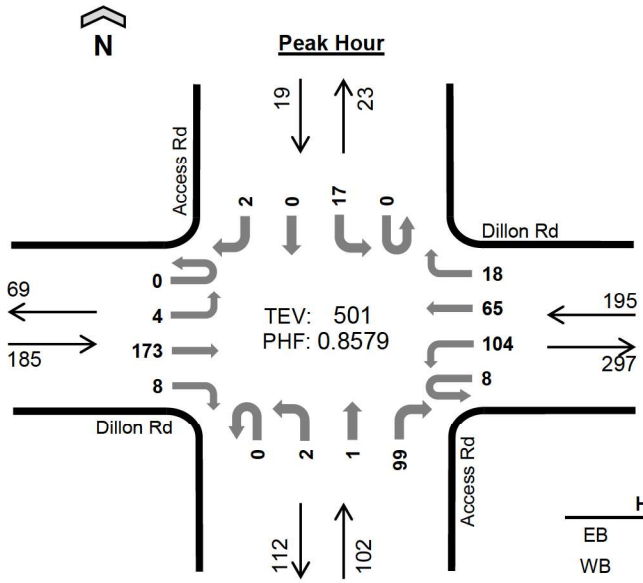
Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
7:45 AM	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2	4
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	0	0	0	2	0	0	1	0	0	0	1	0	0	0	0	0	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	

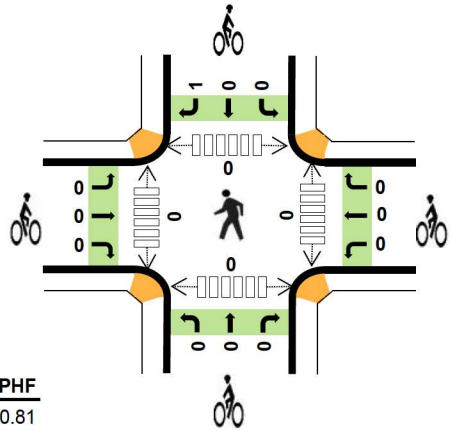
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Access Rd
Dillon Rd

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:45 PM to 5:45 PM





	HV%	PHF
EB	1%	0.81
WB	1%	0.89
NB	1%	0.77
SB	0%	0.59
TOTAL	1%	0.86

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:45 PM		0	1	48	2	4	18	17	6	0	0	1	17	0	3	0	1	118	0
5:00 PM		0	2	54	1	1	26	20	5	0	1	0	32	0	4	0	0	146	0
5:15 PM		0	1	38	4	3	29	16	7	0	1	0	25	0	3	0	0	127	0
5:30 PM		0	0	33	1	0	31	12	0	0	0	0	25	0	7	0	1	110	501
Pk Hr	All	0	4	173	8	8	104	65	18	0	2	1	99	0	17	0	2	501	
	HV	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0	3	
	HV%	-	0%	1%	0%	0%	0%	2%	0%	-	0%	0%	1%	-	0%	-	0%	1%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:45 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:00 PM	0	0	1	0	*1*	0	0	0	1	*1*	0	0	0	0	*0*
5:15 PM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
5:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	1	1	1	0	*3*	0	0	0	1	*1*	0	0	0	0	*0*

TJ Wethington
(720) 646-1008
tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	59	1	3	14	20	2	0	0	0	16	0	2	0	0	117	0
4:15 PM	0	0	26	3	3	23	25	1	0	1	3	14	0	2	0	0	101	0
4:30 PM	0	0	41	2	0	19	15	1	0	0	0	16	0	0	0	1	95	0
4:45 PM	**0**	**1**	**48**	**2**	**4**	**18**	**17**	**6**	**0**	**0**	**1**	**17**	**0**	**3**	**0**	**1**	**118**	**431**
5:00 PM	**0**	**2**	**54**	**1**	**1**	**26**	**20**	**5**	**0**	**1**	**0**	**32**	**0**	**4**	**0**	**0**	**146**	**460**
5:15 PM	**0**	**1**	**38**	**4**	**3**	**29**	**16**	**7**	**0**	**1**	**0**	**25**	**0**	**3**	**0**	**0**	**127**	**486**
5:30 PM	**0**	**0**	**33**	**1**	**0**	**31**	**12**	**0**	**0**	**0**	**0**	**25**	**0**	**7**	**0**	**1**	**110**	**501**
5:45 PM	0	0	34	2	0	31	17	6	0	1	0	12	0	1	0	0	104	487
Count Total	0	4	333	16	14	191	142	28	0	4	4	157	0	22	0	3	918	
Pk Hr All	**0**	**4**	**173**	**8**	**8**	**104**	**65**	**18**	**0**	**2**	**1**	**99**	**0**	**17**	**0**	**2**	**501**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	
Pk Hr HV%	**-**	**0%**	**1%**	**0%**	**0%**	**0%**	**2%**	**0%**	**-**	**0%**	**0%**	**1%**	**-**	**0%**	**-**	**0%**	**1%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	1	0	0	*1*	1	0	0	0	*1*	0	0	0	0	*0*
4:30 PM	0	1	0	0	*1*	0	0	1	0	*1*	0	0	0	0	*0*
4:45 PM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:00 PM	**0**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**0**
5:15 PM	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	3	1	0	*6*	1	0	1	1	*3*	0	0	0	0	*0*
Peak Hour	**1**	**1**	**1**	**0**	***3***	**0**	**0**	**0**	**1**	***1***	**0**	**0**	**0**	**0**	**0**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:15 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**4**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**4**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
Count Total	0	0	2	0	0	0	3	0	0	0	0	1	0	0	0	0	6	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	

Count Summaries - Bikes

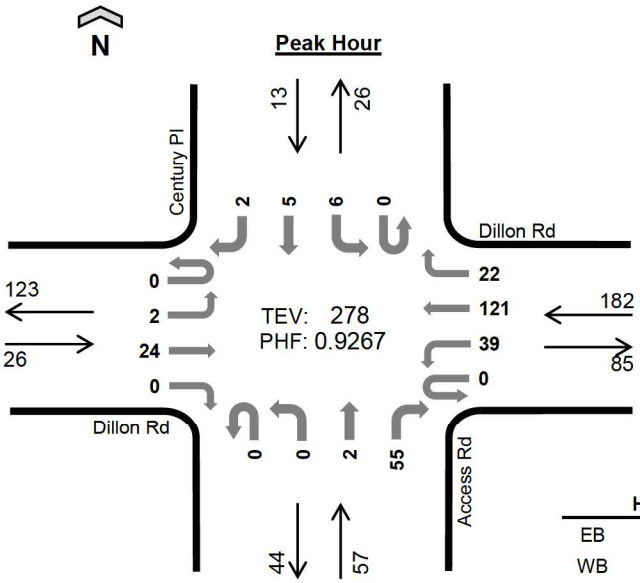
Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Access Rd Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1	0
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**3**
5:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**
5:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0	1	3	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	

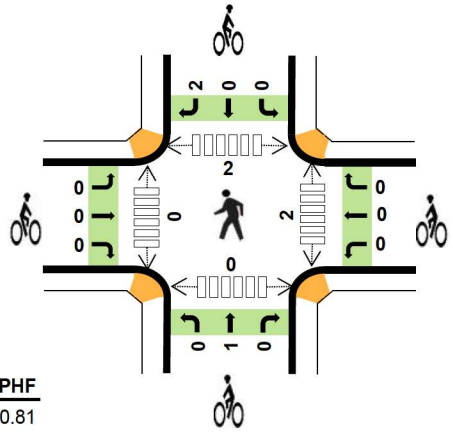
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Century Pl
Dillon Rd

Date: 1/14/2025
Count Period: 7:00 AM to 9:00 AM
Peak Hour: 8:00 AM to 9:00 AM





	HV%	PHF
EB	4%	0.81
WB	3%	0.84
NB	7%	0.62
SB	0%	0.65
TOTAL	4%	0.93

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
8:00 AM		0	0	4	0	0	13	31	10	0	0	1	9	0	1	0	0	69	0
8:15 AM		0	2	5	0	0	8	36	5	0	0	0	12	0	2	2	1	73	0
8:30 AM		0	0	7	0	0	6	31	2	0	0	0	12	0	1	2	0	61	0
8:45 AM		0	0	8	0	0	12	23	5	0	0	1	22	0	2	1	1	75	278
Pk Hr	All	0	2	24	0	0	39	121	22	0	0	2	55	0	6	5	2	278	
	HV	0	0	1	0	0	0	5	0	0	0	1	3	0	0	0	0	10	
	HV%	-	0%	4%	-	-	0%	4%	0%	-	-	50%	5%	-	0%	0%	0%	4%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
8:00 AM	1	1	0	0	*2*	0	0	1	1	*2*	0	0	1	0	*1*
8:15 AM	0	2	0	0	*2*	0	0	0	1	*1*	2	0	1	0	*3*
8:30 AM	0	2	1	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
8:45 AM	0	0	3	0	*3*	0	0	0	0	*0*	0	0	0	0	*0*
Peak Hour	1	5	4	0	*10*	0	0	1	2	*3*	2	0	2	0	*4*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	4	0	0	4	11	1	0	0	0	3	0	0	0	0	23	0
7:15 AM	0	0	2	0	0	4	17	2	0	0	1	5	0	0	0	0	31	0
7:30 AM	0	0	4	0	0	8	18	1	0	0	0	9	0	0	1	0	41	0
7:45 AM	0	0	7	0	0	8	24	2	0	0	1	7	0	1	1	0	51	146
8:00 AM	**0**	**0**	**4**	**0**	**0**	**13**	**31**	**10**	**0**	**0**	**1**	**9**	**0**	**1**	**0**	**0**	**69**	**192**
8:15 AM	**0**	**2**	**5**	**0**	**0**	**8**	**36**	**5**	**0**	**0**	**0**	**12**	**0**	**2**	**2**	**1**	**73**	**234**
8:30 AM	**0**	**0**	**7**	**0**	**0**	**6**	**31**	**2**	**0**	**0**	**0**	**12**	**0**	**1**	**2**	**0**	**61**	**254**
8:45 AM	**0**	**0**	**8**	**0**	**0**	**12**	**23**	**5**	**0**	**0**	**1**	**22**	**0**	**2**	**1**	**1**	**75**	**278**
Count Total	0	2	41	0	0	63	191	28	0	0	4	79	0	7	7	2	424	
Pk Hr All	**0**	**2**	**24**	**0**	**0**	**39**	**121**	**22**	**0**	**0**	**2**	**55**	**0**	**6**	**5**	**2**	**278**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**10**	
Pk Hr HV%	**-**	**0%**	**4%**	**-**	**-**	**0%**	**4%**	**0%**	**-**	**-**	**50%**	**5%**	**-**	**0%**	**0%**	**0%**	**4%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
7:00 AM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
7:15 AM	0	1	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
7:30 AM	0	1	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
7:45 AM	0	2	1	0	*3*	0	0	0	1	*1*	0	0	0	0	*0*
8:00 AM	**1**	**1**	**0**	**0**	**2**	**0**	**0**	**1**	**1**	**2**	**0**	**0**	**1**	**0**	**1**
8:15 AM	**0**	**2**	**0**	**0**	**2**	**0**	**0**	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**3**
8:30 AM	**0**	**2**	**1**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
8:45 AM	**0**	**0**	**3**	**0**	**3**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Count Total	1	9	5	0	*15*	0	0	1	3	*4*	3	0	2	0	*5*
Peak Hour	**1**	**5**	**4**	**0**	***10***	**0**	**0**	**1**	**2**	***3***	**2**	**0**	**2**	**0**	**4**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	1	0
7:30 AM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0
7:45 AM	0	0	0	0	0	0	2	0	0	0	0	1	0	0	0	0	3	5
8:00 AM	**0**	**0**	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**7**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**8**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**3**	**10**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**2**	**0**	**0**	**0**	**0**	**3**	**10**
Count Total	0	0	1	0	0	1	8	0	0	0	1	4	0	0	0	0	15	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**5**	**0**	**0**	**0**	**1**	**3**	**0**	**0**	**0**	**0**	**10**	

Count Summaries - Bikes

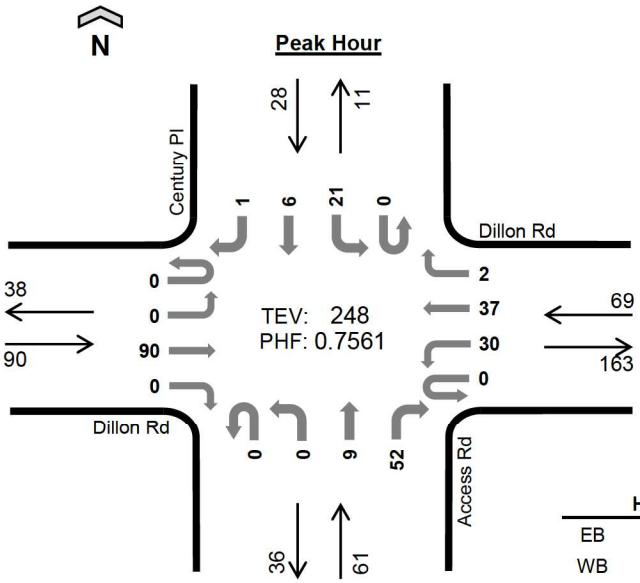
Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
8:00 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**	**2**	**3**
8:15 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**	**4**
8:30 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**4**
8:45 AM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**3**
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	2	4	
Pk Hr Bike	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**2**	**3**	

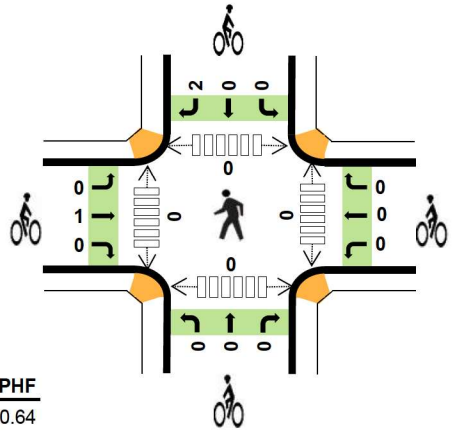
TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Century Pl
Dillon Rd

Date: 1/14/2025
Count Period: 4:00 PM to 6:00 PM
Peak Hour: 4:00 PM to 5:00 PM





	HV%	PHF
EB	1%	0.64
WB	0%	0.78
NB	0%	0.76
SB	0%	0.70
TOTAL	0%	0.76

Peak Hour Count Summaries

Peak Hour Interval Start		Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
		UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM		0	0	35	0	0	7	12	0	0	0	3	17	0	5	2	1	82	0
4:15 PM		0	0	14	0	0	9	13	0	0	0	2	10	0	2	1	0	51	0
4:30 PM		0	0	19	0	0	6	5	1	0	0	1	12	0	7	0	0	51	0
4:45 PM		0	0	22	0	0	8	7	1	0	0	3	13	0	7	3	0	64	248
Pk Hr	All	0	0	90	0	0	30	37	2	0	0	9	52	0	21	6	1	248	
	HV	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
	HV%	-	-	1%	-	-	0%	0%	0%	-	-	0%	0%	-	0%	0%	0%	0%	

Note: For complete count summary (all intervals), see following pages.
*** Heavy Vehicle Classifications include FHWA Classes 4-13.*
*** Count Summaries include heavy vehicles, but exclude bicycles in overall count.*

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	1	0	0	0	*1*	0	0	0	0	*0*	0	0	0	0	*0*
4:15 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:30 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
4:45 PM	0	0	0	0	*0*	1	0	0	2	*3*	0	0	0	0	*0*
Peak Hour	1	0	0	0	*1*	1	0	0	2	*3*	0	0	0	0	*0*

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - All Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**35**	**0**	**0**	**7**	**12**	**0**	**0**	**0**	**3**	**17**	**0**	**5**	**2**	**1**	**82**	0
4:15 PM	**0**	**0**	**14**	**0**	**0**	**9**	**13**	**0**	**0**	**0**	**2**	**10**	**0**	**2**	**1**	**0**	**51**	**0**
4:30 PM	**0**	**0**	**19**	**0**	**0**	**6**	**5**	**1**	**0**	**0**	**1**	**12**	**0**	**7**	**0**	**0**	**51**	**0**
4:45 PM	**0**	**0**	**22**	**0**	**0**	**8**	**7**	**1**	**0**	**0**	**3**	**13**	**0**	**7**	**3**	**0**	**64**	**248**
5:00 PM	0	0	19	0	0	6	11	4	0	0	2	11	0	12	2	0	67	233
5:15 PM	0	0	20	0	0	9	4	2	0	1	3	9	0	5	2	0	55	237
5:30 PM	0	0	16	0	0	5	6	3	0	1	2	5	0	1	5	1	45	231
5:45 PM	0	0	7	0	0	9	5	0	0	0	3	16	0	4	1	0	45	212
Count Total	0	0	152	0	0	59	63	11	0	2	19	93	0	43	16	2	460	
Pk Hr All	**0**	**0**	**90**	**0**	**0**	**30**	**37**	**2**	**0**	**0**	**9**	**52**	**0**	**21**	**6**	**1**	**248**	
Pk Hr HV	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	
Pk Hr HV%	**-**	**-**	**1%**	**-**	**-**	**0%**	**0%**	**0%**	**-**	**-**	**0%**	**0%**	**-**	**0%**	**0%**	**0%**	**0%**	

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	E	W	N	S	Total
4:00 PM	**1**	**0**	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**	**2**	**3**	**0**	**0**	**0**	**0**	**0**
5:00 PM	0	0	0	0	*0*	0	2	1	0	*3*	0	0	0	0	*0*
5:15 PM	1	0	0	0	*1*	0	0	0	0	*0*	1	0	0	0	*1*
5:30 PM	0	0	0	0	*0*	1	0	0	0	*1*	3	0	0	0	*3*
5:45 PM	0	0	0	0	*0*	0	0	0	0	*0*	0	0	0	0	*0*
Count Total	2	0	0	0	*2*	2	2	1	2	*7*	4	0	0	0	*4*
Peak Hour	**1**	**0**	**0**	**0**	***1***	**1**	**0**	**0**	**2**	***3***	**0**	**0**	**0**	**0**	**0**

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

Count Summaries - Heavy Vehicles

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	2	
Pk Hr Heavy	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**1**	

Count Summaries - Bikes

Interval Start	Dillon Rd Eastbound				Dillon Rd Westbound				Access Rd Northbound				Century Pl Southbound				15-min Total	Rolling Hour Total
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
4:00 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	0
4:15 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:30 PM	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
4:45 PM	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	**3**
5:00 PM	0	0	0	0	0	1	0	1	0	0	1	0	0	0	0	0	3	6
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6
5:30 PM	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	7
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
Count Total	0	1	1	0	0	1	0	1	0	0	1	0	0	0	0	2	7	
Pk Hr Bike	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**2**	**3**	

TJ Wethington
(720) 646-1008

tj.wethington@idaxdata.com

APPENDIX D – Existing Synchro Outputs

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	36	5	11	3	119	78	6	12	2	6	5	2
Future Vol, veh/h	0	36	5	11	3	119	78	6	12	2	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	42	6	12	4	140	92	7	14	2	7	6	2

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	232	0	0	-	48	0	0	195	308	45	242	265	186
Stage 1	-	-	-	-	-	-	-	45	45	-	193	217	-
Stage 2	-	-	-	-	-	-	-	150	263	-	49	48	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1336	-	-	-	1559	-	-	764	606	1024	712	640	856
Stage 1	-	-	-	-	-	-	-	969	857	-	809	723	-
Stage 2	-	-	-	-	-	-	-	853	691	-	964	855	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1336	-	-	~ -1	~ -1	-	-	755	606	1024	693	640	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	755	606	-	693	640	-
Stage 1	-	-	-	-	-	-	-	969	857	-	809	723	-
Stage 2	-	-	-	-	-	-	-	843	691	-	946	855	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0		10.54	10.26
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	673	1336	-	-	-	-	-	693	690
HCM Lane V/C Ratio	0.035	-	-	-	-	-	-	0.01	0.012
HCM Control Delay (s/veh)	10.5	0	-	-	-	-	-	10.2	10.3
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

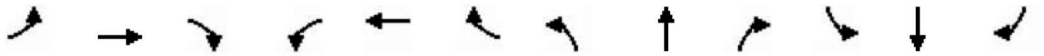
Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	67	2	14	177	39	10	3	18	51	1	24
Future Vol, veh/h	7	67	2	14	177	39	10	3	18	51	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	73	2	15	192	42	12	4	21	60	1	28

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	235	0	0	75	0	0	313	354	74	313	313	192
Stage 1	-	-	-	-	-	-	89	89	-	223	223	-
Stage 2	-	-	-	-	-	-	223	265	-	90	90	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1333	-	-	1524	-	-	640	571	988	640	602	849
Stage 1	-	-	-	-	-	-	918	821	-	780	719	-
Stage 2	-	-	-	-	-	-	779	689	-	918	820	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1333	-	-	1524	-	-	608	562	988	613	593	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	608	562	-	613	593	-
Stage 1	-	-	-	-	-	-	913	816	-	772	712	-
Stage 2	-	-	-	-	-	-	744	682	-	889	815	-

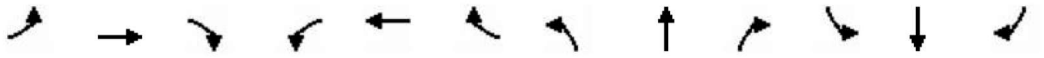
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.71	0.45	9.88	11.18
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	775	1333	-	-	1524	-	-	671
HCM Lane V/C Ratio	0.047	0.006	-	-	0.01	-	-	0.133
HCM Control Delay (s/veh)	9.9	7.7	-	-	7.4	-	-	11.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	65	29	66	276	34	125	190	926	124	70	631	29
v/c Ratio	0.39	0.09	0.04	0.62	0.14	0.08	0.38	0.46	0.08	0.20	0.34	0.02
Control Delay (s/veh)	57.7	49.4	0.1	55.3	46.0	0.1	4.9	8.8	0.1	11.8	20.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.7	49.4	0.1	55.3	46.0	0.1	4.9	8.8	0.1	11.8	20.1	0.0
Queue Length 50th (ft)	49	11	0	106	24	0	14	49	0	19	149	0
Queue Length 95th (ft)	87	24	0	135	50	0	26	377	0	45	245	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	600	2007	1583	384	1834	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.17	0.04	0.04	0.37	0.08	0.08	0.32	0.46	0.08	0.18	0.34	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	25	56	235	29	106	175	852	114	63	568	26
Future Volume (veh/h)	55	25	56	235	29	106	175	852	114	63	568	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	65	29	0	276	34	0	190	926	0	70	631	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.92	0.92	0.92	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	283		361	195		538	2055		459	1952	
Arrive On Green	0.08	0.08	0.00	0.10	0.10	0.00	0.13	1.00	0.00	0.04	0.55	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	65	29	0	276	34	0	190	926	0	70	631	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.2	0.9	0.0	9.3	2.0	0.0	5.8	0.0	0.0	2.0	11.7	0.0
Cycle Q Clear(g_c), s	4.2	0.9	0.0	9.3	2.0	0.0	5.8	0.0	0.0	2.0	11.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	283		361	195		538	2055		459	1952	
V/C Ratio(X)	0.46	0.10		0.77	0.17		0.35	0.45		0.15	0.32	
Avail Cap(c_a), veh/h	386	770		749	405		717	2055		525	1952	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.7	51.2	0.0	52.3	49.0	0.0	9.9	0.0	0.0	10.7	14.8	0.0
Incr Delay (d2), s/veh	2.8	0.2	0.0	4.1	0.5	0.0	0.1	0.7	0.0	0.1	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	0.4	0.0	4.2	1.0	0.0	1.9	0.2	0.0	0.8	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.5	51.4	0.0	56.4	49.5	0.0	10.1	0.7	0.0	10.7	15.3	0.0
LnGrp LOS	E	D		E	D		B	A		B	B	
Approach Vol, veh/h		94			310			1116			701	
Approach Delay, s/veh		54.2			55.6			2.3			14.8	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	75.4		15.6	14.0	71.9		18.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	35.0		26.0	20.0	24.0		26.0				
Max Q Clear Time (g_c+I1), s	4.0	2.0		6.2	7.8	13.7		11.3				
Green Ext Time (p_c), s	0.0	10.7		0.3	0.2	3.8		1.2				

Intersection Summary	
HCM 7th Control Delay, s/veh	15.9
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.9

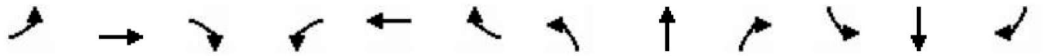
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	31	0	0	69	35	1072	59	39	795	25
Future Vol, veh/h	0	0	31	0	0	69	35	1072	59	39	795	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	91	91	91	88	88	88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	36	0	0	81	38	1178	65	44	903	28

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	466	-	-	621	932	0	0	1243	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*796	0	0	*752	666	-	-	542	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*796	-	-	*752	666	-	-	542	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.74	10.37	0.32	0.56
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	666	-	-	796	752	542	-	-
HCM Lane V/C Ratio	0.058	-	-	0.046	0.108	0.082	-	-
HCM Control Delay (s/veh)	10.7	-	-	9.7	10.4	12.2	-	-
HCM Lane LOS	B	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.4	0.3	-	-

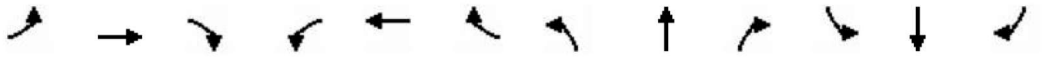
Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	31	32	75	488	61	272	170	967	450	182	749	40
v/c Ratio	0.18	0.21	0.05	0.86	0.18	0.17	0.75	0.53	0.28	0.63	0.27	0.03
Control Delay (s/veh)	56.5	54.9	0.1	64.0	41.8	0.2	75.2	22.2	0.5	63.4	20.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.5	54.9	0.1	64.0	41.8	0.2	75.2	22.2	0.5	63.4	20.7	0.0
Queue Length 50th (ft)	12	24	0	189	39	0	68	292	0	76	96	0
Queue Length 95th (ft)	26	53	0	#263	79	0	#119	360	0	110	176	0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	314	465	1583	600	621	1583	228	1837	1583	314	2732	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.07	0.05	0.81	0.10	0.17	0.75	0.53	0.28	0.58	0.27	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	27	64	449	56	250	156	890	414	155	637	34
Future Volume (veh/h)	26	27	64	449	56	250	156	890	414	155	637	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	31	32	0	488	61	0	170	967	0	182	749	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.85	0.85	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	93	153		547	399		224	1746		236	2527	
Arrive On Green	0.03	0.08	0.00	0.16	0.21	0.00	0.06	0.49	0.00	0.14	0.99	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	31	32	0	488	61	0	170	967	0	182	749	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.1	1.9	0.0	16.6	3.2	0.0	5.8	22.8	0.0	6.1	0.3	0.0
Cycle Q Clear(g_c), s	1.1	1.9	0.0	16.6	3.2	0.0	5.8	22.8	0.0	6.1	0.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	93	153		547	399		224	1746		236	2527	
V/C Ratio(X)	0.33	0.21		0.89	0.15		0.76	0.55		0.77	0.30	
Avail Cap(c_a), veh/h	317	468		605	623		230	1746		317	2527	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.3	51.4	0.0	49.5	38.4	0.0	55.2	21.3	0.0	50.9	0.3	0.0
Incr Delay (d2), s/veh	1.6	0.7	0.0	14.2	0.2	0.0	12.6	1.3	0.0	6.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.9	0.0	8.1	1.5	0.0	2.9	9.5	0.0	2.7	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.9	52.1	0.0	63.7	38.5	0.0	67.8	22.6	0.0	57.8	0.6	0.0
LnGrp LOS	E	D		E	D		E	C		E	A	
Approach Vol, veh/h		63			549			1137			931	
Approach Delay, s/veh		55.4			60.9			29.4			11.8	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.2	65.0	25.0	15.8	13.8	65.4	9.2	31.6
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	34.0	21.0	30.0	8.0	37.0	11.0	40.0
Max Q Clear Time (g_c+I1), s	8.1	24.8	18.6	3.9	7.8	2.3	3.1	5.2
Green Ext Time (p_c), s	0.1	6.2	0.4	0.1	0.0	10.9	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	30.3
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	88	3	32	191	21	0	0	16	13	1	0
Future Vol, veh/h	0	88	3	32	191	21	0	0	16	13	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	86	86	86	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	104	4	37	222	24	0	0	19	15	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	107	0	0	291	426	54	360	416	123
Stage 1	-	-	-	-	-	-	105	105	-	309	309	-
Stage 2	-	-	-	-	-	-	186	321	-	52	107	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1317	-	-	1482	-	-	638	519	1002	570	526	905
Stage 1	-	-	-	-	-	-	889	807	-	676	658	-
Stage 2	-	-	-	-	-	-	798	650	-	955	806	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1317	-	-	1482	-	-	621	506	1002	546	513	905
Mov Cap-2 Maneuver	-	-	-	-	-	-	621	506	-	546	513	-
Stage 1	-	-	-	-	-	-	889	807	-	659	642	-
Stage 2	-	-	-	-	-	-	776	634	-	937	806	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.98	8.66	11.84
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1002	1317	-	-	1482	-	-	543
HCM Lane V/C Ratio	0.019	-	-	-	0.025	-	-	0.03
HCM Control Delay (s/veh)	8.7	0	-	-	7.5	-	-	11.8
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	24	0	39	121	22	0	2	55	6	5	2
Future Vol, veh/h	2	24	0	39	121	22	0	2	55	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	28	0	46	142	26	0	2	65	7	6	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	168	0	0	28	0	0	199	293	14	267	280	84
Stage 1	-	-	-	-	-	-	33	33	-	247	247	-
Stage 2	-	-	-	-	-	-	166	260	-	20	33	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1407	-	-	1584	-	-	742	617	1062	664	627	958
Stage 1	-	-	-	-	-	-	979	867	-	735	701	-
Stage 2	-	-	-	-	-	-	820	692	-	996	867	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1407	-	-	1584	-	-	710	597	1062	601	607	958
Mov Cap-2 Maneuver	-	-	-	-	-	-	710	597	-	601	607	-
Stage 1	-	-	-	-	-	-	977	866	-	713	679	-
Stage 2	-	-	-	-	-	-	786	671	-	931	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.59	1.66	8.72	10.76
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1034	277	-	-	635	-	-	640
HCM Lane V/C Ratio	0.065	0.002	-	-	0.029	-	-	0.024
HCM Control Delay (s/veh)	8.7	7.6	0	-	7.3	0.1	-	10.8
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	1	134	13	17	5	15	6	5	5	7	61	10	5
Future Vol, veh/h	1	134	13	17	5	15	6	5	5	7	61	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	92	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	158	15	18	6	18	7	6	6	8	72	12	6

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	25	0	0	-	173	0	0	203	241	165	196	245	21
Stage 1	-	-	-	-	-	-	-	168	168	-	33	70	-
Stage 2	-	-	-	-	-	-	-	35	73	-	163	175	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1590	-	-	-	1404	-	-	755	660	879	763	657	1056
Stage 1	-	-	-	-	-	-	-	834	760	-	983	837	-
Stage 2	-	-	-	-	-	-	-	980	834	-	839	754	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1590	-	-	~ -1	~ -1	-	-	737	660	879	749	656	1056
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	737	660	-	749	656	-
Stage 1	-	-	-	-	-	-	-	834	759	-	983	837	-
Stage 2	-	-	-	-	-	-	-	961	834	-	824	753	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05		9.85	10.24
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	762	1590	-	-	-	-	-	749	751
HCM Lane V/C Ratio	0.026	0.001	-	-	-	-	-	0.096	0.023
HCM Control Delay (s/veh)	9.9	7.3	-	-	-	-	-	10.3	9.9
HCM Lane LOS	A	A	-	-	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0.3	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

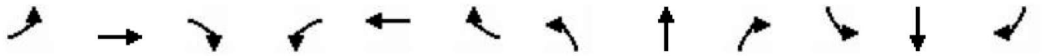
Intersection	
Int Delay, s/veh	2.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	217	20	25	32	20	5	3	23	35	0	6
Future Vol, veh/h	3	217	20	25	32	20	5	3	23	35	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	86	86	86	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	255	24	29	38	24	6	3	27	41	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	61	0	0	279	0	0	371	394	267	361	382	38
Stage 1	-	-	-	-	-	-	274	274	-	96	96	-
Stage 2	-	-	-	-	-	-	96	120	-	264	286	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1542	-	-	1284	-	-	586	542	772	595	551	1034
Stage 1	-	-	-	-	-	-	732	683	-	910	815	-
Stage 2	-	-	-	-	-	-	910	796	-	741	675	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1542	-	-	1284	-	-	567	529	772	556	537	1034
Mov Cap-2 Maneuver	-	-	-	-	-	-	567	529	-	556	537	-
Stage 1	-	-	-	-	-	-	730	682	-	889	796	-
Stage 2	-	-	-	-	-	-	883	778	-	710	674	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.09	2.56	10.42	11.56
HCM LOS			B	B

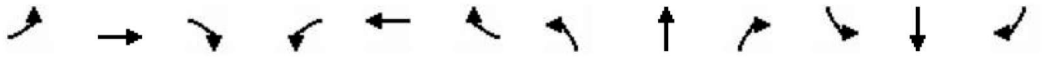
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	700	1542	-	-	1284	-	-	597
HCM Lane V/C Ratio	0.052	0.002	-	-	0.023	-	-	0.081
HCM Control Delay (s/veh)	10.4	7.3	-	-	7.9	-	-	11.6
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	49	213	268	17	103	30	887	207	113	1168	36
v/c Ratio	0.30	0.16	0.13	0.62	0.07	0.07	0.11	0.46	0.13	0.30	0.55	0.02
Control Delay (s/veh)	56.7	51.9	0.2	55.9	45.3	0.1	4.9	6.4	0.2	11.1	17.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.7	51.9	0.2	55.9	45.3	0.1	4.9	6.4	0.2	11.1	17.9	0.0
Queue Length 50th (ft)	35	18	0	103	12	0	3	55	0	31	307	0
Queue Length 95th (ft)	69	37	0	142	33	0	m6	70	0	63	432	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	288	1938	1583	400	2138	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.06	0.13	0.36	0.04	0.07	0.10	0.46	0.13	0.28	0.55	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	44	190	247	16	95	28	816	190	104	1075	33
Future Volume (veh/h)	41	44	190	247	16	95	28	816	190	104	1075	33
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	49	0	268	17	0	30	887	0	113	1168	0
Peak Hour Factor	0.89	0.89	0.89	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	284		350	189		296	2051		442	2106	
Arrive On Green	0.08	0.08	0.00	0.10	0.10	0.00	0.04	0.77	0.00	0.04	0.59	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	46	49	0	268	17	0	30	887	0	113	1168	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.9	1.5	0.0	9.1	1.0	0.0	0.8	10.4	0.0	3.1	23.9	0.0
Cycle Q Clear(g_c), s	2.9	1.5	0.0	9.1	1.0	0.0	0.8	10.4	0.0	3.1	23.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	284		350	189		296	2051		442	2106	
V/C Ratio(X)	0.32	0.17		0.77	0.09		0.10	0.43		0.26	0.55	
Avail Cap(c_a), veh/h	386	770		749	405		353	2051		516	2106	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.2	51.5	0.0	52.6	48.9	0.0	11.7	7.1	0.0	9.8	14.8	0.0
Incr Delay (d2), s/veh	1.6	0.3	0.0	4.2	0.2	0.0	0.1	0.7	0.0	0.1	1.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.0	4.1	0.5	0.0	0.3	3.3	0.0	1.1	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.7	51.9	0.0	56.8	49.2	0.0	11.7	7.8	0.0	10.0	15.9	0.0
LnGrp LOS	D	D		E	D		B	A		A	B	
Approach Vol, veh/h		95			285			917			1281	
Approach Delay, s/veh		52.8			56.3			7.9			15.4	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.0	75.3		15.6	9.2	77.1		18.1				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	34.0		26.0	7.0	37.0		26.0				
Max Q Clear Time (g_c+I1), s	5.1	12.4		4.9	2.8	25.9		11.1				
Green Ext Time (p_c), s	0.1	8.5		0.4	0.0	7.1		1.1				

Intersection Summary												
HCM 7th Control Delay, s/veh			18.6									
HCM 7th LOS			B									

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

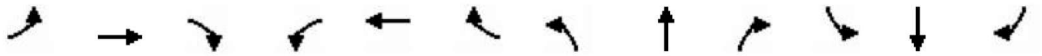
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	0	0	59	19	975	54	54	1430	28
Future Vol, veh/h	0	0	39	0	0	59	19	975	54	54	1430	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	46	0	0	69	21	1060	59	59	1554	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	792	-	-	559	1585	0	0	1118	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*692	0	0	*766	442	-	-	598	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*692	-	-	*766	442	-	-	598	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.57	10.16	0.25	0.42
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	442	-	-	692	766	598	-	-
HCM Lane V/C Ratio	0.047	-	-	0.066	0.091	0.098	-	-
HCM Control Delay (s/veh)	13.5	-	-	10.6	10.2	11.7	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	-	0.2	0.3	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	71	88	181	596	70	133	124	941	489	233	1309	55
v/c Ratio	0.35	0.48	0.11	0.92	0.17	0.08	0.48	0.56	0.31	1.02	0.55	0.03
Control Delay (s/veh)	58.9	59.8	0.1	69.1	38.0	0.1	59.3	25.7	0.5	125.1	23.9	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.9	59.8	0.1	69.1	38.0	0.1	59.3	25.7	0.5	125.1	23.9	0.0
Queue Length 50th (ft)	27	66	0	235	44	0	48	281	0	~101	204	0
Queue Length 95th (ft)	49	110	0	#336	82	0	79	372	0	#189	319	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	465	1583	657	698	1583	314	1675	1583	228	2364	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.31	0.19	0.11	0.91	0.10	0.08	0.39	0.56	0.31	1.02	0.55	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	75	154	548	64	122	114	866	450	214	1204	51
Future Volume (veh/h)	60	75	154	548	64	122	114	866	450	214	1204	51
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	71	88	0	596	70	0	124	941	0	233	1309	0
Peak Hour Factor	0.85	0.85	0.85	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	156		647	436		180	1644		230	2438	
Arrive On Green	0.04	0.08	0.00	0.19	0.23	0.00	0.05	0.46	0.00	0.04	0.32	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	71	88	0	596	70	0	124	941	0	233	1309	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.4	5.4	0.0	20.3	3.6	0.0	4.2	23.2	0.0	8.0	25.3	0.0
Cycle Q Clear(g_c), s	2.4	5.4	0.0	20.3	3.6	0.0	4.2	23.2	0.0	8.0	25.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	156		647	436		180	1644		230	2438	
V/C Ratio(X)	0.54	0.56		0.92	0.16		0.69	0.57		1.01	0.54	
Avail Cap(c_a), veh/h	230	468		662	701		317	1644		230	2438	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.9	0.0	47.9	36.7	0.0	55.9	23.6	0.0	57.3	29.9	0.0
Incr Delay (d2), s/veh	2.6	3.2	0.0	17.9	0.2	0.0	3.5	1.5	0.0	62.2	0.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.7	0.0	10.2	1.6	0.0	1.9	9.8	0.0	5.5	11.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.3	56.1	0.0	65.7	36.9	0.0	59.4	25.0	0.0	119.6	30.8	0.0
LnGrp LOS	E	E		E	D		E	C		F	C	
Approach Vol, veh/h		159			666			1065			1542	
Approach Delay, s/veh		57.5			62.7			29.0			44.2	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	61.5	28.5	16.0	12.2	63.3	10.5	33.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	35.0	23.0	30.0	11.0	32.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	10.0	25.2	22.3	7.4	6.2	27.3	4.4	5.6
Green Ext Time (p_c), s	0.0	6.4	0.2	0.4	0.1	4.0	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	43.7
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	181	9	100	68	19	2	1	96	12	0	2
Future Vol, veh/h	4	181	9	100	68	19	2	1	96	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	85	85	85	85	85	85	85	85	85	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	213	11	118	80	22	2	1	113	14	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	102	0	0	224	0	0	503	565	112	443	559	51
Stage 1	-	-	-	-	-	-	228	228	-	326	326	-
Stage 2	-	-	-	-	-	-	275	338	-	116	233	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1488	-	-	1342	-	-	452	432	920	498	436	1006
Stage 1	-	-	-	-	-	-	754	714	-	660	647	-
Stage 2	-	-	-	-	-	-	707	639	-	876	711	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1488	-	-	1342	-	-	410	393	920	396	396	1006
Mov Cap-2 Maneuver	-	-	-	-	-	-	410	393	-	396	396	-
Stage 1	-	-	-	-	-	-	752	712	-	602	590	-
Stage 2	-	-	-	-	-	-	644	583	-	764	708	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.18	4.25	9.68	13.62
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	886	70	-	-	1342	-	-	434
HCM Lane V/C Ratio	0.131	0.003	-	-	0.088	-	-	0.038
HCM Control Delay (s/veh)	9.7	7.4	0	-	7.9	-	-	13.6
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0.1

Intersection	
Int Delay, s/veh	4.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	80	0	29	27	8	1	9	45	31	7	0
Future Vol, veh/h	0	80	0	29	27	8	1	9	45	31	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	91	91	91	85	85	85	86	86	86	85	85	85
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	88	0	34	32	9	1	10	52	36	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	41	0	0	88	0	0	176	197	44	154	193	21
Stage 1	-	-	-	-	-	-	88	88	-	105	105	-
Stage 2	-	-	-	-	-	-	88	109	-	49	88	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1566	-	-	1506	-	-	770	697	1017	798	701	1052
Stage 1	-	-	-	-	-	-	910	821	-	890	808	-
Stage 2	-	-	-	-	-	-	909	804	-	958	821	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1566	-	-	1506	-	-	743	681	1017	729	685	1052
Mov Cap-2 Maneuver	-	-	-	-	-	-	743	681	-	729	685	-
Stage 1	-	-	-	-	-	-	910	821	-	869	789	-
Stage 2	-	-	-	-	-	-	879	785	-	897	821	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	3.4	9.13	10.33
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	935	1566	-	-	1236	-	-	720
HCM Lane V/C Ratio	0.068	-	-	-	0.023	-	-	0.062
HCM Control Delay (s/veh)	9.1	0	-	-	7.4	0.1	-	10.3
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.2

APPENDIX E – Background (without site development) Synchro Outputs

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	39	5	11	3	124	78	6	12	2	6	5	2
Future Vol, veh/h	0	39	5	11	3	124	78	6	12	2	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	42	5	12	3	135	85	7	13	2	7	5	2

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	220	0	0	-	48	0	0	189	295	45	233	255	177
Stage 1	-	-	-	-	-	-	-	45	45	-	184	208	-
Stage 2	-	-	-	-	-	-	-	144	250	-	49	48	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1350	-	-	-	1559	-	-	771	616	1025	722	648	866
Stage 1	-	-	-	-	-	-	-	969	857	-	818	730	-
Stage 2	-	-	-	-	-	-	-	859	700	-	964	855	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1350	-	-	~ -1	~ -1	-	-	763	616	1025	705	648	866
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	763	616	-	705	648	-
Stage 1	-	-	-	-	-	-	-	969	857	-	818	730	-
Stage 2	-	-	-	-	-	-	-	850	700	-	948	855	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0		10.45	10.18
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	683	1350	-	-	-	-	-	705	698
HCM Lane V/C Ratio	0.032	-	-	-	-	-	-	0.009	0.011
HCM Control Delay (s/veh)	10.4	0	-	-	-	-	-	10.2	10.2
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

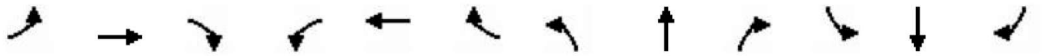
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	70	2	14	182	39	10	3	18	51	1	24
Future Vol, veh/h	7	70	2	14	182	39	10	3	18	51	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	76	2	15	198	42	11	3	20	55	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	240	0	0	78	0	0	321	363	77	321	322	198
Stage 1	-	-	-	-	-	-	92	92	-	228	228	-
Stage 2	-	-	-	-	-	-	229	271	-	93	93	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1326	-	-	1520	-	-	632	565	984	632	595	843
Stage 1	-	-	-	-	-	-	915	818	-	774	715	-
Stage 2	-	-	-	-	-	-	774	685	-	914	818	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1326	-	-	1520	-	-	601	556	984	606	586	843
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	556	-	606	586	-
Stage 1	-	-	-	-	-	-	909	814	-	767	708	-
Stage 2	-	-	-	-	-	-	741	679	-	887	813	-

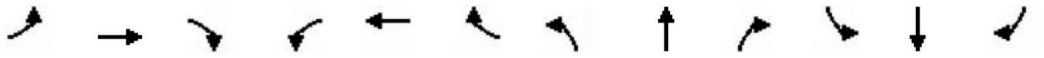
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.68	0.44	9.9	11.18
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	769	1326	-	-	1520	-	-	665
HCM Lane V/C Ratio	0.044	0.006	-	-	0.01	-	-	0.124
HCM Control Delay (s/veh)	9.9	7.7	-	-	7.4	-	-	11.2
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0	-	-	0.4



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	61	28	62	260	33	117	193	945	126	70	629	29
v/c Ratio	0.38	0.09	0.04	0.61	0.14	0.07	0.38	0.46	0.08	0.20	0.34	0.02
Control Delay (s/veh)	57.3	49.8	0.1	55.9	47.0	0.1	4.7	8.0	0.1	11.3	19.4	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.3	49.8	0.1	55.9	47.0	0.1	4.7	8.0	0.1	11.3	19.4	0.0
Queue Length 50th (ft)	45	10	0	100	23	0	13	47	0	19	146	0
Queue Length 95th (ft)	88	25	0	139	53	0	24	350	0	44	238	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	607	2034	1583	383	1860	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.04	0.04	0.35	0.08	0.07	0.32	0.46	0.08	0.18	0.34	0.02

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	26	57	239	30	108	178	869	116	64	579	27
Future Volume (veh/h)	56	26	57	239	30	108	178	869	116	64	579	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	28	0	260	33	0	193	945	0	70	629	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	141	281		343	186		545	2075		456	1971	
Arrive On Green	0.08	0.08	0.00	0.10	0.10	0.00	0.13	1.00	0.00	0.04	0.55	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	61	28	0	260	33	0	193	945	0	70	629	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.9	0.9	0.0	8.8	1.9	0.0	5.8	0.0	0.0	2.0	11.5	0.0
Cycle Q Clear(g_c), s	3.9	0.9	0.0	8.8	1.9	0.0	5.8	0.0	0.0	2.0	11.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	141	281		343	186		545	2075		456	1971	
V/C Ratio(X)	0.43	0.10		0.76	0.18		0.35	0.46		0.15	0.32	
Avail Cap(c_a), veh/h	386	770		749	405		723	2075		523	1971	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.7	51.3	0.0	52.6	49.5	0.0	9.7	0.0	0.0	10.4	14.5	0.0
Incr Delay (d2), s/veh	2.5	0.2	0.0	4.1	0.5	0.0	0.1	0.7	0.0	0.1	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.4	0.0	4.0	0.9	0.0	1.9	0.2	0.0	0.8	4.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	55.2	51.5	0.0	56.7	50.1	0.0	9.8	0.7	0.0	10.4	14.9	0.0
LnGrp LOS	E	D		E	D		A	A		B	B	
Approach Vol, veh/h		89			293			1138			699	
Approach Delay, s/veh		54.0			56.0			2.3			14.4	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	76.1		15.5	14.0	72.6		17.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	35.0		26.0	20.0	24.0		26.0				
Max Q Clear Time (g_c+I1), s	4.0	2.0		5.9	7.8	13.5		10.8				
Green Ext Time (p_c), s	0.0	11.0		0.3	0.2	3.8		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	15.3	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.9

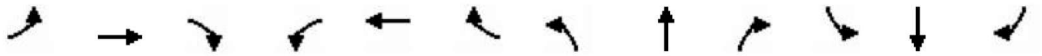
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	31	0	0	69	35	1094	59	39	811	25
Future Vol, veh/h	0	0	31	0	0	69	35	1094	59	39	811	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	34	0	0	75	38	1189	64	42	882	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	454	-	-	627	909	0	0	1253	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*796	0	0	*752	685	-	-	535	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*796	-	-	*752	685	-	-	535	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.72	10.32	0.31	0.55
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	685	-	-	796	752	535	-	-
HCM Lane V/C Ratio	0.056	-	-	0.042	0.1	0.079	-	-
HCM Control Delay (s/veh)	10.6	-	-	9.7	10.3	12.3	-	-
HCM Lane LOS	B	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.3	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	28	30	71	498	62	277	173	986	459	172	705	38
v/c Ratio	0.16	0.19	0.04	0.87	0.18	0.17	0.76	0.54	0.29	0.60	0.26	0.02
Control Delay (s/veh)	56.4	54.5	0.0	64.9	41.6	0.2	76.2	22.4	0.5	62.6	20.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.4	54.5	0.0	64.9	41.6	0.2	76.2	22.4	0.5	62.6	20.7	0.0
Queue Length 50th (ft)	10	22	0	193	40	0	69	298	0	72	85	0
Queue Length 95th (ft)	26	53	0	#273	80	0	#123	370	0	111	180	0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	314	465	1583	600	621	1583	228	1837	1583	314	2724	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.09	0.06	0.04	0.83	0.10	0.17	0.76	0.54	0.29	0.55	0.26	0.02

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	28	65	458	57	255	159	907	422	158	649	35
Future Volume (veh/h)	26	28	65	458	57	255	159	907	422	158	649	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	28	30	0	498	62	0	173	986	0	172	705	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	87	153		556	407		227	1748		226	2510	
Arrive On Green	0.03	0.08	0.00	0.16	0.22	0.00	0.07	0.49	0.00	0.13	0.98	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	28	30	0	498	62	0	173	986	0	172	705	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.0	1.8	0.0	17.0	3.2	0.0	5.9	23.4	0.0	5.8	0.4	0.0
Cycle Q Clear(g_c), s	1.0	1.8	0.0	17.0	3.2	0.0	5.9	23.4	0.0	5.8	0.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	153		556	407		227	1748		226	2510	
V/C Ratio(X)	0.32	0.20		0.90	0.15		0.76	0.56		0.76	0.28	
Avail Cap(c_a), veh/h	317	468		605	623		230	1748		317	2510	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.5	51.4	0.0	49.4	38.0	0.0	55.1	21.4	0.0	51.2	0.5	0.0
Incr Delay (d2), s/veh	1.5	0.6	0.0	14.9	0.2	0.0	13.1	1.3	0.0	5.6	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	0.9	0.0	8.3	1.5	0.0	3.0	9.8	0.0	2.5	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.0	52.0	0.0	64.3	38.2	0.0	68.3	22.8	0.0	56.8	0.8	0.0
LnGrp LOS	E	D		E	D		E	C		E	A	
Approach Vol, veh/h		58			560			1159			877	
Approach Delay, s/veh		55.4			61.4			29.6			11.8	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.9	65.0	25.3	15.8	13.9	65.0	9.0	32.1
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	34.0	21.0	30.0	8.0	37.0	11.0	40.0
Max Q Clear Time (g_c+I1), s	7.8	25.4	19.0	3.8	7.9	2.4	3.0	5.2
Green Ext Time (p_c), s	0.1	5.9	0.3	0.1	0.0	10.1	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	31.0
HCM 7th LOS	C

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	90	3	32	196	21	0	0	16	13	1	0
Future Vol, veh/h	0	90	3	32	196	21	0	0	16	13	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	98	3	35	213	23	0	0	17	14	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	236	0	0	101	0	0	276	405	51	343	395	118
Stage 1	-	-	-	-	-	-	99	99	-	294	294	-
Stage 2	-	-	-	-	-	-	177	305	-	49	101	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1328	-	-	1489	-	-	655	533	1007	587	540	912
Stage 1	-	-	-	-	-	-	896	812	-	690	668	-
Stage 2	-	-	-	-	-	-	808	661	-	958	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1328	-	-	1489	-	-	638	521	1007	563	528	912
Mov Cap-2 Maneuver	-	-	-	-	-	-	638	521	-	563	528	-
Stage 1	-	-	-	-	-	-	896	812	-	674	653	-
Stage 2	-	-	-	-	-	-	788	645	-	942	811	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.96	8.64	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1007	1328	-	-	1489	-	-	561
HCM Lane V/C Ratio	0.017	-	-	-	0.023	-	-	0.027
HCM Control Delay (s/veh)	8.6	0	-	-	7.5	-	-	11.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	26	0	39	126	22	0	2	55	6	5	2
Future Vol, veh/h	2	26	0	39	126	22	0	2	55	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	28	0	42	137	24	0	2	60	7	5	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	161	0	0	28	0	0	189	278	14	253	266	80
Stage 1	-	-	-	-	-	-	33	33	-	234	234	-
Stage 2	-	-	-	-	-	-	156	246	-	20	33	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1416	-	-	1583	-	-	754	628	1062	679	638	963
Stage 1	-	-	-	-	-	-	979	867	-	748	710	-
Stage 2	-	-	-	-	-	-	831	702	-	996	867	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1416	-	-	1583	-	-	724	610	1062	620	619	963
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	610	-	620	619	-
Stage 1	-	-	-	-	-	-	978	866	-	727	690	-
Stage 2	-	-	-	-	-	-	799	682	-	937	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.55	1.62	8.7	10.61
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1035	257	-	-	621	-	-	656
HCM Lane V/C Ratio	0.06	0.002	-	-	0.027	-	-	0.022
HCM Control Delay (s/veh)	8.7	7.5	0	-	7.3	0.1	-	10.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	1	139	13	17	5	17	6	5	5	7	61	10	5
Future Vol, veh/h	1	139	13	17	5	17	6	5	5	7	61	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	151	14	18	5	18	7	5	5	8	66	11	5

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	25	0	0	-	165	0	0	195	233	158	189	237	22
Stage 1	-	-	-	-	-	-	-	160	160	-	33	70	-
Stage 2	-	-	-	-	-	-	-	35	73	-	156	167	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1589	-	-	-	1413	-	-	764	667	887	772	664	1055
Stage 1	-	-	-	-	-	-	-	842	765	-	984	837	-
Stage 2	-	-	-	-	-	-	-	981	834	-	846	760	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1589	-	-	~ -1	~ -1	-	-	747	667	887	758	663	1055
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	747	667	-	758	663	-
Stage 1	-	-	-	-	-	-	-	841	765	-	984	837	-
Stage 2	-	-	-	-	-	-	-	963	834	-	833	759	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.05		9.79	10.13
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	770	1589	-	-	-	-	-	758	757
HCM Lane V/C Ratio	0.024	0.001	-	-	-	-	-	0.087	0.022
HCM Control Delay (s/veh)	9.8	7.3	-	-	-	-	-	10.2	9.9
HCM Lane LOS	A	A	-	-	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0.3	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

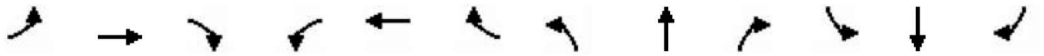
Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	222	20	25	34	20	5	3	23	35	0	6
Future Vol, veh/h	3	222	20	25	34	20	5	3	23	35	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	241	22	27	37	22	5	3	25	38	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	59	0	0	263	0	0	350	372	252	341	361	37
Stage 1	-	-	-	-	-	-	259	259	-	91	91	-
Stage 2	-	-	-	-	-	-	91	113	-	249	270	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1545	-	-	1301	-	-	605	558	786	613	566	1035
Stage 1	-	-	-	-	-	-	746	694	-	916	819	-
Stage 2	-	-	-	-	-	-	916	802	-	755	686	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1545	-	-	1301	-	-	587	546	786	577	553	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	587	546	-	577	553	-
Stage 1	-	-	-	-	-	-	744	692	-	897	802	-
Stage 2	-	-	-	-	-	-	891	785	-	726	685	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.09	2.48	10.27	11.29
HCM LOS			B	B

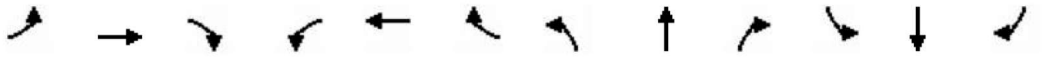
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	717	1545	-	-	1301	-	-	617
HCM Lane V/C Ratio	0.047	0.002	-	-	0.021	-	-	0.072
HCM Control Delay (s/veh)	10.3	7.3	-	-	7.8	-	-	11.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.2



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	46	49	210	274	17	105	32	904	210	115	1191	37
v/c Ratio	0.30	0.16	0.13	0.63	0.07	0.07	0.12	0.47	0.13	0.31	0.56	0.02
Control Delay (s/veh)	56.5	51.8	0.2	55.8	45.1	0.1	4.8	6.2	0.2	11.3	18.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.5	51.8	0.2	55.8	45.1	0.1	4.8	6.2	0.2	11.3	18.3	0.0
Queue Length 50th (ft)	35	18	0	105	12	0	3	53	0	32	318	0
Queue Length 95th (ft)	72	38	0	145	33	0	m6	68	0	65	447	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	279	1931	1583	392	2132	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.06	0.13	0.37	0.04	0.07	0.11	0.47	0.13	0.29	0.56	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	45	193	252	16	97	29	832	193	106	1096	34
Future Volume (veh/h)	42	45	193	252	16	97	29	832	193	106	1096	34
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	46	49	0	274	17	0	32	904	0	115	1191	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	142	284		356	193		289	2042		434	2096	
Arrive On Green	0.08	0.08	0.00	0.10	0.10	0.00	0.04	0.76	0.00	0.04	0.59	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	46	49	0	274	17	0	32	904	0	115	1191	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.9	1.5	0.0	9.3	1.0	0.0	0.9	10.9	0.0	3.2	24.8	0.0
Cycle Q Clear(g_c), s	2.9	1.5	0.0	9.3	1.0	0.0	0.9	10.9	0.0	3.2	24.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	142	284		356	193		289	2042		434	2096	
V/C Ratio(X)	0.32	0.17		0.77	0.09		0.11	0.44		0.26	0.57	
Avail Cap(c_a), veh/h	386	770		749	405		344	2042		507	2096	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.2	51.5	0.0	52.4	48.7	0.0	11.9	7.3	0.0	10.0	15.2	0.0
Incr Delay (d2), s/veh	1.6	0.3	0.0	4.2	0.2	0.0	0.1	0.7	0.0	0.1	1.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	0.7	0.0	4.2	0.5	0.0	0.3	3.4	0.0	1.2	9.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	53.7	51.9	0.0	56.7	49.0	0.0	12.0	8.0	0.0	10.1	16.3	0.0
LnGrp LOS	D	D		E	D		B	A		B	B	
Approach Vol, veh/h		95			291			936			1306	
Approach Delay, s/veh		52.8			56.2			8.1			15.8	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.1	75.0		15.6	9.3	76.8		18.4				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	34.0		26.0	7.0	37.0		26.0				
Max Q Clear Time (g_c+I1), s	5.2	12.9		4.9	2.9	26.8		11.3				
Green Ext Time (p_c), s	0.1	8.6		0.4	0.0	6.7		1.1				

Intersection Summary		
HCM 7th Control Delay, s/veh	18.9	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

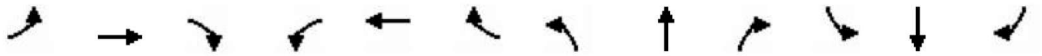
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	0	0	59	19	995	54	54	1459	28
Future Vol, veh/h	0	0	39	0	0	59	19	995	54	54	1459	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	0	0	64	21	1082	59	59	1586	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	808	-	-	570	1616	0	0	1140	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*692	0	0	*766	422	-	-	581	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*692	-	-	*766	422	-	-	581	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.54	10.13	0.25	0.42
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	422	-	-	692	766	581	-	-
HCM Lane V/C Ratio	0.049	-	-	0.061	0.084	0.101	-	-
HCM Control Delay (s/veh)	14	-	-	10.5	10.1	11.9	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.3	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



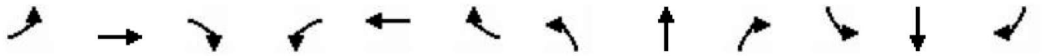
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	66	84	171	608	71	135	126	960	499	237	1335	57
v/c Ratio	0.33	0.47	0.11	0.94	0.17	0.09	0.48	0.57	0.32	1.04	0.57	0.04
Control Delay (s/veh)	58.5	59.5	0.1	71.0	38.2	0.1	59.3	25.8	0.5	128.5	24.5	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.5	59.5	0.1	71.0	38.2	0.1	59.3	25.8	0.5	128.5	24.5	0.0
Queue Length 50th (ft)	25	63	0	240	45	0	48	287	0	~105	212	0
Queue Length 95th (ft)	49	112	0	#347	83	0	79	380	0	#191	329	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	465	1583	657	698	1583	314	1677	1583	228	2362	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.29	0.18	0.11	0.93	0.10	0.09	0.40	0.57	0.32	1.04	0.57	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	61	77	157	559	65	124	116	883	459	218	1228	52
Future Volume (veh/h)	61	77	157	559	65	124	116	883	459	218	1228	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	66	84	0	608	71	0	126	960	0	237	1335	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	156		657	442		182	1635		230	2421	
Arrive On Green	0.04	0.08	0.00	0.19	0.24	0.00	0.05	0.46	0.00	0.04	0.32	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	66	84	0	608	71	0	126	960	0	237	1335	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.2	5.2	0.0	20.8	3.6	0.0	4.3	24.0	0.0	8.0	26.0	0.0
Cycle Q Clear(g_c), s	2.2	5.2	0.0	20.8	3.6	0.0	4.3	24.0	0.0	8.0	26.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	128	156		657	442		182	1635		230	2421	
V/C Ratio(X)	0.52	0.54		0.93	0.16		0.69	0.59		1.03	0.55	
Avail Cap(c_a), veh/h	230	468		662	701		317	1635		230	2421	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.67	0.67	0.67
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.7	52.8	0.0	47.8	36.4	0.0	55.9	24.0	0.0	57.3	30.4	0.0
Incr Delay (d2), s/veh	2.4	2.9	0.0	18.8	0.2	0.0	3.5	1.6	0.0	67.0	0.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.6	0.0	10.4	1.7	0.0	1.9	10.2	0.0	5.7	11.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	59.1	55.7	0.0	66.6	36.5	0.0	59.4	25.5	0.0	124.3	31.3	0.0
LnGrp LOS	E	E		E	D		E	C		F	C	
Approach Vol, veh/h		150			679			1086			1572	
Approach Delay, s/veh		57.2			63.4			29.5			45.3	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	61.2	28.8	16.0	12.3	62.9	10.4	34.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	35.0	23.0	30.0	11.0	32.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	10.0	26.0	22.8	7.2	6.3	28.0	4.2	5.6
Green Ext Time (p_c), s	0.0	6.0	0.1	0.4	0.1	3.5	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	44.4
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	187	9	100	72	19	2	1	96	12	0	2
Future Vol, veh/h	4	187	9	100	72	19	2	1	96	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	203	10	109	78	21	2	1	104	13	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	99	0	0	213	0	0	473	533	107	417	528	49
Stage 1	-	-	-	-	-	-	217	217	-	306	306	-
Stage 2	-	-	-	-	-	-	257	316	-	111	222	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1492	-	-	1354	-	-	474	451	927	520	454	1008
Stage 1	-	-	-	-	-	-	765	722	-	679	660	-
Stage 2	-	-	-	-	-	-	726	653	-	882	719	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1492	-	-	1354	-	-	434	414	927	422	417	1008
Mov Cap-2 Maneuver	-	-	-	-	-	-	434	414	-	422	417	-
Stage 1	-	-	-	-	-	-	763	720	-	624	607	-
Stage 2	-	-	-	-	-	-	666	601	-	779	716	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.17	4.13	9.57	13.09
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	895	68	-	-	1354	-	-	460
HCM Lane V/C Ratio	0.12	0.003	-	-	0.08	-	-	0.033
HCM Control Delay (s/veh)	9.6	7.4	0	-	7.9	-	-	13.1
HCM Lane LOS	A	A	A	-	A	-	-	B
HCM 95th %tile Q(veh)	0.4	0	-	-	0.3	-	-	0.1

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	0	29	31	8	1	9	45	31	7	0
Future Vol, veh/h	0	86	0	29	31	8	1	9	45	31	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	93	0	32	34	9	1	10	49	34	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	42	0	0	93	0	0	177	199	47	153	195	21
Stage 1	-	-	-	-	-	-	93	93	-	101	101	-
Stage 2	-	-	-	-	-	-	84	105	-	52	93	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1565	-	-	1499	-	-	769	696	1012	800	700	1051
Stage 1	-	-	-	-	-	-	903	817	-	894	811	-
Stage 2	-	-	-	-	-	-	915	807	-	955	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1565	-	-	1499	-	-	744	681	1012	734	685	1051
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	681	-	734	685	-
Stage 1	-	-	-	-	-	-	903	817	-	875	793	-
Stage 2	-	-	-	-	-	-	887	790	-	898	817	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	3.2	9.13	10.27
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	932	1565	-	-	1193	-	-	725
HCM Lane V/C Ratio	0.064	-	-	-	0.021	-	-	0.057
HCM Control Delay (s/veh)	9.1	0	-	-	7.5	0.1	-	10.3
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	68	5	11	3	172	78	6	12	2	6	5	2
Future Vol, veh/h	0	68	5	11	3	172	78	6	12	2	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	74	5	12	3	187	85	7	13	2	7	5	2

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	272	0	0	-	79	0	0	273	379	77	316	339	229
Stage 1	-	-	-	-	-	-	-	77	77	-	236	260	-
Stage 2	-	-	-	-	-	-	-	196	302	-	80	79	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1292	-	-	-	1519	-	-	680	553	984	636	582	810
Stage 1	-	-	-	-	-	-	-	932	831	-	767	693	-
Stage 2	-	-	-	-	-	-	-	806	664	-	928	829	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1292	-	-	~ -1	~ -1	-	-	671	553	984	620	582	810
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	671	553	-	620	582	-
Stage 1	-	-	-	-	-	-	-	932	831	-	767	693	-
Stage 2	-	-	-	-	-	-	-	797	664	-	911	829	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0		11.09	10.81
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	612	1292	-	-	-	-	-	620	633
HCM Lane V/C Ratio	0.035	-	-	-	-	-	-	0.011	0.012
HCM Control Delay (s/veh)	11.1	0	-	-	-	-	-	10.9	10.8
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

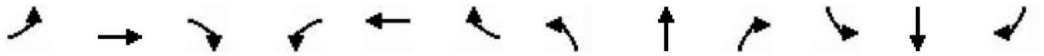
Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	99	2	14	230	39	10	3	18	51	1	24
Future Vol, veh/h	7	99	2	14	230	39	10	3	18	51	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	108	2	15	250	42	11	3	20	55	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	292	0	0	110	0	0	405	447	109	405	405	250
Stage 1	-	-	-	-	-	-	124	124	-	280	280	-
Stage 2	-	-	-	-	-	-	281	323	-	124	125	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1269	-	-	1480	-	-	556	507	945	556	535	789
Stage 1	-	-	-	-	-	-	880	793	-	726	679	-
Stage 2	-	-	-	-	-	-	726	650	-	880	792	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1269	-	-	1480	-	-	528	498	945	533	526	789
Mov Cap-2 Maneuver	-	-	-	-	-	-	528	498	-	533	526	-
Stage 1	-	-	-	-	-	-	875	789	-	719	672	-
Stage 2	-	-	-	-	-	-	693	644	-	853	788	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.51	0.37	10.37	12.05
HCM LOS			B	B

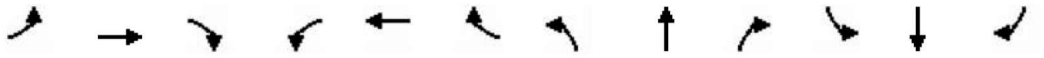
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	705	1269	-	-	1480	-	-	593
HCM Lane V/C Ratio	0.048	0.006	-	-	0.01	-	-	0.139
HCM Control Delay (s/veh)	10.4	7.9	-	-	7.5	-	-	12
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	74	34	75	314	39	142	234	1141	153	85	761	35
v/c Ratio	0.43	0.10	0.05	0.65	0.15	0.09	0.53	0.59	0.10	0.32	0.44	0.02
Control Delay (s/veh)	58.6	49.3	0.1	55.0	45.0	0.1	9.6	10.9	0.1	15.1	24.3	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	58.6	49.3	0.1	55.0	45.0	0.1	9.6	10.9	0.1	15.1	24.3	0.0
Queue Length 50th (ft)	55	13	0	120	27	0	21	110	0	24	201	0
Queue Length 95th (ft)	103	m28	0	160	58	0	36	517	m0	56	333	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	522	1946	1583	295	1719	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.19	0.04	0.05	0.42	0.10	0.09	0.45	0.59	0.10	0.29	0.44	0.02

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	31	69	289	36	131	215	1050	141	78	700	32
Future Volume (veh/h)	68	31	69	289	36	131	215	1050	141	78	700	32
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	34	0	314	39	0	234	1141	0	85	761	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	144	288		401	217		481	2003		387	1852	
Arrive On Green	0.08	0.08	0.00	0.12	0.12	0.00	0.16	1.00	0.00	0.04	0.52	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	74	34	0	314	39	0	234	1141	0	85	761	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	4.8	1.1	0.0	10.6	2.3	0.0	7.6	0.0	0.0	2.6	15.7	0.0
Cycle Q Clear(g_c), s	4.8	1.1	0.0	10.6	2.3	0.0	7.6	0.0	0.0	2.6	15.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	144	288		401	217		481	2003		387	1852	
V/C Ratio(X)	0.51	0.12		0.78	0.18		0.49	0.57		0.22	0.41	
Avail Cap(c_a), veh/h	386	770		749	405		632	2003		451	1852	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.9	51.2	0.0	51.6	47.9	0.0	11.1	0.0	0.0	12.2	17.5	0.0
Incr Delay (d2), s/veh	3.4	0.2	0.0	4.0	0.5	0.0	0.3	1.2	0.0	0.1	0.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.5	0.0	4.8	1.1	0.0	2.4	0.3	0.0	1.0	6.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.2	51.4	0.0	55.6	48.3	0.0	11.4	1.2	0.0	12.3	18.2	0.0
LnGrp LOS	E	D		E	D		B	A		B	B	
Approach Vol, veh/h		108			353			1375			846	
Approach Delay, s/veh		54.7			54.8			2.9			17.6	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	73.6		15.7	15.8	68.5		19.9				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	35.0		26.0	20.0	24.0		26.0				
Max Q Clear Time (g_c+I1), s	4.6	2.0		6.8	9.6	17.7		12.6				
Green Ext Time (p_c), s	0.0	14.0		0.4	0.2	3.2		1.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	16.5	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.8

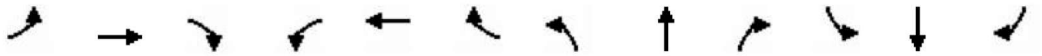
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	31	0	0	69	35	1337	59	39	994	25
Future Vol, veh/h	0	0	31	0	0	69	35	1337	59	39	994	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	34	0	0	75	38	1453	64	42	1080	27

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	554	-	-	759	1108	0	0	1517	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*766	0	0	*707	606	-	-	455	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*766	-	-	*707	606	-	-	455	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	9.91	10.69	0.28	0.51
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	606	-	-	766	707	455	-	-
HCM Lane V/C Ratio	0.063	-	-	0.044	0.106	0.093	-	-
HCM Control Delay (s/veh)	11.3	-	-	9.9	10.7	13.7	-	-
HCM Lane LOS	B	-	-	A	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.1	0.4	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

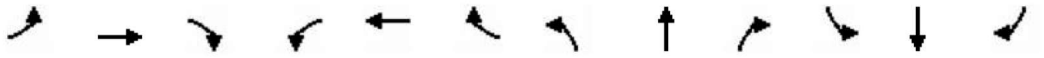


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	37	37	97	601	75	333	214	1186	554	209	859	47
v/c Ratio	0.21	0.24	0.06	1.00	0.21	0.21	0.94	0.66	0.35	0.70	0.32	0.03
Control Delay (s/veh)	56.8	55.4	0.1	86.8	42.2	0.3	101.6	25.8	0.6	62.8	24.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.8	55.4	0.1	86.8	42.2	0.3	101.6	25.8	0.6	62.8	24.6	0.0
Queue Length 50th (ft)	14	27	0	~242	48	0	86	391	0	88	147	0
Queue Length 95th (ft)	32	63	0	#365	93	0	#163	481	0	130	216	0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	314	465	1583	600	621	1583	228	1794	1583	314	2682	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.08	0.06	1.00	0.12	0.21	0.94	0.66	0.35	0.67	0.32	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	34	89	553	69	306	197	1091	510	192	790	43
Future Volume (veh/h)	34	34	89	553	69	306	197	1091	510	192	790	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	37	37	0	601	75	0	214	1186	0	209	859	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	102	155		605	427		230	1658		262	2428	
Arrive On Green	0.03	0.08	0.00	0.17	0.23	0.00	0.07	0.47	0.00	0.15	0.95	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	37	37	0	601	75	0	214	1186	0	209	859	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.3	2.2	0.0	20.8	3.9	0.0	7.4	32.1	0.0	7.0	1.5	0.0
Cycle Q Clear(g_c), s	1.3	2.2	0.0	20.8	3.9	0.0	7.4	32.1	0.0	7.0	1.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	102	155		605	427		230	1658		262	2428	
V/C Ratio(X)	0.36	0.24		0.99	0.18		0.93	0.72		0.80	0.35	
Avail Cap(c_a), veh/h	317	468		605	623		230	1658		317	2428	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.1	51.5	0.0	49.4	37.2	0.0	55.7	25.6	0.0	50.0	1.6	0.0
Incr Delay (d2), s/veh	1.6	0.8	0.0	34.9	0.2	0.0	40.0	2.7	0.0	10.4	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.1	0.0	11.7	1.8	0.0	4.5	13.7	0.0	3.2	0.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.7	52.3	0.0	84.4	37.4	0.0	95.7	28.3	0.0	60.4	2.0	0.0
LnGrp LOS	E	D		F	D		F	C		E	A	
Approach Vol, veh/h		74			676			1400			1068	
Approach Delay, s/veh		55.5			79.2			38.6			13.4	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.1	62.0	27.0	15.9	14.0	63.1	9.5	33.4
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	34.0	21.0	30.0	8.0	37.0	11.0	40.0
Max Q Clear Time (g_c+I1), s	9.0	34.1	22.8	4.2	9.4	3.5	3.3	5.9
Green Ext Time (p_c), s	0.1	0.0	0.0	0.1	0.0	12.6	0.0	0.3

Intersection Summary	
HCM 7th Control Delay, s/veh	39.2
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	115	3	38	248	21	0	0	29	13	1	0
Future Vol, veh/h	0	115	3	38	248	21	0	0	29	13	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	125	3	41	270	23	0	0	32	14	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	292	0	0	128	0	0	345	502	64	426	492	146
Stage 1	-	-	-	-	-	-	127	127	-	364	364	-
Stage 2	-	-	-	-	-	-	218	375	-	63	128	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1266	-	-	1455	-	-	585	470	987	512	476	874
Stage 1	-	-	-	-	-	-	864	790	-	628	623	-
Stage 2	-	-	-	-	-	-	764	615	-	941	789	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1266	-	-	1455	-	-	567	457	987	482	463	874
Mov Cap-2 Maneuver	-	-	-	-	-	-	567	457	-	482	463	-
Stage 1	-	-	-	-	-	-	864	790	-	610	605	-
Stage 2	-	-	-	-	-	-	741	598	-	911	789	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.93	8.77	12.74
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	987	1266	-	-	1455	-	-	480
HCM Lane V/C Ratio	0.032	-	-	-	0.028	-	-	0.032
HCM Control Delay (s/veh)	8.8	0	-	-	7.5	-	-	12.7
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	51	0	39	178	22	0	2	55	6	5	2
Future Vol, veh/h	2	51	0	39	178	22	0	2	55	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	55	0	42	193	24	0	2	60	7	5	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	217	0	0	55	0	0	244	362	28	323	350	109
Stage 1	-	-	-	-	-	-	60	60	-	290	290	-
Stage 2	-	-	-	-	-	-	184	302	-	33	60	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1349	-	-	1548	-	-	690	564	1041	606	573	924
Stage 1	-	-	-	-	-	-	945	844	-	693	671	-
Stage 2	-	-	-	-	-	-	800	663	-	979	844	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1349	-	-	1548	-	-	660	547	1041	551	555	924
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	547	-	551	555	-
Stage 1	-	-	-	-	-	-	943	843	-	673	651	-
Stage 2	-	-	-	-	-	-	768	643	-	919	843	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.3	1.32	8.8	11.26
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1009	136	-	-	509	-	-	590
HCM Lane V/C Ratio	0.061	0.002	-	-	0.027	-	-	0.024
HCM Control Delay (s/veh)	8.8	7.7	0	-	7.4	0.2	-	11.3
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	1	198	13	17	5	33	6	5	5	7	61	10	5
Future Vol, veh/h	1	198	13	17	5	33	6	5	5	7	61	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	215	14	18	5	36	7	5	5	8	66	11	5

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	42	0	0	-	229	0	0	277	315	222	270	318	39
Stage 1	-	-	-	-	-	-	-	224	224	-	50	87	-
Stage 2	-	-	-	-	-	-	-	52	90	-	220	232	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1567	-	-	-	1339	-	-	676	601	817	682	598	1032
Stage 1	-	-	-	-	-	-	-	778	718	-	963	823	-
Stage 2	-	-	-	-	-	-	-	961	820	-	782	713	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1567	-	-	~ -1	~ -1	-	-	660	601	817	669	598	1032
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	660	601	-	669	598	-
Stage 1	-	-	-	-	-	-	-	778	717	-	963	823	-
Stage 2	-	-	-	-	-	-	-	943	820	-	769	712	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.03		10.32	10.84
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	695	1567	-	-	-	-	-	669	695
HCM Lane V/C Ratio	0.027	0.001	-	-	-	-	-	0.099	0.023
HCM Control Delay (s/veh)	10.3	7.3	-	-	-	-	-	11	10.3
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.1	0	-	-	-	-	-	0.3	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

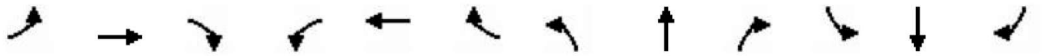
Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	281	20	25	50	20	5	3	23	35	0	6
Future Vol, veh/h	3	281	20	25	50	20	5	3	23	35	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	305	22	27	54	22	5	3	25	38	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	76	0	0	327	0	0	432	453	316	422	442	54
Stage 1	-	-	-	-	-	-	323	323	-	109	109	-
Stage 2	-	-	-	-	-	-	109	130	-	314	334	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1523	-	-	1232	-	-	534	502	724	542	509	1013
Stage 1	-	-	-	-	-	-	689	650	-	897	805	-
Stage 2	-	-	-	-	-	-	897	788	-	697	643	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1523	-	-	1232	-	-	518	490	724	507	497	1013
Mov Cap-2 Maneuver	-	-	-	-	-	-	518	490	-	507	497	-
Stage 1	-	-	-	-	-	-	688	649	-	877	788	-
Stage 2	-	-	-	-	-	-	871	771	-	668	642	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.07	2.1	10.82	12.16
HCM LOS			B	B

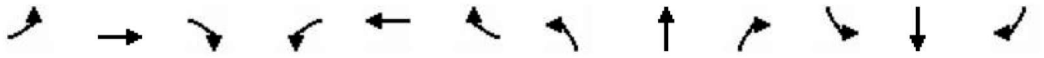
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	652	1523	-	-	1232	-	-	547
HCM Lane V/C Ratio	0.052	0.002	-	-	0.022	-	-	0.081
HCM Control Delay (s/veh)	10.8	7.4	-	-	8	-	-	12.2
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.3



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	55	59	254	332	22	127	37	1093	255	139	1441	45
v/c Ratio	0.35	0.19	0.16	0.67	0.08	0.08	0.21	0.59	0.16	0.48	0.70	0.03
Control Delay (s/veh)	57.6	51.8	0.2	54.9	43.1	0.1	6.3	7.2	0.2	16.1	23.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	57.6	51.8	0.2	54.9	43.1	0.1	6.3	7.2	0.2	16.1	23.6	0.0
Queue Length 50th (ft)	41	22	0	127	15	0	4	66	0	41	450	0
Queue Length 95th (ft)	82	44	0	168	38	0	m6	83	m0	83	#670	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	198	1840	1583	307	2054	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.14	0.08	0.16	0.45	0.05	0.08	0.19	0.59	0.16	0.45	0.70	0.03

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	51	54	234	305	20	117	34	1006	235	128	1326	41
Future Volume (veh/h)	51	54	234	305	20	117	34	1006	235	128	1326	41
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	55	59	0	332	22	0	37	1093	0	139	1441	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	145	290		418	226		214	1944		433	2019	
Arrive On Green	0.08	0.08	0.00	0.12	0.12	0.00	0.06	1.00	0.00	0.05	0.57	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	55	59	0	332	22	0	37	1093	0	139	1441	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	3.5	1.9	0.0	11.2	1.3	0.0	1.1	0.0	0.0	4.1	35.3	0.0
Cycle Q Clear(g_c), s	3.5	1.9	0.0	11.2	1.3	0.0	1.1	0.0	0.0	4.1	35.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	145	290		418	226		214	1944		433	2019	
V/C Ratio(X)	0.38	0.20		0.79	0.10		0.17	0.56		0.32	0.71	
Avail Cap(c_a), veh/h	386	770		749	405		265	1944		491	2019	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.2	51.5	0.0	51.3	46.9	0.0	15.5	0.0	0.0	10.5	18.8	0.0
Incr Delay (d2), s/veh	2.0	0.4	0.0	4.2	0.2	0.0	0.1	1.2	0.0	0.2	2.2	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	0.8	0.0	5.1	0.6	0.0	0.4	0.3	0.0	1.5	14.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	54.2	51.9	0.0	55.5	47.1	0.0	15.6	1.2	0.0	10.7	21.0	0.0
LnGrp LOS	D	D		E	D		B	A		B	C	
Approach Vol, veh/h		114			354			1130			1580	
Approach Delay, s/veh		53.0			54.9			1.7			20.1	
Approach LOS		D			D			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.1	71.6		15.8	9.5	74.2		20.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	34.0		26.0	7.0	37.0		26.0				
Max Q Clear Time (g_c+I1), s	6.1	2.0		5.5	3.1	37.3		13.2				
Green Ext Time (p_c), s	0.1	13.1		0.5	0.0	0.0		1.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.6
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.6

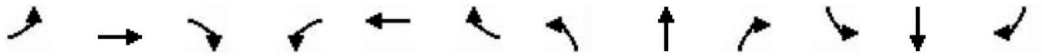
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	39	0	0	59	19	1216	54	54	1783	28
Future Vol, veh/h	0	0	39	0	0	59	19	1216	54	54	1783	28
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	42	0	0	64	21	1322	59	59	1938	30

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	984	-	-	690	1968	0	0	1380	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*633	0	0	*722	327	-	-	514	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*633	-	-	*722	327	-	-	514	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	11.1	10.47	0.25	0.37
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	327	-	-	633	722	514	-	-
HCM Lane V/C Ratio	0.063	-	-	0.067	0.089	0.114	-	-
HCM Control Delay (s/veh)	16.8	-	-	11.1	10.5	12.9	-	-
HCM Lane LOS	C	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.2	0.3	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	82	101	216	734	87	163	168	1157	603	289	1620	72
v/c Ratio	0.40	0.53	0.14	1.12	0.18	0.10	0.59	0.75	0.38	1.27	0.75	0.05
Control Delay (s/veh)	59.8	60.5	0.2	116.4	37.2	0.1	61.8	32.3	0.7	194.1	34.1	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	59.8	60.5	0.2	116.4	37.2	0.1	61.8	32.3	0.7	194.1	34.1	0.0
Queue Length 50th (ft)	31	76	0	~336	55	0	65	382	0	~148	316	0
Queue Length 95th (ft)	58	129	0	#457	96	0	102	501	0	#244	443	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	465	1583	657	698	1583	314	1551	1583	228	2146	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.22	0.14	1.12	0.12	0.10	0.54	0.75	0.38	1.27	0.75	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	93	199	675	80	150	155	1064	555	266	1490	66
Future Volume (veh/h)	75	93	199	675	80	150	155	1064	555	266	1490	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	82	101	0	734	87	0	168	1157	0	289	1620	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	156		662	441		225	1629		230	2348	
Arrive On Green	0.04	0.08	0.00	0.19	0.24	0.00	0.07	0.46	0.00	0.02	0.15	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	82	101	0	734	87	0	168	1157	0	289	1620	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.8	6.3	0.0	23.0	4.5	0.0	5.7	31.4	0.0	8.0	36.1	0.0
Cycle Q Clear(g_c), s	2.8	6.3	0.0	23.0	4.5	0.0	5.7	31.4	0.0	8.0	36.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	156		662	441		225	1629		230	2348	
V/C Ratio(X)	0.61	0.65		1.11	0.20		0.75	0.71		1.25	0.69	
Avail Cap(c_a), veh/h	230	468		662	701		317	1629		230	2348	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.8	53.3	0.0	48.5	36.7	0.0	55.1	26.1	0.0	58.7	42.8	0.0
Incr Delay (d2), s/veh	3.3	4.5	0.0	68.5	0.2	0.0	4.8	2.7	0.0	144.9	1.7	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	3.1	0.0	16.0	2.0	0.0	2.6	13.4	0.0	8.3	16.8	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.0	57.8	0.0	117.0	36.9	0.0	59.9	28.8	0.0	203.6	44.5	0.0
LnGrp LOS	E	E		F	D		E	C		F	D	
Approach Vol, veh/h		183			821			1325			1909	
Approach Delay, s/veh		58.8			108.5			32.7			68.6	
Approach LOS		E			F			C			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	61.0	29.0	16.0	13.8	61.2	10.7	34.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	35.0	23.0	30.0	11.0	32.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	10.0	33.4	25.0	8.3	7.7	38.1	4.8	6.5
Green Ext Time (p_c), s	0.0	1.4	0.0	0.4	0.1	0.0	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	64.7
HCM 7th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	247	9	119	121	19	2	1	108	12	0	2
Future Vol, veh/h	4	247	9	119	121	19	2	1	108	12	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	268	10	129	132	21	2	1	117	13	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	152	0	0	278	0	0	607	693	139	544	688	76
Stage 1	-	-	-	-	-	-	282	282	-	401	401	-
Stage 2	-	-	-	-	-	-	324	411	-	143	287	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1426	-	-	1281	-	-	381	365	884	422	368	970
Stage 1	-	-	-	-	-	-	701	676	-	597	600	-
Stage 2	-	-	-	-	-	-	662	593	-	845	673	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1426	-	-	1281	-	-	340	327	884	327	330	970
Mov Cap-2 Maneuver	-	-	-	-	-	-	340	327	-	327	330	-
Stage 1	-	-	-	-	-	-	699	674	-	537	539	-
Stage 2	-	-	-	-	-	-	594	533	-	729	671	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.14	3.73	9.96	15.41
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	846	53	-	-	1281	-	-	361
HCM Lane V/C Ratio	0.143	0.003	-	-	0.101	-	-	0.042
HCM Control Delay (s/veh)	10	7.5	0	-	8.1	-	-	15.4
HCM Lane LOS	A	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	0.1

Intersection	
Int Delay, s/veh	3.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	146	0	29	80	8	1	9	45	31	7	0
Future Vol, veh/h	0	146	0	29	80	8	1	9	45	31	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	159	0	32	87	9	1	10	49	34	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	96	0	0	159	0	0	269	317	79	239	313	48
Stage 1	-	-	-	-	-	-	159	159	-	154	154	-
Stage 2	-	-	-	-	-	-	110	159	-	84	159	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1496	-	-	1418	-	-	662	598	965	696	601	1011
Stage 1	-	-	-	-	-	-	828	765	-	832	769	-
Stage 2	-	-	-	-	-	-	883	765	-	914	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1496	-	-	1418	-	-	639	584	965	635	587	1011
Mov Cap-2 Maneuver	-	-	-	-	-	-	639	584	-	635	587	-
Stage 1	-	-	-	-	-	-	828	765	-	813	751	-
Stage 2	-	-	-	-	-	-	854	748	-	857	765	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	1.95	9.47	11.16
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	865	1496	-	-	792	-	-	625
HCM Lane V/C Ratio	0.069	-	-	-	0.022	-	-	0.066
HCM Control Delay (s/veh)	9.5	0	-	-	7.6	0.1	-	11.2
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.2

APPENDIX F – Future (with site development) Synchro Outputs

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	45	11	11	15	128	78	10	12	11	6	5	2
Future Vol, veh/h	0	45	11	11	15	128	78	10	12	11	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	49	12	12	16	139	85	11	13	12	7	5	2

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	224	0	0	-	61	0	0	229	335	55	270	299	182
Stage 1	-	-	-	-	-	-	-	55	55	-	214	238	-
Stage 2	-	-	-	-	-	-	-	174	280	-	55	61	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1345	-	-	-	1542	-	-	726	585	1012	683	613	861
Stage 1	-	-	-	-	-	-	-	957	849	-	788	708	-
Stage 2	-	-	-	-	-	-	-	827	679	-	957	844	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1345	-	-	~ -2	~ -2	-	-	717	585	1012	660	613	861
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	717	585	-	660	613	-
Stage 1	-	-	-	-	-	-	-	957	849	-	788	708	-
Stage 2	-	-	-	-	-	-	-	819	679	-	931	844	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0		10.2	10.48
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	728	1345	-	-	~	-	-	660	668
HCM Lane V/C Ratio	0.049	-	-	-	-	-	-	0.01	0.011
HCM Control Delay (s/veh)	10.2	0	-	-	-	-	-	10.5	10.4
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

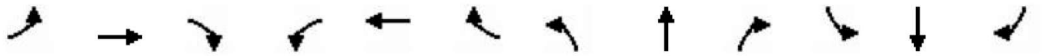
Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	79	8	57	194	39	14	3	89	51	1	24
Future Vol, veh/h	7	79	8	57	194	39	14	3	89	51	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	86	9	62	211	42	15	3	97	55	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	253	0	0	95	0	0	441	483	90	437	445	211
Stage 1	-	-	-	-	-	-	105	105	-	335	335	-
Stage 2	-	-	-	-	-	-	335	377	-	103	110	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1312	-	-	1499	-	-	527	484	968	529	508	829
Stage 1	-	-	-	-	-	-	900	808	-	679	643	-
Stage 2	-	-	-	-	-	-	679	616	-	903	804	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1312	-	-	1499	-	-	485	461	968	451	484	829
Mov Cap-2 Maneuver	-	-	-	-	-	-	485	461	-	451	484	-
Stage 1	-	-	-	-	-	-	895	803	-	651	616	-
Stage 2	-	-	-	-	-	-	629	590	-	805	800	-

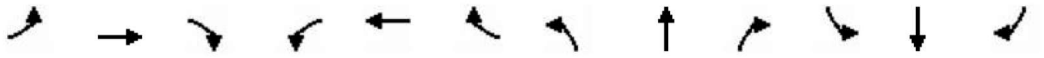
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.58	1.47	10.02	13.09
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	832	1312	-	-	1499	-	-	527
HCM Lane V/C Ratio	0.138	0.006	-	-	0.041	-	-	0.157
HCM Control Delay (s/veh)	10	7.8	-	-	7.5	-	-	13.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	129	47	62	273	46	117	193	923	126	70	646	76
v/c Ratio	0.60	0.11	0.04	0.62	0.19	0.07	0.43	0.51	0.08	0.23	0.40	0.05
Control Delay (s/veh)	60.5	45.5	0.1	55.4	47.2	0.1	6.4	10.6	0.1	14.4	24.6	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.5	45.5	0.1	55.4	47.2	0.1	6.4	10.6	0.1	14.4	24.6	0.1
Queue Length 50th (ft)	96	17	0	104	32	0	16	131	0	21	167	0
Queue Length 95th (ft)	154	34	0	143	66	0	29	407	0	51	278	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	543	1811	1583	343	1617	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.34	0.06	0.04	0.37	0.11	0.07	0.36	0.51	0.08	0.20	0.40	0.05

Intersection Summary



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	43	57	251	42	108	178	849	116	64	594	70
Future Volume (veh/h)	119	43	57	251	42	108	178	849	116	64	594	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	129	47	0	273	46	0	193	923	0	70	646	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	165	328		359	194		521	2011		451	1900	
Arrive On Green	0.09	0.09	0.00	0.10	0.10	0.00	0.14	1.00	0.00	0.04	0.53	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	129	47	0	273	46	0	193	923	0	70	646	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	8.5	1.5	0.0	9.2	2.7	0.0	6.1	0.0	0.0	2.1	12.4	0.0
Cycle Q Clear(g_c), s	8.5	1.5	0.0	9.2	2.7	0.0	6.1	0.0	0.0	2.1	12.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	165	328		359	194		521	2011		451	1900	
V/C Ratio(X)	0.78	0.14		0.76	0.24		0.37	0.46		0.16	0.34	
Avail Cap(c_a), veh/h	386	770		749	405		695	2011		517	1900	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	53.3	50.1	0.0	52.3	49.4	0.0	10.6	0.0	0.0	11.4	15.9	0.0
Incr Delay (d2), s/veh	9.4	0.2	0.0	4.0	0.7	0.0	0.2	0.8	0.0	0.1	0.5	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.7	0.0	4.2	1.3	0.0	2.0	0.2	0.0	0.8	4.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.7	50.3	0.0	56.3	50.1	0.0	10.8	0.8	0.0	11.5	16.4	0.0
LnGrp LOS	E	D		E	D		B	A		B	B	
Approach Vol, veh/h		176			319			1116			716	
Approach Delay, s/veh		59.4			55.4			2.5			15.9	
Approach LOS		E			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.5	73.9		17.1	14.3	70.2		18.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	35.0		26.0	20.0	24.0		26.0				
Max Q Clear Time (g_c+I1), s	4.1	2.0		10.5	8.1	14.4		11.2				
Green Ext Time (p_c), s	0.0	10.6		0.6	0.2	3.7		1.3				

Intersection Summary	
HCM 7th Control Delay, s/veh	18.2
HCM 7th LOS	B

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.5

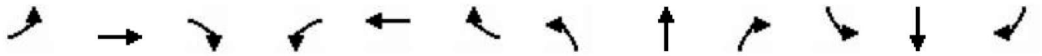
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	98	0	0	69	112	1074	59	39	795	68
Future Vol, veh/h	0	0	98	0	0	69	112	1074	59	39	795	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	107	0	0	75	122	1167	64	42	864	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	469	-	-	616	938	0	0	1232	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*796	0	0	*752	660	-	-	551	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*796	-	-	*752	660	-	-	551	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.22	10.32	1.05	0.52
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	660	-	-	796	752	551	-	-
HCM Lane V/C Ratio	0.184	-	-	0.134	0.1	0.077	-	-
HCM Control Delay (s/veh)	11.7	-	-	10.2	10.3	12.1	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.7	-	-	0.5	0.3	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	33	49	107	498	87	302	240	1018	459	190	742	38
v/c Ratio	0.19	0.31	0.07	0.87	0.22	0.19	1.05	0.59	0.29	0.65	0.29	0.02
Control Delay (s/veh)	56.6	56.7	0.1	64.9	40.5	0.3	127.6	25.4	0.5	61.6	24.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.6	56.7	0.1	64.9	40.5	0.3	127.6	25.4	0.5	61.6	24.6	0.0
Queue Length 50th (ft)	12	36	0	193	56	0	~104	313	0	79	128	0
Queue Length 95th (ft)	29	76	0	#273	104	0	#189	396	0	120	186	0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	314	465	1583	600	621	1583	228	1725	1583	314	2574	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.11	0.07	0.83	0.14	0.19	1.05	0.59	0.29	0.61	0.29	0.02

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	30	45	98	458	80	278	221	937	422	175	683	35
Future Volume (veh/h)	30	45	98	458	80	278	221	937	422	175	683	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	33	49	0	498	87	0	240	1018	0	190	742	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	155		556	404		230	1726		244	2499	
Arrive On Green	0.03	0.08	0.00	0.16	0.22	0.00	0.07	0.49	0.00	0.14	0.98	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	33	49	0	498	87	0	240	1018	0	190	742	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.1	3.0	0.0	17.0	4.6	0.0	8.0	24.8	0.0	6.4	0.5	0.0
Cycle Q Clear(g_c), s	1.1	3.0	0.0	17.0	4.6	0.0	8.0	24.8	0.0	6.4	0.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	155		556	404		230	1726		244	2499	
V/C Ratio(X)	0.34	0.32		0.90	0.22		1.04	0.59		0.78	0.30	
Avail Cap(c_a), veh/h	317	468		605	623		230	1726		317	2499	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.3	51.8	0.0	49.4	38.7	0.0	56.0	22.3	0.0	50.6	0.7	0.0
Incr Delay (d2), s/veh	1.6	1.1	0.0	14.9	0.3	0.0	70.6	1.5	0.0	7.9	0.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.4	0.0	8.3	2.1	0.0	5.7	10.4	0.0	2.8	0.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.8	53.0	0.0	64.3	38.9	0.0	126.6	23.7	0.0	58.5	1.0	0.0
LnGrp LOS	E	D		E	D		F	C		E	A	
Approach Vol, veh/h		82			585			1258			932	
Approach Delay, s/veh		55.3			60.5			43.4			12.7	
Approach LOS		E			E			D			B	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.5	64.3	25.3	16.0	14.0	64.7	9.3	31.9
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	34.0	21.0	30.0	8.0	37.0	11.0	40.0
Max Q Clear Time (g_c+I1), s	8.4	26.8	19.0	5.0	10.0	2.5	3.1	6.6
Green Ext Time (p_c), s	0.1	5.2	0.3	0.2	0.0	10.7	0.0	0.4

Intersection Summary	
HCM 7th Control Delay, s/veh	37.2
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	98	3	32	208	94	0	0	16	59	1	0
Future Vol, veh/h	0	98	3	32	208	94	0	0	16	59	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	107	3	35	226	102	0	0	17	64	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	328	0	0	110	0	0	291	506	55	400	457	164
Stage 1	-	-	-	-	-	-	108	108	-	347	347	-
Stage 2	-	-	-	-	-	-	183	398	-	53	110	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1228	-	-	1478	-	-	639	468	1000	535	499	852
Stage 1	-	-	-	-	-	-	886	805	-	642	633	-
Stage 2	-	-	-	-	-	-	801	601	-	953	804	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1228	-	-	1478	-	-	622	457	1000	513	487	852
Mov Cap-2 Maneuver	-	-	-	-	-	-	622	457	-	513	487	-
Stage 1	-	-	-	-	-	-	886	805	-	627	619	-
Stage 2	-	-	-	-	-	-	781	587	-	936	804	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.72	8.66	13.05
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1000	1228	-	-	1478	-	-	513
HCM Lane V/C Ratio	0.017	-	-	-	0.024	-	-	0.127
HCM Control Delay (s/veh)	8.7	0	-	-	7.5	-	-	13
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.4

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	26	0	39	126	34	0	2	55	14	5	2
Future Vol, veh/h	2	26	0	39	126	34	0	2	55	14	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	28	0	42	137	37	0	2	60	15	5	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	174	0	0	28	0	0	189	291	14	260	273	87
Stage 1	-	-	-	-	-	-	33	33	-	240	240	-
Stage 2	-	-	-	-	-	-	156	259	-	20	33	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1400	-	-	1583	-	-	754	618	1062	672	633	954
Stage 1	-	-	-	-	-	-	979	867	-	742	705	-
Stage 2	-	-	-	-	-	-	831	692	-	996	867	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1400	-	-	1583	-	-	724	600	1062	613	614	954
Mov Cap-2 Maneuver	-	-	-	-	-	-	724	600	-	613	614	-
Stage 1	-	-	-	-	-	-	978	866	-	721	686	-
Stage 2	-	-	-	-	-	-	799	673	-	937	866	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.55	1.52	8.7	10.88
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1034	257	-	-	544	-	-	635
HCM Lane V/C Ratio	0.06	0.002	-	-	0.027	-	-	0.036
HCM Control Delay (s/veh)	8.7	7.6	0	-	7.3	0.1	-	10.9
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	1	148	22	17	24	26	6	14	5	26	61	10	5
Future Vol, veh/h	1	148	22	17	24	26	6	14	5	26	61	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	161	24	18	26	28	7	15	5	28	66	11	5

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	35	0	0	-	185	0	0	261	299	173	249	308	32
Stage 1	-	-	-	-	-	-	-	175	175	-	84	121	-
Stage 2	-	-	-	-	-	-	-	86	124	-	166	187	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1577	-	-	-	1390	-	-	692	613	871	704	606	1042
Stage 1	-	-	-	-	-	-	-	827	754	-	924	796	-
Stage 2	-	-	-	-	-	-	-	922	793	-	836	745	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1577	-	-	~ -2	~ -2	-	-	676	613	871	675	606	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	676	613	-	675	606	-
Stage 1	-	-	-	-	-	-	-	826	754	-	924	796	-
Stage 2	-	-	-	-	-	-	-	905	793	-	803	745	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.04		10.02	10.78
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	766	1577	-	-	~	-	-	675	704
HCM Lane V/C Ratio	0.064	0.001	-	-	-	-	-	0.098	0.023
HCM Control Delay (s/veh)	10	7.3	-	-	-	-	-	10.9	10.2
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0.3	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

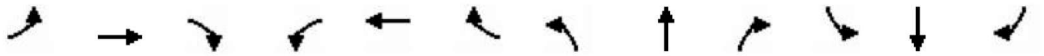
Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	241	29	114	53	20	14	3	215	35	0	6
Future Vol, veh/h	3	241	29	114	53	20	14	3	215	35	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	262	32	124	58	22	15	3	234	38	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	79	0	0	293	0	0	590	611	278	576	605	58
Stage 1	-	-	-	-	-	-	284	284	-	305	305	-
Stage 2	-	-	-	-	-	-	305	327	-	270	300	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1519	-	-	1268	-	-	419	408	761	429	412	1009
Stage 1	-	-	-	-	-	-	723	676	-	704	662	-
Stage 2	-	-	-	-	-	-	704	648	-	736	666	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1519	-	-	1268	-	-	375	368	761	265	371	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	375	368	-	265	371	-
Stage 1	-	-	-	-	-	-	721	675	-	635	597	-
Stage 2	-	-	-	-	-	-	631	584	-	506	664	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.08	4.97	12.88	19.23
HCM LOS			B	C

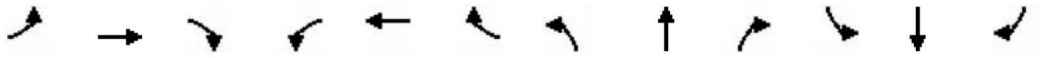
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	707	1519	-	-	1268	-	-	297
HCM Lane V/C Ratio	0.356	0.002	-	-	0.098	-	-	0.15
HCM Control Delay (s/veh)	12.9	7.4	-	-	8.1	-	-	19.2
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.6	0	-	-	0.3	-	-	0.5



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	234	90	210	295	38	105	32	820	210	115	1198	134
v/c Ratio	0.76	0.15	0.13	0.64	0.15	0.07	0.18	0.55	0.13	0.38	0.71	0.08
Control Delay (s/veh)	62.5	41.0	0.2	55.2	45.7	0.1	9.7	12.7	0.2	19.2	30.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	62.5	41.0	0.2	55.2	45.7	0.1	9.7	12.7	0.2	19.2	30.3	0.1
Queue Length 50th (ft)	173	31	0	112	26	0	4	65	0	42	404	0
Queue Length 95th (ft)	253	53	0	153	58	0	m8	256	0	88	#627	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	198	1495	1583	327	1695	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.61	0.12	0.13	0.40	0.09	0.07	0.16	0.55	0.13	0.35	0.71	0.08

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	83	193	271	35	97	29	754	193	106	1102	123
Future Volume (veh/h)	215	83	193	271	35	97	29	754	193	106	1102	123
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	234	90	0	295	38	0	32	820	0	115	1198	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	272	543		381	206		230	1737		465	1811	
Arrive On Green	0.15	0.15	0.00	0.11	0.11	0.00	0.05	0.98	0.00	0.05	0.51	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	234	90	0	295	38	0	32	820	0	115	1198	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	15.4	2.6	0.0	10.0	2.2	0.0	1.1	1.1	0.0	3.8	29.9	0.0
Cycle Q Clear(g_c), s	15.4	2.6	0.0	10.0	2.2	0.0	1.1	1.1	0.0	3.8	29.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	272	543		381	206		230	1737		465	1811	
V/C Ratio(X)	0.86	0.17		0.77	0.18		0.14	0.47		0.25	0.66	
Avail Cap(c_a), veh/h	386	770		749	405		285	1737		528	1811	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.6	44.2	0.0	51.9	48.5	0.0	17.2	0.7	0.0	13.8	21.8	0.0
Incr Delay (d2), s/veh	13.9	0.2	0.0	4.0	0.5	0.0	0.1	0.9	0.0	0.1	1.9	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	1.2	0.0	4.5	1.1	0.0	0.4	0.5	0.0	1.5	12.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	63.4	44.4	0.0	56.0	49.0	0.0	17.3	1.6	0.0	13.9	23.7	0.0
LnGrp LOS	E	D		E	D		B	A		B	C	
Approach Vol, veh/h		324			333			852			1313	
Approach Delay, s/veh		58.1			55.2			2.2			22.8	
Approach LOS		E			E			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.8	64.7		24.3	9.3	67.1		19.2				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	34.0		26.0	7.0	37.0		26.0				
Max Q Clear Time (g_c+I1), s	5.8	3.1		17.4	3.1	31.9		12.0				
Green Ext Time (p_c), s	0.0	9.0		1.0	0.0	3.7		1.3				

Intersection Summary		
HCM 7th Control Delay, s/veh	24.5	
HCM 7th LOS	C	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.4

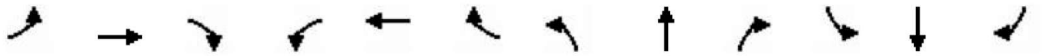
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	203	0	0	59	164	917	54	54	1396	116
Future Vol, veh/h	0	0	203	0	0	59	164	917	54	54	1396	116
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	221	0	0	64	178	997	59	59	1517	126

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	822	-	-	528	1643	0	0	1055	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*692	0	0	*781	406	-	-	608	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*692	-	-	*781	406	-	-	608	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	12.61	10.02	2.98	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	406	-	-	692	781	608	-	-
HCM Lane V/C Ratio	0.439	-	-	0.319	0.082	0.097	-	-
HCM Control Delay (s/veh)	20.6	-	-	12.6	10	11.6	-	-
HCM Lane LOS	C	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	2.2	-	-	1.4	0.3	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	125	267	608	112	176	277	974	499	278	1403	57
v/c Ratio	0.41	0.59	0.17	0.94	0.23	0.11	0.88	0.64	0.32	1.22	0.68	0.04
Control Delay (s/veh)	60.0	61.3	0.2	71.0	36.6	0.1	82.2	29.9	0.5	177.2	37.6	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	60.0	61.3	0.2	71.0	36.6	0.1	82.2	29.9	0.5	177.2	37.6	0.0
Queue Length 50th (ft)	32	94	0	240	71	0	111	306	0	~139	324	0
Queue Length 95th (ft)	59	151	0	#347	116	0	#188	408	0	#230	456	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	465	1583	657	698	1583	314	1521	1583	228	2058	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.27	0.17	0.93	0.16	0.11	0.88	0.64	0.32	1.22	0.68	0.04

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	115	246	559	103	162	255	896	459	256	1291	52
Future Volume (veh/h)	77	115	246	559	103	162	255	896	459	256	1291	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	125	0	608	112	0	277	974	0	278	1403	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	162		657	445		317	1622		230	2203	
Arrive On Green	0.04	0.09	0.00	0.19	0.24	0.00	0.09	0.46	0.00	0.02	0.14	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	84	125	0	608	112	0	277	974	0	278	1403	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.9	7.8	0.0	20.8	5.8	0.0	9.5	24.6	0.0	8.0	31.1	0.0
Cycle Q Clear(g_c), s	2.9	7.8	0.0	20.8	5.8	0.0	9.5	24.6	0.0	8.0	31.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	162		657	445		317	1622		230	2203	
V/C Ratio(X)	0.62	0.77		0.93	0.25		0.87	0.60		1.21	0.64	
Avail Cap(c_a), veh/h	230	468		662	701		317	1622		230	2203	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.8	53.6	0.0	47.8	37.1	0.0	53.8	24.4	0.0	58.7	42.6	0.0
Incr Delay (d2), s/veh	3.4	7.5	0.0	18.8	0.3	0.0	22.4	1.7	0.0	126.5	1.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.0	0.0	10.4	2.7	0.0	5.1	10.5	0.0	7.7	14.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.2	61.1	0.0	66.6	37.4	0.0	76.2	26.1	0.0	185.2	44.0	0.0
LnGrp LOS	E	E		E	D		E	C		F	D	
Approach Vol, veh/h		209			720			1251			1681	
Approach Delay, s/veh		60.7			62.0			37.2			67.4	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	60.8	28.8	16.4	17.0	57.8	10.7	34.5
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	35.0	23.0	30.0	11.0	32.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	10.0	26.6	22.8	9.8	11.5	33.1	4.9	7.8
Green Ext Time (p_c), s	0.0	5.7	0.1	0.6	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	56.2
HCM 7th LOS	E

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	206	9	100	91	177	2	1	96	136	0	2
Future Vol, veh/h	4	206	9	100	91	177	2	1	96	136	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	224	10	109	99	192	2	1	104	148	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	291	0	0	234	0	0	504	746	117	534	655	146
Stage 1	-	-	-	-	-	-	237	237	-	413	413	-
Stage 2	-	-	-	-	-	-	267	509	-	121	242	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1267	-	-	1331	-	-	450	340	913	429	384	875
Stage 1	-	-	-	-	-	-	744	707	-	587	592	-
Stage 2	-	-	-	-	-	-	716	537	-	870	704	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1267	-	-	1331	-	-	411	311	913	347	352	875
Mov Cap-2 Maneuver	-	-	-	-	-	-	411	311	-	347	352	-
Stage 1	-	-	-	-	-	-	742	705	-	539	544	-
Stage 2	-	-	-	-	-	-	655	493	-	767	701	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.17	2.16	9.69	22.8
HCM LOS			A	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	874	62	-	-	1331	-	-	350
HCM Lane V/C Ratio	0.123	0.003	-	-	0.082	-	-	0.429
HCM Control Delay (s/veh)	9.7	7.9	0	-	7.9	-	-	22.8
HCM Lane LOS	A	A	A	-	A	-	-	C
HCM 95th %tile Q(veh)	0.4	0	-	-	0.3	-	-	2.1

Intersection	
Int Delay, s/veh	4.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	86	0	29	31	27	1	9	45	50	7	0
Future Vol, veh/h	0	86	0	29	31	27	1	9	45	50	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	93	0	32	34	29	1	10	49	54	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	63	0	0	93	0	0	177	220	47	163	205	32
Stage 1	-	-	-	-	-	-	93	93	-	111	111	-
Stage 2	-	-	-	-	-	-	84	126	-	52	93	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1538	-	-	1499	-	-	769	678	1012	786	690	1035
Stage 1	-	-	-	-	-	-	903	817	-	882	802	-
Stage 2	-	-	-	-	-	-	915	791	-	955	817	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1538	-	-	1499	-	-	744	663	1012	722	676	1035
Mov Cap-2 Maneuver	-	-	-	-	-	-	744	663	-	722	676	-
Stage 1	-	-	-	-	-	-	903	817	-	863	785	-
Stage 2	-	-	-	-	-	-	887	774	-	898	817	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	2.5	9.15	10.51
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	926	1538	-	-	727	-	-	716
HCM Lane V/C Ratio	0.065	-	-	-	0.021	-	-	0.087
HCM Control Delay (s/veh)	9.2	0	-	-	7.5	0.1	-	10.5
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.3

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	0	74	11	11	15	176	78	10	12	11	6	5	2
Future Vol, veh/h	0	74	11	11	15	176	78	10	12	11	6	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	80	12	12	16	191	85	11	13	12	7	5	2

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	276	0	0	-	92	0	0	313	419	86	353	383	234
Stage 1	-	-	-	-	-	-	-	86	86	-	266	290	-
Stage 2	-	-	-	-	-	-	-	227	333	-	87	92	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1287	-	-	-	1502	-	-	640	525	972	602	551	805
Stage 1	-	-	-	-	-	-	-	921	823	-	739	672	-
Stage 2	-	-	-	-	-	-	-	776	644	-	921	818	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1287	-	-	~ -2	~ -2	-	-	632	525	972	580	551	805
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	632	525	-	580	551	-
Stage 1	-	-	-	-	-	-	-	921	823	-	739	672	-
Stage 2	-	-	-	-	-	-	-	768	644	-	895	818	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0		10.77	11.14
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	660	1287	-	-	~	-	-	580	605
HCM Lane V/C Ratio	0.054	-	-	-	-	-	-	0.011	0.013
HCM Control Delay (s/veh)	10.8	0	-	-	-	-	-	11.3	11
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0	0

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

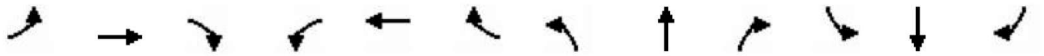
Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	108	8	57	242	39	14	3	89	51	1	24
Future Vol, veh/h	7	108	8	57	242	39	14	3	89	51	1	24
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	117	9	62	263	42	15	3	97	55	1	26

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	305	0	0	126	0	0	524	566	122	521	528	263
Stage 1	-	-	-	-	-	-	137	137	-	387	387	-
Stage 2	-	-	-	-	-	-	388	429	-	134	141	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1255	-	-	1460	-	-	464	433	929	466	456	776
Stage 1	-	-	-	-	-	-	866	783	-	637	610	-
Stage 2	-	-	-	-	-	-	636	584	-	869	780	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1255	-	-	1460	-	-	425	413	929	394	434	776
Mov Cap-2 Maneuver	-	-	-	-	-	-	425	413	-	394	434	-
Stage 1	-	-	-	-	-	-	861	778	-	610	584	-
Stage 2	-	-	-	-	-	-	588	559	-	771	775	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.45	1.28	10.42	14.35
HCM LOS			B	B

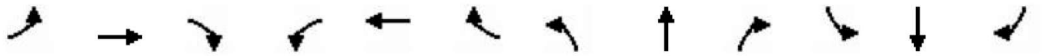
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	780	1255	-	-	1460	-	-	467
HCM Lane V/C Ratio	0.148	0.006	-	-	0.042	-	-	0.177
HCM Control Delay (s/veh)	10.4	7.9	-	-	7.6	-	-	14.3
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.5	0	-	-	0.1	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	142	52	75	327	52	142	234	1120	153	85	777	82
v/c Ratio	0.63	0.11	0.05	0.66	0.19	0.09	0.60	0.65	0.10	0.37	0.53	0.05
Control Delay (s/veh)	61.0	44.8	0.1	54.9	45.5	0.1	13.8	13.9	0.1	19.1	30.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.0	44.8	0.1	54.9	45.5	0.1	13.8	13.9	0.1	19.1	30.2	0.1
Queue Length 50th (ft)	106	18	0	125	36	0	23	299	0	28	228	0
Queue Length 95th (ft)	166	m36	0	165	71	0	m65	539	m0	63	371	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	468	1723	1583	261	1480	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.07	0.05	0.44	0.13	0.09	0.50	0.65	0.10	0.33	0.53	0.05

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	48	69	301	48	131	215	1030	141	78	715	75
Future Volume (veh/h)	131	48	69	301	48	131	215	1030	141	78	715	75
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	142	52	0	327	52	0	234	1120	0	85	777	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	178	356		417	226		456	1919		379	1758	
Arrive On Green	0.10	0.10	0.00	0.12	0.12	0.00	0.17	1.00	0.00	0.04	0.49	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	142	52	0	327	52	0	234	1120	0	85	777	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	9.4	1.6	0.0	11.0	3.0	0.0	7.9	0.0	0.0	2.8	17.0	0.0
Cycle Q Clear(g_c), s	9.4	1.6	0.0	11.0	3.0	0.0	7.9	0.0	0.0	2.8	17.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	178	356		417	226		456	1919		379	1758	
V/C Ratio(X)	0.80	0.15		0.78	0.23		0.51	0.58		0.22	0.44	
Avail Cap(c_a), veh/h	386	770		749	405		602	1919		442	1758	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.8	49.3	0.0	51.2	47.7	0.0	12.4	0.0	0.0	13.7	19.6	0.0
Incr Delay (d2), s/veh	9.3	0.2	0.0	3.9	0.6	0.0	0.3	1.3	0.0	0.1	0.8	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.6	0.7	0.0	5.0	1.4	0.0	2.6	0.3	0.0	1.1	6.9	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	62.1	49.5	0.0	55.2	48.3	0.0	12.7	1.3	0.0	13.8	20.4	0.0
LnGrp LOS	E	D		E	D		B	A		B	C	
Approach Vol, veh/h		194			379			1354			862	
Approach Delay, s/veh		58.8			54.2			3.3			19.8	
Approach LOS		E			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.7	70.8		18.0	16.2	65.4		20.5				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	9.0	35.0		26.0	20.0	24.0		26.0				
Max Q Clear Time (g_c+I1), s	4.8	2.0		11.4	9.9	19.0		13.0				
Green Ext Time (p_c), s	0.0	13.7		0.7	0.2	2.7		1.4				

Intersection Summary		
HCM 7th Control Delay, s/veh	19.2	
HCM 7th LOS	B	

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1.4

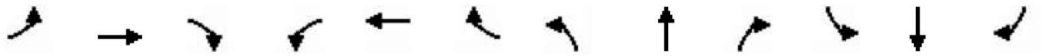
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	98	0	0	69	112	1317	59	39	978	68
Future Vol, veh/h	0	0	98	0	0	69	112	1317	59	39	978	68
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	107	0	0	75	122	1432	64	42	1063	74

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	568	-	-	748	1137	0	0	1496	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*766	0	0	*707	584	-	-	469	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*766	-	-	*707	584	-	-	469	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	10.45	10.69	0.96	0.48
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	584	-	-	766	707	469	-	-
HCM Lane V/C Ratio	0.209	-	-	0.139	0.106	0.09	-	-
HCM Control Delay (s/veh)	12.8	-	-	10.5	10.7	13.4	-	-
HCM Lane LOS	B	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	0.8	-	-	0.5	0.4	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



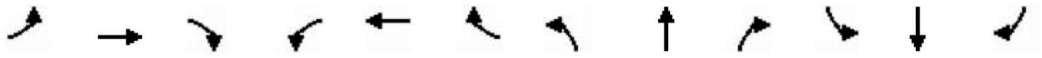
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	41	55	133	601	100	358	282	1218	554	227	896	47
v/c Ratio	0.22	0.34	0.08	1.00	0.27	0.23	1.24	0.72	0.35	0.75	0.35	0.03
Control Delay (s/veh)	56.9	57.3	0.1	86.8	42.3	0.3	184.3	29.5	0.6	62.9	26.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	56.9	57.3	0.1	86.8	42.3	0.3	184.3	29.5	0.6	62.9	26.8	0.0
Queue Length 50th (ft)	15	41	0	~242	66	0	~139	407	0	95	188	0
Queue Length 95th (ft)	34	83	0	#365	116	0	#228	513	0	#144	222	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	314	465	1583	600	621	1583	228	1682	1583	314	2530	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.13	0.12	0.08	1.00	0.16	0.23	1.24	0.72	0.35	0.72	0.35	0.03

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	51	122	553	92	329	259	1121	510	209	824	43
Future Volume (veh/h)	38	51	122	553	92	329	259	1121	510	209	824	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	41	55	0	601	100	0	282	1218	0	227	896	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	107	156		605	425		230	1636		282	2426	
Arrive On Green	0.03	0.08	0.00	0.17	0.23	0.00	0.07	0.46	0.00	0.11	0.63	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	41	55	0	601	100	0	282	1218	0	227	896	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	1.4	3.3	0.0	20.8	5.2	0.0	8.0	33.8	0.0	7.7	10.1	0.0
Cycle Q Clear(g_c), s	1.4	3.3	0.0	20.8	5.2	0.0	8.0	33.8	0.0	7.7	10.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	107	156		605	425		230	1636		282	2426	
V/C Ratio(X)	0.38	0.35		0.99	0.24		1.22	0.74		0.81	0.37	
Avail Cap(c_a), veh/h	317	468		605	623		230	1636		317	2426	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	57.0	52.0	0.0	49.4	37.9	0.0	56.0	26.6	0.0	52.6	13.5	0.0
Incr Delay (d2), s/veh	1.7	1.4	0.0	34.9	0.3	0.0	133.1	3.1	0.0	12.2	0.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	0.0	11.7	2.4	0.0	7.7	14.5	0.0	3.7	3.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	58.7	53.3	0.0	84.4	38.1	0.0	189.1	29.7	0.0	64.8	13.9	0.0
LnGrp LOS	E	D		F	D		F	C		E	B	
Approach Vol, veh/h		96			701			1500			1123	
Approach Delay, s/veh		55.6			77.8			59.7			24.2	
Approach LOS		E			E			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.8	61.2	27.0	16.0	14.0	63.0	9.7	33.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	11.0	34.0	21.0	30.0	8.0	37.0	11.0	40.0
Max Q Clear Time (g_c+I1), s	9.7	35.8	22.8	5.3	10.0	12.1	3.4	7.2
Green Ext Time (p_c), s	0.1	0.0	0.0	0.2	0.0	11.4	0.0	0.5

Intersection Summary	
HCM 7th Control Delay, s/veh	51.6
HCM 7th LOS	D

Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	123	3	38	260	94	0	0	29	59	1	0
Future Vol, veh/h	0	123	3	38	260	94	0	0	29	59	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	134	3	41	283	102	0	0	32	64	1	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	385	0	0	137	0	0	360	603	68	483	553	192
Stage 1	-	-	-	-	-	-	135	135	-	416	416	-
Stage 2	-	-	-	-	-	-	224	467	-	67	137	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1170	-	-	1445	-	-	571	412	981	466	439	817
Stage 1	-	-	-	-	-	-	854	783	-	584	590	-
Stage 2	-	-	-	-	-	-	758	560	-	936	782	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1170	-	-	1445	-	-	553	400	981	439	427	817
Mov Cap-2 Maneuver	-	-	-	-	-	-	553	400	-	439	427	-
Stage 1	-	-	-	-	-	-	854	783	-	568	573	-
Stage 2	-	-	-	-	-	-	735	544	-	906	782	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.73	8.79	14.64
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	981	1170	-	-	1445	-	-	438
HCM Lane V/C Ratio	0.032	-	-	-	0.029	-	-	0.149
HCM Control Delay (s/veh)	8.8	0	-	-	7.6	-	-	14.6
HCM Lane LOS	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0	-	-	0.1	-	-	0.5

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	51	0	39	178	34	0	2	55	14	5	2
Future Vol, veh/h	2	51	0	39	178	34	0	2	55	14	5	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	55	0	42	193	37	0	2	60	15	5	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	230	0	0	55	0	0	244	375	28	330	357	115
Stage 1	-	-	-	-	-	-	60	60	-	297	297	-
Stage 2	-	-	-	-	-	-	184	315	-	33	60	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1335	-	-	1548	-	-	690	555	1041	600	568	915
Stage 1	-	-	-	-	-	-	945	844	-	687	666	-
Stage 2	-	-	-	-	-	-	800	654	-	979	844	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1335	-	-	1548	-	-	660	537	1041	546	550	915
Mov Cap-2 Maneuver	-	-	-	-	-	-	660	537	-	546	550	-
Stage 1	-	-	-	-	-	-	943	843	-	667	647	-
Stage 2	-	-	-	-	-	-	768	635	-	919	843	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.3	1.26	8.81	11.6
HCM LOS			A	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	1008	136	-	-	457	-	-	569
HCM Lane V/C Ratio	0.061	0.002	-	-	0.027	-	-	0.04
HCM Control Delay (s/veh)	8.8	7.7	0	-	7.4	0.2	-	11.6
HCM Lane LOS	A	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	EBR	WBU	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations													
Traffic Vol, veh/h	1	207	22	17	24	42	6	14	5	26	61	10	5
Future Vol, veh/h	1	207	22	17	24	42	6	14	5	26	61	10	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	-	100	-	-	-	-	-	100	-	-
Veh in Median Storage, #	-	0	-	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	225	24	18	26	46	7	15	5	28	66	11	5

Major/Minor	Major1			Major2				Minor1			Minor2		
Conflicting Flow All	52	0	0	-	249	0	0	342	380	237	331	389	49
Stage 1	-	-	-	-	-	-	-	239	239	-	101	138	-
Stage 2	-	-	-	-	-	-	-	103	141	-	230	251	-
Critical Hdwy	4.12	-	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1554	-	-	-	1317	-	-	612	552	802	622	546	1020
Stage 1	-	-	-	-	-	-	-	764	707	-	905	782	-
Stage 2	-	-	-	-	-	-	-	903	780	-	773	699	-
Platoon blocked, %		-	-			-	-						
Mov Cap-1 Maneuver	1554	-	-	~ -2	~ -2	-	-	596	552	802	594	546	1020
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	596	552	-	594	546	-
Stage 1	-	-	-	-	-	-	-	764	707	-	905	782	-
Stage 2	-	-	-	-	-	-	-	885	780	-	739	699	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.03		10.59	11.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	693	1554	-	-	~	-	-	594	646
HCM Lane V/C Ratio	0.071	0.001	-	-	-	-	-	0.112	0.025
HCM Control Delay (s/veh)	10.6	7.3	-	-	-	-	-	11.8	10.7
HCM Lane LOS	B	A	-	-	-	-	-	B	B
HCM 95th %tile Q(veh)	0.2	0	-	-	-	-	-	0.4	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

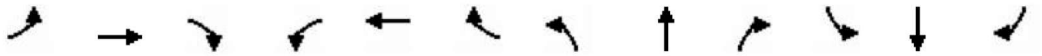
Intersection	
Int Delay, s/veh	6.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	300	29	114	69	20	14	3	215	35	0	6
Future Vol, veh/h	3	300	29	114	69	20	14	3	215	35	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	80	-	-	100	-	50	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	326	32	124	75	22	15	3	234	38	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	97	0	0	358	0	0	671	693	342	657	687	75
Stage 1	-	-	-	-	-	-	348	348	-	323	323	-
Stage 2	-	-	-	-	-	-	323	345	-	334	364	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1497	-	-	1201	-	-	370	367	701	378	370	986
Stage 1	-	-	-	-	-	-	668	634	-	689	650	-
Stage 2	-	-	-	-	-	-	689	636	-	680	624	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1497	-	-	1201	-	-	329	328	701	224	331	986
Mov Cap-2 Maneuver	-	-	-	-	-	-	329	328	-	224	331	-
Stage 1	-	-	-	-	-	-	666	632	-	618	583	-
Stage 2	-	-	-	-	-	-	614	571	-	450	622	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.07	4.68	14.07	22.33
HCM LOS			B	C

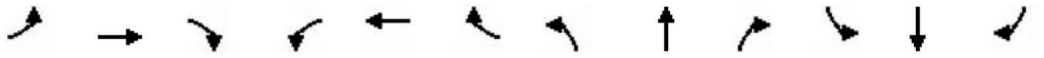
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	647	1497	-	-	1201	-	-	252
HCM Lane V/C Ratio	0.39	0.002	-	-	0.103	-	-	0.177
HCM Control Delay (s/veh)	14.1	7.4	-	-	8.3	-	-	22.3
HCM Lane LOS	B	A	-	-	A	-	-	C
HCM 95th %tile Q(veh)	1.8	0	-	-	0.3	-	-	0.6



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	243	100	254	352	42	127	37	1009	255	139	1448	141
v/c Ratio	0.77	0.16	0.16	0.67	0.15	0.08	0.25	0.72	0.16	0.60	0.90	0.09
Control Delay (s/veh)	63.1	40.9	0.2	54.2	43.6	0.1	20.5	16.7	0.2	29.0	40.7	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	63.1	40.9	0.2	54.2	43.6	0.1	20.5	16.7	0.2	29.0	40.7	0.1
Queue Length 50th (ft)	180	34	0	134	29	0	5	187	0	55	572	0
Queue Length 95th (ft)	262	57	0	176	60	0	m8	#511	m0	109	#871	0
Internal Link Dist (ft)		360			352			447			338	
Turn Bay Length (ft)	100		100	150			325		125	315		50
Base Capacity (vph)	383	766	1583	743	403	1583	164	1400	1583	246	1616	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.63	0.13	0.16	0.47	0.10	0.08	0.23	0.72	0.16	0.57	0.90	0.09

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	224	92	234	324	39	117	34	928	235	128	1332	130
Future Volume (veh/h)	224	92	234	324	39	117	34	928	235	128	1332	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	243	100	0	352	42	0	37	1009	0	139	1448	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	281	561		441	239		161	1623		386	1723	
Arrive On Green	0.16	0.16	0.00	0.13	0.13	0.00	0.06	0.91	0.00	0.06	0.48	0.00
Sat Flow, veh/h	1781	3554	1585	3456	1870	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	243	100	0	352	42	0	37	1009	0	139	1448	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1728	1870	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	16.0	2.9	0.0	11.9	2.4	0.0	1.3	6.8	0.0	4.9	42.5	0.0
Cycle Q Clear(g_c), s	16.0	2.9	0.0	11.9	2.4	0.0	1.3	6.8	0.0	4.9	42.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	561		441	239		161	1623		386	1723	
V/C Ratio(X)	0.86	0.18		0.80	0.18		0.23	0.62		0.36	0.84	
Avail Cap(c_a), veh/h	386	770		749	405		212	1623		432	1723	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.3	43.8	0.0	50.8	46.7	0.0	22.5	3.1	0.0	15.6	26.9	0.0
Incr Delay (d2), s/veh	14.8	0.2	0.0	4.0	0.4	0.0	0.3	1.8	0.0	0.2	5.1	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.2	1.3	0.0	5.3	1.1	0.0	0.5	1.7	0.0	2.0	18.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	64.0	44.0	0.0	54.9	47.1	0.0	22.8	4.9	0.0	15.8	32.0	0.0
LnGrp LOS	E	D		D	D		C	A		B	C	
Approach Vol, veh/h		343			394			1046			1587	
Approach Delay, s/veh		58.2			54.0			5.6			30.6	
Approach LOS		E			D			A			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.9	60.8		25.0	9.5	64.2		21.3				
Change Period (Y+Rc), s	6.0	6.0		6.0	6.0	6.0		6.0				
Max Green Setting (Gmax), s	10.0	34.0		26.0	7.0	37.0		26.0				
Max Q Clear Time (g_c+I1), s	6.9	8.8		18.0	3.3	44.5		13.9				
Green Ext Time (p_c), s	0.0	10.6		1.0	0.0	0.0		1.5				

Intersection Summary	
HCM 7th Control Delay, s/veh	28.4
HCM 7th LOS	C

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.8

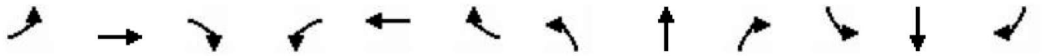
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	203	0	0	59	164	1138	54	54	1720	116
Future Vol, veh/h	0	0	203	0	0	59	164	1138	54	54	1720	116
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	Stop	-	-	Stop	-	-	None	-	-	None
Storage Length	-	-	0	-	-	0	150	-	-	250	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	221	0	0	64	178	1237	59	59	1870	126

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	-	-	998	-	-	648	1996	0	0	1296	0	0
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy	-	-	7.14	-	-	7.14	5.34	-	-	5.34	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-	-	-	-	-	-
Follow-up Hdwy	-	-	3.92	-	-	3.92	3.12	-	-	3.12	-	-
Pot Cap-1 Maneuver	0	0	*648	0	0	*737	292	-	-	540	-	-
Stage 1	0	0	-	0	0	-	-	-	-	-	-	-
Stage 2	0	0	-	0	0	-	-	-	-	-	-	-
Platoon blocked, %			0			0	0	-	-	0	-	-
Mov Cap-1 Maneuver	-	-	*648	-	-	*737	292	-	-	540	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	13.4	10.35	4.22	0.36
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	292	-	-	648	737	540	-	-
HCM Lane V/C Ratio	0.611	-	-	0.341	0.087	0.109	-	-
HCM Control Delay (s/veh)	34.9	-	-	13.4	10.4	12.5	-	-
HCM Lane LOS	D	-	-	B	B	B	-	-
HCM 95th %tile Q(veh)	3.7	-	-	1.5	0.3	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	99	142	313	734	128	204	320	1171	603	330	1688	72
v/c Ratio	0.47	0.63	0.20	1.12	0.27	0.13	1.02	0.79	0.38	1.45	0.84	0.05
Control Delay (s/veh)	61.6	61.7	0.3	116.4	37.0	0.2	109.5	35.6	0.7	259.8	44.8	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.6	61.7	0.3	116.4	37.0	0.2	109.5	35.6	0.7	259.8	44.8	0.0
Queue Length 50th (ft)	38	106	0	~336	81	0	~132	406	0	~184	434	0
Queue Length 95th (ft)	68	167	0	#457	128	0	#228	536	0	m#241	#581	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	465	1583	657	698	1583	314	1484	1583	228	2006	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.31	0.20	1.12	0.18	0.13	1.02	0.79	0.38	1.45	0.84	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	131	288	675	118	188	294	1077	555	304	1553	66
Future Volume (veh/h)	91	131	288	675	118	188	294	1077	555	304	1553	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	142	0	734	128	0	320	1171	0	330	1688	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	180		662	457		317	1583		230	2146	
Arrive On Green	0.04	0.10	0.00	0.19	0.24	0.00	0.09	0.45	0.00	0.02	0.14	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	99	142	0	734	128	0	320	1171	0	330	1688	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	3.4	8.9	0.0	23.0	6.7	0.0	11.0	32.7	0.0	8.0	38.4	0.0
Cycle Q Clear(g_c), s	3.4	8.9	0.0	23.0	6.7	0.0	11.0	32.7	0.0	8.0	38.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	180		662	457		317	1583		230	2146	
V/C Ratio(X)	0.66	0.79		1.11	0.28		1.01	0.74		1.43	0.79	
Avail Cap(c_a), veh/h	230	468		662	701		317	1583		230	2146	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.5	53.0	0.0	48.5	36.8	0.0	54.5	27.5	0.0	58.7	46.5	0.0
Incr Delay (d2), s/veh	3.6	7.4	0.0	68.5	0.3	0.0	53.2	3.2	0.0	217.7	3.0	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.6	0.0	16.0	3.0	0.0	7.1	14.1	0.0	10.6	18.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.1	60.5	0.0	117.0	37.1	0.0	107.7	30.7	0.0	276.4	49.5	0.0
LnGrp LOS	E	E		F	D		F	C		F	D	
Approach Vol, veh/h		241			862			1491			2018	
Approach Delay, s/veh		60.3			105.1			47.2			86.6	
Approach LOS		E			F			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.0	59.4	29.0	17.6	17.0	56.4	11.2	35.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	8.0	35.0	23.0	30.0	11.0	32.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	10.0	34.7	25.0	10.9	13.0	40.4	5.4	8.7
Green Ext Time (p_c), s	0.0	0.2	0.0	0.7	0.0	0.0	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	75.9
HCM 7th LOS	E

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	266	9	119	140	177	2	1	108	136	0	2
Future Vol, veh/h	4	266	9	119	140	177	2	1	108	136	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	4	289	10	129	152	192	2	1	117	148	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	345	0	0	299	0	0	638	906	149	661	815	172
Stage 1	-	-	-	-	-	-	303	303	-	507	507	-
Stage 2	-	-	-	-	-	-	335	603	-	154	308	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1211	-	-	1259	-	-	362	275	870	348	310	841
Stage 1	-	-	-	-	-	-	682	662	-	516	537	-
Stage 2	-	-	-	-	-	-	653	486	-	833	659	-
Platoon blocked, %	0	-	-		-	-	0	0		0	0	0
Mov Cap-1 Maneuver	1211	-	-	1259	-	-	322	245	870	268	277	841
Mov Cap-2 Maneuver	-	-	-	-	-	-	322	245	-	268	277	-
Stage 1	-	-	-	-	-	-	679	660	-	463	482	-
Stage 2	-	-	-	-	-	-	584	436	-	717	657	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0.14	2.23	10.1	33.68
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	826	49	-	-	1259	-	-	271
HCM Lane V/C Ratio	0.146	0.004	-	-	0.103	-	-	0.554
HCM Control Delay (s/veh)	10.1	8	0	-	8.2	-	-	33.7
HCM Lane LOS	B	A	A	-	A	-	-	D
HCM 95th %tile Q(veh)	0.5	0	-	-	0.3	-	-	3.1

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	146	0	29	80	27	1	9	45	50	7	0
Future Vol, veh/h	0	146	0	29	80	27	1	9	45	50	7	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	159	0	32	87	29	1	10	49	54	8	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	116	0	0	159	0	0	269	338	79	249	323	58
Stage 1	-	-	-	-	-	-	159	159	-	165	165	-
Stage 2	-	-	-	-	-	-	110	179	-	84	159	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1470	-	-	1418	-	-	662	582	965	684	593	996
Stage 1	-	-	-	-	-	-	828	765	-	821	761	-
Stage 2	-	-	-	-	-	-	883	750	-	914	765	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1470	-	-	1418	-	-	639	568	965	624	579	996
Mov Cap-2 Maneuver	-	-	-	-	-	-	639	568	-	624	579	-
Stage 1	-	-	-	-	-	-	828	765	-	802	743	-
Stage 2	-	-	-	-	-	-	854	733	-	857	765	-

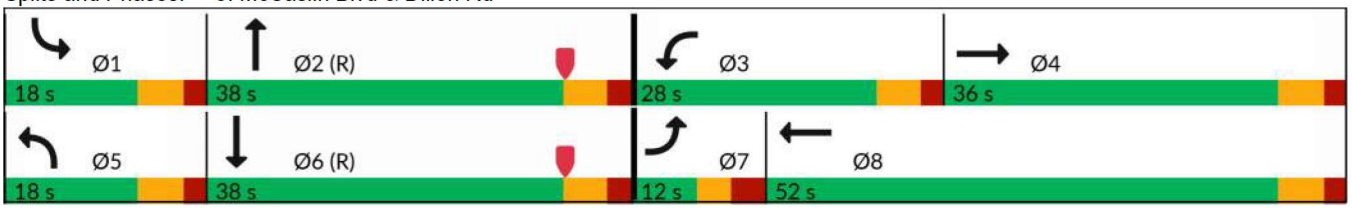
Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	1.68	9.5	11.47
HCM LOS			A	B

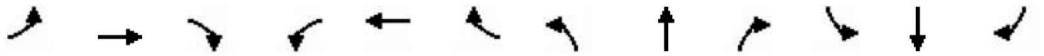
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	859	1470	-	-	567	-	-	618
HCM Lane V/C Ratio	0.07	-	-	-	0.022	-	-	0.1
HCM Control Delay (s/veh)	9.5	0	-	-	7.6	0.1	-	11.5
HCM Lane LOS	A	A	-	-	A	A	-	B
HCM 95th %tile Q(veh)	0.2	0	-	-	0.1	-	-	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	77	115	246	559	103	162	255	896	459	256	1291	52
Future Volume (vph)	77	115	246	559	103	162	255	896	459	256	1291	52
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	36.0		11.0	39.0		11.0	32.0		11.0	30.0	
Total Split (s)	12.0	36.0		28.0	52.0		18.0	38.0		18.0	38.0	
Total Split (%)	10.0%	30.0%		23.3%	43.3%		15.0%	31.7%		15.0%	31.7%	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	5.9	13.7	120.0	22.0	32.1	120.0	11.8	48.5	120.0	11.8	48.5	120.0
Actuated g/C Ratio	0.05	0.11	1.00	0.18	0.27	1.00	0.10	0.40	1.00	0.10	0.40	1.00
v/c Ratio	0.50	0.59	0.17	0.97	0.22	0.11	0.82	0.68	0.32	0.82	0.68	0.04
Control Delay (s/veh)	66.0	61.3	0.2	77.5	36.0	0.1	73.2	33.0	0.5	76.6	37.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.0	61.3	0.2	77.5	36.0	0.1	73.2	33.0	0.5	76.6	37.7	0.0
LOS	E	E	A	E	D	A	E	C	A	E	D	A
Approach Delay (s/veh)		27.9			57.1			30.1			42.7	
Approach LOS		C			E			C			D	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 20 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 105	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.97	
Intersection Signal Delay (s/veh): 39.3	Intersection LOS: D
Intersection Capacity Utilization 69.8%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 5: McCaslin Blvd & Dillon Rd

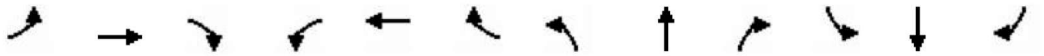




Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	84	125	267	608	112	176	277	974	499	278	1403	57
v/c Ratio	0.50	0.59	0.17	0.97	0.22	0.11	0.82	0.68	0.32	0.82	0.68	0.04
Control Delay (s/veh)	66.0	61.3	0.2	77.5	36.0	0.1	73.2	33.0	0.5	76.6	37.7	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	66.0	61.3	0.2	77.5	36.0	0.1	73.2	33.0	0.5	76.6	37.7	0.0
Queue Length 50th (ft)	33	94	0	243	70	0	109	321	0	117	324	0
Queue Length 95th (ft)	60	151	0	#359	114	0	#176	427	0	#180	456	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	171	465	1583	629	714	1583	343	1431	1583	343	2056	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.27	0.17	0.97	0.16	0.11	0.81	0.68	0.32	0.81	0.68	0.04

Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	115	246	559	103	162	255	896	459	256	1291	52
Future Volume (veh/h)	77	115	246	559	103	162	255	896	459	256	1291	52
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	84	125	0	608	112	0	277	974	0	278	1403	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	135	162		634	432		331	1538		335	2216	
Arrive On Green	0.04	0.09	0.00	0.18	0.23	0.00	0.10	0.43	0.00	0.03	0.14	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	84	125	0	608	112	0	277	974	0	278	1403	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	2.9	7.8	0.0	20.9	5.9	0.0	9.5	25.7	0.0	9.6	31.1	0.0
Cycle Q Clear(g_c), s	2.9	7.8	0.0	20.9	5.9	0.0	9.5	25.7	0.0	9.6	31.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	162		634	432		331	1538		335	2216	
V/C Ratio(X)	0.62	0.77		0.96	0.26		0.84	0.63		0.83	0.63	
Avail Cap(c_a), veh/h	173	468		634	717		346	1538		346	2216	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.8	53.6	0.0	48.6	37.7	0.0	53.3	26.6	0.0	57.1	42.4	0.0
Incr Delay (d2), s/veh	3.4	7.5	0.0	25.9	0.3	0.0	15.3	2.0	0.0	14.8	1.4	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	4.0	0.0	11.1	2.7	0.0	4.8	11.0	0.0	5.1	14.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.2	61.1	0.0	74.5	38.1	0.0	68.7	28.6	0.0	71.9	43.8	0.0
LnGrp LOS	E	E		E	D		E	C		E	D	
Approach Vol, veh/h		209			720			1251			1681	
Approach Delay, s/veh		60.7			68.8			37.5			48.4	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	57.9	28.0	16.4	17.5	58.1	10.7	33.7
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	12.0	32.0	22.0	30.0	12.0	32.0	6.0	46.0
Max Q Clear Time (g_c+I1), s	11.6	27.7	22.9	9.8	11.5	33.1	4.9	7.9
Green Ext Time (p_c), s	0.0	3.2	0.0	0.6	0.0	0.0	0.0	0.6

Intersection Summary	
HCM 7th Control Delay, s/veh	49.3
HCM 7th LOS	D

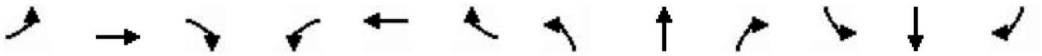
Notes

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	91	131	288	675	118	188	294	1077	555	304	1553	66
Future Volume (vph)	91	131	288	675	118	188	294	1077	555	304	1553	66
Turn Type	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free	Prot	NA	Free
Protected Phases	7	4		3	8		5	2		1	6	
Permitted Phases			Free			Free			Free			Free
Detector Phase	7	4		3	8		5	2		1	6	
Switch Phase												
Minimum Initial (s)	5.0	10.0		5.0	5.0		5.0	10.0		5.0	10.0	
Minimum Split (s)	11.0	36.0		11.0	39.0		11.0	32.0		11.0	30.0	
Total Split (s)	14.0	33.0		32.0	51.0		30.0	27.0		28.0	25.0	
Total Split (%)	11.7%	27.5%		26.7%	42.5%		25.0%	22.5%		23.3%	20.8%	
Yellow Time (s)	3.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	3.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	6.0	6.0		6.0	6.0		6.0	6.0		6.0	6.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Act Effct Green (s)	7.4	14.6	120.0	26.0	33.2	120.0	16.0	39.1	120.0	16.3	39.4	120.0
Actuated g/C Ratio	0.06	0.12	1.00	0.22	0.28	1.00	0.13	0.33	1.00	0.14	0.33	1.00
v/c Ratio	0.47	0.63	0.20	0.99	0.25	0.13	0.70	1.02	0.38	0.71	1.01	0.05
Control Delay (s/veh)	61.6	61.8	0.3	77.3	34.4	0.2	58.0	71.4	0.7	66.1	67.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.6	61.8	0.3	77.3	34.4	0.2	58.0	71.4	0.7	66.1	67.2	0.0
LOS	E	E	A	E	C	A	E	E	A	E	E	A
Approach Delay (s/veh)		27.0			57.4			49.0			64.7	
Approach LOS		C			E			D			E	

Intersection Summary	
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 20 (17%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 145	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.02	
Intersection Signal Delay (s/veh): 54.1	Intersection LOS: D
Intersection Capacity Utilization 86.0%	ICU Level of Service E
Analysis Period (min) 15	

Splits and Phases: 5: McCaslin Blvd & Dillon Rd



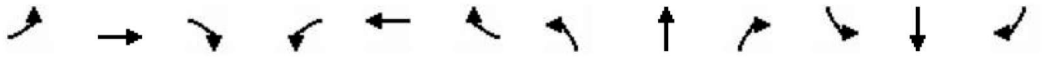
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	99	142	313	734	128	204	320	1171	603	330	1688	72
v/c Ratio	0.47	0.63	0.20	0.99	0.25	0.13	0.70	1.02	0.38	0.71	1.01	0.05
Control Delay (s/veh)	61.6	61.8	0.3	77.3	34.4	0.2	58.0	71.4	0.7	66.1	67.2	0.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay (s/veh)	61.6	61.8	0.3	77.3	34.4	0.2	58.0	71.4	0.7	66.1	67.2	0.0
Queue Length 50th (ft)	38	106	0	294	78	0	123	~487	0	138	~443	0
Queue Length 95th (ft)	68	167	0	#422	123	0	165	#760	0	m163	#740	m0
Internal Link Dist (ft)		457			420			285			453	
Turn Bay Length (ft)	130		150	280		250	450		150	250		100
Base Capacity (vph)	228	419	1583	743	698	1583	686	1152	1583	629	1669	1583
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.34	0.20	0.99	0.18	0.13	0.47	1.02	0.38	0.52	1.01	0.05

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	91	131	288	675	118	188	294	1077	555	304	1553	66
Future Volume (veh/h)	91	131	288	675	118	188	294	1077	555	304	1553	66
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	142	0	734	128	0	320	1171	0	330	1688	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	151	179		749	503		389	1323		398	1914	
Arrive On Green	0.04	0.10	0.00	0.22	0.27	0.00	0.11	0.37	0.00	0.12	0.37	0.00
Sat Flow, veh/h	3456	1870	1585	3456	1870	1585	3456	3554	1585	3456	5106	1585
Grp Volume(v), veh/h	99	142	0	734	128	0	320	1171	0	330	1688	0
Grp Sat Flow(s),veh/h/ln	1728	1870	1585	1728	1870	1585	1728	1777	1585	1728	1702	1585
Q Serve(g_s), s	3.4	8.9	0.0	25.4	6.4	0.0	10.9	37.0	0.0	11.2	37.0	0.0
Cycle Q Clear(g_c), s	3.4	8.9	0.0	25.4	6.4	0.0	10.9	37.0	0.0	11.2	37.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	151	179		749	503		389	1323		398	1914	
V/C Ratio(X)	0.66	0.79		0.98	0.25		0.82	0.88		0.83	0.88	
Avail Cap(c_a), veh/h	230	421		749	701		691	1323		634	1914	
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	56.5	53.1	0.0	46.7	34.4	0.0	52.1	35.3	0.0	51.9	35.0	0.0
Incr Delay (d2), s/veh	3.6	7.6	0.0	27.9	0.3	0.0	3.3	8.9	0.0	4.1	6.3	0.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	4.6	0.0	13.5	2.9	0.0	4.8	17.2	0.0	5.0	16.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	60.1	60.7	0.0	74.6	34.7	0.0	55.4	44.2	0.0	56.0	41.3	0.0
LnGrp LOS	E	E		E	C		E	D		E	D	
Approach Vol, veh/h		241			862			1491			2018	
Approach Delay, s/veh		60.4			68.7			46.6			43.7	
Approach LOS		E			E			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.8	50.7	32.0	17.5	19.5	51.0	11.2	38.3
Change Period (Y+Rc), s	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Max Green Setting (Gmax), s	22.0	21.0	26.0	27.0	24.0	19.0	8.0	45.0
Max Q Clear Time (g_c+I1), s	13.2	39.0	27.4	10.9	12.9	39.0	5.4	8.4
Green Ext Time (p_c), s	0.6	0.0	0.0	0.6	0.6	0.0	0.0	0.7

Intersection Summary	
HCM 7th Control Delay, s/veh	50.2
HCM 7th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

Unsignalized Delay for [NBR, EBR, WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

City Council

May 20, 2025

1171 W Dillon Road – King Soopers Marketplace

Approval of Resolution No. 32, Series 2025, recommending approval of a Planned Unit Development (PUD) Amendment tom allow a grocery store and gasoline service station use

City of Louisville

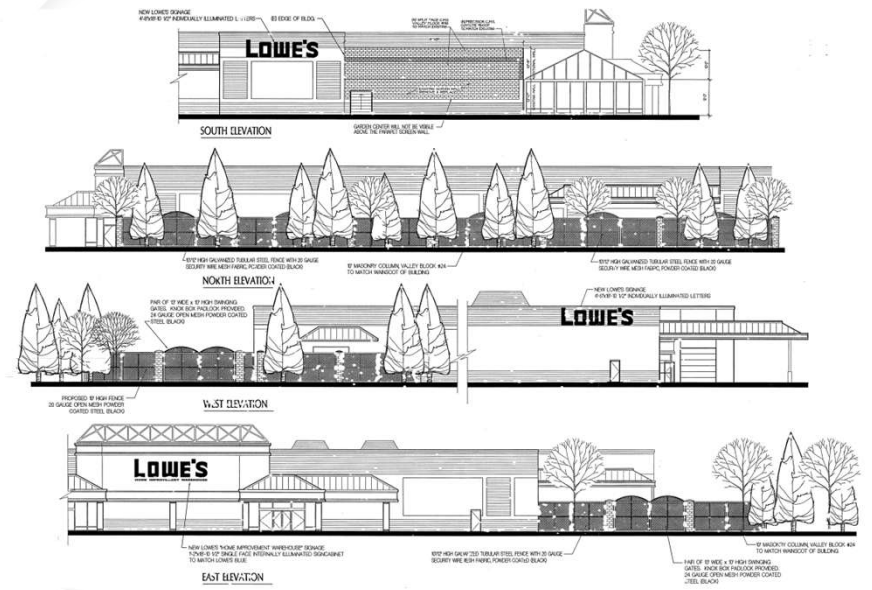
Application Request:

- Planned Unit Development (PUD) Amendment
- Renovate and modify existing building and site to allow a retail (grocery) store use.
- Accessory gasoline service station use

City of Louisville

Background:

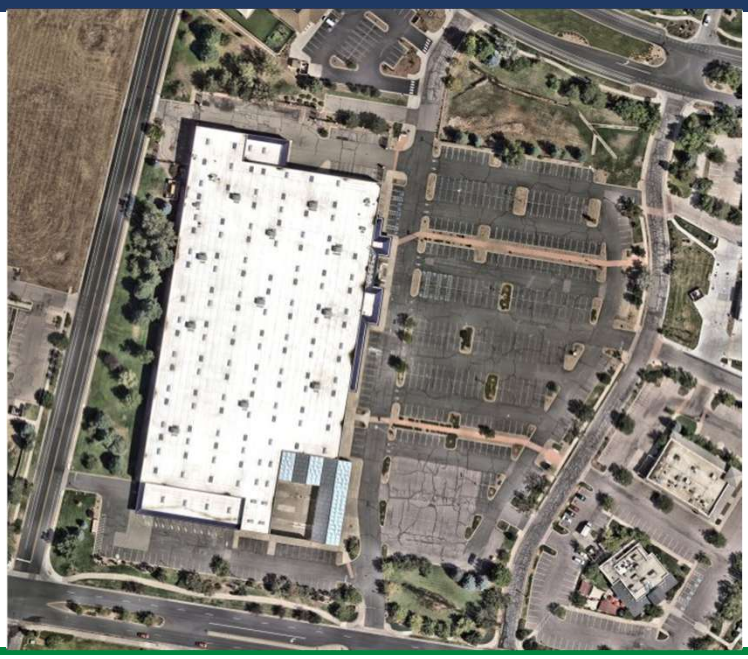
- Site originally developed in 1996 as an Eagle Hardware.
- Lowe's acquired Eagle in 1999, received PUD Amendment approval in 2001



City of Louisville

Background:

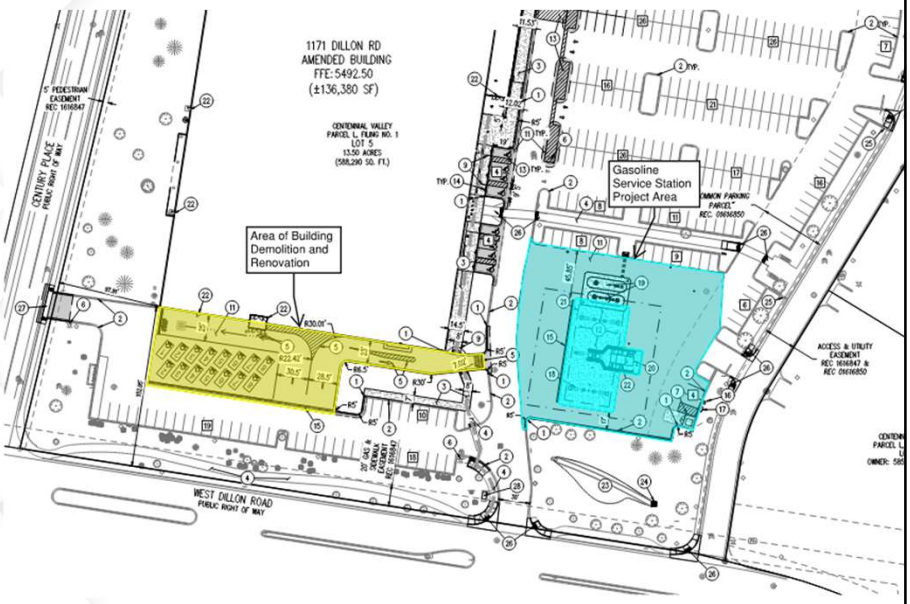
- Located in the PCZD-C zone district
- Subject to the Centennial Valley GDP
- Lowe's acquired Eagle in 1999, received PUD Amendment approval in 2001



City of Louisville

Proposal:

- Demolish a portion of the existing building.
- Will include a gasoline service station as accessory to the primary retail use
- 448 parking spaces provided



City of Louisville

1171 W Dillon Road – King Soopers Market Place

Staff Analysis:

- Commercial Development Design Standards and Guidelines
- LMC General Regulations
- LMC PUD Review Criteria

City of Louisville

Analysis:

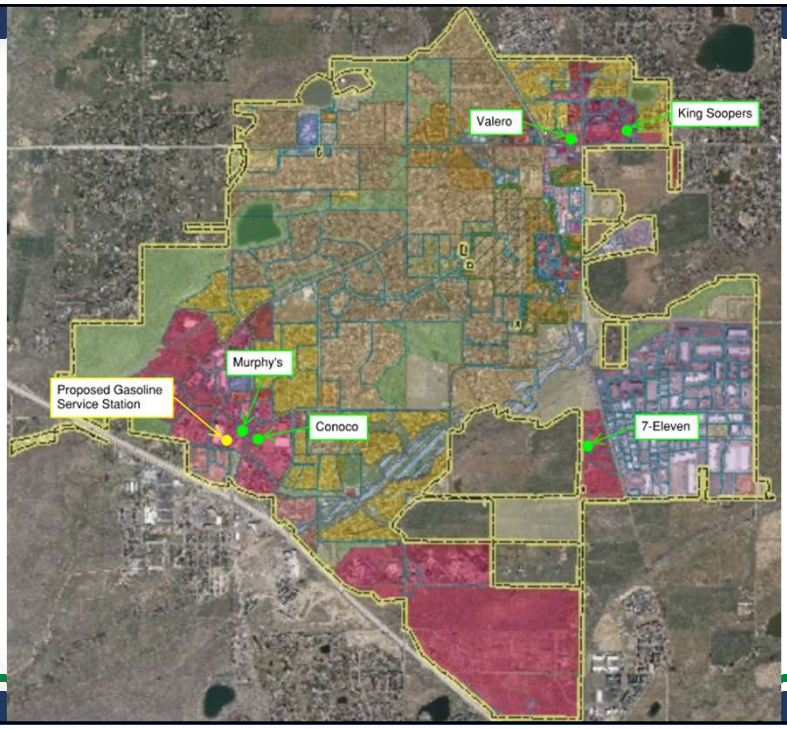
- Grocery store and gasoline service stations permitted as by-right uses.
- Gasoline service station subject to supplemental standards.

RIGHT (SOUTH) ELEVATION

NORTH EAST CORNER FROM PARKING LOT PROPERTY LINE

Analysis Cont.:

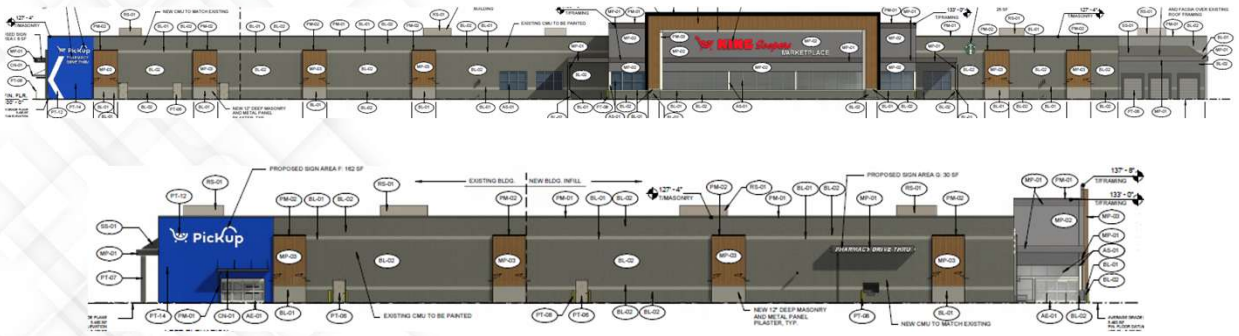
- Gasoline service station supplemental standards:
  - Limited to six, except seven may be allowed when accessory to retail center >80K sf
  - 1,000-foot spacing between gas stations, except the requirement is waived when accessory to retail center >80K sf



City of Louisville

Analysis Cont.:

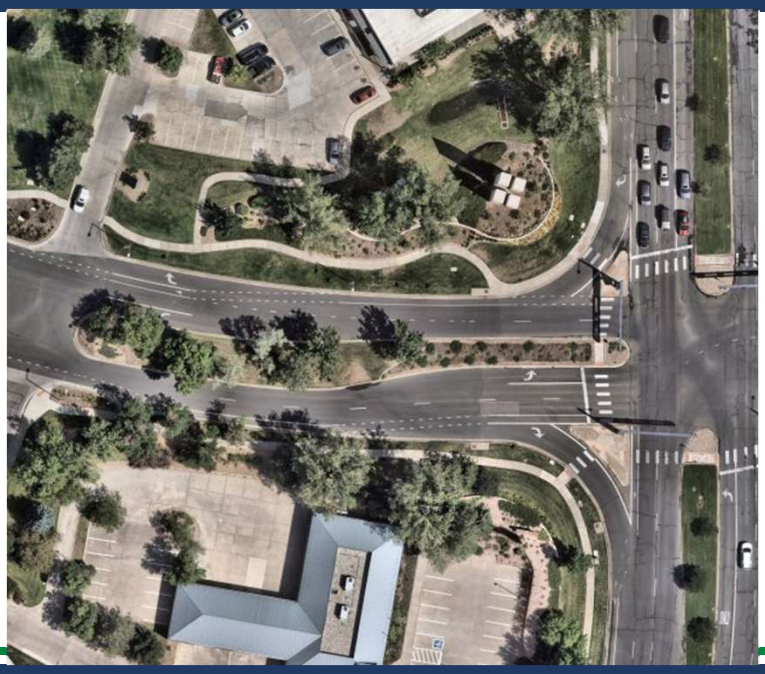
- Exterior to be painted a muted color, architecturally enhanced pilasters, and a prominent storefront system and entry feature is proposed.
- New landscaping throughout the site.



City of Louisville

Analysis Cont.:

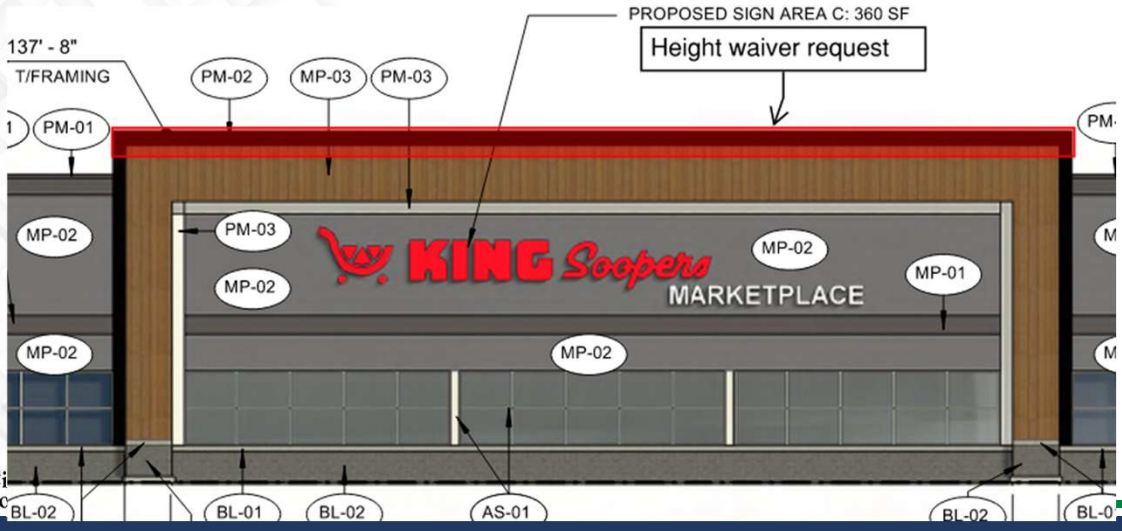
- Traffic Impact Study prepared for review, recommended to:
  - Monitor signal timing at Dillon Rd and McCaslin Blvd intersection
  - Eastbound left turn lane at Centennial Parkway and McCaslin Boulevard be extended



City of Louisville

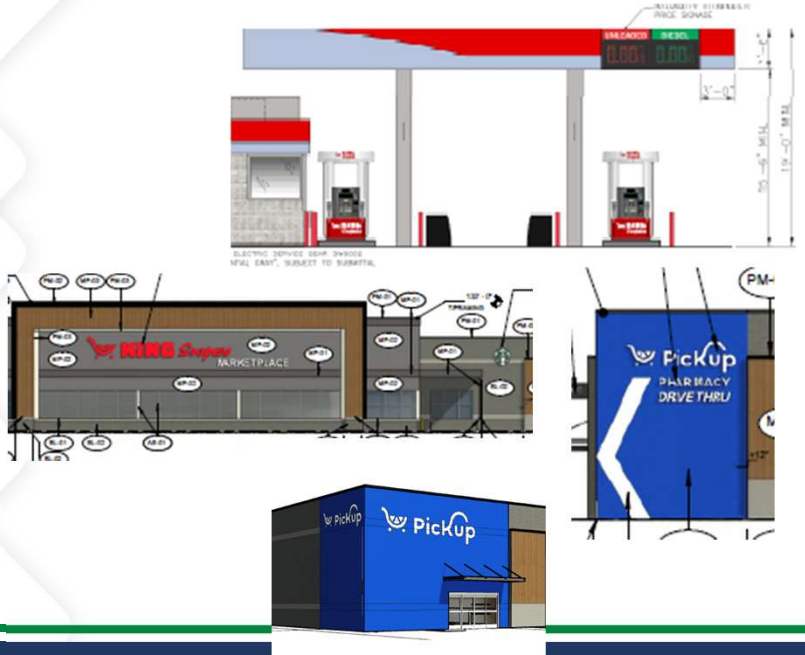
Waiver request:

- Relief from 35-foot height limitation.



Waiver request:

- Sign Waiver
  - Number of wall signs
  - Size of wall signs
  - Electronic message sign station canopy.



City of Louisville

Parking Reduction Request:

- 614 parking spaces required
- 433 parking spaces proposed

City of Louisville

1171 W Dillon Road – King Soopers Market Place

Approval of Resolution No. 32, Series 2025 – Approving a Planned Unit Development (PUD) Amendment to allow a grocery store and gasoline service station use with the following conditions:

- The applicant shall include landscape screening on the property boundary at 585 S McCaslin Blvd (Murphy's Tap House).

City of Louisville

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 8I

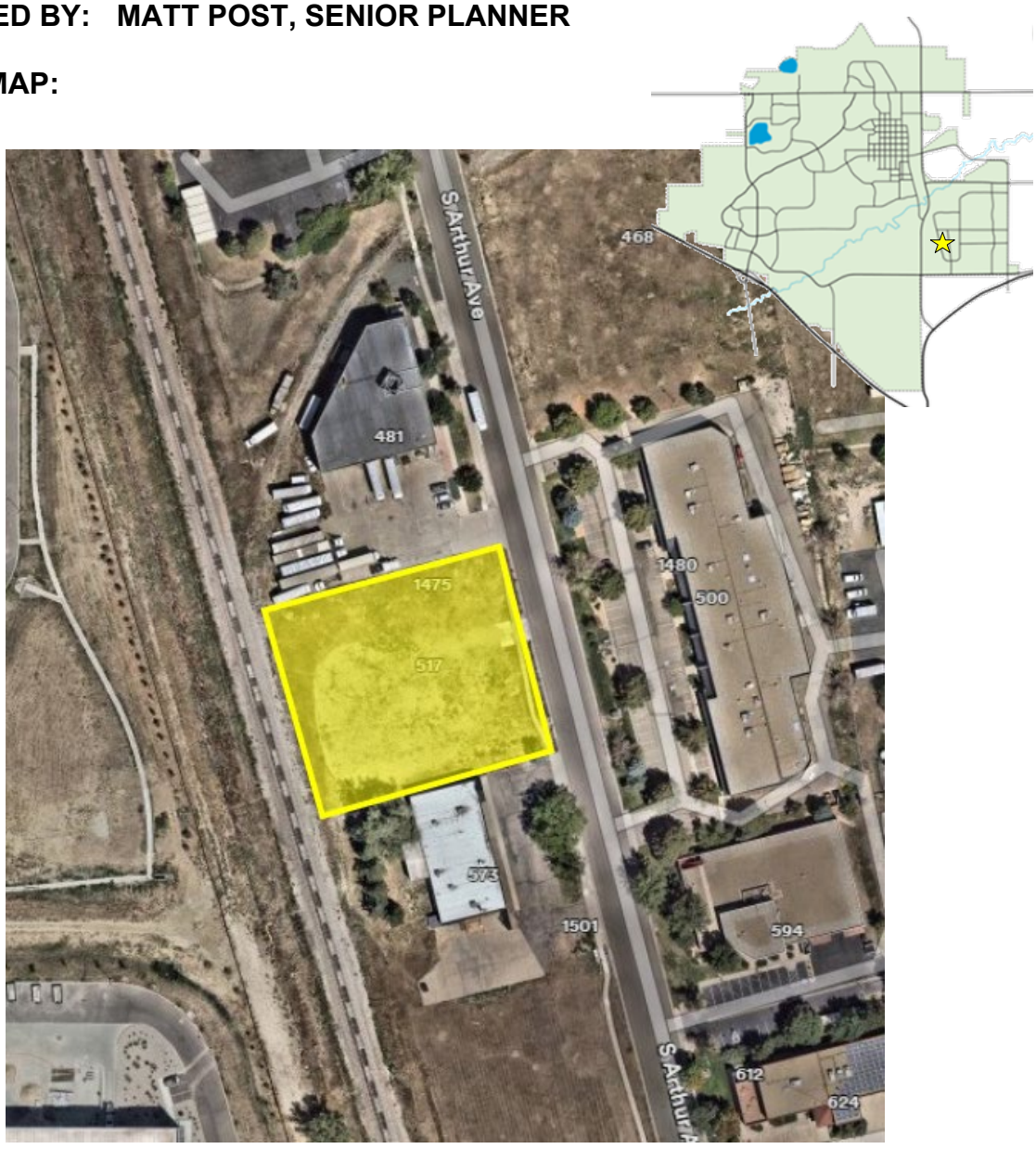
SUBJECT: RESOLUTION NO. 33, SERIES 2025 – A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT TO ALLOW CONSTRUCTION OF A 16,294 SQUARE FOOT INDUSTRIAL / FLEX SPACE BUILDING AT 517 S. ARTHUR AVENUE

DATE: MAY 20, 2025

PREPARED BY: MATT POST, SENIOR PLANNER

PRESENTED BY: MATT POST, SENIOR PLANNER

VICINITY MAP:



SUMMARY:
The applicant, The Beck Group, requests approval of a final Planned Unit Development (PUD) Amendment to allow construction of a 16,294 square-foot industrial/office flex building and associated site improvements at 517 S. Arthur Avenue.

BACKGROUND / PRIOR DISCUSSIONS:
The subject property is vacant, .86 acre lot located in the Colorado Technology Center (CTC). The land is zoned Industrial (I) and development is governed primarily by the Industrial Development Design Standards and Guidelines (IDDSG). The lot fronts S. Arthur Avenue on the east and is bound on the north and south sides by existing industrial structures. The BNSF railway bounds the lot on the west.

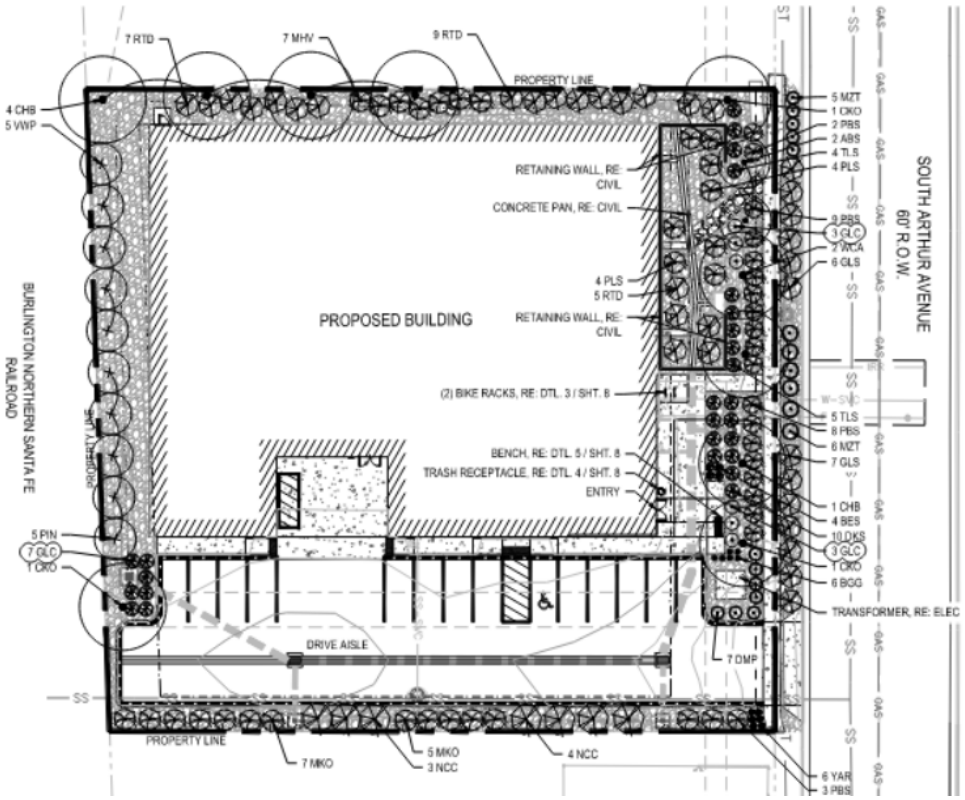
- The City Council approved the Colorado Technological Center First Filing plat for the property in 1979.

- The City Council approved the Red Gold Bottling Corp. PUD in April 1992, which allowed for a second phase expansion of the building to the south of this site onto the subject property. The second phase of the PUD was never implemented, and the site has remained vacant and undeveloped.

Zoning Vicinity Map

DEVELOPMENT PROPOSAL:

The application proposes a 16,294 square-foot flexible office building with a prominent corner entrance on the southeast side of the building that addresses the primary street frontage of S. Arthur Avenue. The building will be just over 26 feet tall. The interior space is anticipated to include +/- 14,700 square feet of warehouse area, with the remaining +/- 1,600 square feet dedicated to office and support areas. The remainder of the site will be developed with parking, landscaping, and detention and water quality areas. Site access is provided from the east, offering entry to the parking and loading areas located along the building's south façade. The required water quality and detention facilities are situated on the east side of the site, between the building and the adjacent street.



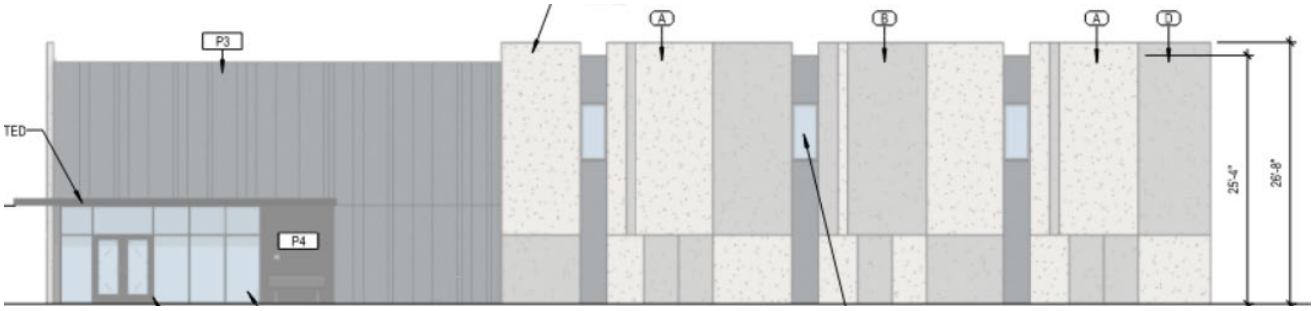
Site Plan

The site's primary access point provides entry to the parking and loading area on the south side of the building. The site will include 14 parking spaces, with one electric vehicle (EV) charging station, one EV-ready space, and 2 EV capable spaces. As part of this application, the applicant is requesting a parking reduction. Further analysis is provided below. The parking lot provides access to a recessed loading and service area on the south side of the building where the trash enclosure is located. An emergency fire hammerhead turnaround is located within the parking area and was approved by the Louisville Fire Protection District.

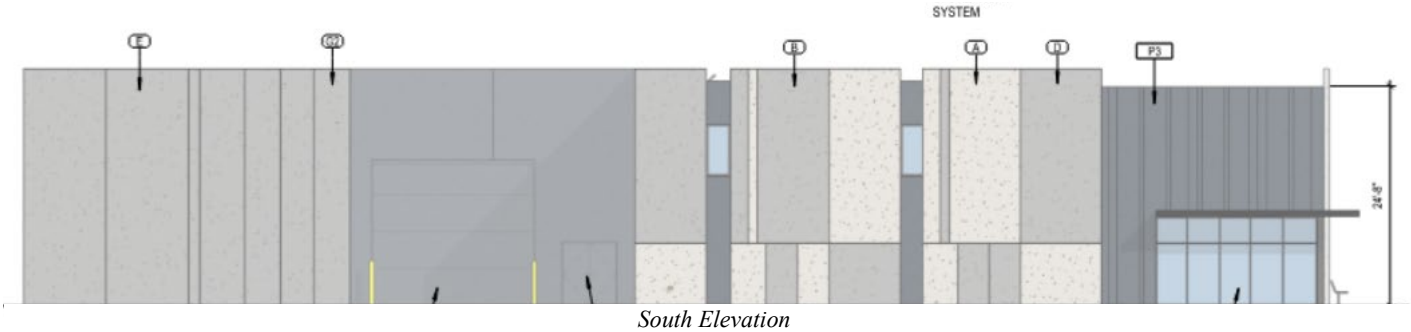
The site and use are generally auto oriented, so pedestrian paths and a plaza space are provided adjacent to the building and at the building entrance as required by the IDDSG, while an internal pedestrian path connects the site to the existing sidewalk on S. Arthur Avenue.

Approximately 24 percent of the site is landscaped, falling just below the 25 percent minimum required by the IDDSG. Additionally, 22 trees are proposed, whereas 24 are required. As such, the applicant is requesting a waiver for both the landscape coverage and tree buffer requirements. Further analysis is provided below. Landscape buffering is required along the north and south property lines, with one tree for every 30 linear feet of shared property line, based on half the lot's depth. The site includes 136 low-water shrubs, perennials, and ornamental grasses.

The building will be constructed of concrete tilt-up wall panels which are designed with varied patterns, form liners, and accent paint colors to provide the required design articulation in accordance with the IDDSG. The primary storefront entrance to the office area is highlighted by an open sunshade structure, while clerestory punched openings are located along the building's perimeter to enhance visual interest and provided daylighting. The elevations include variations in the parapet height and articulation in the building façade, which when combined with the variation in materials, create architectural interest and appropriate design for the Industrial zone district.



East Elevation



South Elevation

ANALYSIS:
The PUD is subject to the IDDSG and the review criteria in Section 17.28.120 of the Louisville Municipal Code (LMC).

IDDSG Analysis
IDDSG: 1. Site Planning
This application complies with these standards with requested waivers (see further analysis below), including all minimum setbacks and building and site orientation requirements. Site coverage is just under the minimum standard for landscape coverage, though the applicant has requested consideration of a waiver for this element.

The applicant has requested a waiver for a minor encroachment into the rear setback. The proposal includes a new pedestrian connection to S. Arthur Avenue and a pedestrian path through the site where appropriate. The trash enclosure is located within the recessed loading area to minimize visibility from street view. The proposal meets the site standards for site grading and drainage in the IDDSG.

IDDSG: 2. Vehicular Circulation and Parking
Access is accommodated by a single drive from S. Arthur Avenue. The drive aisles and overall sight circulation patterns were designed for ease of vehicular entry and exit and, while fire access and a hammerhead turnaround are provided on site. With the requested parking waiver and parking space size waiver, the parking lot meets all design requirements IDDSG.

IDDSG: 3. Pedestrian and Bicycle Circulation
The applicant proposes a new pedestrian connection to S. Arthur Avenue and bicycle parking consistent with the standards of the IDDSG. Bicycle parking is located on the east side of the building at the main entrance. With a requested waiver for a reduction in overall parking space length, the applicant is able to maintain an unobstructed 5-foot pedestrian way for on-site sidewalks adjacent to head-in parking spaces.

IDDSG: 4. Architectural Design
The building layout includes a storefront-style entry with primary orientation toward S. Arthur Avenue. The primary service entry is on the south-side of the building and recessed into the building façade. The building incorporates architectural features to reduce the apparent massing of the building including roofline variation, color variation, building articulation, and the primary entrance storefront system. The materials and color palette of the building satisfy the standards required by the IDDSG.

IDDSG: 5. Landscape Design
Streetscape plantings along S. Arthur Avenue meet the minimum 1 tree per 20 linear feet ratio with appropriate species and includes more shrubs than required. The applicant has requested a waiver from the requirement that 1 tree per 30 linear feet be planted between adjacent land with the same zoning on the south side of the site, including a reduction to

the total width of the required buffer in some areas – the majority of the required trees are planted on the west side of the site. In total, 22 trees are proposed where 24 are required. The rest of the site is landscaped with 136 low-water shrubs, perennials, and grasses, and no turf is proposed. With the requested waivers, landscape design on the site is in conformance with IDDSG standards.

IDDSG: 6. Fences and Walls
The application includes a retaining wall associated with the grading and drainage on the east side of the site, and no fences are proposed as part of this application. The walls as proposed are in conformance with IDDSG standards.

IDDSG: 8. Exterior Site Lighting
The application includes wall mounted LED lights with their proposal. All fixtures with warm light temperatures, and the photometric plan aligns with the standards of the IDDSG.

Parking Reduction
Pursuant to LMC Sec. 17.20.080, the City Council may reduce the number of required parking spaces on site in consideration of a number of factors, including the parking needs of nondwelling users.

In accordance with Section 2.2.1.L of the IDDSG, the minimum required parking ratio is 4 spaces per 1,000 square feet (1:250) for office use and 1 space per 1,000 square feet (1:1000) for warehouse use. Based on the total square footage and the mix of uses within the proposed development, the calculated parking requirement is 22 spaces. However, the applicant is requesting a reduction to provide 13 spaces, supported by the specific operational characteristics of the proposed use.

The primary justification for this reduction is the minimal proportion of office space within the development, paired with the low employee density and limited visitor traffic typically associated with the proposed warehouse use. The facility is designed for light industrial operations with a small administrative component, meaning most of the building will be occupied by storage, staging, and/or distribution activities, which do not require high parking demand.

This approach aligns with the intent of the IDDSG to ensure adequate parking without encouraging excess impervious coverage or underutilized space. **Staff support the request for a parking reduction on this site.**

Waiver Requests
Section 17.28.110 of the Louisville Municipal Code sets forth the PUD waiver process and criteria. The application includes the following waiver requests:

- Section 2.2.1.I of the IDDSG requires a minimum parking space size of nine feet wide by 19 feet deep. The applicant is requesting a waiver to allow parking space sizes of 8’ 6” wide by 17’ 6” deep. This request is consistent with current development trends and best practices that support more efficient land use. The proposed dimensions remain functional for standard passenger vehicles and are commonly accepted in comparable light-industrial developments where maximizing site efficiency is a priority.

  Additionally, the proposed depth of 17’6” corresponds directly to the adjacent pedestrian pathways, which run perpendicular to the parking spaces and are 6’6” wide. This configuration allows for a 1’6” bumper overhang into the pedestrian zone while maintaining a clear, unobstructed pedestrian path of five feet. This approach not only preserves safe and comfortable pedestrian circulation but also optimizes site layout and reduces unnecessary impervious surface area, aligning with broader sustainability and design objectives. **Staff support this waiver request.**

- Section 2.1.1.C of the IDDSG requires a two-way drive aisle width of 28 feet. The applicant is requesting a waiver to allow a reduced drive aisle width of 24 feet. Staff supports this request, as the Louisville Fire Protection District has confirmed that a 24-foot width is sufficient to accommodate emergency access on the site where aerials apparatus access requirements are not applicable. Additionally, a 24-foot drive aisle width aligns with modern development practices for efficient site design and functionality. **Staff support this waiver request.**

- Section 5.2.A.1 of the IDDSG requires a 10-foot wide landscape buffer between properties within the same district. Within the buffer area, one tree for every 30 linear feet shall be planted for half the depth of the lot, in addition to shrubs and/or ground cover.

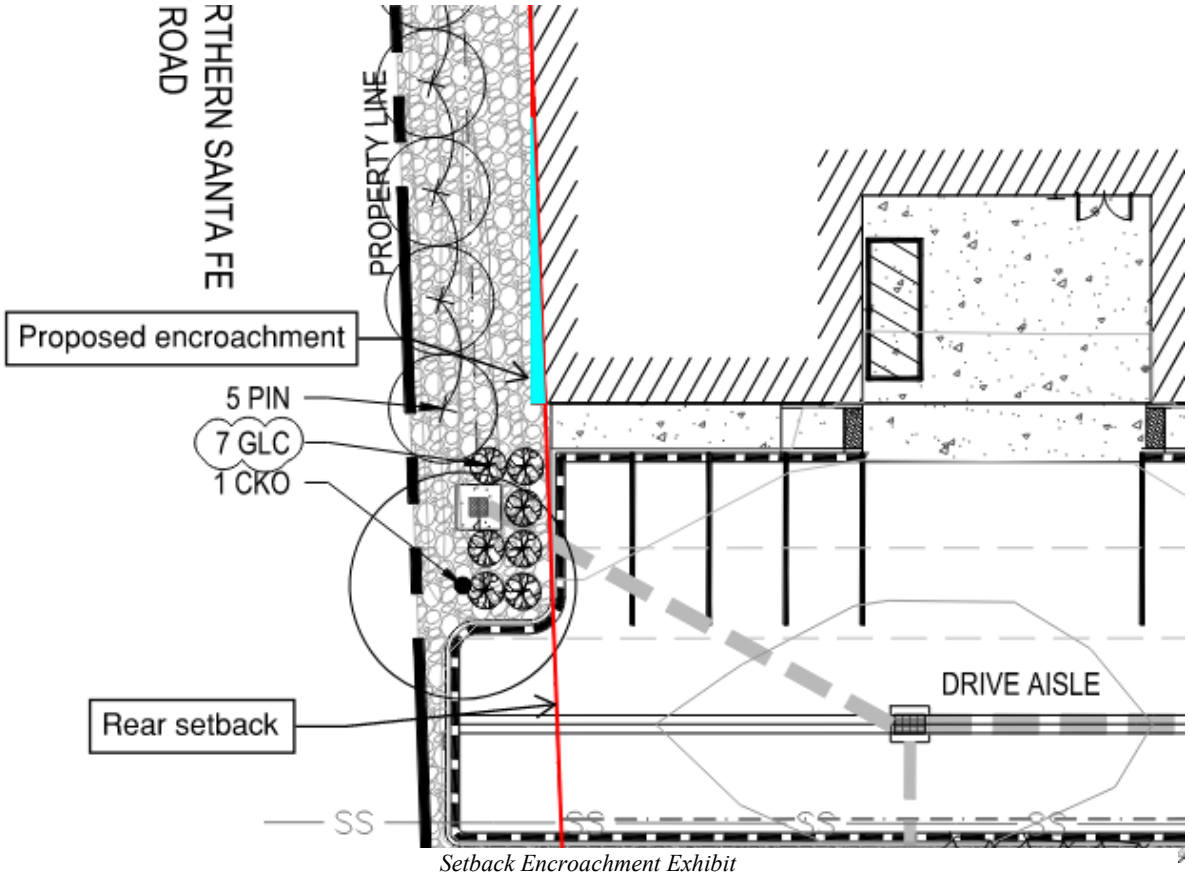
  Due to specific site constraints, the applicant is requesting a waiver to allow a reduced buffer width in two locations. At the southwest corner of the site, the buffer narrows to 2’ 2 ½” to accommodate an extended drive aisle. This configuration is necessary to provide adequate access and maneuverability for fire apparatus and to meet applicable emergency service requirements. Along the southern edge of the property, the landscape buffer is reduced to 7’ 6”” due to the presence of multiple easements, which significantly limit the available planting area and restrict the placement of permanent landscaping features.

  In response to these constraints, the applicant has proposed an alternative solution that includes a row of dense, mid-height shrub plantings in the affected areas. These plantings will effectively provide visual screening and enhance the site’s aesthetic appeal. The proposed shrub species will mature to heights ranging from 5

to 10 feet, ensuring adequate buffering while maintaining flexibility in the site's layout.

Staff finds that the overall intent of the buffer standards, providing separation and visual relief between uses, has been maintained. **Staff support this waiver request**

- Section 1.2 of the IDDSG requires a minimum rear setback of 15 feet, which in this case applies to the west side of the property. The applicant is requesting an encroachment of 1' 6' into the rear setback area at the southern end of the building.



Setback Encroachment Exhibit

This request is driven by the unique geometry of the lot. The property is configured with an oblique shape that tapers toward the south, creating a pinching point where the rear lot line converges with the building footprint. As a result, maintaining a consistent 15-foot setback along the entire rear façade presents a practical challenge without compromising the building's functional layout. The proposed encroachment is limited in scope and location, affecting a small portion of the

building. The property to the west is BNSF rail line, so negative adjacent impacts are minimal. **Staff support the waiver as requested.**

- Section 1.4.B of the IDDSG requires that 25 percent of the industrial site be landscaped. The applicant is requesting a reduction to 24 percent. This request arises from the physical constraints of the site, including multiple easements that limit the available buildable and landscapeable area, particularly along the southern portion of the property. These easements impact both the placement of the building and the configuration of site improvements, resulting in a site layout that restricts the ability to meet the full 25 percent landscaping threshold without compromising functionality

  Despite the reduction in landscaped area, the applicant has prioritized high-quality, sustainable landscape design. The proposed plan includes 22 trees and 136 low-water-use shrubs, with no turfgrass, aligning with water conservation goals and modern best practices. The landscape design provides visual buffering, supports stormwater management, and enhances the overall aesthetic value of the site. **Staff support the waiver as requested.**

- Chapter 5 of the Industrial Design and Development Standards and Guidelines (IDDSG) requires that trees be provided in several key areas of a development site, including adjacent to the building, within the streetscape setback and public right-of-way, in parking areas, and as a buffer between similar uses within the same zoning district. Based on these standards, a total of 24 trees are required, and the applicant is proposing to plant 22 trees.

  The two omitted trees are associated with the required buffer on the south side of the site, intended to screen similar uses within the same zoning district. In lieu of trees, the applicant has proposed dense, mid-height shrub plantings in these locations. These shrubs will provide effective visual screening and contribute to the site's overall aesthetic. The selected species are expected to reach mature heights between 5 and 10 feet, offering an appropriate level of buffering while allowing for greater flexibility in site design. In addition, ten evergreen trees are proposed along the west side of the property to help offset the reduction in overall tree count.

- Section 2.1.1.F of the IDDSG requires that new driveways be located a minimum of 75 feet from adjacent access points. Due to the relatively small size of the site and the presence of existing driveways on both the north and south sides of the property, strict compliance with this standard is not feasible. The applicant is therefore requesting a waiver to allow a reduced spacing of 42 feet between the proposed driveway and the nearest neighboring access point.

The proposed driveway location has been reviewed by the Public Works Department, who identified no operational or safety concerns with the proposed configuration. **Staff support the waiver as requested.**

2025 COUNCIL WORK PLAN:
N/A - This is a development item and is not part of the 2025 Council Work Plan.

FISCAL IMPACT:
Budgeted?: **Not Applicable**

ALTERNATIVE(S):
The City Council may approve, approve with conditions, or deny the application based on compliance with the relevant review criteria and waiver criteria.

PLANNING COMMISSION RECOMMENDATION:
On April 10, 2025, The Planning Commission recommended approval of Resolution 4, Series 2025, approval of a Planned Unit Development Amendment to allow a new industrial/flex building at 517 S. Arthur Avenue in the Colorado Technology Center. Planning Commission meeting minutes are attached.

RECOMMENDATION:
Staff recommend approval of Resolution 33, Series 2025, approving a Planned Unit Development Amendment to allow a new industrial/flex building at 517 S. Arthur Avenue in the Colorado Technology Center

ATTACHMENT(S):
1. Resolution No. 33, Series 2025
2. Planning Commission Resolution
3. Planning Commission Minutes
4. Application Materials and PUD
5. Presentation

APPENDIX: PUD Criteria Analysis – 517 S. ARTHUR AVENUE PUD

Criteria 17.28.120 (A)	Finding	Narrative
1. An appropriate relationship to the surrounding area.	Compliant	The use is appropriate for the area and permitted in the Industrial zone district. The site design is consistent with the context of the surrounding area.
2. Circulation in terms of the internal street circulation system, designed for the type of traffic generated, safety, separation from living areas, convenience, access, and noise and exhaust control. Proper circulation in parking areas in terms of safety, convenience, separation and screening.	Compliant	The application provides for adequate and safe internal circulation. The applicant has provided a shared access point with the property to the south, which is encouraged in the IDDSG.
3. Consideration and provision for low and moderate-income housing	Not applicable	The property is zoned Industrial; residential uses are not allowed.
4. Functional open space in terms of optimum preservation of natural features, including trees and drainage areas, recreation, views, density relief and convenience of function	Compliant	The PUD complies with landscape requirements in Chapter 5 of the IDDSG with the requested waivers.
5. Variety in terms of housing types, densities, facilities and open space	Not applicable	The property is zoned Industrial; residential uses are not allowed.
6. Privacy in terms of the needs of individuals, families and neighbors	Compliant	The PUD complies with site planning provisions in the IDDSG, assuring appropriate privacy of neighboring properties.
7. Pedestrian and bicycle traffic in terms of safety, separation, convenience, access points of destination and attractiveness	Compliant	The PUD complies with pedestrian and bicycle requirements in the IDDSG, ensuring adequate pedestrian and bicycle access.
8. Building types in terms of appropriateness to density, site relationship and bulk	Compliant	The PUD complies with site planning and building height requirements in the IDDSG, ensuring an appropriate bulk for buildings and relationship to other developments in the CTC.

9. Building design in terms of orientation, spacing, materials, color, texture, storage, signs and lighting	Compliant	The PUD complies with the architectural design and site planning requirements in the IDDSG. The design incorporates adequate articulation, building materials, and site configuration.
10. Landscaping of total site in terms of purpose, such as screening, ornamental types used, and materials used, if any; and maintenance, suitability and effect on the neighborhood	Compliant	The PUD complies with landscape requirements in Chapter 5 of the IDDSG with the requested waivers, ensuring adequate screening between similar uses and compatible landscaping for the CTC.
11. Compliance with all applicable development design standards and guidelines and all applicable regulations pertaining to matters of state interest, as specified in chapter 17.32	Compliant	The PUD complies with all applicable development design standards and guidelines.
12. None of the standards for annexation specified in chapter 16.32 have been violated	Not applicable	The property was annexed in 1976.
13. Services including utilities, fire and police protection, and other such services are available or can be made available to adequately serve the development specified in the final development plan	Compliant	The Public Works Department and Louisville Fire District reviewed the PUD and it meets their requirements. Other key utility providers are available to serve the development.

Criteria 17.28.120 (B)	Finding	Narrative
1. Development shall be in accordance with the adopted elements of the comprehensive development plan of the city, and in accordance with any adopted development design standards and guidelines.	Compliant	The PUD complies with the adopted elements of the comprehensive plan, and the adopted development design standards and guidelines.
2. No structures in a planned unit development shall encroach upon the floodplain. Existing bodies of water and existing stream courses shall not be channelized or altered	Compliant	The property is neither located in a floodplain nor are there any bodies of water in the area.

in a planned unit development plan.		
3. No occupied structure shall be located on ground showing severe subsidence potential without adequate design and study approved specifically by the city.	Compliant	There is no known subsidence on the property.
4. The proposal should utilize and preserve existing vegetation, land forms, waterways, and historical or archeological sites in the best manner possible. Steep slopes and important natural drainage systems shall not be disrupted. How the proposal meets this provision, including an inventory of how existing vegetation is included in the proposal, shall be set forth on the landscape plan submitted to the city.	Compliant	The PUD is appropriate for the context of the existing conditions of the property.
5. Visual relief and variety of visual sitings shall be located within a development in the overall site plan. Such relief shall be accomplished by building placements, shortened or interrupted street vistas, visual access to open space and other methods of design.	Compliant	The PUD complies with site planning requirements in the IDDSG, ensuring proper building placement, vistas, and access to open space.
6. Open space within the project shall be located in such a manner as to facilitate pedestrian use and to create an area that is usable and accessible to residents of surrounding developments.	Compliant	The PUD complies with requirements in the IDDSG.
7. Street design should minimize through traffic passing residential units. Suggested standards with respect to paving widths, housing setbacks and landscaping are set forth in public works standards of the city and applicable development design standards	Compliant	The PUD complies with requirements in the IDDSG, ensuring properly designed landscaping adjacent to public streets.

and guidelines. The system of streets, including parking lots, shall aid the order and aesthetic quality of the development.		
8. There shall exist an internal pedestrian circulation system separate from the vehicular system such that allows access to adjacent parcels as well as to parks, open space or recreation facilities within the development. Pedestrian links to trail systems of the city shall be provided.	Compliant	The PUD complies with bicycle and pedestrian requirements in the IDDSG, ensuring adequate pedestrian and bicycle access.
9. The project and development should attempt to incorporate features which reduce the demand for water usage.	Compliant	The PUD proposes water use consistent with expectations for the CTC development. Plant material has been grouped into similar water-requirement irrigation zones.
10. Landscape plans shall attempt to reduce heating and cooling demands of buildings through the selection and placement of landscape materials, paving, vegetation, earth forms, walls, fences, or other materials.	Compliant, with condition	The PUD complies with landscape requirements in the IDDSG with the requested waivers.
11. Proposed developments shall be buffered from collector and arterial streets. Such buffering may be accomplished by earthen berms, landscaping, leafing patterns, and other materials. Entrance islands defining traffic patterns along with landscaping shall be incorporated into entrances to developments.	Compliant	The PUD complies with the requirements of the IDDSG and includes adequate landscaping and buffering from adjacent streets and properties of the same or similar uses.
12. There shall be encouraged the siting of lot arrangement, building orientation and roof orientation in developments so as to obtain the maximum use of solar energy for heating.	Compliant	The PUD provides a structure oriented towards the south with an unshaded roof so that solar energy may be utilized in the future.
13. The overall PUD shall provide a variety of housing types.	Not applicable	The property is zoned Industrial; residential uses are not allowed.

14. Neighborhoods within a PUD shall provide a range of housing size.	Not applicable	The property is zoned Industrial; residential uses are not allowed.
15. Architectural design of buildings shall be compatible in design with the contours of the site, compatible with surrounding designs and neighborhoods, shall promote harmonious transitions and scale in character in areas of different planned uses, and shall contribute to a mix of styles within the city.	Compliant	The PUD proposes architecture that is compatible in design with the contours of the site, with surrounding buildings, and neighborhoods.

RESOLUTION NO. 33
SERIES 2025

A RESOLUTION APPROVING A PLANNED UNIT DEVELOPMENT AMENDMENT TO ALLOW CONSTRUCTION OF A 16,294 SQUARE-FOOT INDUSTRIAL / FLEX BUILDING AT 517 S. ARTHUR AVENUE

WHEREAS, there has been submitted to the Louisville City Council an application for a final Planned Unit Development Amendment ("PUD Amendment") to allow construction of a 16,294 square-foot industrial/flex building at 517 S Arthur Avenue; Lot 9, Block 1, Colorado Technological Center Filing 1; and

WHEREAS, City staff has reviewed the information submitted and found that, with the seven requested waivers and parking reduction request, the application complies with the Louisville zoning regulations and other applicable sections of the Louisville Municipal Code; and

WHEREAS, the Planning Commission considered the application at a duly noticed public hearing on April 10, 2025, where evidence and testimony were entered into the record and the Planning Commission voted unanimously in favor of recommending approval; and

WHEREAS, the City Council considered the application at a duly noticed public hearing on May 20, 2025, where evidence and testimony were entered into the record, including the findings in the Louisville City Council staff report dated May 20, 2025; and

WHEREAS, the City Council finds the application should be approved, as set forth herein.

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

Section 1. The City Council of the City of Louisville, Colorado does hereby approve the application for a Planned Unit Development Amendment

PASSED AND ADOPTED this 20th day of May 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

RESOLUTION NO. 04
SERIES 2025

A RESOLUTION RECOMMENDING APPROVAL OF A PLANNED UNIT DEVELOPMENT AMENDEMNT TO ALLOW CONSTRUCTION OF A 16,294 SQUARE-FOOT INDUSTRIAL/FLEX BUILDING AT 517 S ARTHUR AVENUE.

WHEREAS, there has been submitted to the Louisville Planning Commission an application for a final planned unit development amendment to allow construction of a 16,294 square-foot industrial/flex building at 517 S Arthur Avenue; Lot 9, Block 1, Colorado Technological Center Filing 1; and

WHEREAS, City staff has reviewed the information submitted and found that, with the eight requested waivers, the application complies with the Louisville zoning regulations and other applicable sections of the Louisville Municipal Code; and

WHEREAS, the Planning Commission has considered the application at a duly noticed public hearing on April 10, 2025 where evidence and testimony where entered into the record.

NOW THEREFORE, BE IT RESOLVED that the Planning Commission of the City of Louisville, Colorado does hereby recommend approval of a final planned unit development amendment to allow construction of a 16,294 square-foot industrial/flex building at 517 S Arthur Avenue.

PASSED AND ADOPTED this 10th day of April 2025.

By: _____
Steve Brauneis, Chair
Planning Commission

Attest: _____
Ben Diehl, Secretary
Planning Commission

City of Louisville
COLORADO • SINCE 1878

Planning Commission
Meeting Minutes
April 10, 2025
City Hall, Council Chambers
749 Main Street
6:30 PM

Call to Order – Chair **Brauneis** called the meeting to order at 6:30 PM.

Roll Call was taken, and the following members were present:

Commission Members Present:	Steve Brauneis, Chair Debra Baskett, Vice Chair Cullen Choi, Secretary David Bangs Jennifer Hunt Jonathan Mihaly Jeff Moline
Staff Members Present:	Jeff Hirt, Planning Manager Matt Post, Senior Planner Ben Jackson, Planning Clerk

APPROVAL OF AGENDA

Motion to approve the agenda was moved by **Hunt**, seconded by **Choi**, and adopted by voice vote.

APPROVAL OF AGENDA

Motion to approve the minutes for the February 13, 2025 meeting was moved by **Mihaly**, seconded by **Bangs**, and adopted by voice vote.

Motion to approve the minutes for the February 27, 2025 meeting was moved by **Choi**, seconded by **Bangs**, and adopted by voice vote, with **Mihaly** and **Brauneis** abstained.

Motion to approve the minutes for the March 2025 meeting was moved by **Bangs**, seconded by **Hunt**, and adopted by voice vote, with **Choi** abstained.

PUBLIC COMMENTS ON ITEMS NOT ON THE AGENDA

None were heard.

PUBLIC HEARING ITEMS – NEW BUSINESS

a. **Planned Unit Development – 517 S Arthur Ave:** Consideration of Resolution 4 to approve a Planned Unit Development Amendment to allow a new industrial/flex building at 517 S Arthur Avenue in the Colorado Technology Center.

Staff Presentation:
Post introduced the presentation for the PUD Amendment. Noted the property was in the CTC, currently vacant lot, zoned for industrial use, one of smallest lots in CTC. Covered proposed site plan, design, landscaping, and parking reduction request. Noted requirement that site needed detention and water quality pond for all sites in CTC. Warehouse is use by right in the CTC.

Staff Recommendation:
Staff recommended approval of Resolution 4, Series 2025.

Commissioner Questions of Staff:
Moline asked about number of parking spaces review process, about whether they had considered needs for future occupants of the site.
Post said valid concern, not part of review, related directly to the proposed design of the warehouse, any future amendment would require additional examination.
Brauneis noted that no on-street parking allowed by CTC, but…
Post clarification.
Mihaly on potential future PUD amendment. Concern about parking.
Post noted staff would need to carefully review it, because office use is a special review use, and would need review.
Moline noted most waivers could be resolved by having smaller building, asked about how this related to review process.
Post said that building size had been reduced over what was initially proposed…
Brauneis on detention ponds.
Post

Applicant Presentation:
None was heard.

Commissioner Questions of Applicant:
Bangs asked about original requested size.
Applicant (find name) said was originally around 19,000 square feet, wanted to maximize balance between warehouse and office space.
Choi asked about size.

Applicant said specific tenant had not yet been identified, but owner had good idea of ratio of office to warehouse that would be most likely to attract a tenant.
Choi asked about threshold?
Post on reduction in building size.

Brauneis on dark sky lighting.
Applicant said… This was a consideration.
Bangs on number of EV spaces.
Applicant said there were 4, 1 EV installed, 1 EV ready, 2 EV capable.
Post clarified numbers, notes in line with EV charging ordinance.

Public Comment:
None were heard.

Applicant Closing Statement:
Applicant noted they typically did large commercial buildings, said that they wanted to do something with some design intent, reflective of area, and more progressive for a warehouse. Emphasized focus on landscaping.

Staff Closing Statement:
None was heard.

Commissioner Discussion:
Choi said had no issue with parking waivers.
Brauneis agreed, said was fix for outdated standards on parking. Said liked landscape proposal…
Mihaly agreed, said no issue with landscape cover reduction due to high quality landscape cover.
Brauneis said fine with setbacks.
Choi said requirements seemed more arbitrary for landscaping and setbacks.
Baskett said generally comfortable with this, fits the space.
Moline said appreciated discussion, comfortable with all the requests.
Bangs
Mihaly on parking ratio, said most of his concerns eased by need for staff review if use were to change.
Hunt was in agreement, thought fit well into other uses.

Motion to approve Resolution 4, Series 2025 was moved by Choi and seconded by Mihaly. Motion was adopted by a vote of 7 to 0.

b. Planned Unit Development – 380 S Taylor Ave: Consideration of Resolution 5 to approve a Planned Unit Development Amendment to allow new industrial buildings at 380 S Taylor Avenue in the Colorado Technology Center.

Staff Presentation:
Post introduced the presentation for the PUD Amendment. Noted was vacant lot in CTC, zoned industrial. Covered proposed layout and design of the warehouse. Noted waiver to allow metal as primary architectural material, and for xxx. (Sorry, still trying to find somewhere to live!)

Staff Recommendation:
Staff recommended approval of Resolution 5, Series 2025 with proposed condition.

Commissioner Questions of Staff:
Extended

Applicant Presentation:
Don Russell, (), was representing the applicant. He showed off some full sized samples of the proposed metal sidings. He explained the condition of the site?

Dymtri Kalchyk, non-resident, owns the property. Said wanted to move his business from Littleton up to Louisville. Was planning to occupy south building for their use, plus wanted to lease out the north building.

Commissioner Questions of Applicant:
Choi asked about durable finished applied to the metal.
Russell said had not decided yet, but suggested xxx.
Bangs asked if shown samples were planned colors.
Russell said yes.
Bangs asked if roof material would be similar.
Russell said same material, but different color and pattern.

Public Comment:
None were heard.

Applicant Closing Statement:
Russell said tried really hard to have it fit in with CTC, noted that the architectural control committee of CTC had approved their design. On landscaping…

Staff Closing Statement:

None was heard.

Commissioner Discussion:
Brauneis noted that design was departure from past designs, but suggested City was ready for it.
Choi…
Mihaly… In support.
Baskett said good use of the site, liked design, would fit into the CTC.
Moline… In support.
Hunt in agreement, appreciated architectural effort, in support.
Bangs in support.
Brauneis in support.

Motion to approve Resolution 5, Series 2025 with the proposed condition was moved by Hunt and seconded by Bangs. Motion adopted by a vote of 7 to 0.

PLANNING COMMISSION COMMENTS

None were heard.

STAFF COMMENTS

None/.

ADJOURNMENT

Motion to adjourn was moved by **Choi**, seconded by **Hunt**, and adopted by voice vote. The Commission adjourned at 8:14pm.

City of Louisville
COLORADO • SINCE 1878

Community Development Department

749 Main Street • Louisville CO 80027 • 303.335.4592 • www.louisvilleco.gov

Development Review Application Form

Please complete this form and include it with the submittal documents for your development review application. Applications will not be processed until all required information is provided to the satisfaction of the City of Louisville Planning Department.

Property Information

Common Address(es): 517 S. Arthur Ave, Louisville, CO 80027
Legal Description:
Lot 9 Block 1 Subdivision Colorado Technological Center, First Filing
Lot Area: 36,051 Sq. Ft. or 0.828 Acres

LAND USE PROCESS (check all that apply)

- ☐ Annexation
- ☐ Concept Plan
- ☐ Easement Vacation
- ☐ Oil and Gas
- ☐ General Development Plan (GDP)
  - ☐ Amendment
  - ☐ New GDP
- ■ Planned Unit Development (PUD)
  - ■ Amendment
  - ☐ Preliminary
  - ☐ New PUD
- ☐ Rezoning
- ☐ Special Review Use (SRU)
  - ☐ Amendment
  - ☐ New SRU
- ☐ Subdivision
  - ☐ Final or Replat
  - ☐ Preliminary Plat
- ☐ Temporary Use Permit
- ☐ Variance
- ☐ Vested Property Right
- ☐ Wireless Facility
- ☐ Other: _____

PROJECT DESCRIPTION:

The flexible office building contains approximately 15,000 square feet of warehouse area and 2,000 square feet of office space with additional area for support spaces such as future tenant restrooms and a water entry room. The building is 26'-8" high (to top of exterior wall) and the primary structural system will be constructed of concrete tilt-up wall panel construction at all exterior walls with structural steel joists supporting the roof. The concrete tilt-up wall panels have been designed with differentiated patterns, form liner, and accent wall paint colors to provide the necessary design articulation as required by the IDDSG. The main aluminum storefront entrance into the office area is covered by an open sunshade structure above and clerestory punched openings are located at the perimeter of the building at 16'-0" above finished floor. This

Property Owner Information

Name: Travis Vap Entity (if applicable) Tweedle Dum, LLC
Address: 11511 East Caley Ave, Englewood, CO 80111
Phone: (303) 808-4053 Email: tvap@svdw.com

Application Representative Information

Name: Ramiro L. Diaz, AIA Entity (if applicable) The Beck Group
Address: 1001 17th Street, PL-100, Denver, CO 80202
Phone: (720) 281-0394 Email: ramirodiaz@beckgroup.com

Certification/Signature

I certify that the information I have submitted is true and correct to the best of my knowledge and in filing the application and submittal documents, I am acting as and/or with the knowledge and consent of those persons who are owners of the subject property or are parties to this application.

Ramiro L. Diaz	Ramiro L. Diaz	07/15/2024
Signature*	Print Name	Date

***If acting as a representative/agent of the owner, include written authorization from the owner that certifies the agent's right to submit this application**

THINK.
DESIGN.
BUILD.

December 20, 2024

Planning Department
City of Louisville
749 Main St
Louisville, CO 80027

Re: Land Use Application / Approval Process, Planned Unit Development (PUD) Amendment for Lot 9, Block 1, Colorado Technology Center (CTC), First Filing, 517 S Arthur Ave, Louisville, CO.
Resubmittal #1

Louisville Planning Team,

We are excited to submit this Planned Unit Development (PUD) Amendment for the Colorado Technology Center development located on 517 S Arthur Ave. The property at hand is a 36,051 square foot (0.828 acre) site where a proposed single story 16,300 flexible office building (core & shell only) will be constructed, and the remainder of the property improved with access drive lanes, parking, sidewalks, and landscaping. The project will follow the Industrial Development Design Standards & Guidelines (IDDSG) and will pursue waiver requests as described in the subsequent pages.

The flexible office building contains approximately 14,700 square feet of warehouse area and 1,600 square feet of office space with additional area for support spaces such as future tenant restrooms and a water entry room. The building is 26'-0" high (to top of exterior wall) and the primary structural system will be constructed of concrete tilt-up wall panel construction at all exterior walls with structural steel joists supporting the roof. The concrete tilt-up wall panels have been designed with differentiated patterns, form liner, and accent wall paint colors to provide the necessary design articulation as required by the IDDSG. The main aluminum storefront entrance into the office area is covered by an open sunshade structure above and clerestory punched openings are located at the perimeter of the building at 14'-6" above finished floor. This building is a core & shell only, interior tenant finish-out is not in contract and will be permitted separately by tenant.

Public utilities (underground electrical, sewer, and water) are located along S Arthur Ave and will enter the southernmost point of the site along the existing sewer easement to feed the building along the south. Storm drainage will be mitigated with a storm water detention pond constructed on the eastern-most edge of the property. HVAC systems will be supplying the building through rooftop units located less than 20'-0" from the parapet but are small enough that the parapet fully screens the units.

Below is an outline of waiver requests with Commercial Development Design Standards and Guidelines, Industrial Development Design Standards and Guidelines, or Louisville Municipal Code Section(s) identified and justification for hardship or betterment for each request.

WAIVER REQUEST #1: PARKING REDUCTION

IDDSG §2.2.1.L Surface parking lot requirements indicate a minimum parking of 4 spaces/1000 SF (1:250) for Office space and 1 space/1000 SF (1:1000) for warehouse space. We believe the use of the building and property can be satisfied with 2 spaces/1000 SF for Office space and 0.5 space/1000 SF. These minimum parking ratios requested are based on neighboring jurisdictions (such as Denver) parking requirements and more than satisfy the parking needs of similar developments (light industrial/warehouse/office). The requests emerged from the hardship of site constraints due to the multiple existing easements on site that restrict the placement and layout of the building towards the north which further constraints the amount of parking that can be designed on the site. Furthermore, the site drainage requires a detention pond which limits the available open space for parking placement.

WAIVER REQUEST #2: PARKING SPACE MINIMUM SIZE REDUCTION

IDDSG §2.2.1.i Surface parking lot requirements indicate to provide standard parking spaces at a minimum of 9'-0" wide x 19'-0" deep. We believe the design of a 8'-6" wide x 19'-0" deep standard parking space will satisfy the minimum parking dimensions. These minimum parking dimension sizes are based on neighboring jurisdictions and more than satisfy the parking size needs of similar developments. We believe this waiver request is a betterment to the development since smaller parking spaces allow for reduced hardscape area and increased landscape area to the site. Additionally, a 9'-0" wide x 19'-0" deep parking space is excessive and typical vehicles can comfortably be parked in 8'-6" x 19'-0" spaces.

WAIVER REQUEST #3: DRIVE ASILE WIDTH REDUCTION

IDDSG §2.2.1.C Vehicular access requirements indicate a minimum two-way access drive of 28'-0" wide. We believe the design of a 24'-0" wide access drive will satisfy the minimum vehicular access into the site. This minimum vehicular access drive width is based on neighboring jurisdictions minimum requirements and can more than satisfy the parking needs of similar developments. This requests emerged from the hardship of site constraints due to the multiple existing easements on site that restrict the placement and layout of the building towards the north which further constraints the location and width of the vehicular access that can be provided on-site.

WAIVER REQUEST #4: BUFFER ZONE REDUCTION

IDDSG §5.2 Perimeter Landscaping Adjacent to Abutting Property requirement indicates a minimum buffer zone of 10'-0". The southwest corner of the site is designed with an extended drive in order to provide sufficient fire apparatus reach, this reduces the size of the buffer zone down to 2'-2 1/2". Additionally the south side of the site's buffer zone is reduced to 7'-6" due to the multiple easement restrictions. We believe 10'-0" buffer zones abutting similar properties is excessive and reduction of these buffer zones would better complement developments with similar uses. The remainder of the site will provide a minimum of a 10'-0".

WAIVER REQUEST #5: REAR SETBACK ENCROACHMENT

IDDSG §1.2 Building and parking setback requirement indicates a 15'-0" rear yard setback and currently the building encroaches into the setback by at most 1'-6" at the southwest corner of the building. This encroachment is due to the pinching point at the end of the site where the property tapers towards the south, if the building did not extend and encroach into the setback, the access to the garage doors would be prohibitive. This encroachment does not extend the entire setback length but reduces toward the north of the site across the length of the building.

WAIVER REQUEST #6: MINIUM LANDSCAPE REQUIREMENT REDUCTION

IDDSG §1.4.B Site Coverage Requirements indicates a 25% minimum landscape coverage on-site. We believe the use of the building and property can be satisfied with 19% minimum landscape coverage. The minimum landscape requirements waiver request is based on neighboring jurisdictions (such as Denver) which require landscaping coverage closer to 5% the area of the development in Industrial Zones and 19% minimum landscape requirements will more than satisfy the landscaping needs of similar developments (light industrial/warehouse/office). The requests emerged from the hardship of site constraints due to the multiple existing easements on site that restrict the placement and layout of the building towards the north which further constraints the amount of landscaping that can be designed on the site.

WAIVER REQUEST #7: SITE AND DRIVEWAY ACCESS MINIMUM

IDDSG §2.1.1.F require new driveways to be 75'-0" minimum from a neighboring driveway. We believe the use of 42'-0" minimum driveway separation can satisfy the vehicular flow into the site relative to adjacent properties. The site along S Arthur Ave is 184.88' and the adjacent properties have driveway entrances immediately next to the site (north and south), this constrains the location of a new driveway to the center of the property and due to the sewer easement on the south, this further restricts location of driveway access, building placement, and overall site layout.

WAIVER REQUEST #8: PERIMETER LANDSCAPING ABBUTING PROPERTY

IDDSG §5.2.A.1 Requires 1 tree for every 30 linear feet of property line. We currently have designed 1 tree for every 30 linear feet of property line along the east side of the property (street facing side). The total required amount of trees on site is 24 trees but due to utility locations and existing utilities the maximum amount of trees that can be placed is 22.

CONCLUSION

We are confident that the Louisville Flex Office project will be a valuable addition to the Colorado Technology Center community, providing flexible workspaces and adhering to the highest design standards. In addition, we are convinced our waiver requests do not undermine the intent of the planned development goals and design spirit and the proposed improvements to the property provide a complementary design to the community.

Sincerely,

Douglas A. Spuler, AIA
Managing Principal, Beck Architecture, LLC

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

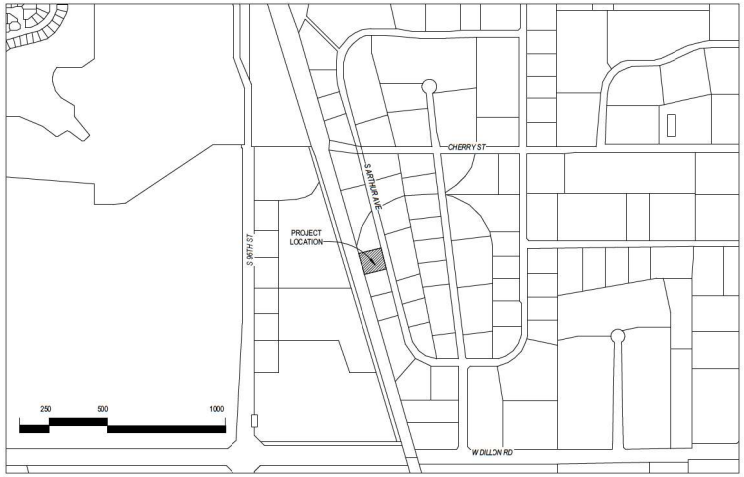
LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024

IDDSG SITE DATA TABLE

	REQUIRED	PROPOSED	NOTES
TOTAL SITE AREA	-	36,051 SF	0.828 ACRES
SITE COVERAGE			C
BUILDING	-	16,294 SF	
PARKING	-	2,910 SF	
DRIVEWAY	-	5,988 SF	
SIDEWALKS	-	2,233 SF	
LANDSCAPE COVERAGE			
LANDSCAPE AREA	25% (9,013 SF)	24% (8,626 SF)	Per IDDSG 1.1.B
HARDSCAPE AREA	75% (27,038 SF)	76% (27,425 SF)	Per IDDSG 1.1.A
TOTAL			
BUILDING HEIGHT	40'-0" MAX	26'-8"	Per IDDSG 4.2.B
SETBACKS			Per IDDSG 1.2.A
NORTH	10'-0"	10'-0"	
WEST	15'-0"	13'-6" C	
SOUTH	10'-0"	59'-0"	
EAST	30'-0"	33'-0"	
PARKING SPACES	23 SPACES	14 SPACES	Per IDDSG 2.2.1.L
STANDARD	22	13	
ACCESSIBLE	1	1	Per DBC 2021 Table 1106.2
EV INSTALLED (GROUP B OCC.)	2%	1	Table CV502.1
EV READY (GROUP B OCC.)	8%	1	Table CV502.1
EV CAPABLE (GROUP B OCC.)	10%	2 C	Table CV502.1
BICYCLE	3	4	Per IDDSG 3.2.C
PARKING SETBACKS			Per IDDSG 1.2.B
NORTH	10'-0"	132'-0"	
WEST	0'-0"	4'-0"	
SOUTH	10'-0"	10'-0"	
EAST	20'-0"	20'-0"	

C



WAIVER REQUESTS

BELOW IS A LIST OF WAIVER REQUESTS WITH COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES, INDUSTRIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES, OR LOUISVILLE MUNICIPAL CODE SECTION(S) IDENTIFIED.

WAIVER REQUEST	IDDSG REQUIREMENTS	REQUEST TO WAIVE
#1: PARKING REDUCTION	IDDSG §2.2.1.L SURFACE PARKING LOT REQUIREMENTS: • OFFICE SPACE 4 SPACES/1000 SF (1:250) • WAREHOUSE SPACE: 1 SPACE/1000 SF (1:1000)	REQUEST TO WAIVE: • OFFICE SPACE 2 SPACES/1000 SF (1:500) • WAREHOUSE SPACE: 0.5 SPACE/1000 SF (0.5:1000)
#2: PARKING SPACE MINIMUM SIZE REDUCTION	IDDSG §2.2.1.I SURFACE PARKING LOT REQUIREMENTS: • 9'-0" WIDE X 19'-0" DEEP STANDARD PARKING SPACE	REQUEST TO WAVE: • 8'-6" WIDE X 17'-6" DEEP STANDARD PARKING SPACE
#3: DRIVE AISLE WIDTH REDUCTION	IDDSG §2.2.1.C VEHICULAR ACCESS REQUIREMENT: • 28'-0" WIDE TWO-WAY ACCESS DRIVE	REQUEST TO WAIVE: • 24'-0" WIDE TWO-WAY ACCESS DRIVE
#4: BUFFER ZONE REDUCTION	IDDSG §6.2 PERIMETER LANDSCAPING ADJACENT TO ABUTTING PROPERTY REQUIREMENT: • 10'-0" BUFFER ZONE	REQUEST TO WAIVE: • 2'-2 1/2" BUFFER ZONE AT WEST • 7'-6" BUFFER ZONE AT SOUTH
#5: REAR SETBACK ENCROACHMENT	IDDSG §1.2 BUILDING AND PARKING SETBACK REQUIREMENTS: • 15'-0" REAR YARD SETBACK	REQUEST TO WAIVE: 1. 1'-6" BUILDING ENCROACHMENT INTO SETBACK D
#6: MINIMUM LANDSCAPE REQUIREMENT REDUCTION	IDDSG §1.4.B SITE COVERAGE REQUIRED: • 25% LANDSCAPE COVERAGE	REQUEST TO WAIVE: • 24% LANDSCAPE COVERAGE
#7: SITE AND DRIVEWAY ACCESS MINIMUM	IDDSG §2.1.1.F DRIVEWAYS REQUIREMENT • MUST BE 75'-0" MINIMUM FROM NEIGHBORING DRIVEWAY	REQUEST TO WAIVE: • 42'-0" FROM NEIGHBORING DRIVEWAY
#8: PERIMETER LANDSCAPING ADJACENT TO ABUTTING PROPERTY	IDDSG §5.2.A.1 PROVIDE 1 TREE FOR EVERY 30 LINEAR FEET OF PROPERTY LINE	REQUEST TO WAIVE: • REDUCE THE REQUIRED NUMBER OF TREES FROM 24 TO 22.

PROJECT DESCRIPTION

THE FLEXIBLE OFFICE BUILDING CONTAINS APPROXIMATELY 15,000 SQUARE FEET OF WAREHOUSE AREA AND 2,000 SQUARE FEET OF OFFICE SPACE WITH ADDITIONAL AREA FOR SUPPORT SPACES SUCH AS FUTURE TENANT RESTROOMS AND A WATER ENTRY ROOM.

THE BUILDING IS 26'-8" HIGH (TO TOP OF EXTERIOR WALL) AND THE PRIMARY STRUCTURAL SYSTEM WILL BE CONSTRUCTED OF CONCRETE TILT-UP WALL PANEL CONSTRUCTION AT ALL EXTERIOR WALLS WITH STRUCTURAL STEEL JOISTS SUPPORTING THE ROOF. THE CONCRETE TILT-UP WALL PANELS HAVE BEEN DESIGNED WITH DIFFERENTIATED PATTERNS, FORM LINER, AND ACCENT WALL PAINT COLORS TO PROVIDE THE NECESSARY DESIGN ARTICULATION AS REQUIRED BY THE IDDSG. THE MAIN ALUMINUM STOREFRONT ENTRANCE INTO THE OFFICE AREA IS COVERED BY AN OPEN SUNSHADE STRUCTURE ABOVE AND CLERESTORY PUNCHED OPENINGS ARE LOCATED AT THE PERIMETER OF THE BUILDING AT 14'-6" ABOVE FINISHED FLOOR.

THIS BUILDING IS A CORE & SHELL ONLY, INTERIOR TENANT FINISH-OUT IS NOT IN CONTRACT AND WILL BE PERMITTED SEPARATELY BY TENANT.

PROJECT CONTACTS

OWNER	ARCHITECT	CIVIL
TWEEDLE DUM, LLC 11511 EAST CALEY AVE CENTENNIAL, CO 80111 TVAP@SVDW.COM CONTACT: TRAVIS VAP	THE BECK GROUP 1001 W 17TH ST SUITE PL 100 DENVER, CO 80202 721-281-0394 CONTACT: RAMIRO DIAZ	COLLINS ENGINEERING, INC. 455 SHERMAN ST SUITE 150 DENVER, CO 80203 720-262-5527 CONTACT: BRYAN FRANTZ
SURVEYOR	**LANDSCAPE**	**LIGHTING**
R&R ENGINEERS-SURVEYORS, INC. 1635 W. 13TH AVENUE SUITE 310 DENVER, COLORADO 80204 303-753-6730 CONTACT: BASIL HANSON	OXBOW DESIGN COLLABORATIVE 209 KALAMATH ST SUITE 6 DENVER, CO 80223 720-465-6168 CONTACT: JOHN YOUNG	AE DESIGN 1900 WAZEE STREET SUITE 205 DENVER, CO 80202 303-296-3034 CONTACT: MORIAH HOLAND

GENERAL NOTES

BELOW IS A LIST OF WAIVER REQUESTS WITH COMMERCIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES, INDUSTRIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES, OR LOUISVILLE MUNICIPAL CODE SECTION(S) IDENTIFIED.

1. THE PROPERTY IS ZONED I - INDUSTRIAL. SETBACKS FOR PROPERTY AS AS FOLLOWS:
   WEST) 15'-0"
   EAST) 30'-0"
   SOUTH) 10'-0"
   NORTH) 10'-0"
2. ALL SETBACKS AND LAND USE REQUIREMENTS SHALL CONFIRM TO THE CITY OF LOUISVILLE, COLORADO ZONING AND LAND USE REGULATIONS N EFFECT AS OF THE DATE OF APPROVAL OF THIS PLANNED UNIT DEVELOPMENT BY THE CITY OF LOUISVILLE, COLORADO.
3. EXCEPT AS AMENDED BY THIS FINAL PLANNED UNIT DEVELOPMENT, ALL SIGNS SHALL CONFORM TO THE INDUSTRIAL DEVELOPMENT DESIGN STANDARDS AND GUIDELINES. THESE AMENDMENTS ARE:
   A. TWO FREESTANDING, GROUND MOUNTED DOUBLE FACED SIGNS LOCATED PER THE SITE PLAN SHALL BE PERMITTED. THE DESIGNS FOR THESE SIGNS SHALL BE PER THE DETAIL ON SHEET 7.
   B. SURFACE MOUNTED BUILDING SIGNS SHALL NOT EXCEED 2 FEET IN HEIGHT BY 20 FEET IN LENGTH EACH WITH A MAXIMUM OF THREE SIGNS. ONE BUILDING SIGN SHALL BE PERMITTED ON THE SOUTH BUILDING ELEVATION (FACING CTC BOULEVARD), ONE BUILDING SIGN SHALL BE PERMITTED ON THE WEST BUILDING ELEVATION (FACING CTC BOULEVARD), THE THIRD BUILDING SIGN SHALL BE PERMITTED ON THE EAST BUILDING ELEVATION AFTER CONSTRUCTION OF THE FUTURE ROAD. MAXIMUM SURFACE MOUNTED BUILDING SIGNAGE AREA OF 120 SQUARE FEET IN THE AGGREGATE.
   C. FOR BOTH MULTI TENANT AND SINGLE TENANT OCCUPANCY, THE SURFACE MOUNTED BUILDING SIGN SHALL NOT EXCEED 24 INCHES IN HEIGHT.
4. THE CITY OF LOUISVILLE IS NOT RESPONSIBLE FOR DAMAGE TO OR REPAIR OF MONUMENT SIGNS DUE TO UTILITY MAINTENANCE.
5. THE CITY OF LOUISVILLE IS NOT RESPONSIBLE FOR DAMAGE TO PAVEMENT SURFACES OR LANDSCAPING CAUSED DURING REPAIR OR MAINTENANCE ACTIVITIES OF UTILITIES LOCATED WITHIN PUBLIC /TILITY EASEMENTS.
6. ON -STREET PARKING WILL NOT BE UTILIZED TO MEET THE PARKING REQUIREMENTS OF THE PROJECT.
7. ALL ROOF -MOUNTED MECHANICAL, ELECTRICAL, OPTICAL AND ELECTRONIC EQUIPMENT SHALL BE SET A MINIMUM OF 20' FROM THE BUILDING FARAPET, AND IF VISIBLE FROM THE PUBLIC STREET ADJACENT TO THE PROPERTY, SHALL BE PAINTED TO MATCH THE DOMINANT COLOR OF THE BUILDING.
8. ALL ROOF -MOUNTED EQUIPMENT SHALL BE EITHER(1) PAINTED A COLOR COMPATIBLE WITH THE DOMINANT BUILDING COLOR, IF THE BUILDING IS SELF-CONTAINED WITHOUT EXPOSED DUCTWORK OF PROCESS PIPING, OR (2) SHALL BE SCREENED IF THE EQUIPMENT DOES 4OT MEET THE CRITERIA SPECIFIED IN 1. SCREEN MATERIAL SHALL BE COMPATIBLE WITH MATERIALS AND COLORS UTILIZED ON THE BUILDING.
9. OWNER WILL ADD ADDITIONAL HANDICAP PARKING SPACES

PLANNING COMMISSION CERTIFICATE

RECOMMENDED APPROVAL THIS _____ DAY OF _____, 20__ BY THE PLANNING COMMISSION OF THE CITY OF LOUISVILLE, COLORADO.

RESOLUTION NO. _____ SERIES _____

CITY COUNCIL CERTIFICATE

APPROVED THIS _____ DAY OF _____, 20__ BY THE CITY COUNCIL OF THE CITY OF LOUISVILLE, COLORADO.

RESOLUTION NO. _____ SERIES _____

_____ _____

MAYOR CITY CLERK SEAL

NOTARY PUBLIC BLOCK

State of _____

County of _____

Signed before me on _____, 20_____

By_____

_____
(Notary's official signature)

_____
(Title of office)

_____
(Commission Expiration)

OWNERSHIP SIGNATURE BLOCK

The undersigned as the owner of the lands described herein, hereby agrees on behalf of itself, and its heirs, successors and assigns to develop and maintain the property described hereon in accordance and compliance with this approved plan and the Louisville Municipal Code.

TWEEDLE DUM, LLC

Witness my/our hand(s) and seal(s) this ___ day of _____, 20___.

BY:_____

NOTARY:

SHEET INDEX

SHEET NUMBER	SHEET NAME
1	COVER PAGE
2	SITE PLAN
3	PEDESTRIAN / BICYCLE CIRCULATION PATH
4	BUILDING ELEVATIONS
5	GRADING PLAN
6	UTILITY PLAN
7	LANDSCAPE PLAN
8	SITE AMENITIES/ DETAILS
9	PHOTOMETRIC PLAN
10	LIGHTING CUT SHEETS
11	SURVEY
12	FIRE AND LIFE SAFETY PLAN

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2

#	DATE	SUBMISSION
C	10/20/24	PUD AMENDMENT RESUB. #1
D	03/03/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 498-9595
WWW.BECKGROUP.COM

BECK

COVER PAGE

1

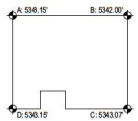
SHEET 1 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024

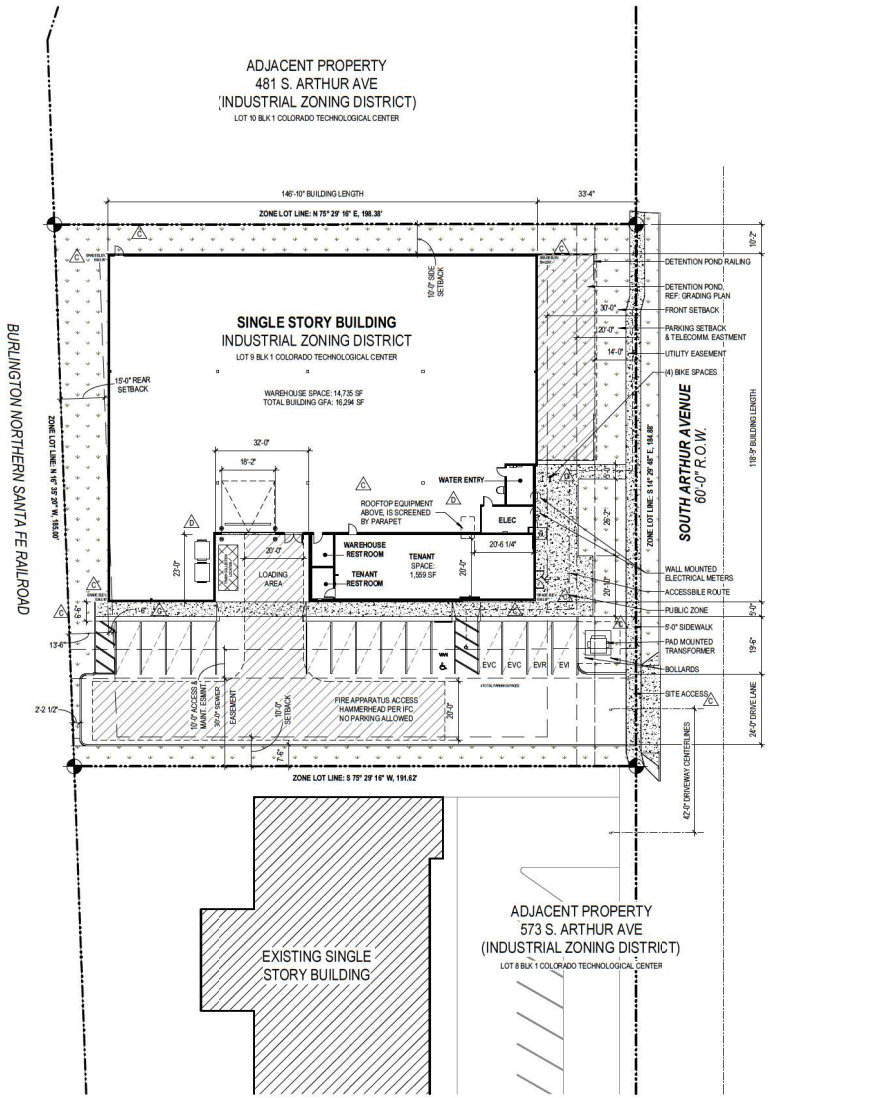
GRADE PLANE CALCULATION



CORNER ELEVATION A (HIGHEST): 5343. 5'
CORNER ELEVATION B (LOWEST): 5342.07

AVERAGE GRADE PLANE: 5342.58'
LEVEL 1: 5343.15'

THERE IS A DIFFERENCE OF .0001.15' BETWEEN GRADE PLANE CALCULATION AND LEVEL 1



1 ARCHITECTURAL SITE PLAN
SCALE: 1" = 20'-0"

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2

#	DATE	SUBMISSION
C	10/20/24	PUD AMENDMENT RESUB. #1
D	03/03/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL1I0
DENVER, CO 80202
PH: (303) 499-9595
WWW.BECKGROUP.COM

SITE PLAN

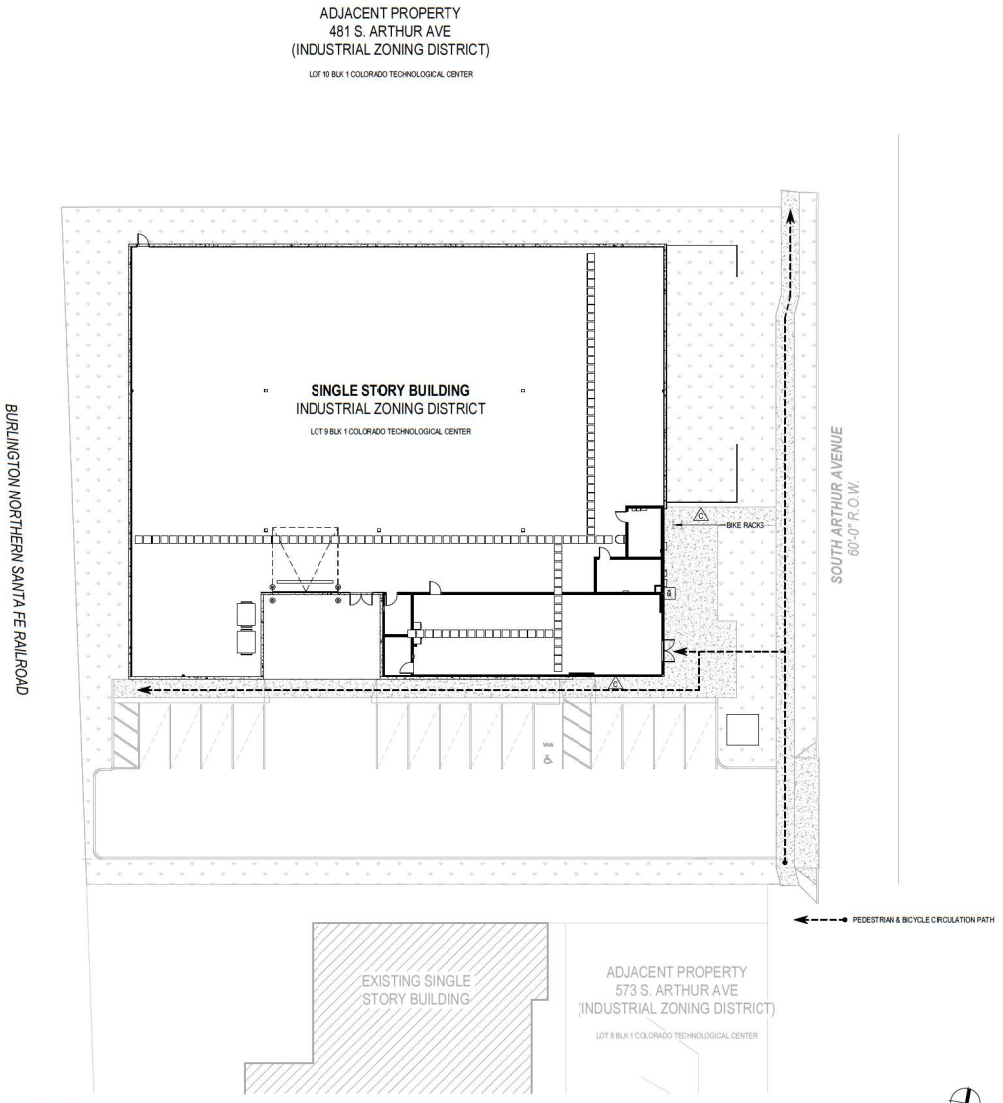
2

SHEET 2 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



1 ARCHITECTURAL SITE PLAN
SCALE: 1/16" = 1'-0"

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #1		
#	DATE	SUBMISSION
C	10/20/24	PUD AMENDMENT RESUB. #1

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL1W
DENVER, CO 80202
PH: (303) 499-9595
WWW.BECKGROUP.COM

PEDESTRIAN / BICYCLE CIRCULATION PATH

3

SHEET 3 OF 12

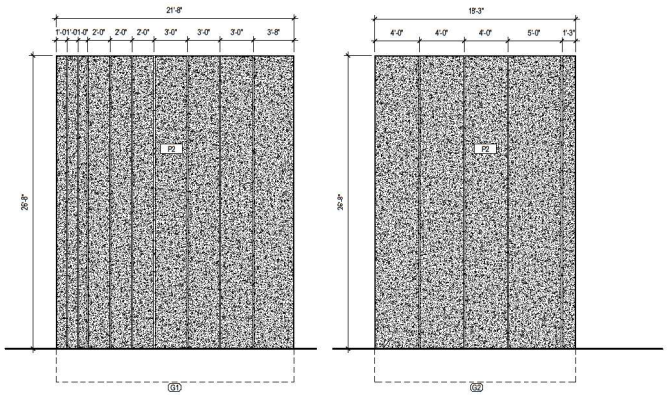
RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024

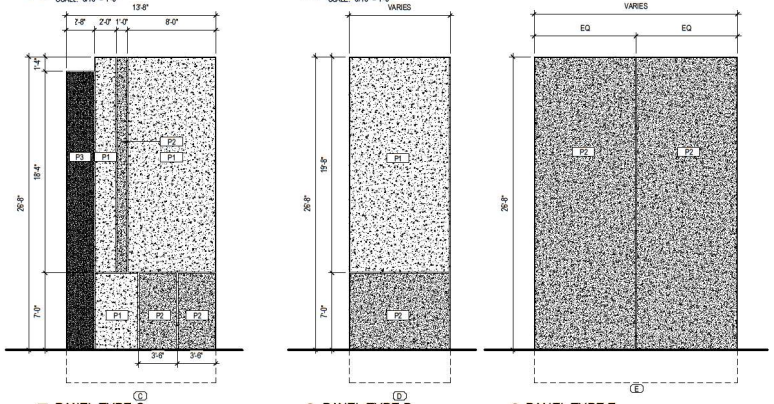
EXTERIOR MATERIAL SCHEDULE

Mark	Description	Material: Manufacturer	Material: Material Color	Material: Material Finish	Material: Model
03 CONCRETE					
M1	8" TILT-UP WALL- REF: STRUCTURAL,PAINT AS INDICATED ON PANEL TYPES				
08 OPENINGS					
AL1	ALUMINUM COLOR 1	KAWNEER	BLACK	PAINTED	TRIFAB 451T
GL1	GLAZING- INSULATED- 1" (GL1)	VIRACON	-	-	VRE1-47/25
09 FINISHES					
P1	PAINT	BENJAMIN MOORE	LIGHT PEWTER	-	1464
P2	PAINT	BENJAMIN MOORE	CINDER	-	AF-705
P3	PAINT	BENJAMIN MOORE	HALE NAVY	-	HC-154
P4	PAINT	BENJAMIN MOORE	BLACK		2132-10



10 PANEL TYPE G1
SCALE: 3/16" = 1'-0"

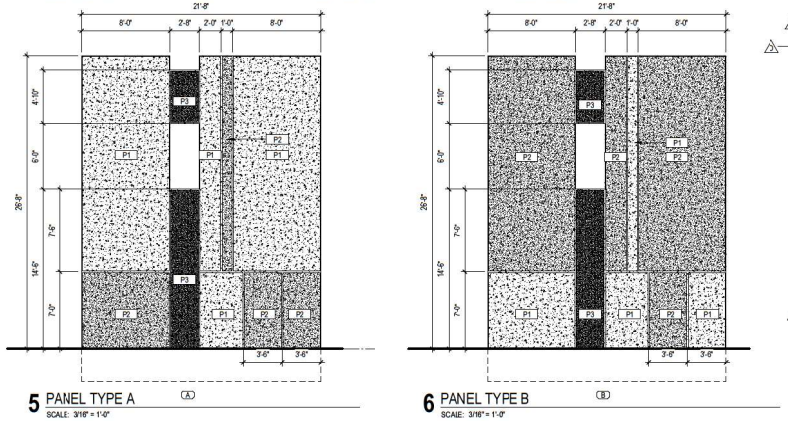
11 PANEL TYPE G2
SCALE: 3/16" = 1'-0"



7 PANEL TYPE C
SCALE: 3/16" = 1'-0"

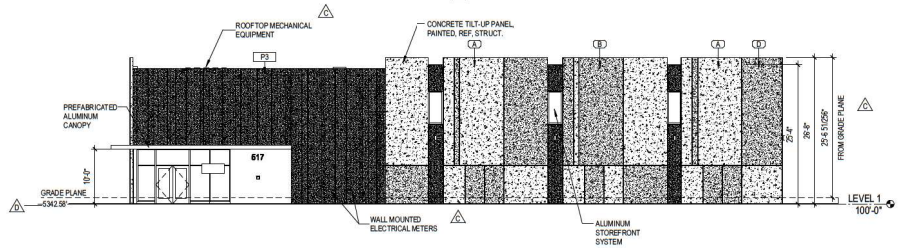
8 PANEL TYPE D
SCALE: 3/16" = 1'-0"

9 PANEL TYPE E
SCALE: 3/16" = 1'-0"

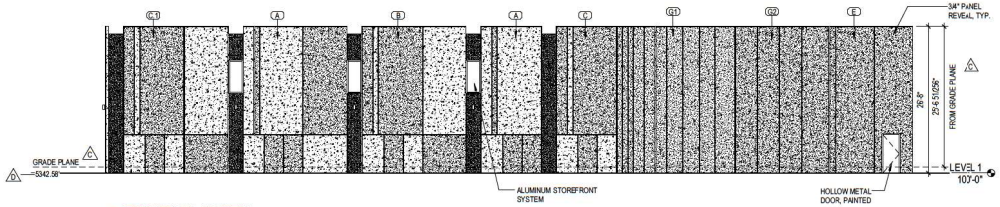


5 PANEL TYPE A
SCALE: 3/16" = 1'-0"

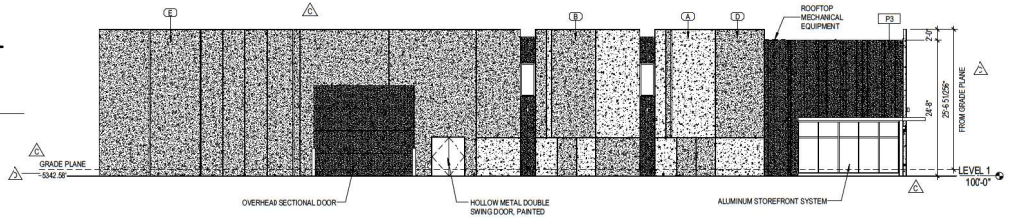
6 PANEL TYPE B
SCALE: 3/16" = 1'-0"



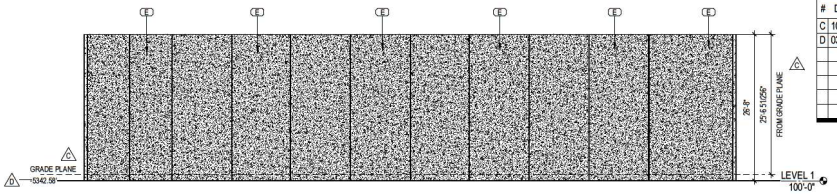
1 ELEVATION- EAST
SCALE: 3/32" = 1'-0"



2 ELEVATION- NORTH
SCALE: 3/32" = 1'-0"



3 ELEVATION- SOUTH
SCALE: 3/32" = 1'-0"



4 ELEVATION- WEST
SCALE: 3/32" = 1'-0"

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2		
#	DATE	SUBMISSION
C	10/20/24	PUD AMENDMENT RESUB. #1
D	03/03/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 499-9595
WWW.BECKGROUP.COM

BUILDING ELEVATIONS

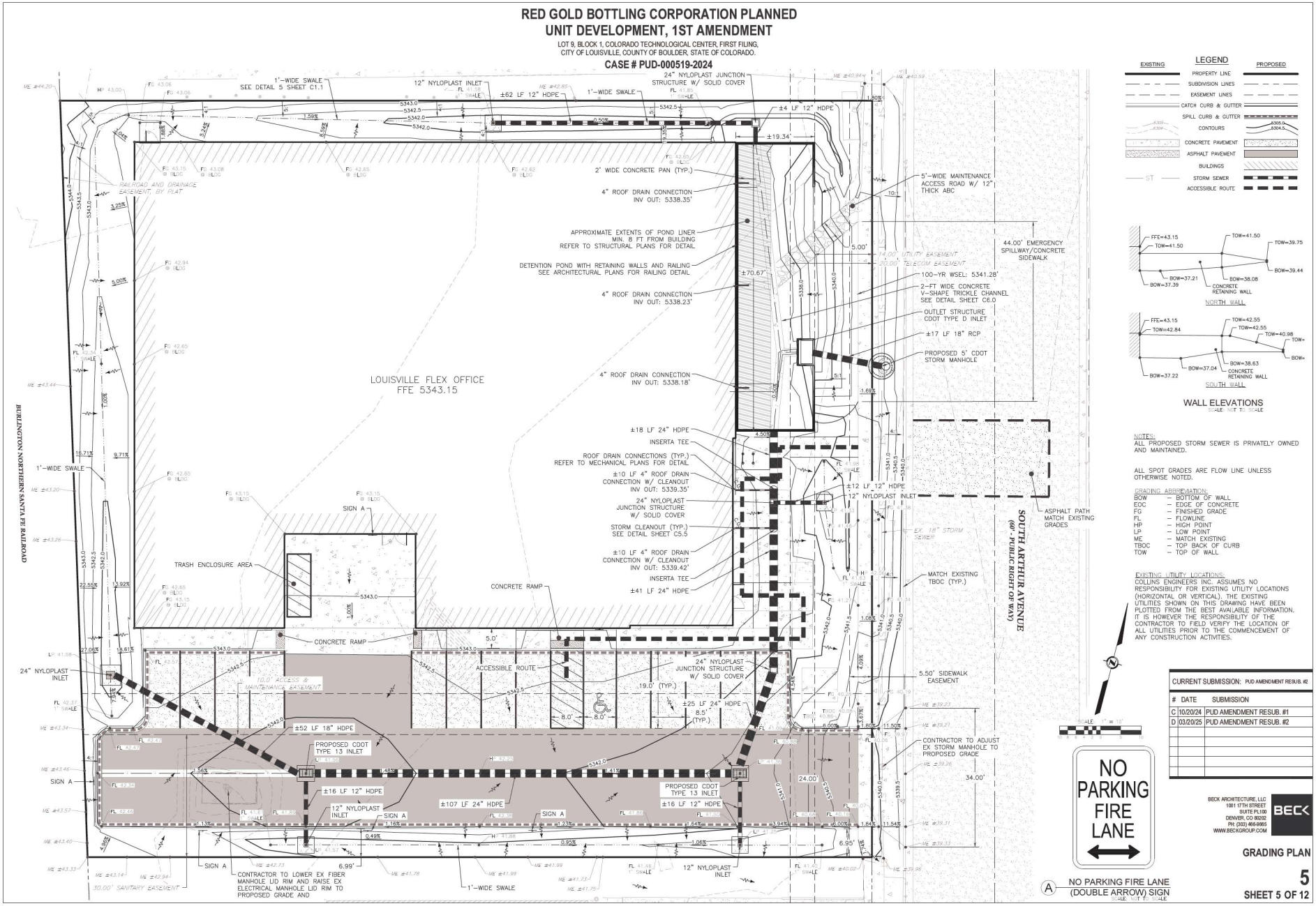
4

SHEET 4 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	SUBDIVISION LINES	
	EASEMENT LINES	
	CATCH CURB & GUTTER	
	SPILL CURB & GUTTER	
5305 5304	CONTOURS	5305.0 5304.5
	CONCRETE PAVEMENT	
	ASPHALT PAVEMENT	
	BUILDINGS	
ST	STORM SEWER	
	ACCESSIBLE ROUTE	

WALL ELEVATIONS

SCALE: NOT TO SCALE

NOTES:
ALL PROPOSED STORM SEWER IS PRIVATELY OWNED AND MAINTAINED.

ALL SPOT GRADES ARE FLOW LINE UNLESS OTHERWISE NOTED.

GRADING ABBREVIATION:

BOW	– BOTTOM OF WALL
EOC	– EDGE OF CONCRETE
FG	– FINISHED GRADE
FL	– FLOWLINE
HP	– HIGH POINT
LP	– LOW POINT
ME	– MATCH EXISTING
TBOC	– TOP BACK OF CURB
TOW	– TOP OF WALL

EXISTING UTILITY LOCATIONS:
COLLINS ENGINEERS INC. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2

#	DATE	SUBMISSION
C	10/2/24	PUD AMENDMENT RESUB. #1
D	03/2/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 469-9965
WWW.BECKGROUP.COM

BECK

GRADING PLAN

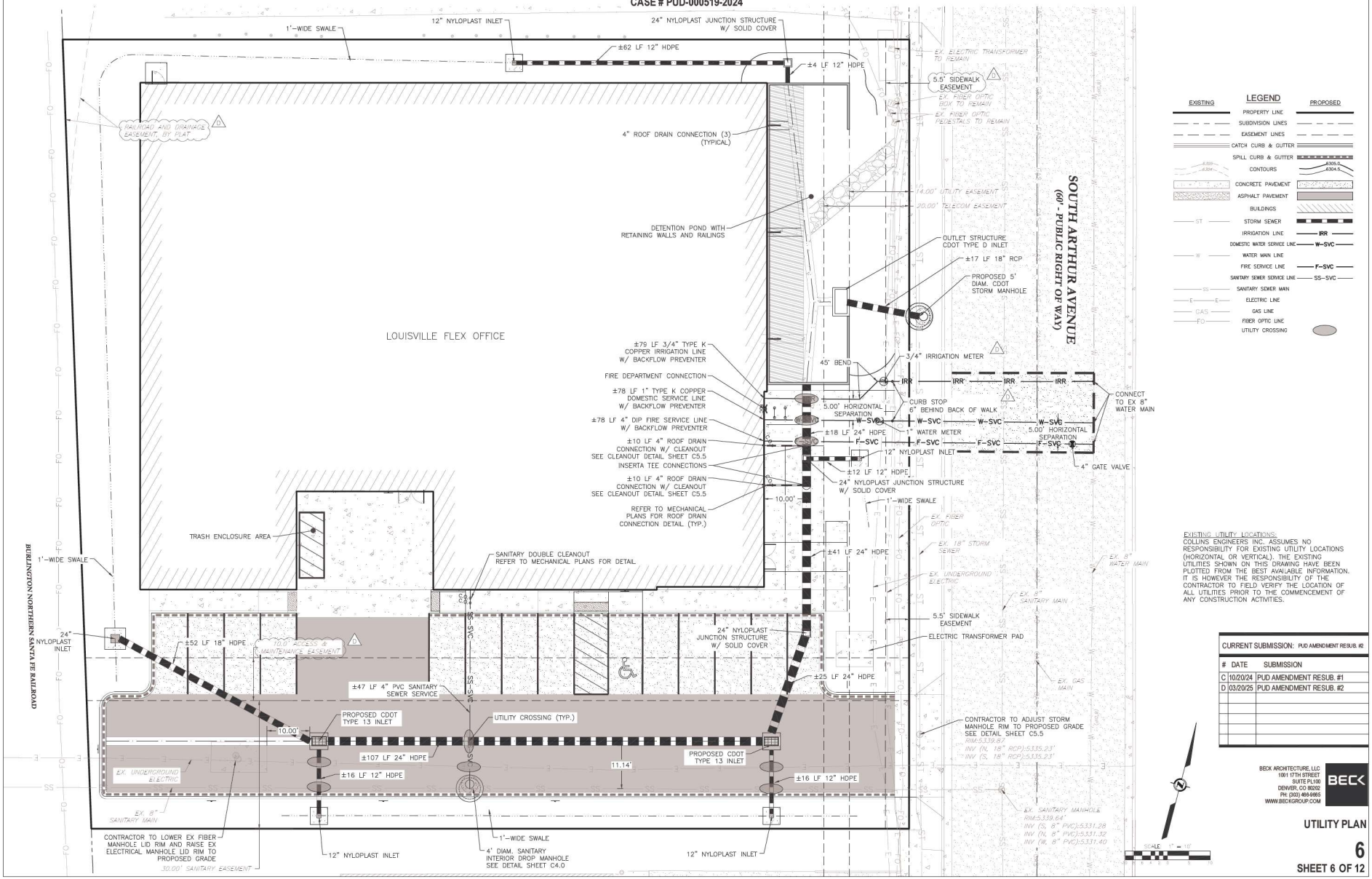
5

SHEET 5 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



LEGEND

EXISTING		PROPOSED
	PROPERTY LINE	
	SUBDIVISION LINES	
	EASEMENT LINES	
	CATCH CURB & GUTTER	
	SPILL CURB & GUTTER	
	CONTOURS	
	CONCRETE PAVEMENT	
	ASPHALT PAVEMENT	
	BUILDINGS	
ST	STORM SEWER	
	IRRIGATION LINE	IRR
	DOMESTIC WATER SERVICE LINE	W-SVC
W	WATER MAIN LINE	
	FIRE SERVICE LINE	F-SVC
	SANITARY SEWER SERVICE LINE	SS-SVC
SS	SANITARY SEWER MAIN	
E	ELECTRIC LINE	
GAS	GAS LINE	
FO	FIBER OPTIC LINE	
	UTILITY CROSSING	

EXISTING UTILITY LOCATIONS:
COLLINS ENGINEERS INC. ASSUMES NO RESPONSIBILITY FOR EXISTING UTILITY LOCATIONS (HORIZONTAL OR VERTICAL). THE EXISTING UTILITIES SHOWN ON THIS DRAWING HAVE BEEN PLOTTED FROM THE BEST AVAILABLE INFORMATION. IT IS HOWEVER THE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES.

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2

#	DATE	SUBMISSION
C	10/2/24	PUD AMENDMENT RESUB. #1
D	03/20/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 466-9885
WWW.BECKGROUP.COM

BECK

UTILITY PLAN

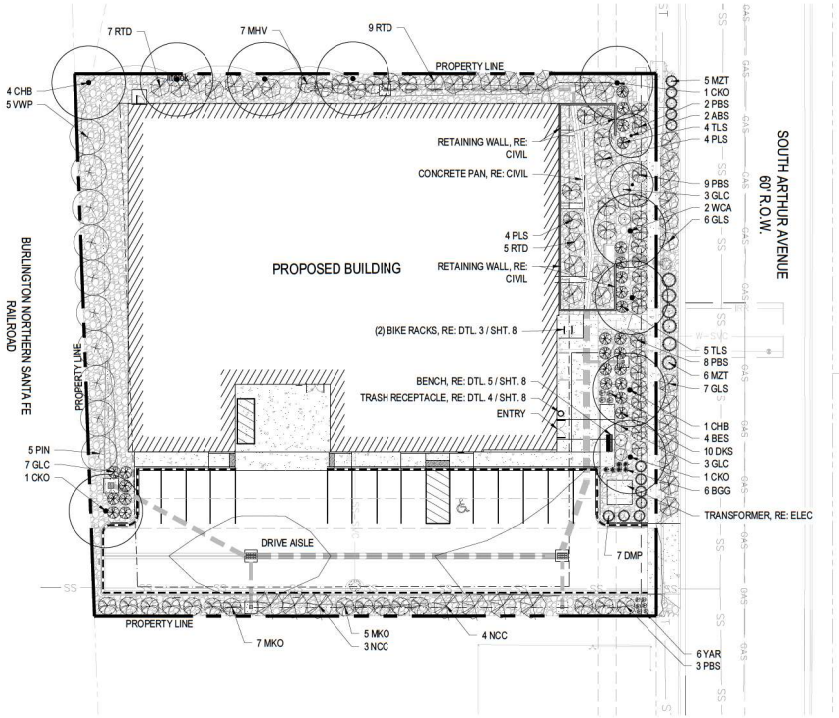
6

SHEET 6 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



1/7 LANDSCAPE PLAN

SCALE: 1" =20'

0 10 20 40

SCALE: 1"=20'

NORTH

PLANTING SCHEDULE:

KEY	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	HEIGHT	WIDTH	WATER	QTY.
DECIDUOUS TREES								
WCA	*Catalpa speciosa*	Western Catalpa	2.5" cal.	as shown	40-60'	30-50'	L	2
CHB	*Celtis occidentalis*	Common Hackberry	2.5" cal.	as shown	40-60'	40-60'	L	5
CKO	*Quercus muhlenbergii*	Chinkapin Oak	2.5" cal.	as shown	40 - 50'	40-50'	L	3
							TOTAL:	10
EVERGREEN TREES								
PIN	*Pinus edulis*	Pinon Pine	6'	as shown	20-30'	10-20'	L	5
VWP	*Pinus flexilis 'Vanderwolf's Pyramid'*	Vanderwolf's Pyramid Limber Pine	6'	as shown	20'	10'	L	5
							TOTAL:	10
ORNAMENTAL TREES								
ABS	*Amelanchier x grandiflora*	Autumn Brilliance Serviceberry	2" cal.	as shown	15 - 20'	10'	L	2
							TOTAL:	2
EVERGREEN SHRUBS								
DMP	*Pinus mugo 'Pumilo'*	Dwarf Mugo Pine	#5	4' o.c.	3-4'	3-4'	L	7
MZT	*Arctostaphylos x coloradenss 'Panchito'*	Panchito Manzanita	#5	4' o.c.	2'	4'	L	11
							TOTAL:	18
DECIDUOUS SHRUBS								
GLC	*Ribes aureum*	Golden Currant	#5	4' o.c.	3-7'	4-6'	L	
RTD	*Cornus sericea*	Redtwig Dogwood	#5	6' o.c.	6-3'	6-10'	M	21
DKS	*Caryopteris x clandonensis 'Dark Knight'*	Dark Knight Spirea	#5	3' o.c.	3-4'	3-4'	L	10
MKO	*Philadelphus lewisii 'Cheyenne'*	Cheyenne Mockorange	#5	6' o.c.	5-7'	4-6'	L	12
PBS	*Prunus besseyi 'Pawnee Buttes'*	Pawnee Buttes Sand Cherry	#5	5' o.c.	1-2'	4-6'	M	21
PLS	*Prunus x cistena*	Purple Leaf Sand Cherry	#5	6' o.c.	6-3'	4-6'	M	8
TLS	*Rhus trilobata*	Three-Leaf Sumac	#5	4' o.c.	3-4'	3-4'	L	9
NCC	*Prunus virginiana melanocarpa*	Native Chokecherry	#5	8' o.c.	8-10'	8-10'	L	7
MHV	*Viburnum lantana 'Mohican'*	Mohican Viburnum	#5	6' o.c.	6-3'	6-8'	L	7
GLS	*Rhus aromatica 'Grow Low'*	Gro-Low Sumac	#5	8' o.c.	3'	8'	L	12
							TOTAL:	120
ORNAMENTAL GRASSES								
BGG	*Bouteloua gracilis*	Blue Grama Grass	#1	24" o.c.	1-2'	1-2'	L	6
							TOTAL:	6
PERENNIALS								
YAR	*Achillea millefolium*	Common Yarrow	#1	24" o.c.	18-24"	2-3'	L	6
BES	*Rudbeckia fulgida 'Goldstum'*	Black Eyed Susan	#1	24" o.c.	24-36"	18-24"	L	4
							TOTAL:	10

PLANTING LEGEND:

- DECIDUOUS SHADE TREE
- ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASSES
- PERENNIALS

MATERIAL LEGEND:

- PROPERTY LINE
- 1-1/2" RIVER ROCK MULCH
- BENCH
- WASTE RECEPTACLE
- BIKE RACK

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2

#	DATE	SUBMISSION
C	12/20/24	PUD AMENDMENT RESUB. #1
D	03/20/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL1I0
DENVER, CO 80202
PH: (303) 466-9995
WWW.BECKGROUP.COM

BECK

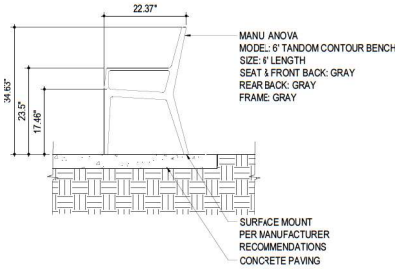
LANDSCAPE PLAN

7

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

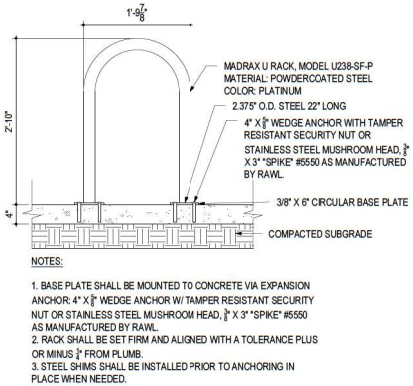
LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



5/8 BENCH DETAIL

SCALE: 1/2" = 1'-0"

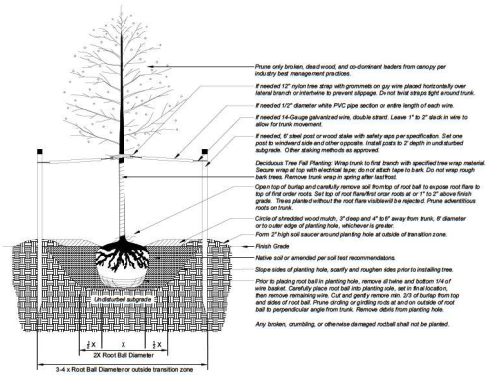


NOTES:

1. BASE PLATE SHALL BE MOUNTED TO CONCRETE VIA EXPANSION ANCHOR: 4" X 3/8" WEDGE ANCHOR W/ TAMPER RESISTANT SECURITY NUT OR STAINLESS STEEL MUSHROOM HEAD, 3/8" X 3" "SPIKE" #5550 AS MANUFACTURED BY RAWL.
2. RACK SHALL BE SET FIRM AND ALIGNED WITH A TOLERANCE PLUS OR MINUS 1/4" FROM PLUMB.
3. STEEL SHIMS SHALL BE INSTALLED PRIOR TO ANCHORING IN PLACE WHEN NEEDED.

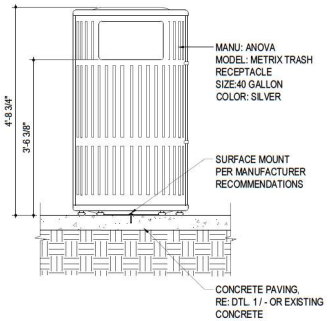
3/8 BIKE RACK DETAIL

SCALE: 1/2" = 1'-0"



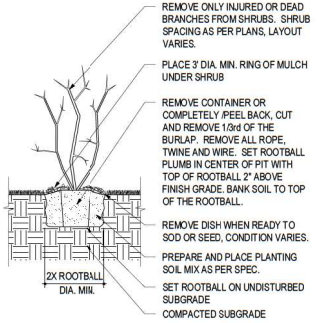
1/8 TREE PLANTING DETAIL

SCALE: NTS



4/8 TRASH RECEPTACLE DETAIL

SCALE: 3/4" = 1'-0"



2/8 SHRUB PLANTING DETAIL

SCALE: 1/2" = 1'-0"

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #2		
#	DATE	SUBMISSION
C	12/20/24	PUD AMENDMENT RESUB. #1
D	03/20/25	PUD AMENDMENT RESUB. #2

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL1I0
DENVER, CO 80202
PH: (303) 466-9965
WWW.BECKGROUP.COM

BECK

LANDSCAPE DETAILS

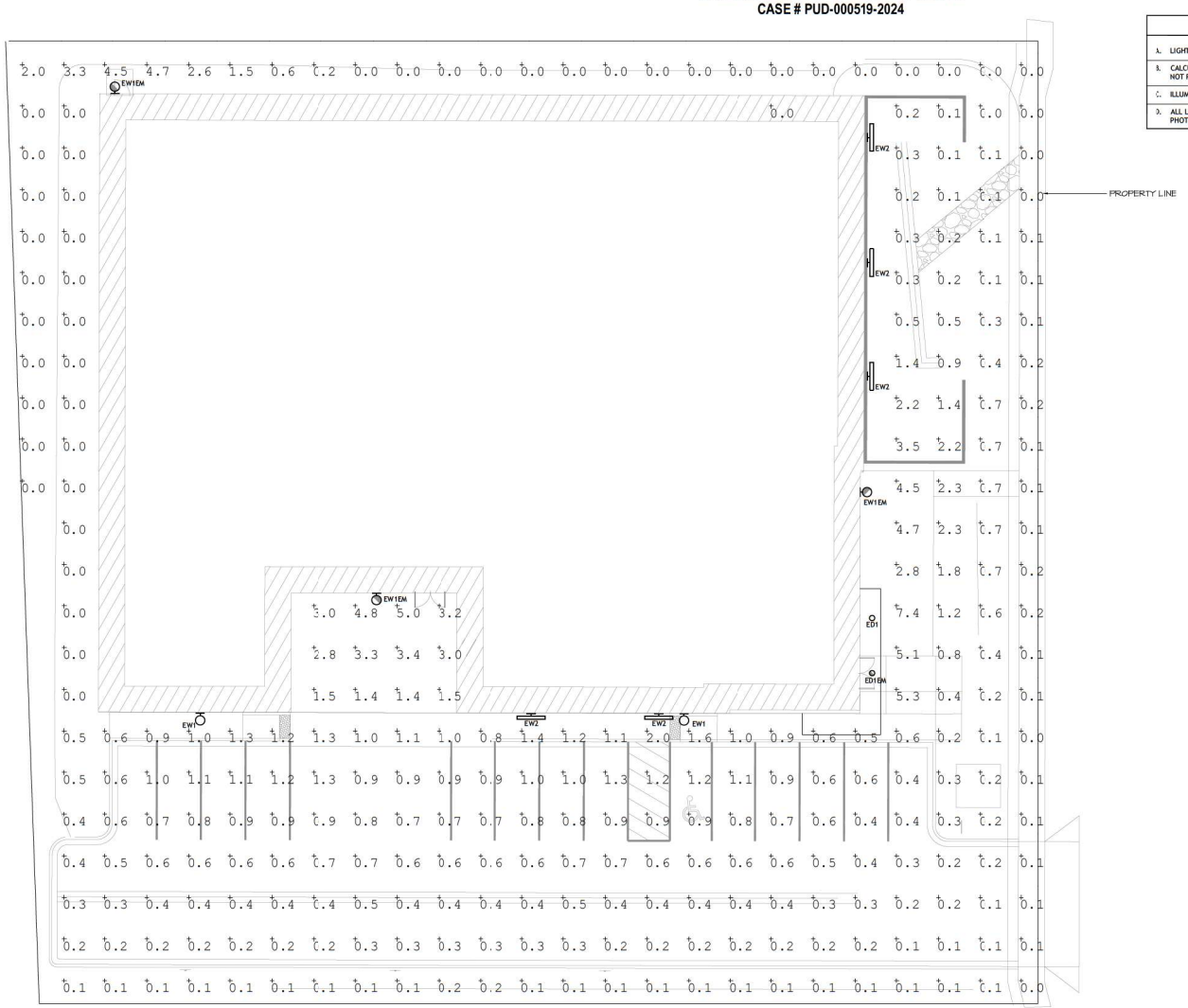
8

8 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



LIGHTING GENERAL NOTES
1. LIGHTING CALCULATIONS WERE MADE USING A LIGHT LOSS FACTOR OF 1.0
2. CALCULATION POINTS WERE TAKEN AT GRADE LEVEL ON A 10'X10' GRID. CALCULATIONS DO NOT REPRESENT ANY SLOPE OF ELEVATION CHANGE.
3. ILLUMINANCE CONTRIBUTIONS FROM STREET LIGHTING AND ADJACENT ARE NOT INCLUDED.
4. ALL LIGHT FIXTURES WILL BE CONTROLLED BY ASTRONOMICAL TIME CLOCK AND/OR PHOTOCELL.

A1 / A	LUMINAIRE TYPE, REFERENCING LUMINAIRE SCHEDULE, TYPICAL ALL FIXTURES. SUBSCRIPT, IF SHOWN, REFERENCES WAL. SWITCH OR RELAY/ZONE CONTROL.
	WALL MOUNTED LUMINAIRE
	DOWNLIGHT LUMINAIRE

1 SITE PHOTOMETRIC

1 SCALE: 3/32" = 1'0"

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #1		
#	DATE	SUBMISSION
2	12/20/24	PUD AMENDMENT RESUB. #1

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL1W
DENVER, CO 80202
PH: (303) 466-9985
WWW.BECKGROUP.COM

BECK

ELECTRICAL SITE PHOTOMETRIC 9

SHEET 9 OF 12

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024

Calculation Summary						
Label	CalcType	Avg	Max	Min	Avg/Min	Max/Min
Property Line	Illuminance	0.24	3.3	0.0	N.A.	N.A.
Site Calcs	Illuminance	0.69	7.4	0.0	N.A.	N.A.

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	CATALOG NUMBER	VOLTAGE	LAMP QTY	LAMP WATT	LAMP TYPE	DELIVERED LUMENS	CCT	MOUNTING LOCATION	INFORMATION BOF/RFD/OFH	FIXTURE FINISH	NOTES
ED1	SURFACE MOUNTED 4" DOWNLIGHT WITH SURFACE CONDUIT BOX TRIM	LIGMAN	UJE-14WCOB-W-W30-01-120/277V-SCBT	277	1	14	LED	1,618	3000 K	SURFACE CANOPY	9.1" OFH	BLACK	
ED1EM	SURFACE MOUNTED 4" DOWNLIGHT WITH SURFACE CONDUIT BOX TRIM CONNECTED TO EMERGENCY INVERTER	LIGMAN	UJE-14WCOB-W-W30-01-120/277V-SCBT	277	1	14	LED	1,618	3000 K	SURFACE CANOPY	9.1" OFH	BLACK	
EW1	WALL MOUNTED AREA LIGHT WITH FORWARD THROW.	LITHONIA	WDGE2-LED-P3-30K-80CRI-VF-MVOLT-SRM-DBLXD	277	1	23	LED	3,015	3000 K	SURFACE WALL	20'-0" OFH	WHITE	
EW1EM	WALL MOUNTED AREA LIGHT WITH FORWARD THROW EMERGENCY BATTERY BACKUP	LITHONIA	WDGE2-LED-P3-30K-80CRI-VF-MVOLT-SRM-E10WH-DBLXD	277	1	23	LED	3,015	3000 K	SURFACE WALL	10'0" OFH	WHITE	
EW2	SURFACE MOUNTED WALL WASHER, AIMED TOWARDS BUILDING TO LIGHT BUILDING SLOTS. WET RATED.	WE-EF	187-0488-9004	277	1	24	LED	2,880	3000 K	SURFACE WALL	2'-0" OFH	WHITE	

ABBREVIATIONS: BOF - BOTTOM OF FIXTURE, RFD - RECESSED FIXTURE DEPTH, OFH - OVERALL FIXTURE HEIGHT

NOTES: ARCHITECT SHALL CONFIRM FIXTURE FINISH

187-0488

VLR120

we-ef

Description

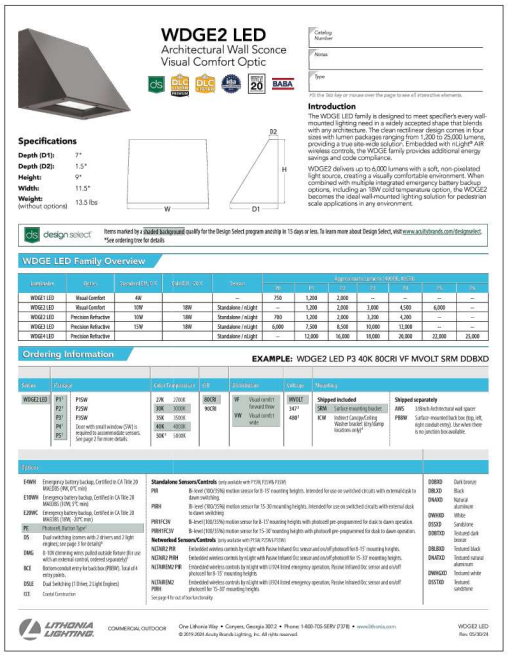
IP67. Class I. IK09. Marine-grade, all aluminum construction. SCE superior corrosion protection including PCS hardware. Silicone CCG® Controlled Compression Gasket. Linear PMMA LED lens, PMMA cover. 4 ft connecting cable, UV stabilized, PVC free. Integral LED driver; separate driver on request at time of order. 0-10V Dimming comes standard with luminaire. Luminaire is factory-sealed and does not need to be opened during installation and can be tilted up to 180°.

Specify product with 7 Digit product code - Finish Color. Accessories, such as mounting, optical, and electrical, must be specified separately.
Example: XXX-XXXX-9004 (Black)
+ XXX-XXXX (Accessory 1)

Weight	5.40
Light distribution	symmetric linear, medium beam [.M/W]
Light source	LED-32/20W / 225 mA - 3000 K
CRI	80
Power supply	EC
LEDs	32
Rated input power	23.5 W
Nominal Lumen (lm)	
LED Lumen	90
Total Lumen	2880
Tj	85
Rated lumens (lm)	
LED Lumen	33.4
Total Lumen	1068.8
Ta	25

WE-EF LIGHTING USA, LLC
410-D Keystone Drive, 15086 Warrendale, PA 15086 - Phone: +1 724 742 0030
customersupport.us@we-ef.com - https://we-ef.com/us
Subject to technical changes and errors. - Generated on 06/27/2024

1 of 3



WDGE2 LED

Architectural Wall Sconce
Visual Comfort Optic

Specifications

Depth (D1):	7"
Depth (D2):	1.5"
Height:	9"
Width:	11.5"
Weight: (without options)	13.5 lbs

Introduction

The WDGE LED family is designed to meet specifier's every wall-mounted lighting need in a widely accepted shape that blends with any architecture. The clean rectilinear design comes in four sizes with lumen packages ranging from 1,200 to 25,000 lumens, providing a true ultra-wide solution. Embedded with nLight® AIR wireless controls, the WDGE family provides additional energy savings and code compliance.

WDGE2 delivers up to 6,000 lumens with a soft, non-pixelated light source, creating a visually comfortable environment. When combined with multiple integrated emergency battery backup options, including an 18W cold temperature option, the WDGE2 becomes the ideal wall-mounted lighting solution for pedestrian scale applications in any environment.

design select Items marked by a shaded background qualify for the Design Select program anchship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details.

WDGE LED Family Overview

Luminaire	Series	Power@350 mA	Power@530 mA	Drivers	Approximate Lumens (4000K, 80CRI)					
					P1	P2	P3	P4	P5	P6
WDGE1 LED	Visual Comfort	4W		–	750	1,200	2,000	–	–	–
WDGE1 LED	Visual Comfort	10W	18W	Standalone / nLight	–	1,200	2,000	3,000	4,000	6,000
WDGE2 LED	Precision Refractive	10W	18W	Standalone / nLight	780	1,200	2,000	3,200	4,200	–
WDGE3 LED	Precision Refractive	15W	30W	Standalone / nLight	6,000	7,200	8,500	10,000	12,000	–
WDGE4 LED	Precision Refractive			Standalone / nLight		12,000	16,000	18,000	20,000	22,000	25,000

Ordering Information

EXAMPLE: WDGE2 LED P3 40K 80CRI VF MVOLT SRM DDBXD

Series	Package	Color Temperature	CRI	Standalone	Voltage	Mounting
WDGE2 LED	P1 P2 P3 P4 P5	27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K* 5000K	80CRI 90CRI	VF Visual comfort forward throw VW Visual comfort wide	MVOLT 347 480	Shipped included SRM Surface mounting bracket ICW Indirect Canopy/Ceiling Washer bracket. Any/clamp locations only*

Shipped separately
AWS 120pcs Architectural wall spacer
PBBW Surface-mounted back box (top, left, right conduit entry). Use when there is no junction box available.

Options

E4WH	Emergency battery backup, Certified in CA Title 20 MAED, 4W, 0°C min	DDBXD	Dark bronze
E10WH	Emergency battery backup, Certified in CA Title 20 MAED, 10W, 0°C min	DBLBD	Black
E20WC	Emergency battery backup, Certified in CA Title 20 MAED, 18W, -20°C min	DNAXD	Natural aluminum
PE	Photocell, Button Type*	DWHXD	White
DS	Dual switching (comes with 2 drivers and 2 light engines, see page 3 for details)*	DSSXD	Sandstone
DMG	0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)*	DDBTXD	Textured dark bronze
BCE	Factory-installed entry for back box (PBBW). Total of 4 entry points.	DBLBXD	Textured black
DSSE	Dual Switching (1 Driver, 2 Light Engines)	DNATXD	Textured natural aluminum
CCE	Coastal Construction	DWHGXD	Textured white
		DSSTXD	Textured sandstone

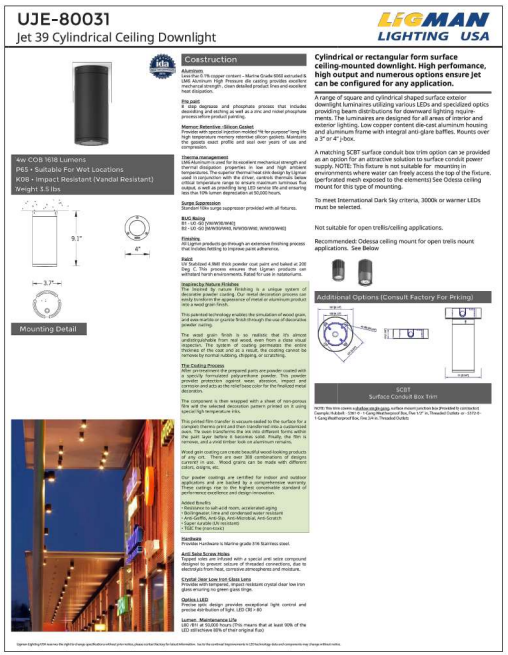
Standalone Sensors/Controls (only available with P3 P4 P5 P6 P7 P8)
PIR — Bi-level (100/35%) motion sensor for 8-15' mounting heights. Intended for use on switched circuits with external/stick to dawn switching.
PIRH — Bi-level (100/35%) motion sensor for 15-30 mounting heights. Intended for use on switched circuits with external clock to dawn switching.
PIRTFCW — Bi-level (100/35%) motion sensor for 8-15' mounting heights with photocell pre-programmed for dusk to dawn operation.
PIRHTFCW — Bi-level (100/35%) motion sensor for 15-30' mounting heights with photocell pre-programmed for dusk to dawn operation.

Networked Sensors/Controls (only available with P3 P4 P5 P6 P7 P8)
NLTAIR2 PIR — Embedded wireless controls by nLight with Passive Infrared (Occ sensor and on/off photocell for 8-15' mounting heights.
NLTAIR2 PIRH — Embedded wireless controls by nLight with Passive Infrared (Occ sensor and on/off photocell for 15-30' mounting heights.
NLTAIRDMG PIR — Embedded wireless controls by nLight with 0-10V dimming wires pulled outside fixture (for use with an external control, ordered separately)* Embedded wireless controls by nLight with 0-10V 4 hired emergency operation, Passive Infrared (Occ sensor and on/off photocell for 15-30' mounting heights.
NLTAIRDM2 PIRH — Embedded wireless controls by nLight with 0-10V 4 hired emergency operation, Passive Infrared (Occ sensor and on/off photocell for 15-30' mounting heights.

See page 4 for out of box functionality

LITHONIA LIGHTING. COMMERCIAL OUTDOOR One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • www.lithonia.com
© 2019-2020 Acuity Brands Lighting, Inc. All rights reserved.

WDGE2 LED
Rev. 05/28/20



UJE-80031

Jet 39 Cylindrical Ceiling Downlight

LIGMAN LIGHTING USA

4w COB 1618 Lumens
IP65 - Suitable For Wet Locations
IK08 - Impact Resistant (Vandal Resistant)
Weight 1.5 lbs

Mounting Detail

Coastruction

Cylindrical or rectangular form surface ceiling-mounted downlight. High performance, high output and numerous options ensure jet can be configured for any application.

A range of square and cylindrical shaped surface exterior downlight luminaires utilizing various LEDs and specialized optics providing beam distributions for downward lighting requirements. The luminaires are designed for all areas of interior and exterior lighting. Low copper content die-cast aluminum housing and aluminum frame with integral anti-glare baffles. Mounts over a 3" or 4" j-box.

A matching SCBT surface conduit box trim option can be provided as an option for an attractive solution to surface conduit power supply. NOTE: This fixture is not suitable for mounting in environments where water can freely access the top of the fixture. (perforated mesh exposed to the elements) See Odessa ceiling mount for this type of mounting.

To meet International Dark Sky criteria, 3000k or warmer LEDs must be selected.

Not suitable for open trellis/ceiling applications.

Recommended: Odessa ceiling mount for open trellis mount applications. See Below

Additional Options (Consult Factory For Pricing)

SCBT
Surface Conduit Box Trim

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #1		
#	DATE	SUBMISSION
C	12/20/24	PUD AMENDMENT RESUB. #1

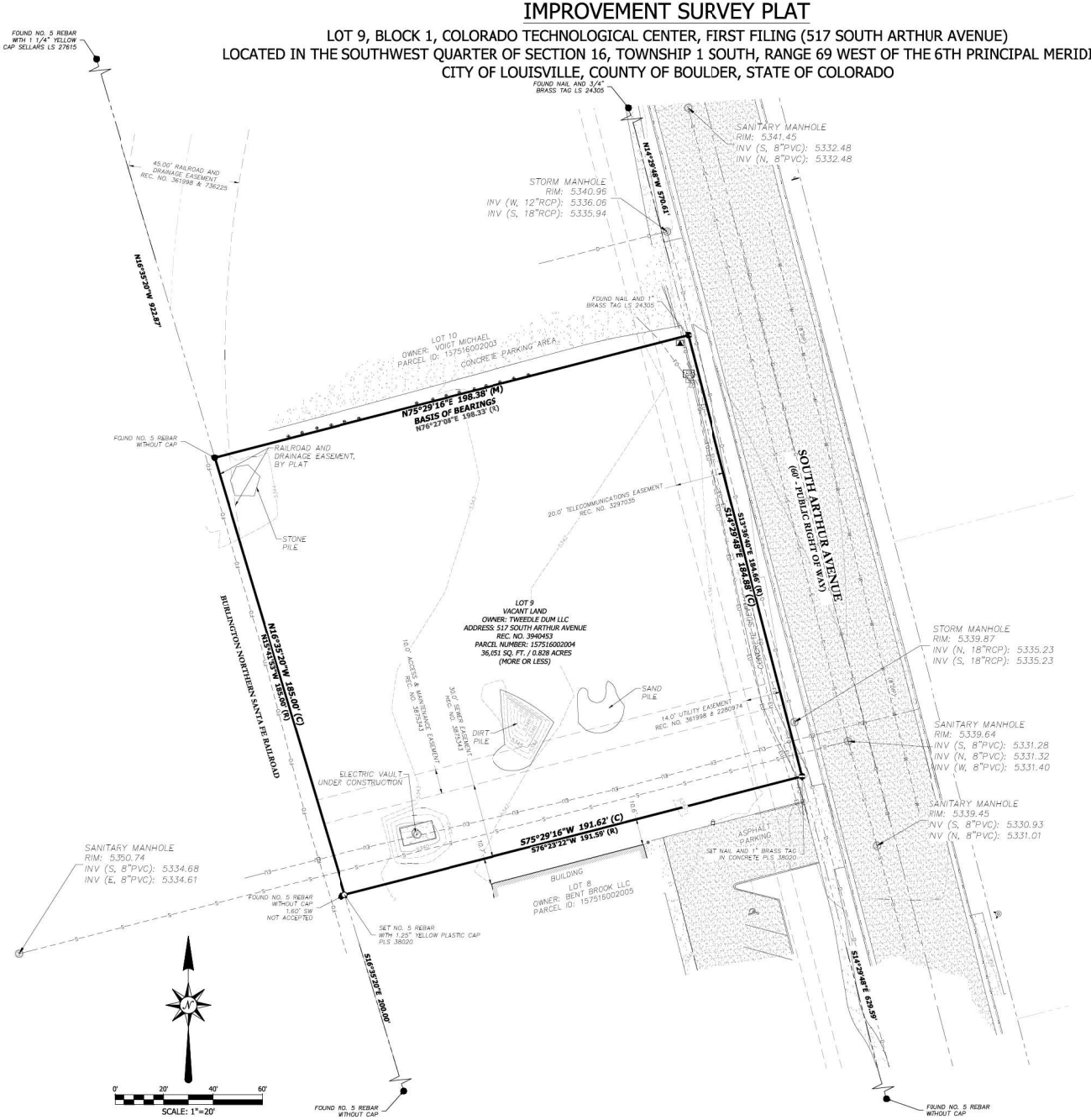
BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 466-9965
WWW.BECKGROUP.COM

ELECTRICAL SCHEDULES

10

IMPROVEMENT SURVEY PLAT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING (517 SOUTH ARTHUR AVENUE)
LOCATED IN THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO



VICINITY MAP
1" = 1000'

LEGAL DESCRIPTION

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING, CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

GENERAL NOTES

1. ACCORDING TO COLORADO LAW YOU MUST COMMENCE ANY LEGAL ACTION BASED UPON ANY DEFECT IN THIS SURVEY WITHIN THREE YEARS AFTER YOU FIRST DISCOVER SUCH DEFECT. IN NO EVENT MAY ANY ACTION BASED UPON ANY DEFECT IN THIS SURVEY BE COMMENCED MORE THAN TEN YEARS FROM THE DATE OF THE CERTIFICATION SHOWN HEREON. (COLORADO REVISED STATUTES TITLE 13, ARTICLE 80, SECTION 105 [C.R.S. § 13-80-105])
2. THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY R&R ENGINEERS-SURVEYORS TO DETERMINE OWNERSHIP OR EASEMENTS OF RECORD. EASEMENT RESEARCH AND OWNERSHIP INFORMATION WERE PROVIDED BY CLIENT IN THE TITLE COMMITMENT OR TITLE REPORT REFERENCED HEREON.
3. UTILITY INFORMATION WAS OBTAINED FROM VISIBLE FIELD OBSERVATION AND UTILITY LOCATE SERVICES PROVIDED B" TOM RICHARDSON, LLC. THE LOCATION OF UNDERGROUND UTILITIES ARE SHOWN BASED ON VISIBLE ABOVE GROUND EVIDENCE ONLY AND NO RESPONSIBILITY IS ACCEPTED FOR THEIR ACCURACY. THE LOCATIONS OF UNDERGROUND UTILITIES MUST BE FIELD VERIFIED PRIOR TO ANY DIGGING ON OR ADJACENT TO THE SUBJECT PROPERTY. UTILITY NOTIFICATION CENTER OF CO.CORADO 1-800-922-1987
4. BASIS OF BEARINGS (ASSUMED): BEARINGS ARE BASED ON THE NORTH LINE OF SAID LOT 9 HAVING AN ASSUMED BEARIBG OF NORTH 75° 29' 16" EAST, SAID LINE MONUMENTED AT EACH END AS SHOWN HEREON.
5. BENCHMARK: NGS DESIGNATION Q 413, A STAINLESS STEEL ROD IN A MONUMENT BOX LOCATED NORTH OF DILLON ROAD AND EAST OF S 104TH ST. ELEVATION = 5296.06 (NAVD88)
6. UNITS SHOWN ARE U.S. SURVEY FEET.
7. DATE OF FIELDWORK: 04/08/2024.

SURVEYOR'S CERTIFICATION

I, BASIL MICAH HANSON, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF COLORADO, HAVE AFFIXED MY STAMP AND SIGNATURE REPRESENTING THAT THE SURVEYING SERVICES ADDRESSED HEREON HAVE BEEN PERFORMED BY ME OR UNDES MY RESPONSIBLE CHARGE, AND ARE BASED UPON THE PROFESSIONAL SURVEYOR'S KNOWLEDGE, INFORMATION, BELIEF AND IS IN ACCORDANCE WITH APPLICABLE STANDARDS OF PRACTICE.

COLORADO REGISTERED PROFESSIONAL LAND SURVEYOR
BASIL MICAH HANSON
06/10/2024
PLS 38020

BASIL MICAH HANSON, P.L.S.
COLORADO REG. NO. 38020
FOR AND ON BEHALF OF
R&R ENGINEERS-SURVEYORS, INC.

THE WORD "CERTIFICATION" AND/OR "CERTIFY" AS SHOWN AND USED HEREON MEANS AN EXPRESSION OF PROFESSIONAL OPINION REGARDING THE FACTS OF THE SURVEY AND DOES NOT CONSTITUTE A WARRANTY OR GUARANTEE, EXPRESSED OR IMPLIED.

LEGEND

(M)	MEASURED	FO	FIBER OPTIC BOX (ON CONCRETE PAD)
(C)	CALCULATED	FP	FIBER OPTIC PEDESTAL
(R)	RECORD	•	BOLLARD, CONCRETE OR STEEL
	CURB AND GUTTER	E	ELECTRIC MANHOLE
5100	MAJOR CONTOUR	E	TRANSFORMER BOX (ON CONCRETE PAD)
5201	MINOR CONTOUR	D	UNDERGROUND STORM DRAIN LINE
	EXISTING BUILDING EDGE	D	STORM DRAIN MANHOLE
	ASPHALT SURFACE	S	UNDERGROUND SANITARY SEWER LINE
	CONCRETE SURFACE	S	SANITARY SEWER MANHOLE
	SURVEYED PROPERTY BOUNDARY LINE	W	UNDERGROUND WATER LINE
	PLATTED LOT LINE	DIP	DUCTILE IRON PIPE
FO	UNDERGROUND FIBER OPTIC LINE, AS MARKED		FIRE HYDRANT
	SIGN, SINGLE POLE		
G	UNDERGROUND ELECTRIC		

R&R ENGINEERS-SURVEYORS, INC.
1635 W. 13TH AVENUE, SUITE 310
DENVER, COLORADO 80204
303-753-6730
www.rrengineers.com

REVISIONS	
5/10/2024	Added topo north & south of subj property.
6/10/2024	REVIEW TITLE COMMITMENT AND ADD EASEMENTS

File: TD24047
Org. Issue Date: 4/1/2024
Drawn By: JDM
Checked By: BMH
Project No.
TD24047

IMPROVEMENT SURVEY PLAT
LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING (517 SOUTH ARTHUR AVENUE) LOCATED IN THE SOUTHWEST QUARTER OF SECTION 16, TOWNSHIP 1 SOUTH, RANGE 69 WEST OF THE 6TH PRINCIPAL MERIDIAN
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO

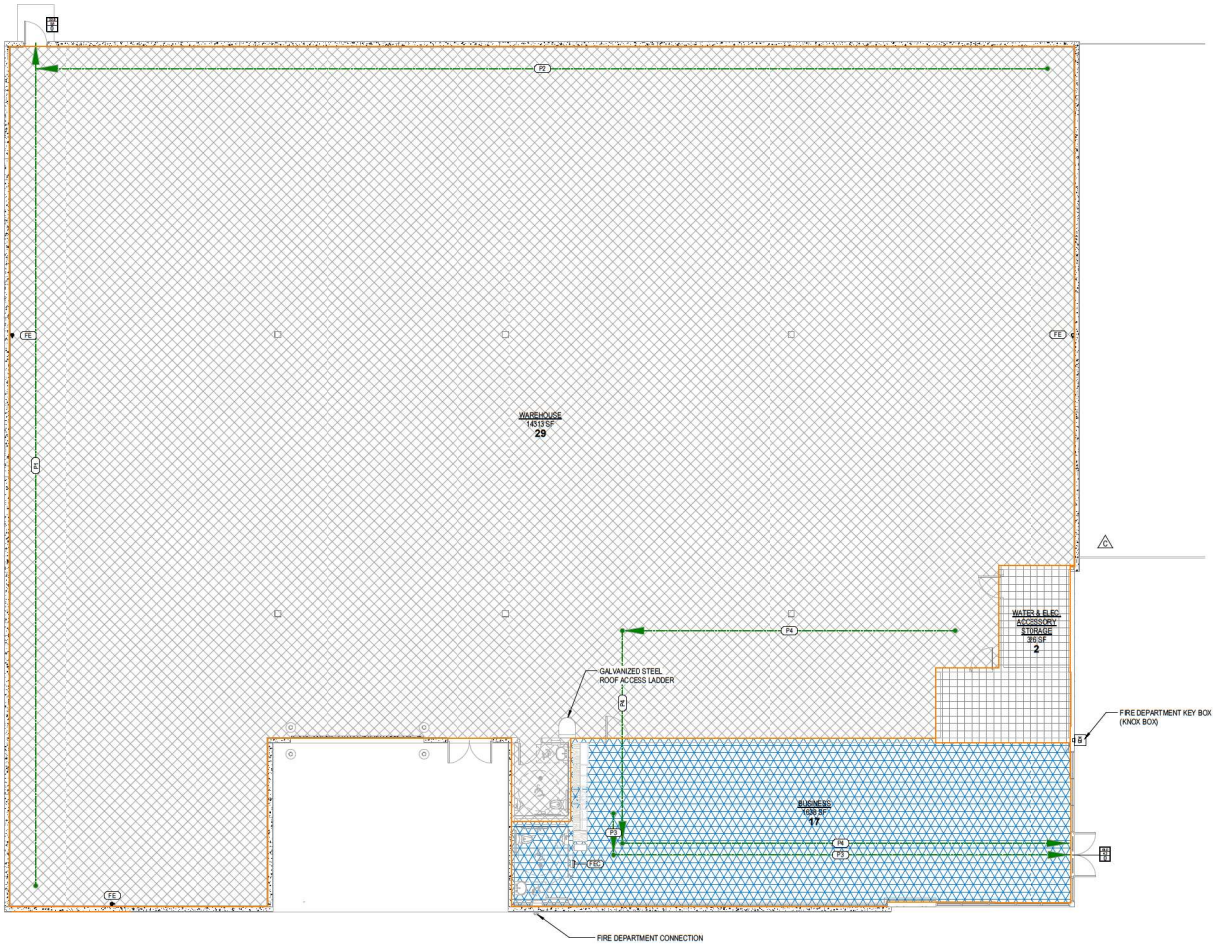
Sheet 1 of 1

Jun 10, 2024 - 12:59pm Plotted by: shanson P:\TD24047 517 S. Arthur Avenue\Survey - Legal Group\10-CAD Drawings\TD24047-ISP.dwg

RED GOLD BOTTLING CORPORATION PLANNED UNIT DEVELOPMENT, 1ST AMENDMENT

LOT 9, BLOCK 1, COLORADO TECHNOLOGICAL CENTER, FIRST FILING,
CITY OF LOUISVILLE, COUNTY OF BOULDER, STATE OF COLORADO.

CASE # PUD-000519-2024



AREA OCCUPANCY LEGEND

- Accessory Storage Areas, Mechanical equipment rooms
- Business
- Warehouses

1 CODE COMPLIANCE AREA PLAN- LEVEL 1

SCALE: 1/8" = 1'-0"

APPLICABLE BUILDING CODES

BUILDING CODE:	2018 INTERNATIONAL BUILDING CODE (IBC) w/ LOCAL AMMENDMENTS
MECHANICAL CODE:	2018 INTERNATIONAL MECHANCAL CODE (IMC) w/ LOCAL AMENDMENTS
PLUMBING CODE:	2018 INTERNATIONAL PLUMBING CODE (IPC) w/ LOCAL AMENDMENTS
ELECTRIC CODE:	2023 NATIONAL ELECTRIC CODE (NEC) w/ LOCAL AMENDMENTS
FIRE CODE:	2018 INTERNATIONAL FIRE CODE (IFC) w/ LOCAL AMENDMENTS
ENERGY CODE:	2018 INTERNATIONAL ENERGY CONSERVATION CODE w/ LOCAL AMENDMENTS
FUEL GAS CODE:	2018 INTERNATIONAL FUEL GAS CODE (IFGC) w/ LOCAL AMENDMENTS
LOCAL CODE:	LOUISVILLE MUNICIPAL CODE: CHAPTER 15 - BUILDINGS AND CONSTUCTION
OTHER CODE(S):	1997 UNIFORM CODE FOR THE ABATEMENT OF DANGEROUS BUILDING CODE

CODE COMPLIANCE GRAPHICS

- EXISTING PARTITION TO REMAIN
- PARTITION
- SMOKE PARTITION
- 1 HR BARRIER
- 1 HR / SMOKE BARRIER
- 2 HR BARRIER
- 2 HR / SMOKE BARRIER
- 3 HR BARRIER
- 3 HR / SMOKE BARRIER
- EXIT SIGN TWO SIDED DIRECTIONAL TWO WAY
- EXIT SIGN ONE SIDED DIRECTIONAL
- EXIT SIGN ONE SIDED
- PROVIDED EGRESS WIDTH
- REQUIRED EGRESS WIDTH
- DOOR RATING (TAG USED ON NON-EGRESS DOORS)
- FIRE EXTINGUISHER ON HOOKS
- FIRE EXTINGUISHER CABINET - SEMI RECESSED
- COMMON PATH TRAVEL DISTANCE PATH NUMBER
- EXIT TRAVEL DISTANCE PATH NUMBER
- DEAD END DISTANCE PATH NUMBER
- TRAVEL DISTANCE TO NEAREST CARE SUITE PATH NUMBER
- TRAVEL DISTANCE TO NEAREST SMOKE COMPARTMENT PATH NUMBER

TRAVEL DISTANCES TOTALS SHOWN ON SCHEDULE

TRAVEL DISTANCE PATHS

PATH	LENGTH	IBC MAX TRAVEL DISTANCE
P1	115'-0"	250'-0" (S-1, PER TABLE IBC §1017.2)
P2	138'-3"	250'-0" (S-1, PER TABLE IBC §1017.2)
P3	68'-0"	250'-0" (B, PER TABLE IBC §1017.2)
P4	135'-6"	250'-0" (B, PER TABLE IBC §1017.2)

BUILDING OCCUPANT LOADS

Area Information		Area Per			
Area Occupancy Key	Area	Occupant	Percentage	Seating Occupancy	Occupancy Calculated Rounded
LEVEL 1					
Accessory Storage Areas, Mechanical equipment rooms	326 SF	300 SF	2%		2
Business	1638 SF	100 SF	10%		17
Warehouses	14313 SF	500 SF	88%		29
	16277 SF		100%		48

OCCUPANCY TYPE & ALLOWABLE AREA/HEIGHT

CONSTRUCTION TYPE: TYPE IB

PRIMARY BUILDING OCCUPANCY: S-1 - STORAGE/WAREHOUSE

SECONDARY BUILDING OCCUPANCIES: B - BUSINESS

MIXED-USE SEPARATION:
- ACCESSORY OCCUPANCIES _ _ _ _ _ _ _ _ _ NO
- NON-SEPARATED OCCUPANCIES _ _ _ _ _ _ _ _ YES
- SEPARATED OCCUPANCIES (SEE TABLE) _ _ _ _ _ NO
- **SPECIAL PROVISIONS (PER IBC 510)_ _ _ _ _ _ NO

ALLOWABLE BUILDING AREA (TABLE 506.2)	TABULAR	ACTUAL
LEVEL 1: S-1, SPRINKLED SINGLE-STORY	70,000 SF PER LEVEL	16,678 SF PER LEVEL

ALLOWABLE BUILDING HEIGHT		
BUILDING HEIGHT (IBC TABLE 504.3) S-1, SPRINKLED SINGLE-STORY	75'-0" ABOVE GRADE PLANE	26'-8" ABOVE GRADE PLANE
BUILDING HEIGHT (IBC TABLE 504.4) S-1, SPRINKLED SINGLE-STORY	4 STORIES ABOVE GRADE PLANE	1 STORY ABOVE GRADE PLANE

CURRENT SUBMISSION: PUD AMENDMENT RESUB. #1

#	DATE	SUBMISSION
C	10/20/24	PUD AMENDMENT RESUB. #1

BECK ARCHITECTURE, LLC
1001 17TH STREET
SUITE PL100
DENVER, CO 80202
PH: (303) 499-9595
WWW.BECKGROUP.COM

FIRE AND LIFE SAFETY PLAN

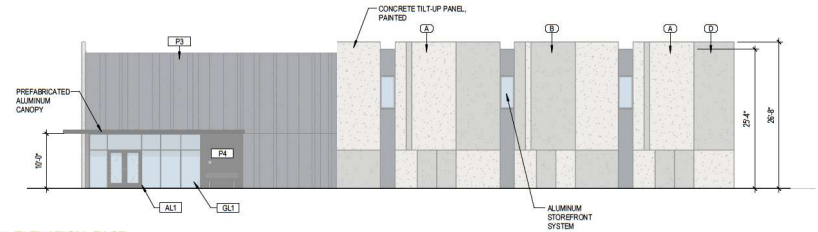
12

SHEET 12 OF 12

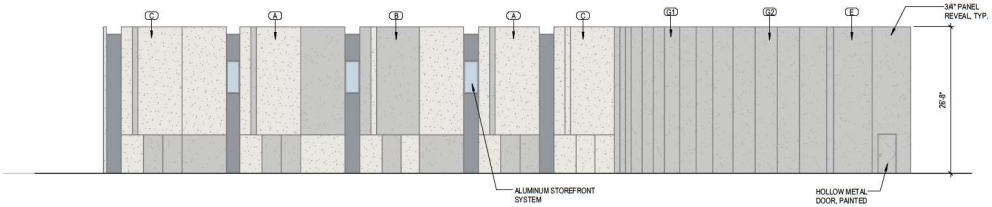
12/20/2024

EXTERIOR MATERIAL SCHEDULE

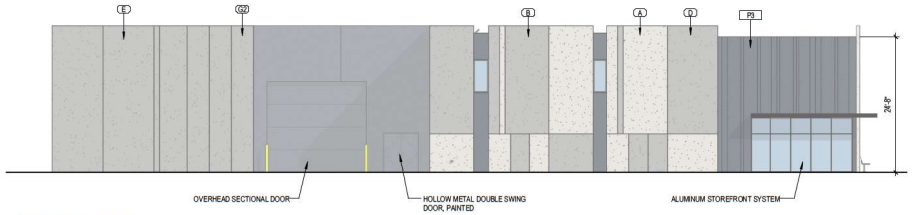
Mark	Description	Material: Manufacturer	Material: Material Color	Material: Material Finish	Material: Model
07 THERMAL AND MOISTURE PROTECTION					
EIFS1	WATER-DRAINAGE EXTERIOR INSULATION AND FINISH SYSTEM- 1 1/2"	STO CORP	-	PAINTED	STOTHERM CI
08 OPENINGS					
AL1	ALUMINUM COLOR 1	KAWNEER	BLACK	PAINTED	TRIFAB 451T
GL1	GLAZING- INSULATED- 1" (GL1)	VITRO	-	-	SOLAR BAN 70
09 FINISHES					
P1	PAINT	BENJAMIN MOORE	LIGHT PEWTER	-	1464
P2	PAINT	BENJAMIN MOORE	CINDER	-	AF-705
P3	PAINT	BENJAMIN MOORE	HALE NAVY	-	HC-154
P4	PAINT	BENJAMIN MOORE	BLACK		2132-10



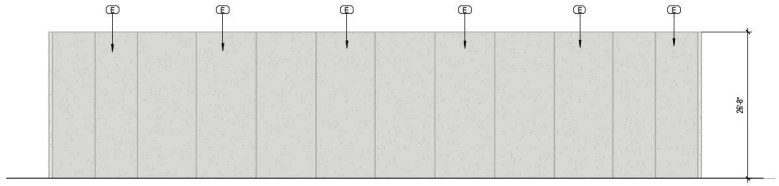
1 ELEVATION- EAST
SCALE: 3/32" = 1'-0"



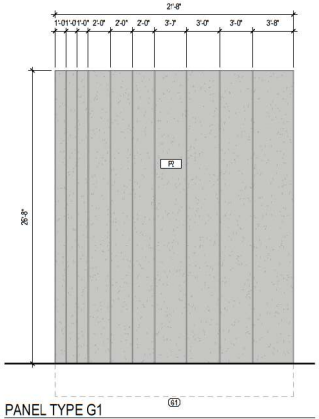
2 ELEVATION- NORTH
SCALE: 3/32" = 1'-0"



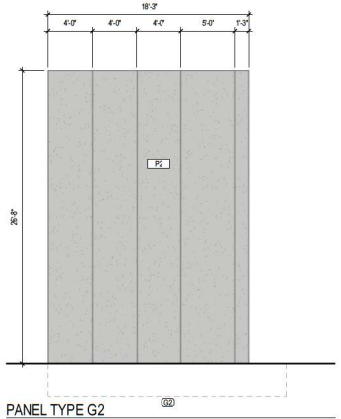
3 ELEVATION- SOUTH
SCALE: 3/32" = 1'-0"



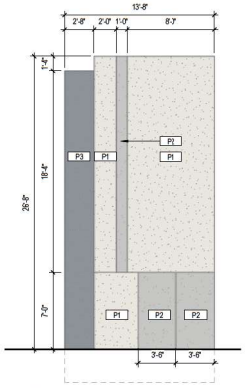
4 ELEVATION- WEST
SCALE: 3/32" = 1'-0"



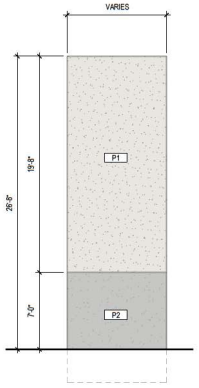
10 PANEL TYPE G1
SCALE: 3/16" = 1'-0"



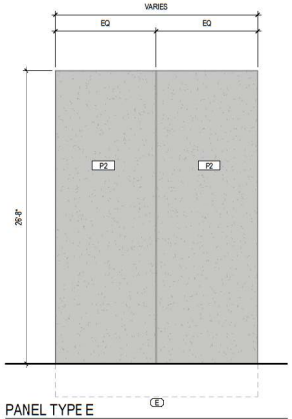
11 PANEL TYPE G2
SCALE: 3/16" = 1'-0"



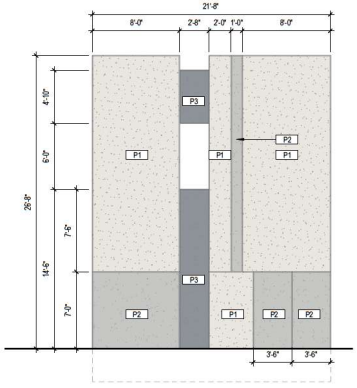
7 PANEL TYPE C
SCALE: 3/16" = 1'-0"



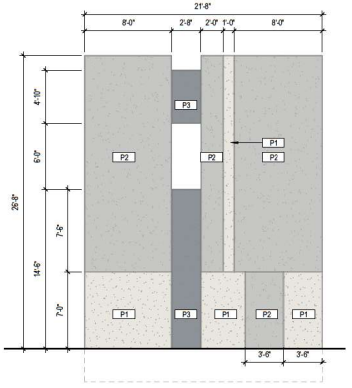
8 PANEL TYPE D
SCALE: 3/16" = 1'-0"



9 PANEL TYPE E
SCALE: 3/16" = 1'-0"



5 PANEL TYPE A
SCALE: 3/16" = 1'-0"



6 PANEL TYPE B
SCALE: 3/16" = 1'-0"

LOUISVILLE FLEX OFFICE BUILDING

01
COLORED BUILDING ELEVATIONS

City Council

May 20, 2025

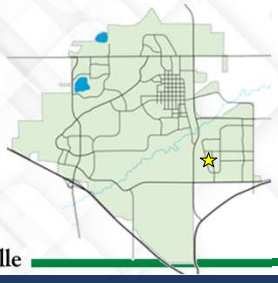
517 S Arthur Avenue

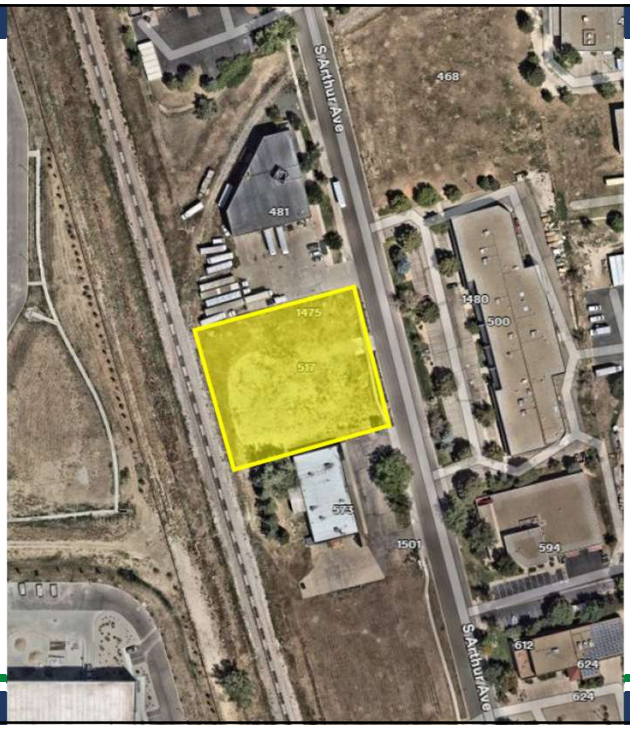
Approval of Resolution No. 33, Series 2025, recommending approval of a Planned Unit Development Amendment to allow construction of a 16,294 square-foot industrial/flex building and associated site improvements.

City of Louisville

Background:

- Colorado Technological Center (CTC)
- .86 acre (36,051 sq. ft.)vacant parcel
- Zoned Industrial (I)
- Original Plat – CTC Filing No. 1 approved in 19679

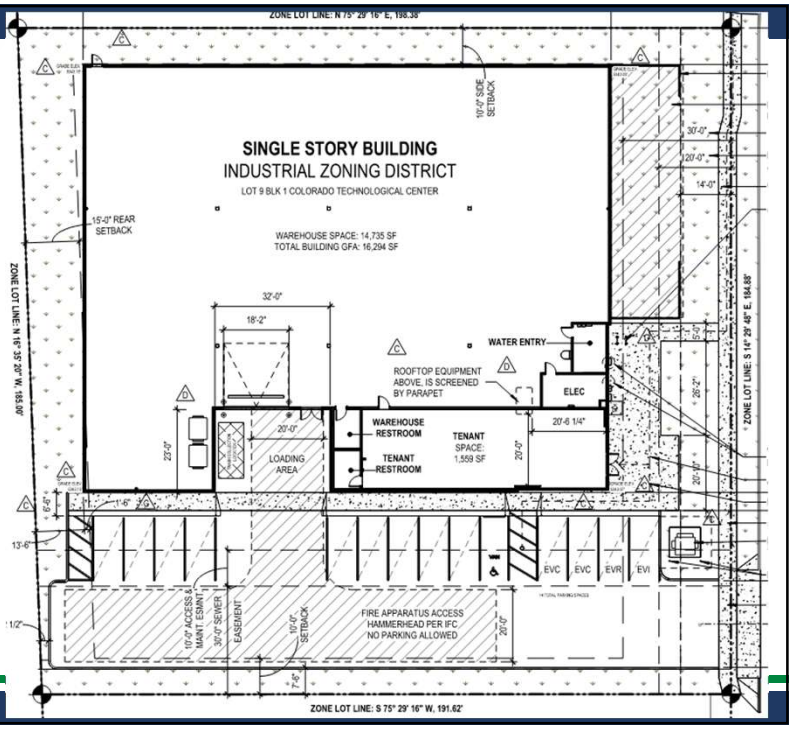




City of Louisville

Proposal:

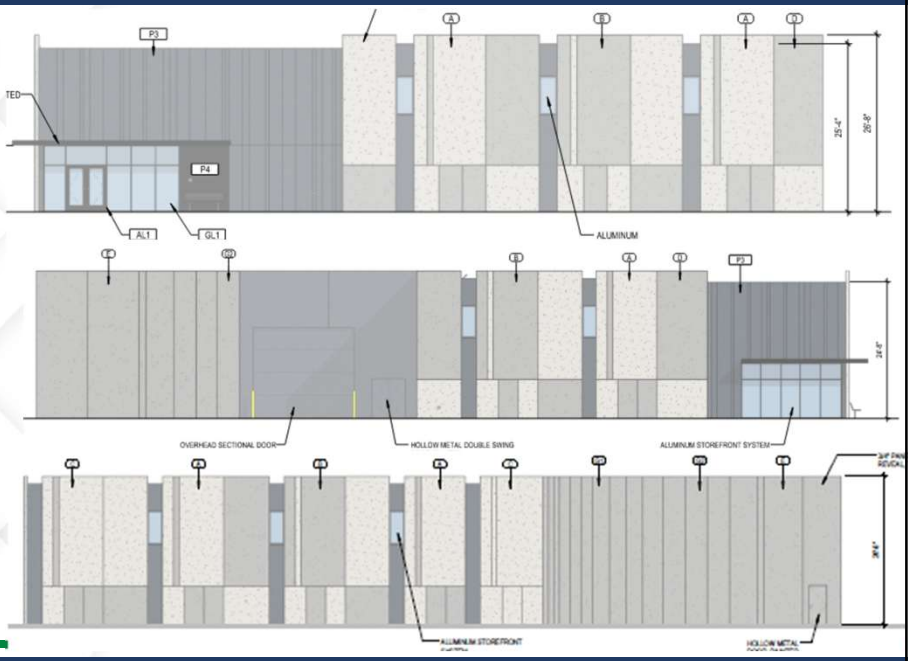
- 16,294 sq. ft. industrial flex building
- Detention and water quality pond east of the site
- 14 vehicle parking spaces, 4 bicycle parking spaces
  - Parking reduction requested
- EV parking



City of Louisville

Proposal:

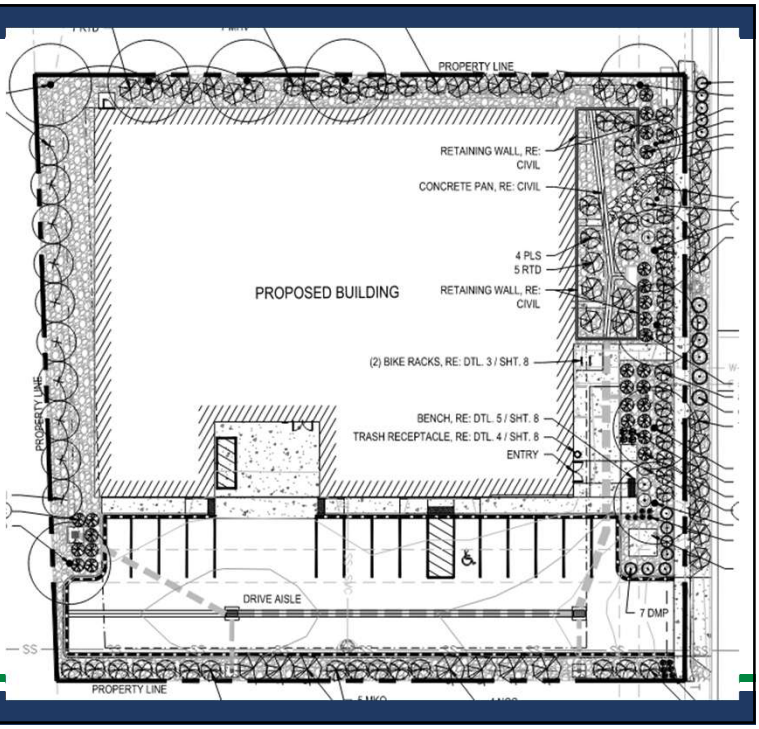
- Tilt-up concrete construction
- Primary storefront entrance to the office area
- Recessed loading and service area
- Façade articulation
- Variation in building and parapet height.



City of Louisville

Proposal – Landscaping:

- Meets minimum requirements with waiver request
- Low-water plantings
- No turf proposed
- Tree waiver requested



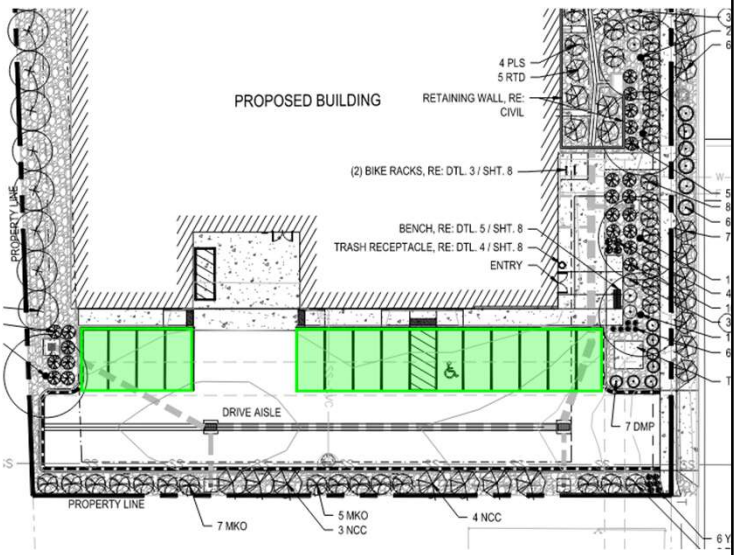
Analysis:

- Warehouse use permitted by-right. Office and support area ancillary to warehouse use.
- Site coverage standards satisfied with a wavier.
- Vehicular circulation and parking
- Pedestrian and bicycle circulation
- Appropriate architectural design
- Landscaping standards satisfied with waiver

City of Louisville

Parking Reduction Request:

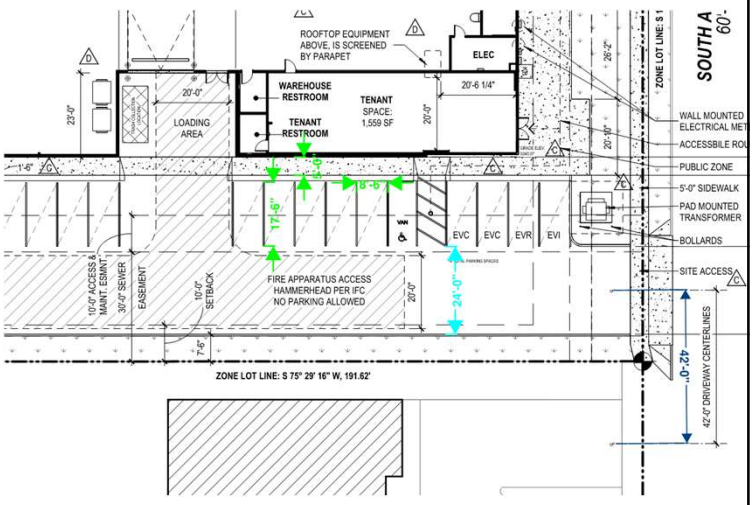
- 23 parking spaces required
- 14 spaces proposed
- EV charging provided in accordance with proposed spaces.



City of Louisville

Waiver request:

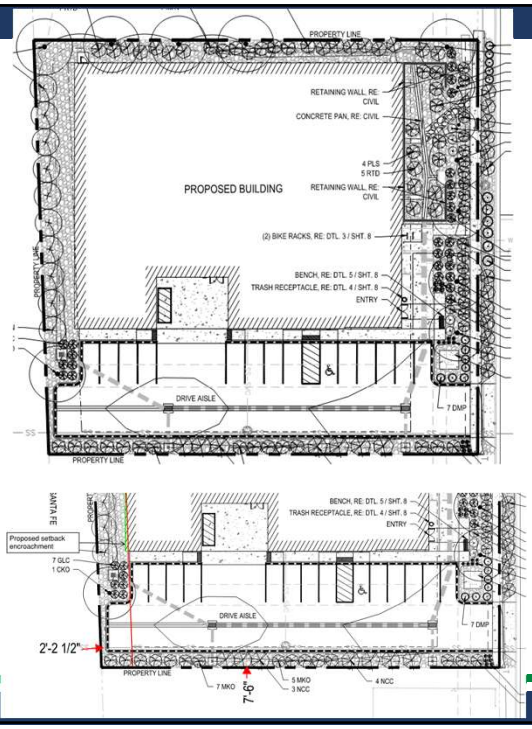
- Parking space size
  - 9’ x 19’ required – 8’ 6” x 17’ 6” proposed
- Two-way drive aisle width
  - 28 feet required – 24 feet proposed
- Driveway separation between properties
  - 75 feet required – 42 feet proposed



City of Louisville

Waiver request:

- Landscape buffer
  - 10 feet required – 2’ 2 ½” and 7’ 6” requested.
- Rear setback
  - 15 feet required – 13’ 6” proposed
- Landscape coverage
  - 25% required – 24% proposed
- Trees
  - 24 required – 22 proposed



City of Louisville

Compliance:

- Louisville Municipal Code Compliance
  - Compliance with PUD Criteria in Sec. 17.28.120
- IDDSG Compliance
  - Compliant, with seven waivers and parking reduction

City of Louisville

Staff Recommendation:

Approval of Resolution No. 33, Series 2025 - Approval of a Planned Unit Development Amendment to allow construction of a 16,294 square-foot industrial/flex building and associated site improvements.

City of Louisville

City of Louisville
COLORADO • SINCE 1878

CITY COUNCIL COMMUNICATION
AGENDA ITEM 8J

SUBJECT: **CONTRACTOR LICENSING**

i. **ORDINANCE NO. 1895, SERIES 2025 – AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE CHAPTER 5.12 CONCERNING CONTRACTOR LICENSES – 2nd READING AND PUBLIC HEARING (advertised City of Louisville Website 05/09/2025)**

ii. **RESOLUTION NO. 34 SERIES 2025 – A RESOLUTION ESTABLISHING INSURANCE REQUIREMENTS FOR CONTRACTOR LICENSES**

DATE: **MAY 20, 2025**

PREPARED BY: **ROB ZUCCARO, AICP, COMMUNITY DEVELOPMENT DIRECTOR**
CHAD ROOT, CHIEF BUILDING OFFICIAL

PRESENTED BY: **ROB ZUCCARO, AICP, COMMUNITY DEVELOPMENT DIRECTOR**

SUMMARY:
Presented for Council approval is an ordinance amending the City's contractor licensing requirements outlined in Louisville Municipal Code (LMC) Chapter 5.12 and a resolution establishing minimum insurance coverage amounts for contractors. The amendments include the following changes:

- Requires submittal of proof of general liability insurance with City listed as a certificate holder and proof workers comp insurance.
- Sets a minimum amount required for general liability insurance, adopted by City Council resolution. Minimum coverages are:
  - General Contractors: $1,000,000 per occurrence/$2,000,000 aggregate
  - Single Trade Contractors: $500,000 per occurrence/$1,000,000 aggregate
- Updates the license testing requirements to reference the 2018 International Code Council test version or later version.
- Allows the City to require that the license supervisor be on-site during scheduled inspections if needed.
- Requires licensed contractors to have a copy of their State license available during inspections.
- Grant the building official the authority to issue a stop work order for any violations of the licensing requirements.

BACKGROUND / PRIOR DISCUSSIONS:

City Council 1st Reading Review – May 6, 2025

City Council approved the ordinance on first reading on May 6, 2025 and asked staff to bring back amendments to:

- Require submittal of proof of general liability insurance; and
- Set a minimum amount of required general liability insurance.

The 1st Reading version of the ordinance reflected the City's current standard of not requiring proof of general liability insurance at the time of license application, but included a proposed amendment giving the City the authority to request proof of general liability insurance at any time that the contractor holds a city license. The reasons for not requiring proof of general liability insurance were to limit the administrative burden on the City streamline the licensing process.

Prior Code Development

The City began requiring contractor licensing in 2006. In 2013, the City adopted the current contractor licensing regulations by Ordinance No. 1653, Series 2013. There have been no changes to the licensing regulations since their adoption in 2013.

ANALYSIS:

The proposed amendments will provide updates and clarifications to the City's contractor licensing standards. The City maintains minimum licensing standards to protect property owners and business owners who hire contractors by ensuring that contractors hold minimum qualifications, have appropriate supervision of subcontractors, operate in accordance with adopted laws, and maintain general liability insurance. The City's Building Code Board of Appeals has the authority to review and revoke licenses if there are violations of the City's codes or licensing standards by a licensed contractor.

The original staff proposal was to allow the City to require proof of general liability insurance upon request and maintain the current process whereby the applicant certifies that they have proof of insurance at the time of application for a license but does not require submittal of proof of insurance. The original proposal was meant to maintain the current limitation on administrative requirements while adding an additional layer of projections for property owners and business owners if an issue arises.

Based on Council direction, the proposal now would require that an applicant for a contractor license or renewal submit an insurance certificate demonstrating compliance with minimum coverage amounts approved by City Council resolution. This process would provide additional protections to property owners and business owners by setting minimum standards providing more opportunities for enforcement by the City. This would also align with the practice of the majority of other local municipalities, as summarized in Table 1 below.

Of the seven jurisdictions noted, only Golden does not require proof of general liability insurance, which is most consistent with Louisville's current practice. Superior requires registration rather than licensing (no testing standards) and proof of insurance, but without minimum coverage amounts. The other five jurisdictions require proof of insurance with minimum coverage amounts. All jurisdictions that require proof of insurance also require that they are certificate holders. Thus, the jurisdictions will be notified if the insurance is cancelled, changed, or expires. Longmont has adopted different minimum coverage amounts for general contractors and single trade contractors. Many of the jurisdictions also require proof of workers comp insurance.

Table 1: Comparison of Insurance Requirements

Jurisdiction	Proof of Insurance	General Contractor	Single Trade
Golden	Does Not Require Insurance		
Superior	Provide w/ Application (registration only required)	No Minimum Amounts	Same as General
Lafayette	Provide w/ Application	$100,000 per person, $300,000 per accident, $50,000 property for any one accident	Same as General
Wheatridge	Provide w/ Application	$300,000 per Occurrence, $600,000 Aggregate	Same as General
Boulder County	Provide w/ Application	$600,000 Occurrence, No Aggregate	Same as General
Longmont	Provide w/ Application	$1,000,000 per Occurrence, $2,000,000 Aggregate	$500,000 per Occurrence, $1,000,000 Aggregate
Boulder	Provide w/ Application	$1,000,000 per Occurrence, $2,000,000 Aggregate	Same as General

The proposed ordinance also grants authority to the City to ask for proof of electrical and plumbing licenses during inspections. Based on State Plumbing Board and Electrical Board regulations, the City is obligated to ensure that contractors hold appropriate State electrical and plumbing licenses. Additionally, the proposed ordinance requires a designated supervisor to be on-site during an inspection, if requested by the City. This

requirement will help ensure better communication between the City's inspectors and the licensed contractor responsible for the work.

Another update will align the testing standards for licensing with the current code series adopted by the City. At first reading, a question was raised as to why the proposal is not to always require the testing to be based on the most recent versions of the building code. The code series are updated every three years and many contractors' testing will lag behind and create issues with the amount of non-compliant contractors in the City. The proposed approach would require updates to the minimum standards from time to time to stay current, but staff does not recommend adopting a testing standard at the 2024 code series for these reasons.

2025 COUNCIL WORK PLAN:
Consideration of updates to the City's contractor licensing standards was not identified in the City Council's 2025 Workplan. From an EDI lens, this amendment will help to ensure all residents have access to licensed contractors with minimum qualifications and liability insurance.

FISCAL IMPACT:
Budgeted?: **No**
Fees are collected for contractor licensing to cover the cost of administration. In 2024, the City issued/renewed 1,509 contractor licenses and collected $128,319 in fees. These fees are meant to cover the direct cost of staff in the Building Division administering the licensing program, as well as other overhead and support costs, such as software and city clerk support services for record keeping.

The process for applying for or renewing a contractor license is submittal through the Citizen Self Service (CSS) online permitting portal linked on the City's website. Staff is responsible for reviewing proof of testing uploaded through the CSS portal when applicable for certain licenses, verifying payment, issuing the license, communicating with contractors that have not submitted the correct information, and responding to contractor inquiries. Currently, Building Division staff estimate that they spend 5-10 hours a week on contractor licensing duties.

With the proposal to require submittal of proof of general liability insurance and workers comp insurance, city staff estimates that an additional 20-25 hours a week on average of staff time would be spent on contractor licensing duties. This estimate includes 15-20 hours for administrative staff and approximately 5 hours for other Building Division staff. Administrative staff would need to review each certificate for compliance and communicate with license applicants when the insurance certificates do not meet the City's adopted standards. In addition, as a certificate holder, the City would be notified each time an insurance policy expires or changes. Staff would then need to communicate to license holders, and in some cases, issue and resolve stop work orders on projects if the

contractor was not in compliance. Staff estimates the majority of time would be spent on communications around incomplete applications and non-compliance.

Based on the time needed to administer the licensing program, staff believe that a part-time building permit tech position is needed. Without additional staff capacity, other Building Division functions would be delayed, impacting customer service. The cost for this position is estimated at $40,000 to $50,000 for salary and overhead. This is not an anticipated or budgeted position. As workload varies for the licensing program, this position could also help support other administrative work in the Building Division.

An alternative is adding overtime expenses to the budget to cover additional administrative staff costs. However, the fiscal impact could be similar to hiring a part-time position and the overtime demand on the Department's existing staff could be excessive. An unmitigated and significant addition to the workload demand on the existing staff could negatively impact job satisfaction and lead to staff turnover.

Fiscal Impact Estimate: $40,000 to $50,000 annual recurring expense for staffing

ALTERNATIVE(S):
Alternatives Include:

1. Adopt the code as drafted, which includes the City requiring submittal of insurance certificates as part of contractor licensing and enforcing the minimum insurance coverage amounts. This option includes a recommendation to hire a part-time building permit tech.
2. Adopt requirements for minimum insurance amounts and allow the City to request proof of insurance when needed, but not require submittal of proof of insurance with a license application or make the city a certificate holder. This option would help to minimize the administrative burden on the city while still improving the current ordinance standards.
3. Maintain the current code language with no changes.
4. Direct staff on different amendments desired by Council.

RECOMMENDATION:
Staff recommends one of the following two options:

1. With approval of a new part-time permit tech position to address the additional workload, approval of Ordinance 1895, Series 2025 and Resolution 34, Series 2025 as drafted.
2. Without approval of a new part-time permit tech position, staff recommends approval of Ordinance 1895, Series 2025 and Resolution 34, Series 2025 with an amendment to remove the requirement for submittal of proof of insurance as part of a contactor license application.

ATTACHMENT(S):

1. Ordinance No. 1895, Series 2025
2. Resolution No. 34, Series 2025
3. Staff Presentation

Second Reading Amendments

Ordinance No. 1895, Series 2025 is revised to read as follows (second reading amendments are shown in **bold underline** and ~~**bold strikeout**~~):

ORDINANCE NO. 1895
SERIES 2025

AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE CHAPTER 5.12 CONCERNING CONTRACTOR LICENSES

WHEREAS, the City previously adopted Chapter 5.12 of the Louisville Municipal Code, which sets forth requirements concerning the licensing of contractors performing work in the City; and

WHEREAS, City Council desires to make certain amendments to the City's contractor licensing requirements.

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

Section 1. Section 5.12.010.C of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.010. License or registration required.

C. *Contractor defined.* For purposes of this chapter, "contractor" means a person, corporation, limited liability company, partnership, association or other organization or entity of any type, or any combination thereof, who, by themselves or by or through others, and for a fixed fee, sum, price, percentage, bonus or compensation of any kind other than actual wages paid by a licensed contractor authorized to perform the work involved, undertakes or offers to undertake or purports to have the capacity to undertake any work requiring a building permit. ~~described under section 15.17.070, classification of licenses and registration~~. Homeowners residing onsite and doing work on their personal, primary residence are not considered contractors and are not required to obtain a contractor license.

Section 2. Section 5.12.020.D of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.020. Application and fee.

D. ~~**The City does not require proof of general liability insurance at**~~ **At** the time of **initial** license application **and license renewal**, **the contractor**

shall provide a certificate of insurance, with the City listed as a certificate holder, providing evidence of active insurance policies of types and in amounts as the City Council shall establish by resolution. ~~**but the**~~ **The** City **may also** ~~**reserves the right to**~~ require a licensee to submit **a current certificate of** ~~**proof of general liability**~~ insurance **at any time** during the term of the license. By signing the contractor's license application, the applicant ~~is stating~~ shall attest that they will maintain **such** ~~**general liability**~~ insurance**,** as will the subcontractors they hire.

Section 3. Sections 5.12.040.A and C of the Louisville Municipal Code are hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.040. General contractor license (A, B and C).

A. A general contractor license (A, B or C) is authority to perform certain skills and is issued by the City upon receipt of the successful completion of an examination administered by the International Code Council covering the ~~2000~~ 2018 Edition or later codes. This license is not transferable.

C. Examinations. All applicants for General A, B, and C license will be required to take and pass the International Code Council test covering the ~~2000~~ 2018 Edition or later codes.

Section 4. Section 5.12.050 of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.050. Licensed supervisors.

A. Every supervisor ~~required~~ for a particular license in section 5.12.070 shall, upon demonstrating successful completion of an examination administered by the International Code Council covering the ~~2000~~ 2018 Edition or later codes, be specified on the license as the supervisor. Said supervisor shall be entitled to perform and supervise the work in the particular skill for which ~~he~~ the supervisor is qualified. The license shall be specific to that supervisor and shall not be transferable to another person.

B. The supervisor shall actively supervise the workers of the licensee for whom the holder is employed in accordance with this chapter.

C. The supervisor must be on the job site during scheduled inspections if requested by the City.

Section 5. Section 5.12.060 of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.060. Supervisor required.

A. ~~Where required for the specific classification of licensure~~ When the licensee is not an individual, each licensee shall have in its employ a supervisor who holds the requisite qualifications for that particular license.

B. The license shall be valid only as long as the named supervisor remains in the employ of the licensee in an active, full-time capacity. "Active, full-time capacity" shall mean that the supervisor shall be available at the local office of the company, at home, or at the job site within a reasonable period of time.

C. The supervisor shall take an active role in supervising and reviewing all work performed and materials used by the licensee in the process of construction. If the supervisor leaves the employ of the licensee, the licensee shall notify the city within three working days. Failure of the licensee to so notify the city shall be cause for suspension or revocation of the license. The licensee shall be required to obtain a qualified supervisor within 30 working days after the date the supervisor leaves the employ of the licensee. If a supervisor is not obtained within the 30-working-day period, the license shall be deemed suspended until the supervisor is obtained and the city notified.

~~D. If the licensee is an individual, the licensee also may qualify as the supervisor for that license, after any required examination.~~

Section 6. Section 5.12.060.A of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.070. Classification of licenses and registration.

The City does not have reciprocating licensing agreements with other jurisdictions. The City will honor and does require test results from a national test (International Code Council ~~2000~~ 2018 or better) for General Building Contractor Class A, B, or C. The classifications of licenses and registrations, their requirements and the privileges thereunder are as follows:

TYPE	CLASS	REQUIREMENTS	ALLOWED TO PERFORM
~~GA~~ G11-N	General Building Contractor CLASS "A" – Commercial and Multi Family	Provide passing test results of the ICC National Standard Building Contractor "A";	Unlimited Construction

		maintain general liability insurance	
~~GB~~ G12-N	General Building Contractor CLASS "B" – Commercial and Multi Family	Provide passing test results of the ICC National Standard Building Contractor "B"; maintain general liability insurance	Limited Commercial including New and Additions under 5,000 sq. ft. and all Tenant Finishes Unlimited Residential
~~GC~~ G-13-N	General Building Contractor CLASS "C" – Residential	Provide passing test results of the ICC National Standard Building Contractor "C"; maintain general liability insurance	Residential One and Two Family New, Remodeling and additions
D	General Building Contractor CLASS "D"	Maintain general liability insurance	All other contractors doing work including but not limited to; excavating, decks, pergolas, fences, roofing, windows, siding, insulation, Energy Raters, concrete, masonry, elevators and signs
P	Plumbing Contractor	Provide copy of Colorado Masters Plumbing License ~~State and Driver's Licenses;~~ maintain general liability insurance	Unlimited Plumbing and Gas Piping Installation
~~M~~ G31-N	Mechanical Contractor	~~No requirements~~ Provide passing test results of the ICC Journeyman Mechanical-G31-N; maintain general liability insurance	Unlimited Mechanical installation including water heater replacement
PM	Plumbing and Mechanical Contractor	Provide copy of Colorado Masters Plumbing License~~;~~ ~~State and Driver's Licenses;~~ and passing test results of the ICC-Journeyman Mechanical G31-N; maintain general liability insurance	Unlimited Plumbing and Gas Piping installation and Mechanical installation.

S	Solar Contractor	~~Must have licensed electrician with copy of Masters, State and Driver's Licenses~~ Provide a copy of Colorado Masters Electrical License; maintain general liability insurance	Solar installation and repair
E	Electrical Contractor	Provide copy of Colorado Masters Electrical License ~~State and Driver's Licenses~~ ; maintain general liability insurance	Unlimited Electrical

Section 7. Section 5.12.100.B of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.100. Safety standards generally.

B. It shall be unlawful for a contractor to be careless or negligent in ~~obtaining~~ implementing minimum safety measures, including appliances, apparatus, ~~and~~ equipment, and cleanliness, to protect workers and the public.

Section 8. Chapter 15.12 of the Louisville Municipal Code is hereby amended by the addition of a new Section 15.12.115 to read as follows:

Sec. 5.12.115. Proof of State license required.

Contractors who are required to have a State license shall have a copy of their State license in their possession during scheduled inspections and shall present the license when requested by the building official or designee. Failure to provide such proof will result in a failed inspection and the assessment of a re-inspection fee in accordance with the fee schedule adopted by resolution of the City Council.

Section 9. Chapter 15.12 of the Louisville Municipal Code is hereby amended by the addition of a new Section 15.12.135 to read as follows:

Sec. 5.12.135. Stop work order.

The building official or designee may issue a stop work order to any contractor who is in violation of any provision of this chapter. After a stop work order is issued, no work shall be commenced until all required licenses, permits, and inspections have been obtained or the required proof of general liability insurance has been provided. The City may assess a fee for working without a permit in accordance with the fee schedule adopted by resolution of the City Council.

Section 10. Section 5.12.140.B of the Louisville Municipal Code is hereby amended to read as follows (words added are underlined; words deleted are ~~stricken~~):

Sec. 5.12.140. Suspension and revocation.

B. The building official may upon the building official's ~~his~~ own motion, and shall upon the verified complaint in writing of any person, require any person licensed or registered under this chapter to appear before the building code board of appeals for a hearing upon a minimum of five days written notice, which notice shall be personally served or mailed to the last known address of the person as set forth in the records of the city.

Section 11. If any portion of this ordinance is held to be invalid for any reason, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance and each part hereof irrespective of the fact that any one part be declared invalid.

Section 12. The repeal or modification of any provision of the Municipal Code of the City of Louisville by this ordinance shall not release, extinguish, alter, modify, or change in whole or in part any penalty, forfeiture, or liability, either civil or criminal, which shall have been incurred under such provision, and each provision shall be treated and held as still remaining in force for the purpose of sustaining any and all proper actions, suits, proceedings, and prosecutions for the enforcement of the penalty, forfeiture, or liability, as well as for the purpose of sustaining any judgment, decree, or order which can or may be rendered, entered, or made in such actions, suits, proceedings, or prosecutions.

Section 13. All other ordinances or portions thereof inconsistent or conflicting with this ordinance or any portion hereof are hereby repealed to the extent of such inconsistency or conflict.

INTRODUCED, READ, PASSED ON FIRST READING AND ORDERED PUBLISHED THIS 6TH DAY OF MAY, 2025.

PUBLIC HEARING AND SECOND READING WILL BE THE 20th DAY OF MAY, 2025, AT 6:00 P.M. AT LOUISVILLE CITY HALL, 749 MAIN STREET, LOUISVILLE, CO 80027.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

APPROVED AS TO FORM:

KELLY PC

By: _____
Kathleen Kelly, City Attorney

PASSED AND ADOPTED ON SECOND AND FINAL READING, THIS ___ DAY OF ___, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

RESOLUTION NO. 34
SERIES 2025

A RESOLUTION ESTABLISHING INSURANCE REQUIREMENTS FOR CONTRACTOR LICENSES

WHEREAS, by Ordinance No. 1895, Series 2025, the City Council amended the Louisville Municipal Code to require licensed contractors to maintain during the term of such license insurance policies of types and in amounts as established by resolution of the City Council; and

WHEREAS, by this resolution the City Council desires to establish such insurance requirements.

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

Section 1. Pursuant to Section 5.12.020.D of the Louisville Municipal Code, contractors licensed or registered by the City of Louisville shall maintain the following minimum insurance coverages:

TYPE	CLASS	ALLOWED TO PERFORM	INSURANCE REQUIREMENTS
G11-N	General Building Contractor CLASS "A" – Commercial and Multi Family	Unlimited Construction	$1,000,000 single occurrence, $2,000,000 aggregate Workers' Compensation insurance, in amount required by state law
G12-N	General Building Contractor CLASS "B" – Commercial and Multi Family	Limited Commercial including New and Additions under 5,000 sq. ft. and all Tenant Finishes Unlimited Residential	$1,000,000 single occurrence, $2,000,000 aggregate Workers' Compensation insurance, in amount required by state law
G-13-N	General Building Contractor CLASS "C" – Residential	Residential One and Two Family New, Remodeling and additions	$1,000,000 single occurrence, $2,000,000 aggregate Workers' Compensation insurance, in amount required by state law
D	General Building Contractor CLASS "D"	All other contractors doing work including but not limited to; excavating, decks, pergolas, fences, roofing, windows, siding, insulation,	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law

		Energy Raters, concrete, masonry, elevators and signs	
P	Plumbing Contractor	Unlimited Plumbing and Gas Piping Installation	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law
G31-N	Mechanical Contractor	Unlimited Mechanical installation including water heater replacement	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law
PM	Plumbing and Mechanical Contractor	Unlimited Plumbing and Gas Piping installation and Mechanical installation.	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law
S	Solar Contractor	Solar installation and repair	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law
E	Electrical Contractor	Unlimited Electrical	$500,000 single occurrence, $1,000,000 aggregate Workers' Compensation insurance, in amount required by state law

PASSED AND ADOPTED this 20th day of May, 2025.

_____
Christopher M. Leh, Mayor

ATTEST:

_____
Genny Kline, Interim City Clerk

CITY COUNCIL REVIEW

May 20, 2025

ORDINANCE NO. 1895, SERIES 2025, AN ORDINANCE AMENDING LOUISVILLE MUNICIPAL CODE CHAPTER 5.12 CONCERNING CONTRACTOR LICENSING –

RESOLUTION 34, SERIES 2015, A RESOLUTION ESTABLISHING INSURANCE REQUIREMENTS FOR CONTRACTOR LICENSES

City of Louisville

Background

- City began contractor licensing program in 2006
- Last updated licensing code in 2013
- Proposed amendments are to address staff-identified issued with current licensing process and improve inspection processes

City of Louisville

Background

- City Council 1st Reading Direction:
  - ✓ Require submittal of proof of general liability insurance; and
  - ✓ Set a minimum amount of required general liability insurance.

City of Louisville

Proposal

- Require submittal of proof of insurance with City as certificate holder.
- Set Minimum Insurance Amounts by Resolution
  - ✓ General Contractors: $1,000,000 per occurrence/$2,000,000 aggregate
  - ✓ Single Trade Contractors: $500,000 per occurrence/$1,000,000 aggregate
- Updates licensing test requirements to 2018 International Code Series or later
- Requires licensees supervisor to be on site for inspections
- Requires State-licensed electrical and plumbing contractors to have their State license available during inspections
- Authorizes the Building Official to issue a stop work order if there is a violation of licensing requirements

City of Louisville

Analysis

Jurisdiction	Proof of Insurance	General Contractor	Single Trade
Golden	Does Not Require Insurance		
Superior	Provide w/ Application (registration only required)	No Minimum Amounts	Same as General
Lafayette	Provide w/ Application	$100,000 per person, $300,000 per accident, $50,000 property for any one accident	Same as General
Wheatridge	Provide w/ Application	$300,000 per Occurrence, $600,000 Aggregate	Same as General
Boulder County	Provide w/ Application	$600,000 Occurrence, No Aggregate	Same as General
Longmont	Provide w/ Application	$1,000,000 per Occurrence, $2,000,000 Aggregate	$500,000 per Occurrence, $1,000,000 Aggregate
Boulder	Provide w/ Application	$1,000,000 per Occurrence, $2,000,000 Aggregate	Same as General

City of Louisville

Analysis

- Golden does not require proof of insurance; Superior does not have minimum amounts
- Other jurisdictions have minimums and require city as certificate holder, and some require proof of workers comp
- Longmont has different standard for General Contractors vs. Single Trade Contractors
- Draft code would provide additional protections to property owners and business owners by setting minimum standards providing more opportunities for enforcement by the City
- Original staff proposal was intended to limit administrative costs and burden

City of Louisville

Fiscal Impact

- In 2024, City issued/renewed 1,509 contractor licenses and collected $128,319 in application fees
- Current staff time administering licensing program is 5-10 hours/week
- With current draft to require submittal of proof of insurance and city enforcement of minimum insurance standards, staff estimates an additional 20-25 hours of staff time
  - ✓ Additional communication on noncompliance
  - ✓ Issuing and resolving stop work orders for noncompliance
- Staff recommends a half-time Permit Tech is needed to administer the new requirements = Fiscal Impact of $40,000-$50,000 for salary and overhead

City of Louisville

Alternatives

- Adopt the code and resolution as drafted, which includes the City requiring submittal of insurance certificates as part of contractor licensing and enforcing the minimum insurance coverage amounts. This option includes a recommendation to hire a part-time building permit tech.
- Adopt requirements for minimum insurance amounts and allow the City to request proof of insurance when needed, but not require submittal of proof of insurance with a license application or make the city a certificate holder. This option would help to minimize the administrative burden on the city while still improving the current ordinance standards.
- Maintain the current code language with no changes.
- Direct staff on different amendments desired by Council.

City of Louisville

Staff Recommendation

- With approval of a new part-time permit tech position to address the additional workload, approval of Ordinance 1895, Series 2025 and Resolution 34, Series 2025 as drafted.
- Without approval of a new part-time permit tech position, staff recommends approval of Ordinance 1895, Series 2025 and Resolution 34, Series 2025 with an amendment to remove the requirement for submittal of proof of insurance as part of a contactor license application.

City of Louisville