

STATE OF COLORADO

Dedicated to protecting and improving the health and environment of the people of Colorado

Bill Owens, Governor
Douglas H. Benevento, Executive Director

WQCD Technical Services Unit
4300 Cherry Creek Drive South
Denver, CO 80246
Fax (303) 782-0390
<http://www.cdphe.state.co.us>



Colorado Department
of Public Health
and Environment

RECEIVED

SEP 20 2005

CITY OF LOUISVILLE
CITY MANAGER

September 16, 2005

Mr. Charles Sisk
City of Louisville
749 Main Street
Louisville, CO 80027

Subject: Compliance Sampling Inspection Louisville Wastewater Treatment Facility (CDPS No. CO0023078); Boulder County

Dear Mr. Sisk:

This letter serves to report the results of the compliance inspection conducted by the Technical Services Unit, Water Quality Control Division ("the Division") on the above referenced facility on July 19, 2005. Louisville was also given a biosolids inspection. The assistance of Ken Mason and Dinh Lai was very helpful and greatly appreciated. I have enclosed a copy of the inspection report for your records.

Violations

There were no violations of the permit.

Permit Issues

During the inspection, we observed that facility conditions are accurately represented in the permit.

Comments And Recommendations

The following are comments and/or recommendations only and require no written response on your part. The recommendations will enable your system to better conform to the requirements of applicable design criteria or other industry standards:

None.

Attached to this letter you will find a Customer Satisfaction Survey. We would greatly appreciate it if you would take a few moments to complete this survey and return it to us. Simply fill out the form, fold it according to the directions and drop it in the mail. The postage is already paid.

Thank you again for your staff's time and cooperation during the inspection. If you have any questions regarding the inspection, or if I can be of any assistance, please call me at (303) 692-3561 or send e-mail to gary.halbersleben@state.co.us.

Sincerely,



Gary P. Halbersleben
Engineering/Physical Sciences Technician
Technical Services Unit
Water Quality Control Division
Colorado Department of Public Health and Environment

Encl. Inspector's Observations
CDPS Facility Inspection Report
SSO Evaluation
Laboratory Report
Biosolids Facility Inspection Form
Customer Satisfaction Survey

cc: Cary Pilon, District Engineer
Leslie Simpson/MS-3 File, Compliance Monitoring and Data Management, WQCD-Denver
Lee Hanley, United States Environmental Protection Agency, Region VIII 8ENF-T
Boulder County Health Department
Wes Carr(w/Biosolids Facility Inspection Form)

Compliance Sampling Inspection-Inspector's Observations

City of Louisville Wastewater Treatment Facility-CDPS No. CO0023078
1601 Empire Road
Louisville, CO 80027
(303) 335-4780

A Compliance Sampling Inspection (CSI) was conducted at this facility by the Colorado Department of Public Health and Environment, Water Quality Control Division (the Division) on July 19, 2005. A CSI consists of an eight-hour flow-proportioned composite sample and various grab samples of the facility's effluent and a review of the facility's record keeping, laboratory, safety procedures, and operations and maintenance (O&M).

Permit Verification:

This facility requires a Class "B" Colorado certified Wastewater Treatment Plant Operator to be the operator of record. The influent design values are 3.4 million gallons per day (MGD) for hydraulic capacity and 7,089 pounds per day of biochemical oxygen demand (BOD) for organic capacity. At the time of the inspection, the maximum monthly influent flow was 2.019 MGD and the maximum monthly influent organic loading was 3587 pounds per day of BOD. This is approximately 59% and 51% respectively of influent design capacity. The facility consists of two mechanical bar screens, two grit removal units, two 12" Parshall flumes, an aeration basin, two secondary clarifiers, UV disinfection, a 12" Parshall flume, an aerobic digester, and a centrifuge. Outfall #001A is the discharge after final treatment to a ditch leading to Coal Creek. The Colorado Discharge Permit System (CDPS) permit will expire on January 31, 2008.

Record keeping and Reporting Evaluation:

All of the required records were on-site and readily available for review; they have been kept for at least three years as stated in the permit. Sampling sheet and laboratory benchsheet data include dates, times, locations, flows (where required), results of analyses, sampling methods (grab or composite), and the initials of the sampler or analyst. The method of analysis is referenced on the benchsheet. Sampling and analysis is completed on all of the parameters specified in the permit at the frequency indicated in the permit: BOD, total suspended solids (TSS), total ammonia (NH₃-N) – 2X/week; visual oil and grease (O&G) and pH – daily; fecal coliform – 3X/week; total residual chlorine (TRC) – 3X/day (only when used for disinfection).

Discharge Monitoring Reports (DMR):

DMRs from June, 2004–May, 2005 were reviewed and the influent loading data were extracted to indicate at what percentage of design capacity the facility is currently operating. Fecal coliform benchsheets for January–April, 2005 were reviewed for 30-day geometric mean calculations. All data reviewed correlated with that entered on the DMRs. There were no exceedances (No. Ex.) during the time reviewed.

Compliance Schedule Status Review:

Louisville was under a compliance schedule to study instream and effluent nitrite concentrations. The final report was submitted before its due date of June 30, 2005. There is also a compliance schedule in the current permit if there is a failure of a WET test. No WET tests were failed.

Permittee Sampling Evaluation:

All influent samples are collected at the headworks by an automatic sampler. All effluent samples are collected at outfall #001A prior to entering the receiving waters. An automatic sampler also collects composite effluent samples. Composite samples collected at both the influent and the effluent are twenty-four hour composites and are refrigerated. In addition, grab samples for pH, TRC, O&G, temperature, and fecal coliform are also collected at outfall #001A.

Laboratory Quality Assurance:

The facility laboratory does analyses for BOD, TSS, total ammonia (NH₃-N), pH, fecal coliform, and TRC. The quality assurance (QA) manual is kept in the laboratory and was reviewed at the time of the inspection. Quality Control (QC) procedures include duplicates, blanks, and spikes run with at least 10% of all samples. Laboratory balances are calibrated annually by QA Balance Services and each balance has a card showing the date it was last calibrated. Benchsheet data includes temperature, time, date, calibration (if required), spikes, blanks, duplicates, initials of the analyst, and results of analysis. The laboratory references the 20th edition of "Standard Methods for the Examination of Water and Wastewater" in conformance with 40 CFR Part 136. The results of the last DMR/QA test (#24, 10/21/04) conducted by the facility laboratory and Environmental Resource Associates indicated that the results of all in-house analyses were "Acceptable". The City contracts with Seacrest for Whole Effluent Toxicity (WET) analysis and Evergreen Analytical for metals. The facility laboratory does no analyses for other permitted facilities.

Whole Effluent Toxicity (WET) Testing and Reporting:

The results of the first WET test of 2005 dated January 10, 2005 were reviewed at the time of the inspection and indicated compliance with permit requirements (i.e. no toxicity to pimephales or ceriodaphnia). A review of Seacrest's chain-of-custody form showed that the twenty four-hour composite was collected, the samples were iced, and that holding time limit (36 hours) was met. In this case the temperature was not listed, because the sample had not cooled due to the short transport time (Seacrest is five minutes away). Seacrest provides QC data (i.e. reference toxicant control charts) with all test results. All results are kept in excess of the three-year minimum requirement.

Influent and Effluent Flow Measurement:

The primary devices used for flow measurement are a 12" Parshall flume located at the headworks and a 12" Parshall flume after final treatment. The secondary device at the influent is a Sono Flow ultrasonic flow meter; an Endress-Hausser Prosonic 861 flow meter is the secondary device at the effluent. Records of calibration of these sensors have been kept at least three years. There are no return lines. An instantaneous reading from the influent staff gauge and an instantaneous reading from the secondary device showed 1.635 MGD and 1.703 MGD, respectively. The observed difference was 4%. All flow records are kept on SCADA in excess of the three-year minimum.

Facility Site Review:

Standby power is provided by a 500 Kw diesel generator. It can operate one-half (one treatment stream) of the equipment. The facility has an alarm system that notifies plant personnel if there are

power failures, equipment failures, or gas leaks. Emergency treatment control procedures are contained in the operations and maintenance (O&M) manual. The facility treatment trains can be bypassed to three holding ponds, but that has not happened for a long time. As was discussed in the "Permit Verification" section of this document the facility is operating at 59% and 51%, respectively, of hydraulic and organic loading capacities. The facility has adequate capacity to handle either hydraulic or organic overloads. Preventive Maintenance schedules and work orders are developed and established using computer programs. Adequate supplies of those pieces of equipment most likely to fail are kept on-site. The facility library contains the manufacturers' specifications and maintenance and repair manuals. Up-to-date maintenance and repair records are kept in the facility computer. Ken Mason is the facility manager. Mr. Mason holds a Class "A" (#1312) Colorado certified Wastewater Treatment Plant Operator's license. There are an additional four certified operators employed by the City. In-house mentoring, short schools, and seminars are used to train new operators.

Safety Evaluation:

Lock out/tag out and work orders are used to identify out-of-service equipment. Personal protective clothing such as boots, face masks, aprons and gloves are provided to facility staff as needed. The laboratory has a shower, eyewash station, and a fume hood. Standards and reagents are properly stored and labels are marked with the date the container was opened insuring that out-of-date supplies are disposed of and not used in analyses. There are railings around all open tanks and basins, life rings and lines are mounted on the railings, portable hoists with harnesses are kept on-site, all manholes are covered, and the facility is completely enclosed by a chain link fence. There are NIOSH-approved Self Contained Breathing Apparatuses available for use by facility personnel. Gas leak detectors for chlorine and sulfur dioxide are tied into the facility alarm system. A chlorine repair kit is kept on-site. . Warning signs of various sorts (i.e. no smoking, chlorine hazard, high voltage) are posted throughout the facility. Emergency phone numbers and MSDS sheets (Worker-Right-to-Know-Law, P.A. 83-240) are displayed in the Admin/Lab building. The facility was clean and free from trash.

Effluent Compliance Sanpling

An eight-hour flow-proportioned manual composite for BOD, TSS, and NH₃-N was collected at the time of the inspection. Grab samples for pH, temperature in degrees Celsius, and dissolved oxygen were collected with the third aliquot of the composite and a fecal coliform sample was collected with the last aliquot of the composite. The composite was started at 0835 and completed at 1435. The samples were split with the permittee. The split samples were placed in a Coleman® cooler, packed in ice, sealed, and delivered to Laboratory Services Division at 1636 that day. The results of the analyses of the split samples and field tests conducted on-site are as follows:

<u>PARAMETERS</u>	<u>RESULTS OF ANALYSES</u>	<u>PERMIT LIMITS</u>
pH	6.69 Standard Units (S. U.)	6.5-9.0 S. U.
Temperature	22.6 ⁰ Celsius	
DO	4.5 milligrams/Liter (mg/L)	
O&G	<10 mg/L	10 mg/L
BOD	4.4 mg/L	30 mg/L
TSS	<10 mg/L	30 mg/L
NH ₃ -N	0.49 mg/L	8.5 mg/L
Fecal Coliform	11 organisms/100 milliliters	200 organisms/100 milliliters

Operations were normal; the samples had a clear appearance.

Conclusions:

There were no Discharge Monitoring Report (DMR) deficiencies or effluent violations noted at the time of the inspection.

CDPS FACILITY INSPECTION REPORT

Code	CDPS Permit No.	Insp. Date	Insp Type	Inspector	Facility Type	Rating	Biomonitoring	QA	County No.
N	CO0023078	7/19/2005	S	S	1	5			07

Name of Facility

Entry Time

City of Louisville

8:20:00 AM

Permit effective date:

2/1/2003

Physical Location:

1601 Empire Road, just east of Louisville and Hwy 42

Permit expiration date:

1/31/2008

Name(s) of On-Site Representative(s)

Phone No.

Ken Mason, Dinh Lai

303-335-4780

Facility Mailing Address:

1601 Empire Road, Louisville, CO 80027

Treatment

Facility Level:

B

Operator Level

A

A-1312

Certificate #:

1312

Operator in charge:

Ken Mason

Email Address:

masonk@ci.louisville.co.us

of Operators:

5

Phone #:

303-335-478

Collection

Facility Level:

Operator Level

Certificate #:

Operator in charge:

Email Address:

of Operators:

Phone #:

Name(s) of Person(s) Conducting Inspection

Title:

Phone No.

Gary P. Halbersleben

Eng/Phys Sci Tech

303-692-3561

(S = Satisfactory, M = Marginal, U = Unsatisfactory, N/A = Not Applicable, N = Not Evaluated)

S Permit	S Flow Measuring	n/a Pretreatment	S Operations/Maintenance
S Records/Reports	S Laboratory	S Compliance Schedule	S Biosolids Disposal
S Site Review	S Effluent/Receiving Water	S Self monitoring	n/a Stormwater
			N SSO CMOM

On Site Analysis: BOD, TSS, pH, fecal, NH3-N

Sample Per Permit: Yes

Contract Lab Seacrest

Does Permit Match Facility?: Yes

Total Taps: Industrial Taps

No. of Lift Stations: 2 I/I Problem: No

Treatment Process(es) Used

Design Capacity - Hydraulic (MGD):

3.4

Present Hydraulic Loading (MGD):

2.019

Hydraulic Capacity Used %:

59%

Design Capacity - Organic (#/day):

7089

Present Organic Loading (#/day):

3587

Organic Capacity Used %:

51%

Treatment Units

☐ Barscreen	☒ 2 Mechanical Bar Screen	☐ Comminutor	☒ 2 Grit Removal	☐ Primary Clarifier
☒ 1 Activated Sludge	☐ RBC	☐ SBR	☒ 2 Secondary Clarifier	☐ Anaerobic Digester
☒ 1 Aerobic Digester	☐ Filter Press	☒ 1 Centrifuge	☐ CL2	☐ DeCL2
☐ Coagulation	☐ Polishing Pond	☐ Lagoon	☐ Aerated Lagoon	☒ 1 UV
			☐ Land Trmt / Reuse	☐ Filter
				☐ Wetlands

Other Treatment: Biosolids

COMMENTS:

Outfall	Latitude	Longitude	Flow Device	Date Calibrated	Accurate?	Outfall Name
001A	39 58' 34"	105 6' 59"	12" Parshall fl.	5/6/2005	Yes	

SANITARY SEWER OVERFLOW EVALUATION DURING PAST 2 YEARS (Rev 7/05)

Entity Name:	City of Louisville
Permit Number:	CO0023078
Date of Inspection:	7/19/05

I. GENERAL INFORMATION

Size of service area (acres):	8.85 square miles
Feet (or miles) of sewer:	335,000'
Age of collection system (oldest part):	40+ years
Number of pump stations:	2 (one city-owned, one private)
Number with back-up power supply:	2
Number with alarm systems:	2

Comments:

II. SANITARY SEWER OVERFLOW EVALUATION

Inspection observation verifying SSO events	YES	NO	N/A
1. Sewer back-ups into basements?	X		
2. Pipe blockages, pinch points, or breaks?	X		
3. Bypasses from collection system (unpermitted outfalls, storm sewer connections, etc)?	X		
4. Manholes or other overflows during wet weather?		X	
5. Inflow/infiltration program in place? (monitor only)		X	
6. Line cleaning and inspection program in place?	X		

If yes to any of questions 1-4:

	YES	NO	N/A
7. Were SSO's reported to the State upon discovery (spill # 877-518-5608)?	X		
8. Was the public notified?	X		
9. Number of SSO's?	1		
10. Quantity (volume) of any SSO?	Unknown		

Comments:

Illicit discharge connection from sanitary sewer to storm sewer was detected and CDPHE was informed of the findings: spill report – 2004-859

Please return to: CDPHE WQCD TSU, Gary P. Halbersleben, 4300 Cherry Creek Drive South,
 Denver, CO 80246 FAX 303-782-0390



Colorado Department
of Public Health
and Environment

BIOSOLIDS FACILITY INSPECTION FORM

Biosolids Management Program (CQ/CID-P-82)
4300 Cherry Creek Drive South
Denver, CO 80126-1830
Phone: (303) 592-3613 Fax: (303) 782-0390 E-mail: biosolids@state.co.us

GENERAL FACILITY INFORMATION

Date 7/22/05 Inspector Gary P. Halbersleben

Facility Name City of Louisville

CDPS Discharge Permit # CG650010

Facility Contact Ken Mason

Title WASTEWATER MANAGER
Env. Protection Specialist Dirk
Tel 303-335-4724 4780

E-mail MASON K P C. Louisville, Co. US

Method of Solids Disposal:

☒ Beneficial Use (Land Application)

☐ Agricultural Land %

Contractor:

Frequency: ☐ Daily ☐ Weekly ☐ Monthly

☒ Public Distribution 100 %

☐ Other %

☐ Surface Disposal CD#

☐ Landfill Name

☐ Transferred to Other Facility

☐ Other

Solids storage capacity (days)

RECORDKEEPING AND REPORTING INFORMATION

- Yes Are records available for beneficial use or disposal practices for the past 5 years?
Yes Are Pathogen Reduction, Vector Attraction Reduction and Metals records available for the past 5 years?
N/A Are field application records and soil analysis records available for the past 5 years?
N/A Is a list of current biosolids application sites and locations available at the facility?

PATHOGEN DESTRUCTION INFORMATION

☐ Testing

☒ Fecal Coliform MPN

☒ Salmonella

☒ EV/VHO

Sampling Location (please attach WWTP schematic)

☐ Time/Temperature - ☒ Batch ☐ Continuous

Where are Temperature Readings Obtained Randomly

VECTOR ATTRACTION REDUCTION INFORMATION

Yes Are Vector Attraction Reduction Requirements met at the facility? Method Van Kleece Equation

For VSR:

Sample Locations (VSR): In WAS % Volatiles Out Biosolids % Volatiles

Show Equation used:

In - Out

$N = (In - Out) \times 100\%$

Facility Representative

Signature Ken Mason

Date 9/6/05

CDPHE Inspector

Signature Gary P. Halbersleben

Date 9-8-05



Colorado Department
of Public Health
and Environment

Laboratory Services Division
8100 Lowry Boulevard, Denver CO 80230-6928
US Mail: PO Box 17123, Denver CO 80217
(303) 692-3090 fax (303) 344-9989

LAB ID: INO-2005003349-001-A

RECEIVED

AUG 11 2005

CADM

SAMPLE SITE

LOUISVILLE
001A

AUG 10 2005
Water Quality Control Division

SAMPLE INFORMATION

Collected 7/19/2005 2:35:00PM
Received 7/19/2005 4:41:00PM
Reported 8/3/2005
Collected By GH
Matrix Waste Water

CUSTOMER

CDPHE-WQCD-Tech Serv
4300 Cherry Creek Drive South

Denver CO 80246

COMMENTS

Test Name	Result	Units	Method Name	Date Analyzed	MCL	MDL	Qualifier
BOD	4.4	mg/L	SM 4500-O-B	07/26/2005	No Limit Established	1.0	
Nitrogen, Ammonia, Automated	0.49	mg/L	EPA 350.1	07/26/2005	No Limit Established	0.03	
Solids, Suspended	<10	mg/L	SM 2540 D	07/26/2005	[500]	10	

Lab Comments:

MDL - The lowest concentration of a substance in a sample that can be measured with a known level of confidence
MCL - Maximum Contaminant Level - The highest level of a contaminant that is allowed in drinking water
< - less than MDL

mg/L - milligram per liter (ppm)
ug/L - microgram per liter (ppb)



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8100 Lowry Boulevard, Denver CO 80230-6928
US Mail: PO Box 17123, Denver CO 80217
(303) 692-3090 fax (303) 344-9989

RECEIVED

JUL 25 2005

LABORATORY CONTROL DIVISION
LAB ID: NW-2005004717

SAMPLE SITE

LOUISVILLE

001a

SAMPLE INFORMATION

Collected 7/19/2005 2:31:00PM
Received 7/19/2005 4:41:00PM
Reported 7/21/2005
Collected By gh Matrix Waste Water

CUSTOMER

CDPHE-WQCD- Tech Serv
4300 Cherry Creek Drive South

Denver CO 80246

Contact Name Gary Halbersleben

Contact Phone

COMMENTS

Purpose Routine Chlorine residual Payment Type Billed

Test Name	Result	Method Name
Fecal Coliforms, MTF	11 MPN	SM 9221