



## **SEMSWA Board Meeting Agenda May 20, 2026 – 1:30 p.m.**

**The Board Meeting will be held  
in the South Platte Room of the SEMSWA Administration Building,  
7437 S Fairplay Street, Centennial, Colorado.**

**You may also attend the meeting remotely from your computer,  
tablet, or smartphone by clicking the link below:**

**[Join the meeting now](#)**

**Meeting ID: 231 798 011 106**

### **1:30 pm     1) Call to Order – Chair Bart Miller**

- ✓ Public Comments for Non-Agenda Items
- ✓ Meeting Minutes – April 15, 2026 – If there are no corrections, the “minutes stand approved or, with corrections, the “minutes stand approved as corrected.”

### **1:35 pm     2) Presentation of Items for Consideration – Chair Bart Miller**

After the introduction and presentation of each item, it may be moved to the Consent Agenda, unless a request is made by a Board Director for separate action.

- ✓ Resolution 26-14 Approval of Revisions to Chapter 9 of the SEMSWA Stormwater Management Manual – Britni Kahler
- ✓ Resolution 26-15 Approval of the Modified Standard Stormwater Facility Maintenance Agreement

### **1:50 pm     3) Consent Agenda – Chair Bart Miller**

Consent Agenda items will be approved by one motion unless a Board Director requests the removal of a specific item for discussion.

- ✓ Resolution 26-16 Authorization to Enter into an Intergovernmental Agreement for Centralized Contract Maintenance in 2026 for Portions of the High Line Canal

- 1:55 pm      4) Finance Report – Thuy Dam, CliftonLarsonAllen (CLA)**
- 2:05 pm      5) Executive Director Report – Dan Olsen**
- 2:20 pm      6) Overview of Debt Options for SEMSWA – Dave Agee**
- 2:35 pm      7) Contract Maintenance & Inspections Update – Britni Kahler**
- 2:50 pm      8) Other items – Chair Bart Miller**
- ✓ Next SEMSWA Board Meeting – June 17, 2026, at 1:30 p.m.
- 2:55 pm      9) Adjournment – Chair Bart Miller**



Minutes of the Southeast Metro Stormwater Authority Board Meeting  
April 15, 2026

A Board Meeting of the Southeast Metro Stormwater Authority (SEMSWA) was held in person at SEMSWA, 7437 S. Fairplay Street, Centennial, CO, and via video/teleconference using Teams Meeting ID#231798011106. A full and timely notice of this meeting was posted, and a quorum was present. The meeting was called to order by Chair Bart Miller at 1:35 p.m.

Board Directors Present:

Bart Miller, Chair, City of Centennial  
Don Sheehan, City of Centennial  
Jessica Campbell, Arapahoe County  
Rhonda Fields, Arapahoe County  
Amy Tharp, City of Centennial  
Michelle Probasco, Special Districts  
Durrell Middleton, City of Centennial Alternate (arrived at 2:10 p.m.)

SEMSWA Team Present:

Dan Olsen, Executive Director  
Ed Krisor, SEMSWA Counsel  
Dave Agee, Finance Director Emeritus (remote)  
Jill Gillespie, CliftonLarsonAllen (CLA), Financial Consultant  
Molly Trujillo, CIP Program Manager  
Jon Nelson, CIP Senior Project Manager  
Nicole Harwell, CIP Senior Project Manager  
Ashley Byerley, Environmental Resources Manager  
James Linden, Senior Environmental Specialist (remote)  
Brad Sullivan, Maintenance Manager  
Roxi Jones, Director of HR and Administration  
Tiffany Clark, Land Development Review Manager (remote)  
Tarah Hamlyn, Land Development Engineer (remote)  
Angela Howard, Land Development Engineer (remote)  
Cynthia Love, Floodplain Program Manager  
Jessica Traynor, Floodplain and Master Planning Engineer (remote)  
Tammi Lantz, Business Support Specialist (remote)  
Kelley Smith, Receptionist (remote)  
Breanna Schittone, Human Resources Generalist

Guests Present:

Andrea Suhaka, Citizen (remote)  
Keith Bishton, Jacobs Engineering (remote)  
Laurens VanDerTek, Jacobs Engineering (remote)  
Kyle Hamilton, Jacobs Engineering

### **1) Call to Order – Chair Miller**

- Roll Call
- Public Comments for Non-Agenda Items – None
- The February 18, 2026, SEMSWA Board Meeting Minutes stand approved.

### **2) Presentation of Items for Consideration – Chair Miller**

- Resolution 26-06 Approval of the Revocable Drainage Improvement License Agreement with Centennial Real Estate Ventures, LLC – Tiffany Clark
- Resolution 26-07 Authorization of the Executive Director to Grant Permanent Easements for Public Benefit to SEMSWA Partners on an as Needed Basis – Tiffany Clark
- The two Resolutions above were moved to the Consent Agenda.

### **3) Consent Agenda – Chair Miller**

- Resolution 26-06 Approval of the Revocable Drainage Improvement License Agreement with Centennial Real Estate Ventures, LLC
- Resolution 26-07 Authorization of the Executive Director to Grant Permanent Easements for Public Benefit to SEMSWA Partners on an as Needed Basis
- Resolution 26-08 Authorization to Amend the Funding Agreement Regarding the Cherry Creek Drainage and Flood Control Improvements at Arapahoe Road
- Resolution 26-09 Authorization to Amend the Funding Agreement Regarding Design and Construction of Drainage and Flood Control Improvements for Dutch Creek and Raccoon Creek at Platte Canyon Road
- Resolution 26-10 Authorization to Amend the Funding Agreement Regarding the Happy Canyon Creek Drainage and Flood Control Improvements – Jordan Road to Broncos Parkway
- Resolution 26-11 Authorization to Amend the Funding Agreement for the Piney Creek Reach 4 Stream Reclamation Improvements
- Resolution 26-12 Authorization to Amend the Funding Agreement with Cherry Creek Basin Water Quality Authority to Fund the Piney Creek Reaches 1 and 2 Stream Reclamation Improvements
- Resolution 26-13 Authorization to Amend the Funding Agreement Regarding the Willow Creek Drainage and Flood Control Improvements – County Line Road to Quebec Street
  - Motion to Adopt the Consent Agenda: Director Campbell  
Second: Director Sheehan  
Ayes: All

### **4) Finance Report – Jill Gillespie, CliftonLarsonAllen (CLA)**

- Noted February Disbursements:
  - Line 40 – American West Construction, LLC. - \$96,900.00
  - Line 49 – Insituform Technologies USA, Inc. - \$128,897.43

- Noted March Disbursements:
  - Line 37 – L&M Enterprises, Inc. - \$57,410.00
  - Line 83 – American West Construction, LLC. - \$461,573.25
  - Line 103 – Johnson Auto Plaza - \$67,000.00
- Jill Gillespie reported on the Comparative Balance Sheet (Budgetary Basis) for the months ended March 31, 2026, and February 28, 2026, and on the Schedule of Revenues, Expenditures, and Changes in Funds Available – Budget and Actual – for the Three Months ended March 31, 2026.

## **5) Executive Director Report – Dan Olsen**

- SEMSWA's Turf Conversion Project has officially started.
- A new SEMSWA Sign and Water Quality Signage has been installed outside at the SEMSWA entrance and by the Demonstration Garden.
- Dan Olsen gave an update on two detention ponds in Holly Hills, stating that the sod will need to be removed.
- James Linden, Ashley Byerley, and Dan Olsen made a presentation on SEMSWA's background and the High Line Canal at the City of Centennial District 1 meeting.
- Dan Olsen presented property tax statement examples to show and explain the special assessment fee.
- Molly Trujillo and Dan Olsen attended the South Suburban Parks and Recreation Board meeting on April 8, 2026, to show support for West Spring Creek Phase Two Project.
- On April 27, 2026, Ashley Byerley, James Linden, and Dan Olsen will be presenting to CenCon.
- SEMSWA staff will be attending the District 4 Meeting with the City of Centennial on April 28, 2026.
- Dan Olsen announced that the State of the City Luncheon is scheduled for Thursday, April 30, 2026.
- The October Board Meeting has been moved up to October 7, 2026.

## **6) Cost of Service Study Presentation – Tiffany Clark and Kyle Hamilton, Jacobs Engineering**

## **7) Executive Session Pursuant to 26-6-402 (4)(b) C.R.S**

- Motion to Open the Executive Session at 3:16 p.m.: Director Campbell  
Second: Director Fields – Ayes: All
- The Executive Session was closed at 3:47 p.m.

## **8) Other Items – Chair Miller**

- The next Board Meeting is scheduled for Wednesday, May 20, 2026, at 1:30 p.m.

## **9) Adjournment**

- Chair Miller adjourned the meeting at 3:48 p.m.

SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

RESOLUTION 26-14  
Approval of Revisions to Chapter 9 of the  
SEMSWA Stormwater Management Manual

WHEREAS, the Southeast Metro Stormwater Authority (SEMSWA) is an independent governmental entity authorized to adopt standards and criteria for stormwater infrastructure within its service area; and

WHEREAS, SEMSWA has adopted a Stormwater Management Manual (SMM) to establish technical requirements for the planning, design, and construction of stormwater facilities; and

WHEREAS, Chapter 9 of the SMM addresses storm sewer systems, including pipes, structures, and appurtenances; and

WHEREAS, Colorado law requires all new underground facilities installed on or after August 8, 2018, to be electronically locatable at the time of installation, including laterals, pursuant to C.R.S. § 9-1.5-103(10); and

WHEREAS, electronic locatability of non-conductive storm sewer pipe is achieved through the installation of tracer wire or equivalent locating methods; and

WHEREAS, the current version of Chapter 9 of the SMM does not expressly require tracer wire on new storm sewer installations, and SEMSWA desires to revise Chapter 9 to align with Colorado law; and

WHEREAS, SEMSWA has developed a standard pipe-to-structure collar detail that provides improved constructability, clarity, and performance consistent with SEMSWA operational practices; and

WHEREAS, SEMSWA desires to revise Chapter 9 of the SMM to incorporate a SEMSWA standard pipe collar detail for storm sewer connections to structures; and

WHEREAS, the proposed revisions to Chapter 9 are technical in nature and do not expand SEMSWA's authority or alter maintenance responsibilities established by law or intergovernmental agreement.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. Approval of Chapter 9 Revisions. The SEMSWA Board of Directors hereby approves revisions to Chapter 9 of the SEMSWA Stormwater Management Manual to: (a) require that new storm sewer installations be electronically locatable, including through the use of tracer wire, in accordance with C.R.S. § 9-1.5-103(10); and (b) adopt a SEMSWA standard storm sewer pipe-to-structure collar detail for connections to manholes, inlets, and similar structures.

2. Effective Date and Applicability. The revised Chapter 9 standards shall apply to projects submitted to SEMSWA for review on or after the effective date of this Resolution, unless otherwise approved by SEMSWA.
3. No Expansion of Authority. Nothing in this Resolution or the approved revisions shall be construed to expand SEMSWA's regulatory authority or modify existing ownership, operation, or maintenance responsibilities.
4. Administrative Authority. The Executive Director is authorized to make minor, non-substantive revisions necessary to implement the approved Chapter 9 updates, provided such revisions do not alter the substance or intent of this Resolution.

SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

Date: May 20, 2026

ATTEST:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Chairperson

APPROVED AS TO FORM:  
Attorney for  
Southeast Metro Stormwater Authority

By \_\_\_\_\_  
Edward J. Krisor

## Chapter 9. Storm Sewers

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### 9.0 Introduction

This chapter summarizes design criteria and evaluation methods for storm sewer systems in the City of Centennial. The review of all planning submittals will be based on the criteria presented herein.

**9.0.1 Stormwater Quality Considerations.** Traditionally, urban development has relied on storm sewer systems in the upper portions of watersheds. As storm sewers pick up more drainage area, they increase in size; when they become large, criteria requires a switch from storm sewers to open channels. Major drainageways (streams draining 130-acres or more) have been defined based on the amount of area that could reasonable be served with storm sewers before an open channel becomes necessary.

Today, with the emphasis on runoff reduction and water quality enhancement, stormwater management practices are turning to concepts that retain or create a surface drainage network extending upstream of major drainageways. To promote infiltration, attenuation of runoff, and water quality enhancement, properly designed drainageways and swales can extend upstream to the point where few, if any, storm sewers are necessary. When planning a new project, consideration is to be given to the use of grass swales and drainageways to reduce the extent of storm sewers, especially direct connections of paved areas to storm sewers. This concept, termed “minimizing directly connected impervious areas”, is discussed in more detail in Chapter 14, Stormwater Quality.

Replacing inlets and storm sewers with grass swales and drainageways will not be feasible everywhere and storm sewers will continue to be an integral part of many drainage systems. The storm sewer criteria in this chapter are identified to guide the design of these systems.

### 9.1 Design Storms for Sizing Storm Sewers

Two design storms shall be considered for sizing storm sewers: the minor (5-year) storm and the major (100-year) storm. In each case, storm sewers are to be sized to carry the portion of the runoff that cannot be conveyed on the surface, as dictated by the available capacity in streets and swales.

**9.1.1 Minor Event Storm Sewer Design.** At a minimum, storm sewers are to be sized to pick up any minor storm runoff that exceeds the minor event (5-year) capacity of the street or roadside swales (discussed in Chapter 7, Street Drainage). Inlets shall be located at these points to intercept excess minor event flow and direct it to the storm sewer. The storm sewer shall be sized to convey the minor storm in a “just full” condition, generally without surcharging the pipelines. Section 9.8 provides additional information on hydraulic design methods for the minor storm.

**9.1.2 Major Event Storm Sewer Design.** There are conditions when the storm sewer system needs to be sized to convey flows greater than the minor storm runoff (and as much as the major storm runoff), including the following:



1. Locations where the street capacity for the major storm is exceeded.
2. Locations where major storm flows can split off in an undesirable direction (i.e. flow splits at intersections).
3. Locations where the storm sewer system is accepting flow from an upstream storm sewer system or branch that is designed for the major storm.
4. Regional storm sewers designed for the major storm.
5. Locations where storm sewers must convey undetained flows to a regional detention pond.

If a storm sewer is to be designed to carry major storm flows, the inlets to the storm sewer shall be designed accordingly. The major storm event hydraulic grade line is allowed to rise above the top of the storm sewer pipe and surcharge the system. The major event hydraulic grade line elevation shall be a minimum of 1.0 foot below all manhole lid, inlet grate and inlet curb opening elevations. In no case shall the surcharge create system velocities in excess of the maximum outlined in Section 9.8.1

The major storm event hydraulic grade line must also be analyzed for storm sewer systems designed to convey the minor storm event runoff. Since the flow depth in the street during the major storm will typically be greater than the minor storm, inlets may intercept additional runoff and the flow in the storm sewer will be greater than during the minor storm event. Any surcharge created by conveyance of the additional runoff is subject to the limits outlined above. Section 9.8 provides additional information on hydraulic design methods for the major storm.

### 9.2 Storm Sewer Pipe Material and Size

**9.2.1 Storm Sewer Pipe Material.** All storm sewers located within City rights-of-way, public easements or in private streets shall be constructed with reinforced concrete pipe (RCP). Urban Drainage and Flood Control District has performed an extensive evaluation of the performance of various types of storm sewer pipe materials and this information is presented in the *UDFCD Update to Storm Sewer Pipe Material Technical Memorandum* dated March 1998, herein referred to as the *UDFCD Pipe Memo*. SEMSWA has considered the *UDFCD Pipe Memo*, other pertinent data, and its experience with the installation and maintenance of storm sewers within the City and has determined RCP to be the appropriate pipe material for use in SEMSWA's stormwater management systems. Circular pipe is the most cost effective option for reinforced concrete, but elliptical pipe may be a more appropriate option in areas where available cover is limited or there are utility conflicts.

Alternate pipe materials may be used for private storm sewers with SEMSWA approval prior to submittal of drainage reports or construction drawings for SEMSWA review. A private storm sewer system is defined as a system that conveys runoff generated by one subdivided lot or parcel. When a storm sewer system conveys runoff from two or more subdivided lot or parcels, it is

considered a “public” system. The alternate pipe material that is proposed must conform to the requirements set forth in the *UDFCD Pipe Memo*, however, SEMSWA will recognize changes in applicable standards and specifications since that document was published. For instance, AASHTO M294 – Type S – Corrugated Polyethylene Pipe is applicable for pipe diameters from 12-inches to 60-inches. Trench details, installation specifications, minimum cover or fill height limits, and construction testing requirements for alternate pipe materials shall be consistent with those recommended by the manufacturer/supplier or as determined by SEMSWA.

Outlets into detention or water quality ponds and connections to the public storm sewer system must be constructed with RCP. This typically requires a change in pipe material at the privately owned structure (i.e. manhole or inlet) immediately upstream from the connection to the public storm sewer or the pond outfall.

- 9.2.2 Minimum Pipe Size.** The minimum allowable pipe size for storm sewers located within City right-of-way and public easements is presented in Table 9-1.

**TABLE 9-1  
MINIMUM STORM SEWER PIPE DIAMETERS**

<u>Type</u>	<u>Pipe Diameter</u>
Main Trunk	18-inch
Lateral from Inlet	18-inch
Outlet from Detention Pond	18-inch

- 9.2.3 Driveway Culverts.** See Section 11.4 of Chapter 11, Culverts and Bridges, for SEMSWA criteria on driveway culverts.

### 9.3 Other Design Considerations

- 9.3.1 RCP Pipe Class, Fill Height, and Installation Trench.** The minimum class of reinforced concrete pipe shall be Class III, however, the depth of cover, live load, and field conditions may require structurally stronger pipe. SEMSWA’s trench installation requirements, trench installation details, and allowable fill heights are shown on the SEMSWA Pipe Trench Standard Detail which can be found on SEMSWA’s website at [www.semswa.org](http://www.semswa.org). It is the responsibility of the design engineer to develop and submit alternate trench and installation details when project specific conditions or loadings require modification to the standard installation. Alternate designs shall follow ASTM C1479.

- 9.3.2 Storm Sewer Joints.** All storm sewer installations within public and private roadways and public easements shall be constructed with water-tight joints, using rubber gaskets. ASTM Standard C443 covers flexible watertight joints for circular concrete storm sewer and culvert pipe and precast manhole sections using rubber gaskets for sealing the joints.

## Chapter 9. Storm Sewers

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**9.3.3 Trash Racks.** Trash/safety racks shall not be used at storm sewer outlets.

**9.3.4 Conduit Outlet Structures.** See Chapter 10, Conduit Outlet Structures, for discussion regarding conduit outlet structures at storm sewer outfalls.

**9.3.5 Storm Sewer Tracer Wire.** All storm sewer installations within public and private roadways and public easements, shall be installed to be electronically locatable at the time of installation, in accordance with Colorado Revised Statutes § 9-1.5-103(10).

Tracer wire shall be provided for all applicable storm sewer installations, including mains and laterals, unless an alternative method of electronic locatability is approved by SEMSWA. Tracer wire installation shall conform to Figure 9-2 Tracer Wire Detail, including requirements for tracer wire materials, installation, splicing, test stations, grounding, and continuity testing.

Tracer wire systems shall be installed as a continuous locating system and shall be tested for continuity prior to backfill, concrete placement, or paving.

**9.3.6 Pipe Connections to Structures.** All storm sewer installations within public and private roadways and public easements that connect to drainage structures, including but not limited to manholes and inlets, shall be provided with a concrete collar at the pipe-to-structure connection.

Pipe connection collars shall be constructed in accordance to Figure 9-3 Pipe Inlet/Manhole Connection, and shall provide a watertight and structurally sound connection between the storm sewer pipe and the structure.

## 9.4 Easements and Maintenance

**9.4.1 Storm Sewer Easements.** Drainage easements are required in order to ensure the proper construction and maintenance of storm sewers and related facilities. Easements shall be provided for all storm sewer systems that convey or impact the public storm drainage system. Refer to Chapter 3, Stormwater Management and Development for further discussion regarding storm sewer easements.

**9.4.2 Minimum Acceptable Storm Sewer Easements.** Table 9-2 presents the minimum acceptable easement requirements for storm sewer systems. The design of the storm sewer shall include the easement width that is necessary to ensure that adequate space is provided for the access, construction and maintenance of the facility.

**TABLE 9-2  
MINIMUM ACCEPTABLE STORM SEWER EASEMENT WIDTHS**

<u>Pipe Size</u>	<u>Easement Width</u>
Less than 36-inch diameter	20 feet*

36-inch diameter and larger	25 feet*
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\*Or as required in order to meet Occupational Safety and Health Administration (OSHA) and/or construction requirements.

The pipe shall be constructed at one-third of the easement width to allow for stockpiling of material on one side of the storm sewer trench. The minimum widths provided in Table 9-2 assume a shallow pipe depth. Deeper pipes are required to be constructed in accordance with OSHA requirements, and appropriate easements are required to allow for construction and potential future repair or replacement. Easements to provide access to the storm sewer, outlet, and other appurtenances are required if not accessible from a public right of way.

### **9.4.3 Allowable Landscaping and Surface Treatment in Storm Sewer Easements.**

Although storm sewer systems are designed to have a significant service life, it is recognized that there are circumstances that may require the storm sewer to be accessed for inspection, maintenance, repair or replacement. Storm sewer easements also convey above ground flows in the event the storm sewer or inlet becomes clogged or full. It is therefore necessary to limit uses on the surface of the easement to ensure that the above ground conveyance is not obstructed, and to allow maintenance access to the storm sewer if necessary. Minor landscaping including, rock, shrubs etc. may be appropriate where it can be demonstrated that the function of the easement is not compromised by the presence of the materials. Pavement over a storm sewer easement is allowable, providing that the property owner assumes responsibility for replacement in the event it is necessary to remove it to access the pipe. Improvements that are not allowed on storm sewer easements include structures of any kind, retaining walls, permanent fencing, trees, and others if determined by SEMSWA to be a problem and/or costly to replace. Surface treatments within drainage easements shall be shown on the drainage plan and final development plan, and accepted by SEMSWA.

## **9.5 Storm Sewer Vertical Alignment**

### **9.5.1 Minimum Cover.** All storm sewers shall be constructed so that the minimum cover is maintained to withstand AASHTO HS-20 loading on the pipe. The minimum cover depends upon the pipe size, type and class, and soil bedding condition, but shall be not less than 12-inches at any point along the pipe.

There are numerous factors that ultimately affect the depth of cover over a pipe and in most cases it is likely that the cover will have to be greater than the minimum allowed due to other design considerations and factors. Some of the other factors that affect the depth of the pipe are hydraulic grade line elevations, inlet depths, adjacent utilities or utility crossings, including water and sewer services lines along residential streets, and connections to existing storm sewer systems.

### **9.5.2 Minimum Cover in Roadways.** A minimum cover of 30-inches shall be required in roadways, unless it is demonstrated by the design engineer that less cover is

needed given the pavement design and soils reports. The roadway subgrade, which supports the pavement section is typically plowed to a certain depth, moisture treated and compacted prior to the placement of the sub-base, base course, and surfacing. There are also instances where the subgrade material must be excavated and replaced or treated to a certain depth to mitigate swelling soils. These efforts can impact the storm sewer system if it has not been designed with adequate depth. The design engineer shall use the best information available, including pavement design or soils reports (if available) to ensure that storm sewer pipes have adequate depth.

- 9.5.3 Utility Clearance.** For all storm sewer crossings at water and/or sanitary sewer lines, the appropriate agency (i.e. water and sanitation district) shall be contacted to determine the agency's requirements for the crossing.

SEMSWA requires a minimum vertical clearance of 18-inches between a storm sewer and a water main, above or below (all clearances are defined as outside-of-pipe to outside-of-pipe). Additional requirements may be required by the specific utility provider.

The minimum vertical clearance between a storm sewer and a sanitary sewer, above or below, shall also be 18-inches. In addition, whenever a sanitary sewer main lies above a storm sewer the sanitary sewer shall have an impervious encasement for a minimum of 10-feet on each side of the storm sewer. Additional requirements may be required by the specific utility provider.

If 18-inches of clearance from the storm sewer cannot be maintained, additional measures will be required to address potential concerns associated with minimum separation. Additional measures may include concrete cradles for additional structural support, encasement, or other improvements as needed to address potential impacts to either pipe system.

## 9.6 Horizontal Alignment

- 9.6.1 Storm Sewer Alignment.** The storm sewer alignment between drainage structures (inlets or manholes) shall be straight. If a change of alignment is necessary, a manhole shall be used. Curvilinear alignment for storm sewers is NOT allowed in the City.
- 9.6.2 Utility Clearance.** For all storm sewer pipes constructed within a utility corridor (i.e. roadway), the appropriate agency (i.e. water and sanitation district) shall be contacted to determine the agency's requirements for horizontal clearance between the utilities.

SEMSWA requires a minimum clearance of 10-feet between a storm sewer and a water line or sanitary sewer line. The 10-feet of clearance shall occur from the outer diameter of the storm sewer pipe to the outer diameter of the water or sewer pipe. The design engineer shall give careful consideration to the required horizontal clearance and the potential impacts to the existing utility construction

trench and bedding material. The required horizontal clearance may be reduced, at the approval of SEMSWA, if the vertical elevations of the pipes provide adequate clearance to prevent impacts to the existing and proposed construction trench.

### 9.7 Manholes

**9.7.1 Required Locations.** Manholes are required along straight segments of pipe in order to provide maintenance access. Manholes are also required whenever there is a change in size, direction, or grade of a storm sewer pipe. A manhole shall also be constructed when there is a junction of two or more sewer pipes. The maximum spacing between manholes for various pipe sizes shall be as shown in Table 9-3.

**TABLE 9-3  
MAXIMUM MANHOLE SPACING**

<u>Pipe Diameter</u>	<u>Maximum Distance Between Manholes</u>
18-inch to 36-inch	400 feet
Greater than 36-inch	500 feet

**9.7.2 Manhole Types and Minimum Sizes.** The required manhole type and size is dependent on the diameter of the largest pipe entering or exiting the manhole and the horizontal and vertical alignments of all pipes entering or exiting the manhole. Table 9-4 presents general guidance regarding acceptable manhole types and minimum diameters, based on the diameter of the storm sewer pipe.

**TABLE 9-4  
MANHOLE SIZE BASED ON PIPE DIAMETER\***

<u>Pipe Diameter</u>	<u>Minimum Manhole Diameter</u>	<u>Acceptable Manhole Types</u>
42" or less	5'	Cast-in-place Slab Base
48" - 54"	6'	Cast-in-place Slab Base
60"	7'	Box Base, Denver Type "P"
72" - 78"	8'	Box Base, Denver Type "P", T-Base
78" - 96"	5' (Riser)	Box Base, T-Base
Larger than 96"	5' (Riser)	T-Base

\*Table is based on pipes with a straight through alignment (no horizontal alignment change from the upstream to the downstream)

pipe) or changes in alignment accommodated in the standard design for large pipe manhole structures.

Table 9-4 provides general guidance and in many cases, it is likely that the minimum diameter of manhole size will need to be increased to account for more significant changes in pipe alignment or multiple incoming pipes. There must be a minimum of 12-inches clearance from the outside of pipes adjacent to each other. This 12-inch dimension must be measured on the inside wall of the manhole. Pipes shall not be allowed to enter or exit a manhole through the corner of the manhole structure. It is the responsibility of the design engineer to determine the required manhole size to achieve adequate space between the pipes entering or exiting the manhole structure. This same analysis and dimension check must be performed when an inlet is used as a junction structure. In those cases where modifications to standard manhole construction details are required or where special junction structure designs are required, additional construction details must be developed and included in the construction drawing set.

**9.7.3 Large Pipe Manhole Structures.** A manhole with a large diameter or a special junction structure may be required, depending on the degree of horizontal bend, the use of large pipes, or the presence of multiple laterals into a manhole. There are a number of different options available for these special cases:

1. Box Base Manhole. It is appropriate to use this manhole for large pipe diameters with a horizontal alignment change of less than 45 degrees. The Box Base Manhole shall be constructed per SEMSWA's Standard Detail (located on the SEMSWA website).
2. T-Base Manhole. This manhole is acceptable for 72-inch diameter pipes and larger when there is no horizontal or vertical alignment change at the structure. The T-Base manhole shall be constructed per SEMSWA's Standard Detail. Horizontal or vertical alignment changes using a three piece elbow or bend in conjunction with a T-Base may be considered through the variance process for very large pipes where the base structure for a Box Base or Type P manhole would be excessively large.
3. Type "P" Manhole. This manhole is appropriate for 30 degree and 45 degree deflections (horizontal alignment changes) where the use of a box base manhole would result in excessive dimensions. The Type "P" Manhole shall be constructed per SEMSWA's Standard Detail.
4. Special Junction Structures. Special junction structures may have to be designed when pipe sizes and alignment changes exceed those that can be accommodated by standard manhole types.

**9.7.4 Steps and Platforms.** Steps are required in all manholes exceeding 3.5 feet in height and shall be in accordance with AASHTO M 199. The Occupational Health and Safety Administration has specific standards for fixed ladders used to ascend heights exceeding 20-feet. Cages and/or landing platforms may be required to satisfy these requirements in excessively deep manhole structures. It is the design engineer's responsibility to ensure that the appropriate measures are designed and construction details are developed and included in the

construction drawings, as needed to comply with the Occupational Health and Safety Administration standards. When landing platforms are proposed, considerations shall be given to the potential maintenance activities and the expected loadings on the platform.

**9.7.5 Drop Manholes.** The drop within a manhole from the upstream to downstream pipe invert should normally not exceed 1-foot. There are cases when a drop larger than 1-foot may be necessary (to avoid a utility conflict, reduce the slope of the downstream pipe, or to account for the energy losses in the manhole). Drops that exceed 1-foot will be evaluated on a case-by-case basis, and additional analysis may be required. The details referenced in Section 9.7.3 for the Box Base and Type P manholes do not accommodate a significant elevation difference between the pipes entering and exiting the manhole, therefore use of these manholes would require a special design.

**9.7.6 Energy Dissipation in Manholes for Small Storm Drainage Outfalls.** Small storm drainage outfalls are defined as outfall systems that have a design flow rate of 20 cubic feet per second or less at the outlet point into a drainageway or detention pond. Small storm drainage outfall systems are commonly proposed to drain cul-de-sacs or other small tributary areas. In many cases, a relatively steep slope is required for the pipe to outlet into an adjacent drainageway or detention pond. In the design of these systems, manholes will be allowed to have drops to a maximum of 4.5-feet in order to provide energy dissipation within the system. In order for a manhole to qualify as an energy dissipation structure upstream of the storm sewer outlet, the minor storm flow must have sufficient velocity to impact the opposite side of the manhole. These minimum velocities based on the drop height, are provided in Figure 9-1. The information provided in Figure 9-1 is based on the use of a 4-foot manhole (inside diameter). The use of a 4-foot manhole is acceptable and required when proposed for the purposes of energy dissipation in the small outfall systems.

**9.7.7 Manhole Shaping.** All manholes shall be constructed with fill concrete to the top of the highest crown of the highest top of pipe entering or exiting the manhole. The shaping shall match the pipe section below pipe springline and consist of vertical walls above pipe springline. This shaping significantly reduces manhole losses. The appropriate loss coefficient can be determined using Figure ST-8 and Table ST-9 of the UDFCD Manual for full shaping. SEMSWA's Standard Details for storm sewer manholes (located on the SEMSWA website) provide construction details for channelization in slab base and box base manholes.

**9.7.8 Other Design Considerations.** The following design criteria shall be met:

- The elevation of the pipe crowns shall be matched when the downstream pipe is larger than the upstream pipe. This will minimize the backwater effects on the upstream pipe.
- The invert of a manhole shall be constructed with a slope between the upstream and downstream pipes. The slope shall be the average of the



upstream and downstream pipe slopes or based on a fall of 0.1-foot minimum through the manhole.

- It is critical that gutter pans, curb heads, and any other problematic locations be avoided when determining the horizontal placement of manholes.

### 9.8 Hydraulic Design

Once the layout of the storm sewer system is determined, the peak flows in the system must be calculated followed by a hydraulic analysis to determine pipe capacity and size. The pipe size shall not decrease moving downstream (even if the capacity is available due to increased slope, etc.) in order to reduce clogging potential.

**9.8.1 Allowable Storm Sewer Velocity and Slope.** The allowable storm sewer velocity is dependent on many factors, including the type of pipe, the acceptable water level during the pipe design life, proposed flow conditions (open channel versus pressure flows), and the type and quality of construction of joints, manholes, and junctions.

1. Maximum velocity. In consideration of the above factors, the maximum velocity in all storm sewers shall be limited to 18-fps.
2. Minimum velocity. The need to maintain a self-cleaning storm sewer system is recognized as a goal to minimize the costs for maintenance of storm sewer facilities. Sediment deposits, once established, are difficult to remove - even with pressure cleaning equipment. However, the infrequency of storm runoff also possesses a problem in obtaining flows large enough to maintain the self-cleaning quality of the design. Thus, a balance must be drawn between obtaining a self-cleaning system and constructing a reasonably sized and sloped storm sewer. A minimum velocity of 4-feet per second is required when the storm sewer conveys runoff from frequently occurring events. Assuming that the pipe has been designed to flow near full, a flow depth equal to 25-percent of the pipe diameter and the corresponding flow rate shall be used to check the minimum velocity. If the pipe is not designed to flow near full, a flow depth equal to 25-percent of the design flow rate depth and the corresponding flow rate shall be used to check the minimum velocity.
3. Minimum slope. In general, the minimum allowable pipe slope ensures that the minimum velocity is achieved in those cases where the pipe is designed to flow near full. In addition, storm sewers generally are not practicably constructed at slopes less than 0.50-percent and it is difficult to maintain a smooth even invert. The minimum allowable longitudinal slope shall be 0.005 ft/ft (1/2-percent) for pipes 30-inch in diameter and greater. The minimum allowable longitudinal slope shall be 0.01 ft/ft (1-percent for pipes smaller than 30-inches in diameter).

**9.8.2 Hydraulic Evaluation of Storm Sewers in the Minor Storm Event.** In the minor storm event, inlets are placed along the roadway where the flow in the roadway exceeds the minor event capacity of the street as defined in Chapter 7, Street Drainage. These inlets intercept flow, as determined by the procedures in Chapter 8, Inlets, and convey it to a storm sewer which must be sized to convey

the intercepted flow. The following process outlines the steps taken to determine the appropriate size of storm sewer pipe for laterals and main lines.

1. Step 1 Hydrology. The most common method used to determine the peak flow within a storm sewer is the Rational Method. Chapter 6 of this Manual provides detailed information on Rational Method calculations. In order to determine the peak flow within a storm sewer at various locations along the system, the total drainage area tributary to the storm sewer must be divided into sub-basins. Typically the design point of these sub-basins is located at proposed inlet locations along the system. Determining inlet locations and/or design points for the minor event is an iterative process since the placement of an inlet depends upon the minor event capacity of the street. In order to check the capacity of the street (see Chapter 7), a flow rate at the location to be checked must be calculated. Once the design points (inlet locations) have been determined, the inlet interception shall be determined per Chapter 8. This inlet interception flow rate is used to determine the size of the pipe exiting the inlet.

For a storm drainage system which consists of a main line with multiple laterals tributary to the main line, a time of concentration ( $t_c$ ) comparison shall be completed. Form SF-3 in Chapter 6, Hydrology, is a useful tool for completing this analysis. Each lateral must be analyzed using the  $t_c$  value at the local design point or inlet from the tributary sub-basin. The storm sewer main line usually has multiple tributary laterals; therefore the  $t_c$  in the main line is equivalent to the travel time from the most remote point in the major basin to the specific point of interest. This travel time is a combination of the  $t_c$  to the inlet where the flow was intercepted and the travel time from the inlet to the specific location being analyzed.

2. Step 2 Pipe Capacity. The storm sewer system shall not be surcharged in the minor storm event. A storm sewer is considered surcharged when the depth of flow or hydraulic grade line in the storm sewer is greater than 80-percent of the pipe's inside diameter.

For the minor storm event, a storm sewer is not flowing full, therefore the sewer acts like an open channel and the hydraulic properties can be calculated using Manning's Equation. For calculations performed for SEMSWA, the Manning's roughness coefficient ( $n$ ) is assumed to be constant for all depths of pipe flow. For concrete pipe, the Manning's roughness coefficient to be used for all storm sewer designs and analyses shall be 0.013 for new pipe and 0.015 for old pipe. Based on the flow in the pipe as determined by Step 1, Manning's Equation should be solved for the pipe diameter. Once the pipe diameter is calculated, the next larger pipe size available should be specified (i.e. if Manning's equation results in a diameter of 22-inch, then 24-inch should be specified). See Section 4.4 of the UDFCD Manual for additional information on Manning's equation and storm sewer sizing calculations.

3. Step 3 Hydraulic Grade Line. For partial flow conditions, the hydraulic grade line is equal to the water surface in the pipe. Hydraulic grade line calculations must be performed to account for energy losses and to ensure that the system is not surcharged during the minor storm event. There may be some special cases where the proposed storm sewer pipe is connected to an existing storm pipe (or a detention pond). If this existing pipe is surcharged, then the proposed system will receive backwater from the downstream pipe. In this situation, the minor event hydraulic grade line must be calculated to determine the impacts on the hydraulic grade line through the upstream portions of the system. Further discussion on hydraulic grade line calculations can be found in Section 9.8.3.

**9.8.3 Hydraulic Evaluation of Storm Sewers in the Major Storm Event.** The storm sewer system layout determined for the minor event analysis must also be evaluated for the major storm event. If necessary, additional inlets must be placed along the roadway when the flow in the roadway exceeds the major storm event capacity of the street as defined in Chapter 7. The interception rates for all of the inlets shall then be calculated for the major storm event, based on the procedures in Chapter 8.

1. Step 1 Hydrology. As described in Section 9.8.2, typically the design points of sub-basins along a storm sewer system are located at proposed inlet locations. Determining inlet locations and/or design points is an iterative process since the placement of an inlet depends upon the minor and major event capacity of the street. In order to check the capacity of the street (see Chapter 7), a flow rate at the location to be checked must be calculated. Once the design points (inlet locations) have been determined, the inlet interception shall be determined per Chapter 8.

As described in Section 9.8.2, a time of concentration comparison shall be completed for the major storm event using Form SF-3 from Chapter 6. Each lateral must be analyzed using the  $t_c$  value at the local design point or inlet from the tributary sub-basin. The storm sewer main line usually has multiple tributary laterals; therefore the  $t_c$  in the main line is equivalent to the travel time from the most remote point in the major basin to the specific point of interest. This travel time is a combination of the  $t_c$  to the inlet where the flow was intercepted and the travel time from the inlet to the specific location being analyzed.

2. Step 2 Pipe Capacity. In the major storm event it is acceptable to have a surcharge in the system. Therefore Manning's equation is not applicable for those pipes which are under pressure flow conditions. There may be cases where the major storm event does not result in a surcharge of the system. In these pipes the capacity can be calculated using Manning's equation as described in Section 9.8.2.
3. Step 3 Hydraulic and Energy Grade Lines. Hydraulic grade line calculations for the storm sewer system shall be provided for the major storm event. The major storm hydraulic grade line must be a minimum of 1-foot below the final grade along the storm sewer system. When a storm sewer is flowing under a

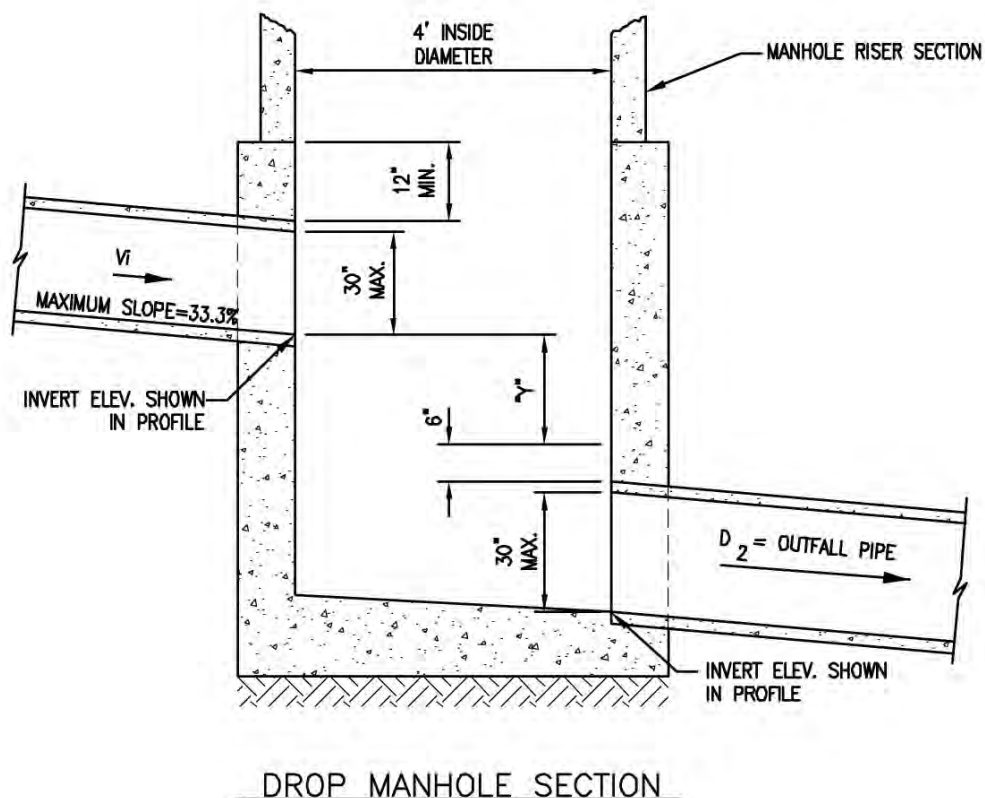
pressure flow condition, the energy and hydraulic grade lines shall be calculated using the pressure-momentum theory. The capacity calculations generally proceed from the storm sewer outlet upstream, accounting for all energy losses. These losses are added to the energy grade line and accumulate to the upstream end of the storm sewer. The hydraulic grade line is then determined by subtracting the velocity head from the energy grade line at each change in the energy grade line slope. Refer to Section 4.4 of the UDFCD Manual as a guideline for completing hydraulic grade line and energy grade line calculations. The procedure described in the UDFCD Manual is based on the FHWA HEC-22 publication. All of the losses through a storm sewer system at bends, junctions, transitions, entrances, and exits are based upon coefficients recommended in the UDFCD Manual.

**9.8.4 Computer Programs.** It is recommended that a computer program be used for the design or as a calculation “check” of a storm sewer system. NeoUDSewer is the software created to supplement the UDFCD Manual and is an approved computer program for storm sewer analysis in the City. NeoUDSewer is a powerful tool which can calculate rainfall and runoff using the Rational Method and then size a circular storm sewer based on Manning’s equation. Example 6.13 in the Streets/Inlets/Storm Sewers chapter of the UDFCD Manual is an example of sample project input and the resulting output from NeoUDSewer.

If an alternate computer program (i.e. StormCAD) is used, a calibration model based on Example 6.13 in the UDFCD Manual must be completed and provided to SEMSWA. This calibration model is generated by completing an analysis of Example 6.13 with the alternate computer model. The results of this alternate model must be comparable to the results from the NeoUDSewer analysis. It is not necessary to calibrate the hydrologic analysis as shown in Example 6.13, rather the design engineer may input the peak flow directly to obtain a comparison of the resulting hydraulic and energy grade lines through the example system. The goal of this model calibration is to verify that the loss coefficients and other system assumptions used in the alternate computer program are equivalent to the methodology applied by NeoUDSewer, which is accepted by SEMSWA.



**FIGURE 9-1  
ENERGY DISSIPATION IN MANHOLES FOR  
SMALL STORM DRAINAGE OUTFALLS**



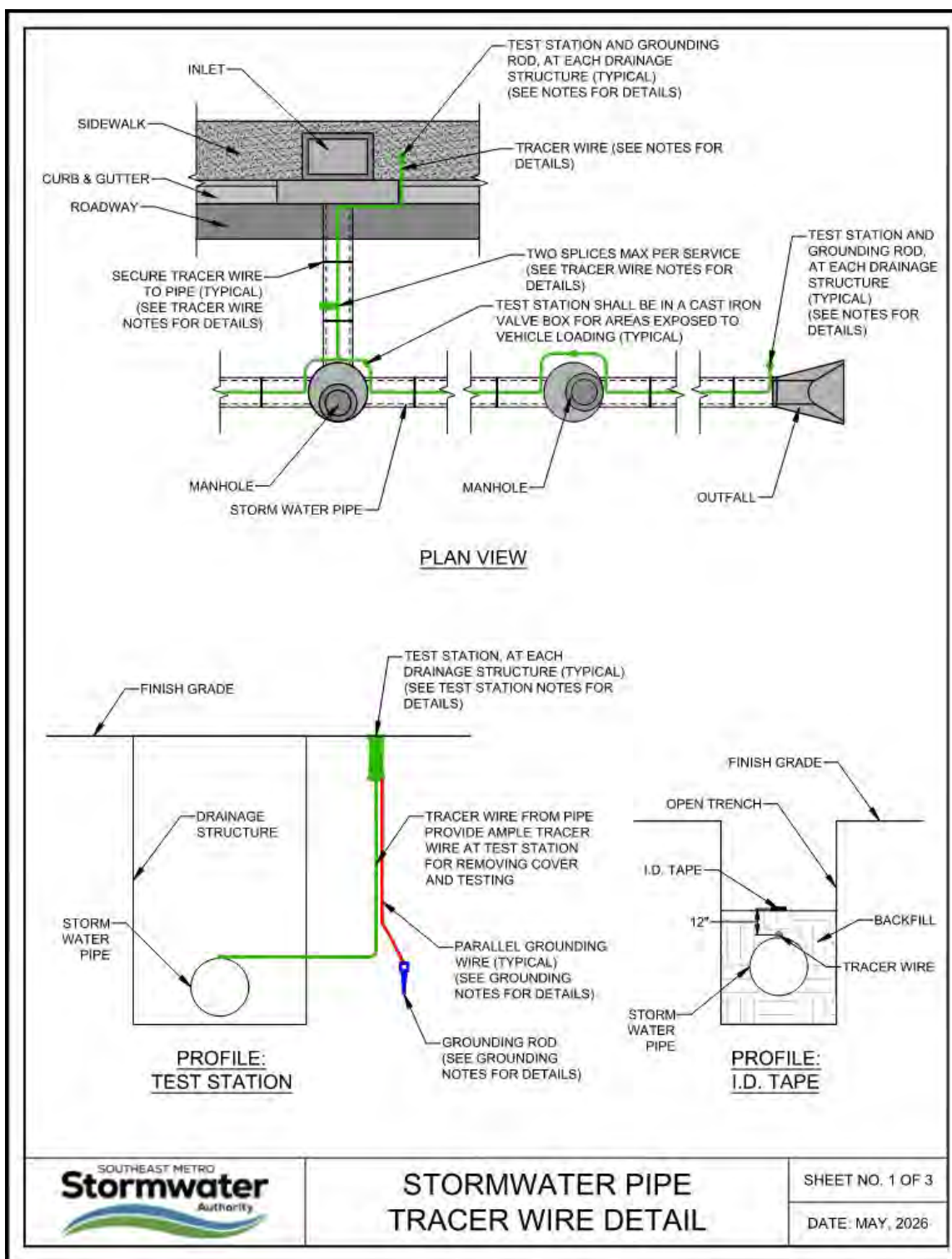
DROP MANHOLE SECTION

MAX. "Y" DIMENSION

$D_2 =$	18"	21"	24"	27"	30"
	2.50'	2.25'	2.00'	1.75'	1.5'

<u>"Y" DIMENSION</u>	<u>MIN. VELOCITY (<math>V_i</math>) (fps)</u>
0.50'	23.0
0.75'	19.0
1.00'	16.0
1.25'	14.0
1.50'	13.0
1.75'	12.0
2.00'	11.0
2.25'	10.5
2.50'	10.0

**FIGURE 9-2  
TRACER WIRE DETAIL**



### GENERAL NOTES:

3. TRACER WIRE AND NECESSARY TESTING STATIONS AND GROUNDING RODS ARE REQUIRED FOR ALL STORMWATER PIPE.
4. ALL TRACER WIRE SHALL HAVE A CONTINUITY TEST PERFORMED BEFORE BACKFILLING, CONCRETE OR PAVING.
5. LOCATING SYSTEM MUST MEET CURRENT STATE AND LOCAL REQUIREMENTS.

### TRACER WIRE NOTES:

1. TRACER WIRE SHALL BE LOCATED ON TOP OF PIPE, SECURE WIRE EVERY 3 TO 5 FEET MAX WITH ADHESIVE TAPE OR PLASTIC TIE STRAPS WRAPPED AROUND AT LEAST ONCE SUCH THAT WIRE REMAINS IN PLACE DURING EMBEDDING OF PIPE.
2. UP TO TWO UNDERGROUND WIRE SPLICES MAXIMUM ARE ALLOWED PER SERVICE, SHALL HAVE LOCKABLE CONNECTIONS SPECIFICALLY DESIGNED FOR DIRECT BURIAL, AND DIELECTRIC SILICONE GEL FILLED OR APPROVED EQUAL.
3. TRACER WIRE SYSTEMS MUST BE INSTALLED AS A SINGLE CONTINUOUS WIRE, EXCEPT WHERE USING APPROVED CONNECTORS. NO LOOPING OR COILING OF WIRE AROUND THE PIPE IS ALLOWED.
4. ALL STORMWATER LATERAL TRACER WIRES SHALL BE CONNECTED TO MAINLINE TRACER USING AN APPROVED MAINLINE TO LATERAL LUG CONNECTOR WITHOUT CUTTING / SPLICING THE MAINLINE TRACER WIRE.
5. ALL MAINLINE TRACER WIRE BRANCHES SHALL BE MADE WITH AN APPROVED MAINLINE TO MAINLINE LUG CONNECTOR WITHOUT CUTTING / SPLICING EITHER MAINLINE TRACER WIRE.
6. ALL TRACER WIRE SHALL HAVE HDPE (HIGH DENSITY POLYETHYLENE) INSULATION FOR DIRECT BURY, COLOR CODED PER APWA STANDARD, GREEN STANDARD FOR SEWER AND DRAIN LINES.
7. IF TRACER WIRE MANUFACTURER HAS NOT COMPLETED A 5-YEAR CORROSION TEST, A 5-YEAR WARRANTY MUST BE PROVIDED.
8. OPEN TRENCH / OPEN CUT - TRACER WIRE SHALL BE COPPERHEAD® COPPER-CLAD STEEL 12-AWG HIGH STRENGTH, HIGH CARBON WITH MINIMUM 450 LB. BREAK LOAD, MINIMUM 30 MIL HDPE INSULATION (1230"-HS-") OR APPROVED EQUIVALENT.
9. DIRECTIONAL DRILLING/BORING - TRACER WIRE SHALL BE COPPERHEAD COPPER-CLAD STEEL 12-AWG EXTRA HIGH STRENGTH WITH MINIMUM 1,150 LB. BREAK LOAD, MINIMUM 45 MIL HDPE INSULATION (1245"-EHS-") OR APPROVED EQUIVALENT.
10. TRACER WIRE SHALL CONFORM TO THE FOLLOWING ASTM STANDARDS AS APPLICABLE:
  - A. B1010/B1010M - STANDARD SPECIFICATION FOR COPPER-CLAD STEEL ELECTRICAL CONDUCTOR FOR TRACER WIRE APPLICATIONS
  - B. B910/B910M - STANDARD SPECIFICATION FOR ANNEALED COPPER-CLAD STEEL WIRE
  - C. B227 - STANDARD SPECIFICATION FOR HARD-DRAWN COPPER-CLAD STEEL WIRE
  - D. B170 - STANDARD SPECIFICATION FOR OXYGEN-FREE ELECTROLYTIC COPPER-REFINERY SHAPES
  - E. D1248 - STANDARD SPECIFICATION FOR POLYETHYLENE PLASTICS EXTRUSION MATERIALS FOR WIRE AND CABLE



## STORMWATER PIPE TRACER WIRE NOTES

SHEET NO. 2 OF 3

DATE: MAY, 2026



### TEST STATIONS NOTES:

1. APPROVED TEST STATION: COPPERHEAD INDUSTRIES SNAKEPIT® ACCESS POINT OR APPROVED EQUAL.
2. ALL TRACER WIRE TERMINATION POINTS MUST PROVIDE A DIRECT CONNECTION POINT TO THE TRACER WIRE BY A UTILITY LOCATE TRANSMITTER (ABOVE GROUND OR AT GRADE) SPECIFICALLY MANUFACTURED FOR LITE DUTY, CONCRETE/DRIVEWAY, OR ROADWAY APPLICATIONS.
3. ALL TEST STATIONS THAT WILL BE EXPOSED TO TRAFFIC LOADING SHALL BE IN A CAST IRON VALVE BOX RATED FOR TRAFFIC LOADING.
4. TRACER WIRE SHALL BE ACCESSIBLE AT LEAST ONCE EVERY 1,000 FT MAX.
5. ONE FOOT OF EXCESS/SACK WIRE IS REQUIRED IN ALL TRACER WIRE ACCESS POINTS AFTER MEETING FINAL ELEVATION.
6. TEST STATION SHALL NOT BE FURTHER THAN 1,000 FT FROM AN APPROVED "FAR-END" GROUNDING ROD. THIS GROUNDING ROD MUST MEET DESIGN CRITERIA STATED IN THE GROUNDING NOTES.
7. TEST STATION LID SHALL BE A LOCKABLE LID AND INCLUDE A GROUND SWITCH. COVER SHALL BE LOCKABLE, CAST IRON, WITH "WATER / TEST" CAST IN THE COVER AND BE COLOR CODED PER AMERICAN PUBLIC WORKS (APWA) STANDARDS.
8. WHERE POSSIBLE THE SURFACE SURROUNDING TEST STATION ACCESS BOXES SHALL SLOPE AWAY FROM LID AT 1.5% MINIMUM GRADE. TEST STATION SHALL NOT BE LOCATED IN A SUMP CONDITION.

### GROUNDING NOTES:

1. APPROVED GROUNDING ROD: 1.5-LB MAGNESIUM ANODE GROUNDING ROD FROM COPPERHEAD INDUSTRIES, OR APPROVED EQUAL.
2. ALL STORMWATER LATERAL TRACER WIRES SHALL TERMINATE WITHIN 2 FT OF THE STORMWATER MAIN WITH AN APPROVED DRIVE-IN MAGNESIUM GROUNDING ROD. SINGLE GROUNDING ROD MAY BE UTILIZED FOR UP TO 3 STORMWATER LINES MAX.
3. MAINLINE TRACER WIRE MUST BE GROUNDED AT EVERY DEAD END/STUB, AND ALONG CONTINUOUS RUNS AT A MAXIMUM OF 2,000 FT INTERVALS WITH A 1.5 LB DRIVE-IN MAGNESIUM GROUNDING ROD PER MFR REQUIREMENTS. PLACEMENT OF GROUNDING ROD SHALL BE INSTALLED IN SUCH A WAY THAT ALLOWS FOR PROPER WIRE LOCATING WITHOUT A LOSS OR DETERIORATION OF LOW FREQUENCY SIGNAL (512 HZ) FOR DISTANCES IN EXCESS OF 1,000 FT.
4. IF GROUNDING ROD IS TOO CLOSE TO A TEST STATION THAT IT INTERFERES WITH PROPER LOCATING, THE GROUNDING ROD MUST BE SWITCH-ABLE IN ORDER TO TEMPORARILY DEACTIVATE THE INTERFERING GROUND SIGNAL IN THE VICINITY. SUCH A TEST STATION SHALL BE IN THE FORM OF A TEST STATION ACCESS BOX FROM AN APPROVED MFR.

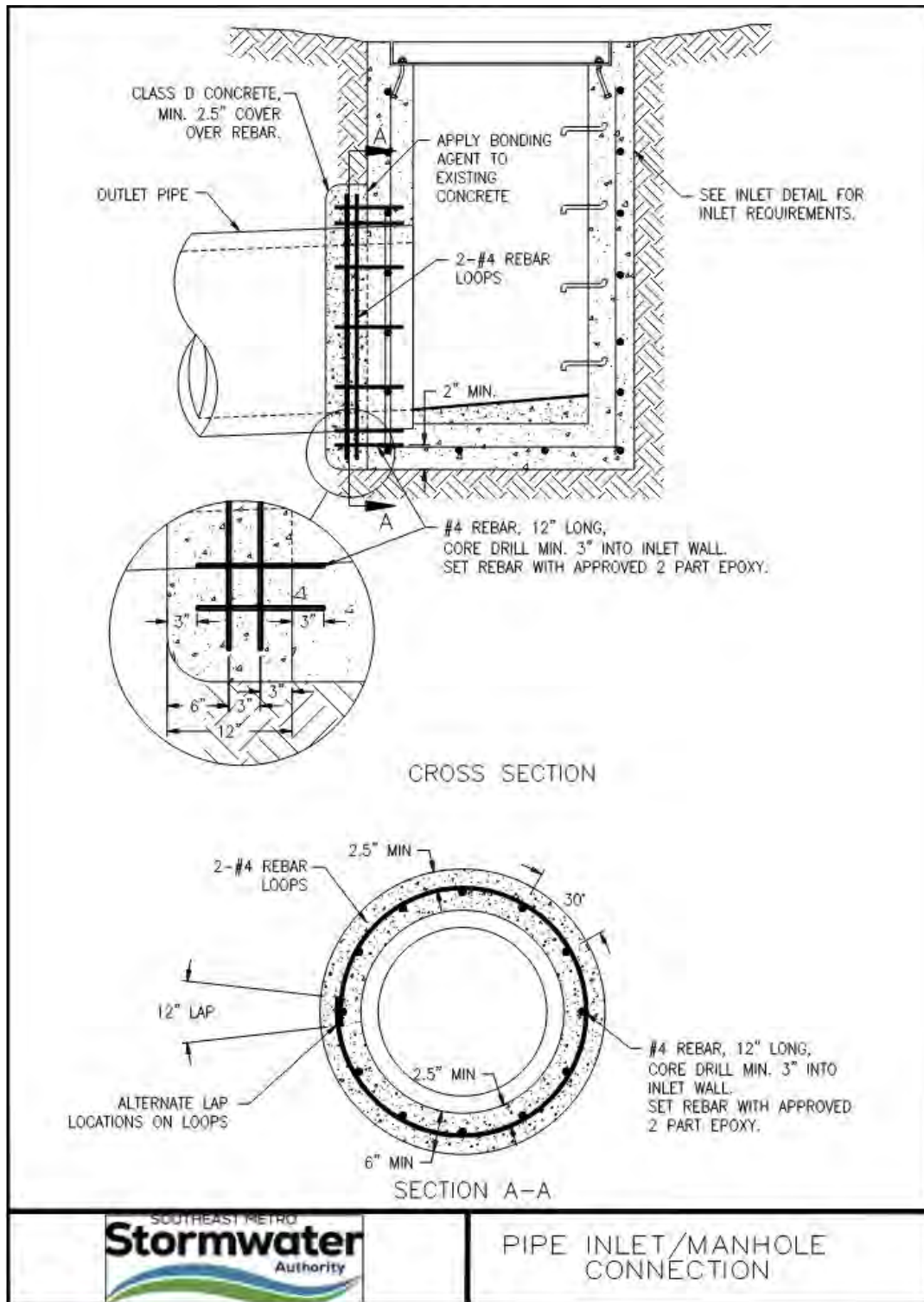


## STORMWATER PIPE TRACER WIRE NOTES

SHEET NO. 3 OF 3

DATE: MAY, 2026

**FIGURE 9-3**  
**PIPE INLET/MANHOLE CONNECTION**



SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

RESOLUTION 26-15

Approval of the Modified Standard Stormwater Facility Maintenance Agreement

WHEREAS, Centennial Real Estate Ventures, LLC (CREV) has a lease with the City of Centennial (City) to develop and occupy a training facility for Denver's Summit FC National Women's Soccer League team on City owned property (the "Property"); and

WHEREAS, a Standard Stormwater Facility Maintenance Agreement generally requires the property owner to maintain the Water Quality Facilities located on the property; and

WHEREAS, the modified Standard Stormwater Facility Maintenance Agreement would allow CREV, as a Lessee, to maintain the Water Quality Facilities on the Property in lieu of the property owner; and

WHEREAS, under the modified Standard Stormwater Facility Maintenance Agreement, CREV will grant SEMSWA access in lieu of easements over the property to access the Water Quality Facilities so that SEMSWA may comply with its MS4 obligations.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Board approves the Modified Standard Stormwater Facility Maintenance Agreement and authorizes the Executive Director of SEMSWA to execute the Agreement.

SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

Date: May 20, 2026

ATTEST:

\_\_\_\_\_  
Secretary

\_\_\_\_\_  
Chairperson

APPROVED AS TO FORM:  
Attorney for  
Southeast Metro Stormwater Authority

By \_\_\_\_\_  
Edward J. Krisor

SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

RESOLUTION 26-16

Authorization to Enter into an Intergovernmental Agreement for Centralized Contract  
Maintenance in 2026 for Portions of the High Line Canal

WHEREAS, the Southeast Metro Stormwater Authority (SEMSWA) entered into a Right of Entry Agreement with the Board of Water Commissioners, City and County of Denver (hereinafter, "Denver Water") which obligated SEMSWA to perform certain maintenance responsibilities within the High Line Canal, as authorized in Resolution 24-12; and

WHEREAS, the Right of Entry Agreement with Denver Water is limited to a portion of the High Line Canal within the City of Centennial between South Marion Street and East Peakview Avenue, approximately 1.4 miles in length of canal, as shown in Exhibit A; and

WHEREAS, SEMSWA also agreed to assume maintenance responsibility of the High Line Canal south of the East Orchard Road crossing, east of University Boulevard associated with the Greenwood Village roadway improvements to East Orchard Road, approximately 25-feet in length of canal as shown Exhibit A; and

WHEREAS, the Mile High Flood District (MHFD) manages a centralized maintenance contract for the High Line Canal as a regional stormwater agency available to the 11 jurisdictions and multiple districts located along the 71 miles of the High Line Canal property; and

WHEREAS, SEMSWA determined that it would be beneficial to enter into an Intergovernmental Agreement (IGA) with MHFD to participate in the High Line Canal centralized maintenance contract for 2025 for SEMSWA's maintenance responsibilities within the Highline Canal, as shown in Exhibit A and, as further defined in the IGA; and

WHEREAS, SEMSWA did enter into a High Line Canal centralized maintenance contract for 2025 with MHFD as authorized in Resolution 25-05; and

WHEREAS, SEMSWA has determined to extend that High Line Canal centralized maintenance contract for 2026; and

WHEREAS, SEMSWA's contribution to the 2026 centralized contract maintenance is \$50,000; and

WHEREAS, SEMSWA has adopted a budget for the calendar year 2026 subsequent to public hearing, which includes funds for maintenance of the High Line Canal.

NOW, THEREFORE, BE IT RESOLVED THAT:

1. The Executive Director is authorized to execute an agreement with MHFD for SEMSWA's contribution in funding the High Line Canal centralized maintenance contract.
2. Any additional High Line Canal maintenance areas subsequently approved by the SEMSWA Board may be incorporated into the centralized maintenance contract, subject to the terms and conditions of the IGA including but not limited to an increase in funding.
3. The SEMSWA funding is limited to \$50,000 without prior approval of the Board.

SOUTHEAST METRO STORMWATER AUTHORITY  
acting by and through  
SEMSWA WATER ACTIVITY ENTERPRISE

Date: May 20, 2026

ATTEST:

\_\_\_\_\_  
Secretary

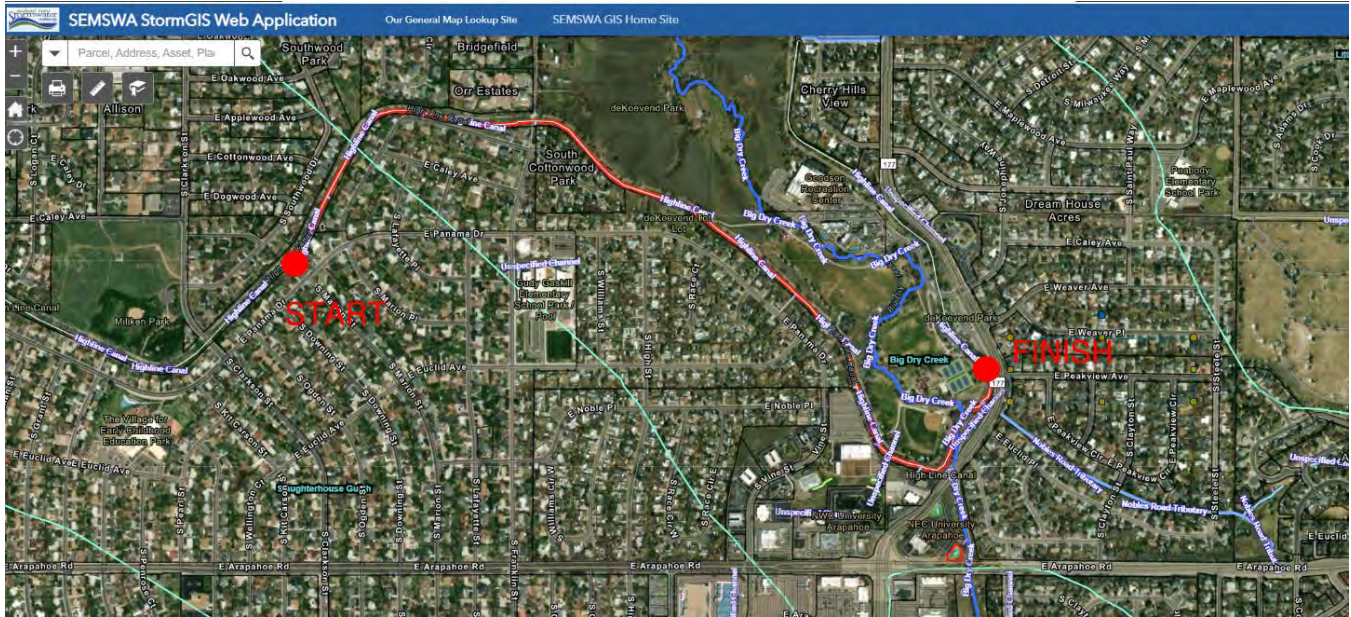
\_\_\_\_\_  
Chairperson

APPROVED AS TO FORM:  
Attorney for  
Southeast Metro Stormwater Authority

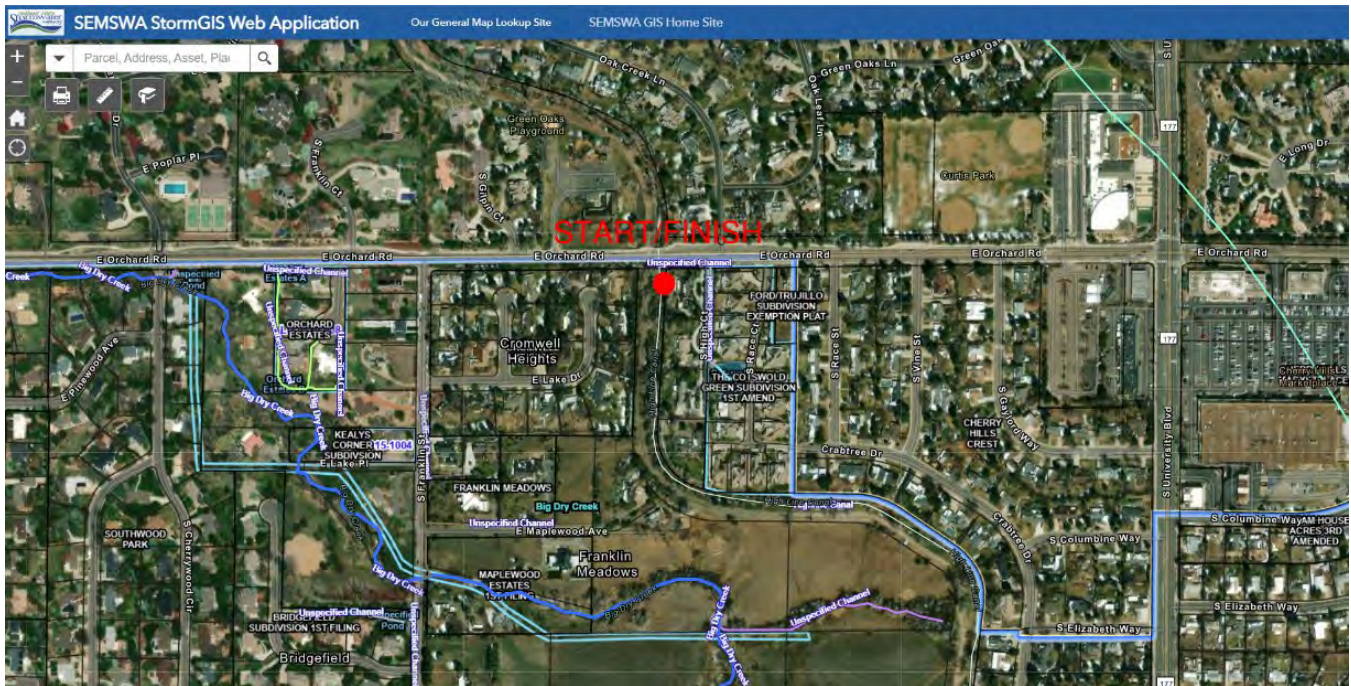
By \_\_\_\_\_  
Edward J. Krisor



## Exhibit A



SEMSWA High Line Canal Segment from S Marion Street to East Peakview Avenue (1.4 miles in length)



SEMSWA High Line Canal Segment South of Orchard Road Crossing (25 feet in length)

<b>Southeast Metro Stormwater Authority</b>
<b>Cash Disbursement Details</b>
<b>April 2026</b>

Line No.	Disbursement Date	Transaction Details	Amount
1	4/1/2026	V001070--Bill.com Spend and Expense	23,667.91
2	4/3/2026	V001019--Merchant BC	54.90
3	4/3/2026	Liquid Structures Inc.	6,725.00
4	4/6/2026	V000026--Above and Beyond Services, LLC	795.00
5	4/6/2026	V001231--Automated Business Technologies	251.65
6	4/6/2026	V000093--CEBT	43,388.56
7	4/6/2026	V000146--Clearly Clean Window Washing Co	840.00
8	4/6/2026	V000137--CliftonLarsonAllen LLP	10,804.00
9	4/6/2026	V000216--Denver Water	715.00
10	4/6/2026	V000380--Insituform Technologies USA, Inc.	141,834.05
11	4/6/2026	V000771--Kimley-Horn & Associates, Inc	2,393.30
12	4/6/2026	V000403--L&M Enterprises Inc	10,536.56
13	4/6/2026	V000508--RESPEC	3,037.50
14	4/6/2026	V000605--Stratus Building Solutions of Colorado	2,432.00
15	4/6/2026	V000648--Wilson Powell Creative Communications	653.36
16	4/6/2026	V000694--Wright Water Engineers Inc.	7,785.00
17	4/8/2026	V000155--Cintas Corporation #66	587.84
18	4/9/2026	V000949--Optum	5,558.73
19	4/9/2026	Payroll	147,384.22
20	4/10/2026	V000662--WageWorks, Inc.	450.00
21	4/10/2026	CO Department of Revenue	299.34
22	4/13/2026	V000021--303 Garage Door Services	722.50
23	4/13/2026	V001042--4 Rivers Equipment	1,167.72
24	4/13/2026	V000120--Bobcat of the Rockies	7,013.81
25	4/13/2026	V000871--Concentra Health Services, Inc	147.00
26	4/13/2026	V000203--Corvus Environmental Consulting LLC	5,045.50
27	4/13/2026	V000249--Employers Council Services, Inc.	3,995.00
28	4/13/2026	V000252--ESRI, Inc.	5,994.60
29	4/13/2026	V000944--Ferguson Waterworks #1116	332.94
30	4/13/2026	V000772--Fiber Platform LLC	3,120.85
31	4/13/2026	V000312--Ford AV	9,190.30
32	4/13/2026	V000326--Frontier Precision	520.00
33	4/13/2026	V000328--Habitat Management	11,332.00
34	4/13/2026	V000434--L.A.W.S.	1,999.00
35	4/13/2026	V000893--O'Reilly Automotive, Inc	22.90
36	4/13/2026	V000486--P.R. Trucking Enterprises Inc.	8,156.25
37	4/13/2026	V000519--Pure Water Dynamics, Inc.	180.00
38	4/13/2026	V000743--Quality of Colorado	110.00
39	4/13/2026	V000585--Sunstate Equipment Co	1,755.00
40	4/13/2026	V000598--Synoptek, LLC	19,406.84
41	4/13/2026	V000586--Trane U.S. Inc.	1,700.00
42	4/13/2026	V000888--Valley Country Club	80.00
43	4/13/2026	V000103--BOK Financial	668.46
44	4/13/2026	Empower	24,399.05
45	4/13/2026	Empower	9,137.14
46	4/14/2026	V000216--Denver Water	20.91
47	4/14/2026	V000216--Denver Water	20.91
48	4/14/2026	V000949--Optum	39.00
49	4/14/2026	V001167--Verdant Commercial Capital LLC	686.40
50	4/15/2026	V000216--Denver Water	445.00
51	4/15/2026	V000662--WageWorks, Inc.	690.00
52	4/16/2026	M&M Handyman Services LLC	755.00
53	4/16/2026	M&M Handyman Services LLC	755.00
54	4/17/2026	Lab Seven	2,188.24
55	4/20/2026	V000026--Above and Beyond Services, LLC	250.00
56	4/20/2026	V000085--AzTec Surveying and Locating	27,475.00
57	4/20/2026	V000120--Bobcat of the Rockies	352.24
58	4/20/2026	V000137--CliftonLarsonAllen LLP	10,869.00
59	4/20/2026	V000218--CP Compliance LLC	5,625.00
60	4/20/2026	V001150--EquipmentShare.com, Inc.	1,181.87
61	4/20/2026	V001150--EquipmentShare.com, Inc.	362.65
62	4/20/2026	V000252--ESRI, Inc.	30,200.00

63	4/20/2026	V000944--Ferguson Waterworks #1116	333.54
64	4/20/2026	V000759--First Choice Coffee Services	206.75
65	4/20/2026	V000989--Fitness Machine Technicians of Colorado	250.00
66	4/20/2026	V001020--Hot Shots Automotive	2,456.47
67	4/20/2026	V000374--ICON Engineering, Inc.	6,722.75
68	4/20/2026	V000749--J. J. Keller & Associates, Inc.	1,678.10
69	4/20/2026	V000893--O'Reilly Automotive, Inc	106.65
70	4/20/2026	V001207--Stolfus & Associates, Inc.	1,445.00
71	4/20/2026	V001207--Stolfus & Associates, Inc.	2,640.00
72	4/20/2026	V001207--Stolfus & Associates, Inc.	1,540.00
73	4/20/2026	V001026--Streamline	14,280.00
74	4/20/2026	V000585--Sunstate Equipment Co	997.50
75	4/20/2026	V000685--UNCC	1,487.87
76	4/20/2026	V000667--Wagner Equipment Co	1,509.79
77	4/20/2026	V001208--WM Corporate Serivces, Inc	12,486.55
78	4/20/2026	V000034--ACWWA	310.02
79	4/20/2026	V000034--ACWWA	992.57
80	4/20/2026	V000691--Xcel Energy	4,804.74
81	4/21/2026	V000516--Principal Life Insurance Company	3,010.32
82	4/21/2026	V000662--WageWorks, Inc.	35.00
83	4/21/2026	V000641--Waste Management	6,893.31
84	4/22/2026	V000939--LifeSecure Insurance Company	828.74
85	4/23/2026	V000949--Optum	5,558.73
86	4/23/2026	V000662--WageWorks, Inc.	50.00
87	4/23/2026	Payroll	150,802.82
88	4/23/2026	Liquid Structures Inc.	6,725.00
89	4/24/2026	Empower	24,671.44
90	4/24/2026	Empower	9,226.26
91	4/27/2026	V001008--American Fidelity Assurance	1,324.94
92	4/27/2026	V000991--Benesch	3,990.00
93	4/27/2026	V000871--Concentra Health Services, Inc	147.00
94	4/27/2026	V000207--Dell Marketing L.P.	1,153.00
95	4/27/2026	V000249--Employers Council Services, Inc.	86.00
96	4/27/2026	V000262--ERO Resources	120.00
97	4/27/2026	V000989--Fitness Machine Technicians of Colorado	198.69
98	4/27/2026	V000374--ICON Engineering, Inc.	6,210.00
99	4/27/2026	V000403--L&M Enterprises Inc	114,500.00
100	4/27/2026	V000743--Quality of Colorado	2,200.00
101	4/27/2026	V000598--Synoptek, LLC	690.16
102	4/27/2026	V000694--Wright Water Engineers Inc.	6,654.06
103	4/28/2026	Returned CC Deposit	257.48
104	4/29/2026	V001018--Wright Express	6,297.14
105	4/30/2026	V000656--Verizon Wireless	737.41
106	4/30/2026	V000691--Xcel Energy	27.09
			\$ 1,014,949.89



**SOUTHEAST METRO STORMWATER AUTHORITY**  
**FINANCIAL STATEMENTS**  
**AS OF APRIL 30, 2026**

**SOUTHEAST METRO STORMWATER AUTHORITY  
COMPARATIVE BALANCE SHEET (BUDGETARY BASIS)  
FOR THE MONTHS ENDED**

	April 30, 2026	March 31, 2026
<b>ASSETS</b>		
Current Assets		
Checking/Savings		
Cash - Checking	770,793	621,809
Total Checking/Savings	<u>770,793</u>	<u>621,809</u>
Other Current Assets		
ColoTrust	17,708,335	16,620,679
Due from County Treasurer	<u>2,056,584</u>	<u>1,272,258</u>
Total Other Current Assets	<u>19,764,919</u>	<u>17,892,937</u>
Total Current Assets	<u>20,535,712</u>	<u>18,514,746</u>
<b>TOTAL ASSETS</b>	<b><u>20,535,712</u></b>	<b><u>18,514,746</u></b>
<b>LIABILITIES &amp; FUNDS AVAILABLE</b>		
Liabilities		
Current Liabilities		
Accounts Payable	200,051	224,303
Escrow Deposits/Collateral Held	<u>3,864,243</u>	<u>3,498,148</u>
Total Current Liabilities	<u>4,064,294</u>	<u>3,722,451</u>
Funds Available	<u>16,471,418</u>	<u>14,792,295</u>
<b>TOTAL LIABILITIES &amp; FUNDS AVAILABLE</b>	<b><u>20,535,712</u></b>	<b><u>18,514,746</u></b>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
<b>REVENUES</b>			
Fees - Arapahoe County	15,077,988	8,864,306	(6,213,682)
Fees - Douglas County	541,626	306,175	(235,451)
Fees Refunds	(7,500)	-	7,500
SDFs	250,000	152,035	(97,965)
Permit and Review Fees	434,000	192,958	(241,042)
Interest Income	500,000	178,703	(321,297)
Miscellaneous Revenues	25,000	43,529	18,529
SPLASH Revenues	10,000	7,600	(2,400)
Delinquency Charges	3,500	-	(3,500)
Intergovernmental Revenues	217,844	-	(217,844)
<b>TOTAL REVENUES</b>	<u>17,052,458</u>	<u>9,745,306</u>	<u>(7,307,152)</u>
<b>EXPENDITURES</b>			
Administrative	2,746,444	822,761	1,923,683
Maintenance and Inspection	3,671,041	932,968	2,738,074
Environmental Resources	756,321	194,830	561,491
Engineering	2,668,766	638,388	2,030,377
Building and Space	774,882	214,982	559,900
Capital	849,785	143,707	706,078
Asset Maintenance			
Pipe Rehabilitation Program	2,530,474	829,305	1,701,169
Contract Maintenance	2,443,272	213,101	2,230,171
<b>Total Asset Maintenance</b>	<u>4,973,746</u>	<u>1,042,406</u>	<u>3,931,340</u>
CIP Projects	7,470,888	208,000	7,262,889
<b>TOTAL EXPENDITURES</b>	<u>23,911,873</u>	<u>4,198,042</u>	<u>19,713,832</u>
<b>NET CHANGE IN FUNDS AVAILABLE</b>	<b>(6,859,415)</b>	<b>5,547,265</b>	<b>12,406,680</b>
<b>FUNDS AVAILABLE - BEGINNING</b>	<u>10,924,153</u>	<u>10,924,153</u>	<u>-</u>
<b>FUNDS AVAILABLE - ENDING</b>	<u>4,064,738</u>	<u>16,471,418</u>	<u>12,406,680</u>

See selected information and the summary of significant assumptions.

## **SUPPLEMENTARY INFORMATION**

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
<b>REVENUES</b>			
01_0000000_40014 - Fees-Arapahoe County-2020	-	27	27
01_0000000_40015 - Fees-Arapahoe County-2021	-	28	28
01_0000000_40016 - Fees-Arapahoe County-2022	-	28	28
01_0000000_40017 - Fees-Arapahoe County-2023	-	1,285	1,285
01_0000000_40018 - Fees-Arapahoe County-2024	50,000	6,456	(43,544)
01_0000000_40019 - Fees-Arapahoe County-2025	30,000	74,259	44,259
01_0000000_40020 - Fees-Arapahoe County-2026	14,997,988	8,782,223	(6,215,766)
01_0000000_41019 - Fees-Douglas County-2025	-	12,614	12,614
01_0000000_41020 - Fees-Douglas County-2026	541,626	293,561	(248,065)
01_0000000_40999 - Fee Refunds	(7,500)	-	7,500
01_0000000_42001 - SDFs SEMSWA	250,000	-	(250,000)
01_0000000_42105 - SDFs-Lone Tree	-	3,606	3,606
01_0000000_42106 - SDFs-Windmill	-	5,751	5,751
01_0000000_42111 - SDFs-Cottonwood	-	42,600	42,600
01_0000000_42112 - SDFs-Big Dry	-	948	948
01_0000000_42114 - SDFs-Cherry Creek	-	99,130	99,130
01_0000000_43003 - Other Permits	175,000	102,243	(72,757)
01_0000000_43004 - City Collected Review Fees	250,000	36,628	(213,372)
01_0000000_43006 - Other Review Fees	-	38,602	38,602
01_0000000_43007 - Noncompliance Fees	9,000	15,485	6,485
01_0000000_44001 - Interest Income	500,000	178,703	(321,297)
01_0000000_44002 - Miscellaneous Revenue	25,000	43,529	18,529
01_0000000_44003 - SPLASH Revenue	10,000	7,600	(2,400)
01_0000000_44004 - Delinquency Charges	3,500	-	(3,500)
01_0000000_45005 - Intergov Revenue - CCBWQA	100,000	-	(100,000)
01_0000000_45016 - Intergov Revenue - MHFD	50,000	-	(50,000)
01_0000000_45019 - Intergov Revenue - CWCB	67,844	-	(67,844)
<b>TOTAL REVENUES</b>	<u>17,052,458</u>	<u>9,745,306</u>	<u>(7,307,152)</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
<b>EXPENDITURES</b>			
Administrative			
01_0000001_51001 - Salaries	1,159,874	326,919	832,955
01_0000001_51005 - Director Salaries	8,000	1,100	6,900
01_0000001_51101 - Employer FICA	89,342	24,131	65,211
01_0000001_51102 - Employer Retirement	95,389	25,605	69,784
01_0000001_51104 - Employer Unemployment	3,504	631	2,873
01_0000001_51105 - Employer Health Insurance	116,726	38,197	78,529
01_0000001_51106 - Employer Dental	6,369	1,736	4,633
01_0000001_51107 - Employer Vision	1,107	353	754
01_0000001_51108 - Employer Disability/Life	3,925	1,372	2,552
01_0000001_52002 - Stormwater Fee Consulting	38,000	3,990	34,010
01_0000001_52101 - Legal Services	90,000	-	90,000
01_0000001_52102 - HR Consulting Services	55,000	11,737	43,264
01_0000001_52103 - Audit Services	20,500	-	20,500
01_0000001_52104 - Financial Services	140,000	43,173	96,827
01_0000001_52106 - County Treasurer's Fees	224,970	118,540	106,430
01_0000001_52107 - Benefits Administration	1,500	146	1,354
01_0000001_52110 - Software Maintenance	105,000	68,911	36,088
01_0000001_52112 - GIS Management	40,000	-	40,000
01_0000001_52115 - Payroll Service	11,000	3,418	7,582
01_0000001_52207 - Coffee Service	2,000	723	1,278
01_0000001_52401 - Mileage Reimbursement	1,000	37	963
01_0000001_52403 - Business Meals	2,000	126	1,874
01_0000001_52405 - Training	25,000	1,882	23,118
01_0000001_52406 - Tuition Reimbursement	1,200	-	1,200
01_0000001_52501 - HR Advertising	10,000	-	10,000
01_0000001_52502 - Legal Publications	200	49	151
01_0000001_52503 - Workers Compensation	48,276	43,049	5,227
01_0000001_52504 - Property & Liability Insurance	85,562	62,792	22,770
01_0000001_52505 - Printing & Publishing	3,000	1,829	1,171
01_0000001_52510 - Other Contractual Services	101,000	30,385	70,615
01_0000001_52511 - Dues & Subscriptions	15,000	3,874	11,126
01_0000001_52512 - Postage	2,500	590	1,911
01_0000001_52513 - Safety Committee	10,000	2,870	7,129
01_0000001_53007 - Computer Software	2,500	-	2,500
01_0000001_53201 - Office Supplies	22,000	4,596	17,404
01_0000001_54102 - Database Software	125,000	-	125,000
01_0000001_54104 - Major Software Systems-Energov	80,000	-	80,000
Total Administrative	<u>2,746,444</u>	<u>822,761</u>	<u>1,923,683</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
Maintenance and Inspection			
01_0000003_51001 - Salaries	1,706,615	499,790	1,206,826
01_0000003_51002 - Salaries-Seasonal/Intern	16,000	-	16,000
01_0000003_51003 - Salaries-Overtime	7,000	-	7,000
01_0000003_51101 - Employer FICA	132,316	36,637	95,678
01_0000003_51102 - Employer Retirement	153,595	40,946	112,649
01_0000003_51104 - Employer Unemployment	5,189	958	4,231
01_0000003_51105 - Employer Health Insurance	244,494	77,231	167,263
01_0000003_51106 - Employer Dental	13,268	3,416	9,852
01_0000003_51107 - Employer Vision	2,308	699	1,609
01_0000003_51108 - Employer Disability/Life	8,356	2,720	5,636
01_0000003_52001 - Professional Services	20,000	2,120	17,880
01_0000003_52012 - Dump Fees	50,000	17,406	32,594
01_0000003_52013 - Mowing, Vegetation & Debris Mgt	400,000	-	400,000
01_0000003_52040 - 811 Contract	210,000	63,238	146,762
01_0000003_52218 - Landscape Maint - Drainage Prop	40,000	-	40,000
01_0000003_52220 - Rodent Control	15,000	750	14,250
01_0000003_52221 - High Line Canal Maintenance	100,000	-	100,000
01_0000003_52301 - Cellular Telephone	15,000	2,950	12,050
01_0000003_52302 - Equipment Rental	45,000	12,445	32,555
01_0000003_52303 - Vehicle Maintenance	90,000	31,104	58,896
01_0000003_52307 - Equipment Maintenance	50,000	23,614	26,386
01_0000003_52308 - Trucking	39,000	15,248	23,752
01_0000003_52401 - Mileage Reimbursement	2,500	-	2,500
01_0000003_52403 - Business Meals	1,500	233	1,267
01_0000003_52405 - Training	50,000	2,174	47,826
01_0000003_52510 - Other Contractual Services	10,000	7,552	2,448
01_0000003_52511 - Dues & Subscriptions	3,000	3,400	(399)
01_0000003_52513 - Utilities & Maint-SEMSWA Owned	12,000	1,985	10,015
01_0000003_53002 - Field Operating Supplies	30,000	8,319	21,681
01_0000003_53003 - Tools	8,000	2,646	5,353
01_0000003_53006 - Uniforms	13,000	1,511	11,489
01_0000003_53101 - Gas & Oil	55,000	15,771	39,229
01_0000003_53102 - Vehicle Parts & Supplies	17,000	23,750	(6,750)
01_0000003_53206 - Vehicle GPS	5,900	-	5,900
01_0000003_54201 - Other Capital Outlay	100,000	34,355	65,645
Total Maintenance and Inspection	<u>3,671,041</u>	<u>932,968</u>	<u>2,738,074</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
Environmental Resources			
01_0000004_51001 - Salaries	274,731	82,139	192,592
01_0000004_51101 - Employer FICA	21,017	5,894	15,123
01_0000004_51102 - Employer Retirement	23,826	7,223	16,603
01_0000004_51104 - Employer Unemployment	794	154	640
01_0000004_51105 - Employer Health Insurance	28,278	8,398	19,880
01_0000004_51106 - Employer Dental	1,416	342	1,074
01_0000004_51107 - Employer Vision	246	70	176
01_0000004_51108 - Employer Disability/Life	872	272	600
01_0000004_52001 - Professional Services	135,000	32,334	102,665
01_0000004_52009 - Curbside	90,000	26,361	63,640
01_0000004_52016 - Program 1 & 2 Outreach	40,306	7,975	32,331
01_0000004_52401 - Mileage Reimbursement	250	-	250
01_0000004_52403 - Business Meals	1,000	75	924
01_0000004_52405 - Training	11,500	35	11,466
01_0000004_52505 - Printing & Publishing	20,000	1,200	18,800
01_0000004_52506 - Permit Fees	9,720	-	9,720
01_0000004_52507 - Cherry Creek Stewardship Partners	6,500	-	6,500
01_0000004_52508 - Colorado Stormwater Council	1,365	-	1,365
01_0000004_52509 - SPLASH	18,000	9,345	8,655
01_0000004_52510 - Other Contractual Services	15,000	9,005	5,995
01_0000004_52511 - Dues & Subscriptions	4,500	3,987	514
01_0000004_53002 - Field Operating Supplies	1,000	-	1,000
01_0000004_53005 - Other Operating Equipment	1,000	21	979
01_0000004_53511 - Private Detention Pond Program	50,000	-	50,000
Total Environmental Resources	<u>756,321</u>	<u>194,830</u>	<u>561,491</u>
Engineering			
01_0000010_51001 - Salaries	1,335,888	405,252	930,636
01_0000010_51101 - Employer FICA	102,195	29,449	72,746
01_0000010_51102 - Employer Retirement	120,230	35,615	84,615
01_0000010_51104 - Employer Unemployment	4,008	770	3,238
01_0000010_51105 - Employer Health Insurance	143,375	39,991	103,385
01_0000010_51106 - Employer Dental	7,030	1,708	5,322
01_0000010_51107 - Employer Vision	1,232	349	883
01_0000010_51108 - Employer Disability/Life	4,360	1,360	3,000
01_0000010_52001 - Professional Services	464,519	52,982	411,537
01_0000010_52006 - Master Planning	445,494	61,815	383,679
01_0000010_52401 - Mileage Reimbursement	3,050	-	3,050
01_0000010_52403 - Business Meals	1,400	181	1,219
01_0000010_52405 - Training	28,235	3,419	24,815
01_0000010_52505 - Printing & Publishing	250	-	250
01_0000010_52511 - Dues & Subscriptions	4,500	5,316	(816)
01_0000010_53003 - Tools	3,000	181	2,819
Total Engineering	<u>2,668,766</u>	<u>638,388</u>	<u>2,030,377</u>

See selected information and the summary of significant assumptions.



**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
Building and Space			
01_0000006_52105 - IT Management	135,000	34,958	100,042
01_0000006_52202 - Cleaning Services	36,000	9,728	26,272
01_0000006_52203 - Building Maintenance	20,000	14,297	5,703
01_0000006_52205 - Electric and Gas Service	60,000	19,934	40,066
01_0000006_52209 - Other Building and Space Costs	20,000	19,077	923
01_0000006_52210 - New Building Loan	304,682	76,171	228,512
01_0000006_52211 - Internet and Telephone	38,000	12,566	25,434
01_0000006_52212 - Security System	10,000	1,230	8,770
01_0000006_52213 - Trash Service	13,000	2,578	10,422
01_0000006_52214 - Water Service and Sewer	25,000	3,868	21,132
01_0000006_52216 - Pest Control Service	1,200	475	725
01_0000006_52217 - HVAC Maintenance	20,000	2,450	17,550
01_0000006_52218 - Landscape Maintenance	50,000	3,762	46,238
01_0000006_53204 - Building Supplies	12,000	3,848	8,152
01_0000006_54105 - Office Furniture & Equipment	30,000	10,040	19,960
Total Building and Space	<u>774,882</u>	<u>214,982</u>	<u>559,900</u>
Capital			
01_0000007_52514 - Grant Program	108,408	4,360	104,048
01_0000007_54001 - Vehicles	200,000	137,500	62,500
01_0000007_54002 - Vehicle Accessories	100,000	-	100,000
01_0000007_54202 - Building	406,377	-	406,377
01_0000007_54305 - Computer/Equipment	35,000	1,847	33,153
Total Capital	<u>849,785</u>	<u>143,707</u>	<u>706,078</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
Asset Maintenance			
Pipe Rehabilitation Program			
01_0000011_54471 - Pipe Rehabilitation Program	2,030,474	829,305	1,201,169
01_0000011_54603 - Pipeline Emergency Repairs	500,000	-	500,000
Total Pipe Rehabilitation Program	<u>2,530,474</u>	<u>829,305</u>	<u>1,701,169</u>
Contract Maintenance			
01_0000011_54527 - Trib C Inverness Forebay/Channel	10,000	-	10,000
01_0000011_54541 - D-0 Retrofit	20,000	-	20,000
01_0000011_54542 - 550 E. Briarwood	100,000	1,610	98,390
01_0000011_54554 - S. Trenton Outfall	200,000	-	200,000
01_0000011_54565 - W6/7 Pond retrofit	15,000	207	14,793
01_0000011_54566 - Panorama improvements	200,000	-	200,000
01_0000011_54573 - City Concrete 2025	21,000	20,625	376
01_0000011_54574 - County Concrete 2025	10,000	9,545	454
01_0000011_54575 - Public Pipes through HOA	103,272	5,443	97,830
01_0000011_54576 - Bank stabil. downstream Quebec	100,000	-	100,000
01_0000011_54577 - IGC hole 13 creek repairs	10,000	-	10,000
01_0000011_54584 - Caley-Fair Drainage	20,000	3,761	16,239
01_0000011_54585 - City Concrete Replacement 2026	100,000	-	100,000
01_0000011_54586 - County Concrete Replm. 2026	100,000	-	100,000
01_0000011_54587 - 2026 County Vegetation Mgmt.	120,000	-	120,000
01_0000011_54588 - 2026 City Vegetation Management	150,000	114,500	35,500
01_0000011_54589 - County Sediment Removals 2026	70,000	-	70,000
01_0000011_54590 - City Sediment Removals 2026	80,000	-	80,000
01_0000011_54591 - City Raising Manholes	50,000	-	50,000
01_0000011_54592 - County Raising Manholes	50,000	-	50,000
01_0000011_54593 - Clinton-Fulton St. Pond	30,000	-	30,000
01_0000011_54594 - Hudson Ct. & Holly Improvements	150,000	-	150,000
01_0000011_54595 - Quebec Pond A. Retrofit	40,000	-	40,000
01_0000011_54596 - Cottonwood Trib C Erosion DS	150,000	-	150,000
01_0000011_54597 - Cottonwood Trib C Check Structure	175,000	-	175,000
01_0000011_54598 - Bear Park Stabilization	11,000	-	11,000
01_0000011_54600 - BDB Stabl. US Arapahoe Bridge	100,000	-	100,000
01_0000011_54601 - C3/4 Retrofit	200,000	-	200,000
01_0000011_54604 - Yosemite Pond re-imburement	58,000	57,410	590
Total Contract Maintenance	<u>2,443,272</u>	<u>213,101</u>	<u>2,230,171</u>
Total Asset Maintenance	<u>4,973,746</u>	<u>1,042,406</u>	<u>3,931,340</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
SCHEDULE OF REVENUES, EXPENDITURES  
AND CHANGES IN FUNDS AVAILABLE - BUDGET AND ACTUAL  
FOR PERIODS MONTHS ENDED April 30, 2026**

	<u>Annual Budget</u>	<u>Year To Date Actual</u>	<u>Variance</u>
CIP Projects			
01_1810016_55555 - CIP Project Restoration/ Monitoring	150,000	21,030	128,970
01_1900010_55555 - Happy Canyon Jordan Rd-Broncos	400,000	-	400,000
01_2000007_55555 - Dove Creek Otero to Chambers	10,000	2,944	7,056
01_2100001_55555 - Willow Creek Stab. County Line	950,000	-	950,000
01_2100002_55555 - Lee Gulch at Clarkson Street	105,000	-	105,000
01_2100004_55555 - Cherry Creek Reaches 3 and 4	200,000	-	200,000
01_2200002_55555 - Piney Creek Reaches 1 and 2	940,000	8,653	931,347
01_2300001_55555 - Cottonwood Creek Downstream	2,100,000	4,233	2,095,768
01_2300002_55555 - West Spring Creek Downstream	140,000	56,213	83,787
01_2300003_55555 - Dutch & Racoon to S.P. Canyon	250,000	-	250,000
01_2300004_55555 - Wetland Mitigation BC Purchase	170,000	-	170,000
01_2400001_55555 - Piney Creek Reach 4	235,000	-	235,000
01_2400002_55555 - Cottonwood Creek Basin Impr.	325,000	35,178	289,822
01_9900000_55555 - Future CoC Funds - Drainage Impr.	300,000	-	300,000
01_9900001_55555 - Future Arap County Funds	200,000	-	200,000
01_2400003_55555 - Dove Creek Jordan Rd Sewer	300,000	34,918	265,082
01_2500002_55555 - Lone Tree Pond L-2 WQ Retrofit	30,000	-	30,000
01_2500003_55555 - Dove Creek Pond D-1 EURV Retrofit	110,000	35,370	74,630
01_2500006_55555 - Windmill Creek Dwnstm Fremont Ave	90,000	7,267	82,733
01_2500007_55555 - Coal Creek at County Line Drainage	12,000	2,194	9,807
01_2600001_55555 - Big Dry Creek Nobles Trib Analysis	50,000	-	50,000
01_2600002_55555 - Four Sq. Mile Storm Sewer Analysis	100,000	-	100,000
01_2600003_55555 - Coal Crk @ Countyline Warning Sys	50,000	-	50,000
01_2600005_55555 - Minor Capital	250,000	-	250,000
01_0711005_55555 - Planned Projects	3,888	-	3,888
Total CIP Projects	<u>7,470,888</u>	<u>208,000</u>	<u>7,262,889</u>
TOTAL EXPENDITURES	<u>23,911,873</u>	<u>4,198,042</u>	<u>19,713,832</u>
 <b>NET CHANGE IN FUNDS AVAILABLE</b>	 <b>(6,859,415)</b>	 <b>5,547,265</b>	 <b>12,406,680</b>
 <b>FUNDS AVAILABLE - BEGINNING</b>	 <b><u>10,924,153</u></b>	 <b><u>10,924,153</u></b>	 <b><u>-</u></b>
 <b>FUNDS AVAILABLE - ENDING</b>	 <b><u>4,064,738</u></b>	 <b><u>16,471,418</u></b>	 <b><u>12,406,680</u></b>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY  
COMPARATIVE BALANCE SHEET (BUDGETARY BASIS)  
FOR THE MONTHS ENDED**

	<u>April 30, 2026</u>	<u>March 31, 2026</u>
<b>RESERVES AND DESIGNATIONS</b>		
Reserves		
Grant Program	104,048	104,743
Emergency Reserve	1,000,000	1,000,000
Vehicle Replacement	62,500	62,500
Building	406,377	406,377
Computer Replacement	33,153	34,306
Splash Reserves	17,027	14,329
<b>Total Reserves</b>	<u>1,623,105</u>	<u>1,622,255</u>
<b>Designations-CIP Projects</b>		
Planned Projects	3,888	3,888
CIP Project Restoration/ Monitoring	128,970	141,122
Happy Canyon Jordan Rd-Broncos	400,000	400,000
Dove Creek Otero to Chambers	7,056	7,056
Willow Creek Stab. County Line	950,000	950,000
Lee Gulch at Clarkson Street	105,000	105,000
Cherry Creek Reaches 3 and 4	200,000	200,000
Piney Creek Reaches 1 and 2	931,347	931,347
Cottonwood Creek Downstream	2,095,768	2,095,768
West Spring Creek Downstream	83,787	101,127
Dutch & Racoon to S.P. Canyon	250,000	250,000
Wetland Mitigation BC Purchase	170,000	170,000
Piney Creek Reach 4	235,000	235,000
Cottonwood Creek Basin Impr.	289,822	295,850
Dove Creek Jordan Rd Sewer	265,082	282,071
Lone Tree Pond L-2 WQ Retrofit	30,000	30,000
Dove Creek Pond D-1 EURV Retrofit	74,630	76,080
Windmill Creek Dwnstm Fremont Ave	82,733	82,733
Coal Creek at County Line Drainage	9,807	9,807
Big Dry Creek Nobles Trib Analysis	50,000	50,000
Four Sq. Mile Storm Sewer Analysis	100,000	100,000
Coal Crk @ Countyline Warning Sys	50,000	50,000
Minor Capital	250,000	250,000
Future CoC Funds - Drainage Impr.	300,000	300,000
Future Arap County Funds	200,000	200,000
<b>Total CIP Projects Designations</b>	<u>7,262,889</u>	<u>7,316,848</u>
<b>Designations-Other</b>		
Asset Maintenance Projects		
Pipeline Repair/Replacement	1,201,169	1,201,269
Contract Maintenance	2,230,171	2,349,631
2026 Operations	4,154,084	2,302,292
<b>Total Other Designations</b>	<u>7,585,424</u>	<u>5,853,192</u>
<b>Total Reserves and Designations</b>	<u>16,471,418</u>	<u>14,792,295</u>

See selected information and the summary of significant assumptions.

**SOUTHEAST METRO STORMWATER AUTHORITY**  
**SELECTED INFORMATION**  
**FOR THE PERIOD ENDED APRIL 30, 2026**

**Notes to the Reader:**

The financial statements of the Authority have been prepared in accordance with the criteria established by the Governmental Accounting Standards Boards ("GASB"), which is the source of authoritative accounting principles generally accepted in the United States of America ("GAAP"), as applied to governmental entities. The Authority's financial statements are prepared using the accrual basis of accounting. The financial statements include the following departures from GAAP:

- Management's discussion and analysis and substantially all disclosures required are omitted.
- The statement of cash flows has been omitted.

The financial forecasts present, to the best of management's knowledge and belief, the Authority's expected results of operations and cash flows for the forecast periods. Accordingly, the forecasts reflects its judgment as of October 8, 2025, the date these forecasts were prepared, of the expected conditions and its expected course of action. The assumptions disclosed herein are those that management believes are significant to the forecasts. There will usually be differences between the forecast and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

The financial statements are developed by the Authority to comply with GAAP, although there may be departures from GAAP not identified. These statements are primarily intended for use in managing the Authority's operations and may not be suitable for other purposes. Users should be aware of these limitations when utilizing the financial statements.

The December 31, 2025 financial statements are subject to an audit which is in progress as of May 13, 2026. Any adjustments resulting from the audit are not included in these financial statements. Adjustments may be material.

# **SOUTHEAST METRO STORMWATER AUTHORITY 2026 BUDGET SUMMARY OF SIGNIFICANT ASSUMPTIONS**

## Formation of the Authority

The Authority was formed on September 19, 2006, pursuant to section 29-1-204.2, C.R.S., by an Intergovernmental Agreement between Arapahoe County, the City of Centennial, the Arapahoe County Water and Wastewater Authority, the East Cherry Creek Valley Water and Sanitation District, and the Inverness Water and Sanitation District. The purpose of the Authority is to plan, fund, construct, acquire, operate and maintain drainage and flood control facilities as determined by the Authority's board of directors through a coordinated and cooperative intergovernmental effort.

## Enterprise Designation

Pursuant to Resolution 1, Series of 2006, the board of directors established the Authority as an enterprise as defined in Article X, Section 20 of the State of Colorado Constitution.

## Budgetary Basis of Accounting

The Authority prepares its budget on the modified accrual basis of accounting in accordance with the requirements of Colorado Revised Statutes C.R.S. 29-1-105 using its best estimates as of the date of the budget hearing. These estimates are based on expected conditions and its expected course of actions. The assumptions disclosed herein are those that the Authority believes are significant to the budget. There will usually be differences between the budget and actual results, because events and circumstances frequently do not occur as expected, and those differences may be material.

## Significant Assumptions

- ☐ Stormwater utility fees are calculated based on impervious areas of all parcels within the boundaries of the Authority.
- ☐ Operating expenses were budgeted based upon prior year budgets with increases in certain personnel related expenses such as payroll, benefits, training, dues, and other professional services.
- ☐ Capital improvement project costs are prioritized through careful considerations by the Authority's engineering team and can be funded with the assistance of other governmental agencies through intergovernmental agreements.
- ☐ Reserves have been established for vehicle replacement, major building repairs, and computer replacements in 2026.