AGREEMENT REGARDING ENGINEERING SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

THIS AGREEMENT, made this date of _____, by and between SOUTHEAST METRO STORMWATER AUTHORITY acting by and through SEMSWA WATER ACTIVITY ENTERPRISE (hereinafter called "SEMSWA") **OPTION:** and (Others that may be party to agreement); and _____, a professional engineering firm (hereinafter called "ENGINEER") and collectively known as PARTIES;

WITNESSETH:

WHEREAS, SEMSWA's Board of Directors adopted a budget for 20XX (Resolution No. XX), which includes funds for design of drainage improvements within SEMSWA's service area; and

WHEREAS, SEMSWA's Board of Directors has deemed it necessary to select a consultant to provide SEMSWA with engineering services to provide the necessary plans and specifications and render the necessary technical and professional advice required to construct proposed drainage, flood control, or restoration improvements for _____ (hereinafter called "PROJECT"); and

WHEREAS, SEMSWA's Board of Directors has authorized the Executive Director to contract for those services, Resolution No. XX.

NOW, THEREFORE, in consideration of the mutual promises contained herein, PARTIES agree as follows:

1. EMPLOYMENT OF ENGINEER -

   SEMSWA shall engage ENGINEER and the ENGINEER hereby agrees to perform the services hereinafter set forth.

2. PROJECT LIMITS

   PROJECT is defined more specifically as that area of _____ drainageway extending from approximately _____ to approximately _____, see Exhibit A.

3. SCOPE OF SERVICES - ENGINEER shall provide services necessary for the completion of design plans and specifications for drainageway improvements as preliminarily set forth in a

drainageway master plan for the area (PLAN) or as otherwise directed by SEMSWA. The services, including plans, sketches, notes, and details shall be complete in technical sufficiency and detail so that SEMSWA's construction contractor can construct PROJECT. ENGINEER shall provide the services described in this section of the Agreement and those services described in the attached Exhibit B (Scope of Services). If there is a conflict between the scope of services described in this section of the Agreement and Exhibit B, Exhibit B shall prevail.

A. ENGINEER shall meet periodically with SEMSWA to obtain direction and ensure services are in compliance with this Agreement.

B. ENGINEER shall prepare final plans on 22" x 34" bond paper in a form compatible with the current version of Adobe Acrobat. Plans shall be detailed to show grading, structural work, mechanical work, and associated features. Lettering and linework shall be of a size and weight to allow reduction of plans to one-half size. Plans shall meet all applicable requirements of Arapahoe County, or the City of Centennial, and/or SEMSWA as outlined under the current versions of the governing jurisdiction's criteria. Plans shall also adhere to the Mile High Flood District (MHFD) criteria as outlined in the current Urban Storm Drainage Criteria Manuals. Plans shall include, but not be limited to, the following:

    1) Cover sheet, which shall include project title, participating agencies names, signatures for approval, Arapahoe County/City of Centennial/SEMSWA approval block, location map, vicinity maps and sheet index;

    2) Construction notes, paylines, and legends;

    3) Structural details, including pertinent design criteria; and design details for project features such as detention ponds, channels, maintenance trail, drop structures, etc.;

    4) Project grading plans (minimum scale 1" = 50') and cross-sections. SEMSWA may, at its discretion and within the scope and fee of this agreement, require the ENGINEER to prepare the plans at a larger scale to improve the clarity of the drawings. Utility modification details (does not include detail design and detail plans for modifications to electric, gas, cable television and telephone utilities);

    5) Logs of soil borings;

    6) Standard detail plans;

7) Horizontal and Vertical Control plan;

8) Plan and Profile Sheets at a minimum scale of horizontal: 1" = 50'; vertical: 1" = 5'. SEMSWA may, at its discretion and within the scope and fee of this agreement, require the ENGINEER to prepare the plans at a larger scale to improve the clarity of the drawings. Included on this sheet: Adjacent property lines, subdivision names, lots and blocks; area topography; utility locations obtained from data collected (including size when known and owners); survey ties to known points including pertinent ¼ section corners within 1500 feet of storm sewer centerline; benchmarks (reference if not on plans); bearings and distances of storm sewer centerline and curve data; hydrologic and hydraulic data (based on PLAN); right-of-way widths; permanent and temporary easements; inlet locations; manhole coordinates and other pertinent data.

C. SEMSWA will prepare the final Project specifications. The ENGINEER will be responsible for preparing the first draft of the Project specifications, including general and specific specifications sections, Special Conditions and the Measurement and Payment sections of the specifications and will be responsible for coordinating the format and content of these sections with SEMSWA.

D. ENGINEER's design shall give appropriate consideration to SEMSWA's maintenance requirements for the proposed facilities.

E. ENGINEER shall consider the existing utilities and include in the design the necessary utility protection and relocations needed as the result of the design. Detail design for modifications to electric; gas; cable television; and telephone utilities, if required, shall be the responsibility of the respective utility owner. Detail design for modifications to water line(s) and sanitary sewer(s), if required, is the responsibility of ENGINEER. ENGINEER shall also provide subsurface utility engineering investigation in compliance with ASCE 38 as follows:

1) "ASCE 38" means the standard for defining the quality of an underground facility location as defined in the current edition of the American Society of Civil Engineers' "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02)" or an analogous successor standard as determined by the Underground Damage Prevention Safety Commission.

2) "Subsurface utility engineering-required project" means a project that meets all of the following conditions:

1. The project involves primarily horizontal construction and does not involve primarily the construction of buildings;
2. Has an anticipated excavation footprint that exceeds two feet in depth and that is a contiguous one thousand square feet; or
3. Involves utility boring;
4. The project requires the design services of a licensed professional engineer.

3) "Excavation" means any operation in which earth is moved or removed by means of any tools, equipment, or explosives and includes augering, backfilling, boring, ditching, drilling, grading, plowing-in, pulling-in, ripping, scraping, trenching, hydro excavating, potholing, and tunneling.

4) "Subsurface Utility Engineering Notification" means a notice to the Notification Association that a project is being designed by a licensed professional engineer and that the project will include the investigation and depiction of existing underground facilities that meet or exceed the ASCE 38 Standard.

5) Engineer shall obtain general information as to the description, nature, and location of underground facilities in the area of a proposed excavation and include such general information in the plans or specifications to inform an excavation contractor of the existence of such facilities and of the need to obtain information thereon.

6) Engineer shall when designing a subsurface utility engineering-required project shall:

1. Notify the Notification Association with a subsurface utility engineering notification;
2. Either:
    a. Meet or exceed the ASCE 38 standard for defining the underground facility location in the stamped plans for all underground facilities within the proposed excavation area; or
    b. Document the reasons why any underground facilities depicted in the stamped plans do not meet or exceed ASCE 38 utility quality level B or its successor utility quality level;

3. Attempt to achieve ASCE 38 utility quality level B or its successor utility quality level on all utilities within the proposed excavation area unless a reasonable rationale is given for not doing so; and
4. Document the reasons why any underground facilities depicted in the stamped plans do not meet or exceed ASCE 38 utility quality level A or its successor utility quality level for underground facilities at the point of a potential conflict with the installation of a gravity-fed system.

F. ENGINEER shall meet with SEMSWA for a field review of the design prior to submittal of the final plans and specifications to SEMSWA.

G. ENGINEER shall prepare and submit an opinion of probable construction costs for the Pre-Final and Final design submittals. At a minimum, ENGINEER shall use available information such as the current version of the Mile High Flood District's Bidtab computer program. Any estimates of cost prepared by ENGINEER pursuant to this Agreement, represent ENGINEER's judgment as a design professional and are supplied for the general guidance of SEMSWA. Since ENGINEER has no control over the cost of labor and material, or over competitive bidding or marketing conditions, ENGINEER does not guarantee the accuracy of such opinions as compared to contractor bids or actual cost to SEMSWA.

H. ENGINEER shall prepare and provide the required number of copies (see Exhibit B) of a design report, which presents in an orderly fashion, the following information: hydrologic data; hydraulic calculations; design criteria; structural data and calculations; and other pertinent and appropriate design information, calculations, and criteria used and/or developed during the course of the design. The design report shall utilize Arapahoe County's or the SEMSWA (City of Centennial) standard Phase III Drainage Report format, as applicable.

I. One set of all plan files in MS Windows operating systems format, Portable Document Format (PDF) files, CAD files, hydrologic, hydraulic, cost estimating, contract documents, technical specifications, and all other computer-generated results and inputs for PROJECT shall be prepared and submitted to SEMSWA as part of the design report. SEMSWA reserves the right to reject the submittal if any file is found to contain improper references, computer virus, unusable data or bad or unreadable sectors or clusters. ENGINEER shall promptly replace all rejected materials with acceptable ones at no additional cost to SEMSWA.

J. All documents submitted by ENGINEER for review and approval shall be submitted as electronic copy files in PDF format. At 100% design approval, ENGINEER shall also submit four hard (4) copies of plans, GESC plan, GESC Report and two (2) copies of specifications, cost estimates, etc. to SEMSWA. ENGINEER is responsible for obtaining the approval of drawings, reports and other required documents from all applicable regulatory agencies (i.e. SEMSWA, Arapahoe County, City of Centennial, MHFD (UDFCD), etc.). All document submittals, resubmittals and revisions required to meet criteria in effect at the time of this agreement are covered by the scope and fee of this agreement regardless of the number of submittals required to obtain approval.

K. All plans, reports and specifications submitted for review and approval shall be sealed by a professional engineer licensed in the State of Colorado and in accordance with the bylaws and rules of the State of Colorado Department of Regulatory Agencies, Division of Registrations. Printing of the final copies of the plans and specifications for bidding is not a part of this Agreement.

L. Where necessary and in the best interest of PROJECT, changes to PLAN may be submitted by SEMSWA for incorporation into final design. Such changes shall be complete to the extent that they may be transmitted to ENGINEER for final design purposes. Such changes, when possible, shall be requested prior to ENGINEER's initiation of the affected portions of the design. Additional costs to ENGINEER, if any, to include the changes shall be negotiated between PARTIES and made a part of this Agreement by amendment as outlined in Paragraph 13 prior to beginning work on said changes.

M. ENGINEER shall be responsible for obtaining all base field control layout and mapping necessary for final design. Survey control shall be provided by a Professional Land Surveyor, under subcontract to or employed by ENGINEER. The scope of work includes:

1) The project base control line shall be established along the entire length of PROJECT for use in both the design and construction phases. This control line shall be on the datum used in the preparation of the PLAN or as specified by SEMSWA and shall be located such that it can be easily re-established, shall not be obliterated during construction, shall be on the same datum as the backwater and earthwork calculation programs, and can serve as the basis for all field surveying operations necessary. Project control shall be referenced to the Arapahoe County Vertical and Horizontal Control

Networks, or other SEMSWA approved network, and shall include the Basis of Bearing and a minimum of two (2) site benchmarks. Vertical datum for benchmarks shall be NAVD88.

2) Base sheets for construction plans shall be prepared using the aerial photography or ground survey at a minimum scale of 1"=50'. Manuscripts shall be compiled digitally to comply with the National Map Accuracy Standards. One hundred percent of all contours shall be within one contour interval and ninety percent of all contours shall be within one-half contour interval. Ninety percent of all planimetric features shall be plotted to within 1/40" as measured at the map scale and the remainder ten percent shall be plotted to within 1/20". Spot elevations obtained at time of compilation shall be read and shown to the nearest 0.1-foot and shall be accurate to within one-quarter of the contour interval.

   a) Printed manuscripts shall show:

      i. All monuments with their identification numbers and horizontal and vertical coordinates;

      ii. Alignment of each route requiring spot elevations;

      iii. Spot elevations whenever contour interval exceeds 1-inch spacing;

      iv. Spot elevations at all intersections of the streets, roads, railroads and highways;

      v. Spot elevations at the centerline of all roads and railroads at all bridges and major culverts; and

      vi. All physical features including: buildings, overhead utility lines, fences, trees and shrub areas, paved and unpaved roads and streets, railroads, bridges and culverts, paved areas, unpaved parking and storage lots, street medians, sidewalks, irrigation ditches, reservoirs, creeks, rivers, gulches, lakes, wetlands recognizable on aerial photographs, surface drainageways, recreational and maintenance trails, and all other discernible features.

3) The digital database for the manuscripts being provided under this Agreement shall be in a form that is compatible with the most current version of AutoCAD, including *.dwg and/or *.dxf. AutoCAD plan and as-built drawings must be submitted in original coordinates (such as ground or modified state plane).

4) All necessary detailed survey information for the final design shall be obtained and tied to the control line and shall include all necessary cross-sections in the vicinity of structures. All vertical information necessary to supplement the topography shall be portrayed through the use of point elevations, cross-sections, profiles, and other applicable methods. Easement and right-of-way boundaries, consistent with and referenced to the set of right-of-way maps, shall also be shown on the base sheets. All necessary horizontal information including ties to various physical features which might affect the design and proposed construction activities shall be established by field survey.

5) ENGINEER, with SEMSWA assistance, shall contact all property owners of record or tenants on whose property surveying for the improvements shall be necessary and obtain written approval for all necessary ingress and egress for ENGINEER and ENGINEER's sub-consultants.

6) ENGINEER shall obtain field determined down-hole data (pipe sizes, pipe materials, invert elevations, manhole diameters) for existing sanitary sewer manholes and existing storm sewer manholes and inlets.

7) Final as-built drawings shall be provided in AutoCAD format. One copy of the as-built CAD drawing file shall be converted (scaled) to State plane NAD83 Colorado (Central) US feet grid coordinate system and supplied to SEMSWA. If the drawing is not supplied in State Plane, the scale factor, rotation factor (if applicable), and instructions to convert to State Plane NAD83 must be supplied, preferably on the as-built title sheet. All CAD files shall be compiled and stored as indicated in SEMSWA's Standard AutoCAD Template.

4. COST OF SERVICES

The total cost for Engineering Design Services, as set forth in Paragraph 3 SCOPE OF SERVICES and Exhibit B- Scope of Services, shall be based on actual costs but shall not

exceed _____ Dollars ($_____) unless a change in the scope of work is approved in accordance with Paragraph 13 of this Agreement.

5. BASIS OF PAYMENT

The basis of payment for engineering design services shall be an hourly rate in accordance with the General Schedule of Rates that includes overhead and profit plus other direct costs in effect at the time work is performed. In no case shall the total amount exceed that given in Paragraph 4. A copy of the current General Schedule of Rates is attached as Exhibit C. Direct cost items and third-party costs shall be billed at actual cost.

6. METHOD OF PAYMENT

SEMSWA shall make progress payments for services performed in connection with this Agreement no more frequently than once per month. Progress payments will be made in accordance with an Invoicing Schedule, which will be based on the ENGINEER's fee proposal and which will be mutually agreed upon by the Parties. The Invoicing Schedule will identify tasks to be completed, including required submittals; the maximum fee for each of the identified tasks; and the maximum cumulative fee SEMSWA will pay at the completion of each task (excluding approved direct costs). A copy of the Invoicing Schedule is attached as Exhibit F. The total amount billed at the completion of a task shall not exceed the maximum cumulative fee identified in the Invoicing Schedule. Direct costs, such as sub-consultant costs, will not be included in the Invoicing Schedule; as the ENGINEER will be reimbursed for these costs regardless of when they are billed during the contract duration. With each invoice, the ENGINEER shall submit a written progress report, which details and certifies the amount of work completed. Minutes from any project meetings, which occurred during the period covered by the invoice shall also be submitted with the progress report.

SEMSWA will make progress payments within 30 days of receipt of an invoice unless the invoice is being disputed. In the event that SEMSWA disputes any invoice item, SEMSWA shall give the ENGINEER reasonable written notice of such disputed item within ten (10) days after receipt of such invoice. If the dispute cannot be immediately resolved the consultant may submit a revised invoice excluding the item(s) in dispute. Final payment will be made within 30 days of satisfactory completion of the services, submission of all required materials, documents and files, and submission of a final invoice. ENGINEER shall keep work and cost records that permit easy comparison with work performed as specified in each billing.

7. PERSONNEL

A. ENGINEER represents that they shall use, at the minimum, the following personnel or subcontractors in performing the services under this Agreement:

NAME	RESPONSIBILITY
	Project Manager
	Project Engineer
	Professional Land Surveyor
	Subsurface Utilities Engineer
	Geotechnical Engineer
	Landscape Architect
	Wetlands Consultant
	Geomorphologist

Any change in the above personnel must have approval of SEMSWA, which approval shall not be unreasonably withheld.

B. All of the services required hereunder, except where specified, shall be performed by ENGINEER's personnel or ENGINEER's subcontractors and all personnel engaged in the services shall be fully qualified and shall be authorized under applicable state or local law to perform such services.

C. None of the services covered by this Agreement, except where specified, shall be subcontracted without the prior written approval of SEMSWA.

8. TIME OF PERFORMANCE

The total Time of Performance is _____ (___) calendar days. The ENGINEER shall commence work immediately upon execution of this Agreement and receipt of the notice to proceed, and shall diligently prosecute the work to completion in accordance with the Schedule, which is attached hereto as EXHIBIT E.

Failure of the ENGINEER to meet the scheduled date for the completion of the work may cause the SEMSWA to declare the ENGINEER ineligible for additional contracts with the SEMSWA until all work required by this Agreement is satisfactory completed and subject ENGINEER to be assessed SEMSWA’s direct damages for such delay. Any requests for

modifications to the Project Schedule must be submitted in writing by the ENGINEER and approved by SEMSWA prior to the originally scheduled date.

If the ENGINEER is delayed by failure of the SEMSWA to provide information or to complete reviews or approvals in accordance with the Project Schedule, or if the scope of services has been significantly changed and amended by the SEMSWA, the Project Schedule will be modified as mutually agreed by the Parties. For other reasons beyond the ENGINEER's control, upon written request, the SEMSWA will consider a time extension.

Continued failure by the ENGINEER to meet scheduled submittal dates may be cause for the SEMSWA to terminate this AGREEMENT.

9. DIRECTION OF EFFORT AND COORDINATION

Notwithstanding any of the provisions of this Agreement, the Executive Director of SEMSWA shall be the only individual authorized to redirect the effort or in any way amend or modify the terms of this Agreement. SEMSWA may appoint a Project Manager who shall represent the Executive Director in matters related to PROJECT. All such redirection shall be transmitted in writing and directed to ENGINEER's Project Manager and shall be subject to the provisions of Paragraph 13.

10. OWNERSHIP OF DATA

Ownership, in paper and electronic form, of all data; maps; drawings; details; documents; special software; spreadsheets and templates; photographs; and information collected, acquired, developed, and documented under this Agreement (hereinafter called "DATA") shall be vested with SEMSWA. ENGINEER may retain a record copy of such DATA. Should SEMSWA see fit to make use of DATA assembled under this Agreement for a use not included under the scope of this Agreement, SEMSWA shall assume all liability for such use and ENGINEER shall not make claims of liability against SEMSWA for such use.

11. DURATION OF AGREEMENT

The duration of this Agreement shall be one year after acceptance of the Final Design documents.

12. TERMINATION OF AGREEMENT

This Agreement may be terminated by SEMSWA and/or ENGINEER upon seven (7) days' written notice. In the event of termination, ENGINEER shall be paid for services performed to termination date as determined by SEMSWA. This payment shall be full satisfaction of all obligations to ENGINEER under this Agreement.

All data shall be surrendered to SEMSWA by ENGINEER before payment is made.

13. CHANGES IN AGREEMENT

SEMSWA may request changes in the scope of services of ENGINEER. No changes will be made to the scope of services, time of performance, the fees to be paid or other provisions which may increase or decrease the total cost of the Project without prior written order of SEMSWA and the execution of a suitable written Amendment to this Agreement.

If during the progress of the work, the ENGINEER anticipates that he may exceed the cost ceilings set forth in this Agreement due to the performance of out of scope work, the ENGINEER shall notify SEMSWA in writing at least ten (10) calendar days prior to any cost overrun, stating the status of the Project and the reasons for the anticipated overrun. SEMSWA shall respond to this notification within seven (7) calendar days of its receipt. If, in the opinion of SEMSWA, the ENGINEER is being requested to perform out of scope work and the potential overrun is justified; the Parties will negotiate and execute a written Amendment to the Agreement modifying the scope of services and/or the cost of services set forth in this Agreement. If, in the opinion of SEMSWA, the ENGINEER is not being requested to perform out of scope work and the potential cost overrun is not justified; the ENGINEER must complete the contracted scope of services without any additional compensation.

14. INSURANCE

During the performance of the work defined by this Agreement, ENGINEER, acting as an independent contractor, shall be solely responsible for procuring and keeping in full force and effect the insurance listed below:

Insurance	Minimum Limits
A. Commercial General Liability	$1,000,000 each occurrence and in the aggregate in combined single limit coverage for bodily injury and property damage (Services authorized hereunder equaling or exceeding $100,000 shall require a minimum of $2,000,000 insurance limit)
B. Professional Liability	$1,000,000 each claim and in the aggregate (Services authorized hereunder equaling or exceeding $100,000 shall require a minimum of

	$2,000,000 insurance limit)
C. Automobile Liability	$1,000,000 each occurrence in combined single limit coverage for bodily injury and property damage
D. Workers' Compensation	
I. Workers' Compensation	statutory limits required by law
II. Employer's Liability	statutory limits required by law

The limits of coverage listed above are as required by SEMSWA. ENGINEER shall evaluate individual needs regarding higher levels of insurance.

Except for Professional Liability insurance, each type of insurance procured by ENGINEER shall provide coverage for all claims arising out of, or in connection with, any operations, work, or services performed under this Agreement by ENGINEER, ENGINEER's employees, sub-consultants, subcontractors, agents, or representatives. ENGINEER's Professional Liability insurance shall provide coverage for claims arising out of the negligent acts, errors and omissions of ENGINEER in the performance of services under this Agreement. ENGINEER may elect not to provide the above-specified coverage for the sub-consultant or subcontractors. In that event, ENGINEER shall require that the sub-consultants or subcontractors procure and maintain the same insurance coverage as set forth above. All PROJECT participants shall be listed as "additionally insured" on all commercial liability insurance policy/certificates and all automobile liability insurance policy/certificates. Under this Agreement the PROJECT participant in addition to ENGINEER is SEMSWA, unless otherwise set forth herein.

Certificates of Insurance showing ENGINEER is carrying the above-described insurance shall be provided to SEMSWA at the time of execution of this Agreement. As necessary, certificates of insurance showing the sub-consultants and subcontractors are carrying the above described insurance shall be provided to SEMSWA within ten (10) days of beginning work by the sub-consultant or subcontractor pertaining to this Agreement. All the certificates of insurance shall include language stating that, should the insurance policy be canceled before its expiration date, the insurance company shall provide thirty (30) days written notice to SEMSWA. The costs of insurance shall be considered a part of the overhead costs of ENGINEER.

15. INDEMNIFICATION

Under this Agreement the PROJECT participant in addition to ENGINEER is SEMSWA, unless otherwise set forth herein. ENGINEER shall indemnify and save all PROJECT participants harmless from and against claims, demands, liabilities, damages, suits, actions, or causes of action including reasonable attorney's fees and costs which may be brought or asserted against any or all of the above named on account of, by reason of, or caused by the negligent acts, errors, or omissions in the performance of the work under this Agreement by ENGINEER, ENGINEER's employees, sub-consultants, subcontractors, agents, or representatives together with any liability accrued by any or all of the above named on account thereof.

16. ASSIGNABILITY

This Agreement is for the expert professional services of the personnel of ENGINEER, and is not assignable, save and except with the written or consent of SEMSWA, who may withhold consent at its option with or without cause.

17. APPLICABLE LAWS

This Agreement shall be governed by and construed in accordance with the laws of the State of Colorado. Venue for any and all legal actions regarding the transaction covered herein shall lie in District Court in and for the County of Arapahoe, State of Colorado.

18. NO DISCRIMINATION IN EMPLOYMENT

In connection with the performance of work under this Agreement, ENGINEER agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified on the basis of race, color, ancestry, creed, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability and further agrees to insert the foregoing provision in all subcontracts hereunder. ENGINEER shall provide a list of subcontractors and which of those subcontractors are Disadvantaged Business Enterprises (DBE) or Minority/Women Business Enterprise (M/WBE) and the basis for determining or defining the subcontractor as a DBE or M/WBE. The list shall be submitted prior to final payment.

19. OTHER PROVISIONS

A. PARTIES also agree to the terms and provisions contained in the following documents which are made a part of this Agreement:

1) Exhibit A, Project Limits

2) Exhibit B, Scope of Services

3) Exhibit C, General Schedule of Rates

4) Exhibit D, (**OPTIONAL**: SEMSWA Standard AutoCAD Template)

5) Exhibit E, Project Schedule

6) Exhibit F, Invoicing Schedule

7) Exhibit G, Monthly Progress Report Template

8) Exhibit H, As-Built Requirements

(OPTIONAL: SEMSWA Letter of Map Revision Record Drawing Requirements Checklist)

WHEREFORE, PARTIES hereto have caused this instrument to be executed by properly authorized signatories as of the date and year first above written.

ENGINEER:

By_____

Title_____

Date_____

SOUTHEAST METRO STORMWATER AUTHORITY:

By_____

Title_Executive Director_____

Date_____

OPTION:

OTHERS THAT MAY BE PARTY TO AGREEMENT

By: _____

ATTEST:

Title: _____

_____

Date: _____

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*
Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT A - PROJECT LIMITS

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR INSERT-PROJECT-NAME

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT B - SCOPE OF SERVICES
(OUTLINE ONLY: REPLACE WITH CONSULTANT SCOPE LETTER)

A. Project Initiation/Start-up:
   1) Attend project kickoff meeting.
   2) Determine project scope.
   3) Confirm project schedule.

B. Design Study/Alternatives Analysis/Conceptual Design (30% complete):
   1) Site visit with SEMSWA.
   2) Develop and evaluate alternatives, include cost estimates.
   3) Identify, contact and meet with stakeholders as SEMSWA considers necessary.
   4) Prepare conceptual design and construction cost estimate for selected alternative.
   5) Confirm permitting requirements.
   6) Attend Design Study/Alternatives Analysis review meeting with SEMSWA.
   7) Revise Design Study/Alternatives Analysis to reflect SEMSWA review comments.
   8) Submit an electronic copy (PDF format) of Design Study/Alternatives Analysis.
   9) (**OPTIONAL**: Best Value Procurement Contractor Request for Proposal preparation assistance)

C. Preliminary Design (60% complete):
   1) Perform field surveys and geotechnical investigations as required.
   2) Prepare preliminary plans including all plans and details listed in Paragraph H of this section of the Agreement. Plans should be 60% complete and should show required permanent and temporary easements.
   3) Identify and evaluate property owner conflicts/issues.
   4) Prepare a Design Report in the Phase III Drainage Report format.
   5) If applicable, prepare a Floodplain Modification Study or Conditional Letter of Map Revision (CLOMR).
      a. If CLOMR is required, prepare property owner notification letters with map exhibits at an appropriate scale to clearly depict all 100 Year

effective and post project conditions for all properties adjacent to project boundary.

b. Include CLOMR online submittal fee based on current fee schedule (https://www.fema.gov/flood-map-related-fees)

6) Perform detailed subsurface utility investigation and certification.
7) Prepare GESC Plan and Report with water control and dewatering design considerations.
    a. (**OPTIONAL**: Stormwater Management Plan, and Water Control and Dewatering Plan).
8) Prepare construction cost estimate.
9) Coordinate and prepare all necessary Permit applications.
    a. If required, USACE Section 404 Permit application to include all necessary analysis for preparation of Colorado Stream Quantification Tool (CSQT).
10) Submit an electronic copy (PDF format) of the drainage and GESC reports. See Exhibit B- Paragraph H for the minimum Civil Drawing sheet requirements.
11) Submit one copy each, as appropriate, of the following: cost estimate; geotechnical report; permit applications; and any other requested work products.
12) Provide electronic copies (PDF format) of all submitted work as specified in Section 3 (Scope of Services), Paragraph I of the Agreement.
13) Coordinate and conduct stakeholder meetings, as appropriate.
14) Attend review meeting with SEMSWA.

D. Pre-Final Design (90% complete):

1) Revise/update and complete preparation of all documents submitted as part of the Preliminary Design services.
2) Provide an electronic copy of written responses addressing all review comments.
3) Complete utility research and coordination.
4) Prepare documents for permanent easements.
5) Prepare Supplementary Conditions, MHFD (UDFCD) Division One Specifications including Payment Procedures sections for inclusion in Project specifications.
6) Perform a field review of the Plans with SEMSWA.

7) Submit digital copies as specified in Paragraph C (Items 9,10 and 11) of this Exhibit of Pre-Final plans, Design Report, GESC Plan and Report, cost estimate, geotechnical report, permit applications, easement documents, Supplementary Conditions, MHFD (UDFCD) Division One Specifications including Payment Procedures sections, and any other requested work products.
8) Coordinate and conduct stakeholder meetings as appropriate.
9) Attend review and other project meetings with SEMSWA.

E. Final Design (100% complete):
1) Revise and resubmit all documents submitted as part of the Pre-Final Design services. Approved plans and report hard copies shall be signed and sealed by a Professional Engineer licensed in the state of Colorado. (**OPTIONAL:** specify number of hard copies based on jurisdiction and stakeholder requirements).

F. Bidding Phase Services:
1) Attend Pre-Bid Meeting. (**OPTIONAL:** prepare meeting agenda, prepare meeting minutes**).**
2) Prepare Bid Addenda. (**OPTIONAL:** prepare up to two (2) Bid Addenda).
3) Answer Bidder's questions.
4) Assist SEMSWA in the evaluation of bids.
5) Assist SEMSWA in the review and evaluation of the Contractor's Water Control Plan. (**OPTIONAL:** and SWMP.)

G. As-Built Drawings (if included in scope):
1) Prepare and submit as-built drawings (see Exhibit H for requirements)

H. Civil Drawings – Minimum required sheets (additional sheets may be required to adequately ensure the constructability of the Project and these shall be within the scope and fee of the agreement):
1) Cover Sheet
2) General Notes and Legend
3) Existing Utility Plan (per ASCE 38)
4) Site Plan
5) Grading Plan
6) Profiles
7) Sections
8) Details

9) Landscape Plan

10) Landscape Notes and Details

I. (**OPTIONAL**: Easement Legal Descriptions)

J. (**OPTIONAL**: Letter of Map Revision)

K. (**OPTIONAL**: Maintenance Plan)

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR INSERT-PROJECT-NAME

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT C - GENERAL SCHEDULE OF RATES

CLASSIFICATION	RATE (per hour)
	$
	$
	$
	$
	$
	$
	$

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT D- AutoCAD Template

(**OPTIONAL:** ENGINEER shall utilize the AutoCAD template provided by SEMSWA separately in an electronic format as a base for all CAD work. Engineer may develop for SEMSWA's consideration and approval additional separate layering in separate files for other recommended system design features as required.)

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT E- Project Schedule

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT F- Invoicing Schedule

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT G – Monthly Progress Report Template

Monthly Progress Report

INSERT-PROJECT-NAME
INSERT-PROJECT-NUMBER
INSERT DATE

Month Covered by Report: _____

Indicate tasks worked on and/or completed (tasks should reflect the tasks from the project scope or Invoice Schedule) and provide a brief narrative of what work was performed, completed or still pending on those tasks:

_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____
_____

_____

X _____

Project Manager

AGREEMENT REGARDING ENGINEER DESIGN SERVICES
FOR *INSERT-PROJECT-NAME*

Agreement No. *CPRXX-XXXXXC-1*

EXHIBIT H – As-Built Requirements

Southeast Metro Stormwater Authority

Record Drawing Submittal Checklist for Stormwater Management Improvements

7437 South Fairplay Street
Centennial, CO 80112
303.858.8877

Record Drawings must be submitted to SEMSWA for all Stormwater Public Improvements as part of the Probationary Acceptance (PA) process. The Record Drawing submittal shall include the Record Drawings, .DWG files, and the Stormwater Detention & Infiltration Notification requirements as described below. The submittal of all documents shall be emailed to esubmittals@semswa.org.

- ☐ **Engineer of Record shall submit a Portable Document Format (PDF) version of the Construction Drawings plan set (CDs) as approved by the City of Centennial (City approval stamp on all sheets) updated with the as-built conditions shown. All changes (including minor variations & approved field change orders) to the approved design shall be shown in the color Red.**
- ☐ **The Record Drawings plan set shall include all sheets from the stamped approved CDs pertinent to stormwater management improvements, including site grading plans. Each plan sheet shall include in large bold text, 'Record Drawing'. If the Construction Drawings were formally amended and stamped approved those sheets should also be included.**
- ☐ **The SEMSWA Record Drawing Certification Block shall be affixed to the Record Drawing's cover sheet with all required information provided, signed, stamped and dated. Certification Block can be found at: http://www.semswa.org/spip-centennial.aspx.**
- ☐ **As-built construction conditions indicated by single strikeout of design data and insert of new data in the color Red.**
- ☐ **Structure type and construction material for all storm sewer structures. Coordinates of center of structure, or corners of non-circular structures. Surveyed elevations of top of structure and all pipe inverts inside all structures.**
- ☐ **Size, material, installed length and calculated slope of all storm sewer pipes. Elevations and coordinates at ends of pipe not within structures and flared end sections.**
- ☐ **Provide sufficient as-built finished grade spot elevations (shown on site grading plan) to justify the approved drainage pattern has been achieved. Include high points (HP), low points (LP) and any other critical locations.**
- ☐ **Centerline elevations and coordinates at the end points, grade breaks and at 50' maximum interval along the length of all constructed/ improved conveyance swales/ channels. Location (coordinates), elevations and dimensions of all drop structures. Top elevations and dimensions of all channel lining materials (riprap, concrete, etc...). Cross sections of ground surface (tops and toes of slopes) at upstream and downstream ends of channel, at grade breaks and at a maximum interval of 50'.**
- ☐ **WQCV, EURV and 100-year detention volumes (design and as-built) with corresponding elevations for all Detention Pond/ Water Quality BMP facilities. As-built data to verify all Detention Pond/ Water Quality BMP facility control structures have been constructed per design criteria, including but not limited to dimensions and elevations of the outlet structure, forebays, micropools, wiers and oricife plates. Flowline elevations at a maximum interval of 25' for pond trickle channels. Elevations, dimensions and coordinates of pond overflow spillways.**
- ☐ **Provide revised details (e.g. shop drawing, product operation and maintenance manual, etc.) of the Water Quality BMPs if they differ from the approved construction drawings.**
- ☐ **Provide an Autocad DWG file with the base drawings, including design contours. The submitted Autocad DWG should be in State Plane Coordinates, Colorado Central Zone, NAD83 and NAVD 88 Vertical Datum; Or provide two control points with published state plane coordinates i.e. NGS, Arapahoe County Horizontal Control Network within the drawing to enable SEMSWA to make the conversion. Submit one drawing named 'Asbuilts'. Block Definitions must be exploded and all features must be on their own layer. No XREFs and any external content must be inserted into the drawing.**
- ☐ **Provide the Stormwater Detention & Infiltration Notification requirements per the SEMSWA Stormwater Detention and Infiltration Notification procedure found at http://www.semswa.org/spip-centennial.aspx**

Revised 2017

(OPTIONAL: SEMSWA Letter of Map Revision Record Drawing Requirements Checklist

Southeast Metro Stormwater Authority

SOUTHEAST METRO STORMWATER AUTHORITY (SEMSWA)
LETTER OF MAP REVISION
RECORD DRAWINGS (AS-BUILT PLANS)
REQUIREMENTS CHECKLIST

This checklist is to be used for production of all Record Drawings (As-Built Plans) to support Letter of Map Revision (LOMR) submittals. Refer to separate checklists detailing the requirements for the reports and exhibits for Letter of Map Revision submittals. This checklist provides a detailed outline of the information required for Record Drawing submittals; only submit information from each section as applicable to your project. If you have any questions about the requirements listed, or specific to your project, please contact SEMSWA.

SEMSWA Case Number:		**City/County Case Number:**	
Case Name:		**Submittal Date:**	

SUBMITTALS

Yes	No	N/A	Requirement
			1. SEMSWA approved[1](SEMSWA "Final" stamp) record (As-Built) drawings must be submitted to SEMSWA for all Letter of Map Revision (LOMR) Requests, as part of the LOMR submittal package.
			2. Electronic files for the drawings must be provided in native CAD format and in PDF format. The CAD submittal must include all CAD files, including all associated reference and data files and must be in a form compatible (.dxf or .dwg) with the most current version of AutoCAD. Additionally, CAD drawings must be submitted in the original project coordinate system and in State Plane NAD83 Colorado (Central) US feet. All elevation data should be referenced to NAVD 88.
			3. Record drawings should contain field-surveyed information of sufficient detail to allow SEMSWA to verify the horizontal and vertical location of all significant features.
			4. Record drawings should include parcel, easement, floodplain, floodway, and jurisdictional boundaries. Ownership information and easement reception numbers should be shown.
			5. Record drawings should clearly indicate the limits of construction.
			6. Must include a Record Drawing Certification Statement, signed and stamped by the responsible Professional Land Surveyor OR Professional Engineer registered in the State of Colorado. The certification should state that to the best of the engineer/surveyor's knowledge, the referenced improvements are accurate, have been built according to the plans being certified, are in place, and are fully functioning.

DRAWING REQUIREMENTS

A. Fill/Grading (If placement of fill constitutes the project.)			
			1. Limits of fill/grading
			2. Contours at a maximum 2-ft. interval throughout project area and 100 ft. beyond property/project limits; include contour labels
			3. Ground surface elevations at tops and toes of slopes at a maximum interval of 25 ft.
			4. Spot elevations at the center of any high or low areas (hilltops, depressions, etc.)
			5. Limits of vegetation, pavement, etc.
B. Bridges/Culverts			
			1. Top of Road Elevations, at the end points and at all grade breaks
			- Upstream
			- Downstream
			2. Low Chord Elevations, at the end points and at all grade breaks
			- Upstream
			- Downstream
			3. Structure invert elevations
			- Upstream

SEMSWA (Rev. 4, April 2018) Page 1

Southeast Metro Stormwater Authority

LOMR RECORD DRAWING CHECKLIST

SEMSWA Case Number: _____

Yes	No	N/A	Requirement
			- Downstream
			4. Stream invert elevations
			- Upstream
			- Downstream
			5. Plan and profile of bridge/culvert
			6. Structure dimensions (height, width, span, length)
			7. Shape and number of openings (culverts only)
			8. Material
			9. Pier location, dimensions, shape (bridges only)
			10. Beveling or rounding (culverts only)
			11. Wing wall angle(s)
			12. Skew angle
			13. Revetment
			- Material
			- Limits
			- Elevations
C. Channelization/Channel Relocation/Channel Stabilization			
			1. Limits of channel improvements
			2. Contours at a maximum 2-ft. interval throughout project area and 100 ft. beyond property/project limits; include contour labels
			3. Ground surface elevations at toes and tops of slopes, at end points, and breaks in grade
			4. Limits and elevations of channel lining materials (riprap, concrete, etc.)
			5. Flowline elevations at the end points and breaks in grade
			6. Plan and profile of channel improvements
			7. Location, elevations, and dimensions of all Grade Control (Drop) Structures
D. Grade Control Structures/Weirs			
			1. Limits of channel improvements
			2. Structure dimensions
			3. Dimensions and elevations needed to define weir crest(s), top of structure, plunge pool, etc.
			4. Plan and profile of grade control structure
E. Detention Facility/Dam (Includes All Detention/Water Quality Ponds)			
			1. Project limits
			2. Ground surface elevations at toes and tops of slopes at a maximum interval of 25 ft.
			3. Ground surface elevations along the centerline of embankments at the end points, at a maximum interval of 25 ft., and at all grade breaks.
			4. Contours at a maximum 2-ft. interval throughout project area and 100 ft. beyond property/project limits; include contour labels
			5. Outlet Structure
			- Flowline elevations at the upstream and downstream ends of structure and at all intermediate locations where there are abrupt changes in the flowline
			- Structure dimensions
			- Dimensions and elevations needed to define weir crests and top of structure
			- Elevation of orifices in orifice plate
			- Dimension, number, and spacing of orifices in orifice plate
			- Dimensions of structure, including wall thicknesses
			6. Trickle Channels
			- Typical Section

LOMR RECORD DRAWING CHECKLIST

SEMSWA Case Number: _____

Yes	No	N/A	Requirement
			- Flowline elevations at the end points and at grade breaks
			7. Overflow Spillways
			- Width of spillway crest (measured in the direction of flow)
			- Length of spillway crest (measured perpendicular to the direction of flow)
			- Elevation of crest at both ends and at any intermediate grade breaks
			- Elevation of top of embankment at ends of spillway
			8. Micropools, Forebays, BMPs/Enhancements, and Other Miscellaneous Structures
			- Dimensions, slopes, and elevations as necessary to define the improvement
			- Elevations for micropool floor and permanent pool
F. Levee / Floodwall / Berm			
			1. Project limits
			2. Ground surface elevations at tops and toes of slopes and/or walls at the end points and all grade breaks
			3. Ground surface elevations along the centerline of embankments at the end points and at all grade breaks
			4. Plan and profile of embankment/wall
			5. Top elevation and dimensions of all walls and channel lining and embankment protection materials (riprap, concrete, etc.)
			6. Embankment side slopes
			7. Embankment/wall material
			8. Location, dimensions, elevations, and material of all openings through embankment/wall
			9. Type, location, dimensions, elevations, and materials of all opening closures (gates, etc.)

Notes:

1. All development projects should have received SEMSWA approval for as-builts through the SIA "Probationary Acceptance Process", and CIP projects through the "Substantial Completion Process".