To request translation or disability-related accommodations, please contact us at **bcc@clackamas.us** | **503-655-8581**.

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Чтобы запросить перевод или приспособления, связанные с инвалидностью, пожалуйста, свяжитесь с нами по: **bcc@clackamas.us** | **503-655-8581**.

Щоб попросити переклад або спеціальні послуги для осіб з особливими потребами, зверніться до нас, скориставшись такими контактними даними: **bcc@clackamas.us** | **503-655-8581**.

如需翻译服务或残障相关的协助，请与我们联系：**bcc@clackamas.us** | **503-655-8581**。

Để yêu cầu dịch vụ dịch thuật hoặc điều chỉnh liên quan đến tình trạng khuyết tật, vui lòng liên hệ với chúng tôi qua **bcc@clackamas.us** | **503-655-8581.**

Clackamas County

www.clackamas.us

CLACKAMAS
WATER ENVIRONMENT SERVICES

GREGORY L. GEIST | DIRECTOR

Water Quality Protection
Surface Water Management
Wastewater Collection & Treatment

June 4, 2026 BCC Agenda Item: _____

Board of County Commissioners
Acting as the governing body of Water Environment Services
Clackamas County

Approval of Amendment #1 for Contract #1460 with Parametrix, Inc. for engineering analysis of the Sedona Drive detention pipe. The Amendment value is $39,378 and increases the Total Contract Value to $154,798. Funding through WES Surface Water Construction Funds. No County General Funds are involved.

Previous Board Action/Review: N/A
Performance Clackamas: 1. This project supports WES' strategic plan to upgrade WES' infrastructure to ensure the sustainable delivery of reliable, high-quality, and climate-resilient clean water services that support the growth and vitality of our communities, natural environment, and economy.
2. This project supports the County's Strategic Priorities of Strong Infrastructure, Vibrant Economy, and Safe, Secure and Livable Communities.
Counsel Review: Yes **Procurement Review:** Yes
Contact Person: Jeff Stallard **Contact Phone:** 503-742-4694

EXECUTIVE SUMMARY: WES owns an underground stormwater detention pipe located behind two residential properties on SE Sedona Drive in Clackamas, Oregon. The 72-inch, 200-foot-long pipe was constructed in 1994 during the development of the Sedona Park subdivision. A large rain event in the spring of 2025 eroded the soil cover around the detention pipe causing a small slide that exposed the infrastructure.

Recent field observations identified long-term degradation (i.e. vertical downcutting) in the stream near the detention pipe. Left unmitigated, this degradation risks further failures at the toe of the slope below the detention pipe and possibly elsewhere along the stream. This amendment includes further site investigation, hydrologic analysis of the basin, and a geomorphic assessment of the stream channel to understand the trajectory of the geomorphic changes and provide conceptual recommendations that WES can use to communicate options to homeowners and plan stream resilience restoration activities.

RECOMMENDATION: Staff recommends that the Board of County Commissioners of Clackamas County, acting as the governing body of Water Environment Services, approve Amendment #1 for Contract #1460 with Parametrix, Inc. for engineering analysis of the Sedona Drive detention pipe.

Respectfully submitted,

Greg Geist
Director, WES

Attachment: Amendment #1 for Contract #1460 with Parametrix, Inc.

For Filing Use Only

AMENDMENT #1
TO THE CONTRACT DOCUMENTS WITH PARAMETRIX, INC. FOR SEDONA DRIVE DETENTION REHABILITATION PROJECT
Contract #0000001460

This Amendment #1 is entered into between **Parametrix, Inc.** ("Contractor") and Water Environment Services ("District") and shall become part of the Contract documents entered into between both parties on **September 4, 2025** ("Contract").

The Purpose of this Amendment #1 is to make the following changes to the Contract:

1. ARTICLE I, Section 2. **Scope of Work** is hereby amended as follows:
District has authorized an increase to the Scope of Work for Contractor to provide an engineering analysis of the stream geomorphology and stormwater inputs to determine if additional restoration in the drainage channel is needed. The additional Scope of Work is attached as Exhibit "A" to this Amendment #1 and hereby incorporated by reference.

2. ARTICLE I, Section 3. **Consideration** is hereby amended as follows:
In consideration for Contractor performing the additional work described in Exhibit "A" to this Amendment #1, District agrees to increase compensation to Contractor by an amount not to exceed $39,378.00. Consideration rates are on a time and materials basis in accordance with the rates and costs specified in Exhibit "A" to this Amendment #1. The total Contract compensation shall not exceed $154,798.00.

ORIGINAL CONTRACT	$ **115,420.00**
AMENDMENT #1	**$ 39,378.00**
TOTAL AMENDED CONTRACT	**$ 154,798.00**

Except as expressly amended above, all other terms and conditions of the Contract shall remain in full force and effect. By signature below, the parties agree to this Amendment #1, effective upon the date of the last signature below.

Parametrix, Inc.

Richard Roché
Digitally signed by Richard Roché
DN: cn=Richard Roché, c=US, o=PARAMETRIX, INC., email=rroche@parametrix.com
Date: 2026.04.22 11:48:01 -07'00'

Authorized Signature Date

Richard Roche
Printed Name

Water Environment Services

Chair Date

Approved for Legal Sufficiency:

4/23/2026
County Counsel Date

Exhibit A
Scope of Work and Fee Schedule

Clackamas County Water Environment Services
Sedona Drive Detention Rehabilitation
Amendment 1

Introduction

This scope of work provides changes to the contract between Clackamas County Water Environment Services (WES) and the Parametrix and GRI team (the "Consultant") for the Sedona Drive Detention Rehabilitation project (the "Project"). WES owns a buried detention pipe behind two residential properties at 14847 and 14865 SE Sedona Drive in Clackamas, Oregon, that discharges to a nearby unnamed stream. During a period of heavy rain in spring 2025, a portion of the soil cover downslope of the pipe on the 14847 property slid downhill, which exposed the side of the pipe.

In fall 2025, the Consultant conducted a site investigation, and the geotechnical report dated February 19, 2026, provided a preferred repair alternative. The proposed solution includes rebuilding the slope with imported granular stone embankment material, repairing the outfall pipe erosion, and other related recommendations. No other slope repair alternative proved viable, reducing the need for the level of effort previously scoped for Subtask 05-01 "Alternatives Analysis."

In conducting this work, WES and the Consultant recognized the need for a more thorough analysis of the stream geomorphology. Field observations and reports from homeowners have identified significant long-term degradation (vertical downcutting) in the stream reach near the Project. Left to continue unmitigated, this degradation risks causing further failures at the toe of the proposed rebuilt slope, at the detention pipe on the 14865 property, or elsewhere along the stream. This scope of work includes Task 06 for further site investigation, hydrologic analysis of the basin, and a geomorphic and ecology assessment of the stream. The goal is to understand the trajectory of the geomorphic changes and provide conceptual recommendations that WES can use to communicate options to homeowners and plan stream resilience restoration activities.

Task 01 – Project Management

Delete the following assumptions:

- Project duration is 6 months.
- Budget assumes 12 biweekly virtual meetings.

And replace them with the following:

- Project duration is 12 months.
- Budget assumes 24 biweekly virtual meetings.

Task 02 – Geotechnical Engineering

No revisions to the original scope.

Task 03 – Natural Resources Assessment

No revisions to the original scope.

Task 04 – Survey

Subtask 04-01 – Topographic Survey

No revisions to the original scope.

Subtask 04-02 (Contingency) – Additional Easement

No revisions to the original scope.

Subtask 04-03 – Brush Clearing

Remove this subtask from the original scope. Brush clearing was completed by WES staff.

Task 05 – Predesign

Subtask 05-01 – Alternatives Analyses

Replace the text in Subtask 05-01 Alternatives Analysis with the following:

Objective

The goal of this subtask is to further develop the recommended geotechnical mitigation alternative to a conceptual design for WES review, after which it will be advanced to preliminary design.

Approach

The Consultant will provide a virtual presentation to WES in which the following items are presented:

- A summary of the findings of the geotechnical analyses.
- Alternatives for the toe erosion bank protection design.
- Condition assessment of the existing detention pipe and alternatives for its repair or decommissioning.

Deliverables

The following deliverable is associated with this subtask:

- Alternatives analysis in PowerPoint format presented at the biweekly meeting.

Assumptions

Assumptions for this subtask include:

- No reports or technical memoranda are included in this subtask.
- WES will provide interior photographs and sketches of the existing detention pipe necessary for the determination (by Parametrix) of:
  - → Pipe coating type (hot dipped galvanized versus aluminized type 2).
  - → Location/spacing of joints inside the detention pipe.

- WES will provide as-built drawings, available maintenance records, and access to the District's GIS application, if applicable.

Subtask 05-02 – Preliminary Design

Add to the approach:

- Toe erosion bank protection design

Task 06 – Stream Assessment

Add Task 06 – Stream Assessment with the following text:

Subtask 06-01 – Hydrologic Study

Objective

The hydrologic study will quantify peak flow rates from the predevelopment and existing conditions to inform the geomorphic analysis and understand the effectiveness of current detention WES detention facilities.

Approach

The Consultant will delineate the unnamed stream's catchment basin(s), review historic aerial imagery and detention system record drawings, and prepare a hydrologic and hydraulic model to quantify estimated peak flow runoff entering the stream. Analysis will model the range of storm events between 42 percent of the 2-year event up to the 10-year event, which matches the WES 2023 Stormwater Standards for flow control and are most likely to drive geomorphic changes. A technical memorandum will document the results and conclusions.

Deliverables

Deliverables associated with this subtask include:

- Draft Hydrologic Technical Memorandum
- Final Hydrologic Technical Memorandum

Assumptions

Assumptions for this subtask include:

- WES will provide record drawings and GIS data access for all collection and conveyance systems draining to the subject creek. The record drawings will contain sufficient detail to model the detention systems, including shape and depth needed to model the stage versus storage relationship and flow controls (e.g. orifices, weirs, etc.) dimensions and elevations. No Consultant field survey is required but measure downs at structures may be requested of WES operations staff if existing data are not available.
- WES will provide comments on the draft technical memorandum in a single consolidated PDF document. The Consultant will incorporate the comments into a final version of the document.
- No site visit is included for this task. WES to provide photos and inspection information from a wet weather event to inform model calibration.

Subtask 06-02 – Geomorphic and Ecological Assessment

Objective

The geomorphic and ecological assessment will inform the active trajectory of the physical and ecological conditions to frame what actions are possible and appropriate to increase channel stability and provide any ecological uplift along the tributary and its floodplain.

Approach

The combined geomorphic and ecological assessment will be conducted in two parts. First, a desktop analysis will be performed to understand the system and available data sources prior to the site investigation (Subtask 06-03). Second, following the site investigation, a more detailed analysis and synthesis will be performed using the information gathered.

- Geomorphic Desktop Review includes at minimum:
  - Geology, Soils Mapping (Web Soil Survey),
  - Historic Aerial review to understand land cover changes over time due to development
  - Topographic data review
  - Existing studies and projects review
- Geomorphic Analysis (Combined Field and Desktop)
  - Hydraulic controls
  - Vegetation indicators
  - Erosion and deposition
- Ecological Assessment
  - Agency and Partner Coordination (Gail Shaloum at WES, ODFW District Biologist, Clackamas River Basin Council)
  - Summary of site investigation related to suitable habitat for aquatic species and existing and potential vegetation.

Deliverables

Deliverables associated with this subtask include:

- Draft Geomorphic and Ecological Assessment Technical Memorandum
- Final Geomorphic and Ecological Assessment Technical Memorandum

Assumptions

Assumptions for this subtask include:

- The Technical Memorandum will be up to the equivalent of five pages of text, exclusive of figures.
- Concept sketches of potential solutions will be developed and presented to WES for initial comment at a biweekly meeting. Revised versions will be included in the Technical Memorandum. These will include options for bank or channel stability, aquatic habitat, and riparian enhancements. Six to twelve total sketches will be provided. Each sketch may

include an annotated photograph with PDF markups and linework, an annotated standard detail, or an annotated conceptual cross section.

Subtask 06-03 – Site Investigation

Objective

The multidisciplinary team will perform a site-walk to document existing conditions (observations, indicator mapping and relative measurements) and explore alternatives to increase the overall stability, resilience and available habitat.

Approach

The Consultant will travel to the site to make observations and collect data. They will traverse the reach and document process and habitat indicators, stressors, hydraulic controls, habitat features and active erosion. Photo-documentation, field notes and resource-grade GPS will be used to record necessary information. Findings and recommendations will be compiled in the technical memorandum for Subtask 06-02.

Deliverables

- Digital delivery of photos, field notes, and developed data (polygons, points, rasters, etc)

Assumptions

Assumptions for this subtask include:

- Three staff will conduct the field survey, including a hydraulic engineer, geomorphologist, and a natural resources specialist.
- The site visit will require six hours for each staff, including four hours on site, depending on access and site conditions, and one hour travel in each direction.
- Site investigation will include inspection of the entire reach (approximately ½ mile) from the confluence with Rock Creek / Clackamas River to the detention system at the head of the creek (150th Place). Access to this reach assumes safe access to confluence area and the actual inspection may be limited by site conditions.
- WES will notify landowners at least 3 days ahead of the site visit, if necessary.

Clackamas County	Staff Name	S. Sokol	M. Pyszka	Edward Johnson	B. Schlachter	T. MacLean	I. Lapina	C. Kyro	B. McGarry	I. Kolln	C. Beeghly	I. Ollestad	K. Tuttle	K. Kuester	L. Benjamin	R. Mellinger	J. Hughes
Sedona Drive Detention Repair	Title/Category	Engineer IV	Sr Engineer	Engineer III	Engineer IV	Sr Scientist/Biologist	Scientist/Biologist III	Scientist/Biologist II	Survey Supervisor	Surveyor III	Surveyor II	Project Controls Specialist	Project Accountant	Scientist/Biologist I	GIS Analyst	Publications Supervisor	Sr Planner
Project # 273-1751-03	Billing Rate	188.99	279.21	159.77	197.18	246.84	177.94	146.97	226.56	148.79	127.50	118.11	101.40	125.00	112.52	162.34	228.87
TOTAL FEE ESTIMATE		$ 24,946	$ 1,117	$ 7,669	$ 3,155	$ 987	$ 4,271	$ 17,048	$ 3,398	$ 3,720	$ 11,092	$ 2,835	$ 1,217	$ -	$ 2,925	$ 2,597	$ 8,239
Task 01	**Project Management**	**32**										**24**	**12**				
	Project Management	20		6								12	6				
	Project Management	+12		-6								+12	+6				
Task 02	**Geotechnical Assessment**																
02-01	Geotechnical Site Investigation																
02-02	Geotechnical Analyses																
Task 03	**Natural Resources Assessment**					**4**	**24**	**80**							**26**	**6**	**36**
03-01	Natural Resources Field Work and Regualtory Assessment					2	12	40							16	4	
03-02	HCA/WQRA Assessment for Geotechnical Support						6								2		18
03-03	Contingency - HCA and WQRA Report, Mitigation Plan, and Development Permits					2	6	40							8	2	18
Task 04	**Survey**								**15**	**25**	**87**						
04-01	Topographic Survey								11	25	69						
04-02	Contingency - Additional Easement								4		18						
04-03	Brush Clearing																
04-03	Brush Clearing																
Task 05	**Predesign**	**42**	**4**	**48**	**16**											**2**	
05-01	Alternatives Analyses	24	4	12	16											2	
05-01	Alternatives Analyses	-6	-4		-8												
05-02	Preliminary Design	24	4	36	8												
Task 06	**Stream Assesment**	**58**						**36**								**8**	
06-01	Hydrologic Study	+48														+4	
06-02	Geomorphic and Ecological Assessment	+4						+30								+4	
06-03	Site Investigation	+6						+6									
	Total Hours	132	4	48	16	4	24	116	15	25	87	24	12		26	16	36
TOTALS		$ 24,946	$ 1,117	$ 7,669	$ 3,155	$ 987	$ 4,271	$ 17,048	$ 3,398	$ 3,720	$ 11,092	$ 2,835	$ 1,217	$ -	$ 2,925	$ 2,597	$ 8,239

Note:
Blue text indicates original contract value
Red text indicates addition or subtraction to the original value

Clackamas County Sedona Drive Detention Repair Project # 273-1751-03		C. So Engineer I 130.00	S. Ellis Sr Engineer 250.00	T. Smrdel Sr Scientist/Biologist 250.00	J. Ash Sr Engineer 250.00	Labor Summary Hours	 Dollars	Expenses Travel	 TItle Company (Public Records Report)	 Equipment Fee	Expense Total	Subconsultants Geotechnical Resources, Inc	 Brush Clearing (TBD)	Subconsultant Total	ORIGINAL TOTAL	CHANGE	REVISED TOTAL
TOTAL FEE ESTIMATE		$ 7,280	$ 1,000	$ 11,500	$ 5,000	**711**	**$ 119,996**	**$ 102**	**$ 400**	**$ 300**	**$ 802**	**$ 34,000**	**$ -**	**$ 34,000**	**$ 115,420**	**$ 39,378**	**$ 154,799**
Task 01	**Project Management**					**68**	**$ 10,099**	**-**	**-**	**-**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 6,764**	**$ 3,335**	**$ 10,099**
	Project Management					44	$ 6,764				$ -			$ -	$ 6,764		$ 6,764
	Project Management					24	$ 3,335				$ -			$ -		$ 3,335	$ 3,335
Task 02	**Geotechnical Assessment**						**$ -**	**-**	**-**	**-**	**$ -**	**$ 34,000**	**$ -**	**$ 34,000**	**$ 34,000**		**$ 34,000**
02-01	Geotechnical Site Investigation						$ -				$ -	$ 17,000		$ 17,000	$ 17,000		$ 17,000
02-02	Geotechnical Analyses						$ -				$ -	$ 17,000		$ 17,000	$ 17,000		$ 17,000
Task 03	**Natural Resources Assessment**					**176**	**$ 29,154**	**20**	**-**	**-**	**$ 20**	**$ -**	**$ -**	**$ -**	**$ 29,173**		**$ 29,173**
03-01	Natural Resources Field Work and Regualtory Assessment					74	$ 10,957	20			$ 20			$ -	$ 10,977		$ 10,977
03-02	HCA/WQRA Assessment for Geotechnical Support					26	$ 5,412				$ -			$ -	$ 5,412		$ 5,412
03-03	Contingency - HCA and WQRA Report, Mitigation Plan, and D					76	$ 12,784				$ -			$ -	$ 12,784		$ 12,784
Task 04	**Survey**					**127**	**$ 18,210**	**42**	**400**	**300**	**$ 742**	**$ -**	**$ -**	**$ -**	**$ 21,452**	**$ (2,500)**	**$ 18,952**
04-01	Topographic Survey					105	$ 15,009	42		300	$ 342			$ -	$ 15,351		$ 15,351
04-02	Contingency - Additional Easement					22	$ 3,201		400		$ 400			$ -	$ 3,601		$ 3,601
04-03	Brush Clearing						$ -				$ -		$ 2,500	$ 2,500	$ 2,500		$ 2,500
04-03	Brush Clearing						$ -				$ -		$ (2,500)	$ (2,500)		$ (2,500)	$ (2,500)
Task 05	**Predesign**				**4**	**116**	**$ 21,203**	**-**	**-**	**-**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 24,031**	**$ (2,828)**	**$ 21,203**
05-01	Alternatives Analyses					58	$ 11,049				$ -			$ -	$ 11,049		$ 11,049
05-01	Alternatives Analyses				+4	-14	$ (2,828)				$ -			$ -		$ (2,828)	$ (2,828)
05-02	Preliminary Design					72	$ 12,982				$ -			$ -	$ 12,982		$ 12,982
Task 06	**Stream Assesment**	56	4	46	16	**224**	**$ 41,331**	**41**	**-**	**-**	**$ 41**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 41,371**	**$ 41,371**
06-01	Hydrologic Study	+24	+4			80	$ 13,841				$ -			$ -		$ 13,841	$ 13,841
06-02	Geomorphic and Ecological Assessment	+16		+40	+16	110	$ 21,894				$ -			$ -		$ 21,894	$ 21,894
06-03	Site Investigation	+16		+6		34	$ 5,596	41			$ 41			$ -		$ 5,636	$ 5,636
		56	4	46	20	711											
TOTALS		$ 7,280	$ 1,000	$ 11,500	$ 5,000	**711**	**$ 119,996**	**$ 102**	**$ 400**	**$ 300**	**$ 802**	**$ 34,000**	**$ -**	**$ 34,000**	**$ 115,420**	**$ 39,378**	**$ 154,799**

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