

MEMORANDUM

TO: Board of Trustees

THROUGH: Indra Winqest
Interim General Manager

THROUGH: Joseph J. Pomroy, P.E.
Director of Public Works

FROM: Nathan Chorey, P.E.
Engineering Manager

SUBJECT: Review, Discuss, and Possibly Authorize a Professional Services Agreement for the Effluent Export Project - Phase II – 2524SS1010 – Fund: Utility; Division: Sewer; Vendor: Jacobs Engineering, Inc. in the amount of \$256,300 for the Effluent Pond Lining, Surveying and Design Professional Services.

STRATEGIC PLAN: Long Range Principle #5 – Assets and Infrastructure

DATE: February 14, 2020

I. RECOMMENDATION

That the Board of Trustees moves to:

1. Review, Discuss, and Possibly Authorize a Professional Services Agreement for the Effluent Export Project - Phase II – 2524SS1010 – Fund: Utility; Division: Sewer; Vendor: Jacobs Engineering, Inc. in the amount of \$256,300 for the Effluent Pond Lining, Surveying and Design Professional Services.
2. Authorize Staff to execute the contract documents.

II. DISTRICT STRATEGIC PLAN

Long Range Principle #5 – Assets and Infrastructure – The District will practice perpetual asset renewal, replacement, and improvement to provide safe and superior long term utility services and recreation activities.

- The District will maintain, renew, expand, and enhance District infrastructure to meet the capacity needs and desires of the community for future generations.
- The District will maintain, procure, and construct District assets to ensure safe and accessible operations for the public and the District's workforce.

III. BACKGROUND

At the January 29, 2020 IVGID Board of Trustees Meeting, the Board made the following recommendation under Review, discuss and provide direction on the Effluent Export Project – Phase II – Fund: Utility; Division: Sewer; Project 2524SS1010.

Direct Staff to:

- Establish Effluent Export System Pond Lining Project
- Establish Effluent Export System Pipeline Project - Replace 5,067 linear feet of Segment 3 in SR-28
- Provide regular Effluent Export System Project Update in the General Manager Report

This memorandum is asking for Board authorization to enter into a design contract to accomplish the 1st bullet, Establish Effluent Export System Pond Lining Project.

The Incline Village General Improvement District (IVGID or District) operates a wastewater collection, treatment, and effluent export system that serves the communities of Incline Village and Crystal Bay, NV and the Nevada State Parks (Sand Harbor, Spooner and Memorial Point) located at Lake Tahoe. A component of this operation is the 2.4 million gallon effluent storage basin located adjacent to the wastewater resource recovery facility (WRRF). This storage basin was designed to provide automated and passive back-up effluent storage in the event the Plant's 500,000 gallon effluent storage tank fills to capacity. By lining the storage basin, it will allow for effluent storage during emergency situations and planned effluent pipeline repair and replacement construction projects. The lining will also eliminate the need to re-treat this effluent through the Plant, speeding recovery from the incident. Depending on the time of year and associated influent flows at the Plant, this final effluent storage basin can provide between 1.6 and 3.2 days of storage. The effluent storage basin also ensures there is adequate storage

capacity to accommodate a multiple day power outage that interrupts Plant operations.

As a condition of the District's current operating permit with the Nevada Department of Environmental Protection (NDEP), the District is no longer allowed to utilize the effluent storage basin for storage because it is unlined. This significantly hampers the District's ability to conduct planned maintenance of the effluent export system and puts the District at risk of a discharge of effluent to the waters of Lake Tahoe in the event of a significant emergency.

The following work has been completed to begin implementation of the Effluent Storage Basin improvements:

- Expansion of the access road around the wastewater treatment plant to improve ingress/egress to allow construction of improvements to the Effluent Storage Basin. This work included the purchase of an adjacent parcel.
- A technical memorandum, (predesign), with a consulting engineer to complete pre-design analysis that evaluated alternatives, made recommendations, completed preliminary design, and developed construction cost estimates to implement the above listed effluent storage recommendations.

The Water Resource Recovery Facility Effluent Storage Alternative Analysis Memorandum, September 2018, recommends the reinforced concrete or the combination of concrete and shotcrete lining that provides the best long term value, maximizes storage volume, and has low maintenance to keep in service. The design services agreement will proceed with design on this preferred recommendation. The project scope of work follows this memorandum and includes all civil, mechanical and electrical engineering design work. The effluent pond lining project also includes upgrading the existing effluent pond pumping station to 2020 pumping and electrical standards to pump the effluent back into the effluent export pipeline.

The project is scheduled to complete design and permitting in 2020-21 with a scheduled advertisement for construction bids in February 2021. The design phase is scheduled for 30 weeks to complete. There will also be a need for 60-days of review by outside agencies such as NDEP. This totals a 10-month design phase schedule. Staff is seeking authorization on this agreement. Staff will wait to issue notice to proceed until April 1, 2020 or upon approval of a Project Cooperation

agreement with the US Army Corps of Engineers under Section 595, whichever comes first. Beginning April 1, 2020, staff will need to commence the design phase to provide adequate time for design and permitting by outside agencies so the project can be bid in February 2021 to meet a May 1, 2021 construction start date. Costs incurred prior to executing a Project Cooperation Agreement with the USACE are typically not reimbursable.

IV. BID RESULTS

This item is not subject to competitive bidding within the meaning of Nevada Revised Statute (NRS) 332.115 as described in subsection (b) Professional Services.

Additionally, per NRS 625.530, selection of a professional engineer or registered architect to perform work on public works projects (where the complete project costs exceed \$35,000) is to be made solely on the basis of the competence and qualifications of the engineer or architect and not on the basis of competitive fees.

Jacobs Engineering successfully completed the predesign phase of this project.

V. FINANCIAL IMPACT AND BUDGET

A total of \$2,000,000 is included in the 2019/2020 CIP budget under the Effluent Export Project Phase II. (see attached data sheet). The Effluent Pond Lining Project was also a line item included the Effluent Export Project Phase II in the 2017-18 CIP. (see attached data sheet). The design scope of services is budgeted for \$256,300. Engineering staff time will also be billed to the project to manage the design and bidding phase of the project.

VI. ALTERNATIVES

None proposed.

VII. BUSINESS IMPACT

This item is not a "rule" within the meaning of Nevada Revised Statutes, Chapter 237, and does not require a Business Impact Statement.

Task Order No. 40

Incline Village General Improvement District

Effluent Storage Pond Lining Surveying and Design

This is Amendment No. 40 to the AGREEMENT FOR PROFESSIONAL SERVICES between Incline Village General Improvement District (IVGID or OWNER) and CH2M HILL, Inc. (ENGINEER), dated July 31, 2009.

Background

IVGID has an existing effluent pond adjacent to the Water Resource Reclamation Facility (WRRF) that is occasionally utilized to temporarily store plant effluent for brief durations. The existing basin has a storage capacity of approximately 2 million gallons (MG) and is unlined. Lining of the pond will allow IVGID to reincorporate the pond into their waste water treatment plan since it will be compliant with current regulations. Based on the alternatives analysis completed by Jacobs in September 2018, IVGID would like to pursue lining the pond with reinforced concrete.

Scope of Engineering Services

ENGINEER will perform final design engineering services for a reinforced concrete liner of the existing effluent pond and site improvements. A portion of the pond will be allocated and designed to be a spoil decant area including means to remove material with mobile equipment. In conjunction with the lining of the pond, a new pump and associated piping, valving, and electrical components will be added to facilitate draining and conveying the stored effluent. It is assumed an open bucket in the existing motor control center room will be used for electrical components. To support design of the pond, a survey of the area will be completed utilizing a local surveying firm. The design will include new security fencing around the pond perimeter. New area lighting is not required.

ENGINEER will scope and contract survey services of licensed local firm to provide topographic mapping data and deliverables in the immediate area of the project to facilitate the design. This proposal assumes that there is sufficient near-by survey control that can be provided by IVGID and used for the survey.

ENGINEER will coordinate with IVGID for geotechnical investigation assistance including the digging of test pits in the area of the project. ENGINEER will be onsite during test pit excavation for witnessing and documenting findings. ENGINEER will generate a technical memorandum summarizing findings and resulting recommendations as a basis for the reinforced concrete pond liner and related Project components.

ENGINEER will provide two staff members to perform a single-day site visit to evaluate existing conditions and collect measurements pertaining to this design.

ENGINEER will provide IVGID with construction cost estimates based on the Preliminary and Final Design Documents.

ENGINEER will complete design services including the preparation of design drawings, technical specifications, and front-end specifications to prepare a set of Preliminary, Final, and Bid Documents.

A preliminary list of drawings includes:

- Cover
- Abbreviations
- General Civil
- General Structural
- General Mechanical
- General Electrical
- Overall Site Plan and Survey Control
- Civil Pond Area Plan 1
- Civil Pond Area Plan 2
- Civil Pond Sections 1
- Civil Pond Sections 2
- Civil Details 1
- Civil Details 2
- Structural Pond Plan
- Structural Pond Sections 1
- Structural Pond Sections 2
- Structural Details 1
- Structural Details 2
- Structural Details 3
- Mechanical Pump Station Plan
- Mechanical Pump Station Section
- Electrical Site Plan
- Electrical Single Line/Panel
- Standard Details 1
- Standard Details 2
- Standard Details 3

A preliminary list of technical specifications includes:

- Demolition
- Repair of Vertical and Overhead Concrete Surfaces
- Repair of Horizontal Concrete Surfaces
- Concrete Forming and Accessories
- Concrete Joints and Accessories
- Reinforcing Steel
- Cast-In-Place Concrete
- Nonshrink Grouting
- Metal Fabrications
- Metal Railings
- Joint Sealants
- Signage
- Basic Electrical Requirements
- Basic Electrical Materials and Methods
- Conductors
- Commissioning of Electrical Systems
- Low-Voltage AC Induction Motors
- Low-Voltage Motor Control
- Exterior Lighting
- Temporary Erosion and Sediment Control
- Site Clearing
- Subgrade Preparation
- Excavation
- Dewatering
- Fill and Backfill
- Trench Backfill
- Geotextile
- Riprap
- Shoring
- Aggregate Base Courses
- Asphalt Paving
- Curbs and Gutters
- Fencing
- Process Piping – General
- DS - Carbon Steel Pipe and Fittings (General Service)
- Process Piping Specialties
- Process Valves and Operators
- Instrumentation and Control for Process Systems
- Instrumentation and Control Components
- Vertical Turbine Pump

ENGINEER will provide on-call environmental and permitting support by supplying items such as figures and work descriptions as required to facilitate permitting agency reviews.

ENGINEER will assist IVGID with Bid Advertisement and Bid-Phase services such as responding to bidder's requests for clarification and/or information. One addendum will be issued, as required.

Deliverables

ENGINEER will prepare and submit the following deliverables in PDF format:

- Preliminary Design: Drawings, Specification Table of Contents, and critical Technical Specifications pertinent to permitting review.
- Final Design: Drawings, Frontend and Technical Specifications.
- Bid Documents: Drawings and Specifications signed and sealed by professional engineers registered in the State of Nevada.

Preliminary and final construction cost estimates in PDF format.

Assumptions

A pre-design meeting will be held by IVGID with Nevada Division of Environmental Protection (NDEP) to validate criteria presented in alternative analysis is satisfactory prior to design efforts commencing.

A budgetary estimate of \$12,000 was assumed in the project pricing for contracting the survey work.

IVGID will review and provide comments on Preliminary Design deliverables for incorporation into the Final Design Documents. IVGID will also review and provide comments on Final Design deliverables for incorporation into the Bid Documents.

IVGID will contact and distribute design documents to the required outside agencies for review of preliminary design documents.

IVGID will issue the bid advertisement and manage bid documents using PlanetBids.

Additional Services

Additional services including geotechnical laboratory service contracting and coordination, construction phase services, anchorage calculations, record drawing production, and additional site visits if needed and as requested by IVGID, will be authorized under a different task/purchase order.

Compensation

Compensation by OWNER to ENGINEER will be as follows:

Cost Reimbursable Per Diem (Time and Expense)

For services enumerated in this Task Order, at the Per Diem Rates referenced below, plus Direct Expenses, plus a service charge of 10 percent of Direct Expenses and 10 percent of subcontracts and outside services, plus applicable sales, use, value added, business transfer, gross receipts, or other similar taxes.

Budget

A budgetary amount of **\$256,300**, excluding taxes, is hereby established for services under this Task Order. ENGINEER will make reasonable efforts to complete the work within the noted budgets and will keep OWNER informed of progress toward that end so that the budgets or work effort can be adjusted if found necessary. ENGINEER will give prompt notice to OWNER whenever ENGINEER observes or becomes aware of any significant development that affects the scope or timing of ENGINEER's services.

ENGINEER is not obligated to incur costs beyond the indicated budgets, as may be adjusted, and OWNER is not obligated to pay ENGINEER beyond these limits.

Cost by Discipline and Project Phase

Discipline	Preliminary	Final	Bid	Subtotal
Project Management and Admin	\$ 14,600	\$ 6,300	\$ 2,100	\$ 23,000
Civil Engineering	\$ 16,800	\$ 8,400	\$ 2,800	\$ 28,000
Structural Engineering	\$ 16,800	\$ 8,400	\$ 2,800	\$ 28,000
Mechanical Engineering	\$ 10,000	\$ 6,000	\$ 2,000	\$ 18,000
Electrical Engineering	\$ 3,600	\$ 1,800	\$ 600	\$ 6,000
Geotechnical Engineering	\$ 6,600	\$ 3,300	\$ 1,100	\$ 11,000
Computer Aided Design	\$ 48,600	\$ 24,300	\$ 8,100	\$ 81,000
Specification Processing	\$ 6,000	\$ 3,000	\$ 1,000	\$ 10,000
Quality Review	\$ 10,200	\$ 5,100	\$ 1,700	\$ 17,000
Cost Estimating	\$ 6,000	\$ -	\$ 4,000	\$ 10,000
Environmental Support	\$ 6,000	\$ 3,000	\$ 1,000	\$ 10,000
Surveying	\$ 13,200	\$ -	\$ -	\$ 13,200
Expenses	\$ 800	\$ -	\$ 300	\$ 1,100
Total				\$ 256,300

Per Diem Rates

Per Diem Rates are those hourly rates charged for work performed on the Project by ENGINEER's employees of the indicated classifications. These rates are subject to revision for other projects and annual calendar year adjustments; include all allowances for salary, overheads, and fees; but do not include allowances for Direct Expenses, subcontracts, and outside services.

Direct Expenses

Direct Expenses are those necessary costs and charges incurred for the Project including, but not limited to: (1) the direct costs of transportation, meals and lodging, mail, and supplies; (2) ENGINEER's current standard rate charges for reproduction services; and (3) ENGINEER's standard project charges for special health and safety requirements of OSHA.

Renegotiation of Compensation

The estimate is based on the assumptions listed in this Task Order and timely completion of the Project. If the Project progresses under different conditions than the assumptions listed in this

Attachment or if project timing deviates from the assumed schedule for causes beyond ENGINEER's control, ENGINEER reserves the right to request renegotiation of those portions of the fee affected by the time change.

Invoicing

Amount invoiced each month will be based on time and expenses expended to date. Invoices shall be accompanied by a listing of charges that make up the invoice total, including employee names, billing rates, and hours of project staff, plus direct expenses.

Schedule

The period of performance will be through February 26, 2021. Preliminary Design Documents will be delivered within sixteen weeks of authorization of this task order. Final Design Documents will be delivered within eight weeks of receiving IVGID and outside entity review comments on Preliminary Documents. Bid Documents will be delivered within six weeks of receiving IVGID comments on Final Design Documents. Cost estimate documents will follow the delivery of the design documents by approximately two weeks. Efforts will be made by the ENGINEER to complete the work in a timely manner. However, it is agreed that the ENGINEER cannot be responsible for delays occasioned by factors beyond ENGINEER's control, or factors which would not reasonably have been foreseen at the time this Task Order was executed.

IN WITNESS WHEREOF, the parties hereto have caused this Task Order 40 to be signed and intend to be legally bound thereby.

OWNER:
**INCLINE VILLAGE GENERAL
IMPROVEMENT DISTRICT**

Agreed to:

By:

ENGINEER:
CH2M HILL, INC.

Agreed to:

By:

Joseph J. Pomroy, P.E.
Director of Public Works

Date: _____, 2020

Address for Giving Notice:

**INCLINE VILLAGE G.I.D.
893 Southwood Boulevard
Incline Village, Nevada 89451**

Brett Isbell, P.E.
Designated Manager

Date: January, 2020

Address for Giving Notice:

**CH2M HILL, INC.
50 West Liberty Street, Suite 205
Reno NV 89501**



Project Summary

Project Number:	2524SS1010	
Title:	Effluent Export Line - Phase II	
Asset Class:		
Division:	24 - Transmission	
Budget Year:	2018	
Scenario Name:	Main	Active: Yes
Budget Status:	Data Entry	
Locations:		
Project Something:	SS - Sewer System	

Project Description
<p>As part of the original Effluent Export Pipeline Project, IVGID replaced approximately 6-miles of 16-inch Export Pipeline. These included approximately 18,000 linear feet (LF) in Segment 1 and 11,000 LF in Segment 3. During planning and design of the first phase approximately 13,700 LF of Segment 3 and all 17,300 LF of Segment 2 were identified to be in good condition and were not identified for replacement. In August 2009, a pipe break within the unreplaced portion of Segment 3 washed out State Route 28. Investigation of the leak by IVGID staff and an IVGID-hired corrosion consulting engineer revealed areas of advanced corrosion on the damaged pipeline section, indicating that unreplaced portions of the export line may be nearing the end of their service and replacement of the remaining pipeline should be planned and budgeted.</p> <p>The proposed project, Effluent Export Pipeline Project - Phase II, will replace these two remaining sections within the Tahoe Basin (a total length of approximately 6 miles). Segment 2 is comprised of approximately 17,300 LF of welded, cement mortar lined, high pressure steel pipe. The remaining 13,700 LF of Segment 3 is comprised of bell and spigot, cement mortar lined, low pressure steel pipe. The project will be completed over multiple years in a manner similar to the original Effluent Export Pipeline Project. Like Phase I, the Export line will be replaced using open-cut construction, moving the pipeline to the center of the Southbound travel lane.</p> <p>The wastewater treatment plant operates two large pond/basins for emergency storage. The primary pond is the Upper Pond located directly south of the Wastewater Treatment Plant (WWTP). This man made basin is capable of holding approximately 2.8-million gallons. It is primarily used to store treated effluent during emergency periods when the effluent export system has been shut down for an extended period. The Nevada Division of Environmental Protection requires a lining of the upper Pond, that work will be covered under the Phase II.</p>
Project Internal Staff
<p>The Engineering Department will manage all phases of this project.</p>
Project Justification
<p>The effluent export line transports treated wastewater from Incline Village General Improvement District's (IVGID) wastewater treatment plant to the disposal point at the wetlands southeast of Carson City. This line was constructed in the early 1970's as part of a regional effort to eliminate all wastewater effluent discharges in the Lake Tahoe basin. The effluent export line has been in continuous service since that time. Approximately 6 miles of line was replaced as part of the Effluent Export Pipeline Project - Phase I. Phase II will pursue the replacement of the remaining 6 miles of pipe within the Tahoe Basin. Phase 2 will also include upper pond improvements to meet NDEP regulations for storage of effluent.</p> <p>The current Project Cooperation Agreement with the US Army Corps of Engineers will expire with the completion of the Phase I work. IVGID will look to enter into an expanded Project Cooperation Agreement with the US Army Corps of Engineers for 55% funding of all construction costs. The current political climate and financial issues in Washington D.C. make it unlikely that any future funding will be secured for this project. All grant funding has been removed for this project. IVGID will also place the project on the list for the Nevada State Revolving Loan Fund. Funding for this project will be the utility rates.</p>

Forecast				
Budget Year	Total Expense	Total Revenue	Difference	
2018				
Internal Services	100,000	0	100,000	
Pond Lining Costs	900,000	0	900,000	
Year Total	1,000,000	0	1,000,000	
2019				
Internal Services	100,000	0	100,000	
Pipeline Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2020				
Internal Services	100,000	0	100,000	
Pipeline Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2021				
Internal Services	100,000	0	100,000	
Pipeline Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2022				
Internal Services	100,000	0	100,000	
Pipeline Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2023				
Internal Services	100,000	0	100,000	
Pipeline Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
	11,000,000	0	11,000,000	
Year Identified	Start Date	Project Partner	Manager	Est. Completion Date
2012			Director of Asset Management	



Project Summary

Project Number:	2524SS1010
Title:	Effluent Export Project - Phase II
Project Type:	B - Major Projects - Existing Facilities
Division:	24 - Transmission
Budget Year:	2020
Finance Option:	
Asset Type:	SS - Sewer System
Active:	Yes

Project Description				
The District currently owns, operates and maintains a 21-mile pipeline that exports treated wastewater out of the Lake Tahoe Basin. The Effluent Export system also includes the un-lined pond and 500,000 gallon steel reservoir at the Water Resource Recovery Facility, the Spooner Effluent Pumping Station and numerous valves, fittings and appurtenances located along the pipeline.				
Project Internal Staff				
The Engineering Department will manage all phases of this project.				
Project Justification				
The Effluent Export Phase II Project will replace all of the remaining Segment 3 pipeline (13,700 linear feet) and portions or all of Segment 2 pipeline (17,300 linear feet) pending results of final condition assessment and design. Segment 3 experienced significant leaks in 2009 and 2014 of this bell and spigot pipe. Subsequent investigations confirmed progressive corrosion, which determined that wholesale replacement was required. Segment 2 is undergoing additional condition assessment efforts, as it was constructed of more robust welded steel and has not had a history of failures. This analysis is focused on identifying segments with extended life remaining and segments that need to be addressed in near term. Final design will dictate whether Segment 2 work will be of limited scope or complete replacement.				
Forecast				
Budget Year	Total Expense	Total Revenue	Difference	
2020				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2021				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2022				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2023				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
2024				
Internal Services	100,000	0	100,000	
Project Design and Construction Costs	1,900,000	0	1,900,000	
Year Total	2,000,000	0	2,000,000	
	10,000,000	0	10,000,000	
Year Identified	Start Date	Est. Completion Date	Manager	Project Partner
2012	Jul 1, 2019	Jun 30, 2024	Engineering Manager	