

## MEMORANDUM

**TO:** Board of Trustees

**THROUGH:** Steven J. Pinkerton  
General Manager

**FROM:** Bradley A. Johnson, P.E.  
Director of Asset Management

Charley Miller, P.E.  
Principal Engineer

**SUBJECT:** Review, Discuss, and Possibly Authorize Multiple Contracts for the Diamond Peak Incline Creek Culvert Rehabilitation Project – 2017/2018 Capital Improvement Project: Fund: Community Services; Division: Ski; Project # 3499LI1101; Vendors: Q&D Construction, Inc in the amount of \$25,100, CH2M, Inc in the amount of \$64,000, and Tri Sage consulting in the amount of \$30,000

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

**DATE:** January 26, 2018

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### **I. RECOMMENDATIONS**

That the Board of Trustees moves to:

1. Authorize a Construction Manager At Risk contract with Q & D Construction, Inc in the amount of \$25,100 for the preconstruction services phase of the Diamond Peak Incline Creek Culvert Rehabilitation Project.
2. Authorize an additional Task Order with CH2M, Inc totaling \$64,000 for design services during the preconstruction phase of the Diamond Peak Incline Creek Culvert Rehabilitation Project.
3. Authorize an Additional Services Addendum with Tri Sage Consulting totaling \$30,000 for design, constructability, and cost review services

during the preconstruction phase of the Diamond Peak Incline Creek Culvert Rehabilitation Project.

4. Authorize Staff to execute all contract documents based on a review by General Counsel and Staff.

## **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**

Within the Diamond Peak base area, Incline Creek is contained within a buried 72-inch diameter corrugated metal pipe (CMP) culvert running approximately 1,800-feet from just above the upper parking lot to just below the Schoolhouse Lift loading area. This culvert was installed by Boise Cascade in the 1960s to facilitate the construction of the base area of Ski Incline (now called Diamond Peak). Along with Diamond Peak, this culvert is now owned by the District and the District is solely responsible for its maintenance and upkeep. The District has no as-built information or engineering drawings regarding the design, construction, alignment, or planned life expectancy of the culvert. This culvert has historically not been on any routine inspection or maintenance program.

During construction of the Diamond Peak Skier Services Building (DPSSB) in 2010, the culvert was encountered in multiple locations and a number of buried access hatches were located. A brief field inspection of the interior of the culvert, via those uncovered access hatches, identified areas in which spot corrosion has eaten through the entire wall thickness of the CMP. The culvert runs beneath the upper and lower parking lots roughly along the western edge of the DPSSB and

then following the eastern boundary of the lower parking lot. Additionally, there is a tributary creek contained within a buried 36-inch CMP culvert intersecting the Incline Creek 72-inch culvert near the southwest corner of the DPSSB.

At the August 10, 2011 meeting, the Board of Trustees authorized a Task Order with CH2M to allow for an engineering investigation and evaluation to determine the condition of the two culverts. CH2M coordinated a preliminary video inspection of the length of the two culverts as well as visual inspection at all inlets, outlets, and intermediate access locations. This work determined there are a number of sections of both culverts that are showing signs of structural failure and must be rehabilitated.

As part of a separate contract authorized by the General Manager, Cardno conducted a watershed hydrology assessment and culvert hydraulics analysis for both the 72-inch and 36-inch culverts. This analysis developed a hydraulic model to determine whether the culverts are properly sized to meet peak design flows and whether any loss in pipe diameter due to in-situ rehabilitation would impact the culverts' ability to pass peak flows.

At the August 29, 2012 meeting, the Board of Trustees authorized an additional Task Order with CH2M, to evaluate the results of the above described work and identify and evaluate rehabilitation and replacement alternatives. This work identified a number of rehabilitation alternatives available to the District with varying budgetary, constructability, structural, and hydraulic implications.

At the November 13, 2013 meeting, the Board of Trustees authorized an additional Task Order with CH2M to complete a variety of preliminary engineering tasks to prepare for the next steps of the project. Included in those tasks were developing the limits and scope of the required culvert rehabilitation, development of a comprehensive base map of the culvert and affected areas, and selection of the rehabilitation technologies most appropriate for the project. Additionally, mitigation measures were assessed and selected to address potential hydraulic issues that could stem from the rehabilitation work. Finally, the budgetary total project cost estimates and implementation schedule were further refined and updated.

At the June 8, 2016 meeting, the Board of Trustees authorized an additional Task Order with CH2M to complete final engineering design, design support for

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the procurement of the necessary environmental permits, and development of a final construction cost estimate. The Board of Trustees also authorized a contract with Pro-Pipe to complete a comprehensive pipe inspection and laser profiling to support CH2M's design work. The pipe inspection utilized LiDAR (light detection and ranging) technology and high definition video of both the 72-inch and 36-inch CMPs for the entire project area. The findings of Pro-Pipe's and CH2M's work under these contracts, along with an outline of the Construction Manager at Risk (CMAR) contracting method, were presented to the Board of Trustees at the December 13, 2017 meeting.

Under the proposed contract, and consistent with the requirements outlined in Nevada Revised Statute (NRS) 338.169, Q&D Construction will provide CMAR preconstruction services to develop, estimate, and provide design input for a final construction approach for rehabilitation, repair, and replacement of the entire length of 72-inch CMP and the remaining un-replaced portions of 36-inch CMP in the Diamond Peak base area. Q&D Construction will also be responsible for the public, competitive bidding of any subcontracts associated with completing the work. This work will culminate in the open book development and negotiation of a guaranteed maximum price (GMP) contract to complete construction of the project. The GMP contract will be presented to the Board of Trustees for consideration of award at a future meeting. If the District and Q&D Construction are unable to reach agreement on a GMP to complete the work, the District can then put the project out to competitive bidding via the traditional design-bid-build format; however, doing so would likely risk missing the 2018 construction window.

Under the proposed additional Task Order, CH2M will participate in the preconstruction process, complete final engineering design, and support the District in the development and negotiation of the GMP. CH2M's work will culminate in construction documents prepared and stamped by a licensed Professional Engineer.

Under the proposed Additional Services Addendum, Tri-Sage will participate in the preconstruction process and final design development as well as provide constructability review, cost estimating, and support to the GMP development and negotiations.

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If the contracts are authorized, work on this phase of the project will begin immediately. Preconstruction services, final construction documents development, final construction permits procurement, and negotiation of the GMP is expected to occur through April 2018. Construction is planned for the late summer of 2018.

**IV. BID RESULTS**

The District publicly advertised this project for proposals for CMAR services consistent with the requirements of NRS 338.169 and project documents and plan sets were acquired by six interested firms. Two proposal packages were received and opened on December 12, 2017. The two respondents were interviewed and evaluated (consistent with the requirements of NRS 338.169) by a seven member panel on January 9, 2018. The seven member panel included the District’s General Manager, the Diamond Peak General Manager, the Director of Asset Management, and the Principal Engineer. Two members from the CH2M design team and a representative from Tri Sage Consulting were also on the panel. The results of the selection process are as follows:

<b>Evaluation Criteria</b>	<b>Burdick Excavating</b>	<b>Q&amp;D Construction</b>	<b>Maximum Score</b>
Project Team, Qualifications, and Experience	10	15	20
Project Understanding and Approach to Project Issues	40	50	60
Demonstration of Value (Preliminary Pricing)	15	20	20*
<b>Overall Evaluation Score</b>	<b>65</b>	<b>85</b>	<b>100</b>

\*maximum allowed by NRS 338.169

Q&D Construction was selected as the most qualified CMAR applicant. The District has successfully worked with Q&D Construction in the past, most recently on the 2015 Watermain Replacement Project.

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The contracts with CH2M and Tri Sage Consulting are 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 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 and not on the basis of competitive fees.

CH2M has been the project engineer since the start of project planning and design. Additionally, CH2M has completed multiple projects in the past for the District including the design of the Sewer Pump Station #8 Improvements Project, the Burnt Cedar Disinfection Plant Improvements Project, and the Water Pump Station 4-1/5-3 Improvements Project.

Tri Sage has previously worked for the District providing construction management and owner's representative services on the 2014, 2015, 2016, and 2017 Watermain Replacement Projects, the Spooner Pump Station Improvements Project, the Burnt Cedar Water Disinfection Plant Improvements Project, the Water Pump Station 4-1/5-3 Improvements Project, and the Public Works Equipment Storage Building Project.

## **V. FINANCIAL IMPACT AND BUDGET**

A total of \$1,367,500 is included in the 2017/2018 Capital Improvement Program Budget under the Incline Creek Culvert Rehabilitation at Diamond Peak Project (Project # 3499LI1101 – see attached data sheet) and an additional \$152,800 was carried forward from previous fiscal years. Of this amount, \$1,131,374 is presently available (pending reimbursement of \$332,944 in costs submitted to the Federal Emergency Management Agency for the emergency repair of the upper sections of culvert this summer) to allow completion of this work.

The estimated project preconstruction budget is presented in the following table.

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### Estimated Preconstruction Project Budget

Description	Amount
CMAR Preconstruction Contract (Q&D Construction)	\$25,100
Design Engineering Services (CH2M)	\$64,000
Constructability and Cost Review Support (Tri Sage)	\$30,000
District Staff Time	\$60,000
<b>Estimated Project Total</b>	<b>\$179,100</b>

#### VI. ALTERNATIVES

Not authorize the contracts and direct Staff not to complete the Diamond Peak Incline Creek Culvert Rehabilitation Project via the CMAR method. Doing so will require additional time and expense to pivot the project to a traditional design-bid-build method and leaves the District vulnerable to project risk due to the unknowns and potential complications associated with the condition of the culvert. Doing so will put the planned 2018 construction schedule for the project at risk.

#### VII. COMMENTS

As the project construction budget is spread over two fiscal years (with the majority of work planned for after the start of the 2018/19 fiscal year), next year's project budget will be adjusted during the budget cycle after the preconstruction phase is underway and the GMP is closer to finalization.

#### VIII. 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.



## Project Summary

<b>Project Number:</b>	3499LI1101	
<b>Title:</b>	Incline Creek Culvert Rehabilitation at Diamond Peak	
<b>Asset Class:</b>		
<b>Division:</b>	99 - General Administration	
<b>Budget Year:</b>	2018	
<b>Scenario Name:</b>	Main	<b>Active:</b> Yes
<b>Budget Status:</b>	Data Entry	
<b>Locations:</b>		
<b>Project Something:</b>	LI - Land Improvements	

<b>Project Description</b>				
<p>Within the Diamond Peak base area, Incline Creek is contained within a buried 72-inch diameter corrugated metal pipe (CMP) culvert running approximately 1,800-feet from just above the upper parking lot to just below the Schoolhouse Lift loading area. The culvert runs beneath the upper and lower parking lots roughly along the Western edge of the Diamond Peak Skier Services Building (DPSSB) and then following the Eastern boundary of the lower parking lot. Additionally there is a feeder creek contained within a buried 36-inch CMP culvert intersecting the Incline Creek 72-inch culvert near the Southwest corner of the DPSSB. Rehabilitation work would involve in-situ lining of the CMP culvert via a structural application while Incline Creek is diverted via temporary pumping. This project is a multi-year multi-phase Project. A condition assessment investigation was performed in 2011/2012 with a pre-design evaluation completed in 2012/2013. These initial phases determined both culverts are in poor condition and badly in need of rehabilitation to avoid eventual pipe collapse.</p>				
<b>Project Internal Staff</b>				
The Engineering Department would manage all phases of this project.				
<b>Project Justification</b>				
<p>This project must be completed to avoid an eventual pipe collapse of either/both the 72" and 36" CMP in the base area. A collapse could impact the structural integrity of the DPSSB, parking lots, and/or the general base area of the ski resort. The District has no as-built information or engineering drawings regarding the design, construction, alignment, or planned life expectancy of this culvert. This culvert is not and has not been on any routine inspection or maintenance program. During construction of the DPSSB, the culvert was encountered in multiple locations and a number of buried access hatches were located. A brief field inspection of the interior of the culvert, via those uncovered access hatches, identified areas in which spot corrosion has eaten through the entire wall thickness of the CMP. This project allows for an engineering design, permitting, and culvert rehabilitation for its entire length.</p>				
<b>Forecast</b>				
<b>Budget Year</b>	<b>Total Expense</b>	<b>Total Revenue</b>	<b>Difference</b>	
2018				
36" CMP Rehabilitation (600LF)	250,000	0	250,000	
72" CMP Rehabilitation (1800 LF)	800,000	0	800,000	
Construction Management	37,500	0	37,500	
Contingency	175,000	0	175,000	
Internal Services	30,000	0	30,000	
Stream Diversion	75,000	0	75,000	
Year Total	1,367,500	0	1,367,500	
2019				
36" CMP Rehabilitation (600LF)	250,000	0	250,000	
72" CMP Rehabilitation (1800 LF)	1,450,000	0	1,450,000	
Construction Management	37,500	0	37,500	
Contingency	100,000	0	100,000	
Internal Services	50,000	0	50,000	
Stream Diversion	75,000	0	75,000	
Year Total	1,962,500	0	1,962,500	
	<b>3,330,000</b>	<b>0</b>	<b>3,330,000</b>	
<b>Year Identified</b>	<b>Start Date</b>	<b>Project Partner</b>	<b>Manager</b>	<b>Est. Completion Date</b>
2012			Principal Engineer	