



City of Ketchum

CITY COUNCIL MEETING AGENDA MEMO

Meeting Date: Staff Member/Dept:

Agenda Item:

Recommended Motion:

I move to approve Purchase Order #23121 with HDR Engineering for Weyyakin Storage Pond Seepage Testing.

Reasons for Recommendation:

- IDEQ requires seepage testing of the lined reuse storage pond every ten (10) years.
- HDR has a Master Services Agreement with the City for engineering projects
-

Policy Analysis and Background (non-consent items only):

Sustainability Impact:

None OR state impact here: Utilizing reuse water for irrigation reduces the amount of water being pumped from the aquifer.

Financial Impact:

None OR Adequate funds exist in account:	This is a budgeted expense in the professional services category of the Wastewater Expenditures.
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Attachments:

1. Purchase Order #23121
2. HDR Task Order #16
- 3.



CITY OF KETCHUM
PO BOX 2315 * 191 5TH ST. * KETCHUM, ID 83340
Administration 208-726-3841 (fax) 208-726-8234

PURCHASE ORDER
 BUDGETED ITEM? ___ Yes ___ No

PURCHASE ORDER - NUMBER: 23121

To: 2319 HDR ENGINEERING, INC. BOX 74008202 CHICAGO IL 60674-8202	Ship to: CITY OF KETCHUM PO BOX 2315 KETCHUM ID 83340
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P. O. Date	Created By	Requested By	Department	Req Number	Terms
07/05/2023	BANCONA	BANCONA	Utilities/Wastewater	0	

Quantity	Description	Unit Price	Total
1.00	TASK ORDER #16 SEEPAGE TESTING-WEYYAKIN POND 65-4350-4200	10,500.00	10,500.00
	SHIPPING & HANDLING		0.00
	TOTAL PO AMOUNT		10,500.00

 Authorized Signature

TASK ORDER

This Task Order pertains to an Agreement by and between the City of Ketchum, ID (“OWNER”), and HDR Engineering, Inc. (“ENGINEER”), dated January 21, 2014, (“the Agreement”). Engineer shall perform services on the project described below as provided herein and in the Agreement. This Task Order shall not be binding until it has been properly signed by both parties. Upon execution, this Task Order shall supplement the Agreement as it pertains to the project described below.

TASK ORDER NUMBER: 16

PROJECT NAME: Seepage Testing – Weyyakin Storage Pond

- PART 1.0 PROJECT DESCRIPTION: See attached proposal dated March 13, 2023
- PART 2.0 SCOPE OF SERVICES TO BE PERFORMED BY ENGINEER ON THE PROJECT: See attached proposal dated March 13, 2023
- PART 3.0 OWNER’S RESPONSIBILITIES: See attached proposal dated March 13, 2023
- PART 4.0 PERIODS OF SERVICE: See attached proposal dated March 13, 2023
- PART 5.0 ENGINEER’S FEE: See attached proposal dated March 13, 2023
- PART 6.0 OTHER:

This Task Order is executed this _____ day of _____, 2023.

CITY OF KETCHUM, ID

“OWNER”

BY: _____

NAME: Neil Bradshaw

TITLE: Mayor

ADDRESS: City of Ketchum
P.O. Box 2315 (191 5th St. W.)
Ketchum, ID 83340

HDR ENGINEERING, INC.

“ENGINEER”

BY: 

NAME: Robert R. Hardgrove

TITLE: Vice President

ADDRESS: 412 E. Parkcenter Blvd,
Suite 100
Boise, ID 83706



March 13, 2023

Mick Mummert
City of Ketchum
P.O. Box 2315

Ketchum, ID 83340

Via email: mmummert@ketchumidaho.org

Subject: Scope of Work and Cost Proposal for Seepage Testing of Weyyakin Storage Pond Class A Reuse Water from Ketchum / SVWSD

Dear Mr. Mummert:

HDR is pleased to submit the following proposal for lined pond seepage testing for the Weyyakin Development receiving the City of Ketchum / Sun Valley Water & Sewer District Class A reuse water.

BACKGROUND

Ketchum/SVWSD has requested a proposal for seepage testing of the lined Weyyakin reuse storage pond, last tested in 2011. HDR proposes the following approach to meeting IDEQ seepage testing requirements for the lagoon, which are set forth by IDAPA 58.01.16.493.

SCOPE OF WORK

IDEQ requires that seepage tests be conducted on lagoons that are hydraulically isolated (zero inflow or outflow). The Weyyakin reuse water supply must be closed and the circulation / irrigation pumps shut off. HDR proposes to schedule testing for the Weyyakin storage pond in October 2023 after the irrigation season.

Task 1. Submit Seepage Test Procedure

Idaho Wastewater Rules (IDAPA 58.01.16.493) requires existing lined lagoons constructed prior to April 15, 2007 do not leak at a rate greater than 1/4 inch (0.25 inches) per day at a 95% confidence interval. We understand the pond to be tested was constructed prior to this date. Per these requirements, HDR will submit a proposed combined Seepage Test Procedure (STP) to Idaho Department of Environmental Quality (IDEQ). The STP must be approved by IDEQ prior to commencing the lagoon testing.

Task 2. Weyyakin Storage Pond Seepage Testing

Once the Weyyakin storage pond is filled to its design high water level, HDR will begin the seepage testing. The seepage test involves measuring and recording the water level in the pond over the course of several days and collecting weather data at the site. The data are then used to correct for evaporative losses and calculate the estimated loss in the lagoon due to leakage. In general, the seepage test consists of the following steps:

- Fill the Weyyakin storage pond to the design high water level (performed by the City of Ketchum/Weyyakin).
- Perform seepage test over several days by remotely measuring evaporation, precipitation, wind, water levels in the lagoon and in a 48-in diameter evaporation pan (equipment provided by HDR) via cellular telemetry.
- Perform daily statistical analysis to demonstrate that enough data points have been collected to achieve a 95% confidence interval associated with the calculated seepage rate.
- Summarize seepage test results in a report and submit to IDEQ.
- IDEQ approval of leak test report for the Weyyakin storage pond, resume normal Weyyakin storage pond operations.

A properly constructed HDPE liner would generally be expected to meet the IDEQ seepage requirements. But occasionally damage occurs and repairs are required. In the event the seepage rate is found to exceed 1/4-in per day, the lagoon would need to be retested. Re-testing costs will consider if testing equipment can be retained on-site or a complete new mobilization performed at a later time.

The number of days required to perform the test depends on two factors:

1. Favorable weather - If HDR encounters a day with sustained wind speeds greater than 9 mph, excessive precipitation (either in amount or number of days with precipitation), or freezing temperatures, the testing will need to be extended to collect additional data during favorable weather.
2. Real-time results – The number of days of testing required to demonstrate that the seepage limit is less than 1/4-inch per day with a confidence interval of 95% is a statistical exercise. In general, the closer the measured seepage rate is to the regulatory limit, the more samples (testing days) are needed to prove the limit has not been exceeded. With a properly constructed liner and favorable weather, it should be feasible to meet the statistical requirements in 3 - 6 days.

Additional days due to weather disruption, or to meet statistical requirements, if required, would cost an additional \$300 per day. HDR will keep Weyyakin/City of Ketchum up to date on the progress of testing and notify each in advance if it appears additional days are needed and an estimate of the number of added days.

HDR RESPONSIBILITIES

HDR will be responsible for the following:

- Provide weather and water level monitoring instrumentation
- Preparation of STP and submittal to IDEQ
- Processing and analyzing continuously recorded data via cellular telemetry
- Preparation and submittal of seepage test reports to IDEQ and the City of Ketchum (See Deliverables, below)
- Coordination to schedule the seepage tests

DELIVERABLES

The following schedule of deliverables reflects our projected level of effort and documentation requirements for permitting and field work (see Table 1).

Table 1. Schedule of Deliverables

Item No.	Description/Drawing	Document Type	Estimated Sheets/Pages
Task 1	SEEPAGE TESTING PROCEDURE	PDF	45
Task 2	IDEQ REPORT FOR WEYYAKIN POND	PDF	65

ASSUMPTIONS

HDR's proposed scope is based on the following assumptions:

- The City of Ketchum will be responsible for filling the pond prior to testing.
- The Owner will be responsible for hydraulically isolating the pond prior to testing.
- IDEQ approval of Seepage Testing Procedure.
- HDR will address one round of review comments from IDEQ and the City of Ketchum for the reports submitted.
- Cellular telemetry functions properly from the pond location and City personnel can do daily observations of equipment when testing.

SCOPE OF WORK EXCLUSIONS - NOT INCLUDED IN PROPOSAL

HDR's proposed scope of work does not include the following items:

- Hydraulically isolating the lagoons prior to testing
- Seepage re-testing
- Liner leak location survey
- Liner repairs
- Supplying water to or filling the lagoon
- Subsurface testing or investigation
- Additional testing days due to weather or other anomalies
- Additional site visits due to telemetry communication issues

If any of the services above are needed and not covered by others, they can be added to HDR's scope of work upon request.

SCHEDULE

The schedule for completing seepage testing of the Weyyakin storage pond is anticipated for early October 2023. It should be understood that IDEQ prefers lagoon testing be performed between June and the end of the September but will typically approve testing in October.

While it is not recommended to plan to schedule these tests in October, they typically can be accomplished in early October. HDR will coordinate to begin the seepage testing immediately following irrigation season (assumed to be September 30, 2023). HDR can schedule Tasks 1 upon receiving a signed task order. HDR will coordinate the scheduling of Task 2 immediately following the irrigation season. It should be noted that if the testing of the Weyyakin storage pond is delayed or in the absence of favorable weather in early October, the testing may have to be delayed until the spring of 2024.

ESTIMATED COSTS

HDR proposes to perform the scope of work on a lump sum basis, as detailed on the attached schedule of fees and conditions. Based on the tasks and deliverable schedule outlined above, we anticipate incurring costs for our services of \$10,500. This fee is based on the work occurring in Summer/Fall of 2023.

Table 2. Engineering Fees

Task 1 – Submit combined STP to IDEQ	\$ 3,000.00
Task 2 – Pond Testing and Report*	\$ 7,500.00
	TOTAL \$ 10,500.00
Contingency Testing***	\$ 300.00/day

** Assumes up to a 6-day testing program for the Weyyakin storage pond.*

****Data will be collected and checked daily for suitability throughout the testing period. A contingency testing amount of \$300 per day will be charged on a lump sum basis should data analysis fail to meet statistical requirements, or due to weather disruption. Client will be notified of the daily checks in order to plan for additional days of testing should they be required.*

AGREEMENT

If this proposal meets with your approval, please sign the attached task order document. This signature will be considered as a notice to proceed with a fixed fee of \$10,500.

Please return a signed copy of the task order to our office. We look forward to working with you on this project.

Respectfully submitted,

HDR ENGINEERING, INC

By 

Robert Hardgrove, P.E.
Vice President



Pete Vidmar, P.E.
Senior Project Engineer