



Dan Woolery,
President, Division 3

James Rickert,
Vice President, Division 5

Ronnean Lund,
Director, Division 1

Audie Butcher,
Director, Division 2

Ivar Amen,
Director, Division 4

Daniel Ruiz,
General Manager

Special Board Meeting

Agenda

February 26, 2025, 9:00 a.m.

1887 Howard Street, Anderson (Council Chambers)

1. Call To Order

2. Flag Salute

3. Public Participation

Time set aside for members of the public that wish to address the Board regarding matters of the District within the jurisdiction of the Board. Individuals are requested to limit comments to a maximum of three minutes.

4. Business Items

- a. Review and Approve Change Order for 2024-25 Capital Improvement Project
- b. Review and Approve Provost & Prichard Engineering Proposal for the Main Canal Water Loss Evaluation Project
- c. Update on 2023-24 Emergency Canal Lining Project South Hill Street Evaluation (Presentation by Danny Kerns, SE P&P)
- d. Discuss North Hill Street Canal Lining Damage and Recommended Temporary Repair for 2025 Irrigation Season (Presentation by Danny Kerns, SE P&P)

5. Other Business

- a. Discuss District Special Benefit Assessment and Provide Direction on Engineer's Report, Proposition 218 Balloting timeline and Landowner Outreach approach. (Presentation by Danny Kerns, SE P&P)

6. Closed Session

- a. **PUBLIC EMPLOYEE EMPLOYMENT AND/OR PERFORMANCE EVALUATION (Government Code § 54957)**
 - i. Title: Finance Manager & Operations Manager

7. Adjourn

CONTRACT CHANGE ORDER

CONTRACT FOR: 2024 Main Canal Maintenance Project	C.O. No. 1
OWNER: Anderson-Cottonwood Irrigation District	DATE 2/24/2025
CONTRACTOR: Steve Manning Construction Inc.	STATE CA
You are hereby requested to comply with the following changes from the contract plans and specifications.	COUNTY Shasta


DESCRIPTION OF CHANGES (Supplemental Plans and Specifications Attached)	DECREASE In Contract Price	INCREASE In Contract Price
Description 1. Increase the Main Canal embankment top width to 12 to 14 feet minimum for a approximately 160-foot-long portion of the Spring Gulch Improvement Area near Fairwinds Drive (see attached exhibit). This work includes the borrow of suitable fill material, removal of vegetation along embankment outer slope, scarification and recompaction of subgrade to receive fill, and placement and compaction of fill material per the Project Specifications. Fill material shall be placed in layers no thicker than 8-inches and shall be keyed into existing embankment side slope.	\$ -	\$ 35,000.00
Terms & Conditions a. Contractor shall comply with contract requirements. Invoiced on a time and materials basis up to maximum amount of \$35,000.00		
TOTAL	\$ -	\$ 35,000.00
NET CHANGE IN CONTRACT PRICE	--	\$ 35,000.00

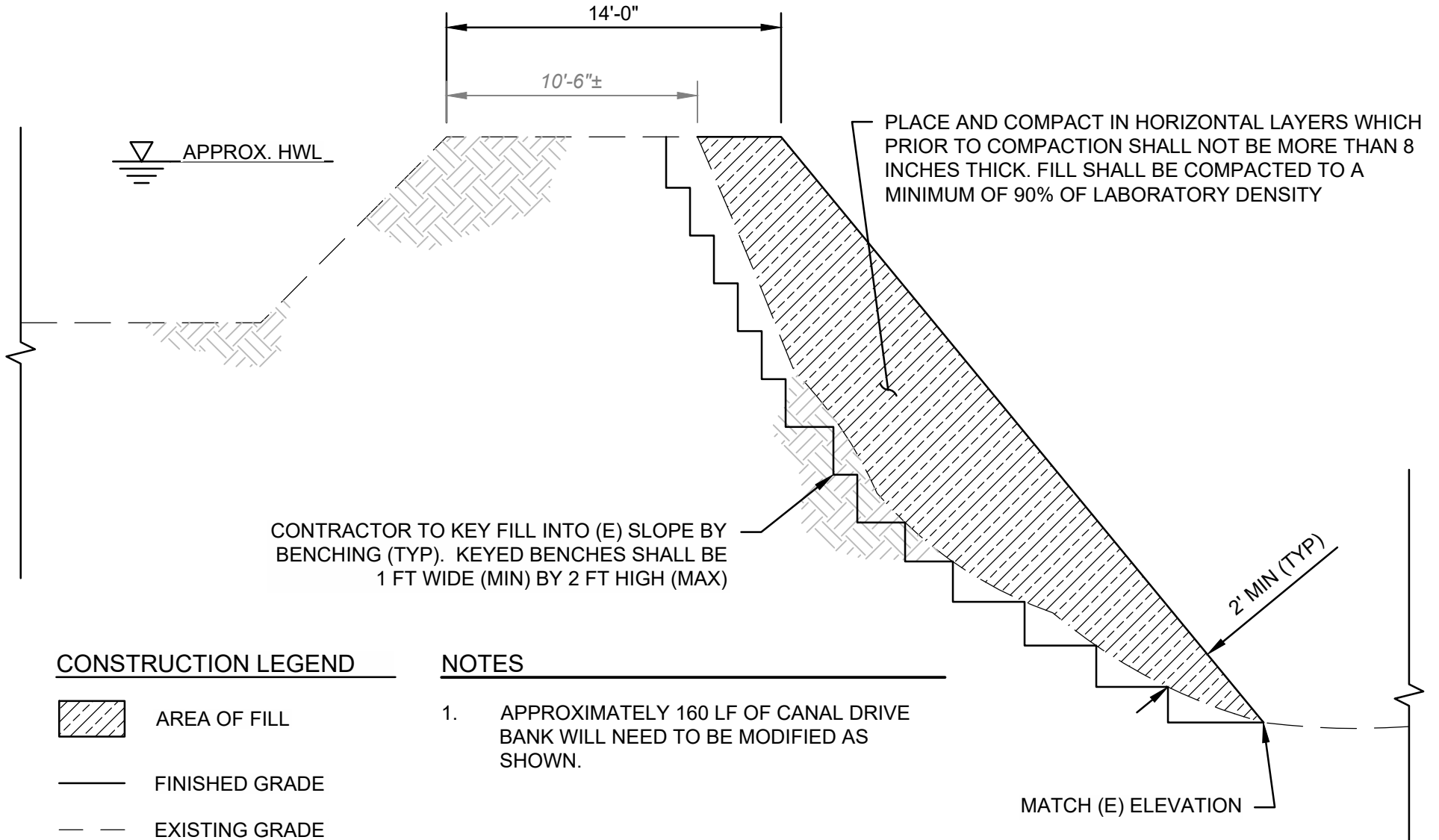
JUSTIFICATION:
ACID wants the drive bank increased to accomdate travel along the drive bank.

The amount of the Contract will be increased By The Sum of:	
THIRTY-FIVE THOUSAND AND 00/100 DOLLARS	\$ 35,000.00
The Contract Total Prior to this Change Order and Including previous Change Orders Is:	
ONE MILLION FOUR HUNDRED SEVENTY-SIX THOUSAND AND 00/100 DOLLARS	\$ 1,476,000.00
The Contract Total Including this and previous Change Orders Will Be:	
ONE MILLION FIVE HUNDRED ELEVEN THOUSAND AND 00/100 DOLLARS	\$ 1,511,000.00




Original Contract Completion Date	4/15/2025
Changes by Previous Change Orders	None
Time Extensions Days This Change Order	None
Revised Completion Date	4/15/2025

This document will become a supplement to the contract and all provisions will apply hereto.

Accepted		
Owner's Representative (Owner)		(Date)
Recommended		2/24/2025
Engineer of Record (Owner's Engineer)		(Date)
Accepted		
Contractor's Representative (Contractor)		(Date)




CONSTRUCTION LEGEND

-  AREA OF FILL
-  FINISHED GRADE
-  EXISTING GRADE

NOTES

1. APPROXIMATELY 160 LF OF CANAL DRIVE BANK WILL NEED TO BE MODIFIED AS SHOWN.

 www.provostandpritchard.com	2024 MAIN CANAL MAINTENANCE PROJECT ANDERSON-COTTONWOOD IRRIGATION DISTRICT SHASTA COUNTY	DESIGN ENGINEER: DANIEL KERNS DATE: 02/21/2025 JOB NO: 419124002
	CANAL DRIVE SURFACE WIDENING	1 OF 1

PROVOST & PRITCHARD CONSULTING GROUP

3387 Bodero Ln, Chico, CA 95973 • (866) 776-6200
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February 24, 2025
Dan Ruiz, General Manager
Anderson-Cottonwood Irrigation District
2810 Silver Street
Anderson, CA 96007

Subject: Engineering and Flow Measurement Services for the Main Canal Water Loss Evaluation Study, Shasta County, California

Dear Mr. Ruiz,

Thank you for the opportunity to submit this proposal to provide engineering services for the subject project. This proposal discusses our understanding of the project, recommends a scope of services together with associated fees, deliverables and approximate schedules, sets forth our assumptions and discusses other services that may be of interest as the project proceeds.

Anderson-Cottonwood Irrigation District (ACID, District) supplies irrigation water to approximately 32,000 acres in Shasta and Tehama Counties between Redding and Cottonwood. The District's 35 mile long Main Canal is the primary conveyance channel; the majority of which is an earthen channel. Historically, the Main Canal has experienced significant water loss due to seepage into the underlying soils and groundwater table. The alignment of the Main Canal traverses diverse topographies and landscape including significant portions being elevated and contouring along hillsides adjacent to irrigated areas. There are also many locations where the channel crosses or is routed through areas of historic drainage channels. In some cases, these historic drainage channels cross the Main Canal (typically below) and in many cases the drainage channels were rerouted into the Main Canal. The varying types of underlying soils along the Main Canal alignment likely result in inconsistent rates of water seepage or infiltration into the ground.

With recent changes to irrigation water contracts with the United States Bureau of Reclamation and the District's ongoing strategic water conservation goals, this Water Loss Evaluation Study aims to identify sections of the Main Canal that contribute most to overall water loss and quantify actual losses in several of these sections during the 2025 irrigation season. The Identification of Main Canal reaches with high water loss and approximate seepage values will provide District staff and Board Members with valuable insight as future irrigation efficiency projects are developed.

SCOPE OF SERVICES

Our proposed scope of work for this proposal is segregated into several phases, described below.

PHASE T01: MAIN CANAL WATER LOSS POTENTIAL DESKTOP EVALUATION

Provost & Pritchard will perform a desktop evaluation of the water loss potential along the Main Canal as a first step in identifying areas along the Main Canal with higher potential for seepage loss. Provost & Pritchard will coordinate with District staff to collect any relevant documentation, understand portions of the Main Canal where historic seepage has been observed by staff, and to identify areas of existing lining. Publicly

https://us-partner-integrations.egnyte.com/msoffice/wopi/files/2fee087d-9e49-441d-b0ee-9895616bf8d0/WOPIServiceld_TP_EGNYTE_PLUS/WOPIDUserld_145.ppeng.egnyte.com/2025-0206 ACID Main Canal Seepage Study.docx

available information (such as soil maps, groundwater monitoring wells, etc.) will be reviewed and a Technical Memorandum will be prepared summarizing the findings and recommendations from the Water Loss Potential Evaluation. Specific work tasks included in the Phase T01 are outlined below:

- Request relevant information from ACID related to soils, water loss/seepage, canal flows/water levels, etc.
- Collect and review publicly available information such as:
 - USDA Soils Maps,
 - Enterprise-Anderson Groundwater Sustainability Plan (GSP)
 - Groundwater elevation contour maps and hydrographs as available along the Main Canal alignment,
 - Current and historic hydrologic and drainage maps – to document surface water features that may impact seepage along the Main Canal
- Following review of the above information, identify and map portions of the Main Canal that have potential for high seepage. Prepare GIS map(s) showing native soil types, approximate theoretical hydraulic conductivities, and locations of highest potential water loss, etc.
- Schedule and attend a site visit with District staff to review the initially selected areas for further evaluation.
- Prepare a draft and final Main Canal Potential Water Loss Evaluation Report along with supporting maps and figures presenting findings.

Deliverables:

1. The information and maps from the tasks above, including the field visit, will be documented in the Main Canal Potential Water Loss Evaluation Report. Maps of pertinent information will be included in either 8.5 by 11 or 11 by 17 inch size, whichever format best conveys the relevant data. The Technical Memorandum will include recommendations for areas to study for water loss in Phase T02, discussed below.

PHASE T02: MAIN CANAL FLOW MEASUREMENT PROGRAM

Following Phase T01, Provost & Pritchard will develop and execute a flow measurement program for the 2025 irrigation season. For the purpose of this proposal, it is assumed that up to 4 reaches of the Main Canal (with high water loss potential from Task 01) will be selected for flow measurement testing. For each of the selected reaches, measurements will be taken at the upstream and downstream reach limits in close succession. During a steady state condition (no recent flow changes made by the District) and with losses accounted for (lateral or turnout deliveries, evaporation, etc.), the difference between the upstream and downstream measured flow values will provide an actual rate of seepage loss from that particular portion of the Main Canal. The flow measurement program will include measurements taken through the irrigation season to discover whether or not seepage rates change as the dry season continues. Specific Tasks and Deliverables for the Main Canal Flow Measurement Program are provided below:

- Develop Flow Measurement Program: In coordination with District staff and with information from Task 1, identify up to 4 portions of the Main Canal that flow measurements will be taken. To the extent possible, reaches will be selected that have as few turnout deliveries and lateral headgates as possible. A schedule will be developed showing approximate dates throughout the 2025 irrigation season when measurements will be taken.
- Visit each of the 4 flow measurement reaches and identify specific locations where measurements will be taken. These locations will be selected based on their suitability for accurate flow measurements, considering factors such as existing or anticipated vegetation and proximity to

changes in canal geometry and alignment, including turns, structures, siphons, flumes, and channel constrictions or expansions.

- Using a ADCP measurement instrument, perform up to 4 flow measurements at each of the 4 identified reaches during the 2025 Irrigation Season (32 measurements total). These flow measurements will be scheduled with District staff during time periods when the canal is at a steady state (no recent upstream flow changes) and with as few deliveries as possible being made within the test reach.
- Prepare a Technical Memorandum (with supporting flow measurement data, maps, graphs, and figures) presenting the findings from the Flow Measurement Program such as approximate water loss rates for each measured reach and identifying recommended next steps.

Deliverables:

1. Flow Measurement Technical Memorandum with supporting flow measurement raw data, figures, graphs and maps.

PROFESSIONAL FEES

Provost & Pritchard Consulting Group will perform the services in this Phase on a time and materials basis, in accordance with our Standard Fee Schedule in effect at the time services are rendered. These fees will be invoiced monthly as they are accrued. Our total fees, including reimbursable expenses, will not exceed our estimate below without additional authorization.

PROPOSED FEE	
PHASE	ESTIMATED FEE
Phase T01: Main Canal Water Loss Evaluation	\$37,000
Phase T02: Flow Measurement Program	\$29,000
Total Estimated Fee:	\$66,000

The line items shown above are estimates and are not intended to limit billings for any given Task. Required task effort may vary up or down from the line-item estimates shown, however total billings will not exceed the Total shown without additional authorization. If the scope changes materially from that described above, as a result of any agency's decision or because of design changes requested by the Owner, we will prepare a revised estimate of our fees for your approval before we proceed.

SCHEDULE

The Main Canal Water Loss Potential Desktop Evaluation (Phase T01) will ideally occur prior to the 2025 irrigation season (April 2025) to facilitate locating the portions of the Main Canal where flow measurement tests will be conducted. The Main Canal Flow Measurement Program (T02) will be conducted throughout the 2025 Irrigation Season with the Technical Memorandum of findings delivered to ACID in later summer or early fall, 2025.

ASSUMPTIONS

- ACID will provide to the greatest extent possible all relevant information regarding water loss in the main canal include reports, maps, drawings, well data, etc.
- ACID Staff will, to the greatest extent possible, coordinate with Provost & Pritchard to facilitate accurate flow measurements. Key considerations will be to perform flow measurements during the

course of canal operations when the canal is in a steady state (no upstream flow changes) and with minimal or no farm or lateral deliveries being made. Deliveries that are occurring during flow measurements will need to be quantified and provided to Provost & Pritchard.

- Flow measurement of portions Main Canal can be performed in a single day trip per month. Otherwise, additional time will be required for travel.
- It is assumed that local native soils were used for the original construction of the ACID Canal.
- It is assumed water loss caused by vegetation, rodent holes or other reasons not related to geologic and soil characteristics, topography, and historical drainage patterns are not included in this evaluation.
- All GIS maps will be provided on 11x17 page size.

ADDITIONAL SERVICES


The following services are not included in this proposal, however, these and others can be provided at additional cost, upon request.

- Development of and execution of groundwater monitoring program with piezometers.
- Topographic and Boundary Survey
- Design of Canal improvements to mitigate Main Canal Water loss.
- Appropriate environmental documentation (California Environmental Quality Act/National Environmental Policy Act)

TERMS AND CONDITIONS

This project is authorized in accordance with the Consultant Services Agreement (23-293) dated June 5, 2023 between Anderson-Cottonwood Irrigation District and Provost & Pritchard Engineering Group, Inc. (dba Provost & Pritchard Consulting Group). Please sign the proposal and return to Daniel Kerns at dkerns@ppeng.com. These documents will serve as our Notice to Proceed. This proposal is valid for 30 days from the date above.

Respectfully,
Provost & Pritchard Consulting Group


Daniel Kerns, RCE 84100
Senior Engineer


Alex Collins, RCE 78242
Director of Operations

TERMS AND CONDITIONS ACCEPTED

By Anderson-Cottonwood Irrigation District:

Signature

Printed Name

Title

Date