



Grand Valley Water Users Association

To: Ashley Garrison- Regional Water Plan Grant Manager
Re: CWCB Grant for Paradise Hills Lining Project

Ashley,

The lining project at Paradise Hills was completed this spring on-time and below budget.

The project began with collaboration and communication between GVWUA's Construction Manager and the General Contractor on the 1st of November. The first day of actual work on the site was started on November 16th, 2023.

The project went according to plan and design other than some minor dewatering issues at the beginning of the project. This section of canal was chosen as a high priority due to excess water seeping from the canal and surfacing either in yards in the adjacent subdivision or in basements and crawlspaces. When construction began, the General Contractor the Construction Manager both noted the canal seemed to have 'no bottom', basically saying that it was very soft. This wasn't a surprise based on the history of water leeching from the canal. The decision was made to reinforce the base with larger stone and more than originally planned. That was topped with geogrid to stabilize and create a fortified base for the canal bottom.

There were no other obstacles and the project created goodwill with the neighboring property owners by granting them 'spoils' from the excavation and widening of the O & M road. This not only provided material the property owner needed, but saved the project money in trucking costs to haul the material to an off-site location.

The project is paid out and there are no monies owed.

GVWUA requested \$444461.14 from CWCB on the \$600000.00 award.

GVWUA paid matching funds and requested funds from other funders equaled \$677878.89.

I have attached photos, reports from the Construction Manager, and the basic design and specifications as provided to us by the Bureau of Reclamation.

Grand Valley Water Users appreciates the support of the CWCB and their staff as we continue to work on making our diversion and all related infrastructure as efficient, sustainable, and reliable as possible.

Regards,

Tina Bergonzini
General Manager
Grand Valley Water Users Association

Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 11/16/2023	
Canal Lining – Sta. 2088+50 to 2102+80		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-	
4. Grand Valley Water Users Association Representative on site: George Goehl - CM	5. Contractor's Representatives on site: 3 Operators	
6. Date: 11/16/23 Day of Week: Thursday	7. Time Arrived: 1215 hrs./ Time Departed: 1250 hrs.	
8. Weather: Variable Clouds, Mostly Calm	9. Temperature (°F): Lo 40's to Lo 60's	
10. Ground Condition: Moist to Muddy	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Erosion Control & BMP's inspected/functioning? Yes✓ No (if No, explain in Narrative)	Project Total \$684,085.00	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer, Equipment Transport, 4K Water Truck, Track Excavator, 2 10CY Dump Trucks, FE Loader	
17. Contractor Crews on Site: 3 Operators		

Discussions: After talking yesterday with Paul Martinez, Martinez Western Project Manager, I decided to perform a site inspection today. He & I talked about project survey, nozzleman certification and testing, project schedule, and other aspects of the job including earthwork regarding excavation and relocation.

GVWUA has provided MWC with sufficient survey data to build the project and MWC will provide the necessary control as work progresses. The nozzleman certification(s) have been provided and a demonstration test will be performed about the first week of December. A project timeline (CPM) will be provided within the next couple of weeks. MWC plans to continue to relocate excess material (see *Today's Activities* below) as able while the canal invert continues to drain/dry.

Paul and I agreed to meet on site next Tuesday, 11/21, at about 1000 hrs. to look at the project and discuss how to proceed.

Today's Activities: An excavator loaded 1 of 2 end dump trucks (the other needed minor repairs) from the **Rt. access road** in the area between approx. **Sta. 2093+00 and 2095+00**. The material was hauled to an approved spoil location and spread/wheel rolled with a front-end loader. This excavation will continue to approx. **Sta. 2097+50**.

There was a pool of **standing water** of varying depth up to ±1' from approx. **Sta. 2090+00** (about 150' D/S of the beginning of this reach) to **2091+50** in the canal invert. Water was also pooled to ± 2' deep from about 150' upstream to the **Turnout Lt., (Sta. 2099+65)** and ±1' deep from the Turnout downstream about another 150'. These areas may require pumping to remove standing ground water and future precipitation. We will discuss this and **damming both ends** of the project next Tuesday.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 11/21/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-
4. Grand Valley Water Users Association Representative on site: Kris Aldrich - O&M, George Goehl - CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Dan Martinez – Supt.
6. Date: 11/21/23 Day of Week: Tuesday	7. Time Arrived: 0950 hrs./ Time Departed: 1200hrs.
8. Weather: Mostly Sunny, Light Breeze	9. Temperature (°F): Hi 20's to Lo 50's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes✓ No (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer, Equipment Transport, 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader
17. Contractor Crews on Site: MWC - 1 Operator, 3 Truck Drivers	

Discussions: Paul had inquired about the status of the **Turnout Structure, Sta. 2099+65**, and the liner materials. The TO Structure has been precast and, along with the **geotextiles**, is stored @ GVWUA's yard on 24 Road. The **PVC Liner** has been ordered and will be **fabricated & delivered** to GVWUA in the new year. The manufacturer said they prefer to keep the material in their temperature-controlled warehouse, weld the panels, and ship shortly before installation as it tends to get 'sticky' if stored very long. He is aware of the materials' status.

Kris Aldrich, GVWUA's O&M Chief was onsite along with MWC's **Paul & Dan Martinez**. We looked the project over and discussed the following: Project survey will be performed by Hi-Desert Surveying beginning next week. Nozzleman certification and testing are forthcoming as is the project schedule. In the meantime, earthwork excavation and relocation continue (see *Activities* below).

The pools of standing water referenced on 11/16 had dried considerably but the area pooled to ± 2' deep from about 150' upstream to the **Turnout Lt., (Sta. 2099+65)** remains & MWC will pump it out to help dry invert quicker. This area requires fill to bring to invert subgrade elevation. **Damming both ends** of the project was discussed and the upper end is to be performed before the Thanksgiving Holiday shutdown.

Discussion of the **toe drain** begged the question of who is to provide the piping and where to daylight it away from the canal. Kris said he would check with GVWUA on the supply. He & I looked at the drawings and no location to daylight is specified. The logical place after connecting to the upstream pipe near **Sta. 2088+50**, is to begin solid wall pipe there across & beneath invert & the Lt. access road, and then continue solid wall upstream near toe of slope outside the access road and daylight into the **Undershot near Sta. 2084+50**. As the designed canal invert slope is -0.0001', this is flat enough to convey any collected water back to the point of daylight outside the Lt. access road, D/S of the undershot centerline.

- Today's Activities:

Earthwork: The **Rt. access road** between approx. **Sta. 2093+00** and **Sta. 2097+50** is near completion. The excavator & 3 tandem end dump trucks were relocating excess material from the **Lt. access road** in the area beginning @ approx. **Sta. 2093+00** progressing downstream with spoil hauled to the approved location.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 11/28/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVVUA-
4. Grand Valley Water Users Association Representative on site: George Goehl - CM	5. Contractor's Representatives on site: Paul Martinez – PM, Danny Martinez – Supt.
6. Date: 11/28/23 Day of Week: Tuesday	7. Time Arrived: 1015 hrs./ Time Departed: 1415 hrs.
8. Weather: Mostly Sunny, Light Breeze	9. Temperature (°F): Mid 10's to Hi 30's
10. Ground Condition: Frozen to Moist, Snow in Shade	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes✓ No (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVVUA	18. Equipment on Site: Job Trailer, Equipment , 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader, Motorgrader
17. Contractor Crews on Site: 1 Operator, 3 Truck Drivers	

Discussions: Kris Aldrich & Kevin Conrad, GVVUA O&M, met with Frederick Busch, USBR, last Wednesday (11/22) to discuss the location to **daylight the underdrain**. They checked elevations and Frederick will get back to us soon with a decision where to daylight or if it is worth installing.

The pond of standing water from about 150' U/S to the **Turnout Lt. @ Sta. 2099+65** had been pumped last week but precipitation over the weekend had refilled it to nearly the previously level. MWC said hey will pump it again as necessary.

Arron Higgins, MWC, submitted a Baseline Schedule today. I will look it over and keep a copy at the job trailer. I contacted Peak Ready Mix and Huddleston-Berry to confirm this year's activities. Nozzleman testing pending.

Today's Activities: MWC continues to **remove excess material** and deposit it in the approved location. Most of the access roads (both sides) have been cut to near final grade and the canal slopes (both sides) were being laid back between approx. **Sta. 2088+60 & 2094+00**. The excavator & dump trucks were performing this work. The front-end loader was used to relocate material from the cut on the Rt. access road (D/S of Sta. 2093+00) to build the road up between approx. **Sta. 2088+60 & 2092+00**. The Motorgrader was used to shape & smooth it.

A cross-over **land bridge** had been installed @ approx. **Sta. 2088+00** to allow travel across the canal. Plenty of cover (well over 2') was built over the upper edge of the existing canal lining.

Survey stakes (centerline, toe-of-slope, top of slope, and offsets) had been set from Sta. 2088+50 to 2094+00.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 11/30/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-
4. Grand Valley Water Users Association Representative on site: George Goehl - CM	5. Contractor's Representatives on site: Paul Martinez – PM, Danny Martinez – Supt.
6. Date: 11/30/23 Day of Week: Thursday	7. Time Arrived: 0855 hrs./ Time Departed: 1415 hrs.
8. Weather: Increasing Clouds Light Breeze	9. Temperature (°F): Mid 20's to Low 40's
10. Ground Condition: Frozen to Moist, Some Snow Still in Shade	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes√ No (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer , 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer, Rental GPS Guided Excavator
17. Contractor Crews on Site: MWC	

Discussions: Frederick Busch got back to me yesterday about the **underdrain daylighting** question. He will get a firm answer for us sometime next week as the BOR personnel who decide such things are in meetings this week.

He said one possibility is to extend the discharge line downstream (paced off as **1200'** in canal invert) to the next available cross-draw with an undershot. This would provide adequate controlled downstream drainage.

I walked the invert between EOP (End of Project) this morning and the undershot & found it to be **irregular with a lot of native in-place shale present**. It can be ripped but will require an appreciable amount of select bedding around the proposed solid wall pipe needed to relieve the underdrain if that is the chosen course of action.

Paul Martinez e-mailed me yesterday saying High Desert Survey had to check elevations for the GPS-guided excavator (see *Activities* below) set-up. Grades will continue to be checked and rechecked to accomplish a smooth transition from the previously reconstructed prism to the area being reconstructed under this contract.

Today: Danny Martinez & I talked about the survey, the GPS-guided excavator, the underdrain discharge, and the pond of standing water from about 150' U/S to the **Turnout Lt. @ Sta. 2099+65**. It had been partially pumped out again but still holds water. It will be watched to ensure it is not collecting infiltration from the pond across from there outside the Lt. access road. The Turnout is 'hi & dry' so it isn't an issue. We also talked about water percolating through their '**land bridge @ approx. Sta. 2088+00** & flowing into the area of work. He said they will make sure this flow is stopped soon.

Today's Activities: MWC continues to **remove excess material** from **canal invert** progressing downstream from approx. **Sta. 2090+00** and deposit it in an approved location. An excavator, skid steer, and front-end loader did this work. High Desert Survey set more stakes downstream from **Sta. 2094+00** to EOP (end of Project).

A GPS-guided excavator was brought in and control stations set by Honnen Equipment (John Deere). It was calibrated to the 4' bucket with grading blade attached and the model was loaded into the on-board computer. The operator was instructed and began cutting the Rt. slope progressing D/S from **Sta. 2088+60**.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 12/04/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-
4. Grand Valley Water Users Association Representative on site: George Goehl - CM	5. Contractor's Representatives on site: Paul Martinez – PM, Danny Martinez – Supt.
6. Date: 12/04/23 Day of Week: Monday	7. Time Arrived: 0900 hrs./ Time Departed: 1515 hrs.
8. Weather: Variable Clouds, Light Breeze	9. Temperature (°F): Hi 30's to Mid 50's
10. Ground Condition: Moist to Muddy	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes✓ NO (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer , 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer, Rental GPS Guided Excavator
17. Contractor Crews on Site: MWC	

Discussions: Pau, Danny & I talked about the **pond of standing water** U/S of the **Turnout Lt. @ Sta. 2099+65**. They had pumped to near empty last week but it had partially refilled and was standing between approx. **Sta. 2098+70 and 2099+30**. It was pumped again after invert excavation revealed an extended soft sport here. When invert excavation operation got into area, we concurred that **over-excavation, geogrid, and pit run** are needed. This is through a thru-fill (both embankments & invert) area from the original construction. Paul had them check his yard & they were out so I contacted GVWUA and was told they had some. MWC was sent to pick up at least a couple of rolls. Paul said he would put together some numbers this evening. We believe solid subgrade returns near **Sta. 2100+00 (approx. 300' of unsuitable subgrade, extent to be determined)**.

We are still awaiting an answer on the **underdrain daylight** question posed last week I happened to run into **Ken (HOA board member)** on the canal near the pond. H said it normally dries up later in the winter. He was happy about the project and welcomed daylighting the drain into said pond if possible. I contacted Frederick He said he will talk with **BOR folks** about the situation again. He said they were leery of the 'pond' vent as it relies too much on the valve being in the right position at the right time. Human error & reverse flow are the concerns.

Water continues to percolate through their 'land bridge' @ approx. Sta. 2088+00, flowing into the area of work. Several bags of Pond Seal were placed at the U/S toe of the berm in an attempt to stop the water flow.

MWC said they had found a hose discharging into the canal from the nearest home U/S of the project. They removed it and we will watch that it isn't replaced. This was adding to the standing water U/S of the project. I ran into the **landowner (Steven)** and explained to him the need to quit the discharge. He was most cooperative.

Survey stakes have been set to EOP @ Sta. 2102+00. It is possible we will need an **extension (±2')** on the **3'Ø manhole** outside the canal from the Turn Out @ Sta. 2099+65.

Today's Activities: MWC continues to **remove excess material** from **canal invert** progressing downstream from approx. **Sta. 2094+00** and deposit it in an approved location. An excavator, skid steer, FE loader and a revolving grade laser were used in this operation. Two dump trucks transported it as necessary.

The **GPS-guided excavator** with 4.5' bucket & grading blade continued work in the area down to approx. **Sta. 2094+00**. Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining	12/06/2023
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-	
4. Grand Valley Water Users Association Representative on site: George Goehl - CM	5. Contractor's Representatives on site: Paul Martinez – PM	
6. Date: 12/06/23 Day of Week: Wednesday	7. Time Arrived: 0910 hrs./ Time Departed: 1300 hrs.	
8. Weather: Mostly Clear, Light Breeze	9. Temperature (°F): Hi 20's to Lo 50's	
10. Ground Condition: Moist to Muddy	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Erosion Control & BMP's inspected/functioning? Yes√ NO (if No, explain in Narrative)		
16. Materials Furnished to Job Site by GVWUA Tensor TriAx TX140 Geogrid	18. Equipment on Site: Job Trailer , 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer, Rental GPS Guided Excavator	
17. Contractor Crews on Site: MWC		

Discussions: As stated on **Monday** (12/4) Late afternoon MWC encountered an area of unsuitably soft invert subgrade beginning @ approx. **Sta. 2097+00** (the area with the adjacent pond Lt.) running to approx. **Sta. 2100+00** meaning up to 300 LF may be unsuitable. It will be determined as this work progresses. The agreed upon remedy was over-excavation (depth may vary between 1 & 2'), geogrid, and pit run as needed. They were able to obtain some tri-axial geo-grid from GVWUA to begin stabilization of invert yesterday. This operation continued today (see *Activities* below). GVWUA will continue to supply geo-grid as needed.

Yesterday (**Tuesday**) in an effort to determine where the **underdrain** can best be daylighted, Kris contacted Frederick, Paul, and me to schedule a meeting this Friday. It will be onsite @ 1000hrs. on Friday.

Today's Activities: MWC continues to **remove excess material** from **canal invert** progressing downstream from approx. **Sta. 2097+00** in the previously detailed manner. Over-excavation, application of GVWUA supplied geogrid, & placement of pit run from Renderly's pit was added within the above noted area. Pit run was delivered, a skid steer pushed it over the Lt. bank, and the excavator in the bottom placed it atop the rolled out geo-grid.

The **GPS-guided excavator** continued rough-grading the Rt. slope in the area down to approx. Sta. 2097+00. He then went to the EOP (Sta. 2102+00) and cut the access road to grade so liner activities can be performed from a workable elevation along the canal. Rough-trimming the Rt. slope began there as well.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 12/08/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA-
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM, Kris Aldrich – O&M, Frederick Busch (USBR)	5. Contractor's Representatives on site: Paul Martinez – PM
6. Date: 12/08/23 Day of Week: Friday	7. Time Arrived: 0935 hrs./ Time Departed: 1300 hrs.
8. Weather: Flurries & Breezy, Broken Skies	9. Temperature (°F): Lo 30's to Lo 40's
10. Ground Condition: Moist to Muddy	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes✓ NO (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer, 4K Water Truck, Track Excavator, 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer, Rental GPS Guided Excavator
17. Contractor Crews on Site: MWC	

Discussions: Frederick, Chris, Paul & I met this morning to determine where the **underdrain** can best be daylighted. It was decided to tie into the existing underdrain U/S of Sta. 2088+50, go across invert just D/S of there, through the Lt. access road, and then excavate a trench approx. ±15' deep for approx. 290' to daylight into the D/S side of the wash near Sta. 2085+75. This is heading U/S outside the Lt. access road to the wash. Flow fill (LSCM) will be placed around the pipe in the access road embankment to seal it to prevent 'piping'.

Paul said he is comfortable with this operation and will put together a cost estimate & shoot grades. Workman & public safety were discussed along with pipe requirements. GVWUA will provide the selected pipe.

The survey control/actual elevation (±3") previously discussed was talked about again with no major concern.

Kris offered to provide granular bentonite to add to the toe of the land bridge to prevent ponding water U/S of the project from flowing into the invert.

Today's Activities: Shortly after 1000 hrs., operations were halted as a heavy snow flurry made the surface wet & slick. It created treacherous conditions so MWC decided to call it a week. The area of unsuitable subgrade (beginning @ approx. **Sta. 2097+00**) had been advanced to about **2099+70**. Shale had been encountered in the invert near there & over-excavation is nearing completion.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 12/13/2023	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.	
6. Date: 12/13/23 Day of Week: Wednesday	7. Time Arrived: 0920 hrs./ Time Departed: 1330 hrs.	
8. Weather: Mostly Cloudy, Light Breeze	9. Temperature (°F): Lo 30's to lo 50's	
10. Ground Condition: Moist to Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Erosion Control & BMP's inspected/functioning? Yes <input checked="" type="checkbox"/> No (if No, explain in Narrative)		
16. Materials Furnished to Job Site by GVWUA 2 Rolls geotextile & 1 bunk of 6" Perforated pipe for Underdrain	18. Equipment on Site: Job Trailer , 4K Water Truck, 3 Track Excavators (1 GPS Guided, 1 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer	
17. Contractor Crews on Site: MWC		

Discussions: Yesterday Paul asked about the aggregate in the underdrain (toe-drain) and the non-woven geotextile that envelopes it. He was told that in past contracts, the Contractor supplies the aggregate & pipe with GVWUA supplying all geotextile. As per previous specifications, **Sec. 01 64 40 Owner-Furnished Products, Part 2**, GVWUA is to supply: 1 Shotcrete, 2. Pre-cast Concrete Turnout Structures, 3. Non-woven Geotextile Fabric, 4. PVC Canal Liner. He and Tina will work this out and payments will be made accordingly.

As Construction Manager for GVWUA, my duties & responsibilities are limited per the signed AGREEMENT between GVWUA & MWC, Article 7 Construction Manager. I have & will continue to offer suggestions and guidance for the efficient & economical construction of the project & will promptly relay information to GVWUA.

Paul had done estimates of the underdrain daylighting as described in last Friday's (12/8) daily diary vs. going downstream (approx. 1200') in canal invert. He said it was very comparable and, after talking with Kris Aldrich, decided to go downstream to the next cross-drain. Costs were close but this option presents less exposure to worker & public safety. GVWUA will supply an approved solid-wall sacrificial pipe for this reach.

H&H Linings had been contacted and said a minimum of 12" is needed to weld the new PVC liner to the existing layer in the upstream canal. The shotcrete was carefully saw-cut and removed to provide this as a minimum.

Today's Activities: Finish grade on the outside slope of the Rt. access road was being done with the GPS-guided excavator in the vicinity of Sta. 2095+00. Both excavators were used to shape/smooth the area.

The **18"x18" trench** for the under-drain had been excavated from approx. **Sta. 2088+50 to about 2093+00** using the mini-excavator, revolving grade laser, and hand tools.

The crew used hand tools and the mini-ex to expose the cut-off trench @ Sta. 2088+50. They exposed the 3-part lining beneath the shotcrete and will dress up the ragged edge of the PVC that resulted. H&H Linings was contacted (see *Discussions* above) for guidance on their requirements. The crew used hand tools to dig horizontally beneath the toe in the upstream canal to tie into the **upstream underdrain**. It was located without much difficulty and new pipe was easily connected to it after clearing as much sediment as possible. A load of washed minus 1" aggregate was brought in to start the underdrain installation after geotextile was cut & spread.

270 – exposing liner 282 – cutoff trench
 278 – drain tie-in 285 – Underdrain agg

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 12/14/2023	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.	
6. Date: 12/14/23 Day of Week: Thursday	7. Time Arrived: 0915 hrs./ Time Departed: 1330 hrs.	
8. Weather: Partly Cloudy to Sunny, Lite Breeze	9. Temperature (°F): Lo 30's to Lo 50's	
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Erosion Control & BMP's inspected/functioning? Yes√ No (if No, explain in Narrative)		
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer , 4K Water Truck, 3 Track Excavators (1 GPS Guided, 1 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer	
17. Contractor Crews on Site: MWC		

Discussions: Paul & I had talked about curing compound for the shotcrete. He submitted the Data Sheet for a Dayton Superior product that meets ASTM C 309 as specified in Sec 03 37 10, 2.07 **Curing Materials**. It was approved for use.

Today's Activities: Under-drain installation continued today with the use of a rock box, the mini-ex, and a track excavator placing aggregate in the rock box. A 6" lift of aggregate was placed & smoothed, the 6"Ø slotted pipe placed, and then aggregate placed around and 6" over it before all being wrapped with geotextile. This operation is advanced 20' (1 joint of pipe) at a time. Trench is open to approx. Sta. 2093+00.

The Motorgrader was used to smooth access roads and then the operator used the front-end loader to spread & shape spoil at the approved locations. The Motorgrader also smoothed the area there.

Chipping shotcrete from the cutoff trench area (Sta. 2088+50) to obtain 1' minimum of sound PVC liner continued with laborers using hand tools.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 12/18/2023	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.	
6. Date: 12/18/23 Day of Week: Monday	7. Time Arrived: 0910 hrs./ Time Departed: 1415 hrs.	
8. Weather: Partly Sunny, Light Breeze	9. Temperature (°F): Mid 20's to Hi 40's	
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Erosion Control & BMP's inspected/functioning? Yes√ No (if No, explain in Narrative)		
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer , 4K Water Truck, 3 Track Excavators (1 GPS Guided, 1 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer	
17. Contractor Crews on Site: MWC		

Discussions: Frederick was on site to discuss how/where the transition from **perforated pipe to solid wall pipe on the under-drain** should be done heading downstream to the next wash (approx. 1200' beyond Sta. 2102+00). The cut-off trench there (Detail 4, Lining Anchor Trench, Dwg. 8-417-941 of the specified Drawings) is a minimum of 2' deep with liner/geotextile through it. As Dwg. 8-417-936, Plan & Profile shows the drain terminating 50' U/S of the cut-off, it was determined that the solid wall pipe heading downstream to the wash shall begin between **30' & 50' U/S of the trench**, be partially bedded/encased with CLSM (**flow-fill**) to prevent infiltration/piping and have a 'boot' glued to it where it penetrates the PVC lining. Gravel envelope material will terminate at the end of the perforated pipe. The type of solid wall pipe downstream from the trench is yet to be determined and will be treated according to industry standards (bedding, connections, thrust-blocks, etc.).

Paul & I discussed the area of shale in the Lt. slope between approx. Sta. 2093+50 & 2096+50. As specified, all of the Rt. slope & invert there will be covered with free-draining pit run but this section of the Lt. slope may require some form of 'skim-coat' to cover sharp edges of native shale. Paul said it will be reassessed after final grading & compaction.

Today's Activities: The GPS-guided excavator trimmed a section of the Lt. canal slope in the vicinity of Sta. 1092+00. The Rt. slope is mostly graded and the mini-ex with vibratory compactor was used to compact there.

Under-drain installation resumed as previously detailed after additional gravel was brought in. They advanced excavating the trench U/S from approx. Sta. 2095+50 working toward Sta. 2093+00.

MWC end dumps began delivering pit run to the Rt. shoulder of the slope beginning near Sta. 2089+00.

Existing shotcrete had been chipped away to obtain 1' minimum of sound PVC liner at the tie-in, Sta. 2088+50. One minor area remains to be exposed.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 12/19/2023	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors		Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM		5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.
6. Date: 12/19/23 Day of Week: Tuesday		7. Time Arrived: 0900 hrs./ Time Departed: 1330 hrs.
8. Weather: Mostly Cloudy, Light Breeze		9. Temperature (°F): Lo 20's to Hi 40's
10. Ground Condition: Mostly Dry		11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes		13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes√ No (if No, explain in Narrative)		
16. Materials Furnished to Job Site by GVWUA 2 Rolls Geotextile, 28 Sticks Perf Pipe (Under-drain)		18. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
17. Contractor Crews on Site: MWC		

Discussions: Paul & I talked about the details in yesterday's diary concerning the downstream pipeline conveying water from the **underdrain**. He said he understands and will install whatever pipe is selected. We also talked about making the penetration through the Lt. access road to dump into the wash. CLSM (flow fill) will be required to encase/bed the pipe and select material compacted back to existing grade. Flow fill may also be required on the pipe @ collars to serve as thrust blocks and keep it on grade. He said he understands all of this. He asked for details on installing the **Turnout @ Sta. 2099+65**. I explained that the elevation of the structure will be determined by aligning the fitting in the precast structure with the existing discharge line and the turnout's lateral position in the canal slope will be set by placing the toe of the structure as near the slope there as possible. As per **Dwg. 8-417-905, Turnout Structure Details**, the structure will be bedded with CLSM as well. GVWUA will cast in place wingwalls after the structure is set and backfilled. There is a concrete slab 80' or more downstream from the turnout and it will be removed. I asked Paul to make sure there isn't a penetration/void through the embankment there. If there is, it will need to be filled and sealed before liner is installed.

Certified nozzleman Martin Guitierrez was on site to familiarize with the project. We talked about shooting test panels and project requirements. MWC will build panels and let me know when test shooting can be conducted/observed. I will coordinate with Peak Ready Mix and Huddleston-Berry at that time.

At this point, MWC plans to take the week between **Christmas & New Year's** off, possibly even this Friday.

Today's Activities: One of the mini-excavators continued **compacting** top of the Lt. slope from the access road in the vicinity of Sta. 2092+00. The bottom of the slope will be compacted from invert.

Under-drain trenching resumed as previously detailed. The trench had been excavated to approx. Sta. 2095+50. Today they began @ Sta. 2099+00 and worked upstream to tie in @ 2095+50.

The GPS-guided excavator was used to spread & fine-grade the **6" lift of free-draining minus 4" pit run** down the Rt. slope & across invert. Two MWC dump trucks delivered it from the approved Renderly Pit stockpile. Spread began a few feet downstream of the cut-off trench (hand-work needed before filling the trench) @ Sta. 2088+50 and progressed D/S from there. The skid steer assisted in the invert.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1 of 1

1. Contract: **Government Highline Canal**

2. Project: **Paradise Hills Lining**

12/20/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: **Martinez Western Constructors**

Solicitation No. **GVWUA- 2020-1**

4. **Grand Valley Water Users Association**

Representatives on site: **George Goehl – CM**

5. **Contractor's Representatives on site:**

Paul Martinez – Proj. Man., Danny Martinez – Supt.

6. **Date:** 12/20/23 **Day of Week:** Wednesday

7. **Time Arrived:** 0900 hrs./**Time Departed:** 1345 hrs.

8. **Weather:** Mostly Cloudy, Light Breeze

9. **Temperature (°F):** Lo 30's to Hi 40's

10. **Ground Condition:** Mostly Dry

11. **Work on Schedule:** Yes

12. **Contractor's Work Acceptable:** Yes

13. **Work Orders Issued/Pay Estimate Received:**

14. **Erosion Control & BMP's inspected/functioning?**

Yes ☒ No (if No, explain in Narrative)

16. **Materials Furnished to Job Site by GVWUA**

18. **Equipment on Site:** Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer

17. **Contractor Crews on Site:** MWC

Discussions: I contacted Kris Aldrich to ask if GVWUA wants to salvage the **slide gate** on the Turnout @ Sta. 2099+65. He said he would send someone to remove it when able. They were on site & gone before noon. Kris also said he had checked into **boring 300' upstream outside the Lt. access road** to daylight the under drain into the wash there. He had talked with Frederick (BOR) and he said that would be acceptable, considering the minuscule (-0.0001) reverse grade in this section. MWC said their only concern is that the **boring pit** be far enough outside the access road. MWC will be hauling materials over the earthen bridge (approx. Sta. 2088+10) & the drain will cross invert into the access road near Sta. 2088+60. More discussion will occur & GVWUA will decide how to proceed.

Paul said he will contact Tina with a request to begin **fabrication of the PVC liner panels 'ASAP'**, probably in early January. We talked about temperature requirements (32°F & rising for liner deployment, 35°F & rising for shotcrete placement). He said MWC is able to cover a lot of the canal with insulating blankets if there is liner down but it isn't warm enough to apply shotcrete. He also said he will contact H&H Linings when he firms up a date for them to begin. I will coordinate with Peak Ready Mix and Huddleston-Berry as the schedule firms up.

Tina sent an e-mail mid-afternoon requesting the **fabricators of the PVC (contact Jake Wood, Lange Containment, 303-506-8559)** get GVWUA's order in the queue for delivery right after the first of the year.

Today's Activities:

Under-drain installation resumed as previously detailed, proceeding D/S from approx. Sta. 2096+00.

The GPS-guided excavator was used to spread & fine-grade the **6" lift of free-draining minus 4" pit** run down the Rt. slope & across invert as previously detailed. The other excavator was used to cut grade on the Lt. access road in the area around Sta. 2096+00. The 2nd mini-ex was used to compact slopes as previously detailed.

Photos were taken & are available upon request.

24. Signature

George A. Goehl

25. Title

Construction Manager

Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 12/21/2023

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 12/21/23 Day of Week: Thursday	7. Time Arrived: 0900 hrs./ Time Departed: 1300 hrs.
8. Weather: Mostly Cloudy to Clearing, Light Breeze	9. Temperature (°F): Mid 30's to Hi 40's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Erosion Control & BMP's inspected/functioning? Yes✓ No (if No, explain in Narrative)	
16. Materials Furnished to Job Site by GVWUA	18. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
17. Contractor Crews on Site: MWC	

Discussions: Kris Aldrich was on site to help finalize details on where/how to daylight the underdrain. He said Apeiron will be available Jan. 2nd to assess the project. They are to **bore 300' upstream outside/in the Lt. access road** to the wash there. Paul Martinez was asked to install a 'T' on the perforated pipe in the underdrain @ the Rt. toe a few feet downstream of the cut-off trench @ 2088+50, tie into it with solid wall pipe (**125 psi PIP**) and install that pipe across **canal invert**, through the embankment approx. **18' past** the top of slope hinge-point and place a **marker** at the end of the pipe. CLSM (**flow-fill**) will be placed around the pipe for several feet where it penetrates the canal side of the access road embankment. The remainder of the pipe will be **backfilled** as shown in Detail 5 on Dwg. 8-417-941. GVWUA & MWC will determine who is to supply the pipe. Paul said he will submit a **cost** for this work. He pointed out he had not included it in his bid as there is no location for it identified in the drawings he bid from. Also, the boring must occur at a time that **does not interfere** with MWC's progress. We all concurred the pipe has to be installed soon since it has to be done before liner attachment can be performed. . MWC had excavated a few feet into the embankment behind and removed the **concrete slab** about 80' past the Turnout structure @ Sta. 2099+65. There was an old tile pipe behind it but the pipe was silted in and went nowhere. MWC will compact the area, finish it to grade, and it will be lined over. . MWC will contact H&H Linings when they firms up a date for them to begin. I contacted Peak Ready Mix and Huddleston-Berry to put them on alert that shotcrete may be starting in early January. Peak said they can supply shotcrete most any time except January 8th and will let MWC know a couple of other dates that are already filled. . As shotcrete is proposed to begin shortly and we haven't been able to set a date for testing nozzlemen, I told Paul there is no point as we wouldn't get 28-day results prior to start-up.

Today's Activities:

Under-drain installation resumed as previously detailed, proceeding D/S to approx. Sta. 2095+50.

The GPS-guided excavator was used to cut grade on the Lt. access road in the area around Sta. 2098+00. The second excavator was used to place material on the Lt. access road in the vicinity of Sta. 2100+50.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 01/04/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.	
6. Date: 01/04/24 Day of Week: Thursday	7. Time Arrived: 0900 hrs./ Time Departed: 1415 hrs.	
8. Weather: Variably Cloudy, Light Breeze	9. Temperature (°F): Mid 20's to Hi 40's	
10. Ground Condition: Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer	
16. Contractor Crews on Site: MWC		

Discussions: Paul & I discussed **slope preparations** to ready them for liner deployment. He acknowledged there will be some hand-work necessary to smooth the surfaces and remove ravel from the toe of the slopes. He said he has/will contact **Peak Ready-mix and H&H Linings** with the proposed shotcrete start date the week of Feb. 13th as discussed yesterday. Kris and Paul will iron out the final details on the **underdrain discharge** line installation & boring.

Today's Activities: Final touches including gravel depth over the perf. pipe and geotextile wrap on the underdrain were applied today with completion of the line.

The GPS-guided excavator continued to trim the Lt. canal slope in the area around Sta. 2099+00 and past the **Turnout** structure @ **Sta. 2099+65**. This area is being prepared for setting the replacement turnout structure.

Dump trucks continue to deliver pit run material from Renderly's approved stockpile.

A mini-ex with the vibratory plate compacted the Lt. slope that had been shaped to final grade.

Photos were taken & are available upon request.

375 – Looking U/S from the Finish Line

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/05/2024

Canal Lining – Sta. 2088+50 to 2102+00.

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.
6. Date: 01/05/24 Day of Week: Friday	7. Time Arrived: 0900 hrs./ Time Departed: 1345 hrs.
8. Weather: Variable Clouds, Light Breeze	9. Temperature (°F): Mid 20's to Lo 40's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
16. Contractor Crews on Site: MWC	

Discussions: Paul said they plan to have the Turnout Structure brought on-site Monday but that, along with other activities, will depend on what the weather brings Sunday as there is precipitation in the forecast. He will contact Kris Monday morning after seeing what the weather has done.

Today's Activities:

The GPS-guided excavator had trimmed the Lt. canal slope down to **Sta. 2102+00 (EOP)**. It was then moved into invert to continue moving/shaping pit run down the Rt. slope & across invert. Dump trucks continue to deliver pit run material from Renderly's approved stockpile.

A mini-ex with the vibratory plate had compacted more of the Lt. slope that had been shaped to final grade.

The front-end loader was used to rough grade the access road in the area between Sta. 2098+00 and 2102+00.

Final touches continued on the underdrain today and it is nearly complete. They also excavated the 2' deep Lining **Anchor Trench** (Detail 4, Dwg. 8-417-941) trench across the prism perpendicular to the canal @ Sta. 2102+00.

The slopes adjacent to the **Turnout @ Sta. 2099+65** have been prepared for setting the replacement structure.

Photos were taken & are available upon request.

391 – Lining Anchor Trench
393 – Pit Run & Access Road

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/09/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Luke
6. Date: 01/09/24 Day of Week: Tuesday	7. Time Arrived: 0900 hrs./ Time Departed: 1200 hrs.
8. Weather: Variable Clouds, Breezy	9. Temperature (°F): Mid 10's to Mid 30's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA Turnout Structure (1/8/24)	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
16. Contractor Crews on Site: MWC	

Discussions:

Lange Containment Systems informed GVWUA that the PVC lining is scheduled to be shipped today. MWC's crew was asked to have insulating blankets to cover the flow-fill (CLSM) that is specified in Dwg. 8-417-905. They brought enough to cover it and material to be used as compacted backfill around the structure. Flow-fill (8 yds.³ as the excavation is limited) around the Turnout structure is scheduled for tomorrow.

Today's Activities:

The GVWUA-supplied pre-cast **Turnout** structure for **Sta. 2099+65** had been delivered yesterday. The area had been excavated and a layer of 3/4" aggregate placed in the bottom to make leveling easier. Today it was aligned with the pipe and canal slopes before the 8" pipe was connected to the existing discharge line with a repair coupler. A minimum of 2% grade away from the canal was put on the 9'8" connecting pipe. The area was covered with insulating blankets to prevent freezing so flow-fill can be placed tomorrow.

Final touches on the underdrain had been applied and it is complete.

Dump trucks continue to deliver pit run material from Renderly's approved stockpile. The GPS-guided excavator pulled it down the Rt. slope and across invert to approx. 6" thickness.

The mini-excavator with compactor did some more slope compacting in the afternoon.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/10/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Luke
6. Date: 01/10/24 Day of Week: Wednesday	7. Time Arrived: 0900 hrs./ Time Departed: 1400 hrs.
8. Weather: Variable Clouds, Lite Breeze	9. Temperature (°F): Mid 10's to Lo 30's
10. Ground Condition: Dry Under Skiff of Snow	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA 8 Yds. ³ CLSM	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
16. Contractor Crews on Site: MWC	

Discussions: MWC will have a power tamper on site tomorrow to begin structural backfill on the Turnout (see below). Huddleston-Berry was contacted to perform density testing accordingly.

Today's Activities:

The pre-cast **Turnout** structure @ **Sta. 2099+65** was bedded with **8 yds.³ of flow-fill (CLSM)** as specified. The area & structure had been covered with insulating blankets overnight which were removed shortly before placement. The truck arrived about 1130 hrs. and placement was complete shortly after noon. After initial set of the bedding material, they re-covered the area with the insulating blankets. Structural backfill will be performed later, probably tomorrow.

Dump trucks continued to deliver pit run material from Renderly's approved stockpile and the GPS-guided excavator continued spread it to depth down the Rt. slope & across canal invert. A skid steer was also used to move this material across invert.

A mini-ex with the vibratory plate continued to compact the upper portion of the Lt. slope in the area U/S of the Turnout structure.

Photos were taken & are available upon request.

Photo 408 – Skiff of Snow

Photo 417 – T.O. Ready to cover/backfill.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 01/16/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.	
6. Date: 01/16/24 Day of Week: Tuesday	7. Time Arrived: 0905 hrs./ Time Departed: 1500 hrs.	
8. Weather: Clear to Partly Cloudy, Lite Breeze	9. Temperature (°F): Mid 10's to Hi 30's	
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer	
16. Contractor Crews on Site: MWC		

Discussions: As there was 2-3" of snow at the project Thurs., 1/11, no work was performed. Huddleston-Berry (H-B) was called off for density testing until compaction around the Turnout Structure is begun.

I contacted Paul yesterday (1/15) morning and he replied that things were still pretty moist and work would be minimal (haul pit run if the access roads allow, spread & compact). He said they would probably start on the under-drain discharge pipe and haul more pit run if things had dried enough which they had.

Paul called today and asked about the **underdrain coupling** and drain trench/pipe across the invert. He said Kris asked them to only install the 'Y' (see *Activities* below) and GVWUA would determine how to connect the underdrain to the discharge line that is to be bored from the **wash near Sta. 2085+50**. That activity is still scheduled for Jan. 29th (see Daily Diary from 1/3/24). He texted later in the afternoon saying the 'Y' and accessories will be delayed until later in the week.

Paul also asked about the far end of the underdrain and if there was any other treatment required. As per contract Dwg. 8-417-936, the **underdrain pipe is to be terminated near Sta. 2101+50 with an end cap**. This is approx. 50' U/S of the D/S anchor trench (EOP). I confirmed both items with Kris and we are all currently in agreement.

Today's Activities: More spreading & compacting pit run down the Rt. slope was performed as previously detailed. A skid steer was also used to move material. Dump trucks continued to deliver pit run material from Renderly's approved stockpile.

The trench for the under-drain discharge pipe was excavated across canal invert @ approx. Sta.2088+60 (±10' D/S of the anchor trench). MWC is to install a 6" pipe fitting (solid wall 'Y') in the under-drain and solid wall 6" pipe a couple of feet long (taped to keep debris out). GVWUA's boring contractor, Apeiron, will assist in tying into the underdrain (see *Discussions* above).

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/18/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man., Danny Martinez – Supt.
6. Date: 01/18/24 Day of Week: Thursday	7. Time Arrived: 0900 hrs./ Time Departed: 1330 hrs.
8. Weather: Hi Thin Clouds, Lite Breeze	9. Temperature (°F): Hi 20's to Mid 40's
10. Ground Condition: Skiff of Snow, Moist	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 4 Track Excavators (1 GPS Guided, 2 Mini), 3 10CY Dump Trucks, FE Loader, Motorgrader, SkidSteer
16. Contractor Crews on Site: MWC	

Discussions: MWC backfilled the under-drain trench previously excavated as the boring operation will doubtfully begin there. The 'Y' fitting specified by GVWUA was installed U/S to compensate (see *Activities* below).

Today's Activities: More spreading & compacting pit run down the Rt. slope & invert was performed as previously detailed. A skid steer was used to move material and dump trucks delivered pit run material from Renderly's approved stockpile. The Mini-ex with compactor worked on the slopes.

Structural backfill of the **Turnout** structure @ **Sta. 2099+65** was begun yesterday and continued today. MWC opted to use Class 6 aggregate from Renderly's Pit. Huddleston-Berry (**H-B**) was on site to test backfill density there and on the canal slope where it had been filled a little over 1'. Those test results were as follows:
Structure backfill density @ Sta. 2099+65 behind the structure was **D= 97.7, Moisture = +2.5%, (spec. D = ≥ 95%, Moisture = -2 to +4%)**.

Canal embankment on the slope, **Sta. 2099+50, 20' Rt., 4' above Invert** was **D= 92.6, Moisture = +2.5%, (spec. D = ≥ 85%, Moisture = -2% to +4%)**.

Both results were well within the acceptable range.

They installed the '**Y**' shaped coupler to the perforated pipe about **30' D/S of Sta. 2088+50** with it pointing U/S across canal invert so solid wall pipe can be tied into it for the discharge line. This should allow sufficient room for the boring operation to make the connection.

Photos were taken & are available upon request.

438 – Structure Backfill

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/26/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: Geo. Goehl, Kris & Dale O&M	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 01/26/24 Day of Week: Friday	7. Time Arrived: 0900 hrs./ Time Departed: 1200 hrs.
8. Weather: Broken Skies, Light Breeze	9. Temperature (°F): Hi 30's to Lo 50's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 3 Track Excavators (1 GPS Guided, 2 Mini), 1 10CY Dump Truck, FE Loader, Motorgrader, SkidSteer
16. Contractor Crews on Site: MWC	

Discussions: Kris & Dale, GVWUA O&M, were on site (see *Activities* below) and said all is ready for Apeiron to begin boring operations Monday. They met yesterday and confirmed how/where the boring will be done. All systems are 'go' for boring Monday with plenty of pipe to be on site for pulling back through the bore on Tuesday. Kris said he & MWC agreed on an arrangement on the tie-in from the under-drain to the discharge line.

Today's Activities: MWC had completed excavation of the **liner anchor bench** at the elevation of top of shotcrete on the **Lt. slope** and shaped/compacted the area adjacent to the Turnout so GVWUA's O&M crew can form & place wingwalls on the structure when able. They had used the power tamper on much of the area of the bench where the anchor nails will be driven.

They used the large excavator and front-end loader to dress up the area where excess material had been deposited so replacing fencing can be done.

Two laborers used hand tools to clean up the area near Sta. 2088+50 and ensure a minimum of 1' of sound existing liner is exposed for sealing the first panel of liner for this year's reconstruction.

The location for the boring machine by the **wash near Sta. 2085+50** was smoothed a little after yesterday's meeting with Apeiron and the '**daylighting**' area (from approx. Sta. 2088+95 to 2099+25) for the bore was excavated today by GVWUA's O&M staff.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 01/29/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: Geo. Goehl – CM, Kris et. al.	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.	
6. Date: 01/29/24 Day of Week: Monday	7. Time Arrived: 0850 hrs./ Time Departed: 1630 hrs.	
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Lo 30's to Mid 50's	
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 3 Track Excavators (1 GPS Guided, 2 Mini), 1 10CY Dump Truck, FE Loader, SkidSteer	
16. Contractor Crews on Site: MWC, Apeiron & GVWUA		

Discussions:

GVWUA's O&M crew formed and said they will place wingwalls on the Turnout structure (see *Activities* below) tomorrow using < 1 yd³ of concrete. The walls need several days of cure time before the liner anchors can be drilled & epoxied into them. Kris Aldrich was on site (Dale & Dennis too later) and said they plan to install a Fernco fitting on the U/S end of the pipe placed in the boring operation. MWC will connect to that fitting.

Apeiron began boring operations on the discharge line and hope to be complete by late afternoon (see *Activities* below). This line is to discharge water collected in the under-drain & will tie into the drain across canal invert.

Paul (MWC) and I discussed the liner anchor benches, methods used in previous contracts for anchoring liner and edging shotcrete, dressing slopes prior to placing liner, and setting stationing (50' intervals) for measurement/progress purposes. We also talked about the need for 1' minimum of sound PVC to attach to at the beginning of the reconstruction area. He said they will demobilize some equipment but little else this week. Equipment can quickly be brought back as needed.

Today's Activities:

GVWUA's O&M crew formed wingwalls & placed rebar for the Turnout structure @ Sta. 2099+65 today. Concrete is scheduled for 1100 hrs. tomorrow.

Apeiron was on site @ approx. 0800 hrs. with the boring machine. They set up in the wash near Sta. 2085+50 to bore downstream to the '**receiving**' area between approx. Sta. 2088+95 & 2099+25. This will be the discharge line for the under-drain on this year's reconstruction and approx. 300' from the previously reconstructed area D/S of the wash. Boring began @ approx. **1000 hrs.** and surfaced in the receiving pit @ approx. **1300 hrs.** They then attached the reamer, connected 16 sticks (20' ea.) of Certi-Lock, Schedule 40, and began tripping back @ approx. **1530 hrs.** and said they plan to complete the pull today.

MWC had one laborer work on fencing the approved spoil deposit area today. The Motorgrader and front-end loader were removed from the project after the loader's tire was repaired.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 01/31/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 01/31/24 Day of Week: Wednesday	7. Time Arrived: 0850 hrs./ Time Departed: 1430 hrs.
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Lo 30's to Hi 50's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator on Transport
16. Crew(s) on Site: GVWUA	

Discussions: Paul texted me yesterday asking “When can MWC tie into the underdrain discharge pipe and begin final preparations”. As I was not on site , I referred him to Kris as they had made an agreement on time/duties. Paul also texted the “Liner is to start next week”. I replied that H&H Linings & MWC will have to firm up a start date with forecast precipitation to be considered (vacuum system available). The ‘final preparations’ he referred to include but are not limited to discharge line installation, compaction, smoothing slopes, and adequate amount (1’ min.) of sound liner to weld into.

H&H Lining’s Brian Kendall looked over the project and will pass on his findings/requirements to MWC. He said it would most likely be next week before much beyond filling sand bags could be done and that depends on weather conditions & MWC’s progress.

Today's Activities:

GVWUA’s O&M crew had placed the wingwalls on the Turnout structure @ Sta. 2099+65 yesterday & covered them with an insulating blanket.

Their excavator was used in the wash to shape/smooth the area before installing the control gate valve. The fitting (not a Fernco as it was unavailable) in the receiving pit will be installed tomorrow.

Apeiron had completed the solid wall pipe installation from the **wash near Sta. 2085+50** downstream to the ‘receiving’ area between approx. **Sta. 2088+95 & 2099+25** yesterday. They left in excess of 10’ of pipe at each end for ease of installing a control valve @ the outlet (wash) and connector fitting in the receiving pit for coupling to the pipe across canal invert. It was apparent they had used a fair amount of water in the pipe-pulling process but had vacuumed the receiving pit dry (relatively).

MWC had demobilized nearly all equipment and the GPS-guided excavator was removed this morning.

H&H Linings: Brian Kendall arrived @ about 1100 hrs. to look at the project. After looking at the recently placed wing walls, he said he would have to delay drilling holes for the anchor studs until next week so the walls can gain adequate strength. He looked at the amount of sound liner (again, 1’ min.) to weld into and noted paint marks where it is lacking. He stressed that 1’ is a minimum and a straight edge is desirable.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/02/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors		Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM		5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/02/24 Day of Week: Friday		7. Time Arrived: 0900 hrs./ Time Departed: 1300 hrs.
8. Weather: Overcast, Intermittent Light Rain & Breeze		9. Temperature (°F): Lo 40's to Lo 50's
10. Ground Condition: Moist to Wet		11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes		13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA		15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator
16. Crews on Site: MWC		

Discussions:

Brian Kendall, H&H Linings, called me **yesterday** and said he had talked with Aaron @ MWC about starting liner deployment. Brian told Aaron what was yet to be completed before lining can begin and they settled on starting liner deployment on Wednesday if all is ready and weather permits. Brian said he may be on site Tuesday to fill sandbags and make sure there is material (geotextile & PVC) on site or set to arrive early Wednesday.

This morning Paul confirmed the Wednesday target date for liner, allowing MWC time to have things ready. They will complete the discharge line trench backfill, compact slopes as needed well past 100' (for lining to start), expose enough PVC liner for welding and have whatever they need to begin shotcrete as soon as conditions allow (see *Activities* below). Weather conditions will be adjusted to as necessary.

Today's Activities:

An MWC crew placed CLSM (flow-fill) around the discharge pipe (approx. 100 L.F. including the exposed pipe installed in the bore) to a depth at or just above the pipe. This ensured the haunch was well filled and sealed. The receiving pit was partially filled as well and the beginning of the bore around the discharge pipe was hand-filled & tamped to ensure it was sealed as well as possible. They had 5 yds.³ delivered (Peak Ready-Mix) initially but ran short so an additional 4 yds.³ (min. order) was placed as the receiving pit had plenty of room before backfilling the slope begins. The top 6" of the cross-trench will be filled with pit run to allow water to pass to the underdrain.

The PVC liner at the beginning of this year's reconstruction (see *Discussions* above), among other things will be worked on so there will be enough for H&H Linings to seam into.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/05/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVVUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.	
6. Date: 02/05/24 Day of Week: Monday	7. Time Arrived: 0900 hrs./Time Departed: 1515 hrs.	
8. Weather: Partly Cloudy, Breezy	9. Temperature (°F): Lo 30's to Mid 50's	
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVVUA	15. Equipment on Site: Job Trailer, 4K Water Truck, 1 Mini-Excavator, 1 Skid Steer	
16. Crews on Site: MWC, & GVVUA (vacated)		

Discussions:

Brian Kendall, H&H Linings, called and enquired about when his crew can drill anchor holes in the turnout wingwalls. I confirmed the forms were stripped (see *Activities* below) and let him know. He still plans to fill sandbags tomorrow and may drill the holes then as well.

Paul & I discussed outstanding items to be completed before liner deployment can happen. These include but are not limited to the need to expose enough PVC liner for welding, fill & compact the receiving pit in the Lt. embankment, compact slopes as needed, and smooth slopes & invert so there are no noticeable ridges/windrows or rock pockets that the liner will rest upon. We also talked about survey stationing, placing the man-lift for applying shotcrete into the canal, and the possibility of precipitation later this week.

Today's Activities:

MWC had completed the **discharge line** trench backfill with pit run and blended/smoothed it to match adjacent invert. The line ties into the underdrain @ approx. **Sta. 2089+85** and exits the canal prism @ approx. **Sta. 2089+10** as it runs U/S across invert to the left and proceeds to the **wash @ approx. Sta. 2085+50**.

They used a demo-saw and hand tools to remove shotcrete to expose the PVC liner where the new liner will be wedge-welded to begin this year's reconstruction. Additional pond liner (a form of bentonite) was placed at the U/S toe of the earthen bridge to try to keep water from percolating through and saturating the liner to be welded.

The mini-ex and skid steer were used to place the pond liner as well as backfill material into the Lt. embankment where the discharge line excavation was. The vibratory plate was used to compact the fill in several lifts.

GVVUA removed their excavator form the project and stripped forms from the wingwalls on the Turnout Structure @ Sta. 2099+65.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/07/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor’s Representatives on site: Paul Martinez – Proj. Man.	
6. Date: 02/07/24 Day of Week: Wednesday	7. Time Arrived: 0850 hrs./ Time Departed: 1430 hrs.	
8. Weather: Partly Cloudy,	9. Temperature (°F): Lo 40’s to Hi 40’s	
10. Ground Condition: Mostly Dry, Light Breeze and Flurries	11. Work on Schedule: Yes	
12. Contractor’s Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA 7 Rolls Geotextile (4-11oz., 3-12oz., 3 Panels 30 Mil. PVC	15. Equipment on Site: Job Trailer, 4K Water Truck, 1 Mini-Excavator, 1 Skid Steer, 1 Manlift	
16. Crews on Site: MWC		

Discussions: Monday evening, Paul Martinez emailed that he was “*cancelling H&H until Monday when the weather looks better. Shotcrete Tuesday*”. The dates he refers to are 2/12 and 2/13, next week.

I spoke with H&H Linings to see if they still planned to fill sandbags and maybe drill anchor holes in the turnout this week. Brian was doubtful but said they may bring some equipment on site later in the week.

Huddleston-Berry was contacted yesterday to perform a couple of densities and could squeeze it in today between 1000 hrs. and noon, weather permitting (see *Activities* below).

Paul & I talked about final liner exposure for welding attachment, insulating blankets and their anchoring method (rebar & sandbags), liner deployment & shotcrete schedules, getting liner materials on site, equipment and safety devices (airline whip-checks) among other things. Weather & temperatures are always a concern.

Today’s Activities: MWC: The mini-excavator was used to remove ‘scalped’ material from invert. This was mostly fist-sized rock from the pit run that segregated as the invert was smoothed with the skid steer loader. The material was deposited on the downstream side of the anchor trench where they are to “Install 10 feet of 6” angular rip rap on side slopes and invert of canal past end of new shotcrete” (Dwg. 8-417-936, Plan note by North arrow).

The skid steer was used to fine-grade/smooth canal invert from the beginning progressing downstream.

Two laborers used 3’ asphalt rakes to smooth the slopes, both sides, progressing D/S. A small stockpile of pit run was sifted through with most of the larger aggregate being removed so the finer material can be used as ‘skim-coat’ where needed (rock pockets, liner trench subgrade, etc.). Liner exposure continued when they were able.

Jacob Patrick (**certified nozzleman**) was on site in the afternoon and **the manlift** arrived in the afternoon as well.

Huddleston-Berry was called to perform density tests on the compacted embankment for the underdrain discharge line at the following locations with the corresponding tests results:

Canal embankment on the Lt. slope, **Sta. 2089+00, 20’ Lt., 4’ above Invert – D = 98.5, Moisture = +4.0%,**
Canal embankment on the Lt. slope, **Sta. 2089+20, 20’ Lt., 4’ above Invert – D = 92.6 , Moisture = +3.2%,**
(spec. D = ≥ 85%, Moisture = -2% to +4%). Specifications were met & both tests were accepted in the field.

H&H Linings: No activity today.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/09/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Griffen – Foreman	
6. Date: 02/09/24 Day of Week: Friday	7. Time Arrived: 0850 hrs./ Time Departed: 1210 hrs.	
8. Weather: Overcast, Lite Breeze, Snow Flurries	9. Temperature (°F): Lo 30's to Hi 30's	
10. Ground Condition: Muddy, <1" Snow	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA PVC & Geotextile (see below)	15. Equipment on Site: Job Trailer, 4K Water Truck, 1 Mini-Excavator, 1 Skid Steer, 1 Manlift, Compressor	
16. Crews on Site: MWC		

Discussions: Griff of MWC and I talked about final preparations of the existing PVC to weld the new PVC to. They were very near ready with minor smoothing of the prism and a little skim-coat in a rock-pocket to do. They continued with that and did a sweep for trash. Griff said they had talked with Brian of H&H Linings about quantities of geotextile needed*. Brian told Griff they need 5 rolls of each (10 oz. & 12 oz.) for each panel. All **PVC (10 panels – 140-141' length)** are on site along with an appreciable amount of **geotextile** (Twelve 12oz. & Twenty 10oz. rolls. MWC brought more in later in the day. The shotcrete air compressor was on site as well. Griff said H&H brought their skidsteer on site yesterday and filled a few sandbags.

*Kris Aldredge called me yesterday & we discussed the quantities of geotextile needed as well. He said he would make sure GVWUA has enough to complete the project.

Today's Activities:

MWC: A five-man crew was finishing final preparations and cleanup so liner deployment can commence Monday. They had exposed a minimum of 1' of sound liner and compacted the trench D/S beneath it across the prism. A bit of skim-coat was applied to a rock pocket in the invert and the toe-of-slope was gleaned for rocks that had rolled down the slopes. A bit of fill (±10" tapered to 0 in approx. 30') was necessary on the bench at the top of the Lt. slope to bring it up to the 18.3' from toe to top of slope as specified and to line up with the existing shotcrete it ties into. This was done with the mini-ex and a vibratory plate.

They positioned a 2" trash pump to remove standing water from the canal upstream of the project to lower it so it presents less danger of infiltrating into this year's reconstruction.

H&H Linings: No activity today.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/12/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/12/24 Day of Week: Monday	7. Time Arrived: 0820 hrs./ Time Departed: 1500 hrs.
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Mid 20's to Mid 40's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: Paul said they plan to have shotcrete on site about 0900 hrs. tomorrow as temperatures look favorable by then. They will have 18" x 18" x 5+" panels on site (see *Activities* below) along with curing compound, insulating blankets, rebar to anchor them and sandbags to hold them in place.

I contacted Huddleston-Berry to test fresh shotcrete and get a panel shot tomorrow around 1000hrs. with a 'will call' for future testing.

Today's Activities:

PVC Canal Liner, Sec. 35 47 00, 3.02 – H&H Lining: Installation: Sta. 2088+50 to 2091+25 (2 panels).

The H&H Lining crew (Foreman & 7 technicians) arrived about 0800 hrs. and began shuttling sandbags. They proceeded to lay out the 12oz. geotextile and by 0915 hrs. had acceptable temperature (> 32°F, < 122°F as per Sec. 35 47 00, Part 3, 3.01 – Deploying the Liner) to begin deploying the PVC liner of the 3-part system.

Panels of PVC were wedge-welded as per Sec. 3.03 – Field Seaming: A. Temp – PVC & Air between 40° & 105°F, B. Hot Wedge Welding - 4" to 6" Lap, **1-1/2" single bond** or two 1/2" seams.

All welds were checked for soundness as per Sec. 3.04 – Inspection of Field Seams: B. **Air Lance**. Sec. 3.05 – Testing of Field Seams: A. every 4 hrs., C. Records, D. Sample ≥14" x 24", E. Test for Seam Strength & Peel Adhesion (**Peel ≥15 lbs./in., Shear ≥58 lbs./in.**). Today's tests yielded the following results:

Peel = 47, 39, 44, 47, 50, 46, 46, 44, 45, 46 . Shear = 83/85, 101/103, 105/102, 102/107, 99/89.

The attachment @ approx. Sta. 2088+50 was performed by shortly after noon and then the top layer of geotextile was deployed before anchoring both sides into the benches atop the slopes. A few 'hot-patches' were necessary to water-proof holes/gaps in the attachment. Both edges were anchored atop the benches with 12" spikes with fender washers on approx. 2' spacing.

MWC: They did some slope dressing with asphalt rakes and remove windrows of rocks in the invert using hand tools. They brought in their concrete pump and the **nozzleman Jacob Patrick** was on site to look at the project again and outfit the pump with slick line & air hose. They taped the two together & installed whip-checks.

Two laborers did several miscellaneous tasks including assembling the shotcrete test panels (18"x18"x 5.5"). They also cut boards to use as edge forms (fully portable) to shape the top edge of the shotcrete lining.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/13/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/13/24 Day of Week: Tuesday	7. Time Arrived: 0730 hrs./ Time Departed: 1800 hrs.
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Mid 20's to Hi 40's
10. Ground Condition: Mostly Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: Paul said he ordered shotcrete for 1000 hrs. on the job to ensure temperature and to allow his operation time to get everything ready. He has a will-call in for 0800 hrs. tomorrow, temperature dependent.

Today's Activities:

PVC Canal Liner, H&H Lining: Installation: Sta. 2091+25 to 2093+95 (2 panels) = 270 l.f.

The H&H Lining crew (Foreman & 7 technicians) arrived about 0800 hrs. and continued installation as previously detailed. Panels of PVC were wedge-welded & all welds were checked for soundness. Test for Seam Strength & Peel Adhesion (**Peel ≥15 lbs./in., Shear ≥58 lbs./in.**) were conducted & today's tests yielded the following results: Peel = 50/52, 55/44, 42/45, 46/44, 39/41 Shear = 80, 82, 81, 84, 79.

H&H Linings won't be back until later in the week or early next week, depending on shotcrete progress.

MWC: Placing Shotcrete, Sta. 2088+45 to Sta. 2089+35, = 90 Linear Feet, 60 Yds.³ of Mix 8702573 Placed:
First day of operation - Placement was performed from the manlift in the bottom of the canal. The mix was conveyed via slick-line from their concrete pump and propelled with air from a compressor. Certified nozzleman was **Jacob Patrick**. Thickness was monitored with rebar probe gauges with 3" indicator bars.

The first truck with 10 yds.³ arrived @ 1015 hrs., the line was slicked, placement began @ 1045 hrs. and was done in the usual manner. Huddleston-Berry technician Alex arrived at 1000 hrs. & conducted tests on fresh concrete about 3 yds.³ into the 1st load. Test results were: **6.0% air, 67°F, & 1/2" slump.**

An 18"x18"x4" panel was shot to check compressive strength & will be treated as specified (covered with an insulating blanket, remain on site @ approx. Sta. 2088+75 for 3 days, and then be taken to the lab for compression testing). Two-3-day cores will be broken if H-B is able along with the standard two 7d. and two or three 28d. cores to follow. The 7-day cores will be broken on February 20th & the 28-day cores broken on March 12th.

At the end of the shift, cure was applied & blankets placed & anchored with rocks & sandbags.

Miscellaneous: Survey stakes were set on 50' intervals on the Lt. access road atop the liner anchor bench. MWC laborers cleaned the joint edge so a reasonable bond could be made with the new/old shotcrete at the beginning of this year's reconstruction.

Photos were taken & are available upon request. 711-3" Depth, 717-Beginning, 723-Test Panel, 726-on the way

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/14/2024	
Canal Lining – Sta. 2088+50 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.	
6. Date: 02/14/24 Day of Week: Wednesday	7. Time Arrived: 0730 hrs./ Time Departed: 1645 hrs.	
8. Weather: Variable Clouds, Lite Breeze	9. Temperature (°F): Lo 30's to Lo 50's	
10. Ground Condition: Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA More Geotextile was brought in by MWC	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor	
16. Crews on Site: MWC		

Discussions: As the overnight temperature is supposed to be mid 30's, concrete is ordered for 0800 hrs. tomorrow. H-B is scheduled for testing tomorrow.

Today's Activities:

PVC Canal Liner, H&H Lining: Installation: Up to 2093+95 (4 panels) = 550* l.f. total. None today.
*** Beginning was actually 2088+45**

MWC: Shotcrete, Sta. 2089+35 to Sta. 2090+50, = 115 Linear Feet, 80 Yds.³ of Mix 8702573 Placed
 Temperatures of yesterday's placement ranged from high 40's to high 50's beneath the insulating blankets shortly after 0730 hrs. this morning.
 Ambient temperature on site was 34°F at 0830. The first truck with 10 yds.³ arrived @ 0850 hrs., the line was slicked, placement began @ 0905 hrs. and was performed in the usual manner. The certified nozzleman is **Jacob Patrick**. He mentored an understudy part of the day. The 3" (minimum) thickness continued to be monitored with probe gauges and top of shotcrete was shaped with backer-boards and hand tools.
 Huddleston-Berry was not requested today.
 At the end of the shift, cure was applied & blankets placed & anchored with rebar & sandbags.

Miscellaneous: Several bundles of rebar were brought on site to help anchor insulating blankets which are to remain in place atop the shotcrete for 3 days.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager

Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/15/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/15/24 Day of Week: Thursday	7. Time Arrived: 0730 hrs./ Time Departed: 1615 hrs.
8. Weather: Mostly Overcast, Lite Breeze	9. Temperature (°F): Hi 30's to Lo 50's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: As usual, the weather was discussed ad nauseum and if temperature is acceptable, concrete will be ordered for 0800 hrs. on the job tomorrow. H&H Linings will not be back until next week sometime. They informed MWC how many rolls of geotextile (10 oz. & 12 oz.) are needed to complete the project.

Today's Activities:

PVC Canal Liner, H&H Lining - Installation: Sta. 2093+95 to 2096+65 (2 panels) = 270 l.f. (820 Total)

The H&H Lining crew (Foreman & 7 technicians) arrived about 0800 hrs. and continued installation as previously detailed. Panels of PVC were wedge-welded & all welds were checked for soundness. Test for Seam Strength & Peel Adhesion (**Peel ≥ 15 lbs./in., Shear ≥ 58 lbs./in.**) were conducted & today's tests yielded the following results: Peel = 53/57, 48/50, 52/55, 49/51, 56/56 Shear = 96, 89, 86, 90, 85

MWC: Placing Shotcrete, Sta. 2090+50 to Sta. 2091+80, = 130 Linear Feet, 90 Yds.³ of Mix 8702573

Temperature was acceptable before 0730 hrs. and placed shotcrete temps ranged from mid-40's to mid-50's. The first truck with 10 yds.³ arrived @ 0830 hrs., the line was slicked, placement began @ 0845 hrs. and was done by about 1600 hrs. in the usual manner. Huddleston-Berry technician Alex arrived at 0945 hrs. & conducted tests on fresh concrete about 6 yds.³ into the 3rd load. Test results were: **5.0% air, 71°F, & 1" slump.**

An 18"x18"x4" panel was shot to check compressive strength & will, remain on site @ approx. Sta. 2090+80. The standard two 7d. and two or three 28d. cores will be broken respectively on February 22nd & March 14th.

At the end of the shift, cure was applied & blankets placed & anchored with rebar & sandbags.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/16/2024

Canal Lining – Sta. 2088+50 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/16/24 Day of Week: Friday	7. Time Arrived: 0730 hrs./ Time Departed: 1700 hrs.
8. Weather: Variable Clouds, Lite Breeze	9. Temperature (°F): Lo 30's to Mid 50's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: Paul & I talked about the area(s) covered with insulating blankets and when they can be advanced. Four GVIC personnel were on site with Kris Aldrich today to observe and discuss the lining operation.

Today's Activities:

PVC Canal Liner, H&H Lining: Sta. 2088+45 to 2096+65 (6 panels) = 820 l.f. to date.

No liner was placed today. At the **Turnout Structure, Sta. 2099+65**, their technicians drilled holes for the adhesive anchor bolts as per Dwg. 8-417-905 and Sec. 35 47 00, 3.06 – Securing PVC Liner to Concrete. All-thread studs were epoxied and the structure readied for PVC attachment when that operation commences to this location.

MWC: Placing Shotcrete, Sta. 2091+80 to Sta. 2093+15, = 135 Linear Feet, 100 Yds.³ of Mix 8702573
Temperature was acceptable right at 0800 hrs. and previously placed shotcrete temps. ranged from mid-40's to mid-50's under the insulating blankets. The first truck with 10 yds.³ arrived @ 0800 hrs., the line was slicked, placement began @ 0815 hrs. and was done in the usual manner. No testing was requested today but 3-d. cores from 2/12 are to be broken today (results to follow). Placement was complete @ approx. 1650 hrs.

At the end of the shift, cure was applied and blankets placed & anchored with rebar. The area placed 3 days ago (Tuesday) was uncovered and those blankets used to cover today's placement.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/20/2024

Canal Lining – Sta. 2088+45 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/20/24 Day of Week: Tuesday	7. Time Arrived: 0730 hrs./ Time Departed: 1700 hrs.
8. Weather: Overcast, Lite Breeze	9. Temperature (°F): Hi 30's to Hi 50's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: H&H Linings lead technician contacted MWC for direction on how many more ±140 l.f. panels to install today (see *Activities* below). Possible precipitation remains the greatest variable and MWC is aware standing water on the liner must be removed within reason before shotcrete can proceed in the event of rain.

H&H said they need a few more rolls of geotextile to complete the project. GVWUA has no more in reserve so MWC was asked to purchase what is needed but cannot locate 10 oz. & 12 oz. locally. Paul asked if they could go to a heavier material as it is available in town. I told him that would be fine as long as the top layer is non-woven so the shotcrete will adhere to it. They will get enough 14 oz. to complete the installation as it exceeds the specified materials.

Today's Activities:

PVC Canal Liner, H&H Lining - Installation:

The H&H Lining crew (1 Lead & 6 technicians) arrived about 0800 hrs. and continued installation as previously detailed. Panels of PVC were wedge-welded & all welds were checked for soundness. Test for Seam Strength & Peel Adhesion (**Peel ≥15 lbs./in.**, **Shear ≥58 lbs./in.**) were conducted & today's tests yielded the following results: Peel = 48/55, 48/55, 48/55, 51/54, 52/57 Shear = 88, 89, 84, 92, 87

There are two remaining panels of 140 l.f. remaining to be installed. Measuring around the outside anchor bench shows there will be ±10 l.f. that can be deposited in the cutoff trench @ Sta. 2102+00.

MWC: Placing Shotcrete, Sta. 2094+30 to Sta. 2095+70, = 140 Linear Feet, 100 Yds.³ of Mix 8702573 725'

Temperature was acceptable well before 0800 hrs. today. Previously placed shotcrete temps were acceptable as well. The first truck with 10 yds.³ arrived @ 0800 hrs., the line was slicked, placement began @ 0815 hrs. and was done by about 1630 hrs. in the usual manner. Testing fresh concrete was not requested today.

At the end of the shift, cure was applied & blankets placed & anchored with rebar.

Miscellaneous: MWC continued to fill anchor bench above the shotcrete on the slopes using a skidsteer loader.

Photos were taken & are available upon request.

Mid-Point Sta. 2095+23

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary		Page 1 of 1
1. Contract: Government Highline Canal	2. Project: Paradise Hills Lining 02/22/2024	
Canal Lining – Sta. 2088+45 to 2102+00		
3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1	
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.	
6. Date: 02/22/24 Day of Week: Thursday	7. Time Arrived: 0730 hrs./ Time Departed: 1730 hrs.	
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Mid 30's to Mid 50's	
10. Ground Condition: Dry	11. Work on Schedule: Yes	
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:	
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor	
16. Crews on Site: MWC & H&H Linings		

Discussions: Shotcrete is scheduled for just after 0800 hrs. with regard to the forecast.

Chris said the geotextile is in & he let Griffen (MWC) know. H&H Linings is ready for it in the morning.

Today's Activities:

H&H Lining - PVC Canal Liner Installation: Sta. 2088+45 to 2100+70 (9 of 10 panels) = 1225' To Date

The H&H Lining crew (1 Foreman & 7 technicians) arrived about 1115 hrs. and continued installation as previously detailed. A panel of PVC were wedge-welded & all welds were checked for soundness. Test for Seam Strength & Peel Adhesion (**Peel ≥ 15 lbs./in., Shear ≥ 58 lbs./in.**) were conducted & today's tests yielded the following results: Peel = 33/35, 39/44, 43/50, 47/51, 36/47 Shear = 81, 85, 87, 89, 90

There is one remaining panel of 140 l.f. remaining to be installed.

Turnout Structure, Sta. 2099+65: Liner attachment was made as per Dwg. 8-417-905 and Sec. 35 47 00, 3.06 – Securing PVC Liner to Concrete. The liner was attached to the structure over butyl tape, then the cushion strip and stainless-steel batten strips, and sealed with elastomeric. The first torquing (25 ft/lbs.) was applied.

MWC: Placing Shotcrete, Sta. 2097+05 to 2098+40, = 135 Linear Feet, 100 Yds.³ of Mix 8702573 (1000')

Temperature was acceptable just before 0800 hrs. today. Previously placed shotcrete temps were acceptable too. The first truck with 10 yds.³ arrived @ 0800 hrs., the line was slicked, placement began @ 0815 hrs. and was done by about 1555 hrs. in the usual manner. At the end of the shift, cure & blankets were applied.

Huddleston-Berry technician Alex arrived at 1015 hrs. & conducted tests on fresh concrete about 4 yds.³ into the 4th load. Test results were: **6.0% air, 72°F, & 2.0" slump.**

An 18"x18"x4" panel was shot to check compressive strength & will, remain on site @ approx. Sta. 2097+50. The standard two 7d. and two or three 28d. cores will be broken respectively on February 29th & March 21st.

The 7-day cores from last Thursday broke @ 2,630 & 2,330 psi.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association

Contract Daily Diary

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1. Contract: **Government Highline Canal**

2. Project: **Paradise Hills Lining**

02/23/2024

Canal Lining – Sta. 2088+45 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/23/24 Day of Week: Friday	7. Time Arrived: 0730 hrs./ Time Departed: 1715 hrs.
8. Weather: Mostly Sunny, Lite Breeze	9. Temperature (°F): Hi 20's to Mid 50's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Mini-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC & H&H Linings	

Discussions: Paul & I discussed the distance to complete shotcrete and possibility of 2 days or 3, depending on the weather. We also talked about how to treat the cutoff trench. Earth-fill & a bulkhead were discussed.

Today's Activities:

PVC Canal Liner, H&H Lining - Installation: Sta. 2100+70 to 2102+000 (10 panels) = 1355' Total

The H&H Lining crew (1 Lead & 6 technicians) arrived about 0815 hrs. and completed the installation as previously detailed, terminating with approx. 10' folded I not the lining anchor trench. A panel of PVC were wedge-welded & all welds were checked for soundness. Test for Seam Strength & Peel Adhesion (**Peel ≥15 lbs./in., Shear ≥58 lbs./in.**) were conducted & today's tests yielded the following results:

Peel = 55/57, 52/55, 62/56, 55/55, 52/57

Shear = 79, 79, 89, 89, 88

Sandbags were placed to hold the extra geotextile & PVC in the cutoff trench.

Turnout Structure, Sta. 2099+65: The batten anchors were torqued (25 ft/lbs.) again and a tech will finish with the 3rd torquing tomorrow.

MWC: Placing Shotcrete, Sta. 2098+40 to Sta. 2099+45, = 105 Linear Feet, 80 Yds.³ of Mix 8702573 (1105')

Temperature was acceptable just before 0820 hrs. today. Previously placed shotcrete temps were acceptable too. The first truck with 10 yds.³ arrived @ 0820 hrs., the line was slicked, placement began @ 0845 hrs. and was done by about 1645 hrs. in the usual manner. At the end of the shift, cure & blankets were applied.

Testing by Huddleston-Berry was not requested today.

Miscellaneous: MWC was contacted by GVWUA and brought out the remaining geotextile necessary to complete the project. it arrived @ approx. 1000 hrs. and was quickly deployed. A malfunction with the air nozzle during the 3rd load delayed placement for a few minutes and a plant problem lost between 30& 40 minutes between loads 7 & 8.

More bench filling was performed with the skidsteer.

Photos were taken & are available upon request.

849 – The Distance Shrinks

842 Cut-off Trench Sandbagged

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/26/2024

Canal Lining – Sta. 2088+45 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/26/24 Day of Week: Monday	7. Time Arrived: 0730 hrs./ Time Departed: 1715 hrs.
8. Weather: Partly Sunny, Lite Breeze	9. Temperature (°F): Mid 30's to Mid 60's
10. Ground Condition: Dry	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVVUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Midi-Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC	1 Motorgrader

Discussions: Paul & I discussed the rip rap installation D/S of Sta. 2102+00 as indicated on Dwg. 8-417-936, termination of the shotcrete at the anchor trench there, access road work, and final shaping/blending throughout the project. Completion of shotcrete is within reach tomorrow if the weather holds.

Today's Activities:

PVC Canal Liner, H&H Lining - Installation: Sta. 2100+70 to 2102+000 (10 panels) = 1355' Total

They removed their skidsteer loader & spreader bar during the day. Liner system is complete.

MWC: Placing Shotcrete, Sta. 2099+45 to Sta. 2101+15, = 170 Linear Feet, 120 Yds.³ of Mix 8702573=1270'

Temperature was acceptable all of last night so start time was accelerated today. Previously placed shotcrete temps were fine. The first truck with 10 yds.³ arrived @ 0740 hrs., the line was slicked, placement began @ 0800 hrs. and was done by about 0000 hrs. in the usual manner. At the end of the shift, cure & blankets were applied.

The Turnout Structure @ Sta. 2099+65 was tied into with shotcrete to completely cover the attachment system.

Huddleston-Berry technician Alex arrived at 1000 hrs. & conducted tests on fresh concrete about 4 yds.³ into the 4th load. Test results were: **6.0% air, 73°F, & 1 3/4" slump.**

An 18"x18"x4" panel was shot to check compressive strength & will, remain on site @ approx. Sta. 2100+00. The standard two 7d. and two or three 28d. cores will be broken respectively on March 4th & March 25th.

The **7-day** cores broken yesterday (cast 2/19) came in @ **3,420 & 3,720 PSI.**

Miscellaneous: More anchor bench fill was performed today with the skidsteer. They brought a midi-excavator back on site and began to prepare the area just D/S of Sta. 2102+00 for rip rap. Invert & the Rt. slope are mostly ready. A Motorgrader was brought on site as well to dress roads.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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Grand Valley Water Users Association Contract Daily Diary

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1. Contract: **Government Highline Canal** 2. Project: **Paradise Hills Lining** 02/27/2024

Canal Lining – Sta. 2088+45 to 2102+00

3. Contractor: Martinez Western Constructors	Solicitation No. GVWUA- 2020-1
4. Grand Valley Water Users Association Representatives on site: George Goehl – CM	5. Contractor's Representatives on site: Paul Martinez – Proj. Man.
6. Date: 02/27/24 Day of Week: Tuesday	7. Time Arrived: 0730 hrs./ Time Departed: 1615 hrs.
8. Weather: Cloudy to Partly Sunny, Breezy to Windy	9. Temperature (°F): Hi 30's to Hi 40's
10. Ground Condition: Mostly Dry (AM Sprinkle)	11. Work on Schedule: Yes
12. Contractor's Work Acceptable: Yes	13. Work Orders Issued/Pay Estimate Received:
14. Materials Furnished to Job Site by GVWUA	15. Equipment on Site: Job Trailer , 4K Water Truck, 1 Excavator, 1 skid steer, Pump & Compressor
16. Crews on Site: MWC	1 Motorgrader

Discussions: Paul texted they had backed concrete off as a precaution as an intermittent shower passed near the project. It was nowhere near enough to halt operations. Troy (concrete foreman) ordered concrete after the skies cleared and liner dryness was assured.

Placing Shotcrete, Sta. 2101+15 to Sta. 2101+95, = 80 Linear Feet, 59 Yds.³ of Mix 8702573=1350'

Temperature was acceptable all of last night so start time was accelerated today. Previously placed shotcrete temps were fine. The first truck with 10 yds.³ arrived @ 0840 hrs., placement began @ 0855 hrs., and was done by about 1515 hrs. in the usual manner. A formed edge (2'x4" boards used at top of slope edges) was created where rip rap can be placed adjacent to the liner. At the end of the shift, cure & blankets were applied. This brings shotcrete to conclusion.

Huddleston-Berry was not requested for testing today.

Miscellaneous: The Motorgrader was used to smooth/shape the access roads and the excavator was used to dress road shoulders, slopes, and waste areas.

They plan to place rip rap D/S of Sta. 2102+00, do more shaping & clean-up tomorrow.

Photos were taken & are available upon request.

24. Signature	<i>George A. Goehl</i>	25. Title	Construction Manager
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DATE	L.F.	C.Y.	Ft./C.Y.	Waste	NeatLine
2/13/2024	90	60	1.50	0	1.62
2/14/2024	115	80	1.44		"
2/15/2024	130	90	1.44		"
2/16/2024	135	100	1.35		"
2/19/2024	115	90	1.28		"
2/20/2024	140	100	1.40		"
2/21/2024	135	90	1.50		"
2/22/2024	135	100	1.35		"
2/23/2024	105	80	1.31		"
2/26/2024	170	120	1.42		"
2/27/2024	80	59	1.36	2*	"

* Over Order

Total/Avg.	1350	969	1.39
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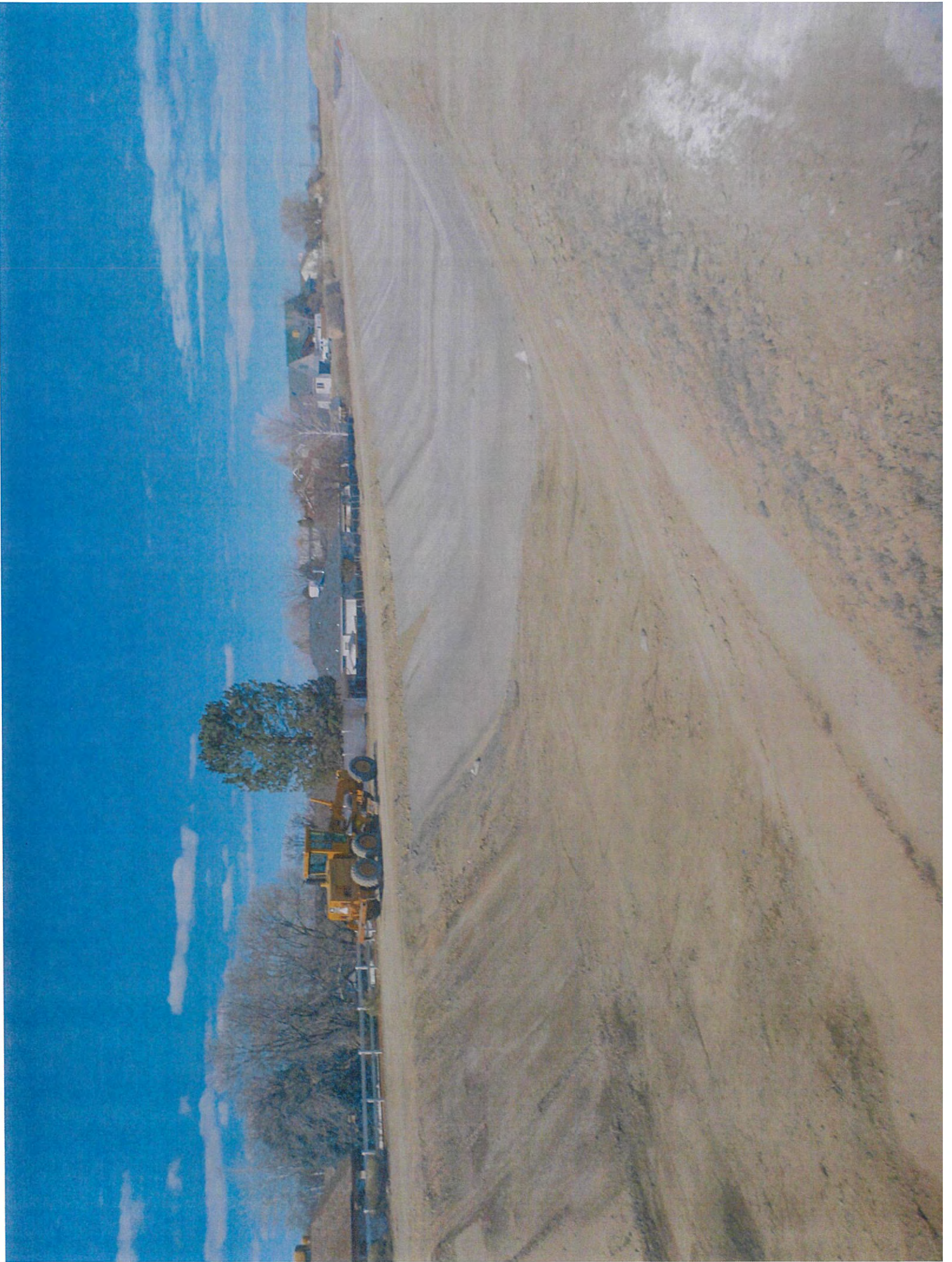
THIS IS PARADISE HILLS PRISM

Neatline – 66.52' across prism, .25' thick = 16.63 ft.³, 27/16.63= 1.62 lf/yd³,

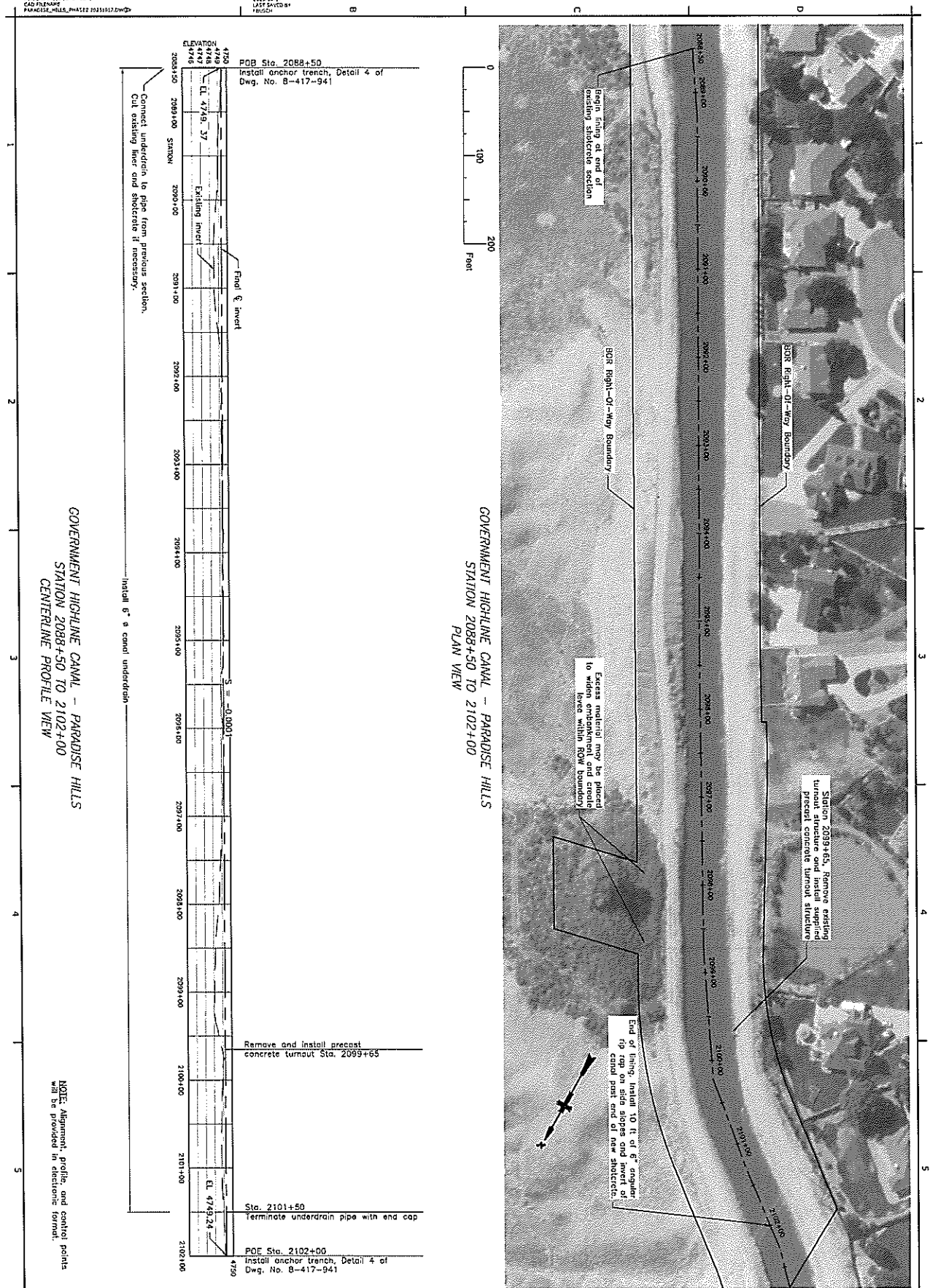
2024 AVERAGE = 1.36 lf/yd³ = > 3"



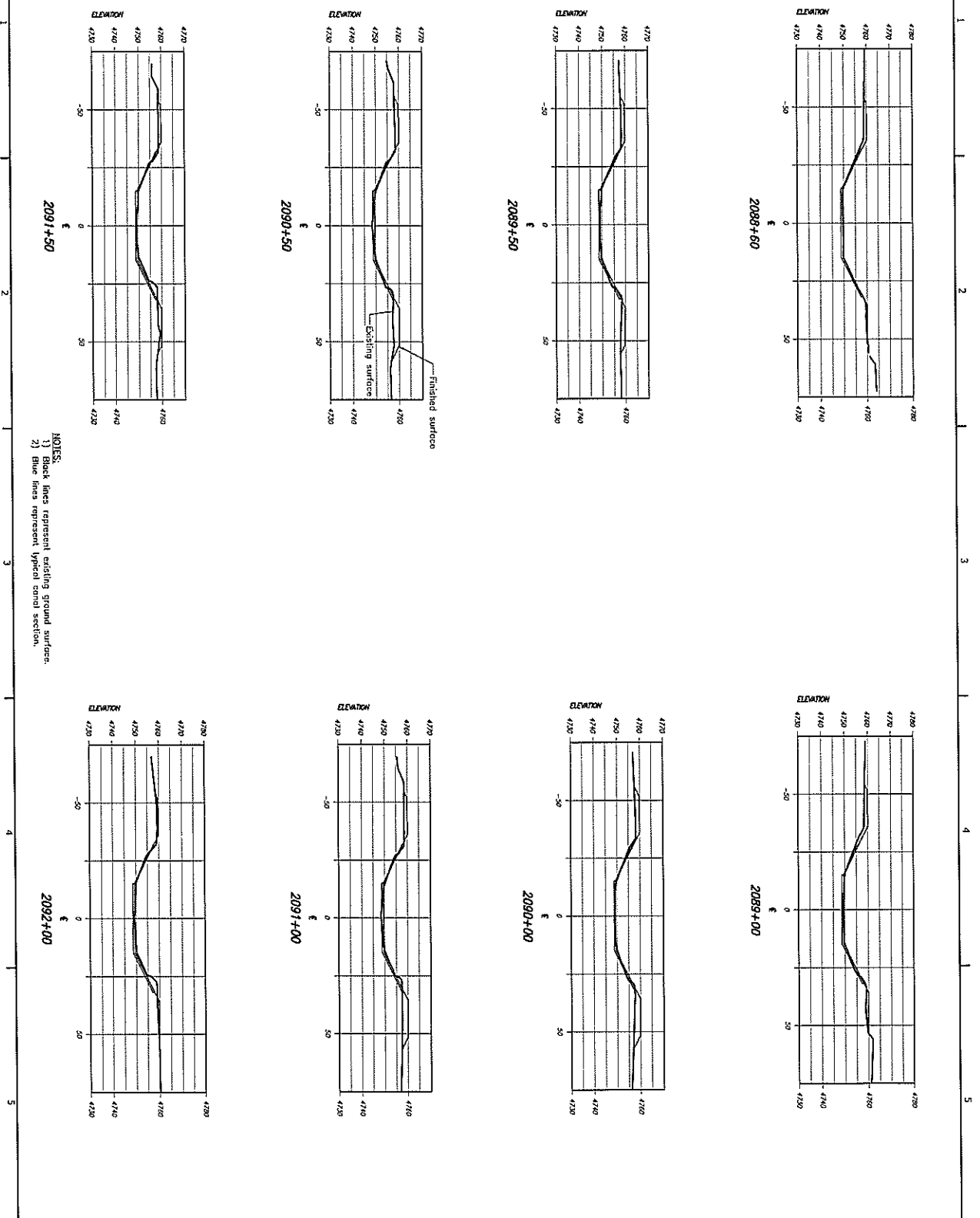








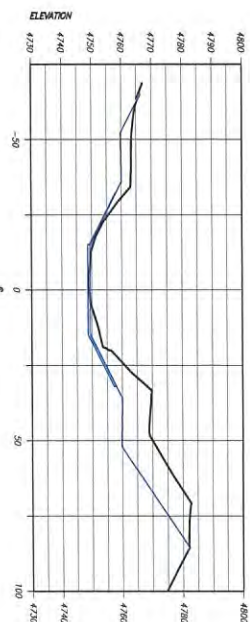
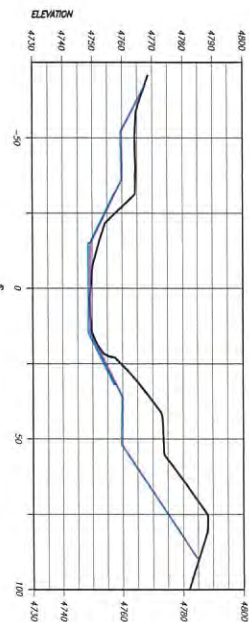
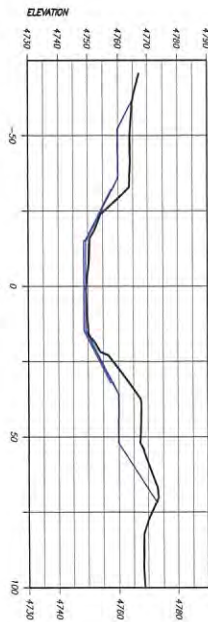
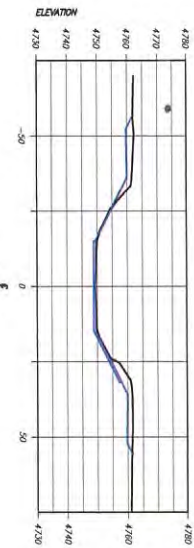
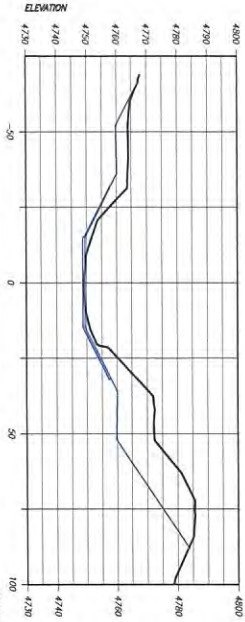
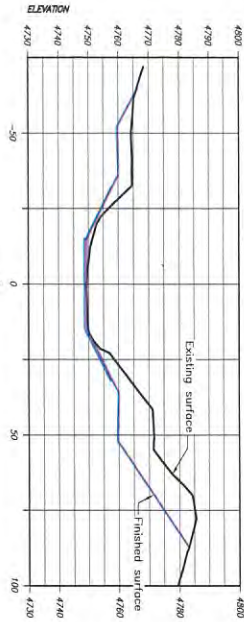
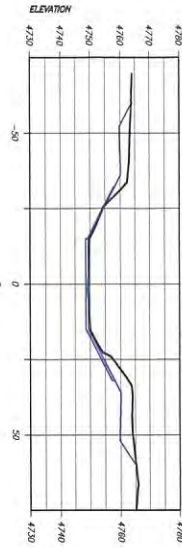
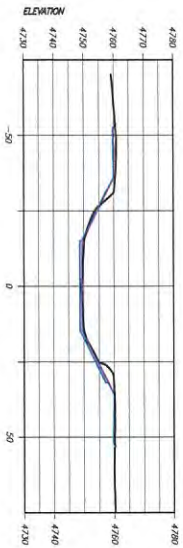
<p>GOVERNMENT HIGHLINE CANAL - PARADISE HILLS STATION 2088+50 TO 2102+00 CENTERLINE PROFILE VIEW</p> <p>NOTE: Alignment, profile, and control points will be provided in electronic format.</p>	<p>8-417-936</p>	<p>ALWAYS THINK SAFETY</p> <p>U.S. DEPARTMENT OF THE INTERIOR BUREAU OF RECLAMATION COLORADO RIVER BASIN SALINITY CONTROL PROJECT GRAND VALLEY PROJECT</p> <p>GOVERNMENT HIGHLINE CANAL PARADISE HILLS LINING</p>	<p>BUREAU OF RECLAMATION</p>	
	<p>PLAN & PROFILE STA. 2088+50 TO 2102+00</p>			<p>8-417-936</p>
	<p>GHC PARADISE HILLS</p>			<p>8-417-936</p>
	<p>DATE: 2023/05/17</p>			<p>8-417-936</p>



NOTES:
 1) Black lines represent existing ground surface.
 2) Blue lines represent typical canal section.

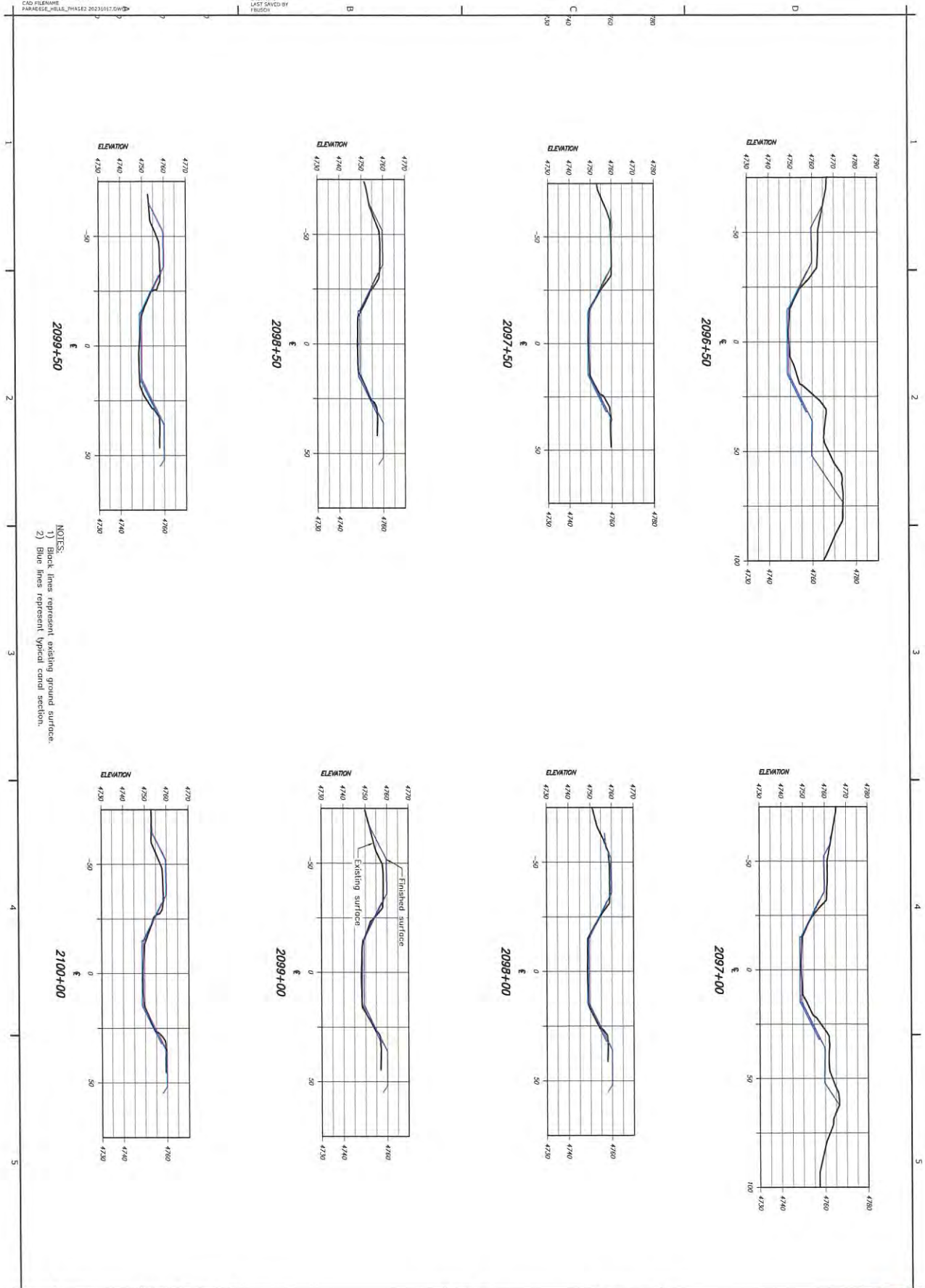
CAD SYSTEM
 MICROSTATION
 CAD FILENAME
 PARADISE_HILLS.dwg

LAST SAVED DATE
 10/1/2008
 LAST SAVED BY
 J. MCGINNIS



NOTES:

- 1) Black lines represent existing ground surface.
- 2) Blue lines represent typical canal section.

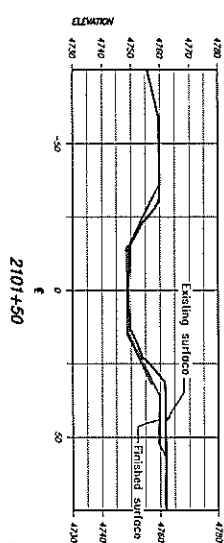
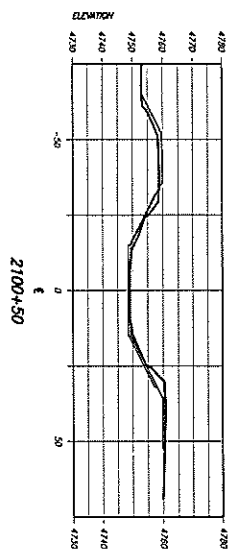


NOTES:
1) Black lines represent existing ground surface.
2) Blue lines represent typical canal section.

PROJECT	PARADISE HILLS
LOCATION	STATION 2096+50 TO 2100+00
DATE	2023-10-17
DRAWN BY	JH/STW
CHECKED BY	JH/STW
APPROVED BY	JH/STW
SCALE	AS SHOWN
PROJECT NO.	2023-10-17
PROJECT NAME	PARADISE HILLS
PROJECT LOCATION	STATION 2096+50 TO 2100+00
PROJECT DATE	2023-10-17
PROJECT DRAWN BY	JH/STW
PROJECT CHECKED BY	JH/STW
PROJECT APPROVED BY	JH/STW
PROJECT SCALE	AS SHOWN
PROJECT PROJECT NO.	2023-10-17
PROJECT PROJECT NAME	PARADISE HILLS
PROJECT PROJECT LOCATION	STATION 2096+50 TO 2100+00
PROJECT PROJECT DATE	2023-10-17
PROJECT PROJECT DRAWN BY	JH/STW
PROJECT PROJECT CHECKED BY	JH/STW
PROJECT PROJECT APPROVED BY	JH/STW
PROJECT PROJECT SCALE	AS SHOWN

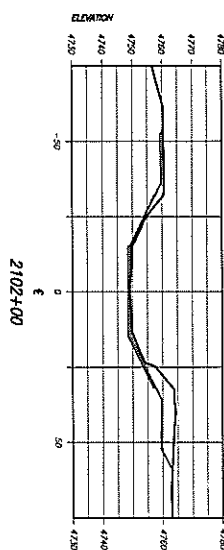
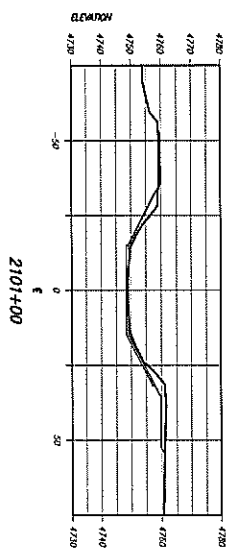
ALWAYS THINK SAFETY
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF RECLAMATION
COLORADO RIVER BASIN SALINITY CONTROL PROJECT
GRAND VALLEY PROJECT
GOVERNMENT HIGHLINE CANAL
PARADISE HILLS LINING





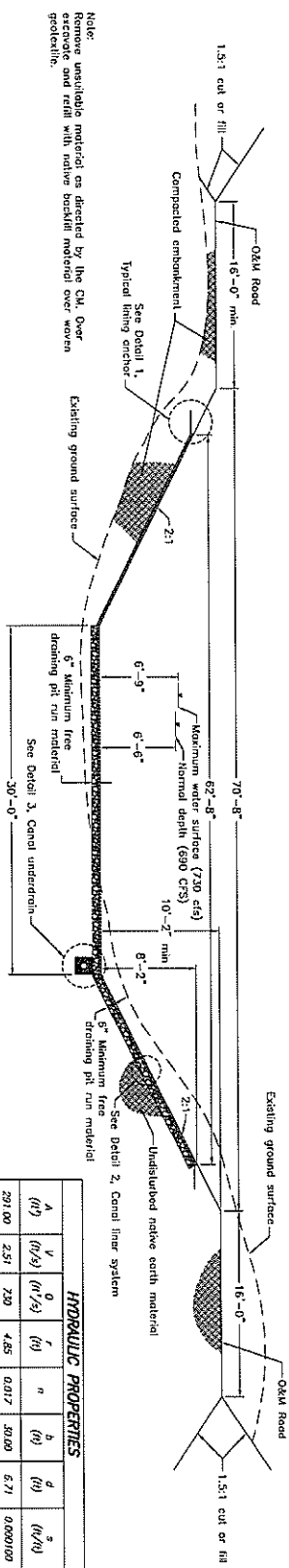
NOTES:

- 1) Block lines represent existing ground surface
- 2) Blue lines represent typical canal section.

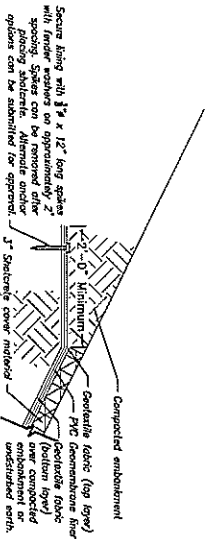


HYDRAULIC PROPERTIES									
A	V	0	n'	n	b	d	s		
(ft)	(ft/s)	(ft ² /s)	(ft)		(ft)	(ft)	(ft ² /ft)		
291.00	2.51	750	4.85	0.017	30.00	5.71	0.000100		

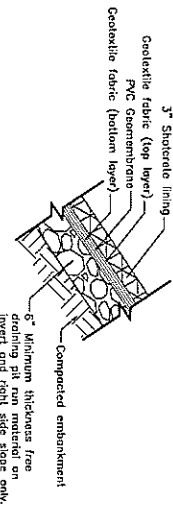
TYPICAL CANAL SECTION



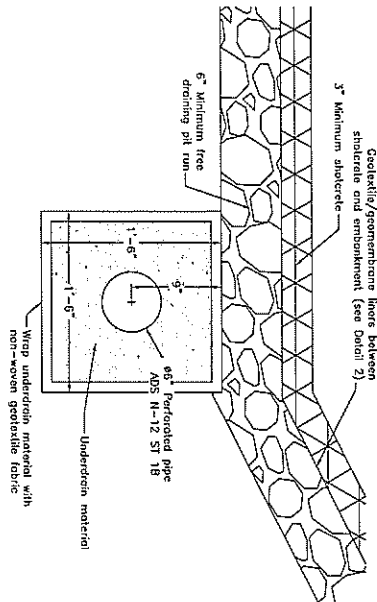
DETAIL 1
TYPICAL LINING ANCHOR DETAIL
(Spaces between geotextile and geomembrane exaggerated for clarity)



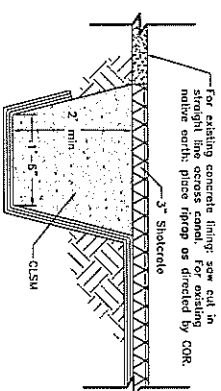
DETAIL 2
CANAL LINER SYSTEM
(Spaces between geotextile and geomembrane exaggerated for clarity)



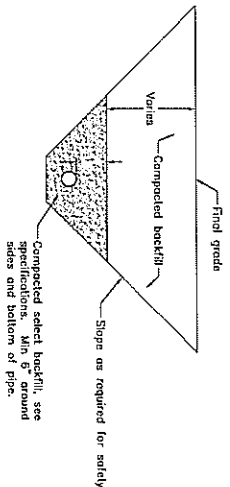
DETAIL 3
CANAL UNDERDRAIN



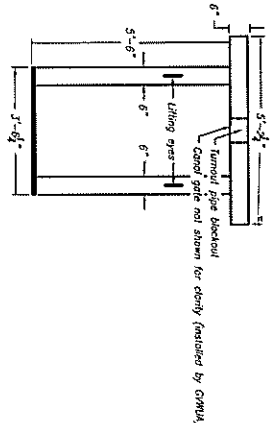
DETAIL 4
LINING ANCHOR TRENCH
(Spaces between geotextile and geomembrane exaggerated for clarity)



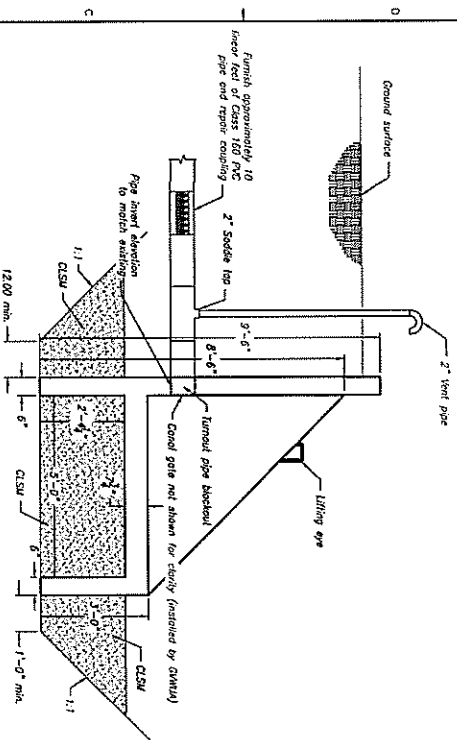
DETAIL 5
TYPICAL SOLID WALL PIPE TRENCH



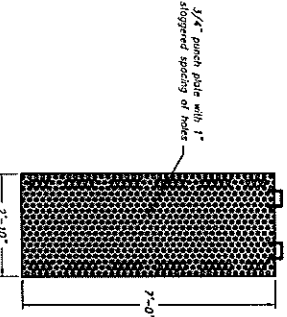
Note: Lining anchor trench shall be provided as shown at the beginning and end of the project, or at termination locations such as bridge crossings. Lining shall extend 10' beyond the end of the project. The lining shall be installed in the wet stream of subgrade elevation for beginning the next phase of construction.



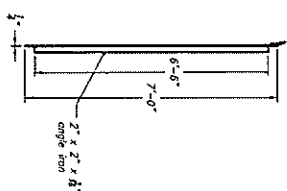
PRECAST CONCRETE TURNOUT STRUCTURE
TOP VIEW
(PROVIDED BY GWMA)



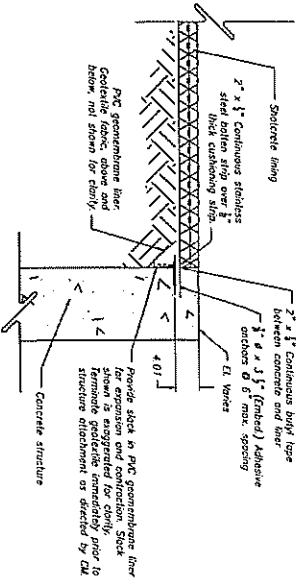
PRECAST CONCRETE TURNOUT STRUCTURE
SIDE VIEW
(PROVIDED BY GWMA)



PUNCH PLATE TRASH SCREEN
TOP VIEW
(PROVIDED AND INSTALLED BY GWMA)



PUNCH PLATE TRASH SCREEN
SIDE VIEW
(PROVIDED AND INSTALLED BY GWMA)



DETAIL 1
PVC GEOMEMBRANE LINER TO
CONCRETE ATTACHMENT DETAIL