



30095 Redlands Mesa Rd Hotchkiss, CO 81419
Overlandditch@gmail.com - www.overlandditch.com -
(970)-210-1247

February 18, 2021

Mr. Wade

We have completed the Overland Reservoir Level Gauge construction. The project got off to a rocky start when our previous Engineer was unable to get the plans to us in time to have them approved by the State Engineer. We had a meeting with the State Engineer and Overland's previous Engineer on the construction site on August 6, 2020. We were approved to start removing the rip rap from the dam, where we were placing the new gauge rod, but could not continue further until the engineered plans were complete and approved by the State Engineer's office. On August 10, 2020 equipment was delivered to remove rip rap and grade for the stem wall. This was complete August 14. Our previous Engineer was still unable to deliver approved construction plans to the State Engineer's office. The construction was on hold while the Overland contacted a new Engineer, in hope they would complete approved plans to the State Engineer's office in time to finish the project this year. Applegate Engineering was able to completely build a new design and drawings for us, that were approved by the State Engineer's office. Construction was resumed on October 2. The stem wall forms were built, and rebar placed according to the engineered plans. Concrete was poured on October 12. After letting the concrete cure, the forms were stripped off October 15 thru October 19. October 22 thru October 26 the wall was backfilled, and rip rap replaced. The last task was done on November 3, 2020 when the numbers and grade measurements were installed. We did experience setbacks on this project but were able to overcome the obstacles and get the project complete to our satisfaction and the satisfaction of the State Engineer's office.

Attached in the email is all our documentation on the project and the last grant payment request. We appreciate your help and the approval of the grant funds from the Colorado Water Conservation Board and the Gunnison Round Table.

Thank you,
Shellie Gies
Secretary/Treasurer



COLORADO
Division of Water Resources
Department of Natural Resources
Dam Safety Branch

January 23, 2021

Mr. David Kuntz
Overland Ditch & Reservoir Company
28444 Redlands Mesa Road
Hotchkiss, Colorado 81419
via email: overlandditch@gmail.com

When replying, please refer to:
OVERLAND #1 DAM, DAMID 400422
Water Division 4, Water District 40
Construction File No. C-0576E

SUBJECT: Final Acceptance of Construction – Staff Gauge Installation Project

Dear Mr. Kuntz,

On December 16, 2020, our office received acceptable final construction documents in accordance with Rule 8.3 of the State of Colorado Rules and Regulations for Dam Safety and Dam Construction (2-CCR 402-1; January 2020). The Engineer performed a final inspection and confirmed that all components of the project have been completed in general conformance with the approved plans and specifications. Although our office was not able to conduct a final construction inspection, sufficient documentation has been provided to determine the project has been substantially complete and there are no remaining dam safety concerns with this project. Our office will document the completed rehabilitation work during the annual inspection in 2021.

The project included replacement of the existing reservoir staff gauge because accuracy was in questions and labeling varied. The gauge rod was known to be skewed and disconnected in several locations on the lower pool levels. This deteriorated and unreliable staff gauge was replaced with reservoir level gauge integrated into a new concrete grade beam along the upstream slope of the dam. The new installation greatly improves monitoring capabilities at this dam.

The State Engineer, by providing this construction acceptance does not assume responsibility for any unsafe condition of the subject dam. The sole responsibility for the safety of this dam rests with the reservoir owner and operator, who should take every step necessary to prevent damages caused by leakage or overflow of waters from the reservoir or floods resulting from a failure of the dam. Therefore, it is in the owner's best interest to operate and maintain the facility in a manner such that the safety of the dam and the general public are not jeopardized. We are enclosing a copy of Rules 11 and 13 of the Rules and Regulations for your reference and use. These rules pertain to general maintenance items and the owner's responsibilities, respectively.

We appreciate your efforts undertaking this project to enhance the overall safety and functionality of this dam. If you have any questions, please do not hesitate to contact Jason Ward in our Montrose Springs Office at 970-209-1624.



Mr. David Kuntz
Overland #1 Dam – Staff Gauge Replacement Project Final Construction Acceptance Letter
DAMID 400422, C-0576E
January 23, 2021
Page 2 of 2

Sincerely,

A handwritten signature in blue ink, appearing to read 'W. T. McCormick III', with a stylized flourish at the end.

William T. McCormick III, P.E., P.G.
Chief, Dam Safety Branch

Enc. Copies of Rules 11 and 13 of the “Rules and Regulations for Dam Safety and Dam Construction”

ec: Bob Hurford, Division 4 Division Engineer
Doug Christner, Division 40 Water Commissioner
Jason Ward, Dam Safety Engineer
Korey Kadrmas, Design Review Engineer
Craig Ullmann, Applegate Group, Inc.; craigullmann@applegategroup.com

 **Applegate
Group, Inc.**
Water Resource Advisors for the West

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Glenwood Springs, CO 81601
(303) 452-6611
Fax: (970) 947-9421
email: info@applegategroup.com Website: www.applegategroup.com

STAFF GAUGE BEAM CONSTRUCTION PLANS

OVERLAND

DITCH AND RESERVOIR CO.

OVERLAND #1 DAM

[illegible]

24/Sept/2020
to: 20-120
in: TH
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: As Noted

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1 **2**

C-576E

Plot Date: 09/30/20-9:54am. Plotted by: thorn. Drawing Path: N:\20120 Overland Res Gage\Drawings\Plan Set\Drawing Name: Cover Sheet.dwg

SCALE 1" = 5 MILES



A map of Colorado with major cities and towns labeled. A red dot is placed near Aspen, with a line connecting it to the text "PROJECT LOCATION". The dot is labeled "ADOS".

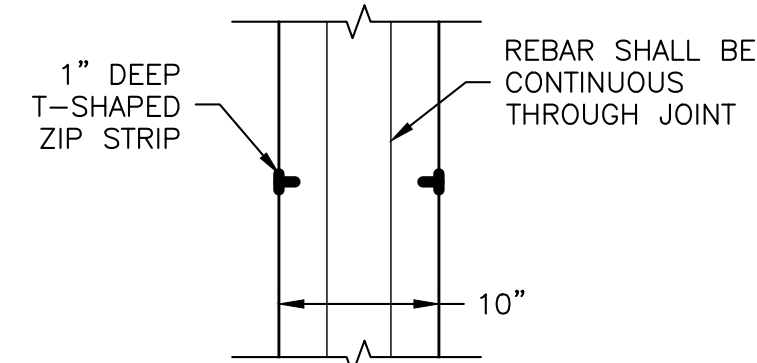
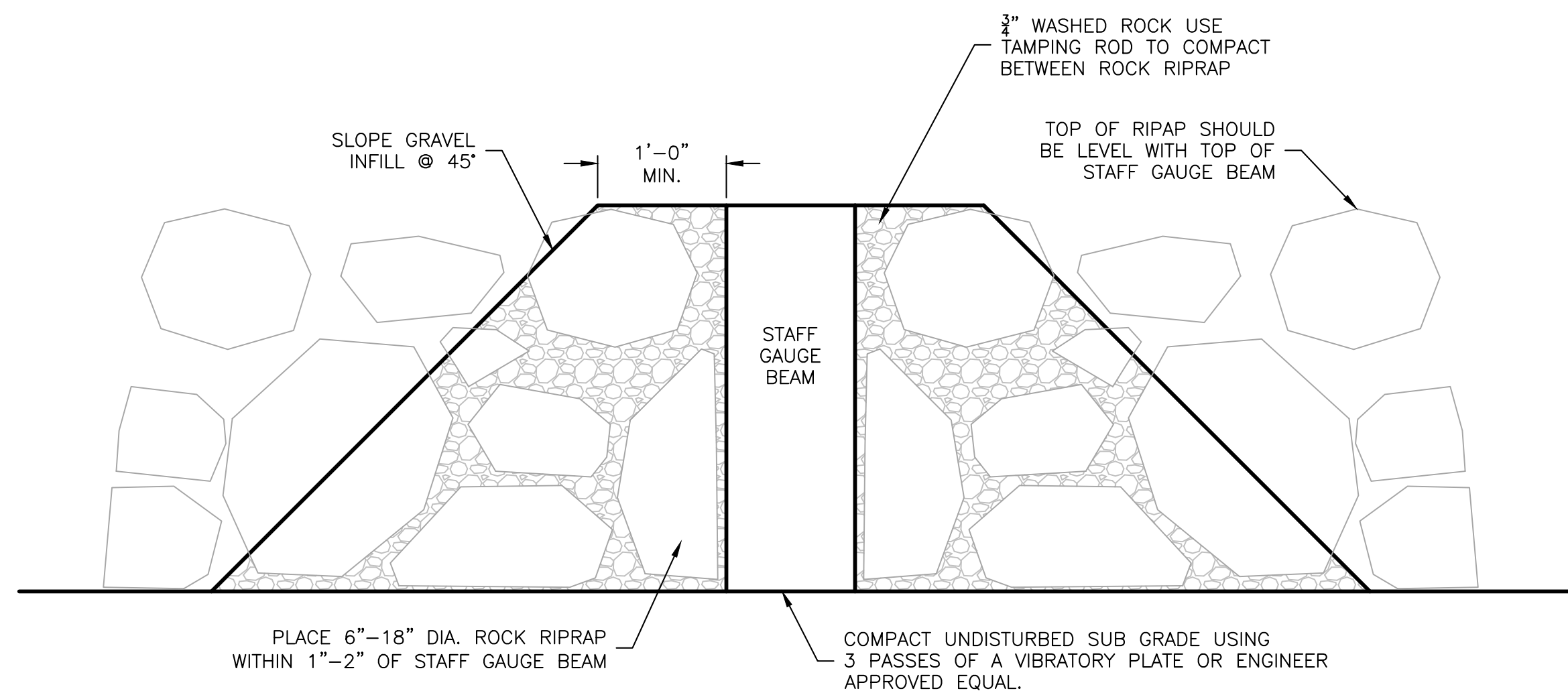
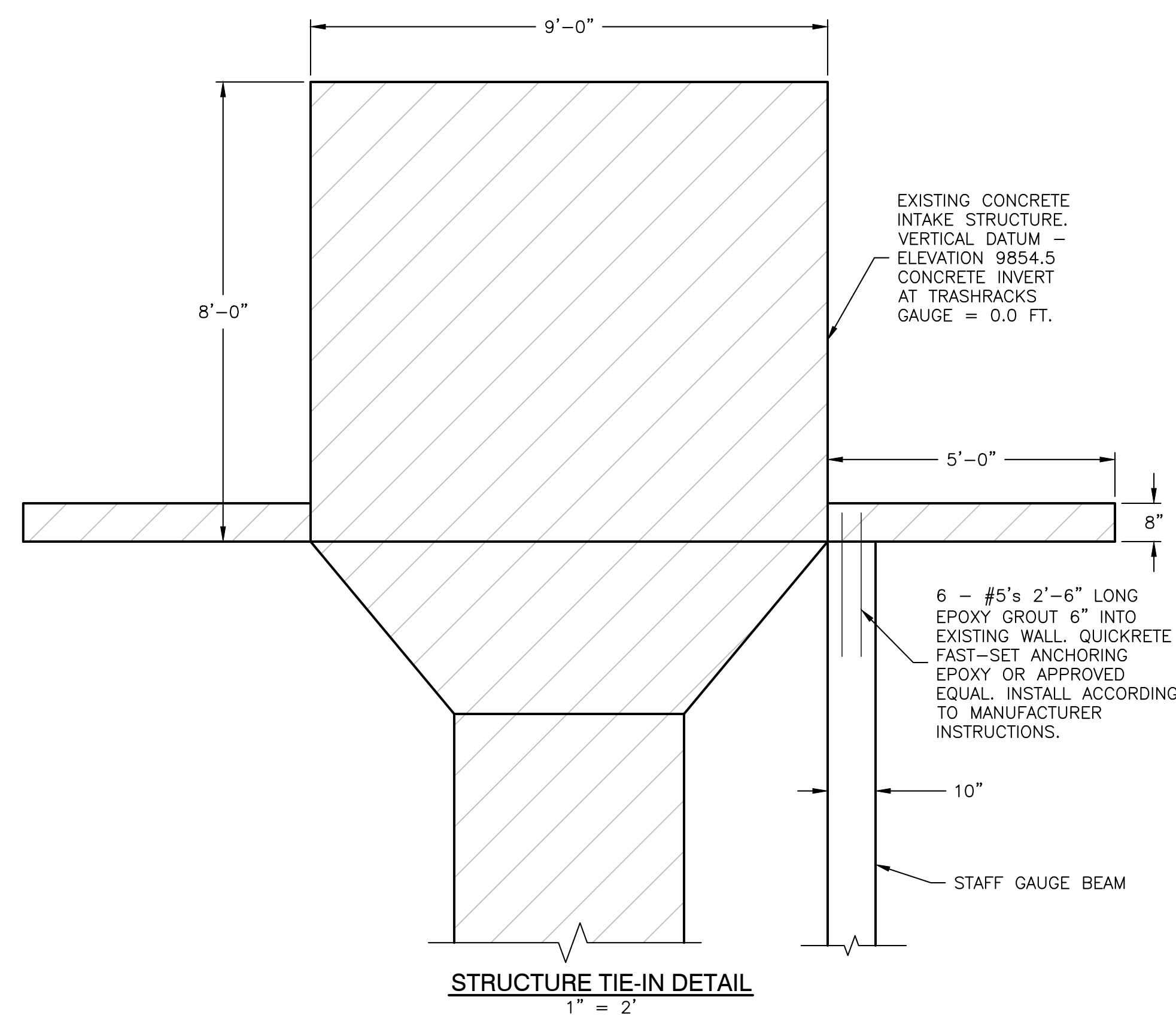
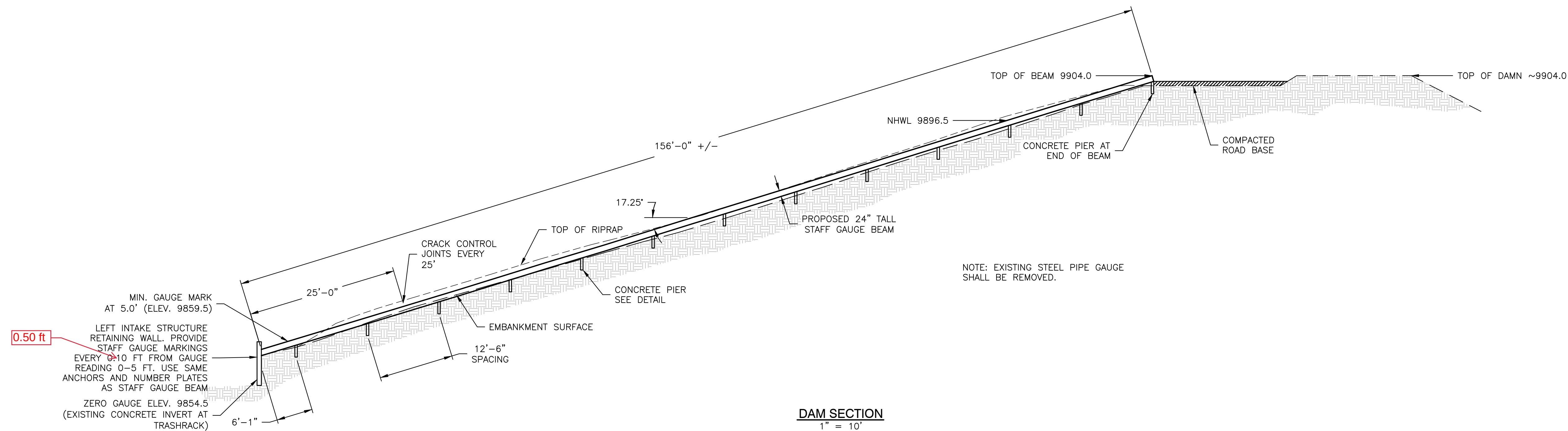
SCALE 1" = 60 MILES



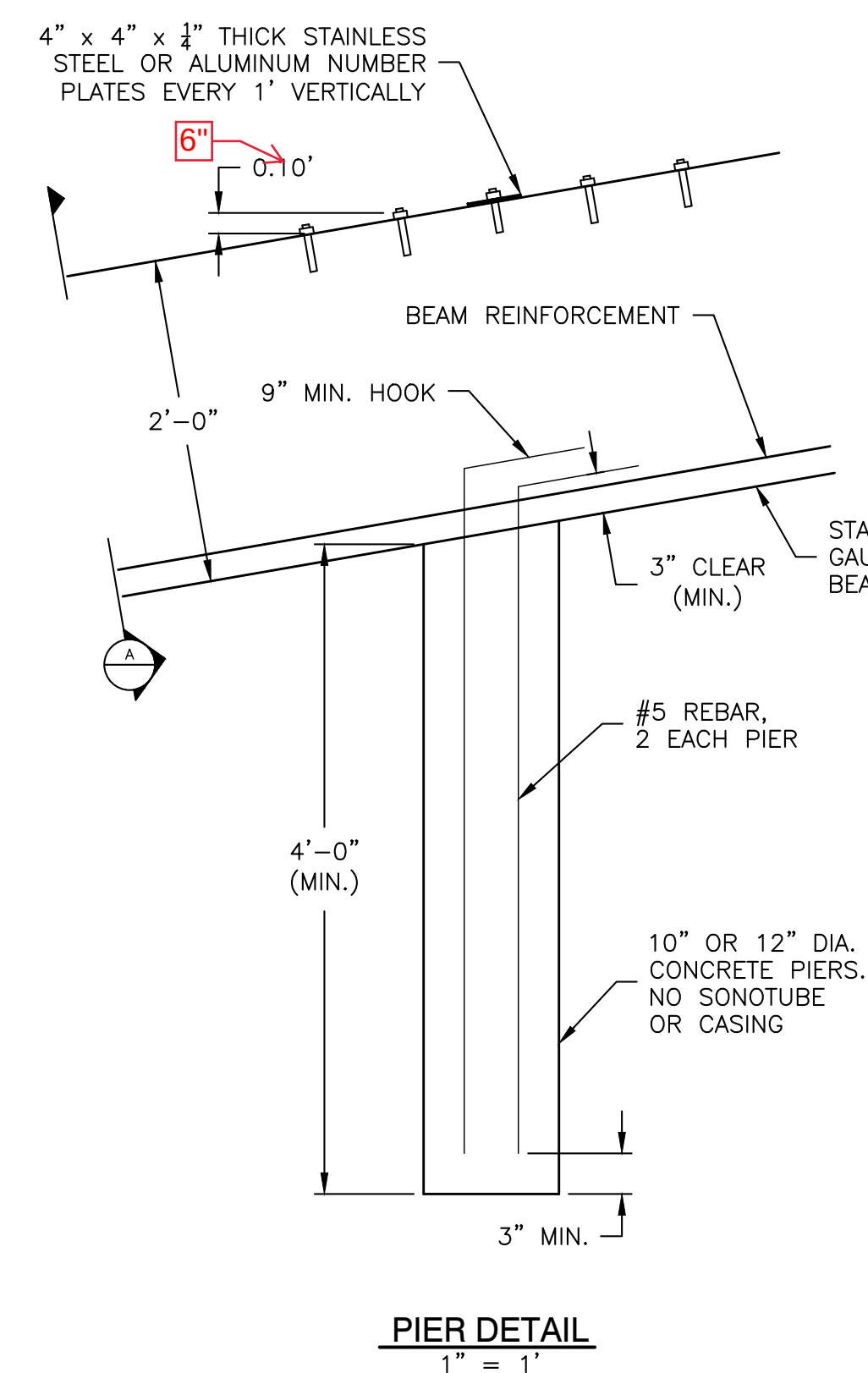
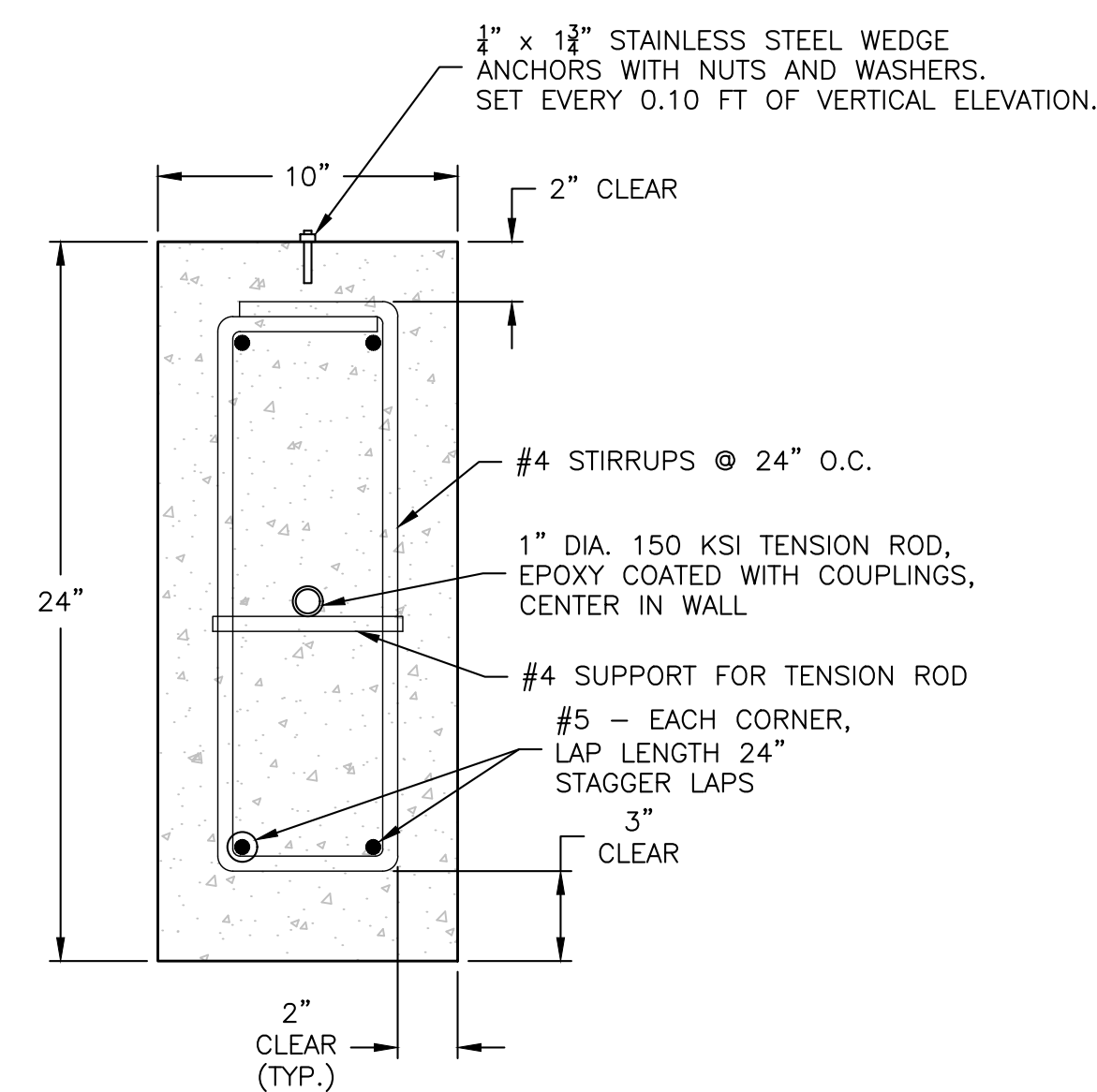
Craig Ullmann
Colorado P.E. No. 38551

AS-Constructed

Filing No. C-576E



CRACK CONTROL JOINT - PLAN VIEW
1" = 1'

[illegible]

An aerial photograph of a large reservoir, Overland Reservoir, surrounded by a dense forest of evergreen trees. The water in the reservoir is dark and calm. The surrounding land is a mix of green forest and some cleared areas.

Overland Reservoir Staff Gauge Beam

Final Construction Report

Dam ID: 400422

C-0576E

**Water District 40
Water Division 4
Delta County, Colorado**

November 11, 2020

AG File # 20-120

**Overland Ditch and
Reservoir Company**



CONSTRUCTION SUMMARY

Construction on the Overland Reservoir Grade Beam took place in October 2020. Robert Stephenson was contracted by Overland Ditch & Reservoir Company to complete this work. Concrete pour occurred on October 12 with issues discussed below. Concrete tests met specifications, tests are attached. Forms were removed on , patch grouting was completed, boulder riprap replaced and voids filled with gravel along the beam in the following week. Elevation was surveyed and marked by the end of October. Numbers were painted on the beam and stainless-steel upright numbers installed every foot, with ¼” bolts installed in the beam every 6”. Consult with the Assistant Division 4 Engineer confirmed that measurement every ½ foot is adequate and meets the needs of the water commissioners. Construction Inspection reports are attached.

PROBLEMS ENCOUNTERED

The concrete pour into the 156-foot long grade beam form presented some challenges. Forms were set with a cap in place for 10 feet alternating with 5-foot openings for filling proceeding up the dam. Pumping to the form proceeded well, though concrete did not readily flow to fill the covered sections of the form. Significant vibration was required to complete the fill of capped sections which took longer than anticipated. To speed up the process, holes were cut in the middle of capped sections and all available personnel assisted with tapping the forms to augment vibration encouraging fill. The entire pour took approximately 4 hours to complete. When forms were removed, a few areas of slightly incomplete fill were patched with grout as shown in the Inspection Report. Problems encountered do not appear to impact the functionality of the grade beam.



FIGURE 1 COMPLETED OVERLAND RESERVOIR GRADE BEAM



Daily Construction Report

General Site Visit Information

Date: 10/07/2020	Job Name: Overland #1 Dam Gauge Beam	Report No. 1
AG P#: 20-120	Client: Overland Ditch & Reservoir Company	Engineer: B. Karberg
Weather: Clear and calm, 63°		Time on Site: 25 min

Observation

Work Performed:

Met with Robert Stephenson at Overland Reservoir. Robert is working on setting forms and rebar. South wall and rebar stirrups are in place. Chamfer strips are on hand. Tension rod is loosely placed to be hung in the middle of the stirrups from top spacer. Pins are grouted into inlet structure to tie new beam to existing structure. Ground is compacted and firm. Pier holes are dug with rebar yet to be tied into place. Old steel gage rod is in place and will be removed.

IF Robert is able to finish forms and rebar today, he will order concrete pour for Friday 10/09. If not, will plan for pour early next week depending on weather and availability. Robert will let us know if Friday is a possibility at the end of the day.



Photo 1 South wall forms loosely set



Photo 2 Rebar stirrups with tension rod loosely placed



Photo 3 Longitudinal rebar in place top & bottom



Photo 4 Beam meets existing inlet structure



Photo 5 Six pins grouted into existing concrete for tie in



Photo 6 Beam rising from inlet



Photo 7 Pier holes dug; rebar placed in holes (not shown here)



Photo 8 Form locks in place at bottom of beam



Photo 9 Gauge beam work site from top of dam



Daily Construction Report

General Site Visit Information

Date: 10/12/2020	Job Name: Overland #1 Dam Gauge Beam	Report No. 2
AG P#: 20-120	Client: Overland Ditch & Reservoir Company	Engineer: B. Karberg
Weather: Clear and calm, 45-61°		Time on Site: 4.5 hrs

Observation

Work Performed:

Arrived at Overland Reservoir around 10:30 am, 45°F. Robert Stephenson has a crew of 3 to assist with the pour and 16 yards of concrete ordered. Valley Pumping arrived shortly thereafter, with United Concrete just after 11:00 am. Yeh and Associates arrived to do concrete testing. First truck tested at 4.5% air content, dosed to increase to 6.5%, temperature at 61°F. Pour began around noon. Concrete pumped well, though difficulty was encountered with getting it to flow into sections of form with top covers in place and pour proceeded slowly with a lot of vibration. Second truck pour began around 1:40 pm completed at 2:21 pm, 61°F. Second truck air content tested at 6.8%, temperature 68°F.



Photo 1 Forms ready for pour



Photo 2 Rebar and tension rod in place over pier



Photo 3 Truck #1 begins pour 11:59 am



Photo 4 Beginning pour



Photo 5 Vibrating to fill under form cap



Photo 6 Waiting to begin Truck #2 pour at 1:37 pm



Photo 7 Pour complete at 2:21 pm



DATE: 10-12-2020

Overland Park

Little Bear

3102/1582

375-103912

4500 EGY 7030 Lines

03

4500

$$\frac{u_1}{u_2}$$

Plant	Chute	Pump
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10. Part

CD - Audio-CD

4.5

6.8

67c

43

135.2

5/2/42+

HIGH

LOW

1/2

274

Yeh and Associates, Inc.
Project Diary



Project Number 219-484		Project Name CS Gould Reservoir (Overland Reservoir)		Date: 10-12-2020	Page 1
Time Arrived on Site 11:15 AM	Time Left Site 3:00 PM	Weather Mostly Sunny		Approx. Temp (°F) 45-55	Billable Miles: 200
Nuclear Gauge (ID No., Std Counts (Density and Moisture))				Other Test Equipment (Desc and Serial No.) Concrete field testing equipment, cooler for cylinders	

Location Station:	
Equipment on Site: Skidsteer Trailer Concrete Truck	Personnel and Company on Site: Applegate Construction (Beth as lead) United QC Yeh Technician
Discussion Log Beth and I discussed Yeh picking up the cylinders in their office rather than driving all the way up to the Reservoir.	
Observations (Specification, Observation): Yeh was informed that the concrete pour had been bumped up from 1:00pm to 11:00 AM. I left the Yeh office at 9:50 AM. Yeh personnel arrived at the job site at Overland Reservoir at 11:15 am, just in time for the first truck of the concrete pour. QC tested the concrete (Load #1) and found that the air was low, so 8 oz of air entrainment was added. I tested the load and the test results were as follows: Air = 5.3% (specification = 5-8%) Temperature = 65F (specification = 50-90F) Unit Weight = 136.7 PCF Slump = 4 ½" (specification = 4" +/- 2") The load had 2% MB Delvo Retarder, which extends the period that the concrete can be placed. The load left the plant at 9:17 AM, arrived at the job at 11:15 AM, the pour started at 11:35 AM, and the load was finished at 1:25 PM. For Load #2, QC added 12 ounces of air entrainment since the truck was sitting so long. I tested the load and the test results were as follows: Air = 6.2% (specification = 5-8%) Temperature = 68F (specification = 50-90F) Unit Weight = 135.2 PCF Slump = 4" (specification = 4" +/- 2") The load had 2% MB Delvo Retarder, which extends the period that the concrete can be placed. The load left the plant at 9:47 AM, arrived at the job at 11:45 AM, the pour started at 1:45 PM, and the load was finished at around 3:30 PM (I left before the pour was finished so did not get an exact time).	
Signed: Scott Patterson	Title: Field Technician

Overland Reservoir Water Monitor.



Concrete Compressive Strength Report

Sample Information

Sample No	43588860	Ticket Number	
Mix ID	CDOT	Customer	Delta County
Mix Name	United 37020153-CDOT Class D-2018139	Job	219-484 Gould Reservoir Pipeline Installation
Specification	Orchard Ave. Mesa County / CDOT Specs	Contract Number	
Date Batched	10/12/2020 09:47	Location	
Date Sampled	10/12/2020 11:45		
Date Cast	10/12/2020 11:45		
Age	0 min	Sample Type	Quality Assurance
Sampled By	Yeh Technician	Sample Method	Drum Truck Mixer

Properties

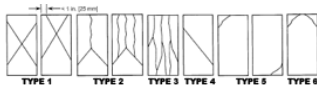
Test	Result	Unit	Tolerances	Method
Air Content	5.3	%	5-8	
Slump	4.50	in	2-6	
Temp (Air)	50.0	°F		
Temp (Concrete)	65.0	°F	50-90	
Unit Wt (Concrete)	136.7	lb/ft3		

Break Results

Type	Cylinder	Method	
Curing	Storage Tank	Lab	Grand Junction
Capping	Neoprene Pad	Design Strength	4500 psi @ 28 Days
		Curing Temp (Min/Max)	

ID	Test Date	Tested By	Age	Diameter, Height in	Area in2	Fracture Type	Max Load lbf	Compressive Strength psi	% Design Strength
224	10/21/2020		9 d	4, 8	12.57	5	50000	3980	
Average	10/21/2020	Lisa Van Kirk	9 d				50000	3980	88.4
225	11/09/2020		28 d	4, 8	12.57	5	53260	4240	
226	11/09/2020		28 d	4, 8	12.57	5	60210	4790	
227	11/09/2020		28 d	4, 8	12.57	5	64610	5140	
Average	11/09/2020	Lisa Van Kirk	28 d				59360	4720	104.9
228-Hold	12/07/2020		56 d	4, 8	12.57				

Fracture Types



Notes

219-484 Overland Reservoir
Load #2
5 cylinders arrived at Yeh Lab on 10/21/20 in Curing Cooler. Temperature in cooler is 47.1 F.
*Hold cylinder discarded as strength reached on 28 day breaks.