



COLORADO

Colorado Water
Conservation Board

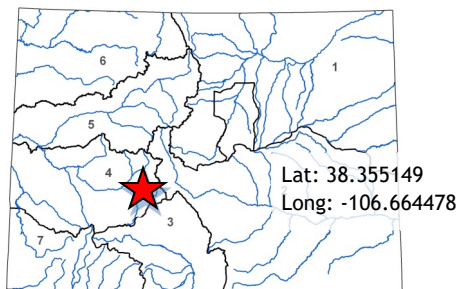
Department of Natural Resources

R & K Staheli Farms

Vouga Reservoir Dam Rehabilitation

March 2021 Board Meeting

Water Plan Grant Application



L O C A T I O N

County/Countries: Saguache

Drainage Basin: Gunnison

D E T A I L S

Total Project Cost:	\$327,765
Water Plan Grant Request:	\$75,000
Recommended Amount:	\$0
Other CWCB Funding:	\$50,000
Other Funding Amount:	\$160,000
Applicant Match:	\$42,765
Project Type(s):	Construction
Project Category(Categories):	Agricultural
Measurable Result:	Watershed restoration, storage

Vouga Reservoir is an on-channel reservoir located on Razor Creek, a tributary to Tomichi Creek, east of Gunnison, Colorado. Razor Creek originates near the Continental Divide and flows through the Gunnison National Forest in Saguache County until it meets Vouga Reservoir on the Staheli Ranch. Staheli Ranch owns the reservoir, decreed for 920 acre-feet to irrigate 1,500 acres of grass hay in the Razor Creek Valley. The Vouga dam face needs repairs to reduce erosion and allow continued storage of full decree. The dam is currently under a no-fill restriction by the Colorado Division of Dam Safety, limiting storage volume by 250 acre-feet. Trout Unlimited, Colorado Parks and Wildlife, and Partners for Fish and Wildlife are working with the Staheli Ranch to secure Vouga Dam financial assistance. Once the repairs are complete, the dam will serve as a barrier to non-native trout. The Staheli Ranch will coordinate with partners to restore Colorado River Cutthroat Trout in Razor Creek upstream of the reservoir.

The proposal scored well on multiple grant criteria, including utilizing collaborative partnerships and addressing a current storage restriction that may enhance drought resiliency. Unfortunately, the available funding, the application score, and feedback from the review committee resulted in a no funding recommendation for this application. In particular, the application received below-average scores on overall impact to regional and state water challenges compared with other projects. Furthermore, based on Colorado Parks and Wildlife's information, the indication of possible whirling disease in the reservoir may significantly delay using the structure for brooding trout and upstream restoration efforts for several years. Staff encourages the applicant to continue to seek funding from other sources or in subsequent grant cycles of the CWCB's Water Plan Grant Program.



Last Updated: June 2020

Colorado Water Conservation Board

Water Plan Grant Application

Instructions

To receive funding for a Water Plan Grant, applicant must demonstrate how the project, activity, or process (collectively referred to as "project") funded by the CWCB will help meet the measurable objectives and critical actions in the Water Plan. Grant guidelines are available on the CWCB website.

If you have questions, please contact CWCB at (303) 866-3441 or email the following staff to assist you with applications in the following areas:

Water Storage Projects
Conservation, Land Use Planning
Engagement & Innovation Activities
Agricultural Projects
Environmental & Recreation
Projects

Matthew.Stearns@state.co.us
Kevin.Reidy@state.co.us
Ben.Wade@state.co.us
Alexander.Funk@state.co.us
Chris.Sturm@state.co.us

FINAL SUBMISSION: Submit all application materials in one email to

waterplan.grants@state.co.us

in the original file formats [Application (word); Statement of Work (word); Budget/Schedule (excel)]. Please do not combine documents. In the subject line, please include the funding category and name of the project.

Water Project Summary

Name of Applicant	Carson Pearson	
Name of Water Project	Vouga Reservoir Dam Rehabilitation	
CWP Grant Request Amount		\$ 75,000
Other Funding Sources <u>WSRF Gunnison Basin</u> (secured)		\$ 50,000
Other Funding Sources <u>UGRWCD</u> (secured)		\$ 50,000
Other Funding Sources <u>USFS Partners for Fish and Wildlife</u> (secured)		\$ 30,000
Other Funding Sources <u>RESTORE Colorado</u> (pending)		\$40,000
Watershed Restoration Program (pending)		\$40,000
Applicant Funding Contribution		\$ 42,765



Last Updated: June 2020

Total Project Cost	\$ 327,765
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Applicant & Grantee Information
Name of Grantee(s) R & K Staheli Farms
Mailing Address 1525 P Road, Loma, Colorado 81524
FEIN 87-0443558
Organization Contact Ralph Staheli
Position/Title Owner
Email Pearson.carson@gmail.com
Phone 1-435-590-3897
Grant Management Contact Carson Pearson
Position/Title Ranch Manager
Email Pearson.carson@gmail.com
Phone 1-435-590-3897
Name of Applicant (if different than grantee) Carson Pearson
Mailing Address 22501 CR 88, Ault, Colorado 80610
Position/Title
Email Pearson.carson@gmail.com
Phone 1-435-590-3897
Description of Grantee/Applicant
Provide a brief description of the grantee's organization (100 words or less).



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Ralph Staheli owns and runs a small family farming and ranching operation in Loma, Colorado and Doyleville, Colorado. Operations include 700 acres of irrigated farm ground and a small feedlot, as well as 200 cow/calf pairs.

Type of Eligible Entity (check one)	
	Public (Government): Municipalities, enterprises, counties, and State of Colorado agencies. Federal agencies are encouraged to work with local entities. Federal agencies are eligible, but only if they can make a compelling case for why a local partner cannot be the grant recipient.
	Public (Districts): Authorities, Title 32/special districts (conservancy, conservation, and irrigation districts), and water activity enterprises.
	Private Incorporated: Mutual ditch companies, homeowners associations, corporations.
X	Private Individuals, Partnerships, and Sole Proprietors: Private parties may be eligible for funding.
	Non-governmental organizations (NGO): Organization that is not part of the government and is non-profit in nature.
	Covered Entity: As defined in Section 37-60-126 Colorado Revised Statutes .

Type of Water Project (check all that apply)	
	Study
X	Construction
	Identified Projects and Processes (IPP)
	Other

Category of Water Project (check the primary category that applies and include relevant tasks)	



Last Updated: June 2020

X	Water Storage - Projects that facilitate the development of additional storage, artificial aquifer recharge, and dredging existing reservoirs to restore the reservoirs' full decreed capacity and Multi-beneficial projects and those projects identified in basin implementation plans to address the water supply and demand gap.. <i>Applicable Exhibit A Task(s):</i>	
	Conservation and Land Use Planning - Activities and projects that implement long-term strategies for conservation, land use, and drought planning. <i>Applicable Exhibit A Task(s):</i>	
	Engagement & Innovation - Activities and projects that support water education, outreach, and innovation efforts. Please fill out the Supplemental Application on the website. <i>Applicable Exhibit A Task(s):</i>	
X	Agricultural - Projects that provide technical assistance and improve agricultural efficiency. <i>Applicable Exhibit A Task(s):</i>	
	Environmental & Recreation - Projects that promote watershed health, environmental health, and recreation. <i>Applicable Exhibit A Task(s):</i>	
	Other	Explain:

Location of Water Project

Please provide the general county and coordinates of the proposed project below in **decimal degrees**. The Applicant shall also provide, in Exhibit C, a site map if applicable.

County/Countries	Saguache County
Latitude	38.355149°
Longitude	-106.664478°

Water Project Overview

Please provide a summary of the proposed water project (200 words or less). Include a description of the project and what the CWP Grant funding will be used for specifically (e.g., studies, permitting process, construction). Provide a description of the water supply source to be utilized or the water body affected by the project, where applicable. Include details such as acres under irrigation, types of crops irrigated, number of residential and commercial taps, length of ditch improvements, length of pipe installed, and area of habitat improvements, where applicable. If this project addresses multiple purposes or spans multiple basins, please explain.

The Applicant shall also provide, in Exhibit A, a detailed Statement of Work, Budget, Other Funding Sources/Amounts and Schedule.



Last Updated: June 2020

Vouga Reservoir is an on-channel reservoir located on Razor Creek, a tributary to Tomichi Creek, east of Gunnison Colorado. Razor Creek originates near the Continental Divide and flows through the Gunnison National Forest in Saguache County until meets Vouga Reservoir on the Staheli Ranch. The reservoir is owned by the Staheli Ranch and is decreed for 920 acre feet to irrigate 1500 acres of grass hay in the Razor Creek Valley. The Vouga dam face needs repairs to reduce erosion and allow continued storage of full decree. The dam is currently under a no-fill restriction by the Colorado Division of Dam Safety which limits storage volume by 250 acre feet. The cost of this repair work is estimated to be \$327,765 and construction is planned for fall of 2021. Trout Unlimited, Colorado Parks and Wildlife, and Partners for Fish and Wildlife are working with the Staheli Ranch to secure financial assistance for Vouga Dam repairs. Once the repairs are completed, the dam will be used as a barrier to non-native trout, and the Staheli Ranch will coordinate with partners to restore Colorado River Cutthroat Trout in Razor Creek upstream of the reservoir.

Measurable Results

To catalog measurable results achieved with the CWP Grant funds, please provide any of the following values as applicable:

	New Storage Created (acre-feet)	
	New Annual Water Supplies Developed or Conserved (acre-feet), Consumptive or Nonconsumptive	
920 AF	Existing Storage Preserved or Enhanced (acre-feet)	
	Length of Stream Restored or Protected (linear feet)	
	Efficiency Savings (indicate acre-feet/year OR dollars/year)	
1500 ac	Area of Restored or Preserved Habitat (acres)	
	Quantity of Water Shared through Alternative Transfer Mechanisms	
	Number of Coloradans Impacted by Incorporating Water-Saving Actions into Land Use Planning	
	Number of Coloradans Impacted by Engagement Activity	
22	Other	Explain: Colorado River Cutthroat Conservation stream mileage



Last Updated: June 2020

Water Project Justification

Provide a description of how this water project supports the goals of [Colorado's Water Plan](#), the most recent [Statewide Water Supply Initiative](#), and the applicable Roundtable [Basin Implementation Plan](#) and [Education Action Plan](#). The Applicant is required to reference specific needs, goals, themes, or Identified Projects and Processes (IPPs), including citations (e.g. document, chapters, sections, or page numbers).

The proposed water project shall be evaluated based upon how well the proposal conforms to Colorado's Water Plan Framework for State of Colorado Support for a Water Project (CWP, Section 9.4, pp. 9-43 to 9-44;)

This project will help meet the following goals listed in the Gunnison BIP and Colorado Water Plan.

Primary Goal Gunnison BIP, Protect existing uses: The infrastructure and CRCT habitat restoration planned will protect and improve environmental, agricultural, and recreational uses in the Gunnison River Basin.

Goal 7 Gunnison BIP: Describe and encourage the beneficial relationship between agricultural and environmental and recreational water uses.

- Complete at least five new multi-purpose water projects, including two storage projects, in the Gunnison Basin by 2025 that demonstrate the beneficial relationship between agricultural, environmental, and recreational uses
- Explore and develop recommendations on alternative sources of funding from recreational users within the Basin to support development of those multi-purpose water projects.
- The CRCT Conservation Strategy is also referenced in section 2.4, (pg. 67) of the Gunnison Basin Implementation Plan. One of the CRCT Conservation Strategy objectives is to secure and enhance 'conservation' and 'core conservation' CRCT populations. The 22 miles of additional CRCT habitat that could result from this project would be a monumental conservation achievement for native trout in western Colorado.

The Colorado Water Plan Water Plan also frequently references collaboration and multiple use projects. In section 6.6, page 6-157, the third goal listed is "Support the development of multipurpose projects and methods that benefit environmental and recreational water needs as well as water needs for communities or agriculture". This project will involve coordination between state and local agencies, an NGO, and a private land owner, to improve water supply for agricultural, protect existing agricultural water rights that support environmental needs and increase habitat range for Colorado River Cutthroat Trout.

Maintaining existing storage on Razor Creek, tributary to Tomichi Creek, is a critical step to prepare water users for an uncertain water supply future and projected 20% reduced water supply by 2050. Releases from the reservoir will directly meet irrigation needs and bolster stream flows for fish, riparian habitat, and wildlife during low flow periods.



Last Updated: June 2020

Related Studies

Please provide a list of any related studies, including if the water project is complementary to or assists in the implementation of other CWCB programs.

SGM Engineering design and probable construction costs.
Colorado Division of Parks and Wildlife – Razor Creek assessment sampling 2012
Colorado Division of Parks and Wildlife- Vouga Reservoir water quality and species sampling, 2020.

Previous CWCB Grants, Loans or Other Funding

List all previous or current CWCB grants (including WSRF) awarded to both the Applicant and Grantee. Include: 1) Applicant name; 2) Water activity name; 3) Approving RT(s); 4) CWCB board meeting date; 5) Contract number or purchase order; 6) Percentage of other CWCB funding for your overall project.



Last Updated: June 2020

Carson Pearson, Vouga Reservoir Rehabilitation, Gunnison Basin Roundtable, July 15, 2020, PO # _____, 13%

Taxpayer Bill of Rights

The Taxpayer Bill of Rights (TABOR) may limit the amount of grant money an entity can receive. Please describe any relevant TABOR issues that may affect your application.

None

Submittal Checklist

x	I acknowledge the Grantee will be able to contract with CWCB using the Standard Contract .
Exhibit A	
x	Statement of Work ⁽¹⁾
x	Budget & Schedule ⁽¹⁾
x	Engineer's statement of probable cost (projects over \$100,000)
x	Letters of Matching and/or Pending 3 rd Party Commitments ⁽¹⁾
Exhibit C	
x	Map (if applicable) ⁽¹⁾
x	Photos/Drawings/Reports
x	Letters of Support (Optional)
	Certificate of Insurance (General, Auto, & Workers' Comp.) ⁽²⁾
	Certificate of Good Standing with Colorado Secretary of State ⁽²⁾
	W-9 ⁽²⁾
	Independent Contractor Form ⁽²⁾ (If applicant is individual, not company/organization)
Engagement & Innovation Grant Applicants ONLY	
	Engagement & Innovation Supplemental Application ⁽¹⁾

Last Updated: June 2020

(1) Required with application.

(2) Required for contracting. While optional at the time of this application, submission can expedite contracting upon CWCB Board approval.



Last Updated: June 2020

Colorado Water Conservation Board	
Water Plan Grant - Exhibit A	

Statement Of Work	
Date:	11/19/2020
Name of Grantee:	Carson Pearson
Name of Water Project:	Vouga Dam Rehabilitation
Funding Source:	Agricultural Category
Water Project Overview:	
<p>Vouga Reservoir is an on-channel reservoir located on Razor Creek, a tributary to Tomichi Creek, east of Gunnison Colorado. Razor Creek originates near the Continental Divide and flows through the Gunnison National Forest in Saguache County until meets Vouga Reservoir on the Staheli Ranch. The reservoir is owned by the Staheli Ranch and is decreed for 920 acre feet to irrigate 1500 acres of grass hay in the Razor Creek Valley. The Vouga dam face needs repairs to reduce erosion and allow continued storage of full decree. The dam is at risk of being placed under a no-fill restriction by the Colorado Division of Dam Safety which would limit storage volume by 250 acre feet. The cost of this repair work is estimated to be \$327,765 and construction is planned for fall of 2021. Trout Unlimited, Colorado Parks and Wildlife, and Partners for Fish and Wildlife are working with the Staheli Ranch to secure financial assistance for Vouga Dam repairs. Once the repairs are completed, the dam will be used as a barrier to non-native trout, and the Staheli Ranch will coordinate with partners to restore Colorado River Cutthroat Trout in Razor Creek upstream of the reservoir.</p>	
Project Objectives:	
<p>1. Repair Reservoir Dam</p>	



Last Updated: June 2020

Tasks
Task 1 – Vouga Dam Rehabilitation
Description of Task: <p>The project will undergo a competitive bidding process to select a contractor to complete the rehabilitation work. This contractor will be contracted to the work in accordance with the Project Documents and under the supervision of the Owner and Engineer of Record. Task will involve repair to the upstream slope of the structure by excavating and compacting the slope back to the original slope. Once the slope is established along with crest height and width the embankment will be supported with a geotextile fabric and armored with final layer of rip-rap.</p>
Method/Procedure: <ol style="list-style-type: none">1. Bidding2. Construction<ol style="list-style-type: none">a. Scrap and stockpile existing material as neededb. Excavate embankment to minimum extents necessary to create workable platformsc. Backfill and compact native fill material within embankment excavation to elevations shown on the project documents per the geotechnical engineer report & specificationsd. Place geotextile fabric and rip-rap beddinge. Place rip-rapf. Site clean-up, revegetation, etc.3. Project Closeout
Deliverable: <p>A completed project constructed in accordance with typical engineering standards and approved by the State Engineers Office-Dam Safety.</p>

Last Updated: June 2020

Budget and Schedule

This Statement of Work shall be accompanied by a combined Budget and Schedule that reflects the Tasks identified in the Statement of Work and shall be submitted to CWCB in excel format.

Reporting Requirements

Progress Reports: The applicant shall provide the CWCB a progress report every 6 months, beginning from the date of issuance of a purchase order, or the execution of a contract. The progress report shall describe the status of the tasks identified in the statement of work, including a description of any major issues that have occurred and any corrective action taken to address these issues.

Final Report: At completion of the project, the applicant shall provide the CWCB a Final Report on the applicant's letterhead that:

- Summarizes the project and how the project was completed.
- Describes any obstacles encountered, and how these obstacles were overcome.
- Confirms that all matching commitments have been fulfilled.
- Includes photographs, summaries of meetings and engineering reports/designs.

The CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Payment

Payment will be made based on actual expenditures and must include invoices for all work completed. The request for payment must include a description of the work accomplished by task, an estimate of the percent completion for individual tasks and the entire Project in relation to the percentage of budget spent, identification of any major issues, and proposed or implemented corrective actions.

Costs incurred prior to the effective date of this contract are not reimbursable. The last 10% of the entire grant will be paid out when the final deliverable has been received. All products, data and information developed as a result of this contract must be provided to CWCB in hard copy and electronic format as part of the project documentation.

Performance Measures

Performance measures for this contract shall include the following:

(a) Performance standards and evaluation: Grantee will produce detailed deliverables for each task as specified. Grantee shall maintain receipts for all project expenses and documentation of the minimum in-kind contributions (if applicable) per the budget in Exhibit B. Per Water Plan Grant Guidelines, the CWCB will pay out the last 10% of the budget when the Final Report is completed to the satisfaction of CWCB staff. Once the Final Report has been accepted, and final payment has been issued, the purchase order or grant will be closed without any further payment.

Last Updated: June 2020

Performance Measures

(b) Accountability: Per Water Plan Grant Guidelines full documentation of project progress must be submitted with each invoice for reimbursement. Grantee must confirm that all grant conditions have been complied with on each invoice. In addition, per Water Plan Grant Guidelines, Progress Reports must be submitted at least once every 6 months. A Final Report must be submitted and approved before final project payment.

(c) Monitoring Requirements: Grantee is responsible for ongoing monitoring of project progress per Exhibit A. Progress shall be detailed in each invoice and in each Progress Report, as detailed above. Additional inspections or field consultations will be arranged as may be necessary.

(d) Noncompliance Resolution: Payment will be withheld if grantee is not current on all grant conditions. Flagrant disregard for grant conditions will result in a stop work order and cancellation of the Grant Agreement.



COLORADO

**Colorado Water
Conservation Board**

Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Exhibit B

Budget Template Instructions

**** Please select the most appropriate budget template for your project from the worksheet tabs below. A general budget template is provided, as well as templates for studies, construction, and engineering projects.****



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Exhibit B Budget and Schedule

Prepared Date: 11/29/20

Name of Applicant: Carson Pearson

Name of Water Project: Vouga Dam Rehabilitation

Project Start Date: September 2021

Project End Date: November 2021

Task No.	Task Description	Task Start Date	Task End Date	Grant Funding Request	Match Funding	Total
1	Materials Stockpiling and Construction	9/1/2021	11/1/2021	\$ 75,000.00	\$ 252,765.00	\$327,765
						\$0
Total				\$75,000	\$252,765	\$327,765



COLORADO

Colorado Water
Conservation Board

Department of Natural Resources

Colorado Water Conservation Board

Water Plan Grant - Detailed Budget Estimate

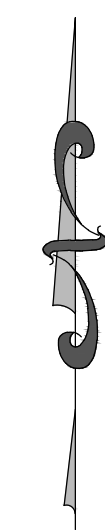
Fair and Reasonable Estimate

Prepared Date: 11/29/2020
Name of Applicant: Carson Pearson
Name of Water Project: Vouga Dam Rehabilitation

EXAMPLE C: Construction

Task 1 - Construction						
Sub-task	Unit	Quantity	Unit Cost	Total Cost	CWCB Funds	Matching Funds
Mobilization	LS	1	\$ 20,000	\$ 20,000	\$ 4,000	\$ 16,000
Clearing, Grubbing, and Stockpiling	SY	5,300	\$ 8	\$ 42,400	\$ 8,480	\$ 33,920
Cut and Fill	CY	5,000	\$ 9	\$ 45,000	\$ 9,000	\$ 36,000
Rock Crushing and Screening	CY	4,722	\$ 15	\$ 70,830	\$ 14,166	\$ 56,664
Rip-Rap and Placement	TONS	9,375	\$ 5	\$ 46,875	\$ 9,375	\$ 37,500
Mirafi 1160N Geotextile	SY	4,722	\$ 16	\$ 75,552	\$ 15,110	\$ 60,442
Class 5 Road Base for Crest	TONS	225	\$ 40	\$ 9,000	\$ 1,800	\$ 7,200
Seeding and Reveg	SF	10,000	\$ 0	\$ 2,500	\$ 500	\$ 2,000
Contingency	%	5	\$ 15,608	\$ 15,608	\$ 3,122	\$ 12,486
TOTAL				\$ 327,764.85	\$ 65,553	\$ 262,212

SGM
103 W. Tomichi Ave., Suite A
Gunnison, CO 81230
970.641.5355 www.sgm-inc.com



Scope of Work

Rehabilitation of 650 LF of the upstream dam embankment of the Vouga Reservoir ID 280109.
Rehabilitation will consist re-establishment of the 3H:1V embankment slope with on-site materials as well as supply and placement of bedding sand riprap.



Project Engineer

Gerald E. Burgess, P.E. 38250

Owner/Applicant

Vouga Reservoir Association

1525 P Road
Loma, CO 81524

Carson Pearson

Final Review Set

April 2020

- 1.0 Cover Sheet
- 2.0 Legend, Abbreviations, and General Notes
- 3.0 Existing Conditions Map
- 4.0 Dam Plan View
- 5.0 Dam Sections
- 6.0 Grading Plan & Layout



**Know what's below.
Call before you dig.**

UNCC 1-800-922-1987

[illegible]

Project Milestone:	Preliminary Not For Construction
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Title:

Cover Sheet

Dwg No.

1.0

Of : 6.0

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1. THE APPROXIMATE LOCATION OF ALL KNOWN UTILITIES (WATER, SEWER, GAS, PHONE, ELECTRIC, CABLE, ETC.) ARE SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL CONTACT ALL UTILITY OWNERS TO VERIFY BOTH LOCATION AND DEPTH OF UTILITIES BEFORE ANY WORK BEGINS. CONTRACTOR SHALL BEAR THE RESPONSIBILITY FOR THE PROTECTION OF UTILITIES DURING CONSTRUCTION. NO ADDITIONAL PAYMENT WILL BE MADE FOR UTILITIES LOCATED BUT NOT SHOWN IN DRAWINGS.
2. ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH APPLICABLE SECTIONS OF THE SITE SUBSOIL STUDY BY CESARE, INC. DATED 12/27/2019. CONTRACTOR TO NOTE REQUIREMENTS FOR EXCAVATION, BACKFILL AND SUPPORT MATERIALS.
3. SUBGRADE SHALL BE COMPACTED AND MOISTURE TREATED PER SOILS REPORT, PLANS, AND SPECIFICATIONS.
4. EDGE OF WATER LINES ARE BASED ON WATER LEVEL AT TIME OF SURVEY. ACTUAL WATER LEVEL DURING CONSTRUCTION WILL DIFFER FROM THAT SHOWN.
5. THE CONTRACTOR SHALL CERTIFY THAT ALL AGGREGATES USED ON THIS PROJECT ARE FREE FROM HAZARDOUS COMPONENTS IN EXCESS OF THE THRESHOLD CONCENTRATIONS ESTABLISHED BY THE E.P.A.
6. EXISTING FIELD CONDITIONS WERE GENERATED BY A TOPOGRAPHIC SURVEY PERFORMED BY SGM, INC. ON 9/25/2019.
7. THROUGHOUT ALL PHASES OF CONSTRUCTION, UNTIL THE FINAL ACCEPTANCE OF THE PROJECT, THE CONTRACTOR SHALL KEEP THE WORK SITE CLEAN AND FREE FROM RUBBISH AND DEBRIS.

1. ALL EROSION CONTROL MEASURES ARE PER CDOT M-208-1, UNLESS NOTED OTHERWISE.
2. LIMITS OF DISTURBANCE SHOWN IN THE PLANS ARE BASED ON A MAXIMUM 10' OFFSET OUTSIDE OF THE GRADING LIMITS. TOTAL AREA OF DISTURBANCE IS APPROXIMATELY 1.2 ACRE.
3. STORING, STOCKPILING AND STAGING AREAS WILL BE IDENTIFIED BY THE CONTRACTOR AND SUBJECT TO APPROVAL BY THE COUNTY. THE CONTRACTOR SHALL UPDATE THE STORM WATER MANAGEMENT PLAN TO REFLECT THESE AREAS. APPROPRIATE BMPs WILL BE INSTALLED PER THE SWMP.

1. THE SCOPE OF WORK FOR THIS PROJECT IS TO REHABILITATE OF 650 LF OF THE UPSTREAM DAM EMBANKMENT OF THE VOUGA RESERVOIR DAM, WHICH HAS EXPERIENCED EROSION DUE TO WAVE ATTACK OVER A NUMBER OF YEARS. REHABILITATION WILL CONSIST OF RE-ESTABLISHMENT OF THE 3H:1V EMBANKMENT SLOPE WITH ON-SITE MATERIALS AS WELL AS SUPPLY AND PLACEMENT OF BEDDING SAND AND RIPRAP.
2. THE EMBANKMENT SLOPE SHALL BE RE-ESTABLISHED TO A SLOPE OF 3H:1V USING ON-SITE MATERIALS PLACED IN MAXIMUM 12" LIFTS COMPACTED TO 95% MODIFIED PROCTOR.
3. PRIOR TO CONSTRUCTION ACTIVITIES, THE RESERVOIR SHALL BE DRAINED TO A LEVEL SUFFICIENT TO PROVIDE A HORIZONTAL BUFFER BETWEEN THE LIMITS OF CONSTRUCTION AND EDGE OF WATER OF 12'. NO OTHER DEWATERING IS ANTICIPATED.
4. ALL DEWATERING ACTIVITIES SHALL BE PERFORMED IN A MANNER TO ENSURE NO DOWNSTREAM EROSION.
5. ALL RIPRAP PLACED SHALL BE IMPORTED MATERIAL OR ON SITE ROCK CRUSHED AND PROCESSED TO MEET THE SPECIFICATIONS APPROVED BY THE COLORADO STATE ENGINEERS' OFFICE.
6. ALL BEDDING MATERIALS SHALL BE IMPORTED MATERIAL MEETING SPECIFICATIONS APPROVED BY THE COLORADO STATE ENGINEERS' OFFICE.
7. ALL DAM RELATED CONSTRUCTION SHALL CONFORM TO THE PLANS AND SPECIFICATIONS APPROVED BY THE COLORADO STATE ENGINEERS' OFFICE. APPROVED PLANS CANNOT BE CHANGED WITHOUT PRIOR WRITTEN APPROVAL OF THE STATE ENGINEER.
8. THE STATE ENGINEER HAS THE AUTHORITY TO REQUIRE THE MATERIAL USED AND THE WORK OF CONSTRUCTION TO BE ACCOMPLISHED ACCORDING TO THE RULES AND REGULATIONS AND THAT CONSTRUCTION SHALL BE COMPLETE UNTIL THE STATE ENGINEER IS ACCEPTABLE THE PROJECT IN WRITING.
9. THE CONTRACTOR IS RESPONSIBLE FOR THE CONTROL OF SEDIMENT AND EROSION THROUGHOUT THE LENGTH OF THE CONTRACT.
10. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO THE START OF CONSTRUCTION.

<u>RESERVOIR DATA</u>	
NORMAL WATER SURFACE ELEVATION (ft)	8590.60 (GLORYHOLE)
DAM CREST ELEVATION (ft)	8597.50 (FG)
STORAGE CAPACITY (AF)	1920 AC-FT

Vouga Reservoir Association
Vouga Dam Resoration

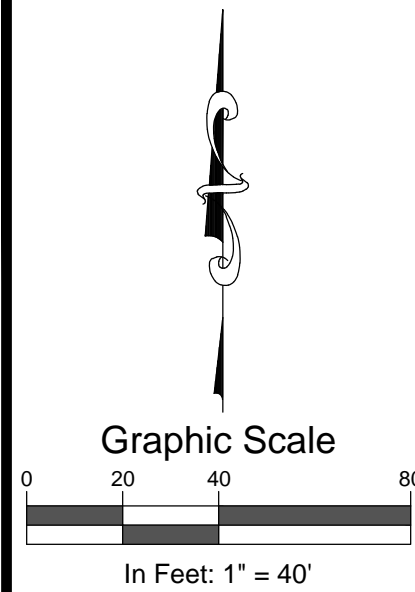
Title: Legend,
Abbreviations, and
General Notes

Dwg No.

2.0

Of : 6.0

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SGM
103 W. Tonicchi Ave., Suite A
Gunnison, CO 81230
970.641.5355 www.sgm-inc.com

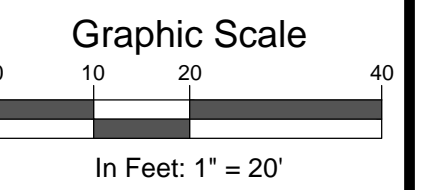
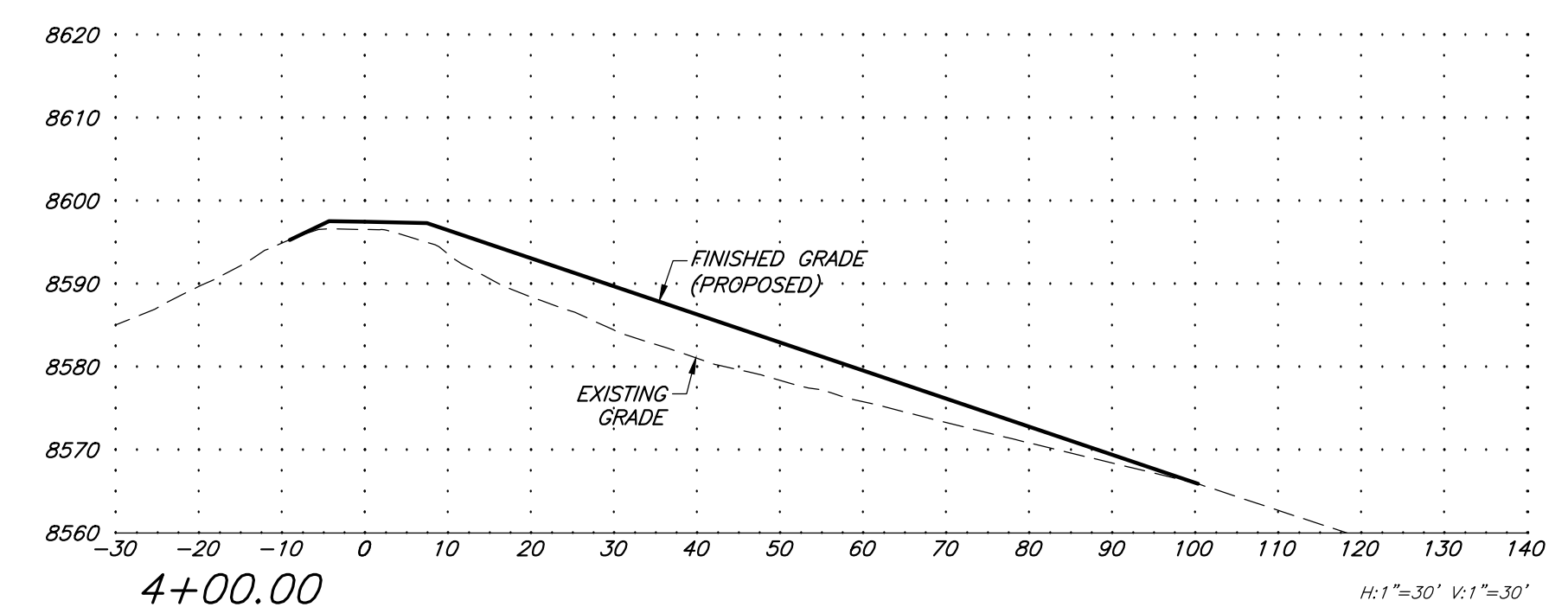
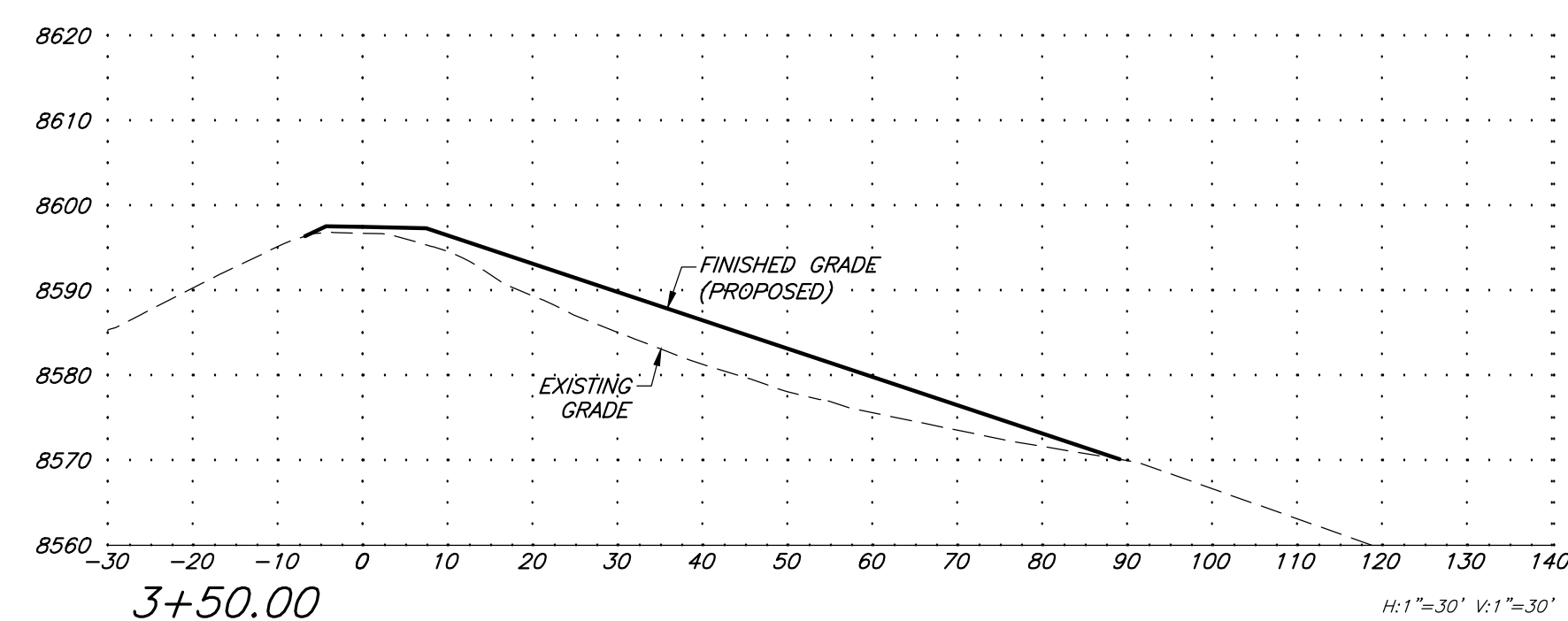
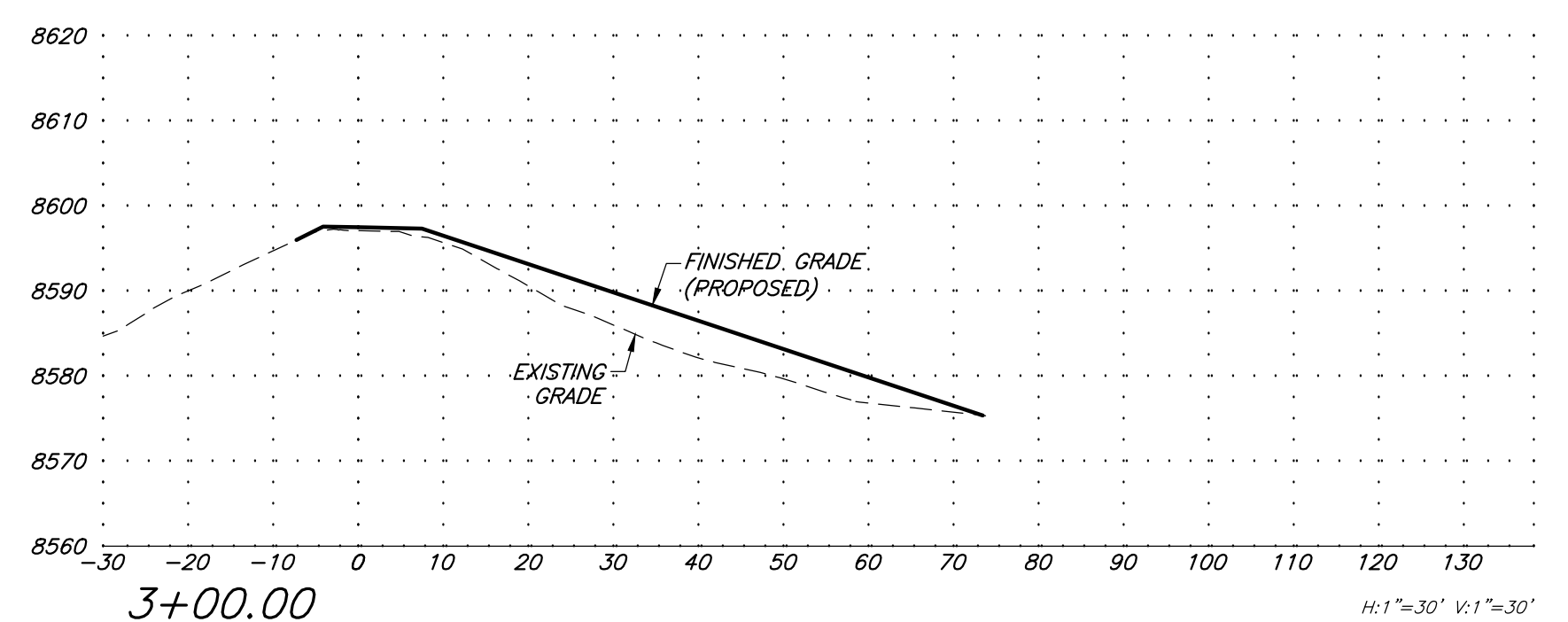
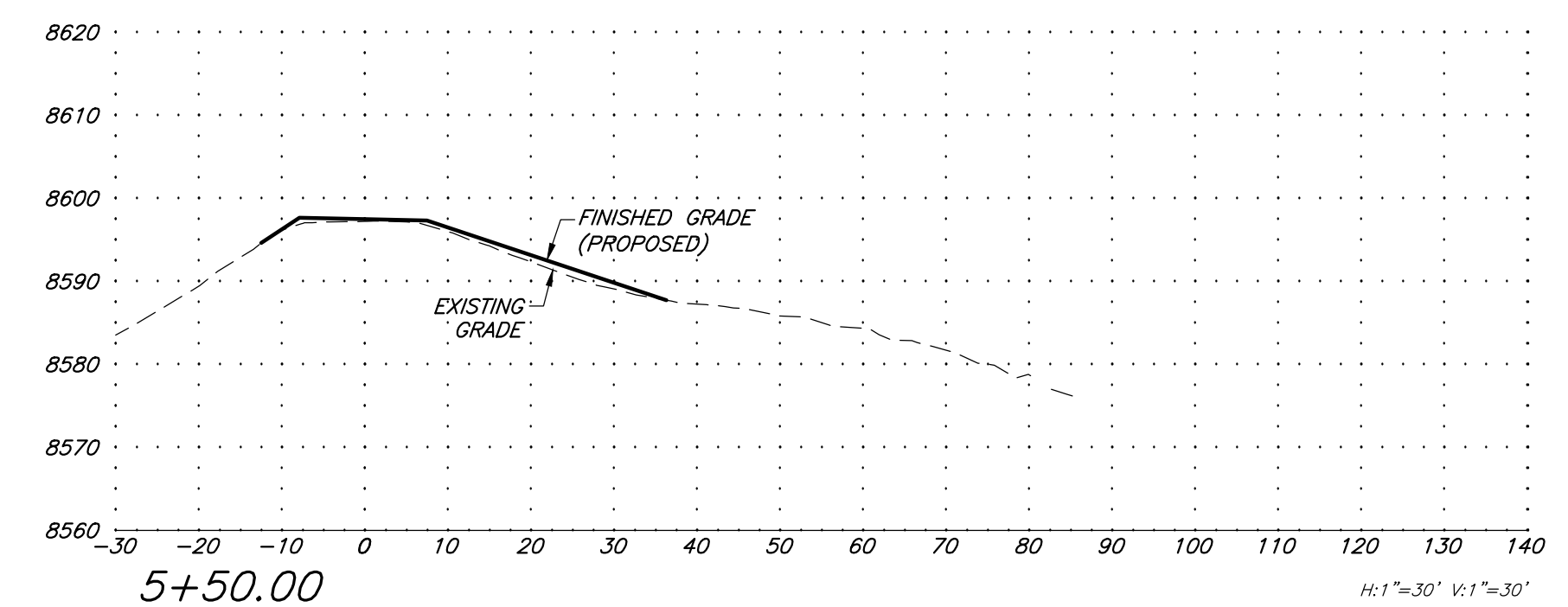
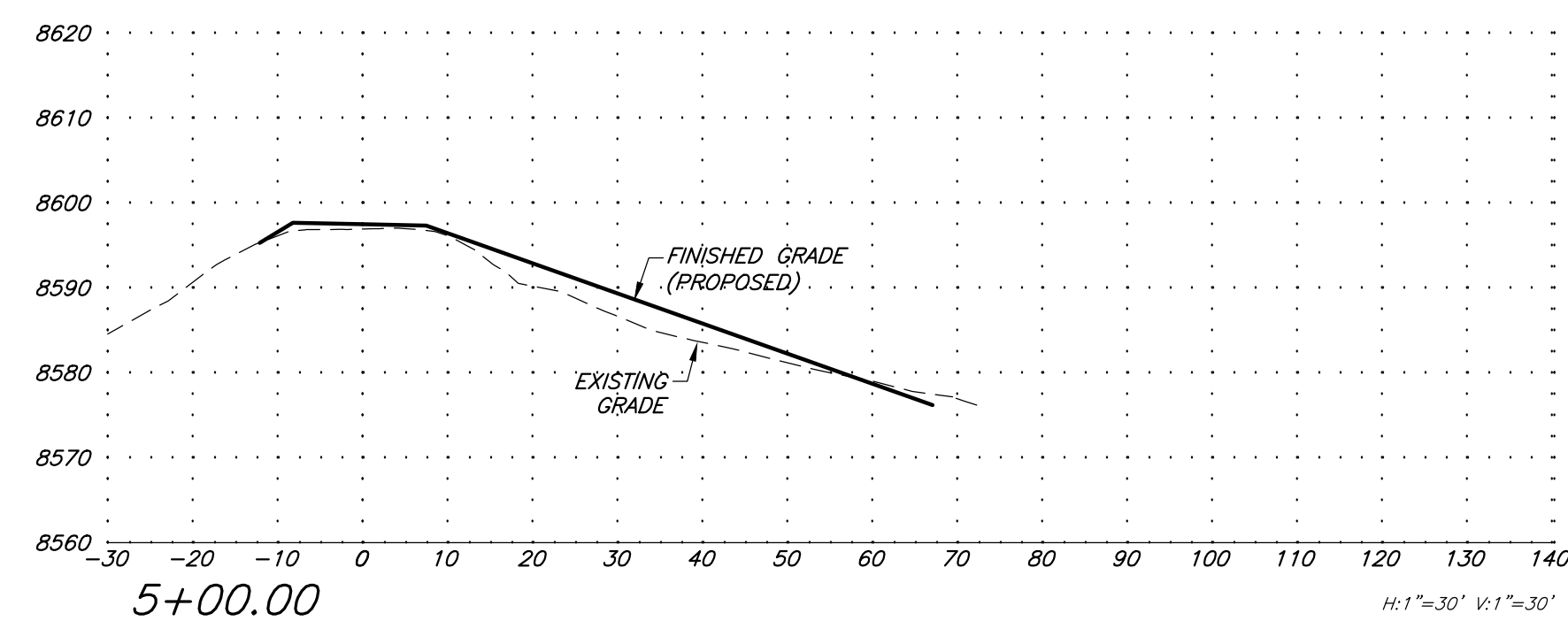
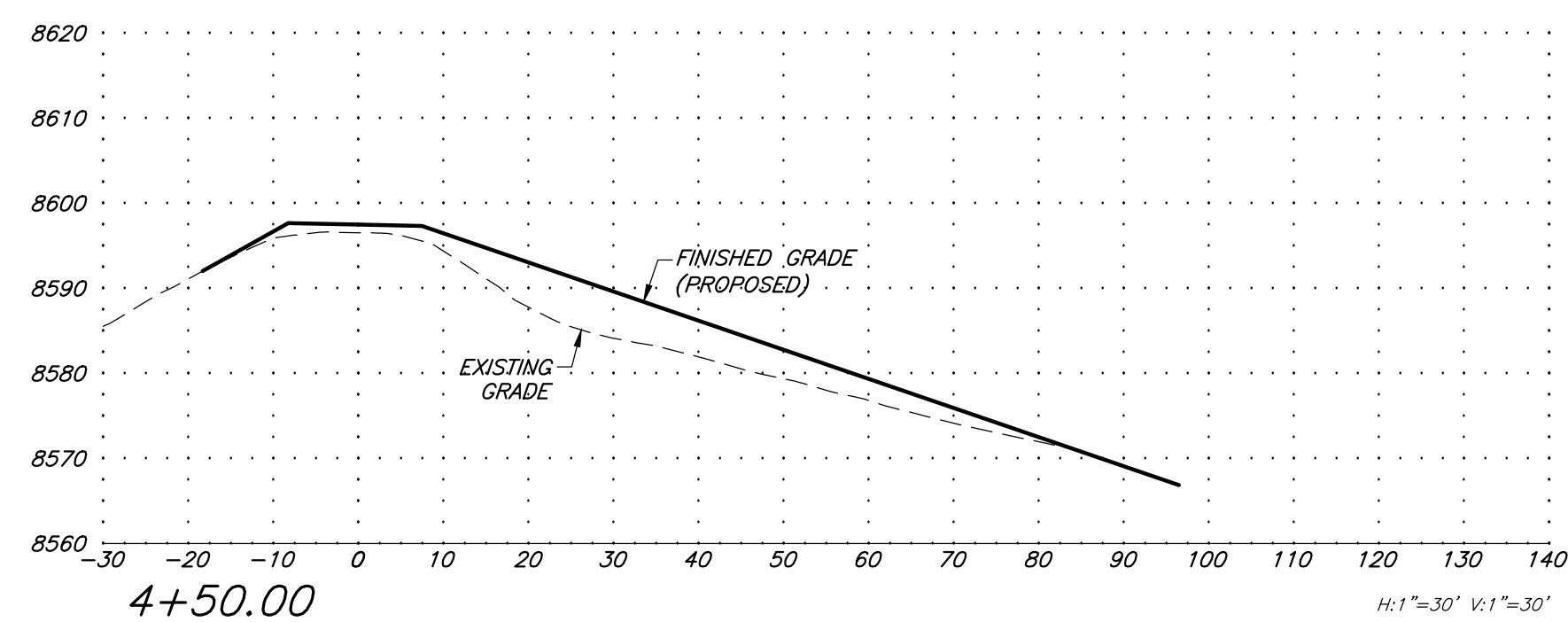
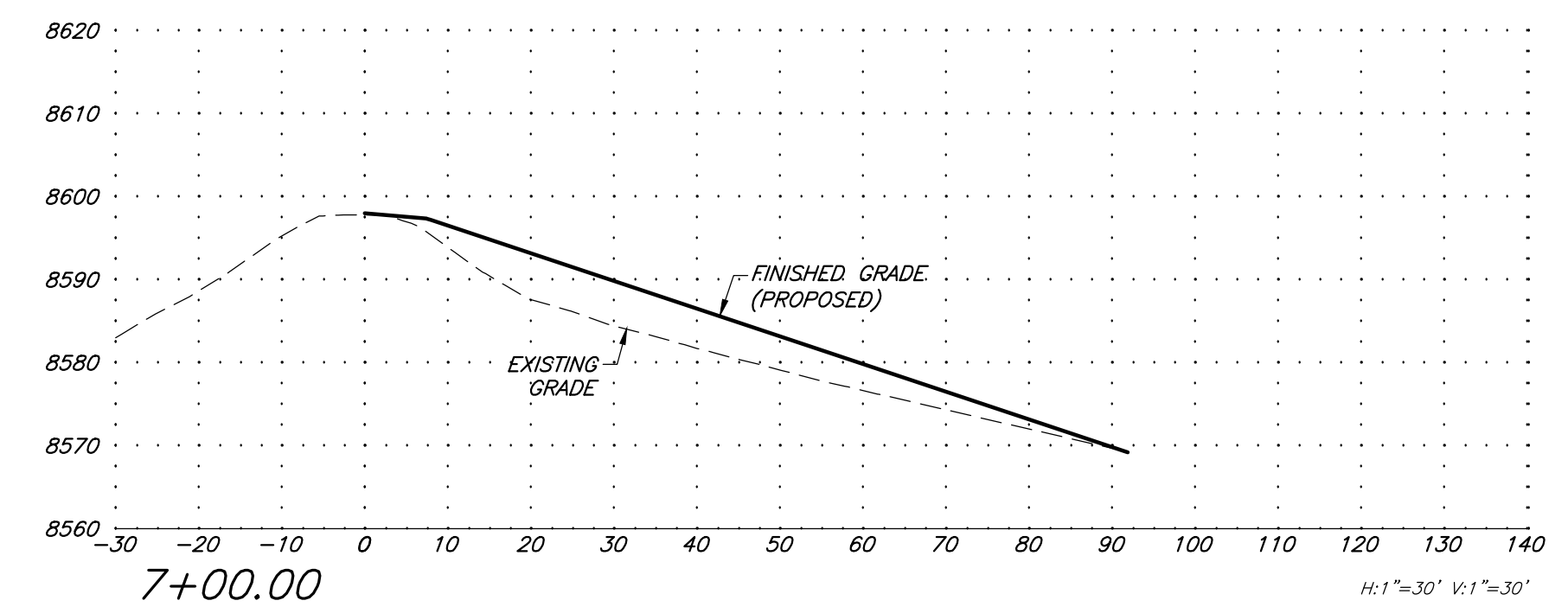
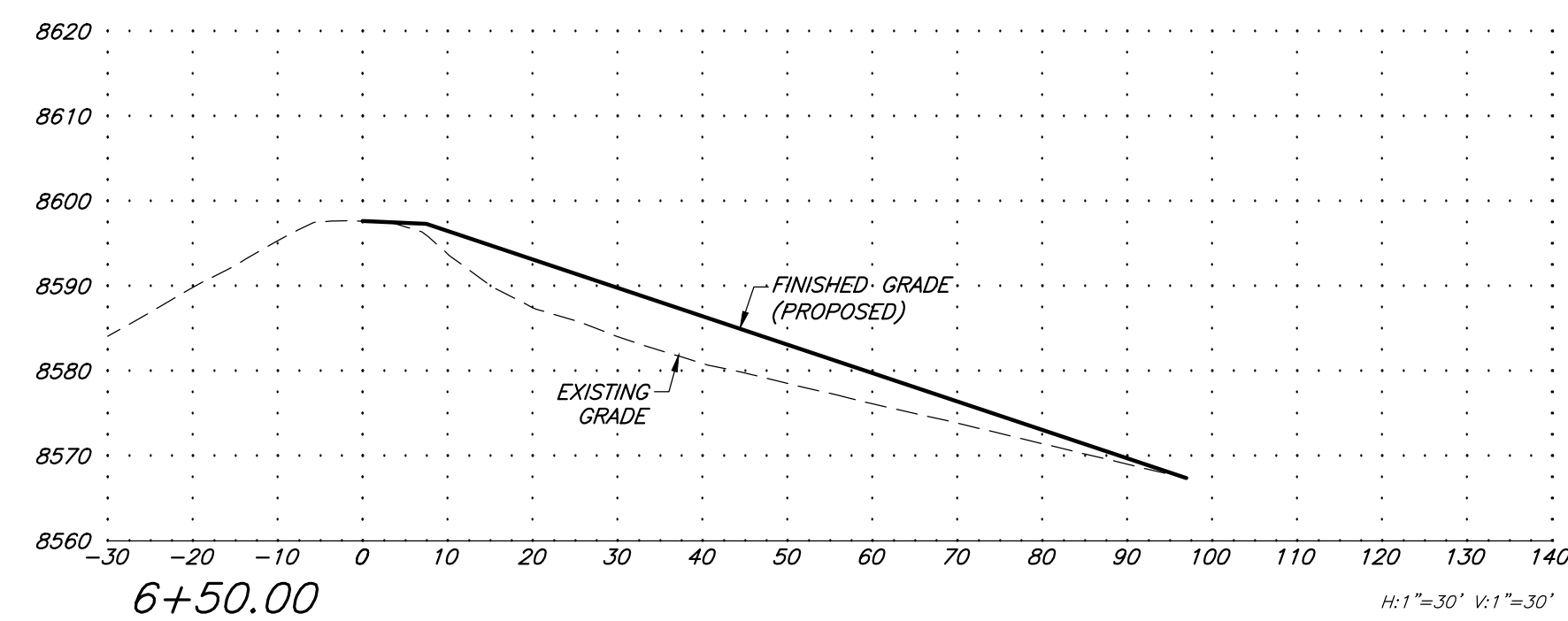
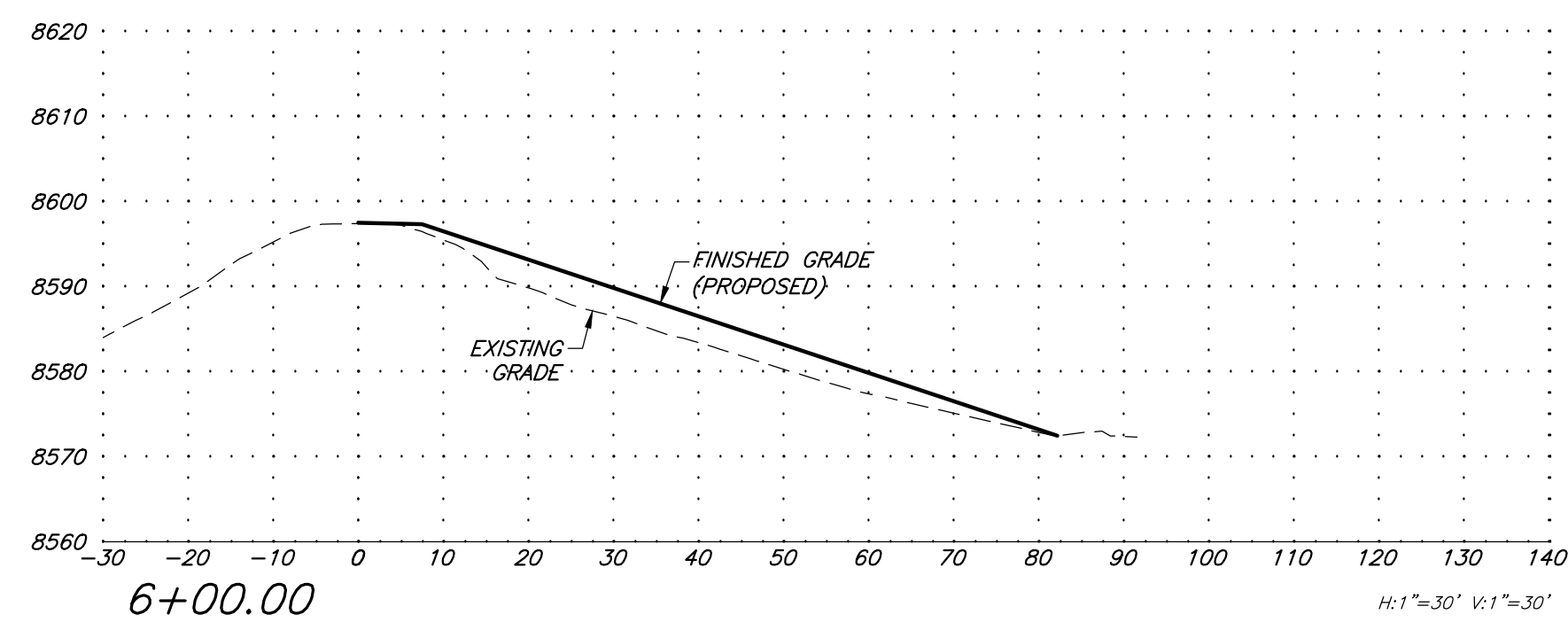
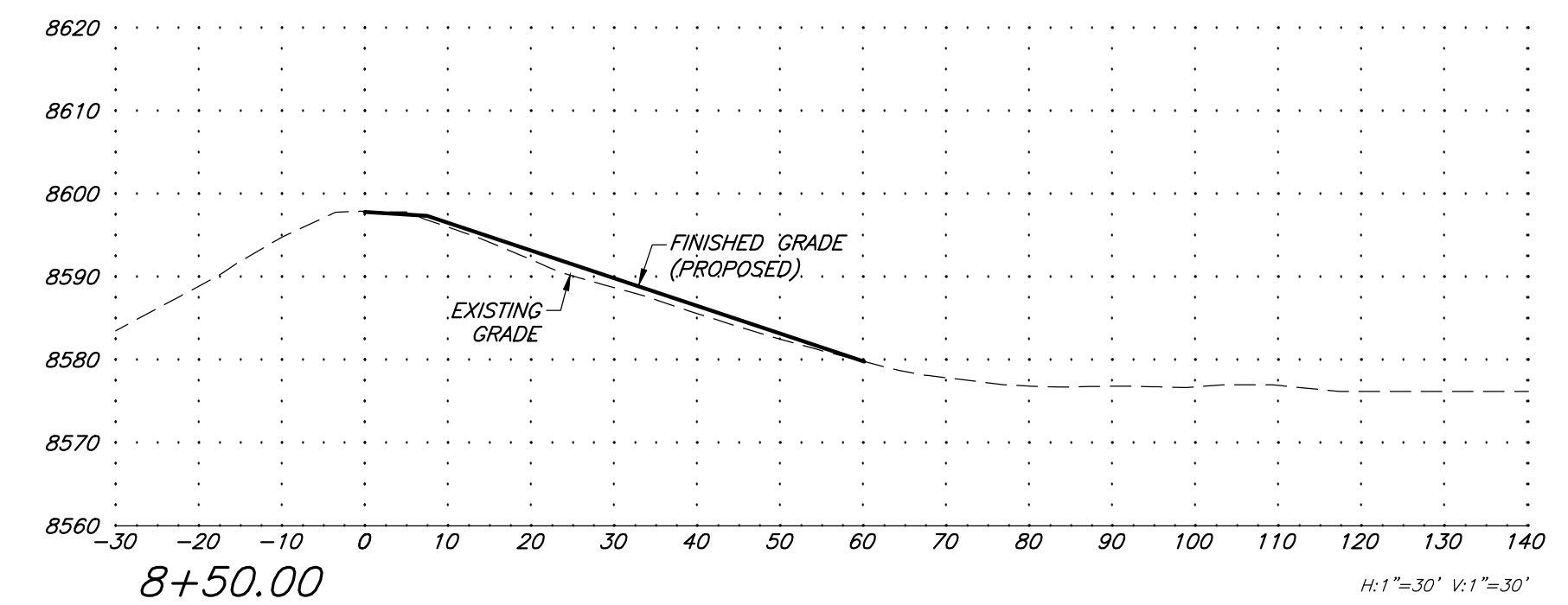
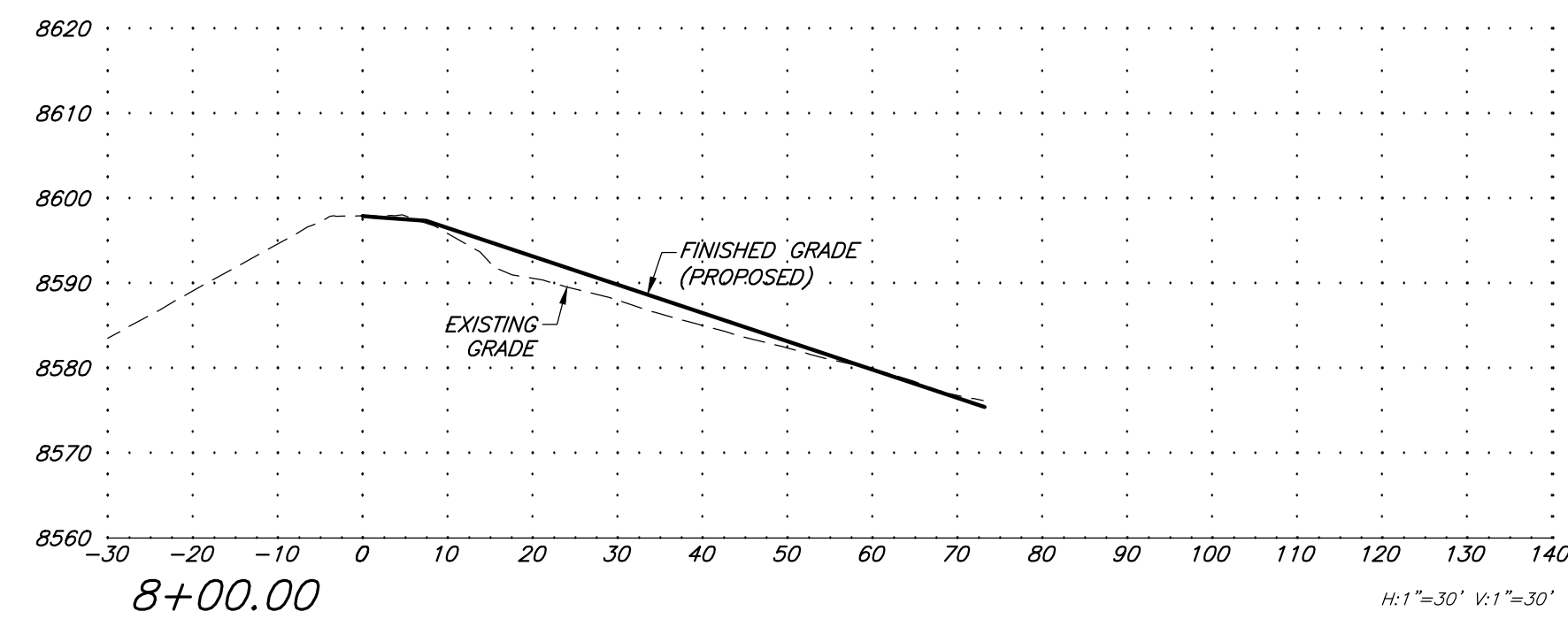
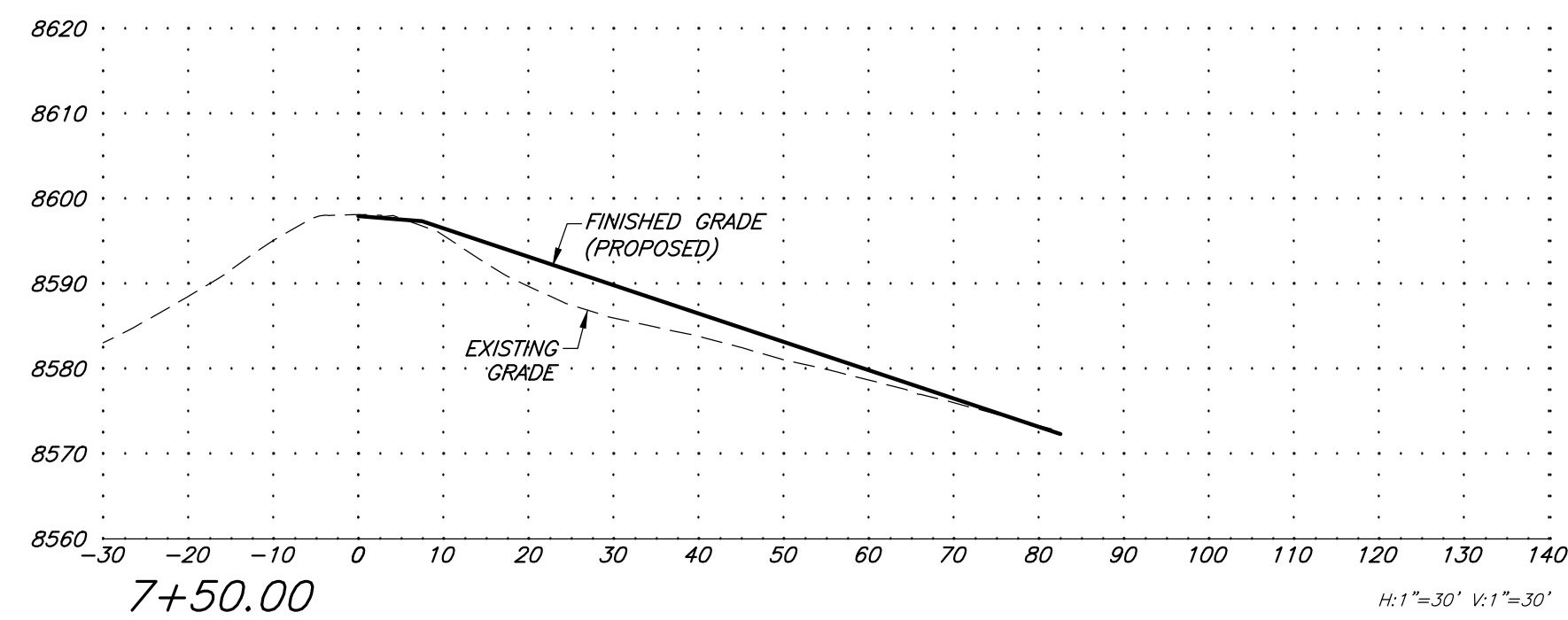
Vouga Reservoir Association
Vouga Dam Restoration

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Job No. 2017-100.001
Drawn by: JS
Date: 03.30.2020
QC: JB
File: Vouga-ExCond

Title:
Existing Conditions Map

Dwg No.
3.0
Of: 6.0



SGM
103 W. Tomichi Ave., Suite A
Gunnison, CO 81230
970.641.5355 www.sgm-inc.com

103 W. Iomichi Ave., Suite A
Gunnison, CO 81230
970.641.5355 www.sgm-inc.com

970.641.5355 www

www.sgm-inc.com

www.sgm-inc.com

Vouga Reservoir Association
Vouga Dam Resoration

Vouga Dam Resoration

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References

Job No.	2017-100.001		
Drawn by:	JS		
Date:	03.30.2020		
QC:	XX	PE:	JB
File:	Vouga-Sections		

Drawn by: JS

Date: 03.30.2020

QC:	XX	FE:	JB
File: Vouga-Sections			

itle:

Exam Sections

Wing No.

5.0

of: 6.0

Engineers Opinion of Probable Construction Cost Vouga Dam Rehabilitation

Contract Item #	Estimated Quantity	Unit	Description	Unit Price	Total Price
1	1	LS	Mobilization/Demobilization	\$20,000.00	\$20,000.00
2	5300	SY	Clearing, Grubbing, and Stockpile of Existing Surface Materials	\$8.00	\$42,400.00
3	5,000	CY	Embankment Cut and Fill	\$9.00	\$45,000.00
4	4722	CY	Rock Crushing and Screening	\$17.50	\$82,638.89
5	9375	TONS	Rip-Rap - Placement	\$5.25	\$49,218.75
6	4,722	SY	Mirafi 1160N Geotextile	\$16.00	\$75,555.56
7	225	TONS	Class 5 Road Base - Along crest	\$40.00	\$9,000.00
8	10,000	SF	Seeding and Reveg and clean-up	\$0.25	\$2,500.00
				GRAND TOTAL	\$326,313.19

HWY 135
TO CRESTED BUTTE

GUNNISON, CO

HWY 50
TO MONTROSE

DOYLEVILLE

HWY 50
TO SALIDA

CO RD 45

PROJECT LOCATION:
VOUGA RESERVOIR

HWY 135
TO CRESTED BUTTE

GUNNISON, CO

HWY 50
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PROJECT LOCATION:
VOUGA RESERVOIR

This aerial map provides a detailed view of the mountainous terrain around Gunnison, Colorado. The town of Gunnison is visible in the upper left, with its airport and surrounding infrastructure. The map highlights the location of the Vouga Reservoir project, situated in a valley south of Doyleville. Key transportation routes are marked, including Highway 135 heading north to Crested Butte and Highway 50 heading south to Montrose and Salida. A north arrow is located in the top right corner, and the project location is specifically identified as Vouga Reservoir.

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TO CRESTED BUTTE

GUNNISON, CO

HWY 50
TO MONTROSE

DOYLEVILLE

CO RD 45

HWY 50
TO SALIDA

PROJECT LOCATION:
VOUGA RESERVOIR

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HWY 135
TO CRESTED BUTTE

GUNNISON, CO

HWY 50
TO MONTROSE

DOYLEVILLE

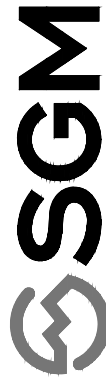
CO RD 45

HWY 50
TO SALIDA

PROJECT LOCATION:
VOUGA RESERVOIR

This aerial map provides a detailed view of the mountainous terrain around Gunnison, Colorado. Key features include:

- Gunnison, CO:** Located in the upper left, showing the town and the Gunnison River.
- HWY 135 TO CRESTED BUTTE:** A road running north-south through the center of the map.
- HWY 50 TO MONTROSE:** A road running east-west through the middle of the map.
- DOYLEVILLE:** A small town located to the east of Gunnison.
- CO RD 45:** A road running north-south, east of Doyleville.
- PROJECT LOCATION: VOUGA RESERVOIR:** Indicated by an arrow pointing to a small reservoir in the lower right quadrant.
- HWY 50 TO SALIDA:** A road running east-west, south of Doyleville.
- North Arrow:** Located in the top right corner, pointing upwards.



Vouga Reservoir Association

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Job No.	2019-428.001		
Drawn by:	JS		
Date:	06.22.2020		
QC:	--	PE:	JB
File:	Funding Vicinity Map		

Title:

Vicinity Map

Dwg No.

Dwg No.

Of : 1.0



Upper Gunnison River Water Conservancy District

210 West Spencer Avenue, Suite B • Gunnison, Colorado 81230
(970) 641-6065 • www.ugrwcd.org

March 23, 2020

R&K Staheli Farms
Carson Pearson
22501 County Road 88
Ault, CO 80610

Re: Vouga Reservoir Dam Restoration and Rehabilitation

Dear Carson,

This letter is to acknowledge the approval of your grant request submitted to the Upper Gunnison River Water Conservancy District (UGRWCD). You have been approved for **\$50,000** in UGRWCD Grant monies for the above referenced project.

The program received grant requests for over \$340,000 for a wide range of well-qualified proposals, with requests ranging from \$3,000 to \$50,000. The total of the grant requests was well over the \$200,000 amount appropriated for 2020.

The release of these grant funds is subject to entering into a Funding Agreement which must be signed by both the UGRWCD and the awarded party. Please contact our office at 970-641-6065 to proceed with the Funding Agreement.

Congratulations,

Sonja Chavez
General Manager



Jesse Kruthaupt

November 30th, 2020

Attn: Alex Funk
Colorado Water Conservation Board
Colorado Water Plan Grants

RE: Vouga Reservoir Dam Repair

Dear Mr. Funk,

Trout Unlimited (TU) is offering our support for Mr. Pearson's grant application submitted to the Colorado Water Conservation Board for restoration of the Vouga Reservoir dam.

Vouga Reservoir is located on Razor Creek in Saguache county, approximately 20 miles south east of Gunnison, CO. Razor Creek originates near the continental divide and flows through the Gunnison National Forest until it meets Vouga Reservoir. Vouga Reservoir is owned by Mr. Pearson's family and is located on their property.

The section of Razor Creek on USFS land between the reservoir and the continental divide offers outstanding cold-water trout habitat and has been considered a candidate stream for reintroduction of Colorado River Cutthroat Trout (CRCT). Colorado Division of Parks and Wildlife (CPW) sampled this section of Razor Creek during 2018 and found that suitable flows and habitat quality for CRCT was present during that extremely dry year.

TU, CPW and Partners for Fish and Wildlife have expressed interest in providing technical and financial support for the Vouga Reservoir repairs if the dam can be used as a barrier to non-native trout and the owners are willing to coordinate with CRCT reintroduction efforts in Razor Creek between the reservoir its headwaters.

This project is a perfect opportunity to meet Goal 7 described in the Gunnison BIP.

Goal 7: Describe and encourage the beneficial relationship between agricultural and environmental and recreational water uses.

- *Complete at least five new multi-purpose water projects, including two storage projects, in the Gunnison Basin by 2025 that demonstrate the beneficial relationship between agricultural, environmental, and recreational uses*
- *Explore and develop recommendations on alternative sources of funding from recreational users within the Basin to support development of those multi-purpose water projects*



Jesse Kruthaupt

The CRCT Conservation Strategy is also referenced in section 2.4, (pg. 67) of the Gunnison Basin Implementation Plan. One of the CRCT Conservation Strategy objectives is to secure and enhance 'conservation' and 'core conservation' CRCT populations. The 22 miles of additional CRCT habitat that could result from this project would be a monumental conservation achievement for native trout in western Colorado.

This project is valuable beyond the opportunity for CRCT restoration. Maintaining existing storage on Razor Creek, tributary to Tomichi Creek, is a critical step to prepare water users for future drought years. Releases from the reservoir will directly meet irrigation needs and bolster stream flows for fish, riparian habitat, and wildlife during low flow periods.

TU is excited to continue to discuss this project with Mr. Pearson, Partners for Fish and Wildlife, CPW, and other partners. In the meantime, we encourage the CWCB to approve the grant request for Vouga dam repairs.

Thank you for your consideration, please feel free to contact me by phone or email if you have any questions.

Sincerely,

Jesse Kruthaupt
Trout Unlimited
Upper Gunnison Project Manager

From: [Brauch - DNR, Dan](#)
To: pearson.carson@gmail.com
Cc: [Jesse Kruthaupt](#); [John Alves](#); [Brandon Diamond](#); [Nick Gallowich](#); [Perovich, Carlyn - FS](#); [Clay Speas](#)
Subject: Update on scoping for Colorado River Cutthroat Trout reintroduction to Vouga Reservoir / Razor Creek
Date: Monday, November 30, 2020 1:09:02 PM

Hi Carson,

As you know, we have recently assessed the potential for Razor Creek to support native cutthroat trout, which have been displaced in much of their native streams by non-native trout species. The drainage above Vouga Reservoir contains about 22 miles of mainstem and tributary perennial streams which overall would be expected to support a robust population of Colorado River Cutthroat Trout. The stream currently has brook trout present, which would need to be removed to enable cutthroat trout to be re-established.

Generally a downstream barrier is needed to protect the stream from re-colonized by non-native trout, and it is believed that the Vouga Reservoir dam would serve this purpose. The reservoir would also potentially allow for development of a cutthroat trout broodstock to provide a source of fish for stocking additional streams and lakes. Thanks for allowing access through your ranch for us to assess the suitability of Vouga Reservoir to function as a cutthroat trout brood lake earlier in 2020. This work included a disease inspection to assess whether any pathogens of concern were present. Unfortunately, we did assess that Vouga Reservoir is positive for *Myxobolus cerebralis*, the causative agent of whirling disease. We have successfully eradicated whirling disease from Placer Creek, a tributary of Sangre de Cristo Creek in the San Luis Valley, in conjunction with a cutthroat trout restoration project within that drainage. To complete a restoration effort within the Razor Creek drainage, we would need to keep the drainage free of fish for approximately two years post reclamation to attempt to halt the life cycle for *M. cerebralis* to enable establishment of cutthroat trout in a whirling disease free environment.

Although a potential Razor Creek project has been discussed with US Forest Service fishery staff, additional assessment, coordination, and scoping work will be needed to make a final decision to move forward with the project. We are excited for the opportunity to collaborate with the Razor Creek Ranch and the US Forest Service on this project which would greatly benefit our efforts to conserve green lineage Colorado River Cutthroat Trout.

Please let me know if you have any questions about our 2020 assessment work or the potential to consider a reclamation project in the Razor Creek drainage in the near future.

Sincerely,
Dan Brauch

Daniel Brauch
Aquatic Biologist
Upper Gunnison Basin



P 970.641.7070 | F 970.641.7883 | C 719-850-0879
300 W. New York Avenue, Gunnison, CO 81230
dan.brauch@state.co.us | www.cpw.state.co.us

From: [Brauch - DNR, Dan](#)
To: pearson.carson@gmail.com
Cc: [Jesse Kruthaupt](#); [John Alves](#); [Brandon Diamond](#); [Nick Gallowich](#); [Perovich, Carlyn - FS](#); [Clay Speas](#)
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Sincerely,
Dan Brauch

Daniel Brauch
Aquatic Biologist
Upper Gunnison Basin



P 970.641.7070 | F 970.641.7883 | C 719-850-0879
300 W. New York Avenue, Gunnison, CO 81230
dan.brauch@state.co.us | www.cpw.state.co.us

R&K Staheli Farms

1525 P Road

Loma, Co 81254

To Whom it may concern,

R&K Staheli Farms is committed to provide at least \$50,000 in cash and in-kind support for the Vouga Reservoir rehabilitation project. As the owner and operator of this reservoir the benefits are easily seen, and therefore R&K Staheli Farms will provide anything possible by the business beyond the committed amount to see the project to completion.

Sincerely,

Carson Pearson

Ranch Manager



United States Department of the Interior



FISH AND WILDLIFE SERVICE

COLORADO PARTNERS FOR FISH AND WILDLIFE

134 UNION BLVD.; SUITE 400C
LAKEWOOD, COLORADO 80228
303-236-4341

Colorado Water Conservation Board
ATTN: Craig Godbout
1313 Sherman Street, Room 718
Denver, CO 80203

Subject: Vouga Reservoir Dam Restoration and Rehabilitation

Dear Mr. Godbout,

The U.S. Fish and Wildlife Service, Colorado Partners for Fish and Wildlife Program (CO PFW) strongly supports the Vouga Reservoir Dam Restoration and Rehabilitation Project. CO PFW is actively working in partnership with R&K Staheli Farms, Trout Unlimited, Colorado Parks and Wildlife, and the Upper Gunnison River Water Conservancy District to restore the Vouga Reservoir Dam. This reservoir provides irrigation water important for brood rearing habitat within Critical Habitat for Gunnison Sage-Grouse (GUSG) along the sagebrush interface for over 1,000 acres of working wet meadows. Once repairs to the dam is complete, the reservoir is slated to become a brood pond for native Colorado River cutthroat trout (CRCT) that will contribute to native fish recovery above the reservoir in Razor Creek, as well as provide a source for new reintroductions in other drainages historically endemic to CRCT. In addition to GUSG and CRCT, CO PFW recognizes the complexity and critical importance that flood irrigation practices have on keeping private ranch lands viable, as well as benefits to a myriad of other wildlife species.

CO PFW expresses full support towards the success of this project and has secured \$25,000 in matching funds. Thank you for considering CO PFW's support and this project. If you have any questions regarding the CO PFW program or details of this project, please contact Brandon Miller, CO PFW Private Lands Biologist, 307 N. Main St., Suite 2C, Gunnison, CO 81230; 970-615-0119; or brandon_miller@fws.gov.

Sincerely,

Dominic Barrett
State Coordinator

