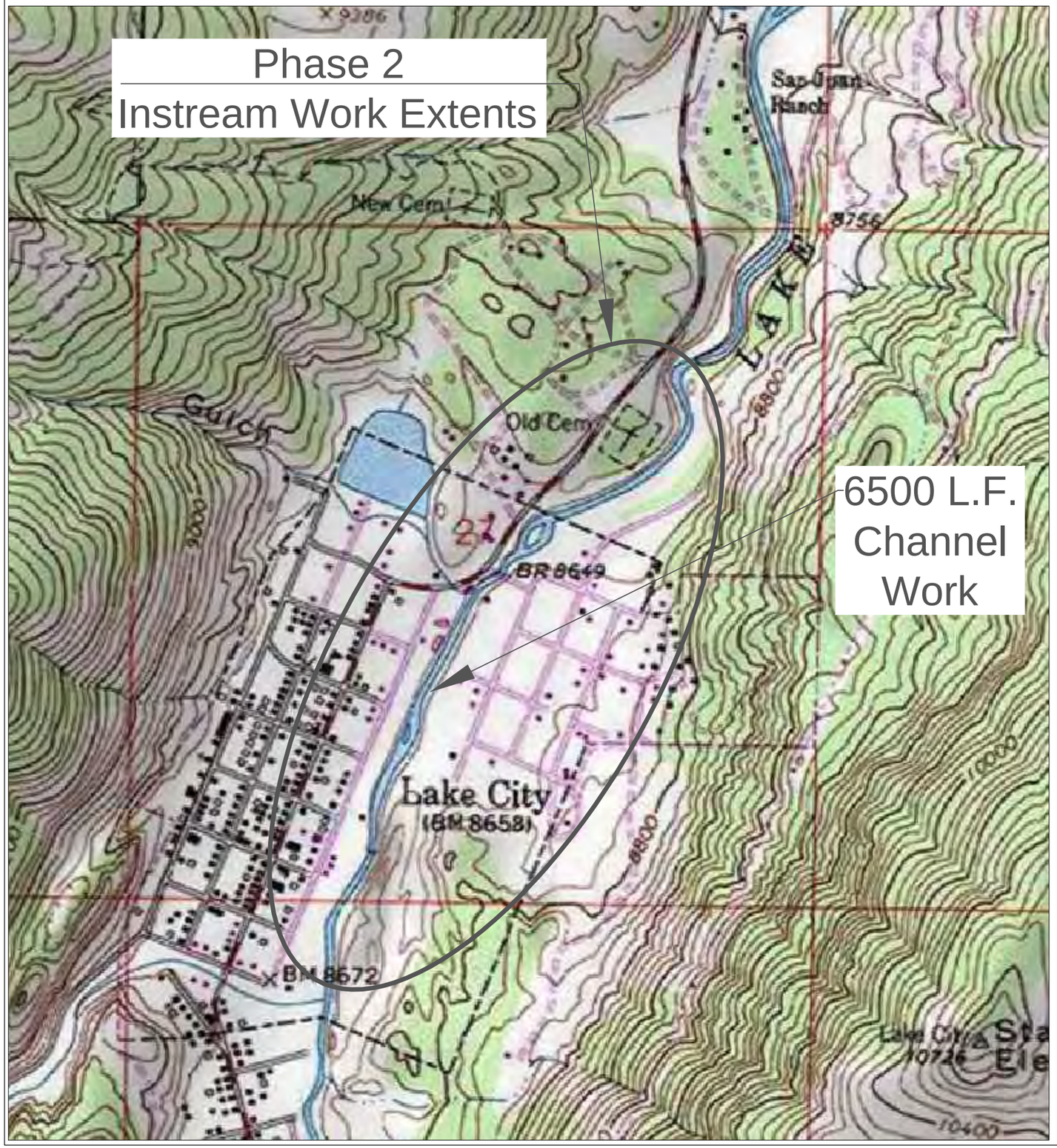


LAKE FORK GUNNISON
CHANNEL IMPROVEMENT PROJECT
PREPARED FOR:
WEBCO INC .
LAKE FORK VALLEY CONSERVANCY

PREPARED BY:

HYDROGEO DESIGNS LLC.
320 CHARLES ST.
P.O. BOX 775
BUENA VISTA, CO 81211

SHEET INDEX:

COLORADO LICENSED
BRETT A. JORDAN
45190
PROFESSIONAL ENGINEER

Vane–1 Key In Stn. 62+47

Vane–2 Key In Stn. 62+10

Vane–3 Key In Stn. 61+62

Vane–4 Key In Stn. 60+7i

Vane–5 Key In Stn. 59+62

Channel Shaping/ Thalweg Definition

64+00

63+00

62+00

61+00

60+00

59+00

58+00

57+00

56+00

64+98

BC–1

BC–2

BC–3

BC–4

BC–5

BC–6

BC–7

BC–8

BC–9

BC–10

BC–11

XS–20

XS–19

XS–18

Legend

- Vane
- Cross–Vane
- Pool Excavation
- J–Hook
- Willow Transplant/ Island Augmentation
- Point Bar Shaping
- Boulder Clusters
- Channel Shaping/ Thalweg Definition
- Bankful Bench
- Bed Sill
- Bankfull Channel
- Constructed Riffle
- Control Point

"Final layout and elevations of in–stream structures will be confirmed/determined in the field by the project engineer"

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River AirPhoto Stn. 65+00–56+00

PREPARED BY:

HYDROGEO DESIGNS

P.O. Box 775

Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy

Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60

SCALE IN FEET

SHEET NUMBER

2 OF 25

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River AirPhoto
Stn. 56+00–48+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

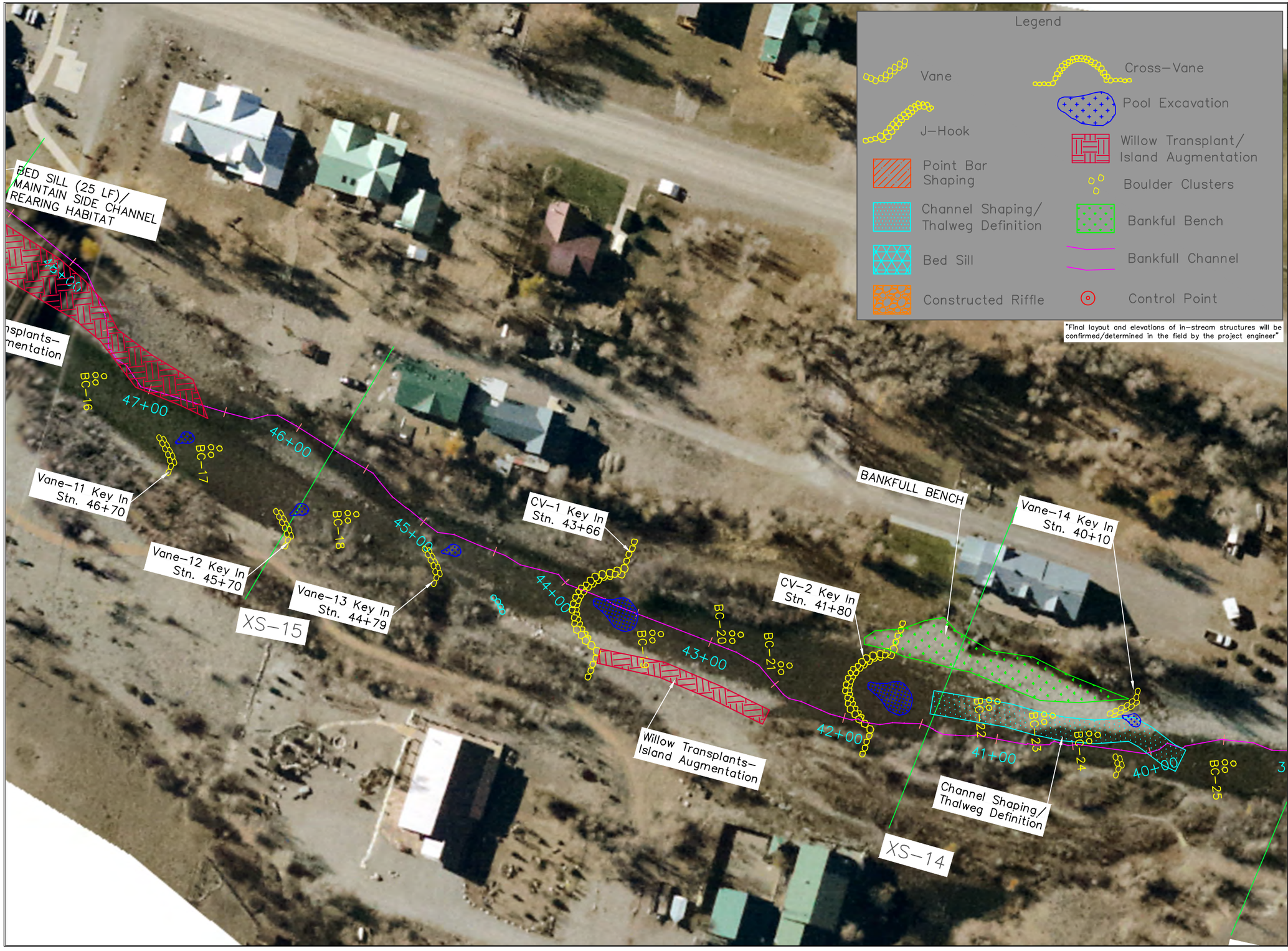
Lake Fork Valley Conservancy
LAKE CITY COLORADO

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
3 OF 25



REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
AirPhoto
Stn. 48+00–40+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
4 OF 25

REV.					
DESCRIPTION					
DATE					
APR.					

PROJECT ID

Lake Fork of the Gunnison River AirPhoto
Stn. 40+00–32+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

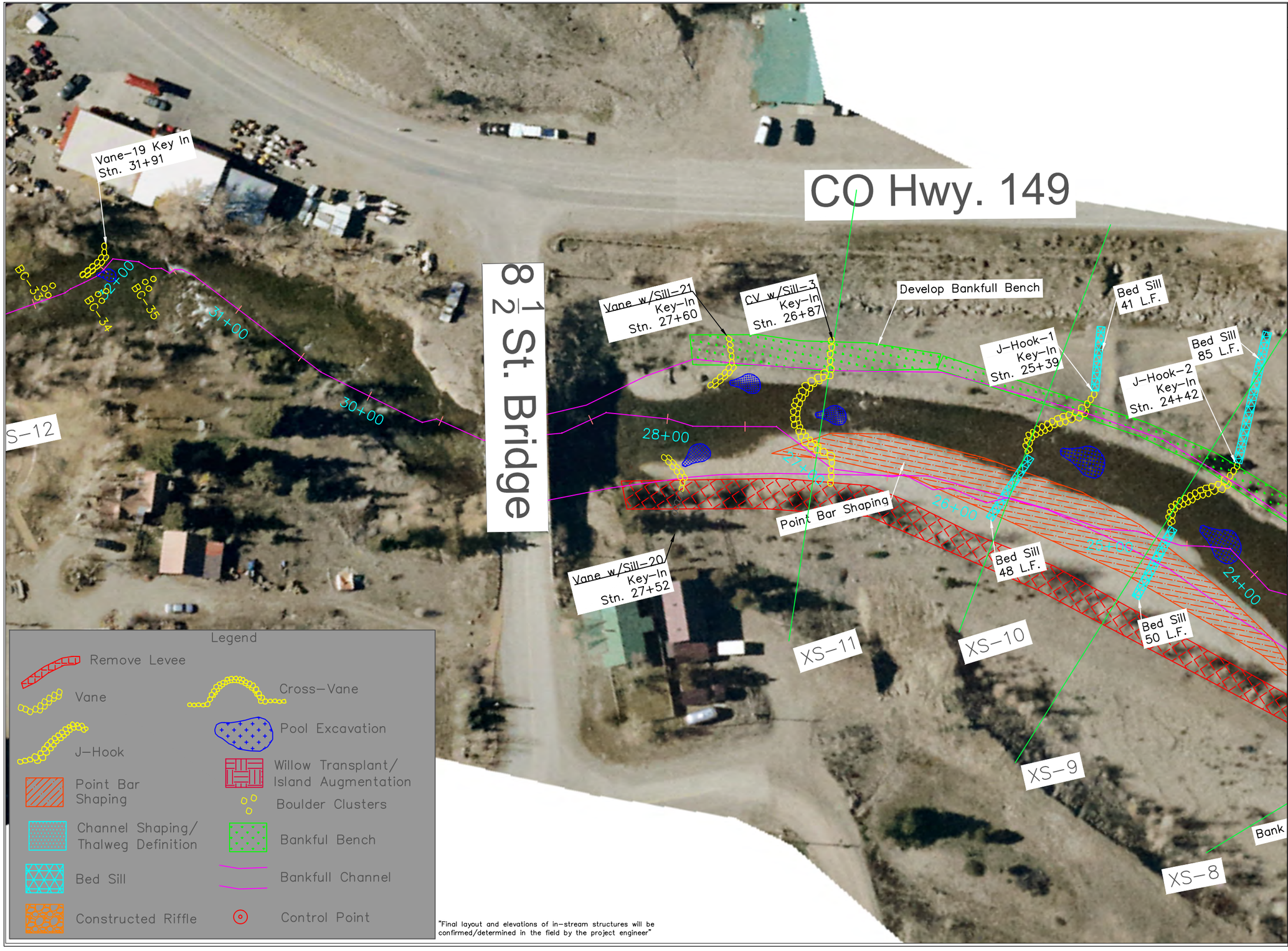
N

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
5 OF 25



"Final layout and elevations of in-stream structures will be confirmed/determined in the field by the project engineer"

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
AirPhoto
Stn. 32+00-24+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy
LAKE CITY, COLORADO

N

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
6 OF 25

APR.				
DATE				
DESCRIPTION				
REV.				

PROJECT ID

Lake Fork of the Gunnison River AirPhoto Stn.24+00-16+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.

Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

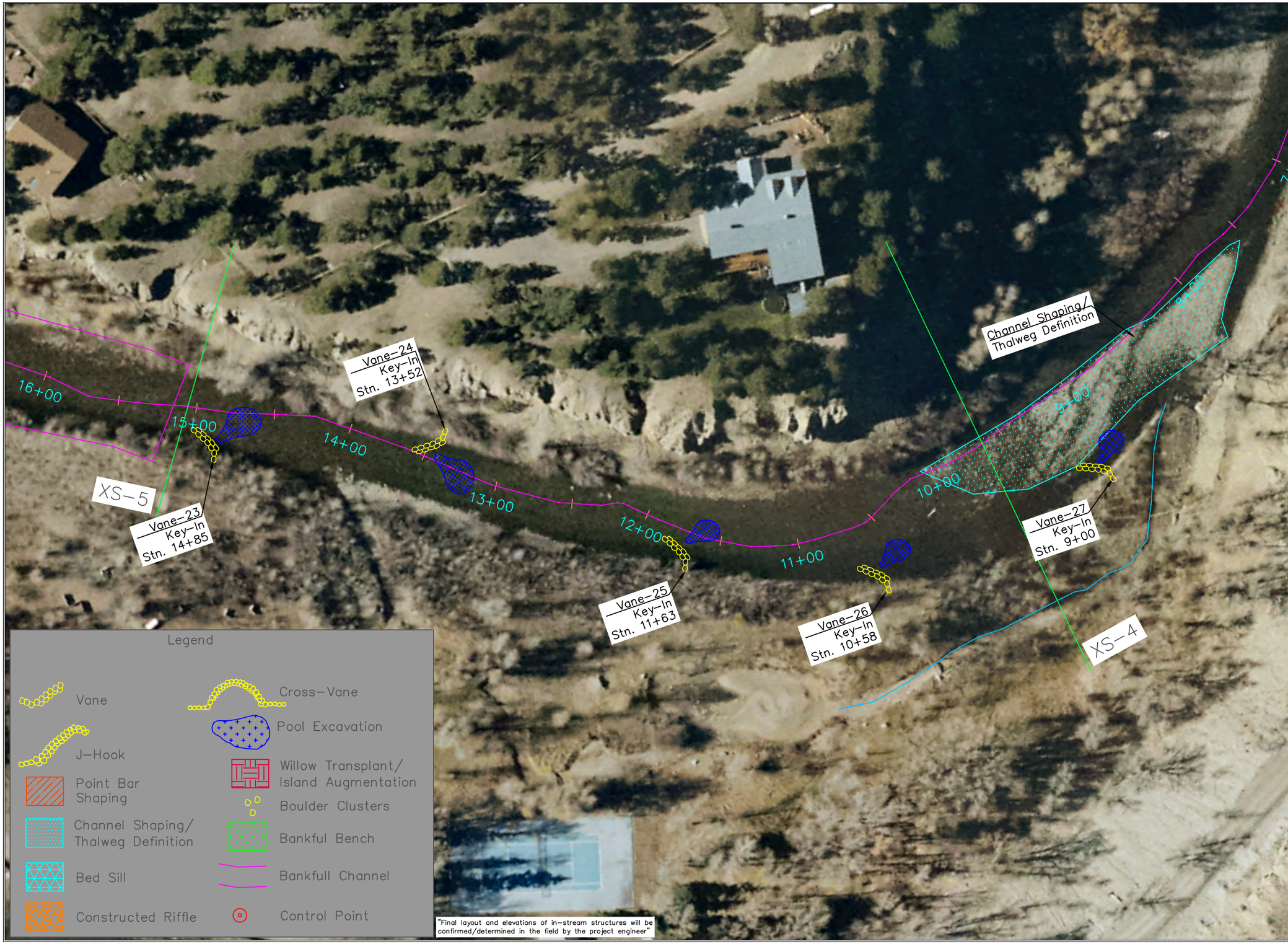
SCALE: H: 1" = 60 ft.

30 0' 30 60

SCALE IN FEET

SHEET NUMBER

7 OF 25



REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
AirPhoto
Stn.16+00–8+00

PREPARED BY:

HYDROGEO DESIGNS
320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

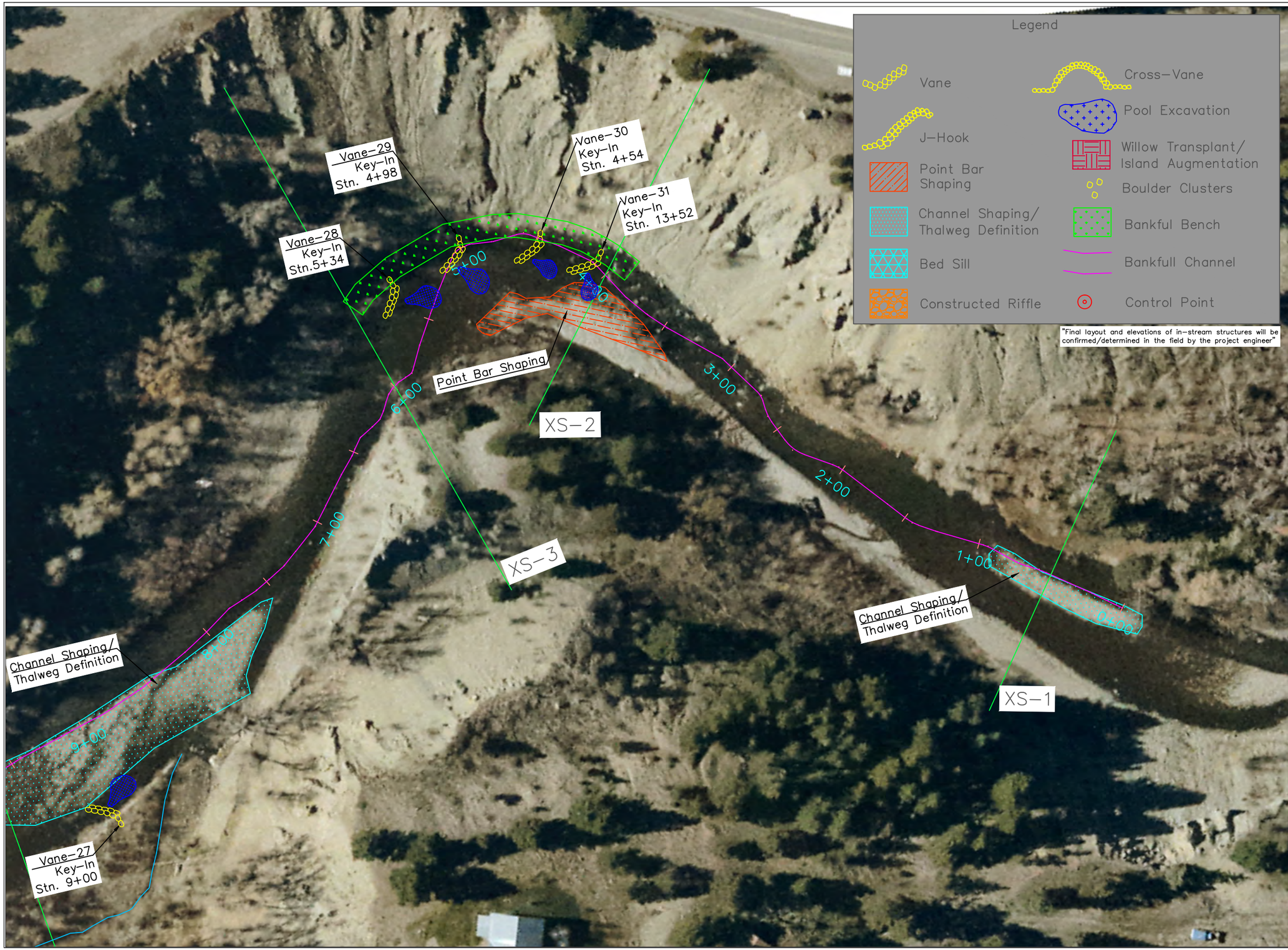
N

Date: 10/16/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
8 OF 25



Legend

- Vane
- J–Hook
- Point Bar Shaping
- Channel Shaping/ Thalweg Definition
- Bed Sill
- Constructed Riffle
- Cross–Vane
- Pool Excavation
- Willow Transplant/ Island Augmentation
- Boulder Clusters
- Bankful Bench
- Bankfull Channel
- Control Point

"Final layout and elevations of in–stream structures will be confirmed/determined in the field by the project engineer"

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River AirPhoto Stn. 0+00–8+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy
LAKE CITY, COLORADO

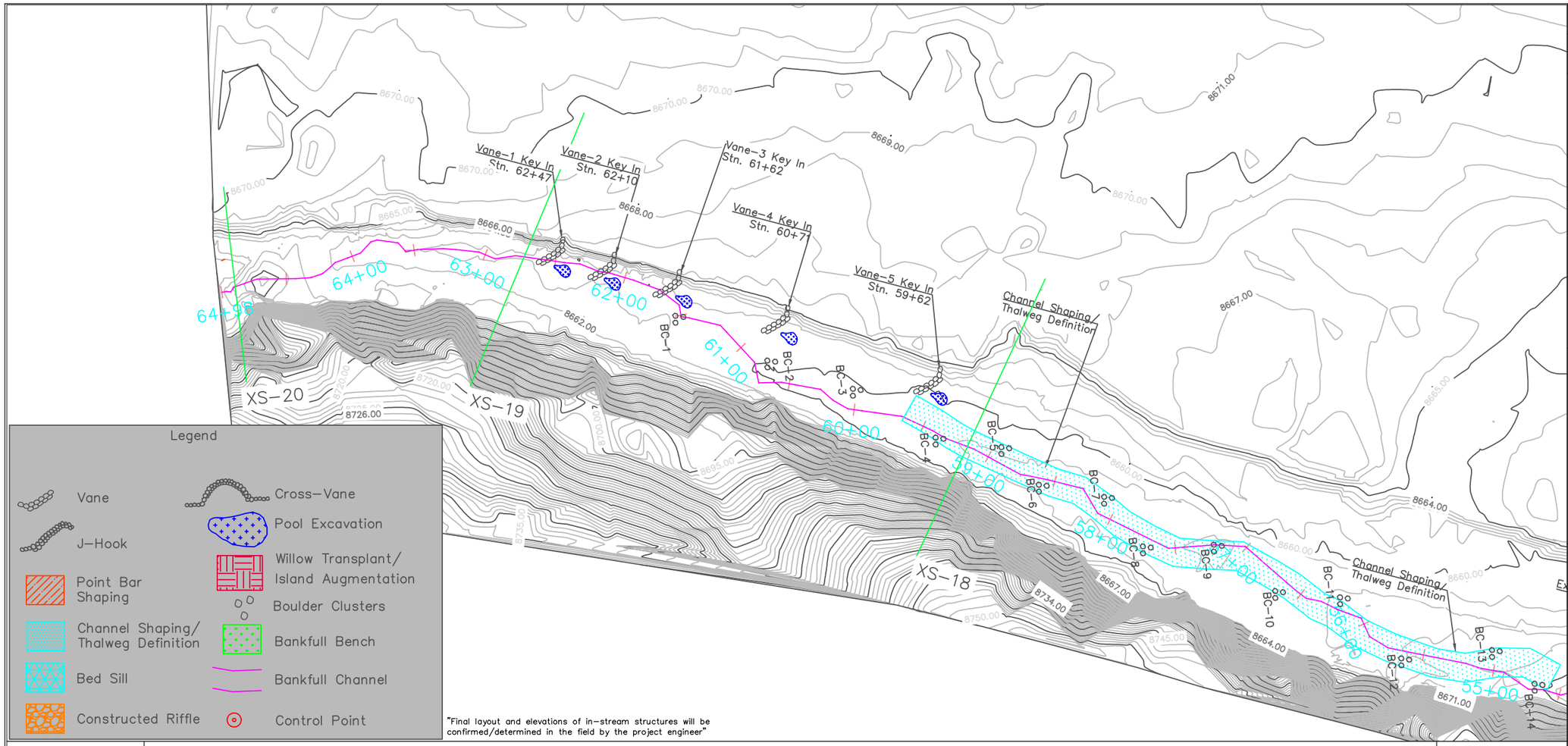
N

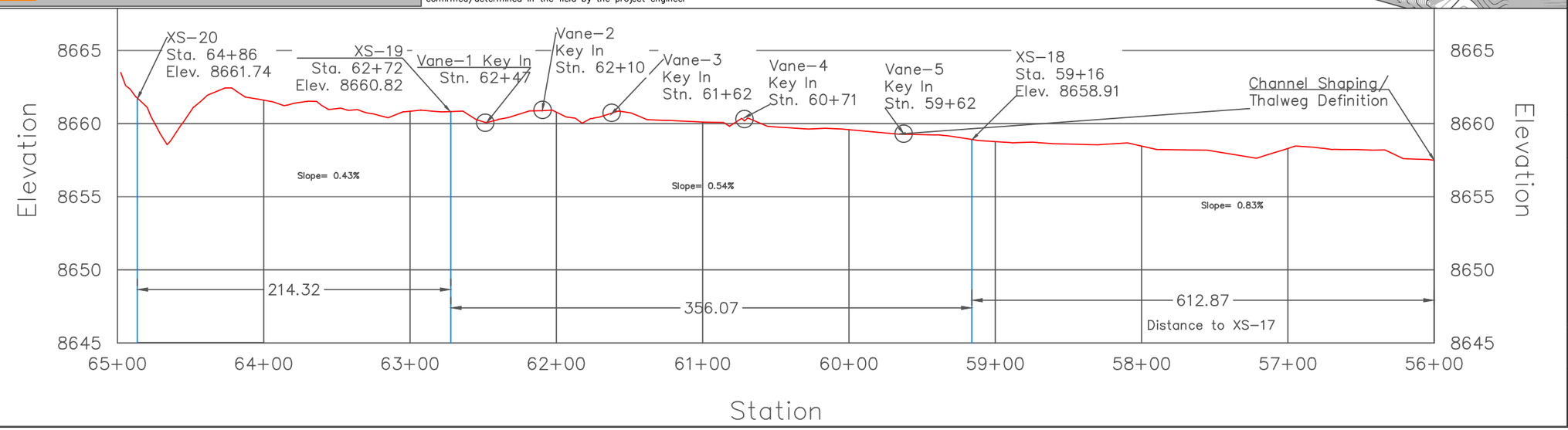
Date: 9/1/2015

SCALE: H: 1" = 60 ft.

30 0' 30 60
SCALE IN FEET

SHEET NUMBER
9 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 65+00–56+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

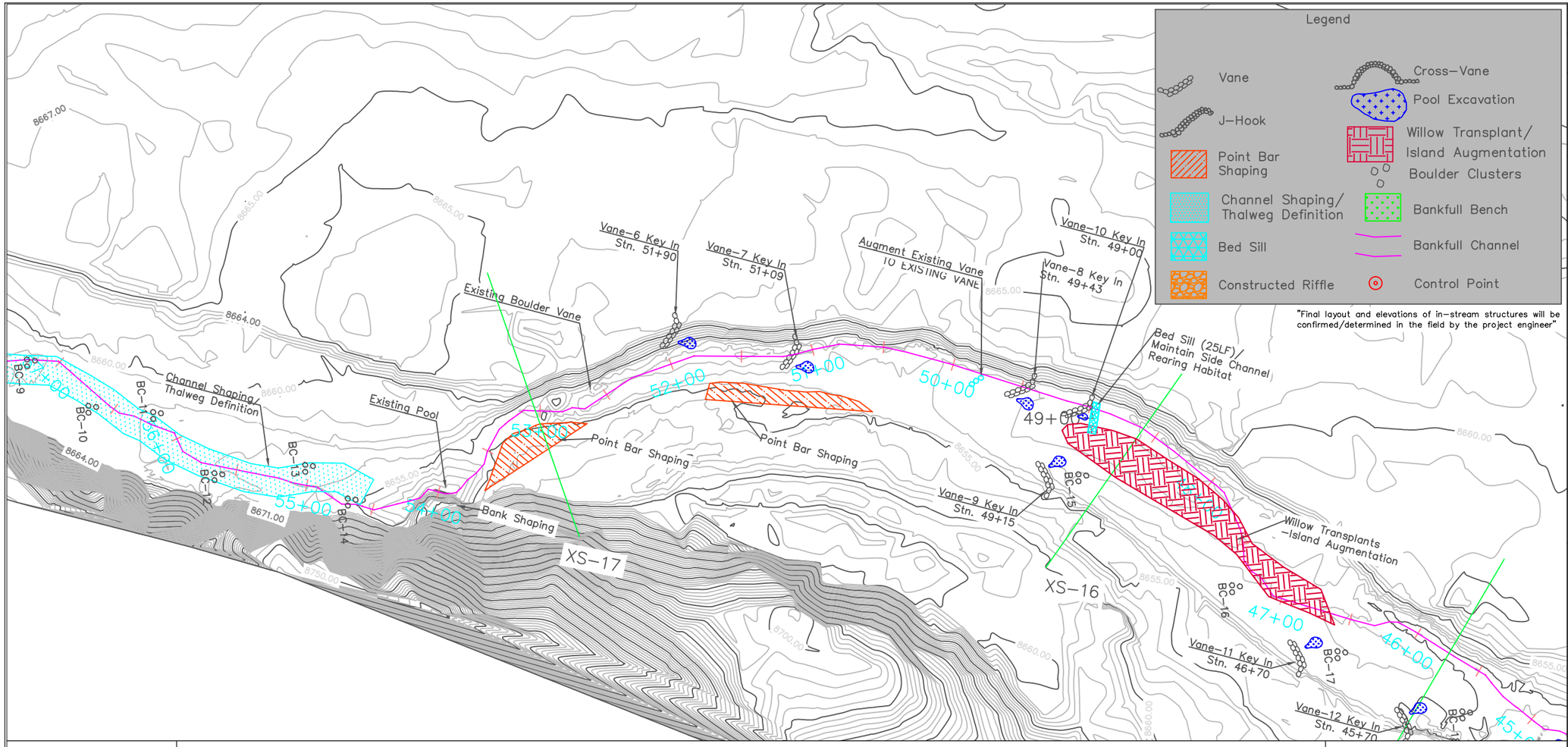
SCALE: H: 1" = 80 ft.

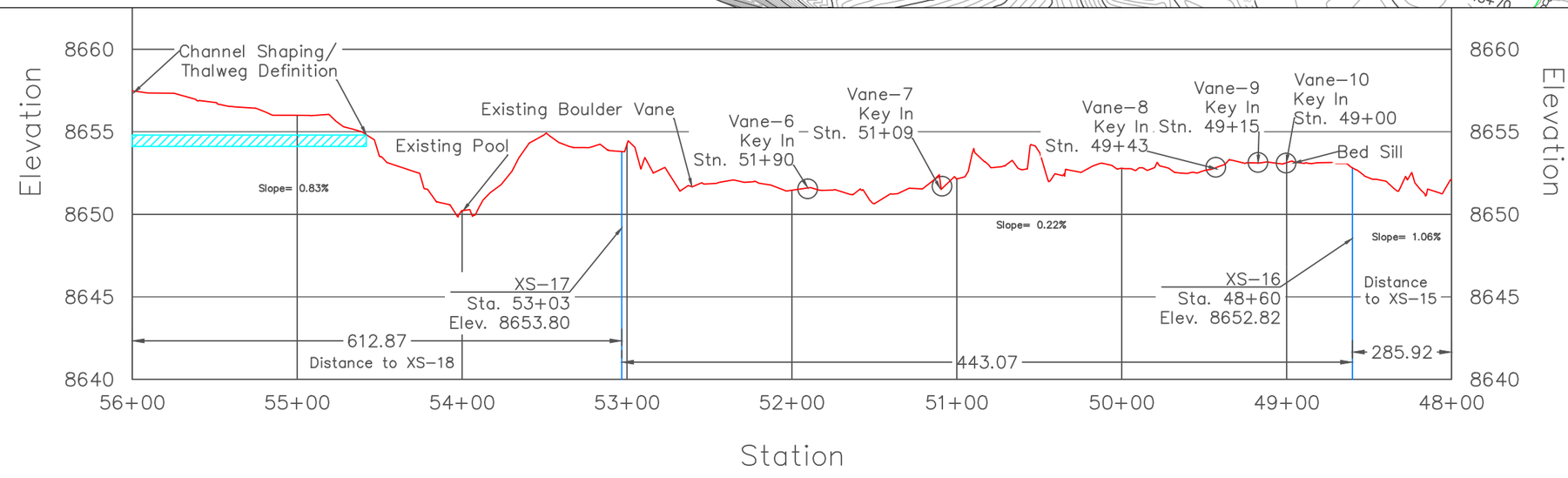
40 0' 40 80
SCALE IN FEET

SCALE: V: 1" = 8 ft.

6 0' 6 12
SCALE IN FEET

SHEET NUMBER
10 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 56+00-48+00

PREPARED BY:

HYDROGEO DESIGNS
320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

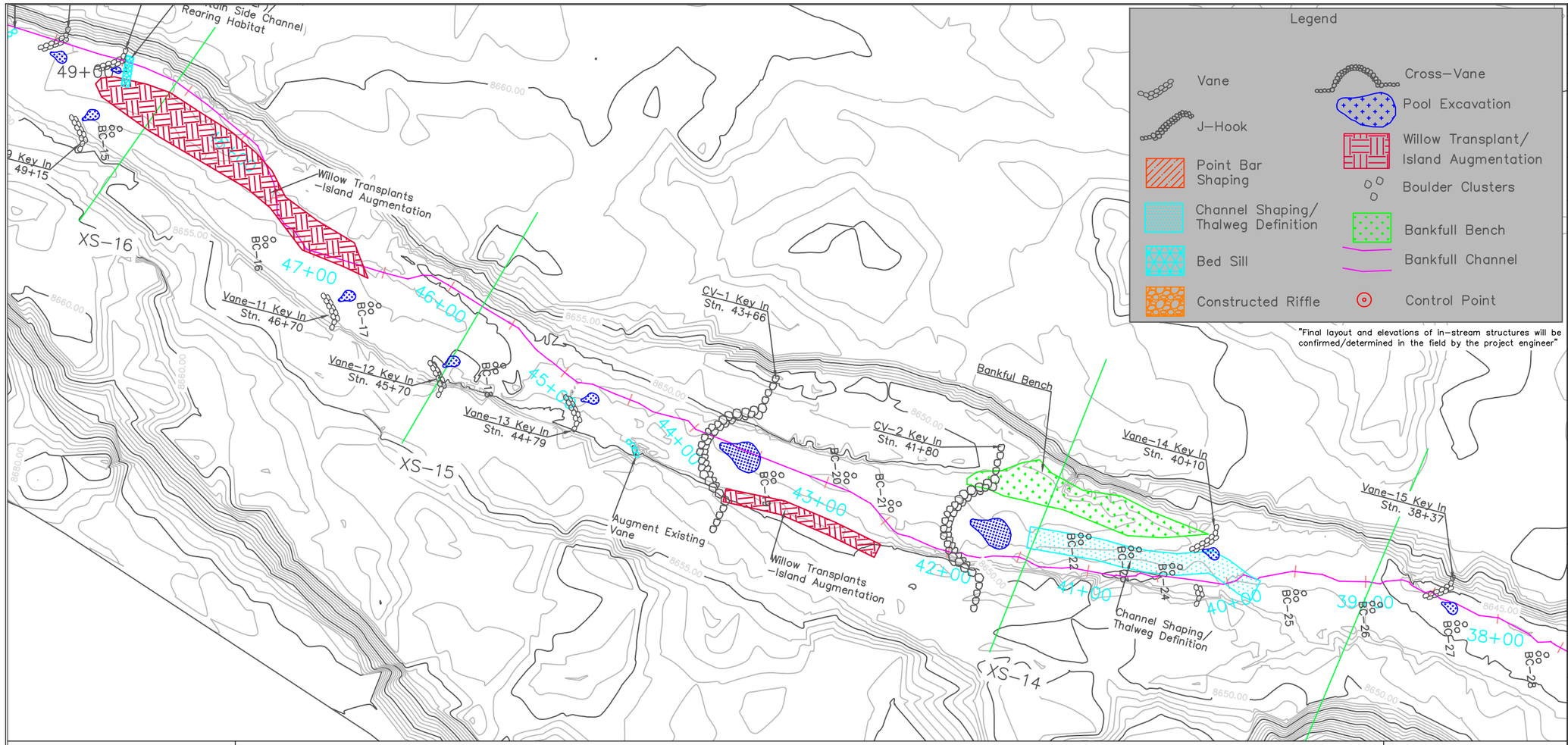
SCALE: H: 1" = 80 ft.

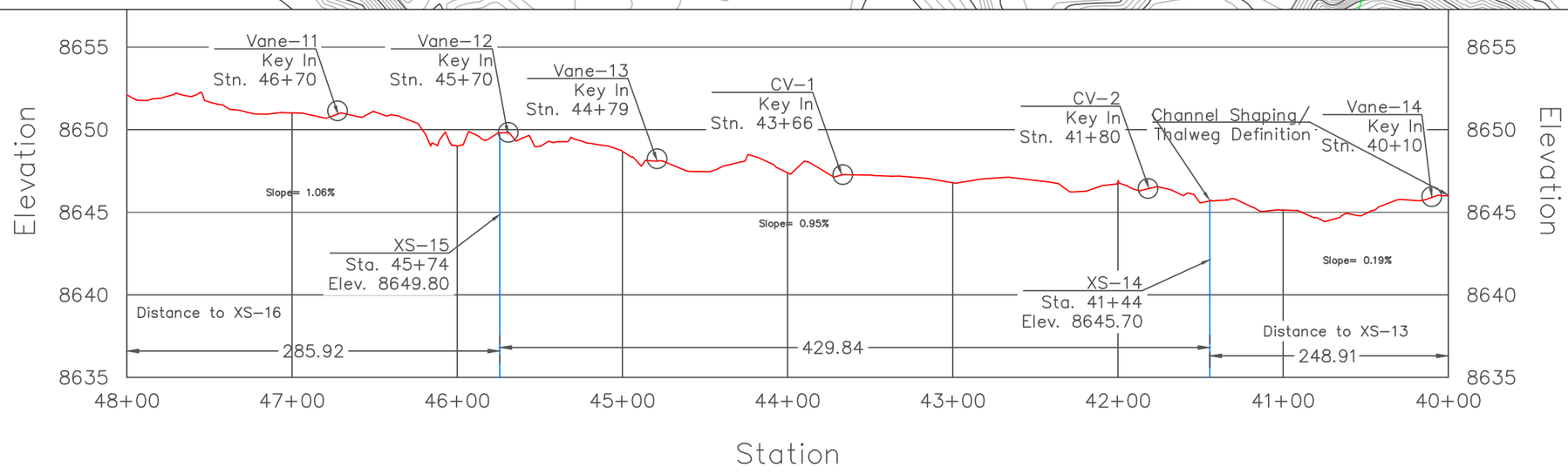
50 0' 50 100
SCALE IN FEET

SCALE: V: 1" = 8 ft.

10 0' 10 20
SCALE IN FEET

SHEET NUMBER
11 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 48+00–40+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy
LAKE CITY COLORADO

N

Date: 10/16/2015

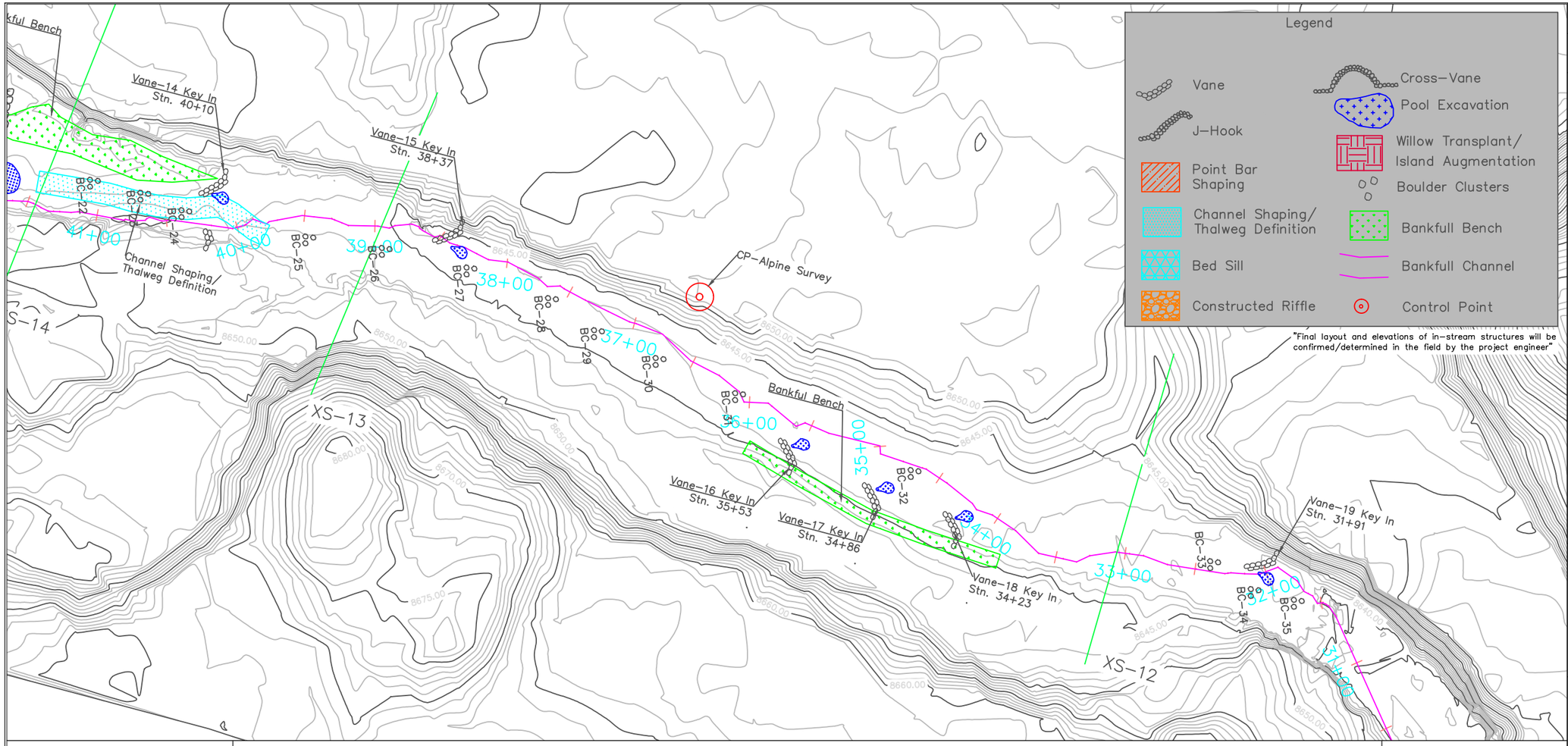
SCALE: H: 1" = 80 ft.

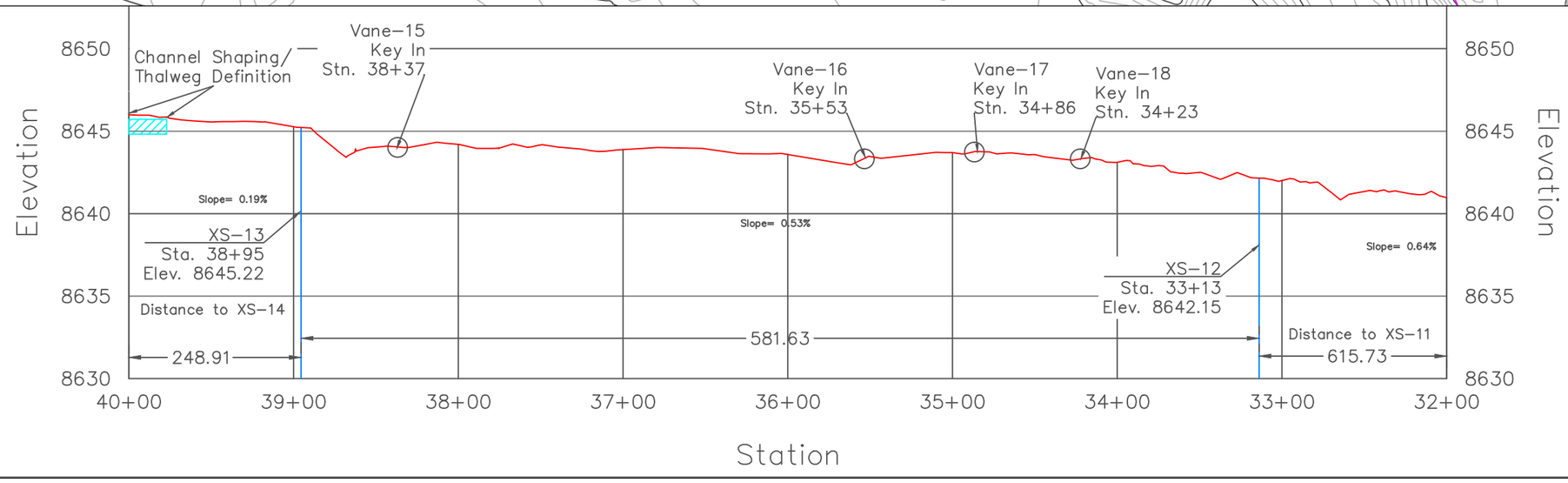
40 0' 40 80
SCALE IN FEET

SCALE: V: 1" = 8 ft.

4 0' 4 8
SCALE IN FEET

SHEET NUMBER
12 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 40+00–32+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

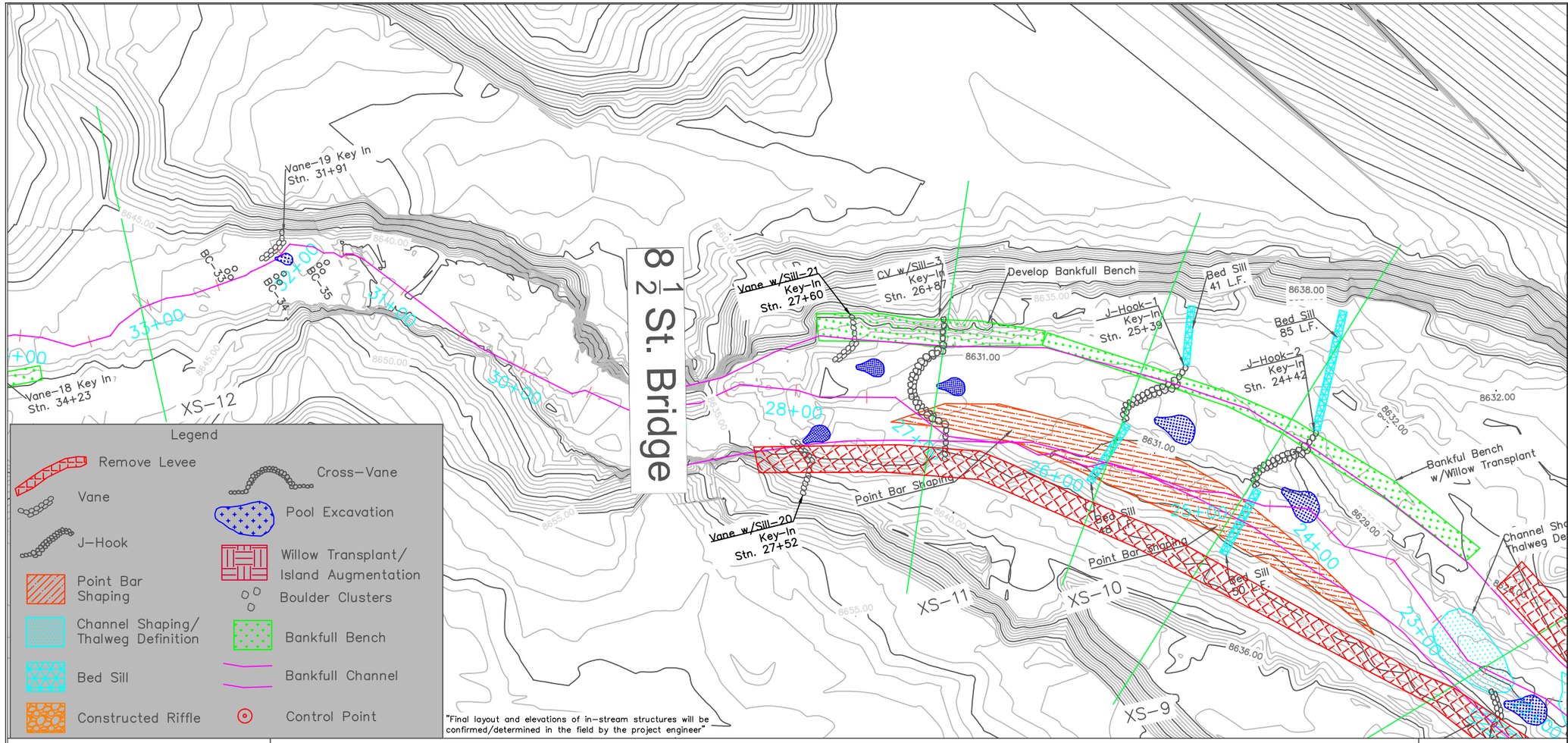
SCALE: H: 1" = 80 ft.

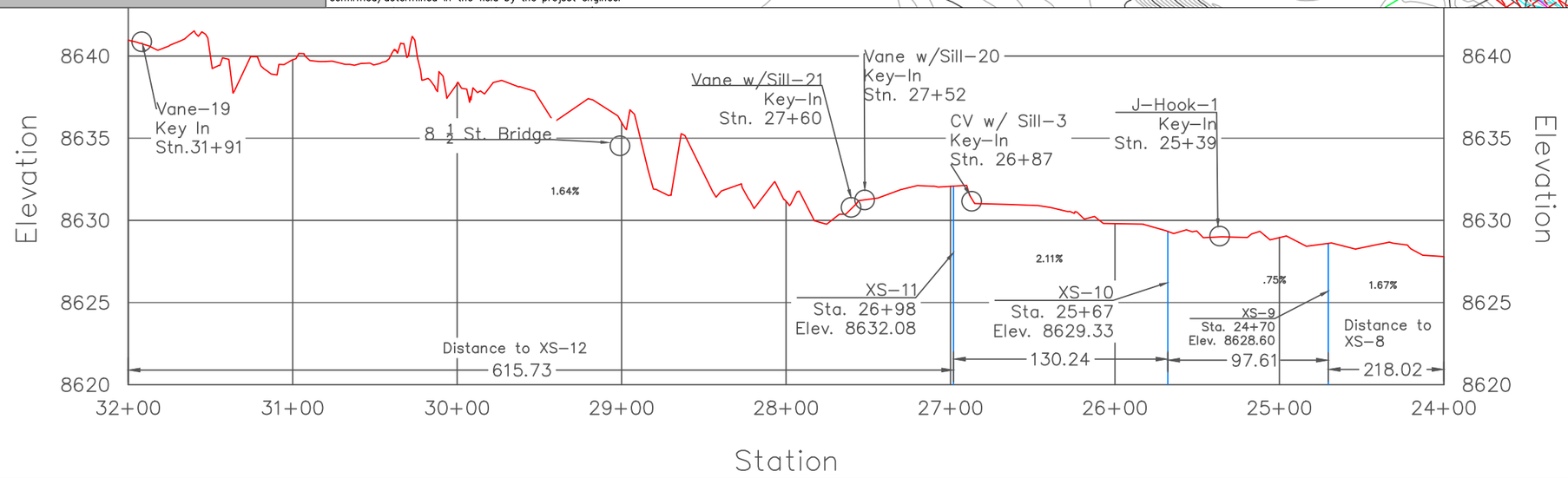
40 0' 40 80
SCALE IN FEET

SCALE: V: 1" = 8 ft.

4 0' 4 8
SCALE IN FEET

SHEET NUMBER
13 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 32+00–24+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

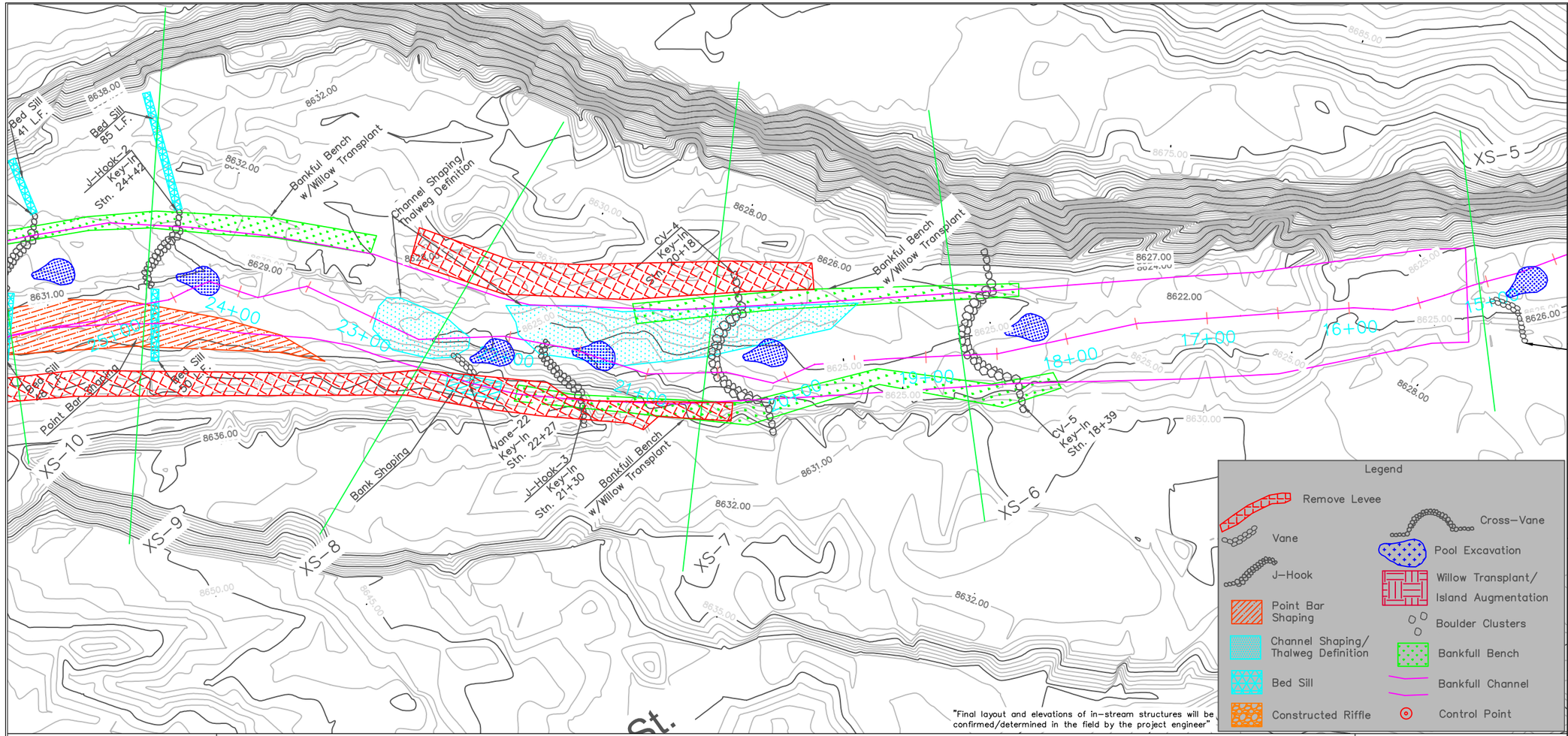
Lake Fork Valley Conservancy
Lake City Co.

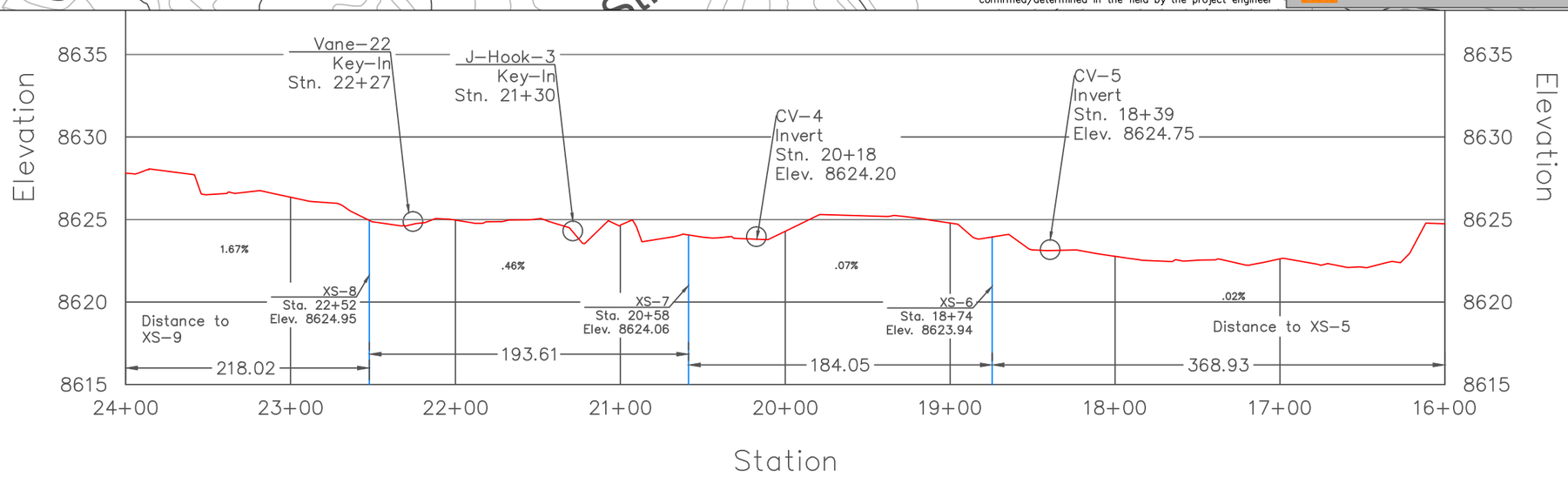
Date: 10/16/2015

SCALE: H: 1" = 80 ft.

SCALE: V: 1" = 8 ft.

SHEET NUMBER
14 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn.24+00–16+00

PREPARED BY:

HYDROGEO DESIGNS
320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

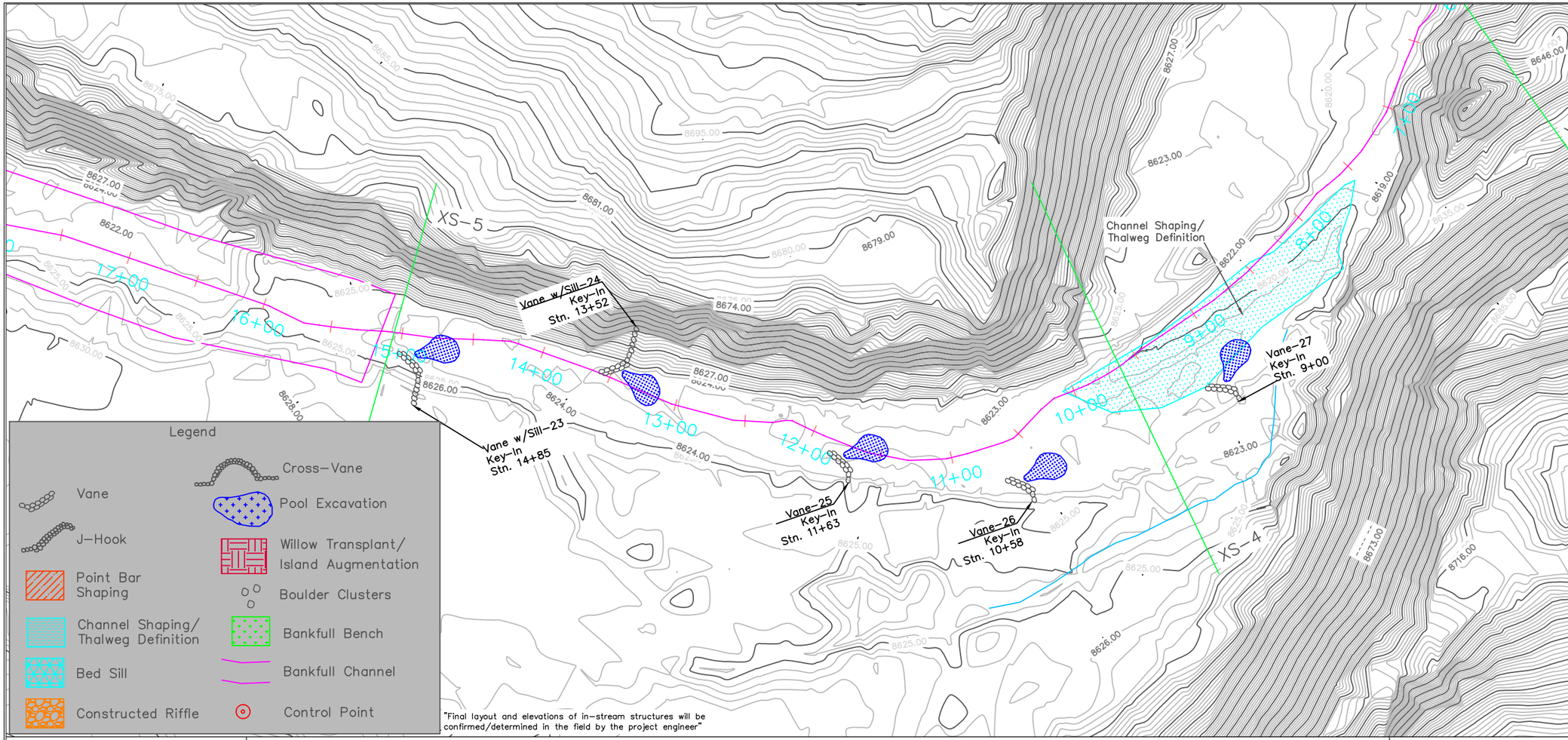
SCALE: H: 1" = 80 ft.

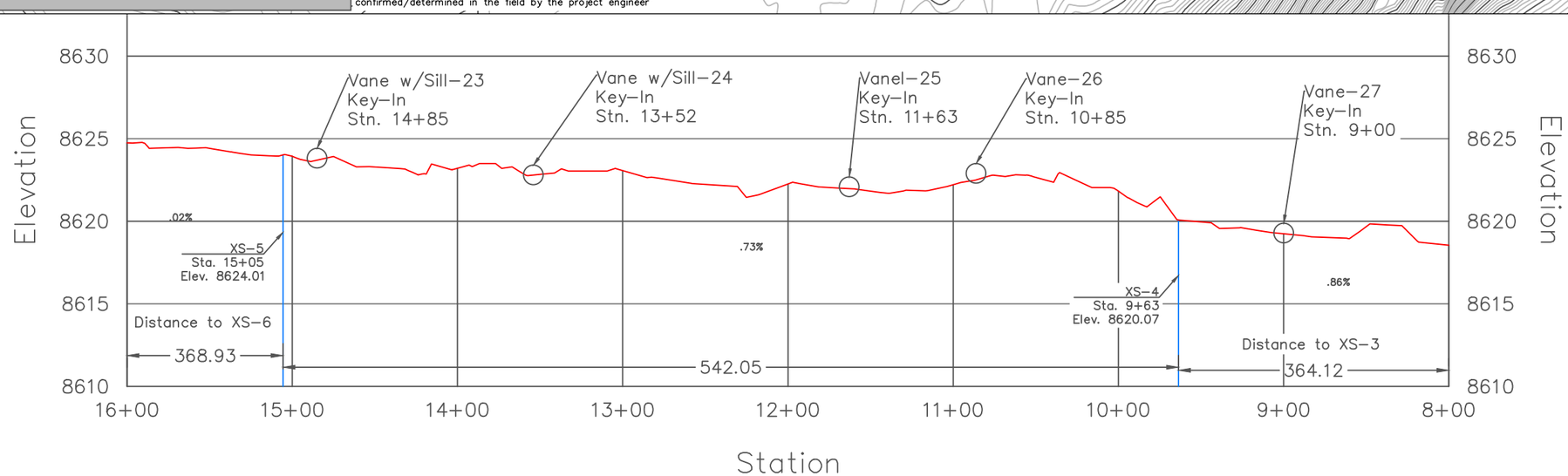
40 0' 40 80
SCALE IN FEET

SCALE: V: 1" = 8 ft.

6 0' 6 12
SCALE IN FEET

SHEET NUMBER
15 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn.16+00–8+00

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

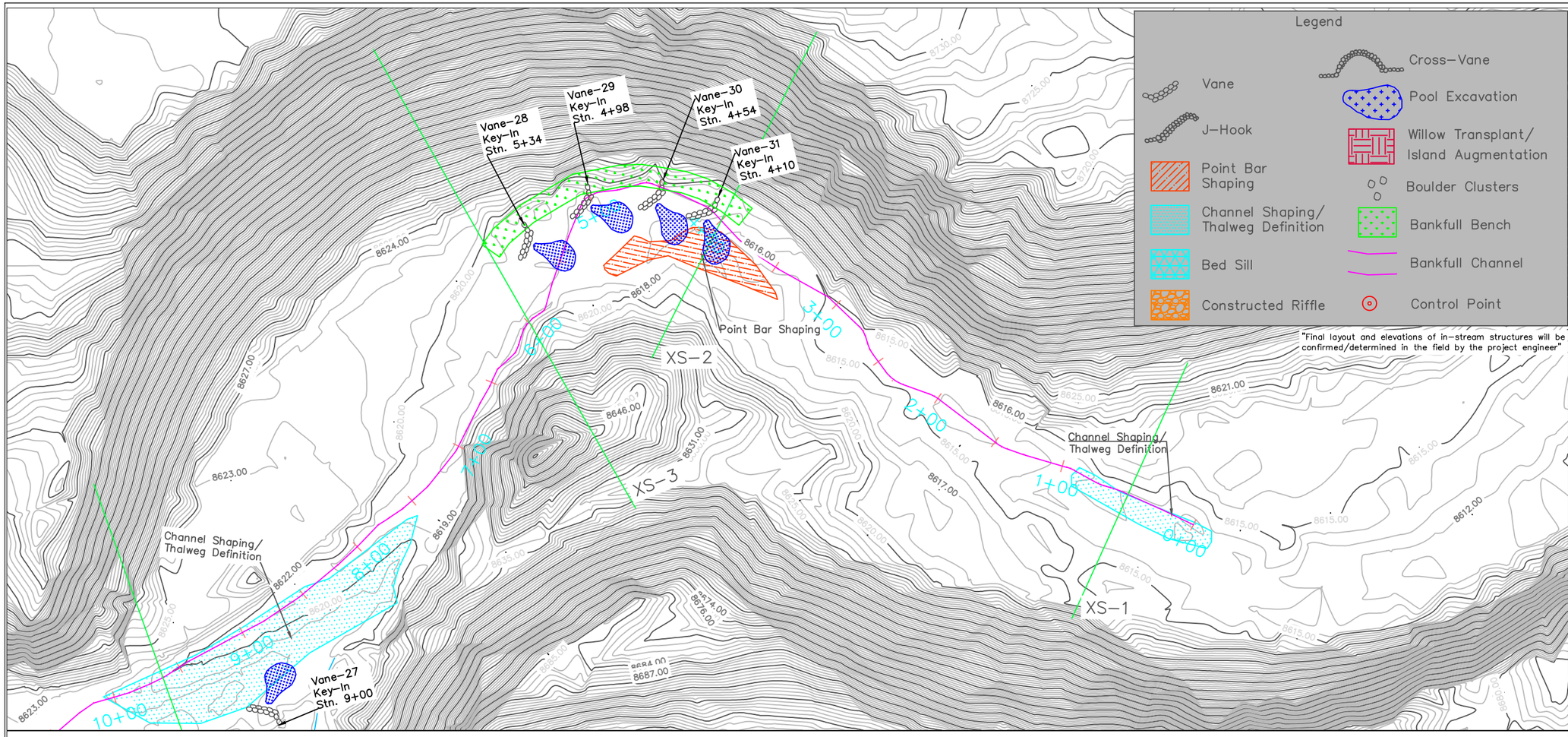
SCALE: H: 1" = 80 ft.

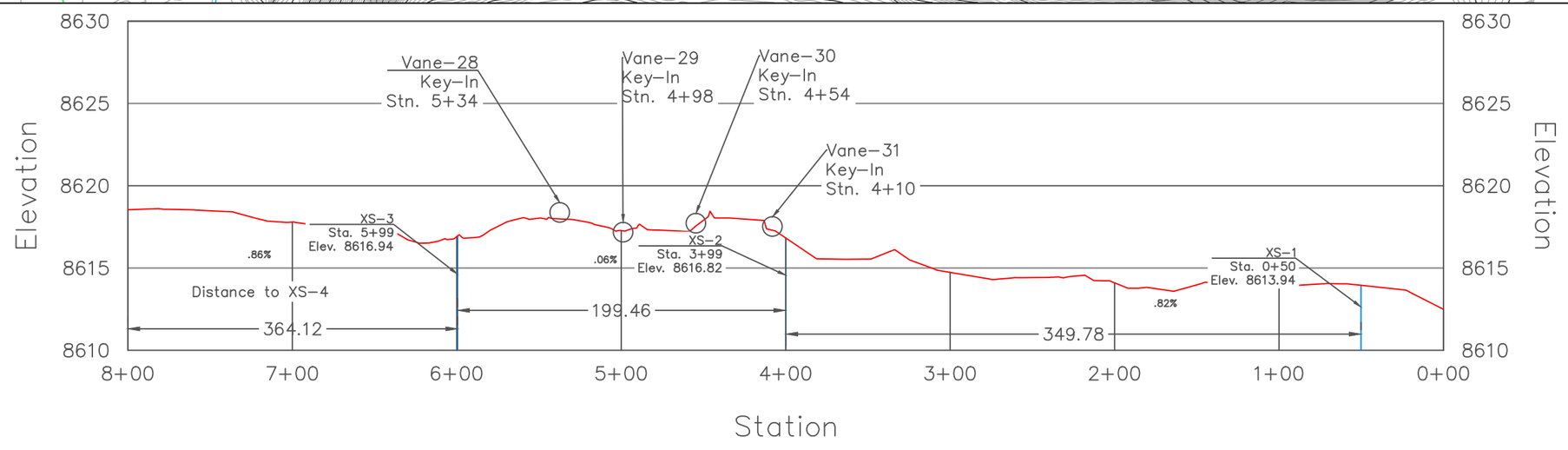
40 0' 40 80
SCALE IN FEET

SCALE: V: 1" = 8 ft.

6 0' 6 12
SCALE IN FEET

SHEET NUMBER
16 OF 25





REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River
Plan Profile
Stn. 0+00-8+00

PREPARED BY:

HYDROGEO DESIGNS
320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy
LAKE CITY COLORADO

N

Date: 10/16/2015

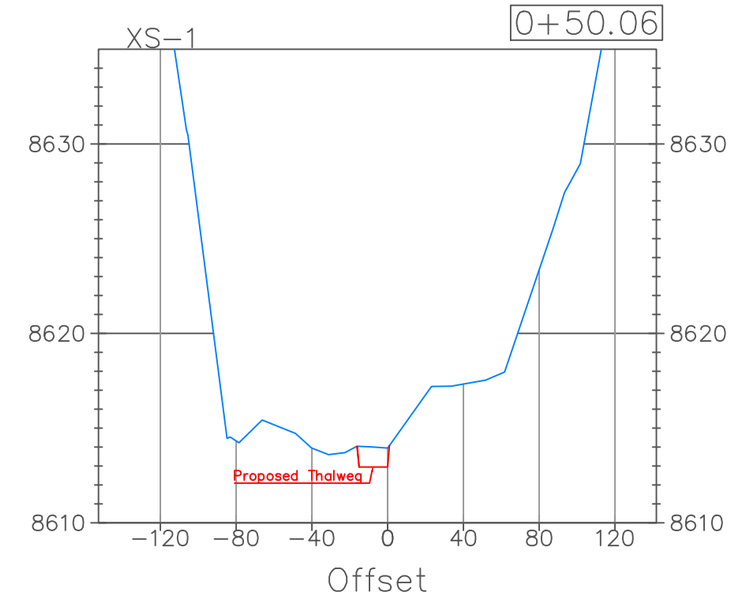
SCALE: H: 1" = 80 ft.

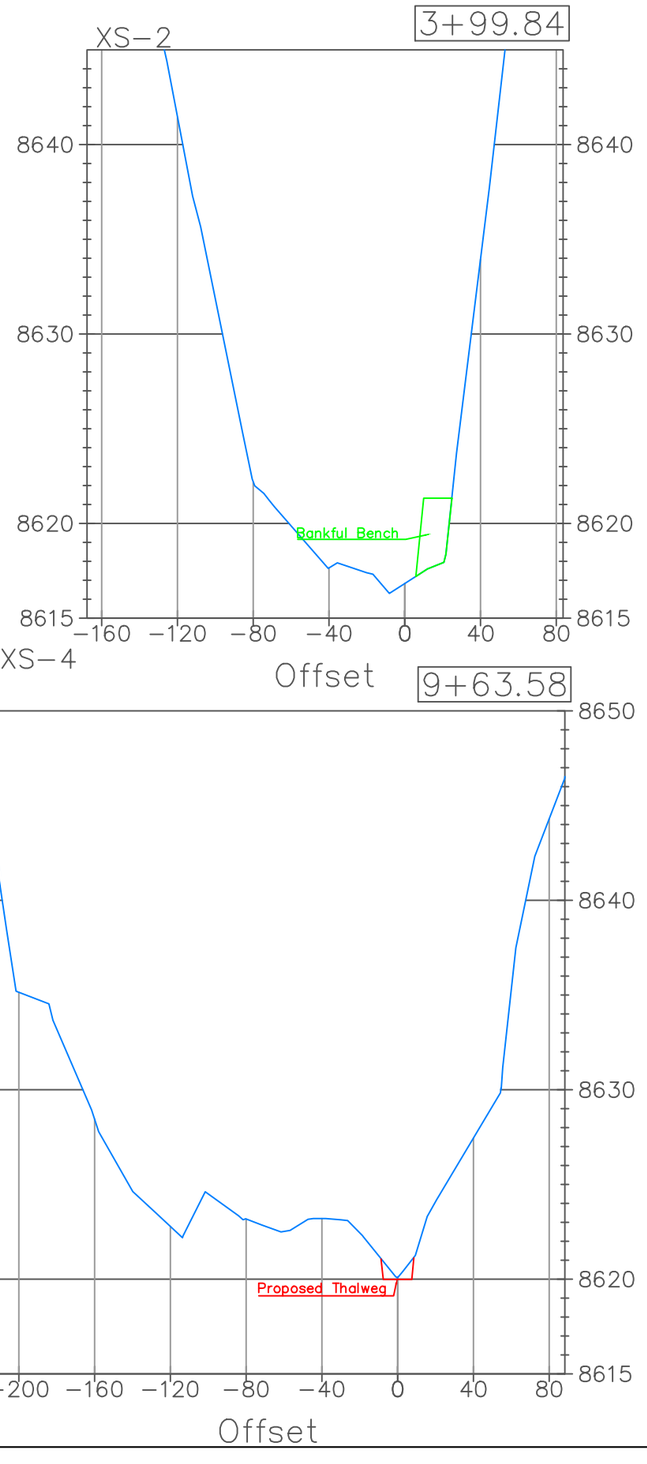
40 0' 40 80
SCALE IN FEET

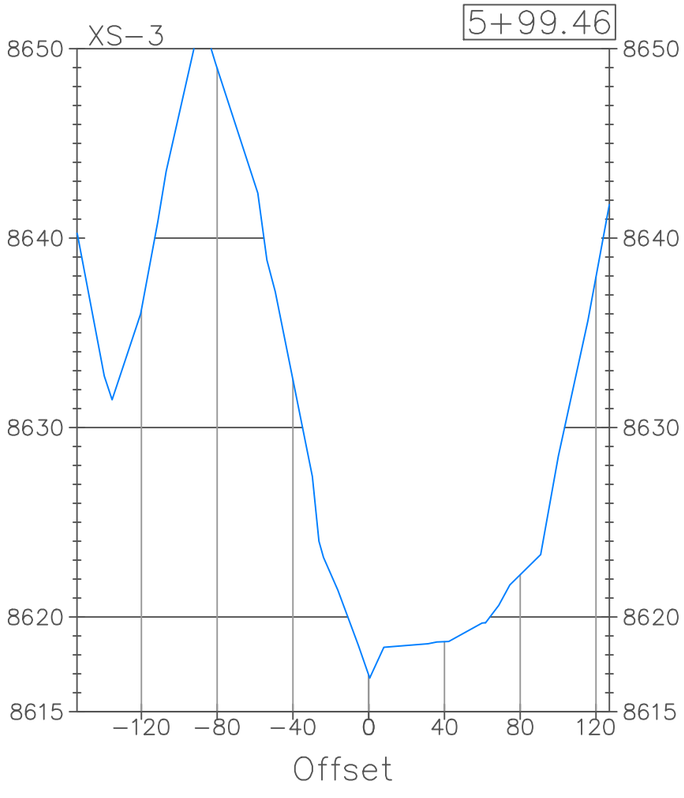
SCALE: V: 1" = 8 ft.

6 0' 6 12
SCALE IN FEET

SHEET NUMBER
17 OF 25







APR.				
DATE				
DESCRIPTION				
REV.				

PROJECT ID

Lake Fork of the Gunnision.
Cross Section
0+50−9+63

PREPARED BY:

HYDROGEO DESIGNS

P.O. Box 775
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

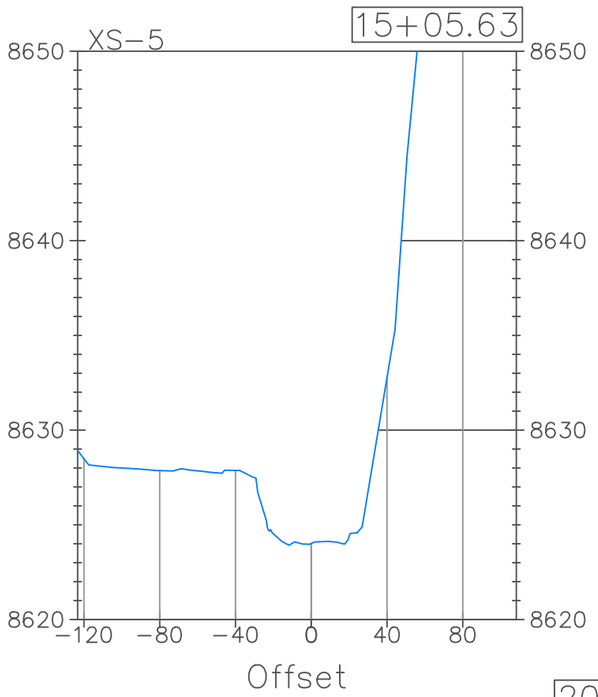
N

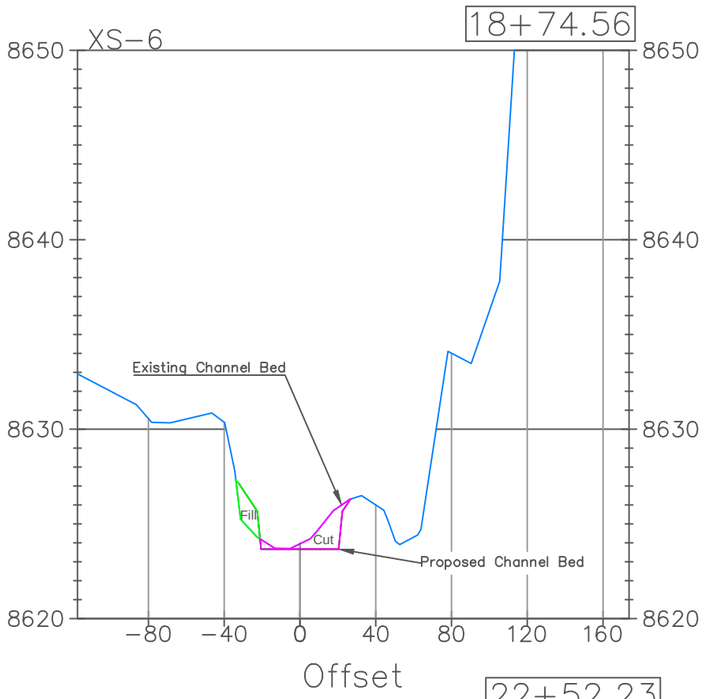
Date: 10/16/2015

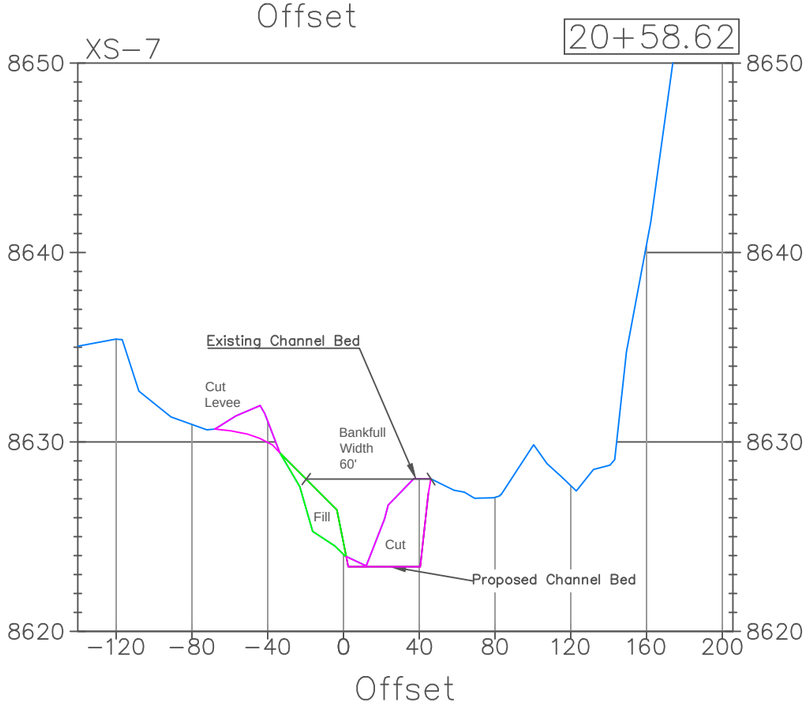
SCALE:
H: 1" = 80 FT
V: 1" = 8 FT
VERT. EXAG. 1:10 H:V

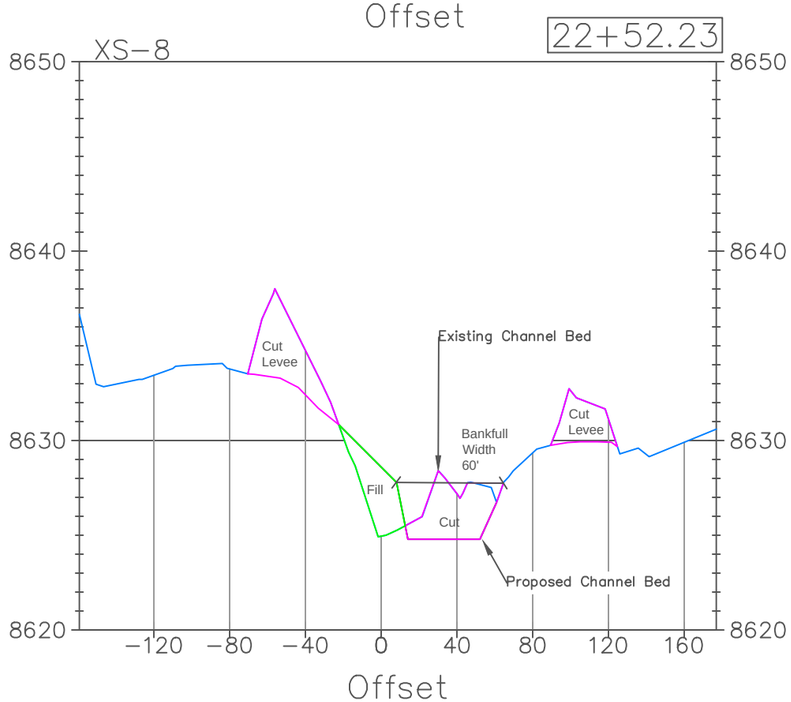
40 0 40 80
SCALE IN FEET

SHEET NUMBER
18 OF 25









REV.	DESCRIPTION	DATE	APPR.

PROJECT ID

Lake Fork of the Gunnision.
Cross Section
15+05−22+52

PREPARED BY:

HYDROGEO DESIGNS
P.O. Box 775
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

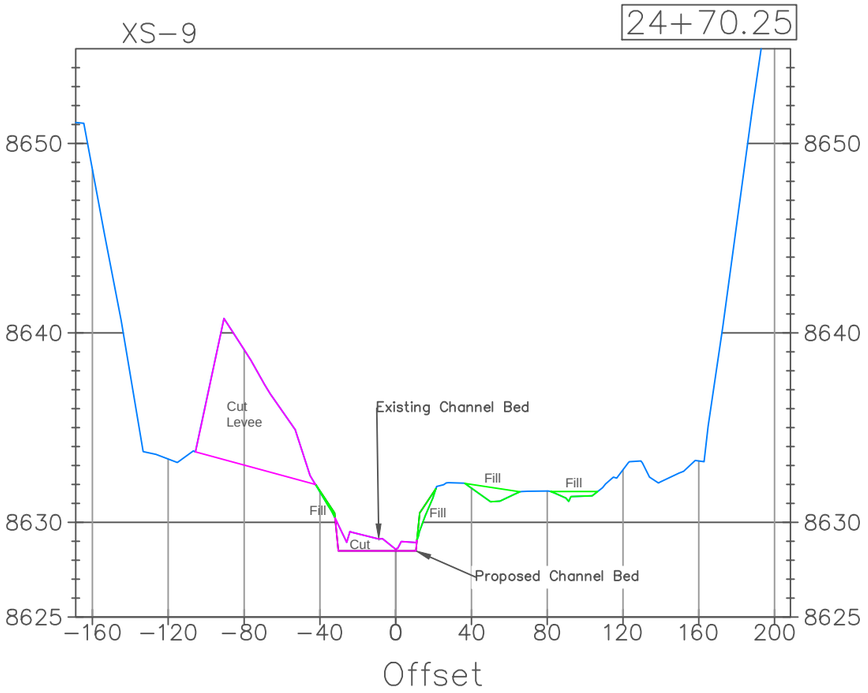
N

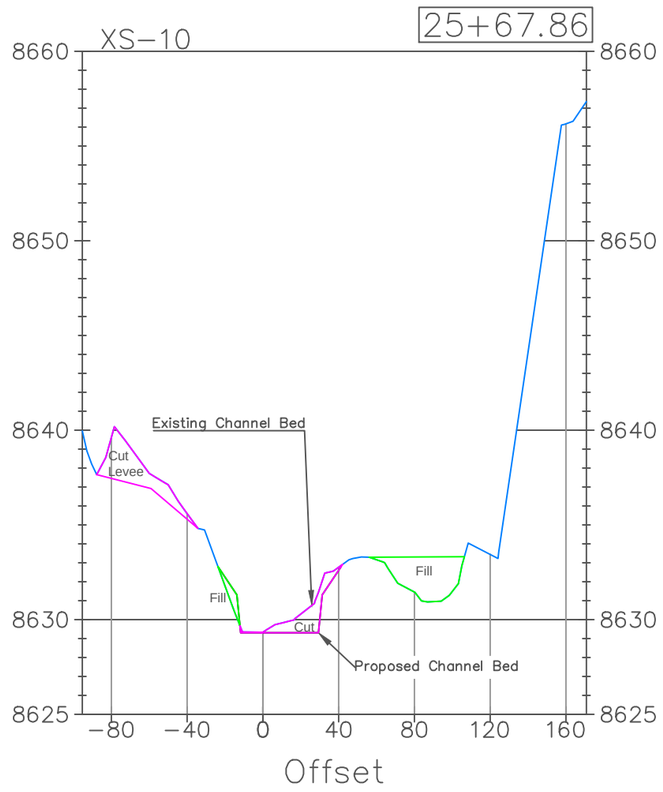
Date: 10/16/2015

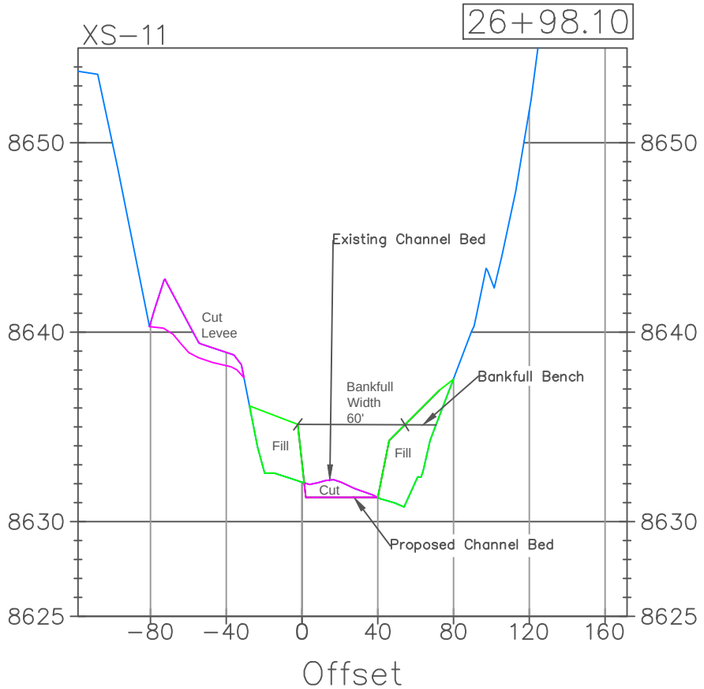
SCALE:
H: 1" = 80 FT
V: 1" = 8 FT
VERT. EXAG. 1:10 H:V

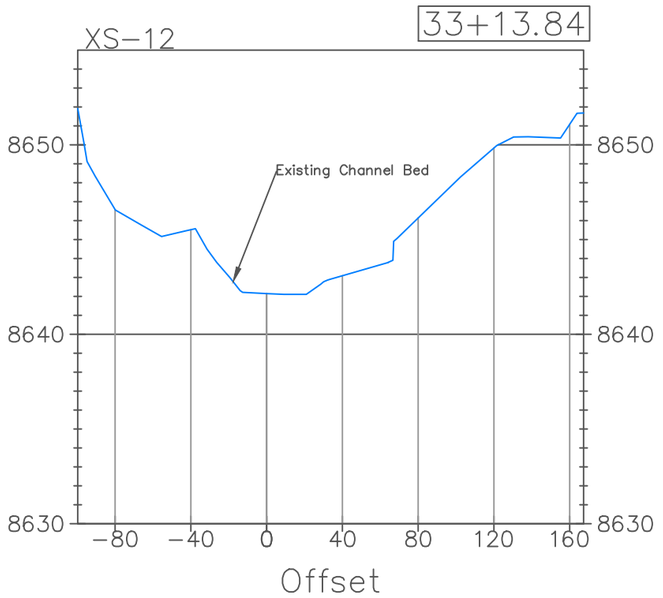
40 0 40 80
SCALE IN FEET

SHEET NUMBER
19 OF 25









REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnision.
Cross Section
24+70–33+13

PREPARED BY:

HYDROGEO DESIGNS

P.O. Box 775
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

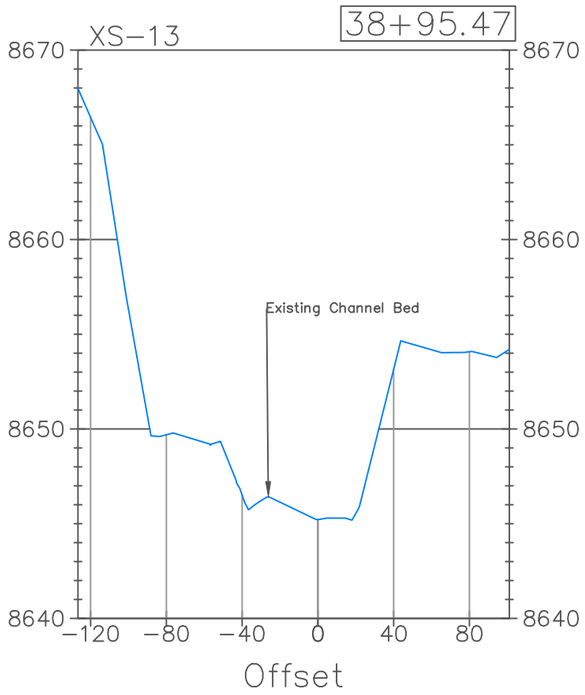
N

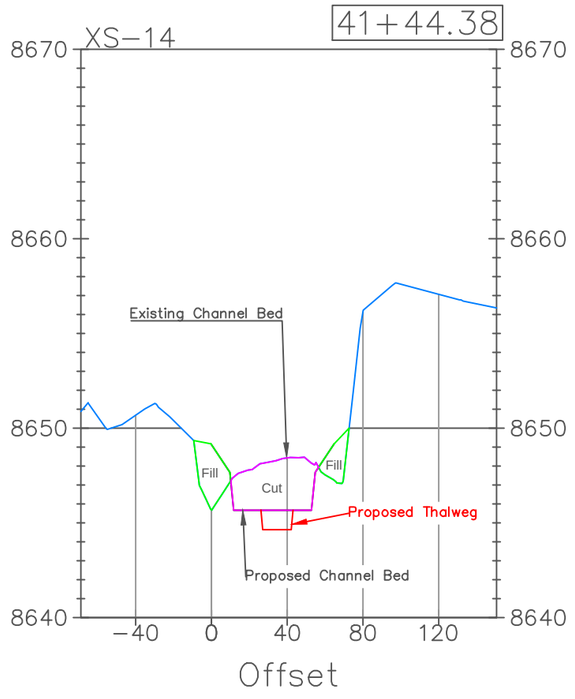
Date: 10/16/2015

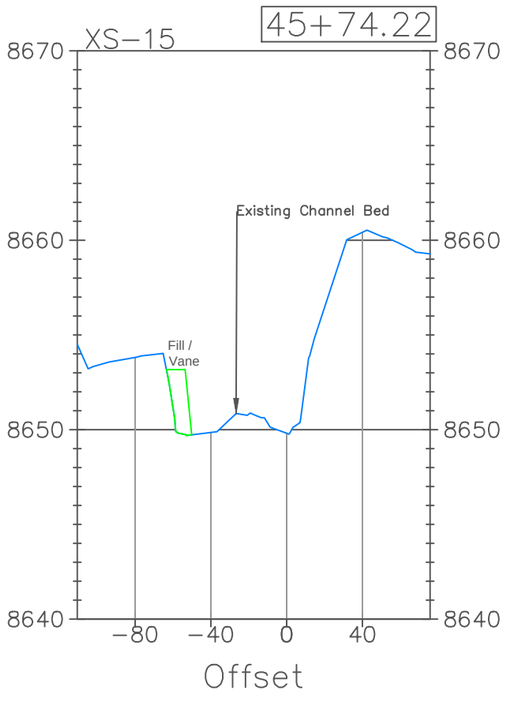
SCALE:
H: 1" = 80 FT
V: 1" = 8 FT
VERT. EXAG. 1:10 H:V

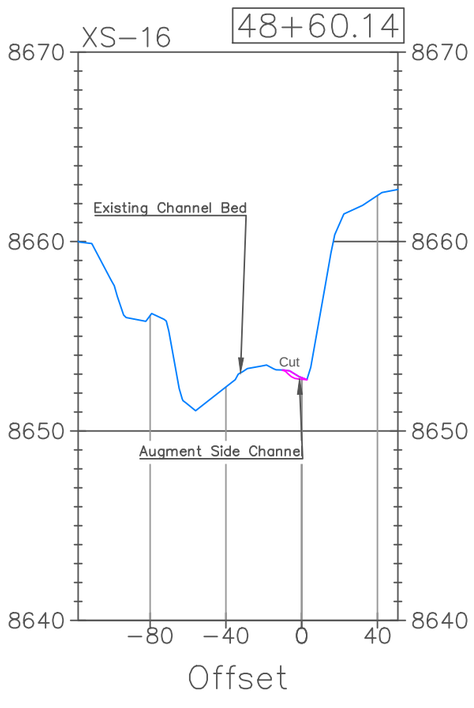
40 0 40 80
SCALE IN FEET

SHEET NUMBER
20 OF 25









REV.	DESCRIPTION	DATE	APPR.

PROJECT ID

Lake Fork of the Gunnision.
Cross Section
38+95–48+60

PREPARED BY:

HYDROGEO DESIGNS

P.O. Box 775
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 9/1/2015

SCALE:

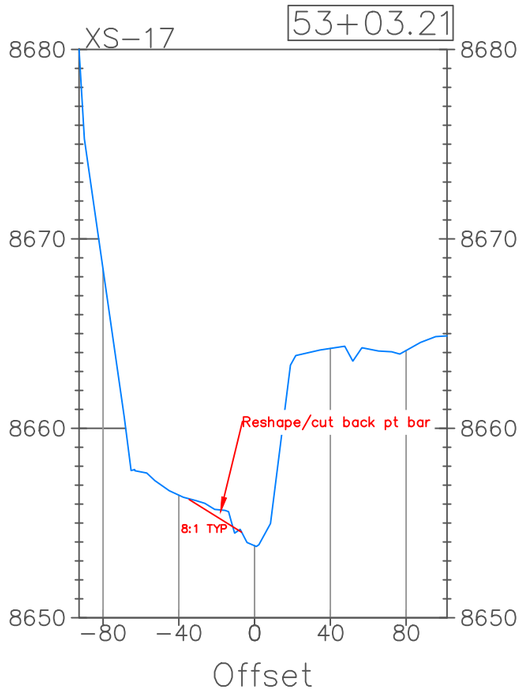
H: 1” = 80 FT
V: 1” = 8 FT

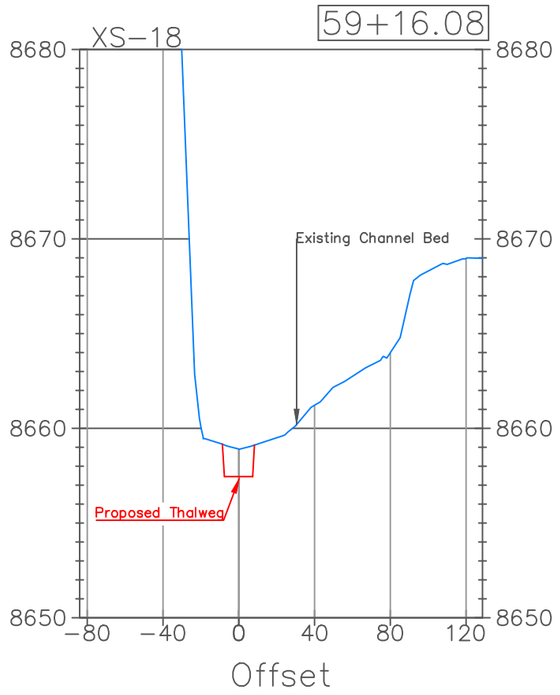
VERT. EXAG. 1:10 H:V

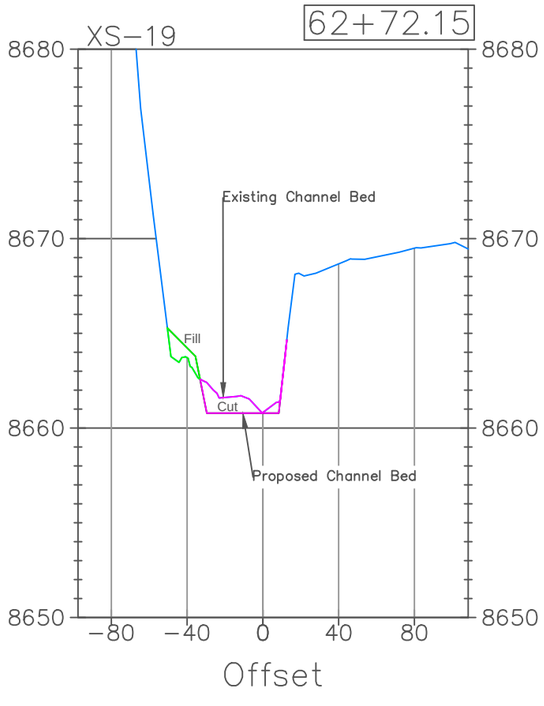
40 0 40 80
SCALE IN FEET

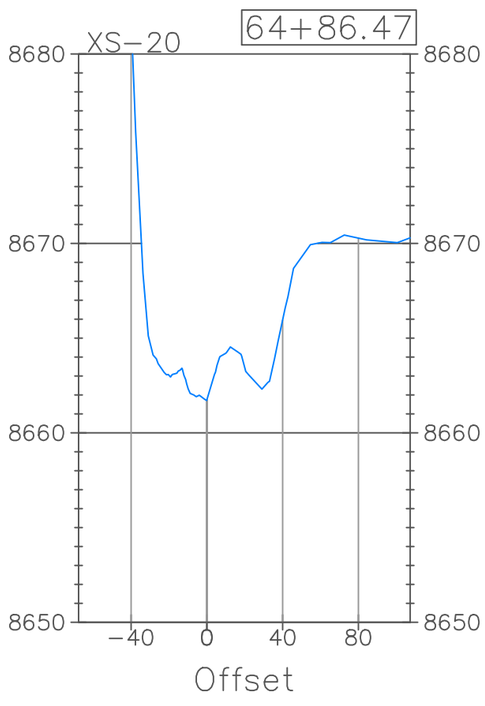
SHEET NUMBER

21 OF 25









REV.	DESCRIPTION	DATE	APPR.

PROJECT ID

Lake Fork of the Gunnision.
Cross Section
53+03-64+86

PREPARED BY:

HYDROGEO DESIGNS

P.O. Box 775
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 10/16/2015

SCALE:

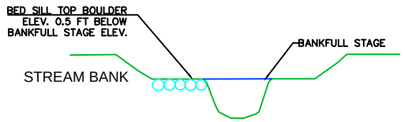
H: 1" = 80 FT
V: 1" = 8 FT

VERT. EXAG. 1:10 H:V

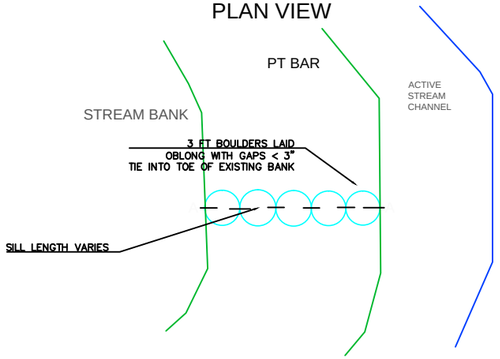
40 0 40 80
SCALE IN FEET

BED SILL DETAIL

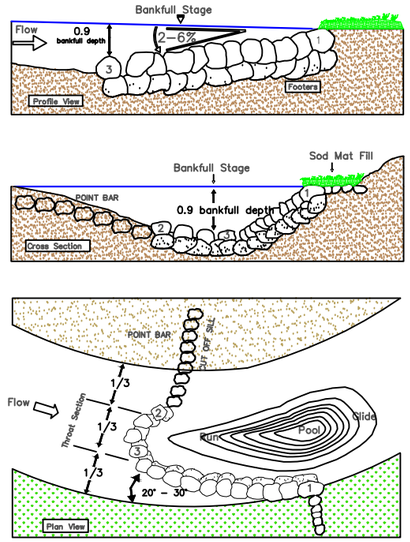
SECTION A-A



PLAN VIEW



J-HOOK DETAIL



Notes:
All boulders should be solid durable granite free of cracks and large seams

Top/Footer rocks should be rectangular/oblong in shape min. 3 ft diameter. Min.l rock size 3.5 ft.

Center throat Top rocks can be more rounded/irregular with a min. diameter of 3 ft

Top vane arm rocks must be placed to minimize gaps and form a solid surface to deflect flows from outer bank (ALL BOULDERS MUST BE IN CONTACT WITH ADJACENT BOULDERS)

Center rocks more irregular in shape with 18-24" gaps to allow for bedload transport

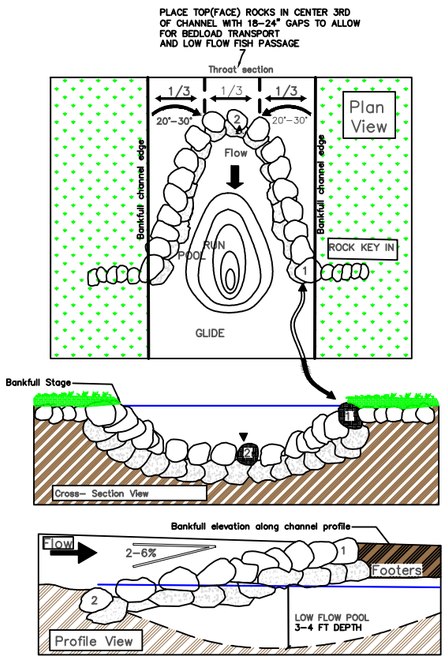
Rock sills shall be keyed into stream bank min. 8 ft.

Footers shall be placed so that footer invert is min. 4.5 below top rock elev. for scour protection

Disturbed bank should be revegetated with native sod mat fill and live willow transplants immediately following structure construction

* FINAL LOCATION AND LAYOUT DETERMINED IN FIELD BY ENGINEER

CROSS VANE DETAIL



Notes:
All boulders should be solid durable granite free of cracks and large seams

Top/Footer rocks should be rectangular/oblong in shape min. 3 ft diameter. Min.l rock size 3.5 ft.

Center throat Top rocks can be more rounded/irregular with a min. diameter of 3 ft

Top vane arm rocks must be placed to minimize gaps and form a solid surface to deflect flows from outer bank to inner throat section of structure (ALL BOULDERS MUST BE IN CONTACT WITH ADJACENT BOULDERS)

Center rocks more irregular in shape with 18-24" gaps to allow for bedload transport

Rock sills shall be keyed into stream bank min. 8 ft.

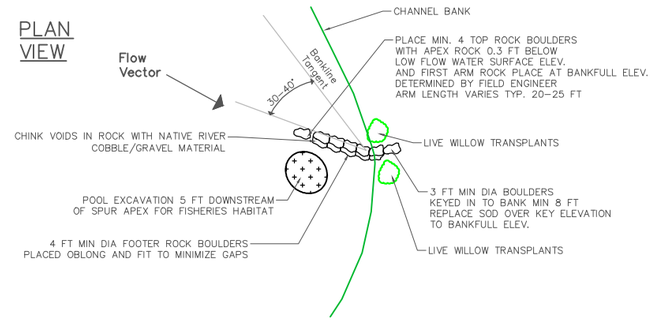
Footers shall be placed so that footer invert is min. 4.5 below top rock elev. for scour protection

Disturbed bank should be revegetated with native sod mat fill and live willow transplants immediately following structure construction

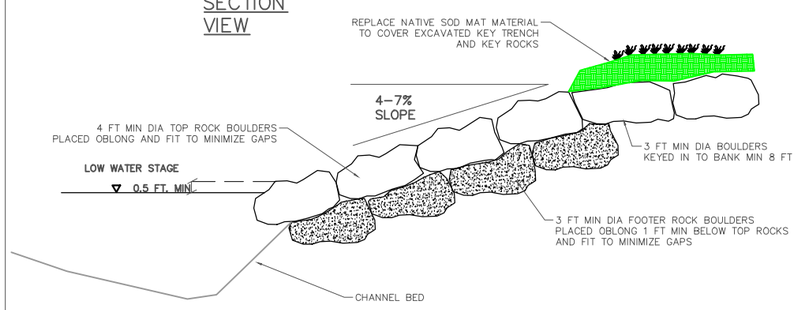
* FINAL LOCATION AND LAYOUT DETERMINED IN FIELD BY ENGINEER

BOULDER VANE DETAIL

PLAN VIEW



SECTION VIEW



REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River Structure Details

Detail Sheet-1

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.

Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy
LAKE CITY COLORADO

Date: 10/16/2015

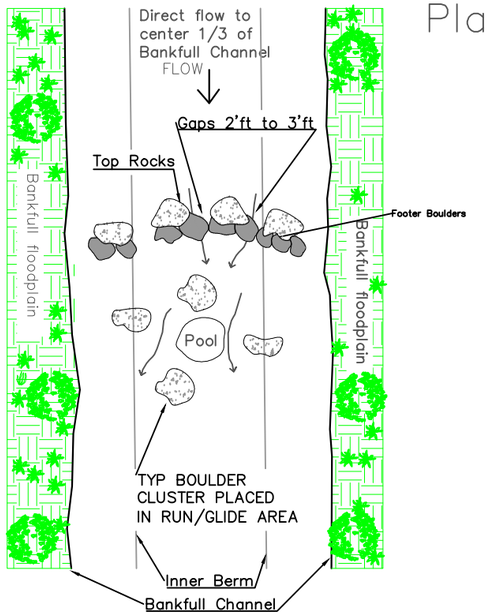
Not to Scale

SHEET NUMBER

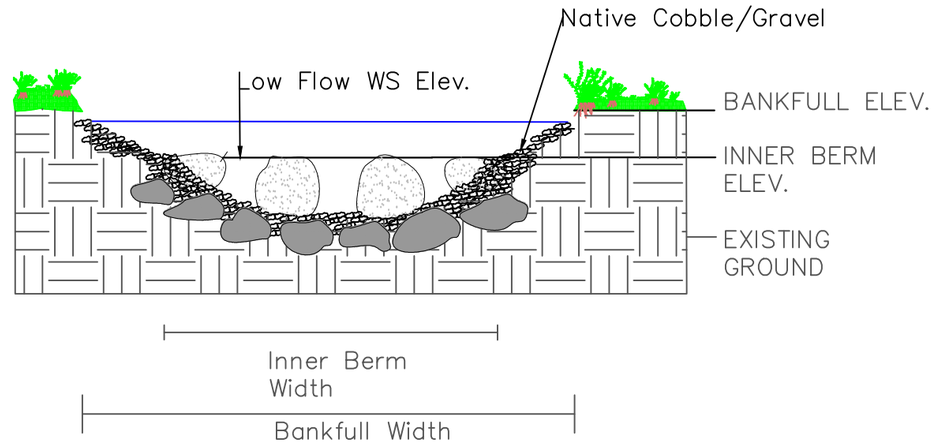
23 OF 25

Thalweg Definition/Boulder Cluster Detail

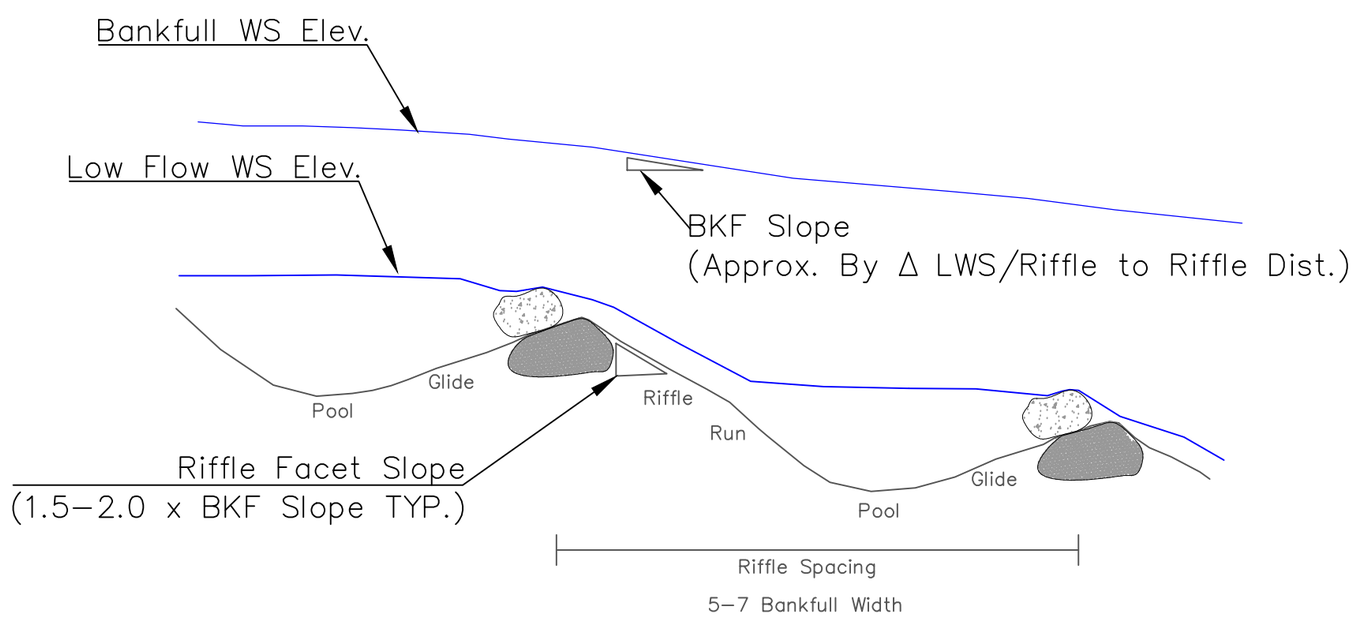
Plan View



Cross-Section View



Profile View



APR.					
DATE					
DESCRIPTION					
REV.					

PROJECT ID

Lake Fork of the Gunnison River

Detail Sheet–2

Boulder Riffle Thalweg/Shaping

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.

Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy

Lake City Co.

Lake Fork Valley Conservancy

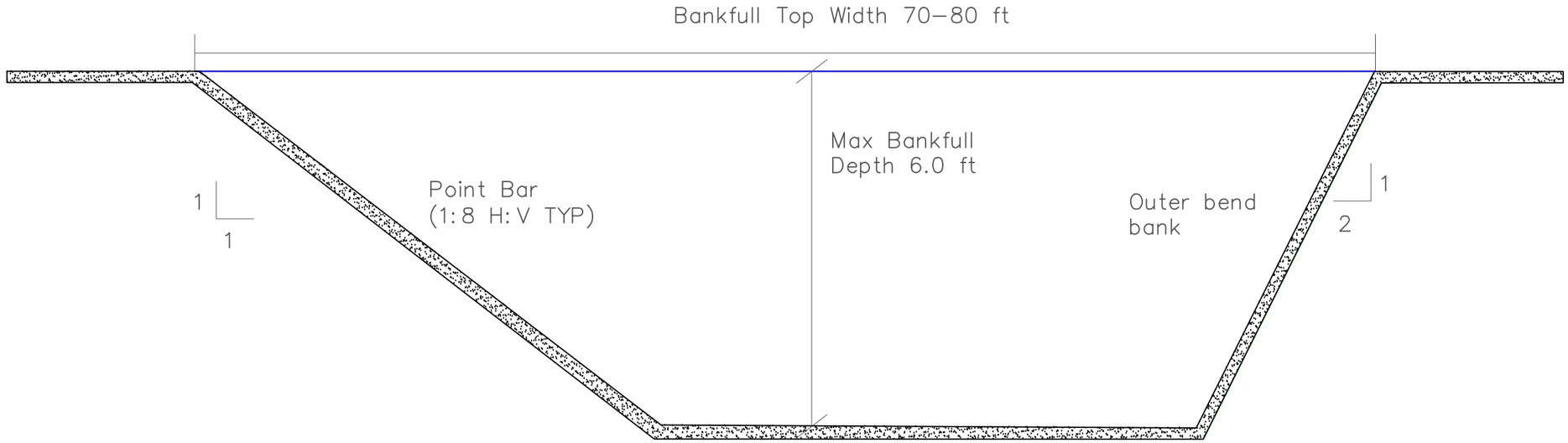
Date: 10/16/2015

Not to Scale

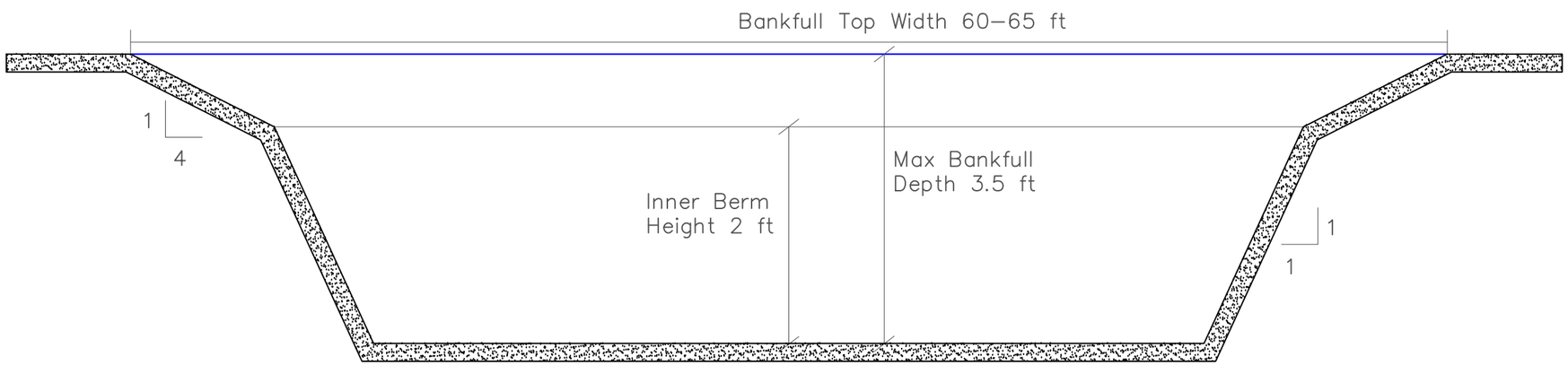
SHEET NUMBER

24 OF 25

Proposed Typical Pool Cross Section
(not to scale)
(vertical exaggeration for detail)



Proposed Typical Riffle Cross Section
(not to scale)
(vertical exaggeration for detail)



REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the
Gunnison River
Detail Sheet–3
Typical Pool–Riffle Sections

PREPARED BY:

HYDROGEO
DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

Date: 10/16/2015

Not to Scale

SHEET NUMBER
25 OF 25

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, SACRAMENTO DISTRICT
1325 J STREET
SACRAMENTO CA 95814-2922

September 7, 2016

Regulatory Division (SPK-2016-00614)

Ms. Camille Richard, Executive Director
Lake Fork Valley Conservancy
Post Office Box 123
Lake City, Colorado 81235

Dear Ms. Richard:

We are responding to your request for a Department of the Army permit for the Lake Fork of the Gunnison River Enhancement Project. The approximately 29-acre project site is located in the northern portion of the Town of Lake City on the Lake Fork of Gunnison River ,within the east ½ of Section 27, Township 44 North, Range 4 West, New Mexico Principal, near Latitude 38.034843°, Longitude -107.309876°, Hinsdale County, Colorado.

Based on the information you provided to this office, the Lake Fork of the Gunnison River Enhancement Project involves the construction of 12 rock vanes, 3 J-hooks, 3 cross-vanes, and 4 benches located at bank full elevation, in accordance with the Pre-Construction Notification plans dated received by this office on August 8, 2016. The specific activities that require the discharge of fill material in waters of the United States are placement of approximately 2,300 cubic yards of rock to create the various structures. These activities will alter approximately 2,500 linear feet of perennial stream.

We have determined activities in waters of the U.S. associated with the project are authorized by Regional General Permit 12 - Aquatic Habitat Improvement for Stream Channels in Colorado. You must comply with all terms and conditions of the NWP, applicable regional conditions, and project-specific special conditions. Information about the NWP and regional conditions are available on our website at *www.spk.usace.army.mil/Missions/Regulatory/Permitting/NationwidePermits.aspx*. In addition, the work must comply with the following **special conditions**:

1. Within 30 days after completion of the authorized work, you shall submit a signed copy of the enclosed Compliance Certification along with pre- and post-construction photographs of all structures.

2. You shall submit a final monitoring report to our office as described in TASK #6 – Post Construction Monitoring within the Colorado Water Conservation Board, Water Supply Reserve Account Application Form, dated 12/28/2015.

This verification is valid for two years from the date of this letter or until the Regional General Permit is modified, reissued, or revoked, whichever comes first. If the permittee commenced work on the authorized activity or is under contract to commence work, when the permit expires or is revoked, the permittee will have one more year or until the original expiration, whichever is less, to complete the construction. Failure to comply with the General Conditions of this Regional General Permit, or the project-specific Special Conditions of this authorization, may result in the suspension or revocation of your authorization.

Please refer to identification number SPK-2016-00641 in any correspondence concerning this project. If you have any questions, please contact Ben Wilson at the Colorado West Regulatory Branch, 400 Rood Avenue, Room 224, Grand Junction, Colorado 81501, by email at *Benjamin.R.Wilson@usace.army.mil*, or telephone at 970-243-1199 ext#12. For more information regarding our program, please visit our website at *www.spk.usace.army.mil/Missions/Regulatory.aspx*. We would appreciate your feedback. At your earliest convenience, please tell us how we are doing by completing the customer survey from the link on our website, listed above.

Sincerely,

Matthew Montgomery
for

Susan Bachini Nall
Chief, Colorado West Branch
Regulatory Division

Enclosure
Compliance Certification

cc: (w/o encl)
Ms. Caroline Mitchell, Town Manager, Town of Lake City, Post Office Box 544, Lake City, Colorado 81235
Mr. Brett Jordan, Chief Consulting Engineer, HydroGeo Designs, Post Office Box 775, Buena Vista, Colorado 81211
Mr. Tim Lapello, Owner, Bio-Environs, 114 North Boulevard, Suite 206, Gunnison, Colorado 81230

U.S. Army Corps of Engineers

South Pacific Division

Nationwide Permit Pre-Construction Notification (PCN) Form

This form integrates requirements of the U.S. Army Corps of Engineers Nationwide Permit Program within the South Pacific Division (SPD), including General and Regional Conditions. You MUST fill out all boxes related to the work being done. Fillable boxes in this form expand if additional space is needed.

Box 1 Project Name Lake Fork of the Gunnison River Ewnhancement Project			
Applicant Name Camille Richard		**Applicant Title** Executive Director	
Applicant Company, Agency, etc. Lake Fork Valley Conservancy		Applicant's internal tracking number (if any)	
Mailing Address PO Box 123			
Work Phone with area code 970-209-5509	Mobile Phone with area code 970-209-5509	Home Phone with area code 970-944-2406	Fax # with area code
E-mail Address c.richard@lfvc.org	Relationship of applicant to property: ☐ Owner ☐ Purchaser ☐ Lessee ☒ Other: Project Manager		
Application is hereby made for verification that subject regulated activities associated with subject project qualify for authorization under a U.S. Army Corps of Engineers Nationwide Permit or Permits as described herein. I certify that I am familiar with the information contained in this application and, that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities. I hereby grant to the agency to which this application is made the right to enter the above-described location to inspect the proposed, in-progress or completed work. I agree to start work only after all necessary permits have been received and to comply with all terms and conditions of the authorization.			
Signature of applicant Camille Richard			Date (mm/dd/yyyy) 8/8/16

If anyone other than the person named as the Applicant will be in contact with the U.S. Army Corps of Engineers representing the Applicant regarding this project during the permit process, Box 2 MUST be filled out.

Box 2 Authorized Agent/Operator Name Brett Jordan		**Agent/Operator Title** Owner, Chief Consulting Engineer	
Agent/Operator Company, Agency, etc. HydroGeo Designs		E-mail Address brett@hydrogeodesigns.com	
Mailing Address PO BOX 775, BUENA VISTA, CO 81211			
Work Phone with area code (970) 901-9507	Mobile Phone with area code (970) 901-9507	Home Phone with area code	Fax # with area code
I hereby authorize the above named authorized agent to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application. I understand that I am bound by the actions of my agent and I understand that if a federal or state permit is issued, I, or my agent, must sign the permit.			
Signature of applicant			Date (mm/dd/yyyy)
I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief, such information is true, complete, and accurate.			
Signature of authorized agent Brett Jordan			Date (mm/dd/yyyy) 8/7/16

Revised March 21, 2012. For the most recent version of this form, visit your Corps District's Regulatory website.

Box 3 Name of Property Owner(s), if other than Applicant: Seven land owners in project area, including Town of Lake City - see attached land owner agreements.		
Owner Title	Owner Company, Agency, etc.	
Mailing Address		
Work Phone with area code	Mobile Phone with area code	Home Phone with area code

Box 4 Name of Contractor(s) (if known): WEBCO, INC.		
Contractor Title	Contractor Company, Agency, etc.	
Mailing Address PO Box 308, Lake City, CO 81235		
Work Phone with area code 970-944-2550	Mobile Phone with area code	Home Phone with area code

Box 5 Site Number __ of __. Project location(s), including street address, city, county, state, zip code where proposed activity will occur: The project area is located along the Lake Fork of the Gunnison River at the north end of the Town of Lake City, starting at 8 1/2 Street Bridge and continuing 2,480 feet down stream.	
Waterbody (if known, otherwise enter "an unnamed tributary to"): Henson Creek and the Lake Fork of the Gunnison River Tributary to what known, downstream waterbody: Gunnison River	
Latitude & Longitude (D/M/S, DD, or UTM with Zone): 38.034843/-107.309876 to 38.039361/-107.305020	Section, Township, Range: Sections 33-34 T44N R4W
County Assessor Parcel Number (Include County name): See attached land owner agreements	USGS Quadrangle map name: Lake City
Watershed (HUC and watershed name[1]): Upper Gunnison HUC 14020002 [1]http://water.usgs.gov/GIS/regions.html	Size of permit area or project boundary: 6.7 acres 2480 linear feet
Directions to the project location and other location descriptions, if known: From Gunnison take Hwy 50 west to Hwy 149. Head south 45 miles to Lake City. At the north end of Lake City a bridge crosses the Lake Fork to the left, called 8 1/2 Street Bridge. The project starts here and goes 2,480 feet downstream.	

Nature of Activity (Description of the project, include all features):
Placement of stream boulders 3-4 ft dia. for fish habitat, channel shaping for pools and riffles, revegetation/transplants.

Project Purpose (Description of the reason or purpose of the project):
The Lake Fork Confluence River Enhancement Project goal is to protect and enhance the ecological health and recreational quality of the Lake Fork through the Town of Lake City. The project is the culmination of five years of feasibility and planning work, previously funded by the CWCB and the EPA 319 Non-Point Source Program. The concept for the Project was initiated in 2008 and was encouraged by a diverse group of community members who saw the need for a comprehensive plan for fishery enhancement, stream stabilization and recreation opportunities. The river in town has been impacted by more than a century of channelization, mining, dam failure, flood events, sedimentation and encroachment, leading to a channel with unstable morphology and high bedload movement.

Field work including river assessment and topographic survey were started in October of 2009 and were completed in November of 2010. Sediment transport and hydrologic studies were performed during spring runoff of 2010 and 2011. Hydraulic modeling of the project reaches was performed in 2012 that facilitated final conceptual design of the proposed enhancements. 60% engineered designs were completed for Phase I in 2013 and construction completed along this reach in 2014. Phase II design was completed earlier this year and we obtained a grant to complete partial construction for this Phase, proposed here in this application. Throughout the development of the project's design, community input was obtained through surveys, public meetings, and presentations, as well as through individual meetings with land owners.

The portion of Phase II work covered under this application entails the modification and improvement of approximately 2,480 linear feet of the Lake Fork below 8 1/2 Street Bridge. Funding for Phase II construction has now been procured primarily from CWCB's Water Supply Reserve Account, with supporting funds from private donations. See Figure 1.

Box 6 Reason(s) for discharge into Waters of the United States (Description of why dredged and/or fill material needs to be placed in Waters of the United States):

To improve fisheries habitat along the Lake Fork of the Gunnison at the north end of Lake City. This will involve placement of several in-channel rock structures that serve to concentrate flows toward the center of the river, provide deep pool habitat, raise adjacent flood benches so that water remains in the channel, and therby transports most sediments downstream. In some areas, material will be removed from the channel to ensure no rise in base flood elevation, as per FEMA regulations.

Proposed discharge of dredge and/or fill material. Indicate total surface area in acres and linear feet (where appropriate) of the proposed impacts to Waters of the United States, indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.), and identify the impact(s) as permanent and/or temporary for each requested Nationwide Permit[1]:

[1] Enter the intended permit number(s). See Nationwide Permit regulations for permit numbers and qualification information: http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/NationwidePermits.aspx

Water Body Type	**Requested NWP Number: 13**				**Requested NWP Number:**				**Requested NWP Number:**			
	Permanent		Temporary		Permanent		Temporary		Permanent		Temporary	
	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length	Area	Length
Perennial River	6.7ac	2480 LF										
Total:	6.7ac	2480 LF										

Total volume (in cubic yards) and type(s) of material proposed to be dredged from or discharged into Waters of the United States:

Material Type	Total Volume Dredged	Total Volume Discharged
Rock Slope Protection (RSP)		
Clean spawning gravel		
River rock	1526 cuyd	1500 cuyd
Soil/Dirt/Silt/Sand/Mud		
Concrete		
Structure		
Stumps/Root wads		
Other: Boulders		806 CUYD
Total:		

Activity requires a written waiver to exceed specified limits of the Nationwide Permit? ☐ Yes ☒ No

If yes, provide Nationwide Permit number and name, limit to be exceeded, and rationale for each requested waiver:

Activity will result in the loss of greater than ½-acre of Waters of the United States? ☐ Yes ☒ No
If yes, provide an electronic copy (compact disc) or multiple hard copies (7) of the complete PCN for appropriate Federal and State Pre-discharge Notification (See General Condition #31, Pre-construction Notification, Agency Coordination, Section 2 and 4):

Describe direct and indirect effects caused by the activity and how the activity has been designed (or modified) to have minimal adverse effects on the aquatic environment (See General Condition #31, Pre-construction Notification, District Engineer's Decision, Section 1): The project is designed to improve fisheries habitat by stabilizing bedload movement, reduce channel braiding, stabilize banks thus reduce localized erosion, and create deep pools to enable fish to survive during drought and provide overwintering habitat. Stabilization of channel movement will facilitate macro-invertebrate population.

Potential cumulative impacts of proposed activity(if any): Impacts are expected to be positive to both hydrological health of the river and for aquatic habitat

Required drawings and figures (see each U.S. Army Corps of Engineers District's Minimum Standards Guidance):
Vicinity map: ☒ Attached (or mail copy separately if applying electronically)
To-scale Plan view drawing(s): ☒ Attached (or mail copy separately if applying electronically)
To-scale elevation and/or Cross Section drawing(s): ☒ Attached (or mail copy separately if applying electronically)
Numbered and dated pre-project color photographs: ☒ Attached (or mail copy separately if applying electronically)
Sketch drawing(s) or map(s): ☐ Attached (or mail copy separately if applying electronically)

Has a wetlands/waters of the U.S. delineation been completed?
☒ Yes, Attached[2] (or mail copy separately if applying electronically) ☐ No
If a delineation has been completed, has it been verified in writing by the Corps?
☐ Yes, Date of preliminary or approved jurisdictional determination (mm/dd/yyyy): Corps file number: ☒ No
[2]If available, provide ESRI shapefiles (NAD83) for delineated waters

For proposed discharges of dredged material resulting from navigation dredging into inland or near-shore waters of the U.S. (including beach nourishment), please attach[3] a proposed Sampling and Analysis Plan (SAP) prepared according to Inland Testing Manual (ITM) guidelines (including Tier I information, if available), or if disposed offshore, a proposed SAP prepared according to the Ocean Disposal Manual.
[3]Or mail copy separately if applying electronically

Is any portion of the work already complete? ☐ YES ☒ NO
If yes, describe the work:

Box 7 Authority:
Is Section 10 of the Rivers and Harbors Act applicable?: ☐ YES ☒ NO
Is Section 404 of the Clean Water Act applicable?: ☒ YES ☐ NO

Is the project located on U.S. Army Corps of Engineers property or easement?: ☐ YES ☒ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO
Would the project affect a U.S. Army Corps of Engineers structure?: ☐ YES ☒ NO
If yes, has Section 408 process been initiated?: ☐ YES ☐ NO

Is the project located on other Federal Lands (USFS, BLM, etc.)?: ☐ YES ☒ NO
Is the project located on Tribal Lands?: ☐ YES ☒ NO

Box 8 Is the discharge of fill or dredged material for which Section 10/404 authorization is sought part of a larger plan of development?: ☒ YES ☐ NO

If discharge of fill or dredged material is part of development, name and proposed schedule for that larger development (start-up, duration, and completion dates):
LFVC completed Phase I construction in 2013-2014 upstream and there is still a section of river between Phase I and this phase of construction that we need to raise funds to complete. Once that funding is secured we will submit a Corps permit application for that section. Total river restoration area is approximately 7,500 linear feet and about 11 acres of flood plain.

Location of larger development (if discharge of fill or dredged material is part of a plan of development, a map of suitable quality and detail of the entire project site should be included):
See Figure 1 and design reports for Phase I and Phase II

Box 9 Measures taken to avoid and minimize impacts to waters of the United States:
The project is designed to improve hydrological and ecological conditions in the proposed reach. All efforts will be made to minimize impact to adjacent flood plain by limiting access points to the channel, concentrating construction within channel, and revegetating any areas that are disturbed. There are very small areas of wetland which will be easily avoided during the construction. See Wetland Delineation report for locations.

Box 10 Proposed Compensatory Mitigation related to fill/excavation and dredge activities. Indicate in acres and linear feet (where appropriate) the total quantity of Waters of the United States proposed to be created, restored, enhanced and/or preserved for purposes of providing compensatory mitigation. Indicate water body type (tidal wetland, non-tidal wetland, riparian wetland, ephemeral stream/river, intermittent stream/river, perennial stream/river, pond/lake, vegetated shallows, bay/harbor, lagoon, ocean, etc.) or non-jurisdictional (uplands[1]). Indicate mitigation type (permittee-responsible on-site/off-site, mitigation bank, or in-lieu fee program). If the mitigation is purchase of credits from a mitigation bank, indicate the bank to be used, if known:
[1] For uplands, please indicate if designed as an upland buffer.

Site Number	Water Body Type	Created		Restored		Enhanced		Preserved		Mitigation Type
		Area	Length	Area	Length	Area	Length	Area	Length	
Total:										

If no mitigation is proposed, provide detailed explanation of why no mitigation would be necessary:
We are in fact mitigating past impacts to the river from a historic mine impoundment dam that deposited thousands of tons of material downstream.

If permittee-responsible mitigation is proposed, provide justification for not utilizing a Corps-approved mitigation bank or in-lieu fee program:

Has a draft/conceptual mitigation plan been prepared in accordance with the April 10, 2008, Final Mitigation Rule[2] and District Guidelines?

[2]http://www.usace.army.mil/Missions/CivilWorks/RegulatoryProgramandPermits/mitig_info.aspx
[3]Sacramento and San Francisco Districts-http://www.spk.usace.army.mil/organizations/cespk-co/regulatory/pdf/Mitigation_Monitoring_Guidelines.pdf
[4]Los Angeles District-http://www.spl.usace.army.mil/regulatory/mmg_2004.pdf
[5]Albuquerque District-http://www.spa.usace.army.mil/reg/mitigation/SPA%20Final%20Mitigation%20Guidelines_OLD.pdf

☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

If no, a mitigation plan must be prepared and submitted, if applicable.

Mitigation site(s) Latitude & Longitude (D/M/S, DD, or UTM with Zone):	USGS Quadrangle map name(s):
Assessor Parcel Number(s):	Section(s), Township(s), Range(s):

Other location descriptions, if known:

Directions to the mitigation location(s):

Box 11 Threatened or Endangered Species

Please list any federally-listed (or proposed) threatened or endangered species or critical habitat (or proposed critical habitat) within the project area (include scientific names (e.g., Genus species), if known):

a. None b.
c. d.
e. f.

Have surveys, using U.S. Fish and Wildlife Service/NOAA Fisheries protocols, been conducted?

☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ No

If a federally-listed species would be impacted, please provide a description of the impactand a biological evaluation, if available.

☐ Yes, Report attached (or mail copy separately if applying electronically) ☐ Not attached

Has Section 7 consultation been initiated by another federal agency?

☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has Section 10 consultation been initiated for the proposed project?

☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No

Has the USFWS/NOAA Fisheries issued a Biological Opinion?

☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

If yes, list date Opinion was issued (m/d/yyyy):

Box 12 Historic properties and cultural resources:

Are any cultural resources of any type known to exist on-site? ☐ Yes ☒ No

Please list any known historic properties listed, or eligible for listing, on the National Register of Historic Places:

a. none b.
c. d.
e. f.

Has a cultural resource records search been conducted?

☒ Yes, Report attached (or mail copy separately if applying electronically) ☐ No

Has a cultural resource pedestrian survey been conducted for the site? ☐ Yes, Report attached (or mail copy separately if applying electronically) ☒ No
Has another federal agency been designated the lead federal agency for Section 106 consultation? ☐ Yes, Designation letter/email attached (or mail copy separately if applying electronically) ☒ No
Has Section 106 consultation been initiated by another federal agency? ☐ Yes, Initiation letter attached (or mail copy separately if applying electronically) ☒ No
Has a Section 106 MOA or PA been signed by another federal agency and the SHPO? ☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No If yes, list date MOA or PA was signed (m/d/yyyy):

Box 13 Section 401 Water Quality Certification:
Applying for certification? ☒ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Certification issued? ☒ Yes, Attached (or mail copy separately if applying electronically) ☐ No
Certification waived? ☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No
Certification denied? ☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Exempted activity? ☐ Yes ☐ No
Agency concurrence? ☐ Yes, Attached ☐ No
If exempt, state why:

Box 14 Coastal Zone Management Act:
Is the project located within the Coastal Zone? ☐ Yes ☒ No

If yes, applying for a coastal commission-approved Coastal Development Permit?
☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

If no, applying for separate CZMA-consistency certification?
☐ Yes, Attached (or mail copy separately if applying electronically) ☒ No

Permit/Consistency issued? ☐ Yes, Attached (or mail copy separately if applying electronically) ☐ No

Exempt? ☐ Yes ☐ No
Agency concurrence? ☐ Yes, Attached ☐ No
If exempt, state why:

Box 15 List of other certifications or approvals/denials received from other federal, state, or local agencies for work described in this application:

Agency	Type of Approval[4]	Identification Number	Date Applied	Date Approved	Date Denied
Hinsdale County	Flood Plain permit		will apply once this permit approved		
CDPHE	401 CERT	COR03L319	10/1/2013	10/16/2013	

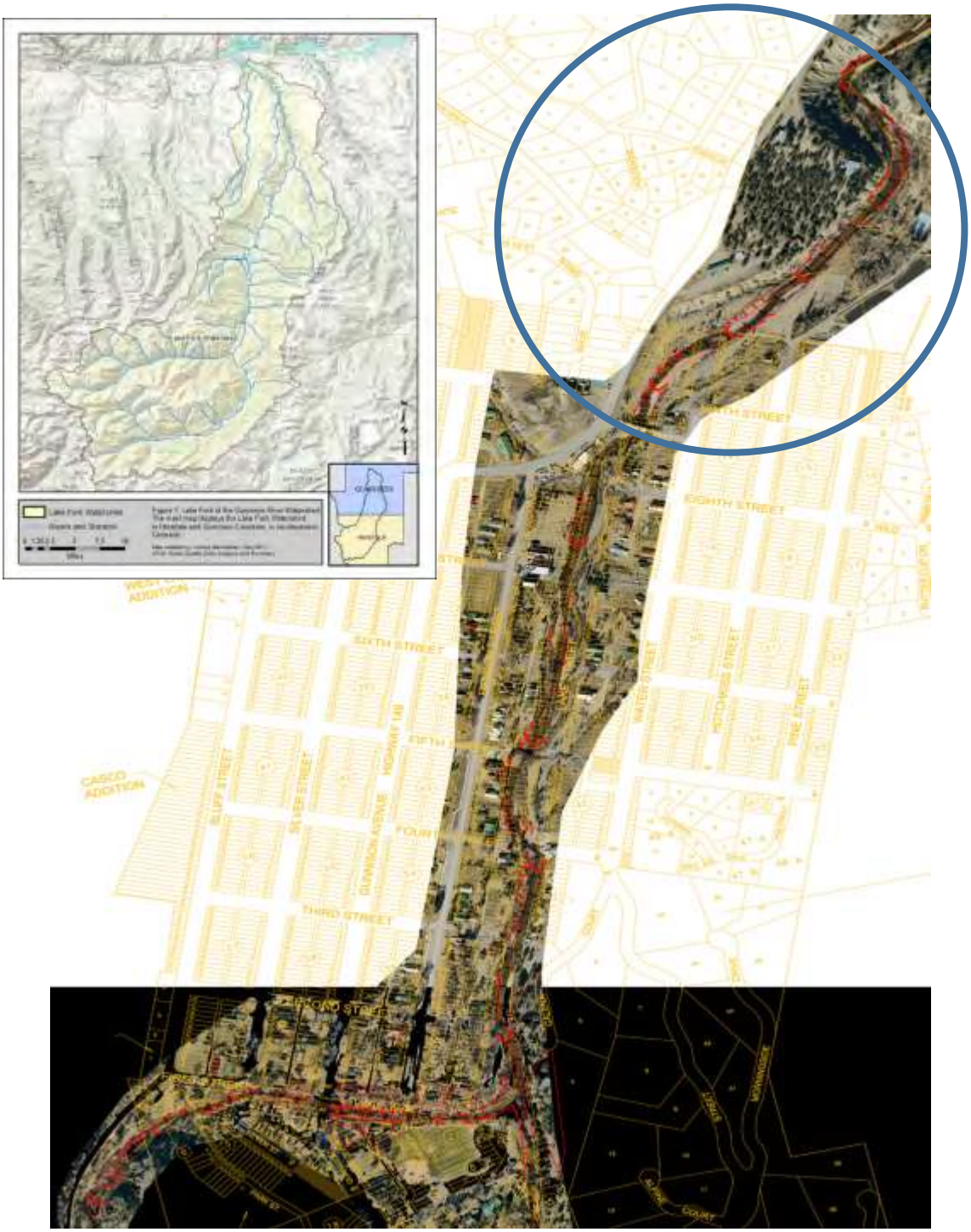
[4] Would include but is not restricted to zoning, building, and flood plain permits

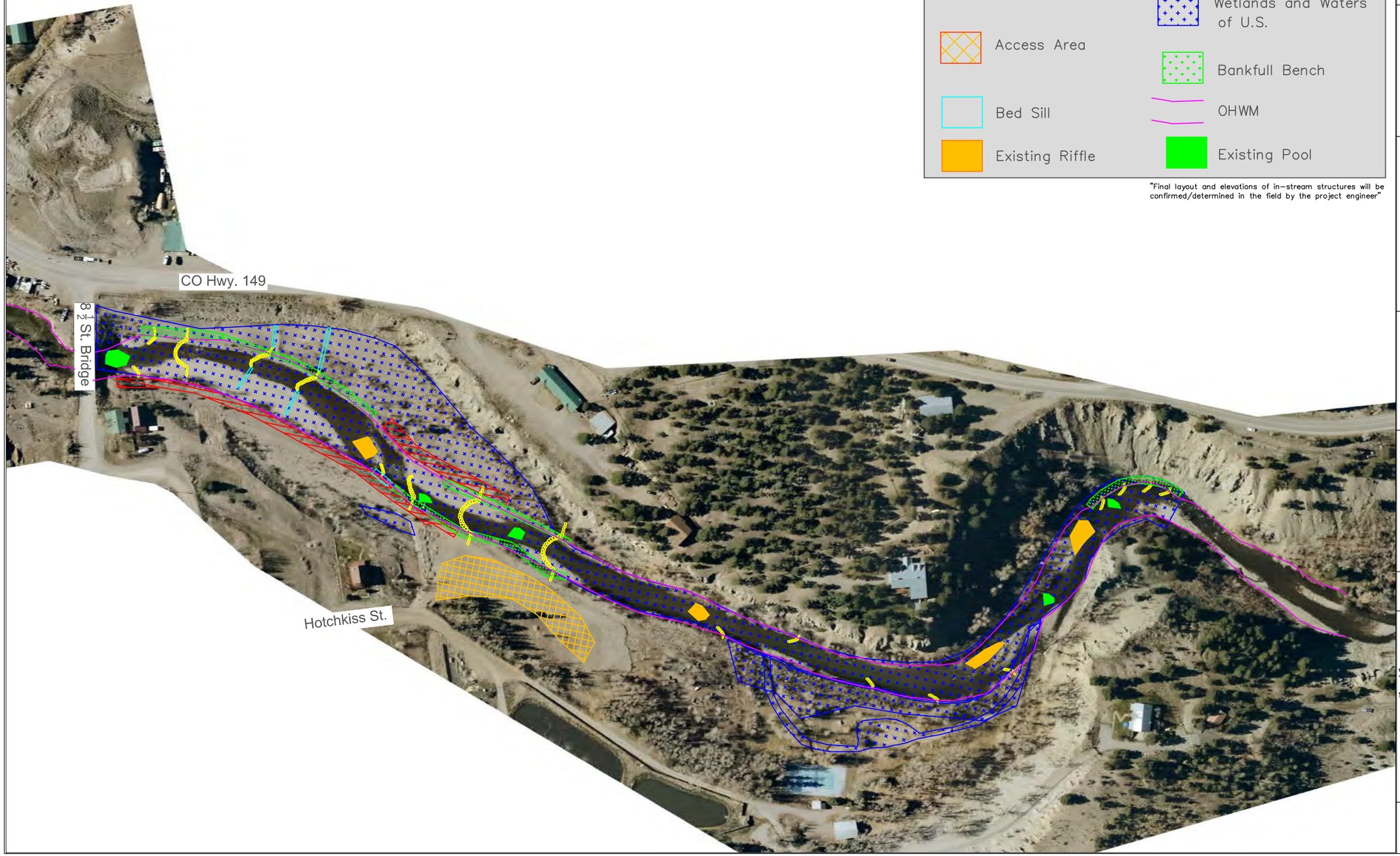
Nationwide Permit General Conditions (GC) checklist:

(http://www.gpo.gov/fdsys/pkg/FR-2012-02-21/pdf/2012-3687.pdf)

Check	General Condition	Rationale for compliance with General Condition
☒	1. Navigation	
☒	2. Aquatic Life Movements	
☒	3. Spawning Areas	
☒	4. Migratory Bird Breeding Areas	
☒	5. Shellfish Beds	
☒	6. Suitable Material	
☒	7. Water Supply Intakes	
☒	8. Adverse Effects from Impoundments	
☒	9. Management of Water Flows	
☒	10. Fills Within 100-Year Floodplains	
☒	11. Equipment	
☒	12. Soil Erosion and Sediment Controls	
☒	13. Removal of Temporary Fills	
☒	14. Proper Maintenance	
☒	15. Single and Complete Project	
☒	16. Wild and Scenic Rivers	
☒	17. Tribal Rights	
☒	18. Endangered Species	See Box 11 above.
☒	19. Migratory Bird and Bald and Golden Eagle Permits	
☒	20. Historic Properties	See Box 12 above.
☒	21. Discovery of Previously Unknown Remains and Artifacts	
☒	22. Designated Critical Resource Waters	
☒	23. Mitigation	See Box 10 above.
☒	24. Safety of Impoundment Structures	
☒	25. Water Quality	See Box 13 above.
☒	26. Coastal Zone Management	See Box 14 above.
☒	27. Regional and Case-by-Case Conditions	
☒	28. Use of Multiple Nationwide Permits	
☒	29. Transfer of Nationwide Permit Verifications	
☒	30. Compliance Certification	
☒	31. Pre-Construction Notification	

Figure 1. Lake Fork River Enhancement Project. Phase I is in the black area and was completed in 2014. Phase II is north of this in the white area. The area we currently have funding for and for which this 404 application is for is in the circle. The middle section will be completed once funding is secured, in 2018 at the earliest.





Legend

- Vane
- Cross–Vane
- J–Hook
- Levee Removal
- Wetlands and Waters of U.S.
- Access Area
- Bankfull Bench
- Bed Sill
- OHWM
- Existing Riffle
- Existing Pool

"Final layout and elevations of in–stream structures will be confirmed/determined in the field by the project engineer"

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River Phase 2

PREPARED BY:

HYDROGEO DESIGNS
320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 8/6/2016

SCALE: 1" = 200 ft.

100 0' 100 200
SCALE IN FEET

SHEET NUMBER
1 OF 1

CLEAN WATER PERMIT ANNUAL FEE INVOICE

Water Quality Control Division

www.coloradowaterpermits.com

Colorado Department of Public Health and Environment

CDPHE
4300 Cherry Creek Drive
Mail Code ASD-AR-B1
Denver, Colorado 80246-1530

Hydro Geo Designs LLC
Brett Jordan
PO Box 775
Buena Vista, CO 81211

Date:	7/29/2015
Customer #:	COR03L319
Permit #:	COR03L319
Invoice #:	WC161016850

Annual billing (7/1/2015 - 6/30/2016) for Permit COR03L319 - Henson Creek and the Lake Fork Confluence Channel, 1 Ave and S Gunnison Ave, Lake City, CO 81235

Amount:	$ 245.00
Payments or Credits:	$ 0.00
Balance Due:	$ 245.00
Payment Due Date:	8/28/2015

See reverse side of this invoice for more information.

PAYMENT DUE WITHIN 30 DAYS

PLEASE TEAR ALONG LINE AND RETURN BOTTOM PORTION OF INVOICE WITH PAYMENT

Hydro Geo Designs LLC
Brett Jordan
PO Box 775
Buena Vista, CO 81211

BILLING INQUIRIES:
303-692-3616 or email CDPHE_WQCD_billing@state.co.us

CHANGE OF ADDRESS:
If your billing address is incorrect, please submit a change of contact form available at www.coloradowaterpermits.com.

MAKE CHECKS PAYABLE TO CDPHE

REMIT PAYMENTS TO:
CDPHE
4300 Cherry Creek Drive South
Mail Code ASD-AR-B1
Denver, Colorado 80246-1530

Customer #: COR03L319
Invoice #: WC161016850
Balance Due: $ 245.00

CREDIT CARD PAYMENT –Complete the information below or call 303-692-2130

Name on card:
Visa/MC #:
Security Code(3 digit code located on back of card):
Expires: / **Phone #:** ( ) -
To receive a receipt provide your Fax # or Email address:
Fax #: ( ) -
Email address:

COLORADO
Department of Public Health & Environment

Dedicated to protecting and improving the health and environment of the people of Colorado

Water Quality Control

Received 1 6 2016

COR030000 GENERAL PERMIT APPLICATION RECORDS VERIFICATION

This is a summary of permit information for Permit Number ***COR03L319*** ***Hydro Geo Designs LL***

Please verify that this information is complete and correct, sign, and mail back.

Site: *Henson Creek and the Lake Fork Confluence Channel* **County:** *Hinsdale*

Facility SIC Code *7999*

Area to Undergo Disturbance: ~~0.2~~ 0.85 ACRES

Legal Contact All documents (including bills, etc.) are mailed to this individual unless otherwise designated:

Brett Jordan
Hydro Geo Designs LLC
PO Box 775
Buena Vista, CO 81211

Phone number: 970-901-9507

Email: brett@hydrogeodesigns.com

Site Contact All general queries regarding the site will be directed to this individual

Brett Jordan
Hydro Geo Designs LLC
PO Box 775
Buena Vista, CO 81211

Phone number: 970-901-9507

Email: brett@hydrogeodesigns.com

DMR Contact All DMR's will be emailed to this individual (if no email available, please provide address)

Phone number:

Email:

BILLING Contact Invoices will be sent to this individual

Brett Jordan Engr
Hydro Geo Designs LLC
PO Box 775
Buena Vista, CO 81211

Phone number: 970-901-9507

Email: brett@hydrogeodesigns.com

_____NO CHANGES NECESSARY

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Signature (Legal Contact listed above) BRETT JORDAN date 10 JUNE 2016

Name (Printed) BRETT JORDAN Title ENGINEER

Colorado Department of Public Health and Environment

CERTIFICATION TO DISCHARGE
UNDER
CDPS GENERAL PERMIT COR-0300000
STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES

Certification Number: **COR03L319**

This Certification to Discharge specifically authorizes:

Hydro Geo Designs LLC

to discharge stormwater from the facility identified as

Henson Creek and the Lake Fork Confluence Channel

To the waters of the State of Colorado, including, but not limited to:

Henson Creek, Lake Fork of the Gunnison River - Blue Mesa Reservoir, Gunnison River

Facility Industrial Activity : River restoration ,

Facility Located at: 1 Ave and S Gunnison Ave, Lake City
Hinsdale County, CO 81235
Latitude 38.026111, Longitude -107.318611

Certification is effective: 10/16/2013 **Certification Expires:** 6/30/2012
ADMINISTRATIVELY CONTINUED

This certification under the permit requires that specific actions be performed at designated times. The certification holder is legally obligated to comply with all terms and conditions of the permit.

Signed,

Nathan Moore
Construction/MS4/Pretreatment Unit Manager
Water Quality Control Division

Wetland Delineation Report

Lake Fork of the Gunninson River Restoration
Hinsdale County

July 19, 2016

Prepared For:

Lake Fork Valley Conservancy, Camille Richard
PO Box 123
Lake City, CO 81235

Prepared By:

BIO - ENVIRONS
114 N. BOULEVARD, SUITE 206
GUNNISON, CO 81230
970-641-8749

Lake Fork of the Gunnison River Restoration
TABLE OF CONTENTS

WETLAND DELINEATION REPORT
Lake Fork of the Gunnison River Restoration

1.0 INTRODUCTION

Bio-Environs was contracted to perform a jurisdictional determination and delineation of the boundaries of "waters of the United States," including wetlands, that occur within a 29.0 acre project area encompassing an approximately 5845 linear foot reach of the Lake Fork of the Gunnison River where the Lake Fork Valley Conservancy proposes restoration and improvements to stream banks, channel morphology and habitat. In order to complete the delineation and to account for improvements that might extend from river's edge inland a corridor 20 feet from river's edge was established along each side of this section of the Lake Fork of the Gunnison River. The study reach is situated within and adjacent to the town of Lake City and extends north from the confluence with Henson Creek to approximately 2720 linear feet below the 8 ½ street bridge at the northern end of town. The property is located in Hinsdale County, Colorado at the following location:

Lake City, Colorado
Section 27 T44N, R4W, PMNM
38˚ 2' 2.518" N, 107˚ 18' 38.598" W NAD 83
Hinsdale County, Colorado
Elev. 8635-8,680
(Figure 1)

The setback area was established in order to accommodate the planned construction of streambank stabilization and restoration features. The area has been delineated to support planning for minimal disturbances from access and construction of stabilization features and stream habitat improvements.

This 2016 study identifies 1.0 acre of wetland and approximately 6565 linear feet of "waters of the US" that are associated with the main channel of the Lake Fork of the Gunnison River and a small side channel located in the northern portion of the project Area along the east bank. "Waters of the U.S." comprise approximately 11.8 acres of surface area within the project area (Figure 2). Flows within the Lake Fork of the Gunnison River as well as geomorphic position provide hydrology to the identified wetlands. The Lake Fork of the Gunnison River flows into the Gunnison River, which flows into the Colorado River in Grand Junction, CO and is considered a "waters of the US." All of the wetlands that are identified in this report exhibit a surface connection or adjacency to the Lake Fork of the Gunnison River.

This report identifies the jurisdictional status of the project area based on Bio-Environs professional understanding and interpretation of the *Corps of Engineers Wetland Delineation Manual (1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0), 2010*; the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States (2008);* and Corps of Engineers guidance

documents and regulations. Jurisdictional determinations for other "waters of the United States" were made based on definitions and guidance found in 33 CFR 328.3, Corps Regulatory Guidance Letters, and the wetland delineation manual. The Corps of Engineers administers Section 404 of the Clean Water Act which regulates the discharge of fill or dredged material into all "waters of the United States," and is the regulatory authority that must make the final determination as to the jurisdictional status of the project area.

2.0 REGULATORY DEFINITIONS

2.1 Waters of the United States

"Waters of the United States" are within the jurisdiction of the Corps of Engineers under the Clean Water Act. "Waters of the United States" is a broad term which includes waters that are used or could be used for interstate commerce. This includes wetlands, ponds, lakes, territorial seas, rivers, tributary streams including any definable intermittent waterways, and some ditches below the "Ordinary High Water Mark (OHWM)." Also included are manmade waterbodies such as quarries and ponds which are no longer actively being mined or constructed. Wetlands, mudflats, vegetated shallows, riffle and pool complexes, coral reefs, sanctuaries, and refuges are all considered special aquatic sites which involve more rigorous regulatory permitting requirements. A specific, detailed definition of "waters of the United States" can be found in the Federal Register (33 CFR 328.3).

2.2 Wetlands

Wetlands are a category of "waters of the United States" for which a specific identification methodology has been developed. As described in detail in the *Corps of Engineers Wetland Delineation Manual (1987)* and its supplements, wetland boundaries are delineated using three criteria: hydrophytic vegetation, hydric soils, and wetland hydrology.

2.2.0 Other Waters of US

Detection of "other waters of US' was based on *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States (2008)*. "Other waters" for this study include rivers, streams, arroyos, drainages or other features that convey water and may support and active floodplain. The OHWM is used to identify the lateral limits of non-wetland waters under Section 404 of the Clean Water Act (33 USC 1344). Federal jurisdiction over "other waters of the US" extends to the ordinary high water mark (OHWM) as defined in 33 CFR Part 328.3.

In the arid west, clear natural scour lines impressed on the bank, recent erosion, destruction of native terrestrial vegetation, and the presence of litter and debris are the most commonly used physical features to indicated the OHWM (US Army Corps of Engineers, South Pacific Division, 2001). Lichvar and Wakeley (2004) continue to refine OHWM indicators and delineation methods, and have developed lists of geomorphic and vegetative indicators. These have been used to aid in defining the OHWM within the project area.

2.2.1 Wetland Vegetation

In the course of developing the wetland determination methodology the Corps, in cooperation with the U.S. Fish and Wildlife Service, Environmental Protection Agency, and the Soil Conservation Service, compiled a comprehensive list of wetland vegetation. The indicator status of plant species is expressed in terms of the estimated probabilities of that species occurring in wetland conditions within a given region. The indicator categories as defined by the Corps are:

> Obligate Wetland (OBL) occur almost always (estimated probability >99%) under natural conditions in wetlands.
>
> Facultative Wetland (FACW) usually occur in wetlands (estimated probability 67%-99%), but occasionally found in non-wetlands.
>
> Facultative (FAC) equally likely to occur in wetlands or non-wetlands (estimated probability 34%-66%).
>
> Facultative Upland (FACU) usually occur in non-wetlands, but occasionally found in wetlands (estimated probability 1%-33%).
>
> Obligate Upland (UPL) occur almost always (estimated probability >99%) in uplands.

The percentage of the dominant wetland species in each of the vegetation strata in the sample area determines the hydrophytic, or wetland status of the plant community. Soil type and hydroperiod are two factors important in controlling species composition.

2.2.2 Hydric Soils

The National Technical Committee for Hydric Soils (NTCHS) defines a hydric soil as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (USDA Soil Conservation Service, 1994). Nearly all hydric soils exhibit characteristic morphologies that result from repeated periods of saturation or inundation for more than a few days. Saturation or inundation, when combined with microbial activity in the soil, causes the depletion of oxygen. This anaerobiosis promotes certain biogeochemical processes, such as the accumulation of organic matter and the reduction, translocation, or accumulation of iron and other reducible elements. These processes result in distinctive characteristics that persist in the soil during both wet and dry periods, making them particularly useful for identifying hydric soils in the field (USDA Natural Resources Conservation Service, 2006). The indicators that we use are a subset of the NTCHS *Field Indicators of Hydric soils in the United States, Version 7.0 (2010)* that are commonly found in the Western Mountains. Indicators are presented in three groups. Indicators for “All Soils” include eight indicators of hydric soil regardless of soil texture. There are five indicators for “Sandy Soils” for use in soil layers with a texture of loamy fine sand or coarser. There are six indicators for “Loamy and Clayey Soils” in the

Western Mountains region for use in soil layers with a loamy very fine sand or finer texture.

In this report, soil colors are described using the Munsell notation system. This method of describing soil color consists of separate notations for hue, value, and chroma, which are combined in that order to form the color designation. The *hue* notation of a color indicates its relation to red, yellow, green, blue, and purple; the *value* notation indicates its lightness; and the *chroma* notation indicates its strength or departure from a neutral of the same lightness.

The symbol for *hue* consists of a number from 1 to 10, followed by the letter abbreviation of the color. Within each letter range, the hue becomes more yellow and less red as the numbers increase. The notation for *value* consists of numbers from 0 for absolute black, to 10 for absolute white. The notation for *chroma* consists of numbers beginning with /0 for neutral grays and increasing at equal intervals. Soil color, texture and depth provide the basis for assigning a hydric soil indicator.

2.2.3 Wetland Hydrology

Wetland hydrology is defined as the presence of water for a significant period of time at or near the surface (within the root zone) during the growing season. Wetland hydrology is present only seasonally in many cases, and is often inferred by indirect evidence. Hydrology is controlled by such factors as seasonal and long-term rainfall patterns, local geology and topography, soil type, local water table conditions, and drainage. Wetland hydrology indicators for the Western Mountain Region include primary and secondary indicators grouped as: A) Observation of Surface Water or Saturated Soils B) Evidence of Recent Inundation C) Evidence of Current or Recent Soil Saturation and D) Evidence of Other Site Conditions or Data. One primary indicator or two or more secondary indicators are required to establish a positive indication of hydrology.

2.2.4 Wetland Definition Summary

In general, an area must meet all three criteria to be classified as a wetland. In certain problem areas such as seasonal wetlands which are not wet at all times, or in recently disturbed (atypical) situations, an area may be considered a wetland if only two criteria are met. In special situations, an area which meets the wetland definition may not be within the Corps of Engineers jurisdiction due to a specific regulatory exemption.

3.0 BACKGROUND INFORMATION

3.1 Existing Maps

Several sources of information were consulted to identify potential wetlands and wetland soil units on the site. These include the U.S. Fish and Wildlife Service's *National Wetland Inventory* (NWI) and the Natural Resources Conservation Service's (NRCS) *Soil Survey* for this county. These maps identify *potential* wetlands and wetland soil units on the site. The NWI maps were prepared from high altitude photography and in most cases were not field checked. Because of this, wetlands are sometimes erroneously identified, missed, or misidentified. Additionally, the criteria used

in identifying these wetlands were different from those currently used by the Corps of Engineers. The county soil maps, on the other hand, were developed from actual field investigations. However, they address only one of the three required wetland criteria and may reflect historical conditions rather than current site conditions. The resolution of the soil maps limits their accuracy as well. The mapping units are often generalized based on topography, and many mapping units contain inclusions of other soil types for up to 15% of the area of the unit.

3.2 National Wetland Inventory Map

The *National Wetland Inventory* (NWI) map of the area (Figure 3) identifies two wetland types within the project area. This includes the Lake Fork River identified as a riverine system with an unconsolidated bottom, permanently flooded (R3UBH) and a small side channel located in the northern portion of the project area identified as riverine, upper perennial, unconsolidated shore, seasonally flooded (RUSC). The boundaries of the wetland types delineated by the NWI mapper program do not appear to identify the wetlands found through the July 2016 field investigation. Both emergent and scrub-shrub types (PEMA and PSSA) were located. Given the discrepancy, the descriptions of wetlands that follows is based on our best judgment of the riverine and wetland boundaries

3.3 Soil Survey

According to the NRCS Web Soil Survey, the predominant soil within the study area is alluvial lands, occasionally flooded (Ao), with small inclusions of alluvial land, wet (Aw) , Curecanti gravelly loam, 1 to 8% slopes (Cu) and the Woodhall extremely rocky loam, 5 to 50% slopes (WOF) (Figures 4 and 5). Only the small inclusion of alluvial land, wet located along the east bank in the northern portion of the project area is identified as hydric by the NRCS.

3.4 FEMA Mapping

FEMA Mapping indicates that the entire study reach is within the 100-yr floodplain (Figures 6a, 6b).

4.0 SITE INVESTIGATION AND DESCRIPTION

4.1 Investigation Methodology

The delineation of wetlands and other “waters of the United States” on the site was based on the methodology described in the *Corps of Engineers Wetland Delineation Manual* (Technical Report Y-87-1) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys and Coast Region (Version 2.0), 2010* and the *Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the United States (2008)* as required by current Corps of Engineers policy.

Prior to the field work, the background information was reviewed to establish the probability and approximate location of wetlands on the site. Next a general reconnaissance of the project area was made to determine site conditions. The site

was walked with the specific intent of determining wetland boundaries. Data stations were established at locations within and near the wetland areas to document soil characteristics, evidence of hydrology, and dominant vegetation. Note that no attempt was made to examine a full soil profile to confirm any soil series designations. However, soils were examined to a depth of 12 inches where rock prevented further investigation or to 16 inches assess soil characteristics and site hydrology. Complete descriptions of typical soil series can be found in the soil survey for Gunnison, Hinsdale and Saguache Counties, though the survey does not cover this area.

4.1.1 Site Photographs

Photographs of the site are located in Appendix A. These photographs are the visual documentation of site conditions at the time of inspection. The photographs are intended to provide representative visual samples of any wetlands or other special features found on the site inspected.

4.1.2 Delineation Data Forms

Where stations represent a wetland boundary point they are presented as paired data sheets, documenting the upland and wetland sides of the wetland boundary. The data forms used in the jurisdictional delineation process are located in Appendix B. These forms are the written documentation of how representative sample stations meet or do not meet each of the wetland criteria. Other points were also inspected during the delineation process but were not specifically recorded on data sheets.

4.1.3 GPS Survey of Wetland Boundary

The data points and boundaries of wetlands and “waters of the U.S.” were surveyed using a Trimble Geo XT-Explorer GPS unit.

4.2 General Site Conditions

The study area is associated with the main channel of the Lake Fork of the Gunnison River which includes narrow fringe wetlands along its banks in some areas as well as established riparian areas with associated wetlands and one distributary (side) channel located in the northern portion of the study reach. The project area north of 8½ street bridge is relatively undeveloped on both banks while the southern portion of the project area includes pedestrian paths and bridges as well as multiple home sites along both banks. Riparian areas are dominated by narrowleaf cottonwood (*Populus angustifolia)* while wetlands are typically dominated by willow (*Salix spp.)* and alder (*Alnus tenufolia)* with an understory of wetland grasses and forbs. The project area just north of the 8½ street bridge has been subject to over bank flows that have impacted the channel and expanded the flood plain substantially for a distance downstream of the bridge.

The intact riparian areas along the Lake Fork of the Gunnison River include upland areas supporting narrowleaf cottonwood galleries, scrub-shrub wetlands supporting willows, alder and an understory of grasses and sedges, and emergent wetlands dominated by wetland graminoids and herbs. Fringe wetlands border the river and are considered part of the river corridor. At normal flow these wetlands are situated above

the OHWM. These fringe wetlands are limited to the very edge of where they exist along the river corridor and connect riparian areas that are along the river.

The Lake Fork of the Gunnison River drainage experienced average snow pack through the 2015-2016 winter with spring run-off and stream flows at average for the season thus far. According to the USGS 09123450 Lake Fork below San Cristobol Reservoir gauging station a provisional peak flow of 858 ft^3/sec occurred in June 6, 2016. Flows were 75 ft^3/sec on the day of investigation.

4.3 Results

Results are presented for the Lake fork of the Gunnison Restoration study area (Figure 2).

Wetland A (0.73 acre) is a shrub-scrub wetland with an herbaceous understory that is located on the east bank of the Lake Fork of the Gunnison River in the northern portion of the project area (Figure 2). The site is bounded by the river to the west and is comprised of a low lying riparian area that extends east form the stream bank. The site includes drainage patterns and drift deposits from previous high flows.

Sample point A-4 wetland

This sample point is located along the banks of the River (Figure 2, Photograph 1). The dominant vegetation includes an overstory comprised of wetland species including narrowleaf cottonwood (*Populus angustfolia*, FACW), and alder (*Alnus tenufolia,* FACW). The understory in Wetland A is dominated by coyote willow (*Salix exigua,* FACW) and gray willow (*Salix bebbiana,* OBL) with an herb stratum dominated by blue joint reedgrass (*Calamagrostis canadensis*, FACW). The wetland supports a sandy loam from 0 to 6 inches with a color of 10 YR4/2 with redoximorphic features including concentrations showing a color of 10YR4/6 and coated sand grains present in the soil test pit sample. Cobble exists below 6 inches below the ground surface (see data form A-4 wet in Appendix B).Wetland hydrology consisted of saturation of the soils at the surface on the day of investigation. All three wetland criteria are met at this site.

Sample point A-4 upland

The adjacent upland to Wetland A at this location is comprised of well drained riparian that is dominated by wetland vegetation such as narrowleaf cottonwood (FACW), timothy (*Phluem pretense,* FAC), blue joint reedgrass (FACW), mint (*Mentha arvense,* FACW) and field horsetail (*Equisetum arvense,* FAC) (Photograph 2). The upland area does not include any soils and is comprised entirely of cobble. No wetland hydrology was present on the day of investigation. A lack of wetland hydrology and hydric soils distinguishes the uplands from the wetland area.

Wetland B-1 (0.05 acre) is an emergent wetland associated with a low lying area that is located just north of the 8 ½ Street Bridge within the floodplain of the river. The area is separated from the river by a berm that exists along the eastern stream bank as possible flood mitigation in this area (Figure 2).

Sample point B-1 wetland
Sample point B-1 wet is dominated by wetland vegetation consisting of narrowleaf cottonwood (FACW), coyote willow (FACW), and blue joint reedgrass (FACW) (Photograph 3). The sandy silty loam soils at the test pit exhibit a color of 10YR3/1 with concentrations showing a color of 10YR4/6 and coated sand grains (10YR2/1) from 0 to 4 inches with cobble 4 inches below the ground surface. Saturated soil conditions and water at the ground surface are positive indicators of wetland hydrology. All three wetland criteria are met at the site.

Sample point B-1 upland
The adjacent upland to Wetland B at this location is comprised of cobble bars that do not support vegetation, or soils and is well above the saturated ground surface of the adjacent wetland. A lack of wetland criteria distinguishes the uplands from the wetland area.

Wetland C (0.22 acre) is an emergent wetland with a shrub-scrub fringe located along the west stream bank just south of the 8½ Street bridge. The area is associated with the confluence of Slaughterhouse Gulch, a small drainage that enters the river from the west (Figure 2). This small tributary is approximately 1 foot wide where it enters the river.

Sample point C-4 wetland
A dominance of wetland vegetation at the sample point for C-4 wet includes alder (FACW) coyote willow (FACW) and narrowleaf cottonwood (FACW) with an understory of wetland graminoids such as beaked sedge (*Carex utriculata,* OBL), arctic rush (FACW) and manna grass (*Glyceria manna,* OBL (Photograph 4). The sandy loam at the test pit exhibits a color of 10YR3/1 from 0 to 18 inches with 10YR4/6 concentrations along the pore linings and coated sand grains with a color of 10YR2/1 in the matrix. Hydrology in the area consisted of ground surface saturation and a water table at 6 inches below the ground surface on the day of investigation. This area meets all three wetland criteria.

Sample point C-8 upland
The adjacent upland to Wetland C is in part a pedestrian path that is established on a vegetated upper terrace that is situated to the west of Wetland C. Vegetation is limited to wheatgrass (*IAgropyron* spp., UPL) that was likely planted along the path for erosion control (Photograph 5). The upland area is situated on cobble and boulder and is considered a non-soil. No wetland hydrology is present at this location. A lack of wetland criteria distinguishes the uplands from the wetland area.

Waters of the U.S (300 linear feet)
The entire study area includes approximately 5845 linear feet of the Lake Fork of the Gunnison River (see Photographs 6, 7, 8 and 9). The Lake Fork of the Gunnison River flows into the Gunnison River at Blue Mesa Reservoir and then on to the Colorado

River. OHWM is established along the stream course of both banks using a pronounced scour line in areas where vegetation is limited as well as the riparian green line that exists along the stream channel throughout much of the entire reach of the stream course within the study area. The study area also includes a small side channel (760 LF) feature in the northern part of the study area near Wetland A. The channel includes a small ponded area that appears to be excavated and returns to the river after flowing through the pond. Both the main river channel and side channel support fringe wetlands along their banks as part of the stream course (Figure 2).

Table 1

Wetland Area "Waters of U.S."	Wetland Type	Acres/Linear feet
Wetland A	Scrub-shrub, temporarily flooded, palustrine.	0.73 acre
Wetland B	Emergent, temporarily flooded, palustrine	0.014 acre
Wetland C	Emergent/ Shrub-scrub, temporarily flooded, palustrine	0.04 acre
Side channel Water of US	Upper perennial, unconsolidated bottom, permanently flooded riverine	0.3 ac / 760 feet
Waters of the US	Upper perennial, unconsolidated bottom, permanently flooded riverine	11.1 ac / 5845LF
Total		1.0 acre Wetland 5845 LF Perennial Stream 760 LF side channel/distributary 11.4 ac surface area "Waters"

5.0 JURISDICTIONAL ANALYSIS

5.1 Corps of Engineers

The Corps of Engineers has authority over the discharge of fill or dredged material into "waters of the United States." This includes authority over any filling, mechanical land clearing, or construction activities that occur within the boundaries of any "water of the United States". A permit must be obtained from the Corps of Engineers before any of these activities occur. Permits can be divided into three general categories: the Regional General Permit for Colorado, Nationwide Permits, and Individual Permits.

Nationwide Permits have been developed for projects which meet specific criteria and are deemed to have minimal impact on the aquatic environment.

Individual Permits are required for projects that do not fall into one of the specific Nationwide Permits or the Regional General Permit or that are deemed to have significant environmental impacts. These permits are much more difficult to obtain and receive a much higher level of regulatory agency and public scrutiny and may require several months to more than a year for processing.

On June 19, 2006, the U.S. Supreme Court issued decisions in regards to John A. Rapanos v. United States (No. 04-1034) and June Carabell v. United States (04-1384), et al. The plurality decision created two 'tests' for determining CWA jurisdiction: the permanent flow of water test (set out by Justice Scalia) and the "significant nexus" test (set out by Justice Kennedy). On June 5, 2007 the Corps and EPA issued joint guidance on how to interpret and apply the Court's ruling. According to this guidance, the Corps will assert jurisdiction over traditionally navigable waters, adjacent wetlands, and non-navigable tributaries of traditionally navigable waters that have "relatively permanent" flow, and wetlands that border these waters, so long as such waters are not separated by roads, berms, and similar barriers. In addition, the Corps will use a case-by-case "significant nexus" analysis to determine whether waters and their adjacent wetlands are jurisdictional. A "significant nexus" can be found where waters, including adjacent wetlands, alter the physical, biological, or chemical integrity of the traditionally navigable water based on consideration of several factors.

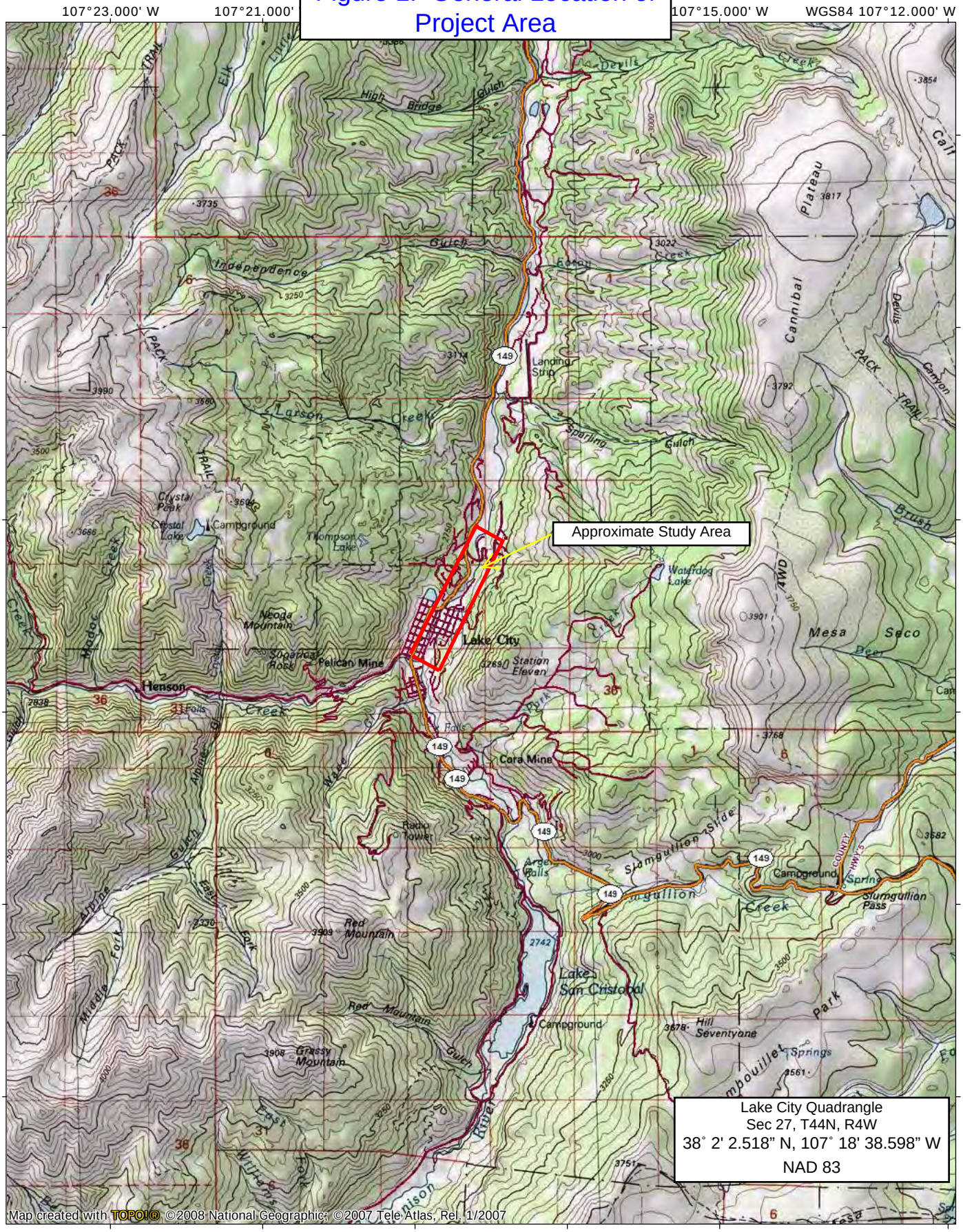
In May 2015, a Clean Water Act rule was issued that clarifies the extent of jurisdiction that the Corps of Engineers and the EPA exert over headwaters. The rule states that headwaters that demonstrate a bed, bank, ordinary high water mark and flow downstream will be regulated. Those that do not demonstrate the above will be evaluated for adjacency. Wetlands adjacent to jurisdictional waters within a minimum of 100 feet and within the 100-year floodplain to a maximum of 1,500 feet of the ordinary high water mark will be regulated. Regulatory jurisdiction is also afforded to waters with a significant nexus within the 100-year floodplain of traditional navigable waters, interstate waters, or the territorial seas, as well as waters with a significant nexus within 4,000 feet of jurisdictional waters. This rule is still be debated in several states.

6.0 SUMMARY AND CONCLUSIONS

On July 15, 2016 Bio-Environs inspected the Lake Fork of the Gunnison River restoration project area and a 20-foot buffer on each riverbank within the study area. Three wetland areas totaling 1.0 acre along with approximately 5845 linear feet of perennial stream channel and 760 linear feet of side channel with an identifiable OWHM are identified within the study area. The wetlands are likely jurisdictional as they are within the 100 year flood plain of the river and are adjacent to or connect via surface hydrology to the Lake Fork of the Gunnison River, which is a regulated "waters of the US".

FIGURES

Figure 1. General Location of Project Area



NATIONAL GEOGRAPHIC

0.0 0.5 1.0 1.5 2.0 2.5 3.0 miles
0 1 2 3 4 5 km

TN MN 9°

07/18/16

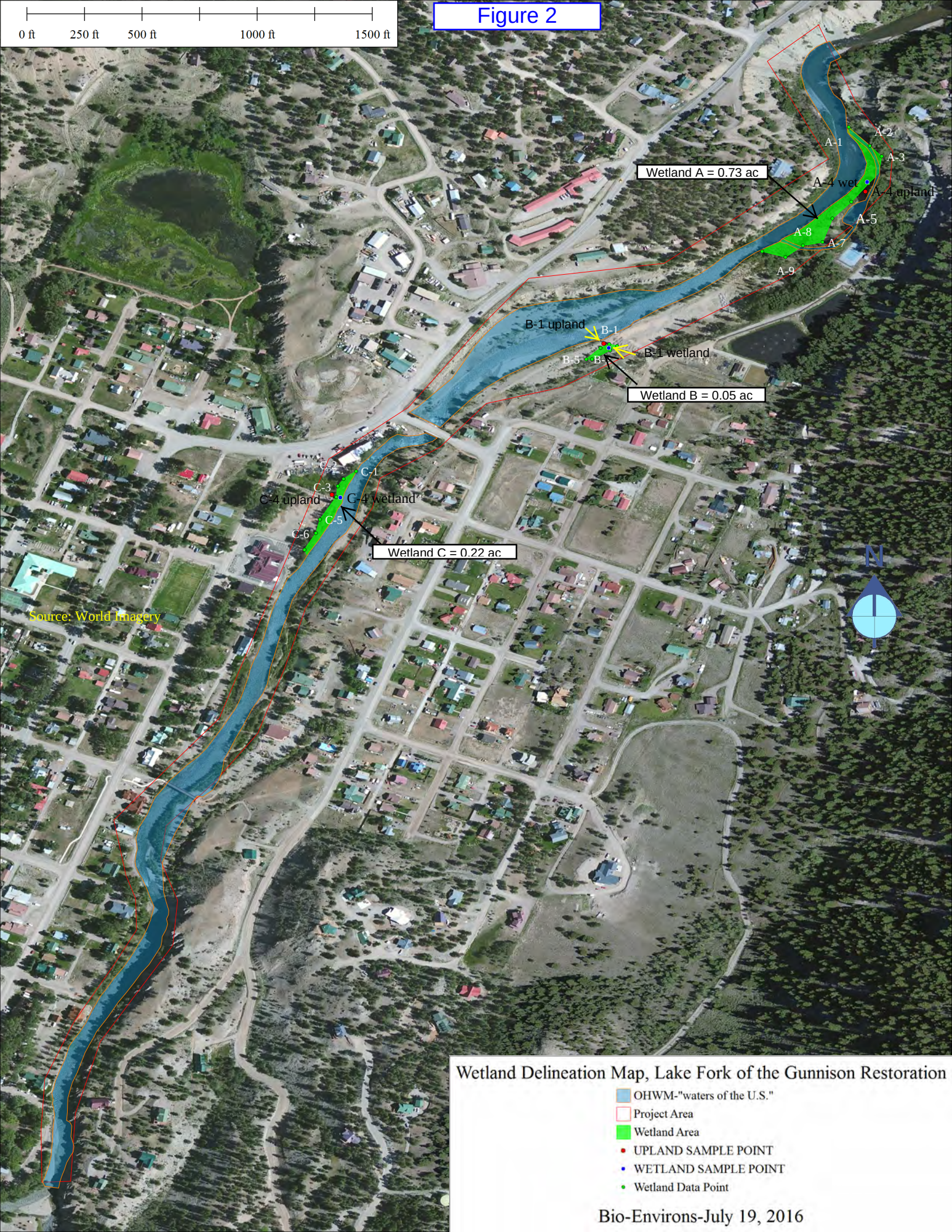


Figure 2
0 ft
250 ft
500 ft
1000 ft
1500 ft
A-1
A-2
A-3
A-4 wet
A-4 upland
A-5
A-7
A-8
A-9
Wetland A = 0.73 ac
B-1 upland
B-1
B-1 wetland
B-5
B-4
Wetland B = 0.05 ac
C-1
C-2
C-3
C-4 upland
C-4 wetland
C-5
C-6
Wetland C = 0.22 ac
N
Source: World Imagery
Wetland Delineation Map, Lake Fork of the Gunnison Restoration
OHWM-"waters of the U.S."
Project Area
Wetland Area
UPLAND SAMPLE POINT
WETLAND SAMPLE POINT
Wetland Data Point
Bio-Environs-July 19, 2016

Figure 3. NWI Map

U.S. Fish and Wildlife Service

National Wetlands Inventory

Jul 18, 2016

Wetlands

- Freshwater Emergent
- Freshwater Forested/Shrub
- Estuarine and Marine Deepwater
- Estuarine and Marine
- Freshwater Pond
- Lake
- Riverine
- Other

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

User Remarks:

Figure 4. NRCS Soil Map

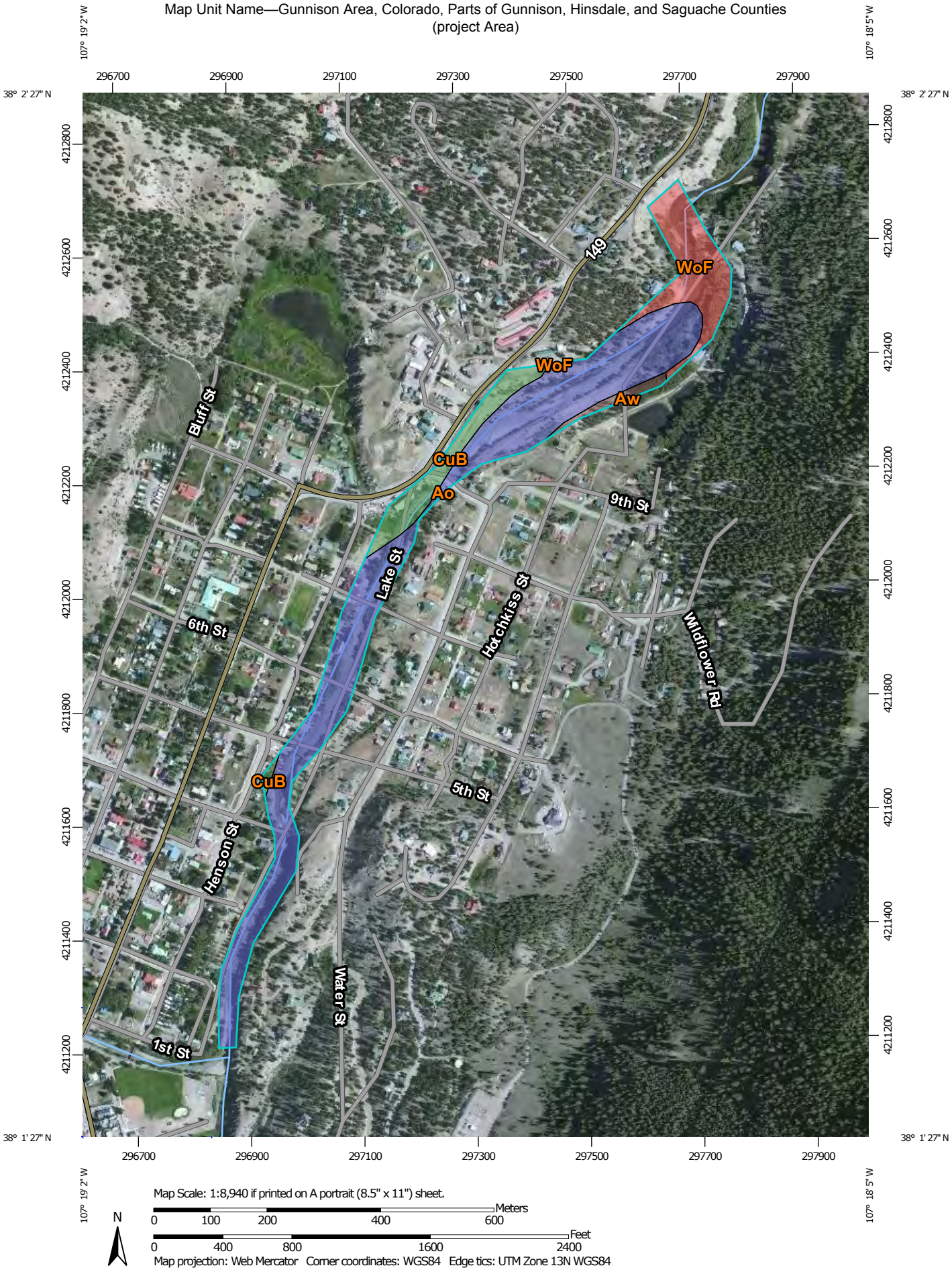


Figure 5. NRCS Soil Description

mat of partly decomposed plant material on the surface. The surface layer is very stony loam. The subsoil is very stony silt loam. The substratum is very stony silt loam several feet thick.

Rockslides consists of loose, angular stone fragments that range in size from gravel to boulders many feet in diameter. It is commonly on very steep upland slopes below Rock outcrop and rimland.

This association is used mostly for grazing sheep. The grazing season is short, commonly no longer than 2 months. The native vegetation is low-growing sedges, alpine bluegrass, moss campion, silver cinquefoil, and alpine willow. Rockslides provides water for lower areas. Winter snow accumulates in crevices between the stones and is slower to melt during spring thaw. Slower melting allows a more even distribution of water to springs and streams.

This association has good potential as habitat for elk, black bear, mountain sheep, ptarmigan, and snowshoe hare. It has good potential as cover for deer and mourning dove, but only fair potential for food.

Descriptions of the Soils

This section describes the soil series and mapping units in the Gunnison Area. Each soil series is described in considerable detail, and then, briefly, each mapping unit in that series. Unless it is specifically mentioned otherwise, it is to be assumed that what is stated about the soil series holds true for the mapping units in that series. Thus, to get full information about any one mapping unit, it is necessary to read both the description of the mapping unit and the description of the soil series to which it belongs.

An important part of the description of each soil series is the soil profile; that is, the sequence of layers from the surface downward to rock or other underlying material. Each series contains two descriptions of this profile. The first is brief and in terms familiar to the layman. The second, detailed and in technical terms, is for scientists, engineers, and others who need to make thorough and precise studies of soils. Unless it is otherwise stated, the colors given in the descriptions are those of a dry soil.

As mentioned in the section How This Survey Was Made, not all mapping units are of a soil series. Rock outcrop, for example, does not belong to a soil series, but nevertheless, is listed in alphabetic order along with the soil series.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the detailed soil map. Listed at the end of each description of a mapping unit is the capability unit, range site, or woodland group to which the mapping unit has been assigned. The page for the description of each capability unit and range site can be found by referring to the Guide to Mapping Units at the back of this survey.

The acreage and proportionate extent of each mapping unit are shown in table 1. Many of the terms used in describing soils can be found in the Glossary at the end of this survey, and more detailed information about the terminology and methods of soil mapping can be obtained from the Soil Survey Manual (*4*).[1]

Alluvial Land

Alluvial land (Ad) is in narrow, winding valleys and on small fans and mountain toe slopes. It consists of an accumulation of valley-fill sediment that was derived from many kinds of rocks and upland soils. Some sediment has been carried for only short distances and has been sorted only slightly. Other sediment has been carried for considerable distances and has been well sorted and stratified. This land is subject to flooding and deposition of new sediment. Slopes are dominantly 0 to 5 percent, but they range to 15 percent.

Little or no soil formation has occurred in most areas. In some areas a thin, dark-colored, generally loamy surface layer has formed. The underlying material is highly stratified. Drainageways that are not protected by adequate plant cover are subject to entrenchment and headcutting. The water table in most areas has been lowered by the entrenchment of drainageways.

Alluvial land is used mainly for range, wildlife, and recreation. The vegetation is commonly grass and mixed stands of big sagebrush and grass. Areas above an elevation of 9,000 feet are forested. Capability unit VIw-3 nonirrigated; Mountain Swale range site.

Alluvial Land, Occasionally Flooded

Alluvial land, occasionally flooded (Ao) is on flood plains along streams and side drainageways. It consists of material recently deposited by streams. It varies widely in texture and commonly has very cobbly or stony areas interspersed throughout. It is subject to erosion from floods and changes in stream channels. Slopes are 0 to 5 percent.

Alluvial land, occasionally flooded, is suited to limited grazing and to wildlife and recreation. In most areas the vegetation is narrowleaf cottonwood, willows, grasses, sedges, and rushes. Small areas are flooded annually and support little or no vegetation. Capability unit VIIw-4 nonirrigated.

Alluvial Land, Wet

Alluvial land, wet (Aw) is commonly on flood plains and in narrow, winding valleys. It consists of deep, very poorly drained, dark-colored, stratified sandy loam to clay loam that was derived from mixed alluvium. Slopes are 0 to 5 percent.

This land receives water from springs and streams. The water table is at the surface or within a depth of 1 foot during most of the year. Organic-matter content is high. Buried surface layers, mottling, and gleying are common in most areas. Numerous stones and cobblestones are on the surface and throughout the soil material.

Alluvial land, wet, is used for range and wildlife. It can be irrigated and used for pasture. It has good plant cover and supports meadow vegetation, willows, and

[1] Italic numbers in parentheses refer to Literature Cited, p. 83.

Figure 5. Continued

Gunnison Area, Colorado, Parts of Gunnison, Hinsdale, and Saguache Counties

WoF—Woodhall extremely rocky loam, 5 to 50 percent slopes

Map Unit Setting

National map unit symbol: jqg3
Elevation: 8,500 to 10,000 feet
Frost-free period: 50 to 70 days
Farmland classification: Not prime farmland

Map Unit Composition

Woodhall and similar soils: 85 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Woodhall

Setting

Landform: Ridges, mountainsides, spurs
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Mountainflank
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Locally transported, rhyolitic gravelly tuff

Typical profile

H1 - 0 to 9 inches: gravelly loam
H2 - 9 to 17 inches: very stony clay loam
H3 - 17 to 30 inches: very stony clay loam
H4 - 30 to 34 inches: unweathered bedrock

Properties and qualities

Slope: 5 to 50 percent
Depth to restrictive feature: 20 to 40 inches to lithic bedrock
Natural drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Very low (about 2.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7e

Gunnison Area, Colorado, Parts of Gunnison, Hinsdale, and Saguache Counties

CuB—Curecanti gravelly loam, 1 to 8 percent slopes

Map Unit Setting

National map unit symbol: jqds
Elevation: 7,700 to 8,500 feet
Frost-free period: 60 to 70 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Curecanti and similar soils: 90 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Curecanti

Setting

Landform: Streams, drainageways, alluvial fans, outwash fans, terraces
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Cobbly loamy alluvium

Typical profile

H1 - 0 to 7 inches: gravelly loam
H2 - 7 to 19 inches: very cobbly sandy clay loam
H3 - 19 to 60 inches: very cobbly sandy loam

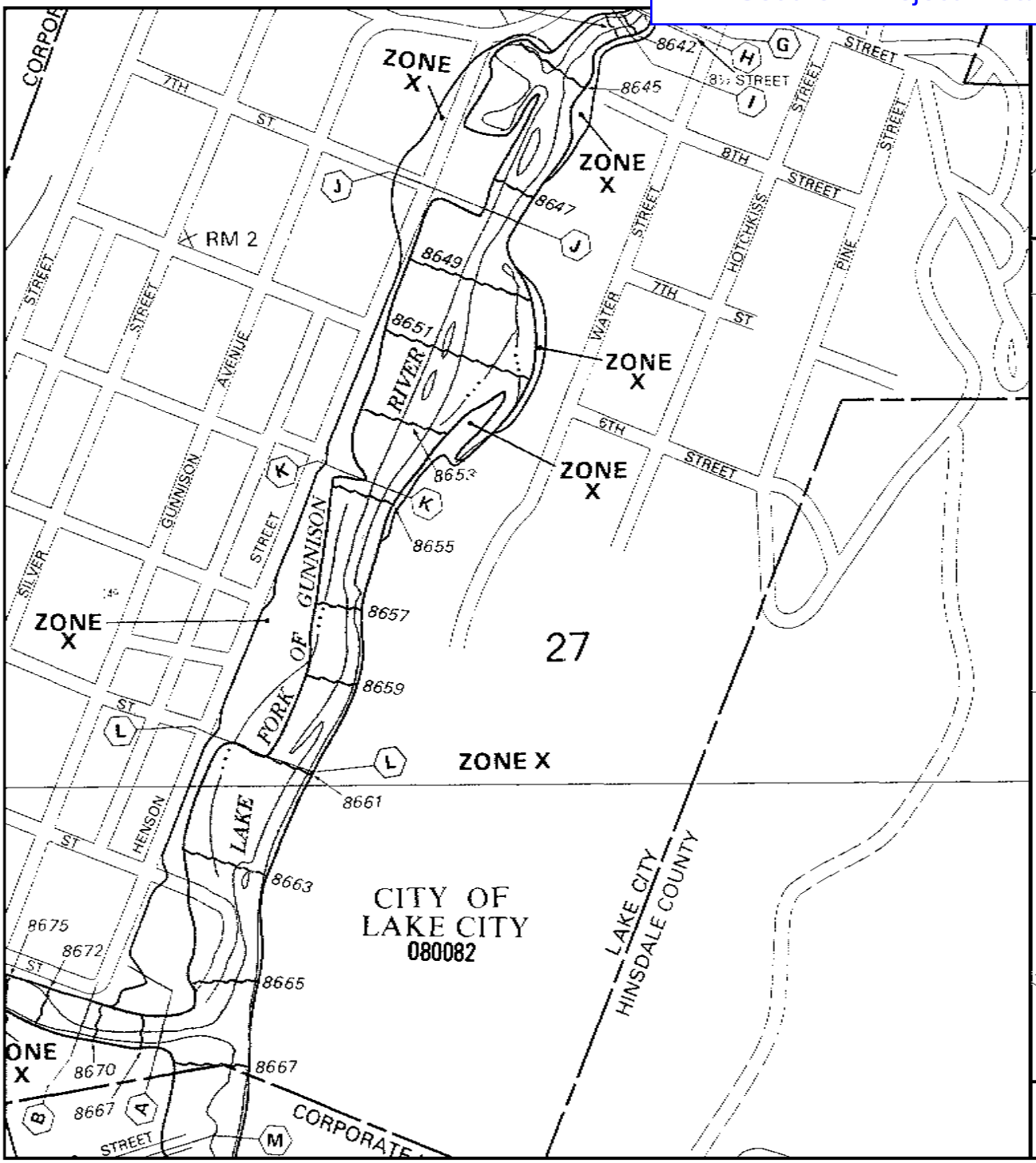
Properties and qualities

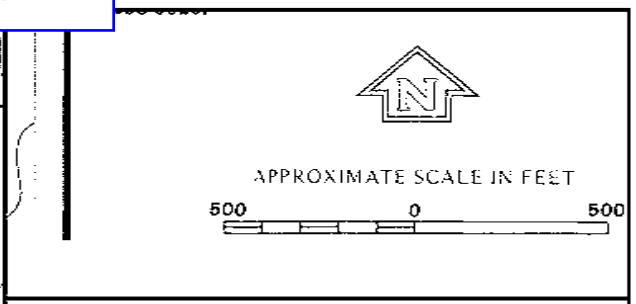
Slope: 1 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high (0.20 to 2.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): 6s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: B

Figure 6a. FEMA Mapping- Southern Project Area





NATIONAL FLOOD INSURANCE PROGRAM

FIRM

FLOOD INSURANCE RATE MAP

HINSDALE COUNTY, COLORADO AND INCORPORATED AREAS

PANEL 103 OF 350

PANEL LOCATION

CONTAINS

COMMUNITY	NUMBER	PANEL	SUFFIX
LAKE CITY, CITY OF	080082	0103	B
UNINCORPORATED AREAS	080081	0103	B

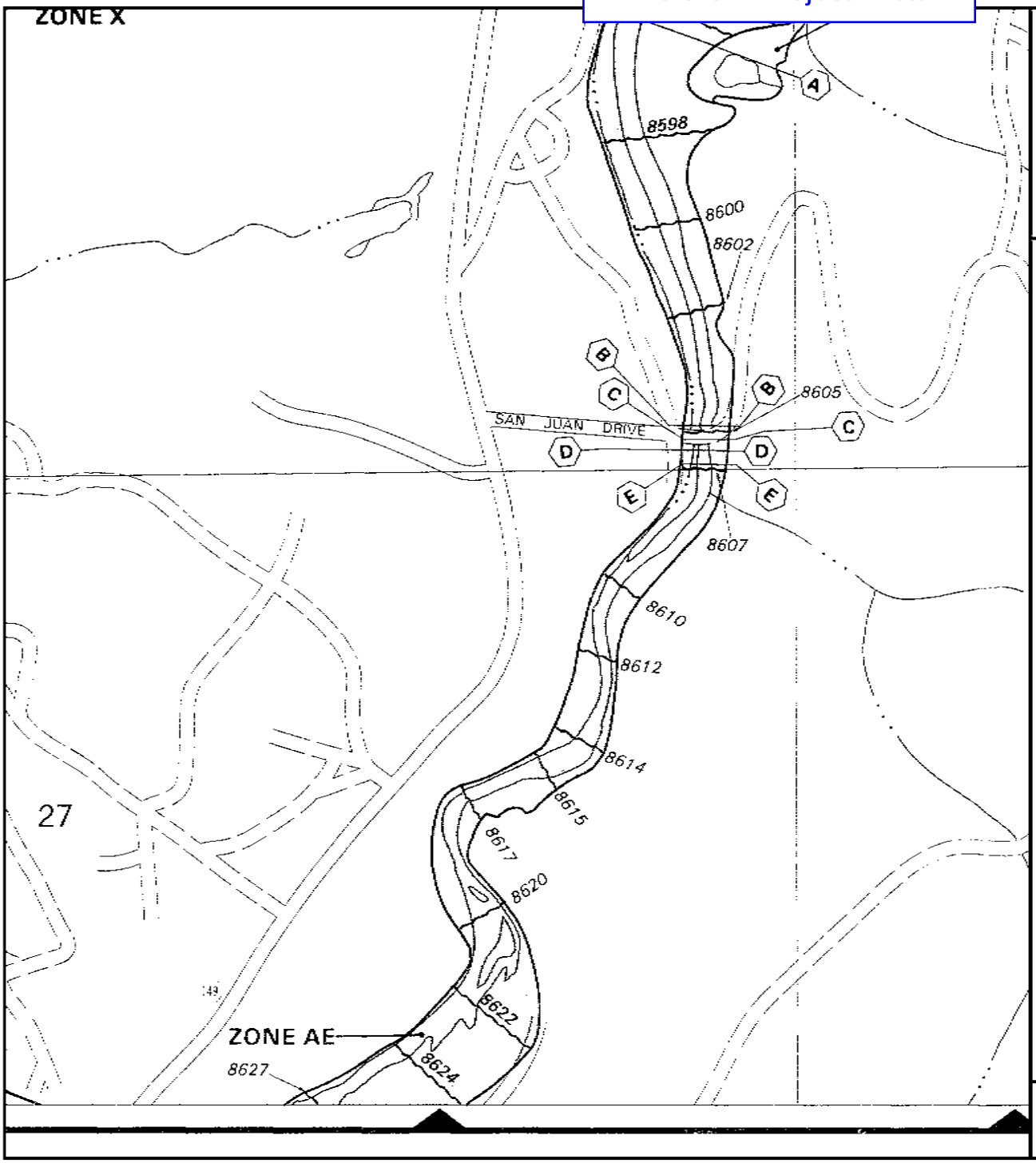
MAP NUMBER
08053C0103 B

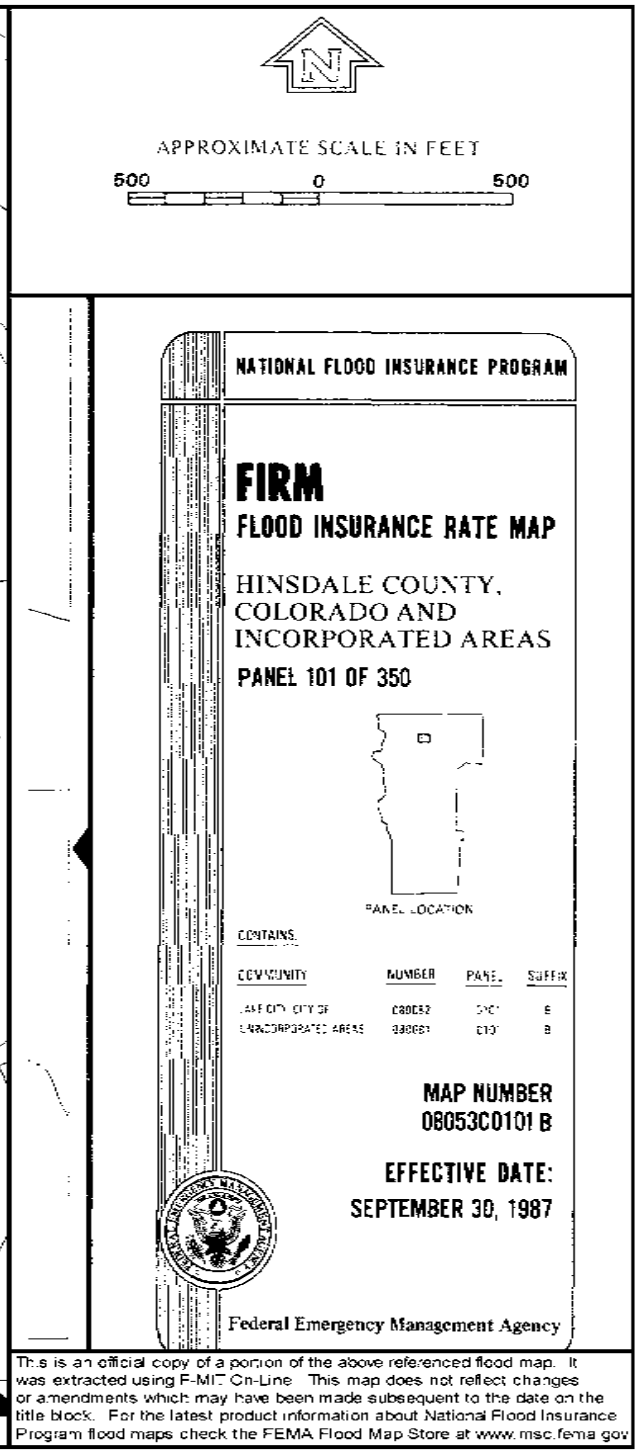
EFFECTIVE DATE:
SEPTEMBER 30, 1987

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Figure 6b. FEMA mapping-Northern Project Area





This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

APPENDIX A

PHOTOGRAPHS

Photograph 1. Photograph taken July 15, 2016 looking north at Sample Pt A-4 wetland (Lake Fork of the Gunnison Restoration).

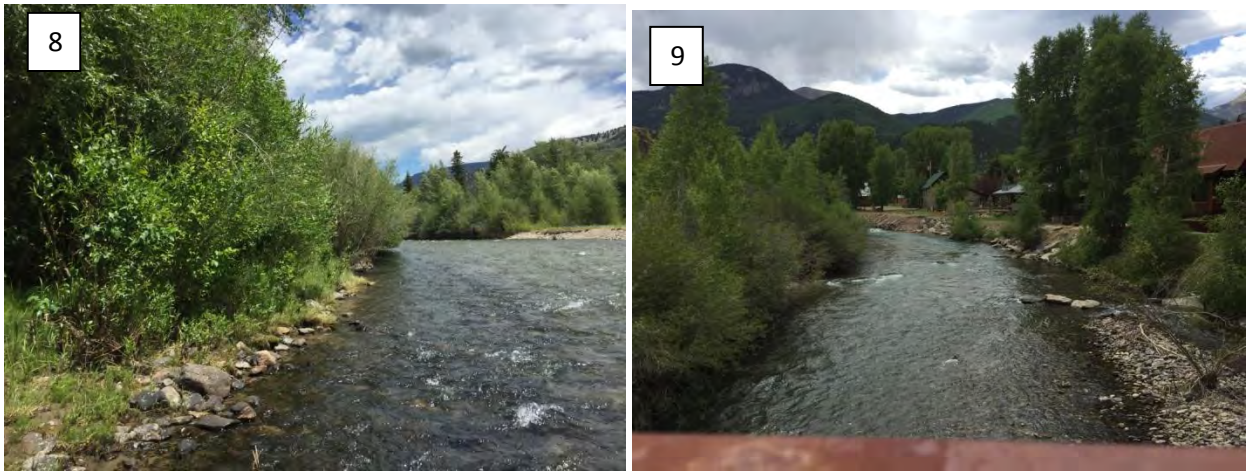
Photograph 2. Photograph taken July 15, 2016 looking west at Sample Pt A-4 upland (Lake Fork of the Gunnison Restoration).

Photograph 3. Photograph taken July 15, 2016 looking south at Sample Pt B-1 wetland (Lake Fork of the Gunnison Restoration).

Photograph 4. Photograph taken July 15, 2016 looking south at from wetland data point C-1 towards Sample Point C-4 wetland (Lake Fork of the Gunnison Restoration).

Photograph 5. Photograph taken July 15, 2016 looking south down the pedestrian Path that is adjacent to Wetland C near Sample Pt C-4 upland (Lake Fork of the Gunnison Restoration).

Photograph 6 and 7. Photographs taken July 15, 2016 looking south up the Lake fork of the Gunnison River towards Lake City, Colorado in the northern portion of the Project Area (Lake Fork of the Gunnison Restoration).



Photograph 8 and 9. Photograph taken July 15, 2016 looking north and south respectively along the Lake fork of the Gunnison River in the southern portion of the study area (Lake Fork of the Gunnison Restoration).

APPENDIX B

DATA SHEETS

Water of US 12' w x 2' deep

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16

Applicant/Owner: Lake Fork Valley Conservancy State: Co Sampling Point: A-4 w

Investigator(s): T. Chapello, L Cudlip Section, Township, Range: Sec 27 T44N R4W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): _____

Subregion (LRR): LRR F Lat: 38.037167402°W Long: -107.304173778°W Datum: WGS 84

Soil Map Unit Name: A0 NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus angustifolia	40	Y	FACW
2. Alnus tenuifolia	10	N	FACW
3.			
4.			
	50 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5m)			
1. Salix exigua	20	Y	FACW
2. Salix bebbiana	1	N	OBL
3.			
4.			
5.			
	21 = Total Cover		
Herb Stratum (Plot size: 1m)			
1. Calamagrostis canadensis	80	Y	FACW
2. Mentha arvense	3	N	FACW
3. Geum	1	N	—
4. Equisetum arvense	1	N	FAC
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: A-4 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y4/2	75	10YR4/6	20	C	PL+M	sand	
0-6		&		5	CS	M	"	
>6							non-soil	cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): sfc

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16

Applicant/Owner: Lake City State: Co Sampling Point: A-4U

Investigator(s): L. Cudlip, T. Capello Section, Township, Range: Sec 27 T44N R4W

Landform (hillslope, terrace, etc.): upper floodplain Local relief (concave, convex, none): convex Slope (%): _____

Subregion (LRR): LRR F Lat: 38.037516287 Long: -107.304754462 Datum: WGS 84

Soil Map Unit Name: IA o NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____ No X	
Wetland Hydrology Present?	Yes _____ No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pseudotsuga menziesii	5	N	UPL
2. Populus angustifolia	30	Y	FACW
3.			
4.			
	35 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Phleum pratense	15	Y	FAC
2. Calamagrostis canadensis	20	Y	FACW
3.			
4.			
5.			
	35 = Total Cover		
Herb Stratum (Plot size: 1 m)			
1. Achillea lanulosa	10	Y	FACU
2. Mentha arvense	10	Y	FACW
3. Equisetum arvense	10	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	30 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: A-4 up

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
20"						non-soil		all cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16

Applicant/Owner: Lake Fork Valley Conservancy State: Co Sampling Point: B-1W

Investigator(s): L. Cudlip, T. Lapella Section, Township, Range: See 27 T44N R4W

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): _____

Subregion (LRR): LRR E Lat: 38.03569697°N Long: -107.30780945 Datum: WGS84

Soil Map Unit Name: AO NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Populus angustifolia	10	Y	FACW
2.			
3.			
4.			
	10 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Populus angustifolia	10	Y	FACW
2. Salix exigua	10	Y	FACW
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 1 m)			
1. Calamagrostis canadensis	90	Y	FACW
2. Eleocharis quinqueflora	10	N	OBL
3. Poa pratensis	5	N	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: B-1W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	75	10YR 4/6	25	C	PL		sandy silty loam
			10YR 3/1	10	CS	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): sfc

Wetland Hydrology Present? Yes X No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16

Applicant/Owner: Lake Fork Valley Conservancy State: Co Sampling Point: B-1U

Investigator(s): L. Cudlip, T. Lapello Section, Township, Range: Sec 27 T44N R4W

Landform (hillslope, terrace, etc.): Flood Plain Local relief (concave, convex, none): Berm Slope (%): –

Subregion (LRR): LRRE Lat: 38.03575759°N Long: -107.35786670°W Datum: WGS 84

Soil Map Unit Name: Ao NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: no vegetation – created cobble bar – flood mitigation – likely placed > 5 yrs ago in association w/ land clearing to north

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	____ = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: ____ (A)

Total Number of Dominant Species Across All Strata: ____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:

no vegetation

SOIL

Sampling Point: B-1U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
							non-soil	cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: no soils present as a result of being a mounded cobble bar

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: well above saturated sfc in adjacent wetland

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16
Applicant/Owner: Lake Fork Valley Conservancy State: Co Sampling Point: C-4W
Investigator(s): L. Cudlip, T. Lapcilo Section, Township, Range: Sec 27 T44N R4W
Landform (hillslope, terrace, etc.): floodplain (adjacent) Local relief (concave, convex, none): flat Slope (%): _____
Subregion (LRR): LRR F Lat: 38.033935548°N Long: -107.309756618°W Datum: WGS 84
Soil Map Unit Name: A0 NWI classification: none
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)
Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____
Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Alnus tenuifolia	20	Y	FACW
2. Populus angustifolia	5	Y	FACW
3.			
4.			
	25 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Salix exigua	5	Y	FACW
2. Populus angustifolia	5	Y	FACW
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: 1m)			
1. Carex utriculata	25	Y	OBL
2. Juncus arcticus	10	N	FACW
3. Glyceria maxima	25	Y	OBL
4. Equisetum arvense	10	N	FAC
5. Juncus ensifolius	10	N	FACW
6. Epilobium	5	N	FACW
7. Agrostis sp	1	N	FAC-FACW
8. Eleocharis quinqueflora	10	N	OBL
9.			
10.			
11.			
	97 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)
Total Number of Dominant Species Across All Strata: 6 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ 5 - Wetland Non-Vascular Plants[1]
___ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: C-4U

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
—							non-soil	cobble

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No X

Remarks: cobble/boulder - slope of upper terrace

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Lake Fork Restoration City/County: Hinsdale Sampling Date: 7/15/16

Applicant/Owner: Lake Fork Valley Conservancy State: Co Sampling Point: C-4up

Investigator(s): L. Cudlip, T. Lapello Section, Township, Range: Sec 27 T44N R4W

Landform (hillslope, terrace, etc.): slope Local relief (concave, convex, none): none Slope (%): 40

Subregion (LRR): LRR F Lat: 38.03395905°N Long: -107.31109330°W Datum: WGS 84

Soil Map Unit Name: Ao NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No \	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____ No X	
Wetland Hydrology Present?	Yes ____ No X	

Remarks: pt on slope adjacent to graveled path. top of slope is upper dry terrace; community garden & trail adjacent to riverside wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: ____)			
1. Agropyron	50	Y	UPL
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species ____	x 1 = ____
FACW species ____	x 2 = ____
FAC species ____	x 3 = ____
FACU species ____	x 4 = ____
UPL species ____	x 5 = ____
Column Totals: ____ (A)	____ (B)

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ 5 - Wetland Non-Vascular Plants[1]
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: vegetated slope of upper terrace

SOIL

Sampling Point: C-4 W

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 3/1	10	10YR 4/6	30	C	PL		sandy loam
			10YR 2/1	60	CS	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

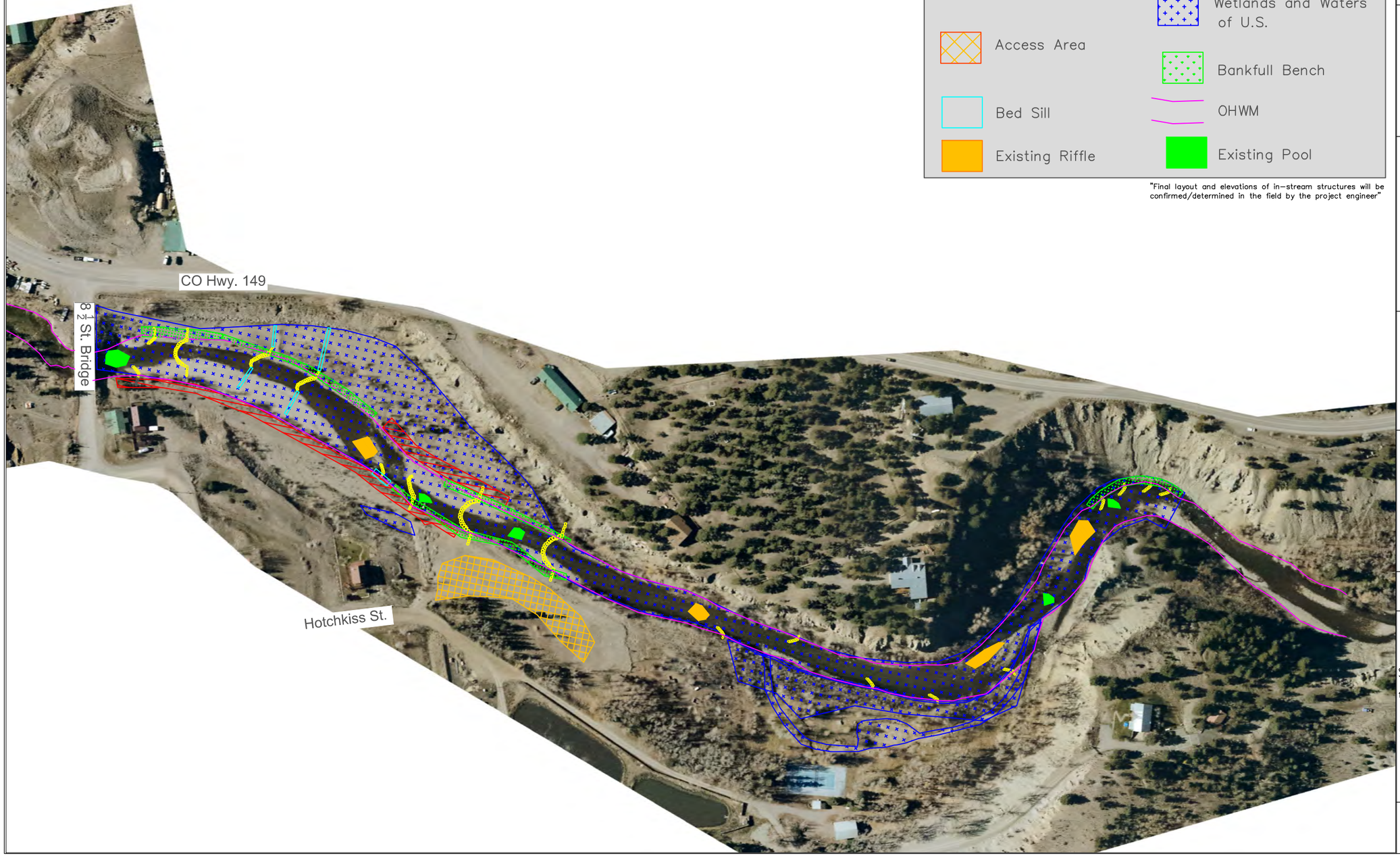
Water Table Present? Yes X No ___ Depth (inches): 6

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): surface

Wetland Hydrology Present? Yes X No ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Legend

- Vane
- Cross–Vane
- J–Hook
- Levee Removal
- Wetlands and Waters of U.S.
- Access Area
- Bankfull Bench
- Bed Sill
- OHWM
- Existing Riffle
- Existing Pool

"Final layout and elevations of in–stream structures will be confirmed/determined in the field by the project engineer"

REV.	DESCRIPTION	DATE	APR.

PROJECT ID

Lake Fork of the Gunnison River Phase 2

PREPARED BY:

HYDROGEO DESIGNS

320 Charles St.
Buena Vista Co. 81211

PREPARED FOR:

Lake Fork Valley Conservancy
Lake City Co.

Lake Fork Valley Conservancy

N

Date: 8/6/2016

SCALE: 1" = 200 ft.

100 0' 100 200
SCALE IN FEET

SHEET NUMBER
1 OF 1

LIMITED-RESULTS CULTURAL RESOURCE SURVEY FORM

This form (#1420) is for small scale limited results projects - block surveys less than 160 acres with linear surveys under four miles. Additionally, there should be no sites and a maximum of four Isolated Finds. This form must be typed.

I. IDENTIFICATION

1. Report Title (include County): Cultural Resource Inventory for the Lake Fork of the Gunnison River Project, Hinsdale County, Colorado.
2. Date of Field Work: August 5, 2016
3. Form completed by: Abbie L. Harrison Date: August 8, 2016
4. Survey Organization/Agency: Alpine Archaeological Consultants, Inc.
   Principal Investigator: Kimberly Redman
   Principal Investigator's Signature: Kimberly J. Redman
   Other Crew: Abbie L. Harrison
   Address: 900 S Townsend/P.O. Box 2075 Montrose, CO 81402
5. Lead Agency / Land Owner: Corps of Engineers (COE) / Private
   Contact: N/A
   Address: N/A
6. Client: Lake Fork Valley Conservancy
7. Permit Type and Number: State of Colorado Permit No. 2016-7
8. Report / Contract Number:
9. Comments:

II. DESCRIPTION OF UNDERTAKING / PROJECT

10. Type of Undertaking: Proposed fisheries habitat-improvement features installed on the Lake Fork of the Gunnison River in Lake City, CO.
11. Size of Undertaking (acres): 7.1
    Size of Project (if different): 7.1
12. Nature of the Anticipated Disturbance: Lake Fork Valley Conservancy plans to develop and construct fisheries habitat-improvement features along and within the Lake Fork of the Gunnison River including: removal of a levee, development of bankful benches and channels, shaping of point bars, construction of vanes, cross-vanes, and j-hooks, construction of bed sills and riffles, pool excavations, and willow transplants.
13. Comments: The surveyed parcel is on privately owned lands.

III. PROJECT LOCATION

Please attach a photocopy of USGS Quad. clearly showing the project location. The Quad. should be clearly labeled with the Prime Meridian, Township, Range, Section(s), Quad. map name, size, and date. Please do not reduce or enlarge the photocopy.

14. Description: Cultural resource inventory of a 7.1 acre river corridor

15. Legal Location: Quad. Map: Lake City Date(s): 1982 Principal Meridian: New Mexico

NOTE: Only generalized subdivision ("quarter quarters") within each section is needed

Township: T44N Range: R4W Sec.: 27 1/4s ___ ___ NE NE ;

T44N Range: R4W Sec.: 27 1/4s ___ ___ SE NE ;

T44N Range: R4W Sec.: 27 1/4s ___ ___ NW SE;

If section(s) is irregular, explain alignment method:

16. Total number of acres surveyed: 7.1 acres

17. Comments:

IV. ENVIRONMENT

18. General Topographic Setting: River corridor

Current Land Use: Watershed

19. Flora: Grasses, willows, cottonwoods, and forbs

20. Soils/Geology: River cobbles and shale cliff slopes

21. Ground Visibility: 20–100%

22. Comments:

V. LITERATURE REVIEW

23. Location of File Search: Colorado Office of Archaeology and Historic Preservation's online site database, Compass.
Date: 08/04/2016

24. Previous Survey Activity

In the project area: There are no previous surveys within the project area.

In the general region: There have been two BLM surveys within Section 27.

III. LITERATURE REVIEW (continued)

25. Known Cultural Resources: No previously recorded cultural resources are within the 7-acre survey parcel. Although the project area is at the northern end of the Lake Historic District (5HN68), which contains 169 documented historic properties and structures, the actual project area is outside and north of the Historic District. An unrecorded historical cemetery, plotted on the Lake City USGS quadrangle map, is adjacent to and west-northwest of the survey area, but does not intersect the survey area.

26. Expected Results: Because of the small project size, coupled with the disturbed nature of the project area along the river corridor, no cultural sites or isolated finds were expected to be found during the inventory.

VI. STATEMENT OF OBJECTIVES

27. Objectives: The primary objective of the cultural resource survey was to identify and assess the cultural resources in the project area and to evaluate their significance under applicable federal cultural resource laws. This process is intended to aid in the preservation of significant cultural resources, either by providing boundaries that can be avoided or by facilitating a thorough understanding of a site's components in advance of the creation of adequate mitigative strategies. This objective was accomplished, first, by conducting a site file search and, second, by conducting an intensive pedestrian survey of the project area.

VII. FIELD METHODS

28. Definitions: Site Sites were to be defined as 10 or more artifacts exceeding 50 years old in a discrete pattern or a feature with five or more artifacts.

IF Loci with 10 or fewer artifacts that do not indicate discrete human patterning were to be defined as isolated finds.

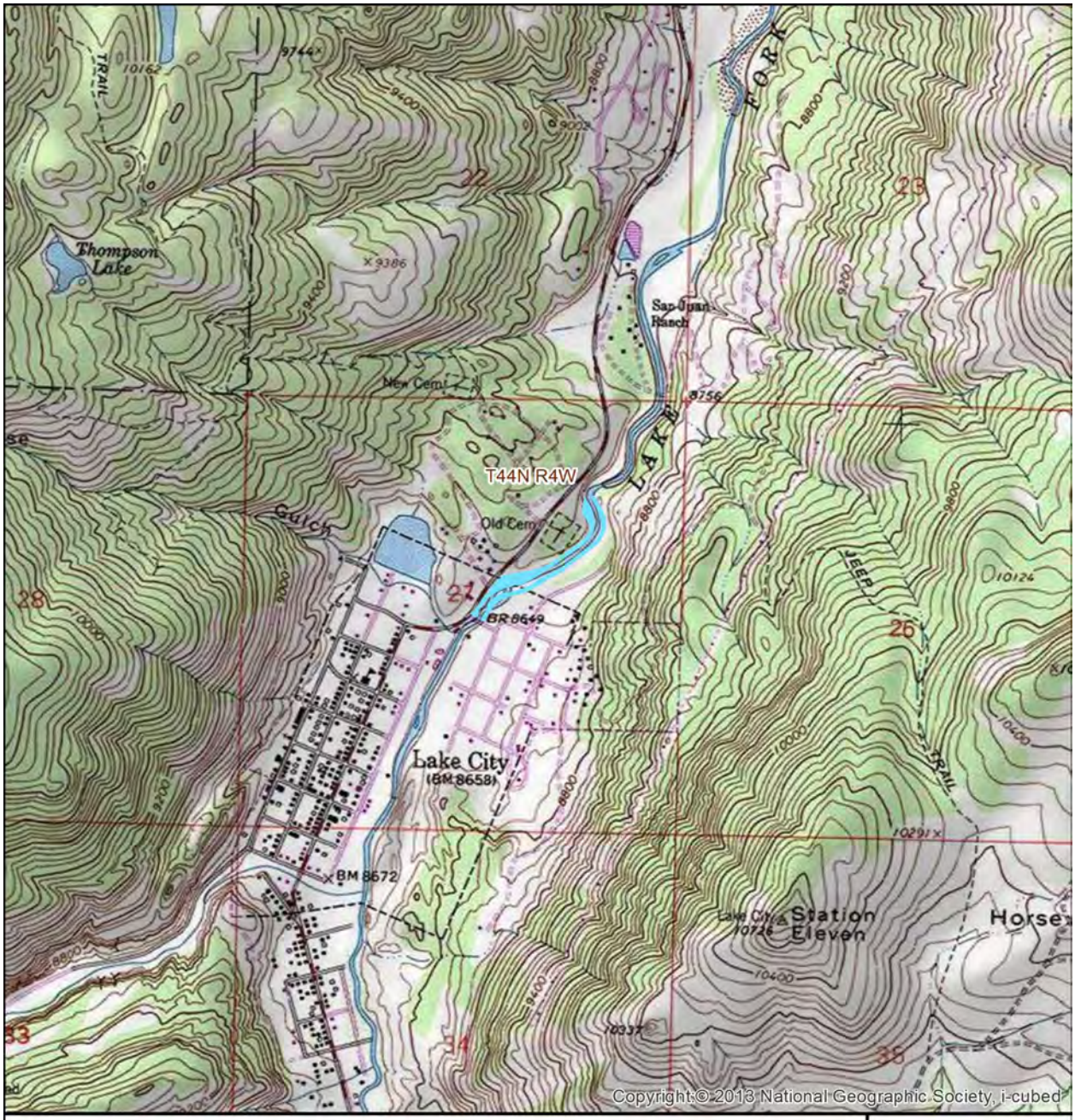
29. Describe Survey Method: The project area was inventoried at 15-m (50-foott) intervals.

VIII. RESULTS

30. List IFs if applicable. Indicate IF locations on the map completed for Part III.
    A. Smithsonian Number: _____ Description: _____
    B. Smithsonian Number: _____ Description: _____
    C. Smithsonian Number: _____ Description: _____
    D. Smithsonian Number: _____ Description: _____

31. Using your professional knowledge of the region, why are there none or very limited cultural remains in the project area? Is there subsurface potential?

    The surveyed area consists of an active, heavily disturbed floodplain, thus the presence of cultural remains and any subsurface potential in this location is low.



Lake Fork Gunnison Project Area

Inventory Area

Colorado

ALPINE ARCHAEOLOGICAL CONSULTANTS, INC.

0.5 0 0.5 1 1:24,000

Kilometers

2,500 0 2,500

Feet

USGS Topo Map: Lake City

N

Stagecoach-era Ads

Ad Men of the Toll Roads

The sign across the road at the base of the cliff reads "VISIT ED NATHAN FOR CLOTHING, DEL NORTE." Ed and his brother Nathaniel founded the Nathan Bros. clothing emporium in 1874 in Del Norte, eventually expanding to other Colorado boom towns such as Leadville and Lake City. Their market saturation and aggressive outdoor advertising made them well known to travelers through the San Juans during the 1870s. This is one of several advertisements found along the cliffs of Henson Creek. Can you find others?


Photo courtesy of Lake Fork Valley Conservancy 2017

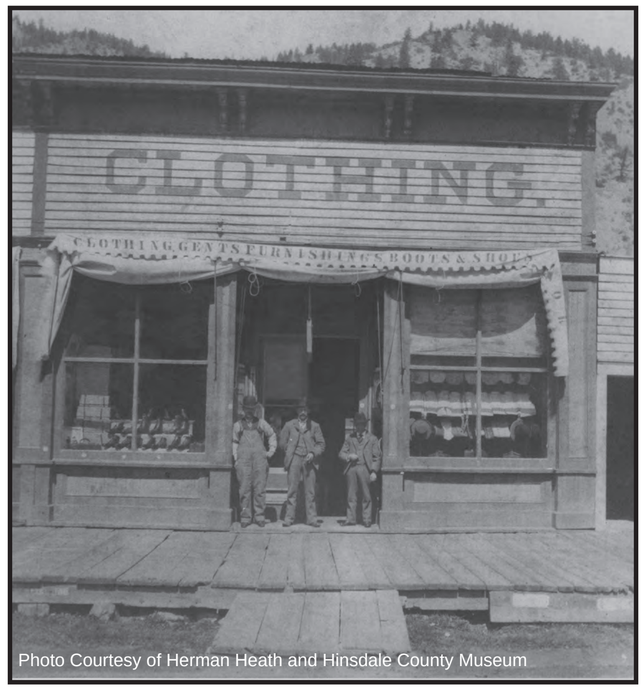


Photo Courtesy of Herman Heath and Hinsdale County Museum

Pioneer Lake City businessman Louis Kafka, left, outside his "O.K." clothing emporium with an unidentified man and Pat McPolin, right.

Leave No Trace

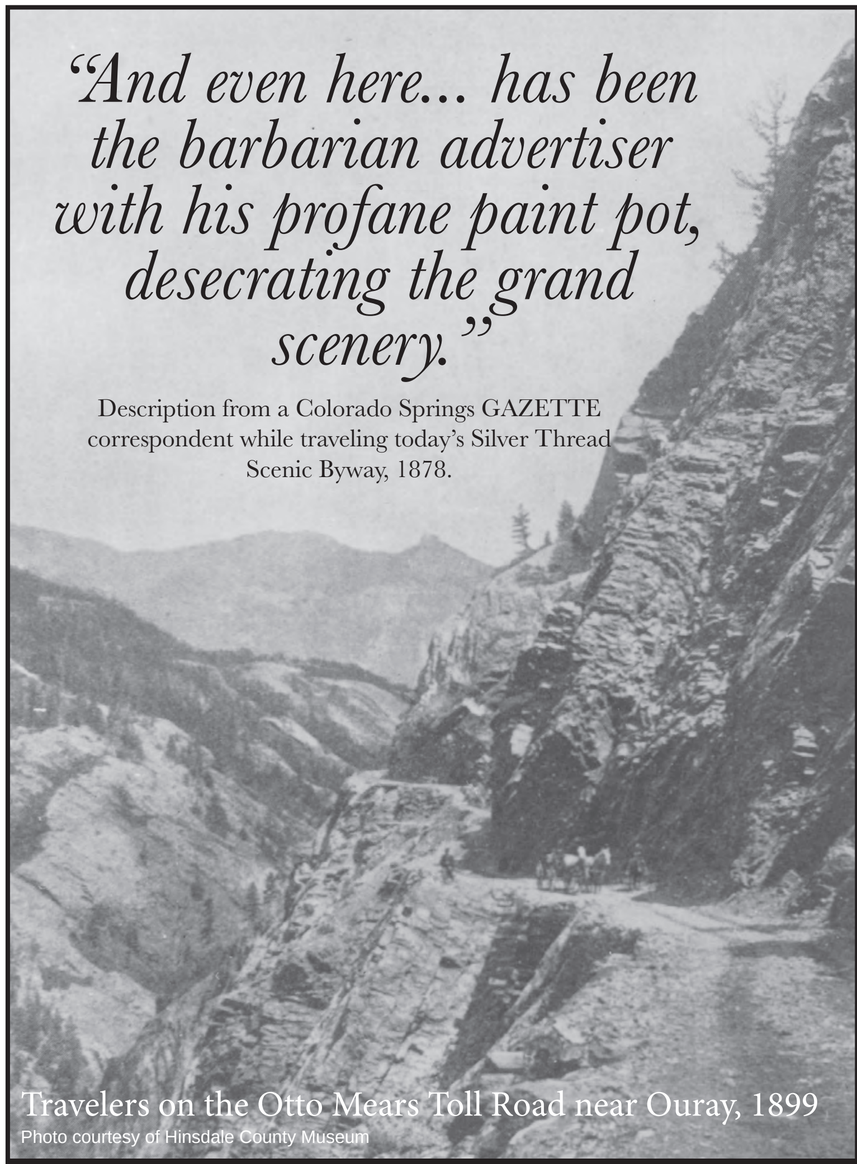
This ad has survived more than 100 years because it was created with lead-based paint. Before lead was known to be toxic, it was added to paint to speed up drying and increase durability. If created today, this ad would be considered an environmental hazard and vandalism of public property.

Instead of leaving a mark that may harm humans, animals, and plants, we can practice seven Leave No Trace principles that will help keep our world healthy. Can you name three? (See Guide Book)

Henson Creek Canyon was once part of the Lake City and Uncompahgre Toll Road, which was created in the 1870s to connect mines on upper Henson Creek between Lake City and Ouray. Painting ads onto natural features may have been a common practice in the Colorado Territory from the 1860s through the end of the 19th century, but it was still controversial.

"And even here... has been the barbarian advertiser with his profane paint pot, desecrating the grand scenery."

Description from a Colorado Springs GAZETTE correspondent while traveling today's Silver Thread Scenic Byway, 1878.


Travelers on the Otto Mears Toll Road near Ouray, 1899
Photo courtesy of Hinsdale County Museum

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County · National System of Public Lands, U.S. Department of the Interior, Bureau of Land Management

The Alpine Loop

From Rough Toll Road to Scenic Byway

Looking up Henson Creek Canyon toward T Mountain, circa 1919. Note the width of Henson Creek and the telephone infrastructure.

The road ahead is known today as the Alpine Loop Scenic Byway, which crosses Engineer and Cinnamon Passes. It is one of 26 such byways in Colorado and follows the path of historic roads built in the 1800s to ferry supplies to and from remote mining camps. These camps grew like weeds through the San Juan Mountains at this time.

In Lake City's Mining District alone, the U.S. Land Office documented some 5,000 mine sites. Mining camps sprang up around these sites and vied for prominence.

Navigating the Mountains

Mobility was the greatest hurdle for young mountain towns, so residents got creative with their modes of transportation. Daily stagecoaches connected towns along the Loop in fair weather. When weather turned bad, however, travelers favored surefooted mules or skis. Sometimes snow made roads impassable even in summer.

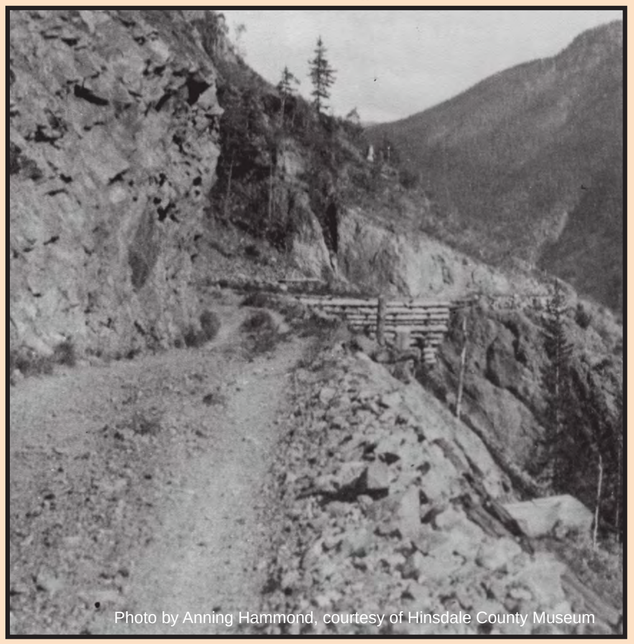
What is your favorite way to travel through the mountains?

On Foot? On horseback? By Train? By ATV?

A group on an outing to Capitol City.

"Mr. Nell with a side party attempted to go from Lake City to Ouray via Henson Creek and the trail over the range, but found the snow near the summit too soft and deep to make passage, and was forced to return and follow the wagon road."

Report of Chief Engineers, 1879



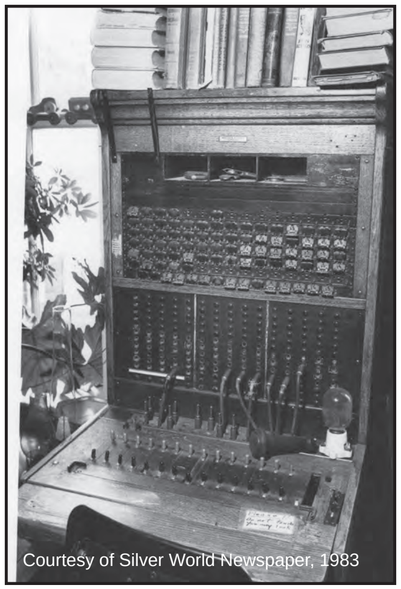
The Shelf Road on the way to Lake City from Cinnamon Pass in the Upper Lake Fork. The rough, backcountry path winds through 65 miles of tundra and past five of Colorado's "Fourteeners", to connect Lake City with the Victorian mining towns of Ouray and Silverton, then back via Engineer Pass.

Download guidebook at www.lfvc.org or pick up a hard copy at the Chamber of Commerce.

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County · National System of Public Lands, U.S. Department of the Interior, Bureau of Land Management

Lake City Calling!

From Telephone Concerts to an "18 Karat Fraud"


Courtesy of Silver World Newspaper, 1983

The first telephone line connecting Lake City with Ouray and Silverton was built along Henson Creek by D.W. Bates of the Colorado Telephone Company. The line only relayed business news and distress calls until October 9, 1881, when residents began using it for musical concerts.

The concerts continued though the winter of 1881-1882, but the line was in shambles by 1883. One resident wrote a letter in the Silver World to Colorado Telephone Co. Superintendent Frederick Vaille, calling the line "an 18 karat fraud" because it was "out of order for nearly 16 miles."

Staying Connected

Look at the canyon wall to see an iron support for telephone wires that was installed in 1906. This structure is what remains of W.C. Blair's second attempt at a telephone line, and represents the ongoing struggle to bring modern communication to the most remote county in the Continental U.S.

How do you balance the need to "get away from it all" with the need for reliable methods of communication vital to safety and economic success?

Telephone lines running through Capitol City in 1916. Photo by Florence Baker Heald.

"Mr. Bates was at the Lake City instruments, and Mrs. Lee at those at her residence in Capitol City. They sang several duets and then Mr. Bates called Rose's, Silverton and Ouray stations...

[Seven respondents] sang several popular songs and so accurately, too that it seemed as if all were singing by note from one book."

The Lake City Silver World described a telephone concert on October 9, 1881, the first of many during the winter of 1881-1882.

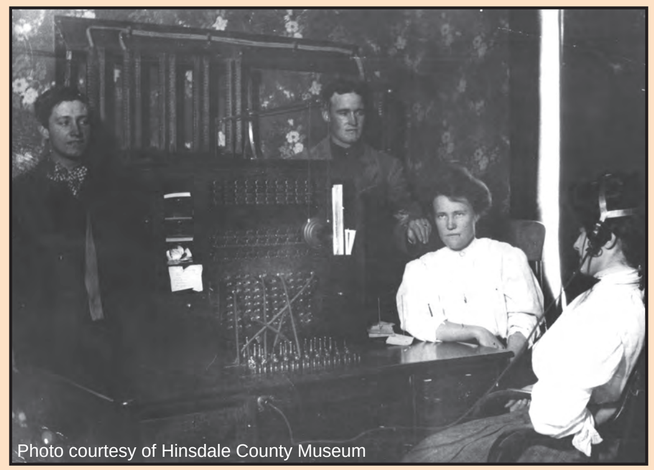


Photo courtesy of Hinsdale County Museum

Lake City switchboard operators in the 1890s.

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Lake City Beer Garden

A Proper Pleasure Spot

Cy Biederman and Fred Hilgenhaus capitalized on this refined natural setting by building a beer garden here in June 1878. At the time, Lake City's mining and resupply industry supported a population of 3,000-5,000, who already caroused at two breweries and at "Hell's Acre" District with 20 saloons, dance halls, and brothels.

The beer garden distinguished itself with elegant grounds and good service that reportedly attracted "high-class clientele". Visitors enjoyed the garden until 1885, when the owners dissolved their partnership after a spring flood destroyed the garden.

Nature's Living Room

Here, just a half-mile from town, the canyon widens, allowing stones carried by floodwaters to collect and form an open bank perfect for riverside recreation.

This natural living room has been popular for more than a century. Imagine your favorite riverside hangout.
How will it be used in 100 years?

Photo by Barnhouse and Wheeler

"Patriotism and beer flowed freely..."

...at the garden's first 4th of July party in 1878. Holiday celebrations were part of a busy calendar of events at the beer garden, including Sunday concerts and dancing.

Lake City Silver World, 1878

Photo courtesy of Margaret Cummings Brown and Hinsdale County Museum

Not all public entertainment venues shared the Beer Garden's spotless reputation. The San Juan Central dance house was notorious for frequent fights and shootings, which earned it the reputation as "one of the vilest places in the San Juan".

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County · National System of Public Lands, U.S. Department of the Interior, Bureau of Land Management

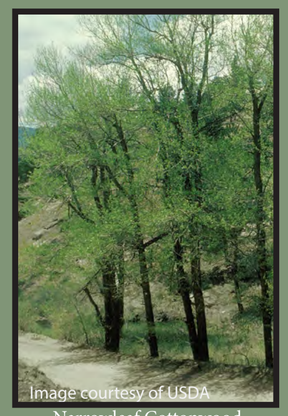
A Riparian Community

What is a Riparian Area?

A riparian area is the transition from uplands, where there is rarely standing water, to streams, rivers, and lakes where free-flowing or standing water is common.

The Lake Fork of the Gunnison River and Henson Creek form two riparian areas in our watershed. Because most human activity takes place in the valley bottoms of those waterways, Lake City is a riparian community.

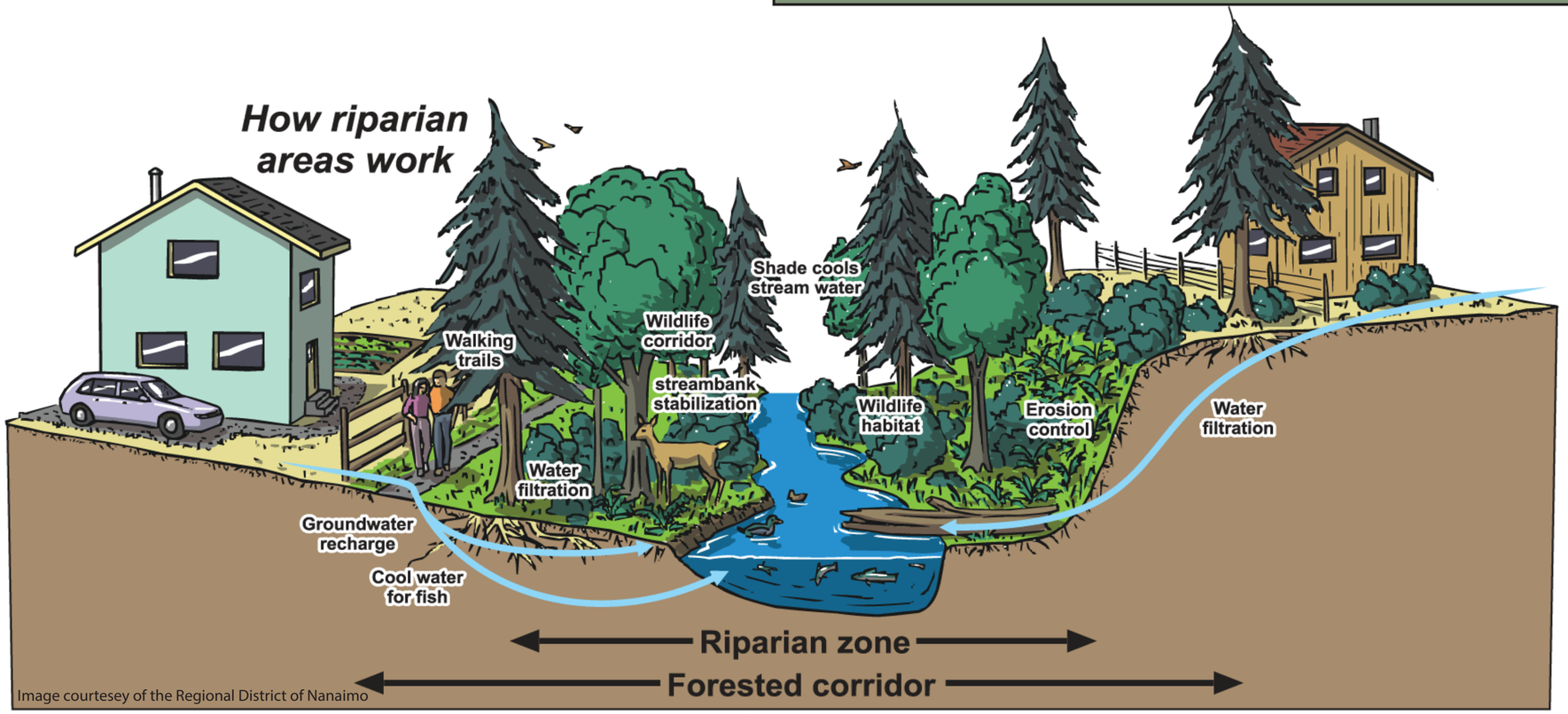
Blue Spruce
Picea pungens



Narrowleaf Cottonwood
Populus Angustifolia

Thinleaf Alder
Alnus incana tenuifolia

These plants comprise a globally rare riparian woodland community that thrives along Henson Creek and the lower Lake Fork. What plants and animals are unique to the place where you grew up?



Riparian areas provide critical wildlife habitat and improve water quality. Riparian plants prevent erosion and filter out pollutants such as phosphorous and sediment, while the shade they create keeps water cool for ideal trout habitat.

"Riparian areas comprise less than one percent of the land area of most western States, yet up to 80 percent of all wildlife species in the region... are dependent upon riparian areas for at least part of their life cycles."

Robert H. Wayland III, EPA Congressional Testimony from June 26, 1997.

The federally endangered Southwestern Willow Flycatcher nests in thickets and brush often found in riparian areas. They are threatened by alteration and loss of habitat.

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District · Town of Lake City · Hinsdale County

Water Delivery by Ditch

FROM MAY TO OCTOBER, the head gate in front of you diverts water from Henson Creek to the Town of Lake City via a ditch first constructed in 1877, to augment existing wells in town. The ditch you see here was part of an elaborate network that once fed homes and businesses along town streets (visible in the photo below).

The ditches along Bluff Street, Silver Street, and Gunnison Avenue were decommissioned in the 1960s when the Town of Lake City switched their main water supply to wells, one of which is located downstream at the intersection of Bluff and 1st Streets.

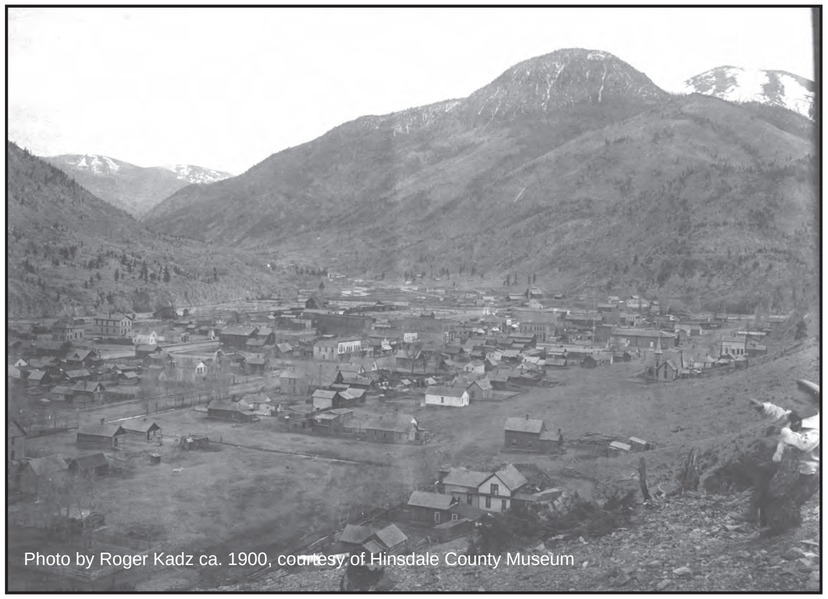
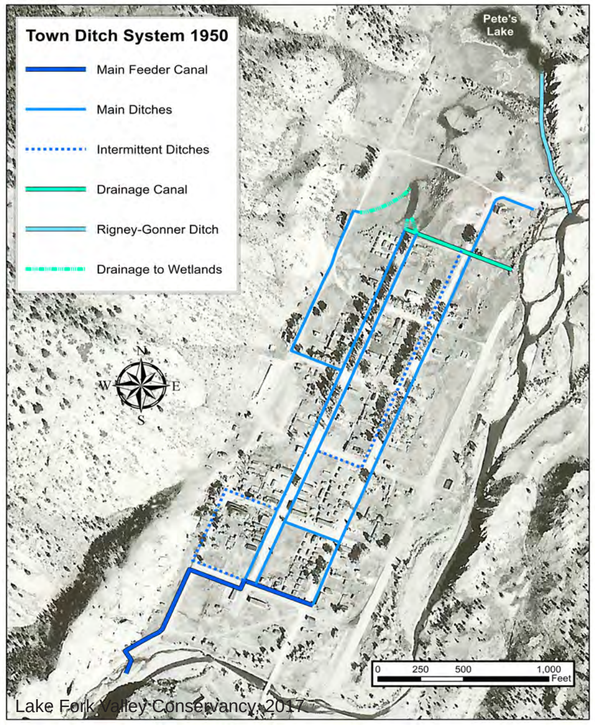


Photo by Roger Kadz ca. 1900, courtesy of Hinsdale County Museum

The Town did not file for an absolute water right for the ditch until May 9, 1973, to divert 1,517 acre feet per year (5 cfs for 5 months). This water is decreed for irrigation, fire protection, commercial and domestic purposes.



Lake Fork Valley Conservancy, 2017

What is a Water Right? The Prior Appropriations Doctrine

Water in Colorado is governed by the Prior Appropriation Doctrine. This is a "first come, first serve" water rights system that determines who gets their allotted water first during shortage periods.

An appropriation happens when someone takes water from its source and puts it to a "beneficial use", such as irrigating crops, mining, or washing dishes (consumptive use), or for environmental or recreational use (non-consumptive). One is able to file for a water right, which is registered as property in Colorado and can be sold separately from the land, provided that it is both physically and legally available.

Photo courtesy of Lake Fork Valley Conservancy

In 2014, the ditch system was renovated as part of the Lake Fork Valley Conservancy and the Town of Lake City's Henson Creek and Lake Fork River Enhancement Project. The partners repaired the head gate and restored flow through the ditch network to enable full use of the Town's water rights.

What is Water Worth?

Henrie & Bolthoff installed Lake City's first waterworks system in 1890 at a cost of $19,000. The Town Trustees then adopted their first system of flat rates. Single-family households with five rooms or less could purchase a year's access to water for $6.

What do you pay for water today?

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County · National System of Public Lands, U.S. Department of the Interior, Bureau of Land Management

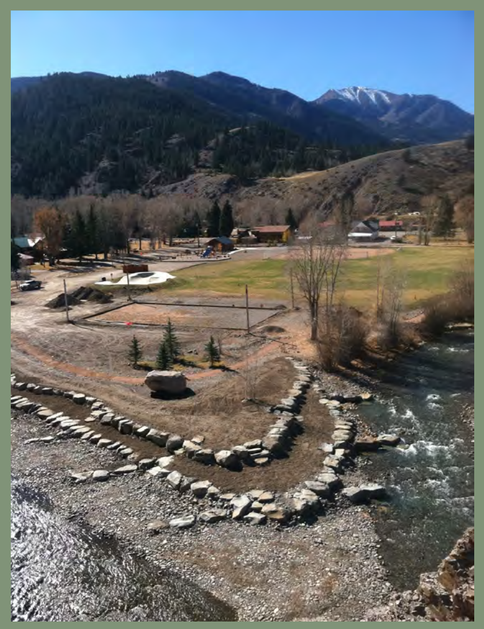
Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Memorial Park Terrace

The River Enhancement Project and the New Terrace

In 2013, the Lake Fork Valley Conservancy and the Town of Lake City broke ground on a multi-phase project to enhance and protect the recreational quality and ecological health of the Lake Fork of the Gunnison River and Henson Creek. Several funding sources* supported the first phase of the project that runs from Pumphouse Park on lower Henson Creek to its confluence with the Lake Fork where the new terrace is located. The Town provided the gazebo and landscaping and the Hinsdale County Trails Commision expanded the trail around the terrace. River improvements continue downstream completing a river recreation corridor that extends throughout the Town of Lake City, providing improved fisheries and recreational opportunities for residents and visitors.

Before and After Terrace Construction



Prior to construction, a gravel bar formed mid-stream, and the banks were eroded and hard to access. This caused gravel and cobble to back up Henson Creek and degrade fisheries habitat. During construction, boulders and fill tied the gravel bar into the bank, and rock terraces were built to stabilize the banks. The terrace expanded usable park space by about 10,000 square feet. Photos courtesy of the Lake Fork Valley Conservancy

*Phase I river corridor improvements have been generously supported by the following entities: Colorado Department of Public Health and Environment, Colorado Water Conservation Board, Colorado Parks and Wildlife, Upper Gunnison River Water Conservancy District, Town of Lake City, Hinsdale County, Hinsdale County Historical Society, Lake Fork Community Foundation, Pioneer Jubilee Women's Club, Bureau of Land Management, and local business and private donors.

Lake Fork Valley Conservancy · Hinsdale County Historical Society · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County

Since the late 1800s, man-made changes to the Lake Fork and Henson Creek have created steep, eroding banks, declining trout habitat, and a shallow, braided channel.

What steps can you take to ensure our rivers stay healthy and beautiful?

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Denver & Rio Grande

The New Narrow Gauge

Residents waited 14 years after Lake City's founding for reliable transportation. Although the Denver & Rio Grande Railroad Company built its Marshall Pass line to Gunnison in 1881, it did not extend the tracks to Lake City until 1889. Creeping along at 12 mph, the train linked the town with the state and nation.

Sportsmen and entrepreneurs rode up the valley, as did food, mining gear and sheep heading to summer pasture. Outbound trains carried ore and cattle raised on ranches along the Lake Fork.

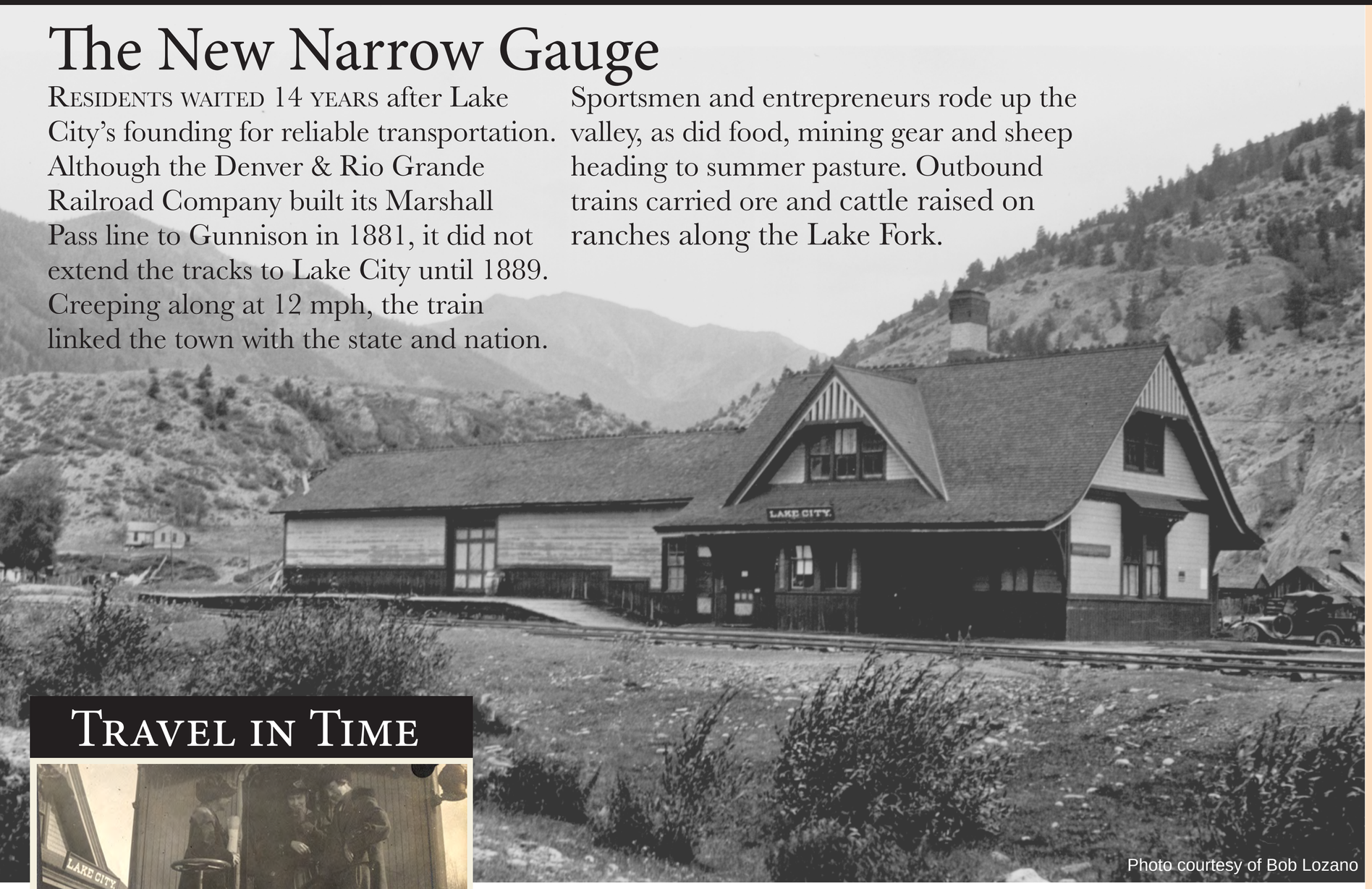


Photo courtesy of Bob Lozano

This view is across the river, upstream of the narrow gauge line's first river crossing where the line exited a bustling railyard. The yard extended along today's Henson Street to the confluence of the Lake Fork and Henson Creek.

Travel in Time

Photo Courtesy of Denver Public Library

The rails were replaced by Highway 149, but the winding route remains much as it was in the mining days.

"The town has awakened from its long sleep; new people and new enterprises are coming in at a rapid rate; outside capital is coming to the rescue, and Lake City is on the eve of a prosperity such as it has never seen before."

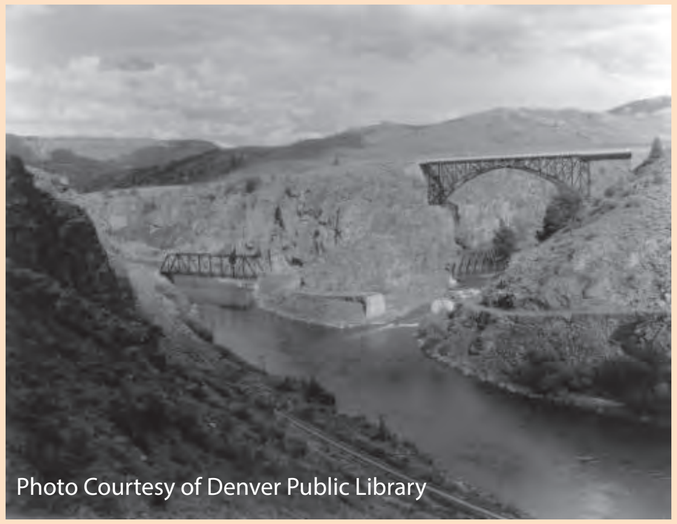


Photo Courtesy of Denver Public Library

The Lake City Branch of the Denver & Rio Grande Railroad had ten major bridges spanning the Lake Fork of the Gunnison River on its 36-mile journey between Lake City and Sapinero, where it joined the Gunnison Line.

Lake Fork Valley Conservancy · Hinsdale County Historical Society (HCHS) · Lake Fork Community Foundation · Upper Gunnison River Water Conservancy District 1959 · Town of Lake City · Hinsdale County

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

The Flood of 1921

Torrents led to Torment

June of 1921 was a wet one. Heavy rain and melting snow transformed Henson Creek and the Lake Fork River into wild torrents. The floodwaters jumped fortified river banks, demolished homes, bridges and water storage tanks, and inundated the Denver & Rio Grande Railroad Depot, destroying the track. This, combined with the decline in mining, led to the demise of the Lake City portion of the railway in the early 1930s.

The 1921 flood is the biggest in Lake City's record and an example of what hydrologists refer to as a 50 year flood. This means there is a one in 50 chance that a flood of that size will occur in any given year.

Extent of floods in Colorado in 1921

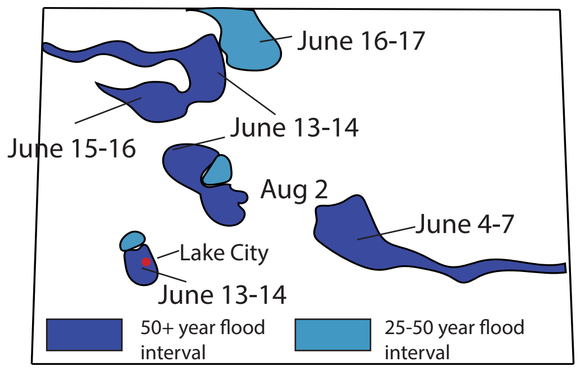
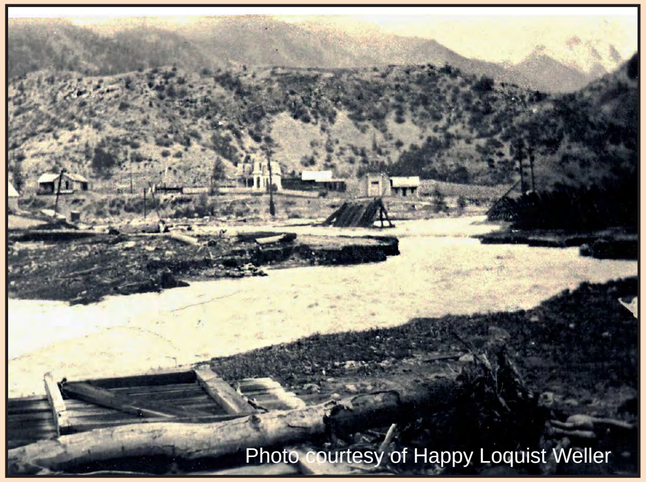


Image derived from USGS, National Water Summary 1988-1989

The Lake Fork flooded what is today known as Henson Street. Back then, train tracks ran down the street to the train depot, which is visible at the far right. This view is looking north. Below is what the area looks like today.

It is easy to forget the important ecological functions of floods, given the havoc they can wreak on human settlements.

How do we design our communities to balance the ecological benefits of floods, with and the economic, cultural, emotional, and physical benefits of living along a waterfront?



A view from the approximate location of the current foot bridge over Henson Creek looking upstream at the remains of the Gunnison Avenue Bridge after the flood.

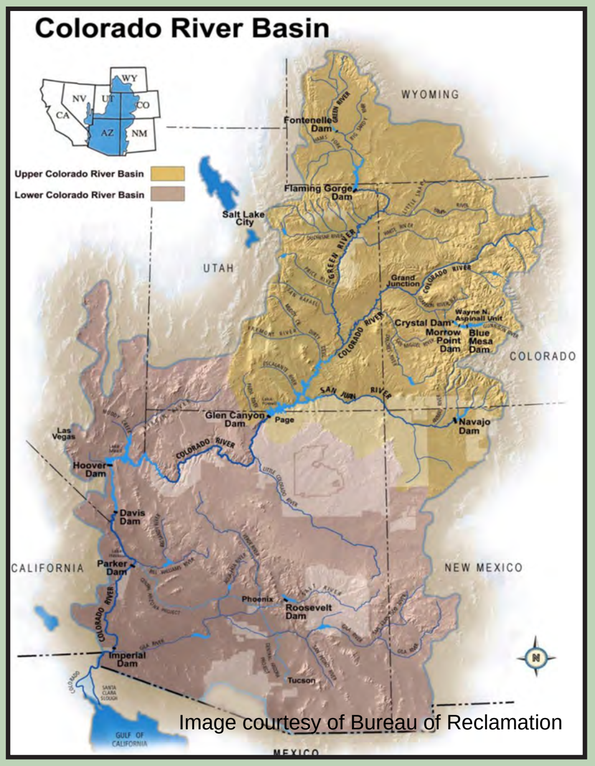
Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Lake Fork Valley Conservancy
Hinsdale County Historical Society
Lake Fork Community Foundation
Upper Gunnison River Water Conservancy District 1959
Town of Lake City
Hinsdale County

What is a Watershed?

"[A watershed is] that area of land, a bounded hydrologic system, within which all living things are inextricably linked by their common water course and where, as humans settled, simple logic demanded that they become part of a community."
- John Wesley Powell

A watershed is the ideal unit for management, intertwining all the elements of culture and landscape.



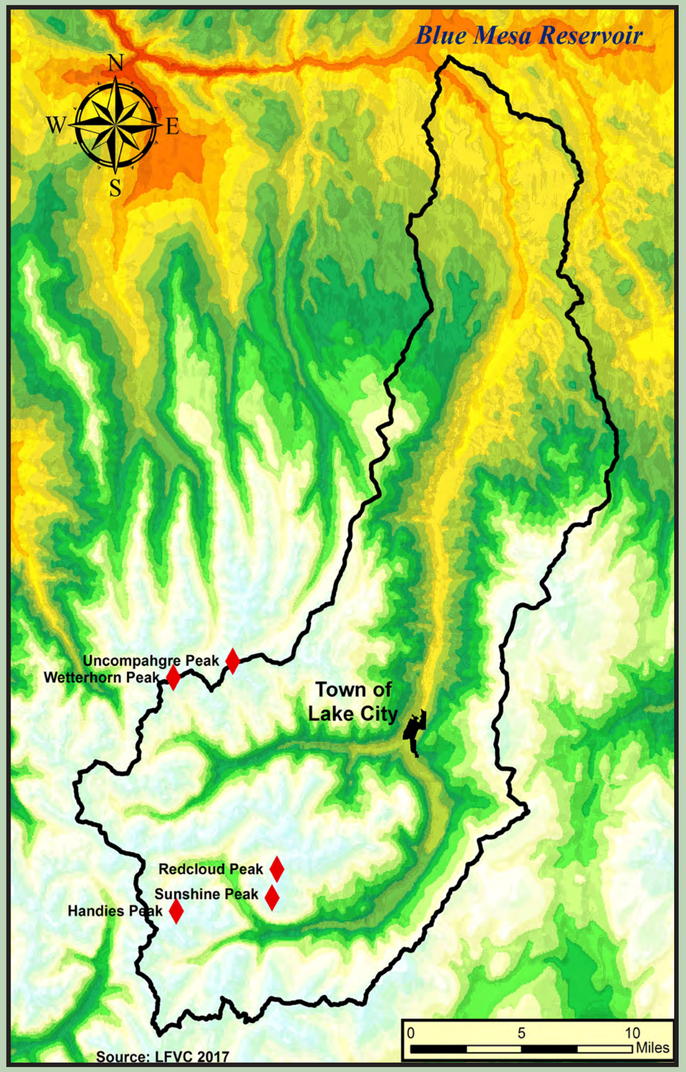
The Colorado River Basin covers about 246,000 square miles, passes through seven states, and provides water to more than 30 million people. Can you find the Lake Fork Watershed?

Download guidebook at www.LFVC.org or pick up a hard copy at the Chamber of Commerce.

Drainage Basins

Watersheds are areas of land where all of the streams, lakes, and rivers drain to one point, like a sink. For those of us in the Lake Fork of the Gunnison River Watershed, this sink is Blue Mesa Resevoir. This makes our watershed part of the larger Gunnison River Basin.

Yearly snowfall provides most of the water in our watershed. The snow that drapes our peaks in winter melts each spring during what is known as "runoff", filling Lake San Cristobal (pictured above), the Lake Fork of the Gunnison River, and Henson Creek.



The Lake Fork of the Gunnison River Watershed is relatively small, encompassing nearly 400 square miles of the Gunnison River Basin, which is more than 8,000 square miles. Both lie within the Colorado River watershed.

Who Lives Downstream?

The network of streams and rivers that drain our watershed also can carry pollution into other bodies of water. Ultimately, this pollution reaches larger rivers and oceans. We all live downstream of someone, something, or some living community. How can we be good neighbors to those who live downstream?

Lake Fork Valley Conservancy
Hinsdale County Historical Society
Lake Fork Community Foundation
Upper Gunnison River Water Conservancy District 1959
Town of Lake City
Hinsdale County

SELF-CONTAINED APPRAISAL REPORT
FOR THE MAIN PROPERTY
LOCATED ON
THE LAKE FORK OF THE GUNNISON RIVER
BETWEEN 9th STREET AND HIGHWAY 149
LAKE CITY, HINSDALE COUNTY,
COLORADO

APPRAISED FOR
Lake Fork Valley Conservancy
Attn: Ms. Camille Richard
Executive Director
PO Box 123
Lake City, CO 81235

The State of Colorado
Colorado Parks and Wildlife

DATE OF VALUATION
January 4, 2016

DATE OF REPORT
January 22, 2016

APPRAISED BY
ARNIE BUTLER & COMPANY
R. Arnold Butler, MAI
Grand Junction, Colorado
TAX IDENTIFICATION NO: 84-1086139

ARNIE BUTLER & COMPANY
Real Estate Appraisers and Consultants
300 Main Street, Suite 301
Grand Junction, Colorado 81501
Phone: (970)-241-2716
Facsimile: 970-241-5653
TIN-84-1086139

R. Arnold Butler, MAI
Certified General Appraiser
Licensed in Colorado and Utah
email-arnie@wic.net

Melinda Schminke
Licensed Appraiser
Kori S. B. Satterfield
Appraisal Associate

January 22, 2016

Lake Fork Valley Conservancy
Attn: Ms. Camille Richard
Executive Director
PO Box 123
Lake City, CO 81235

Ladies and Gentlemen:

In response to your request, I have inspected the Main Property located at the north end of the Town of Lake City between 9th Street and Highway 149. The purpose of the inspection is to complete a UASFLA appraisal and provide an opinion of the present market value for the subject property. The appraisal will address both the Fee Simple Market Value as the property exists today, and as if encumbered by a trail easement along and within the river.

All data used, logic employed and conclusions are subject to the enclosed assumptions and limiting conditions. The appraisal has been completed in conformance to the prevailing guidelines of the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA), the Uniform Standards of Professional Appraisal Practice (USPAP), and in some instances, the UASFLA appraisal guidelines require a jurisdictional exception from the USPAP appraisal requirements. While not specifically addressed within this appraisal, appraisal regulations, as required by the Treasury Regulations, are analyzed in this report due to the impending Conservation Easement that is projected to encumber the property before the Fishing Access Easement. This is a Complete-Self Contained Appraisal Report as required under UASFLA.

(Continued on Page ii)

Based upon my investigation and analysis of the data gathered with respect to this assignment, I have formed the opinion that the present market value of the various interests of the subject property, as of January 4, 2016, are:

Fee Simple Market Value	**$165,000**
Market Value with Trail Easement	**$160,000**
Value of the Trail Easement	**$5,000.00**
Fee Value of Lots 31 and 32	**$5,000.00**

The proposed Access Easement will allow perpetual public access along the river.

Very truly yours,
ARNIE BUTLER & COMPANY

R. Arnold Butler, MAI
Certified General Appraiser
Colorado License No. CG01313160

MAIN PARCEL
SUMMARY OF SALIENT FACTS AND IMPORTANT CONCLUSIONS

Location: Northeast quadrant of Water Street and 9th Street. This places the property on the southeasterly side of Highway 149 and on both sides of the Lake Fork of the Gunnison River in the town of Lake City.

Legal Description: LARGER PARCEL

Account No. R001104
Lots 2 through 31, Block 4, Town of Lake City, subject to the highway right-of-way. Town of Lake City, County of Hinsdale, State of Colorado.

Account No. R000461
Lots 31 and 32, Block 13, Town of Lake City, Hinsdale County.

Purpose of Appraisal: Provide a credible opinion of the fee simple interest of the Larger Parcel and the value as encumbered by a public access easement that will include both sides and including the Lake Fork River.

Interests Appraised: Fee simple for the Larger Parcel as unencumbered and the partial interest as restricted by the proposed public access Easement.

Ownership & History: The subject property is owned by Peter Meredith Main. He has owned the property for over 10 years.

There have been no known offers to purchase or sell the property over the past 3 to 10 years. The property has not been listed for sale within the past three years.

Client, Use and User Of the Appraisal: The clients for this assignment are the Lake Fork Valley Conservancy, Colorado Parks and Wildlife (CPW), and the United States Fish and Wildlife Service (USFWS). They will use this appraisal to tender an offer to the property owner for the taking of a right-of-way access easement or for an outright purchase of the property.

Scope of Analysis: This analysis conforms to the appraisal requirements of the Uniform Standards for Professional Appraisal Practice (USPAP) and the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA). When

there are conflicts between UASFLA and USPAP, UASFLA prevails and a jurisdictional exception is noted regarding the USPAP regulations. This analysis included the inspection of the subject property and the analysis of vacant riverfront land sales in Lake City/Hinsdale County. These sales were analyzed so a credible opinion of market value for the subject could be made. This analysis also analyzed sales of properties that are encumbered by Fishing Easements and sales of properties with and without river/creek frontage. These sales were used to provide support as to the loss in value caused by a Fishing Easement on the subject property.

Hypothetical Condition: Because the subject property is proposed for a public access trail easement that will encumber a portion of the site, and that easement does not encumber the site at this time, USPAP states that the appraisal is based on a Hypothetical Condition.

This appraisal is also employs a Hypothetical Condition regarding the actual location and size of the proposed access easement.

Extraordinary Assumption: This appraisal employs Extraordinary Assumptions regarding a survey of the subject property that will determine the exact location and size of the uplands, and determine the exact extent of the flood plain and floodway on the subject property.

Site Data - Larger Parcel:

Block 4, Lots 2 through 31
30-town lots. According to the Appraiser's calculations, subject contains a total of 89,875 square feet, which equates to 2.06 acres. Part of the site is located south and west of the river, part of the site is within the river and part of the site is west and north of the river.

Standard town lots are 25 feet by 125 feet or 3,125 square feet. Lots 21 through 30 are tapered due to the angle of the highway and are not standard sized lots.

The site ranges from generally dry uplands to river bottom and river floodway.

The easterly site area has frontage and access to Water Street. The westerly part of the site has frontage to State Highway 149, but no access.

Block 13, Lots 31 and 32
Two – 25-foot by 125-foot lots located on the south side of 9th Street, if extended and the southeast side of Lake Street, if extended.

These lots contain 6,250 square feet that are entirely with the river channel. There is no known legal access to the parcels. They are separated from the Block 4 lots by a platted but otherwise unimproved 9th Street.

Flood Plain: Most of the property appears to either be in a floodplain or the river channel. The amount of land within the floodplain and river channel is an additional Extraordinary Assumption.

All of Lots 31 and 32, Block 13 are within the floodway.

Utilities: Domestic water, town sewer and power are adjacent to the subject. Propane gas is also used in the area.

Zoning: Residential

Improvements: All of the sites are vacant.

Public Access Easement: The **Perpetual Public Access & Trail Easement** will allow foot traffic along both sides of the Lake Fork of the Gunnison River. The Access Easement includes the 25 feet of bank along both sides of the river. Camping, domestic animals, or any other use that would jeopardize the conservation values of the property are not allowed.

Highest and Best Use:

The subject property has the legal right and it is assumed that it has physical ability to be developed as a residential lot. Because of the topography and river frontage, it is not known how many or if any lots are buildable at this time.

This appraisal employs an Extraordinary Assumption assuming that there are sufficient uplands to build

at least one single-family residence. To make an absolute determination at this time would require other professional consultants to determine the floodplain, floodway, amount of uplands and if those uplands his could be developed.

Highest and Best Use After the Easement: The Highest and Best Use does not change after the trail easement is in place. However, part of the bundle of rights will be eliminated. In addition, the unabated access to the river will be affected. Between the change in the bundle of rights and allowing the public to access the river on the subject, the market value will be impacted.

Market Value: Lots 2 -31, Block 4 & Lots 31 & 32, Block 13

$165,000 – assuming that there is a sufficient amount of uplands to allow development of a single-family residence.

Market Value: Lots 31 & 32 Block 13

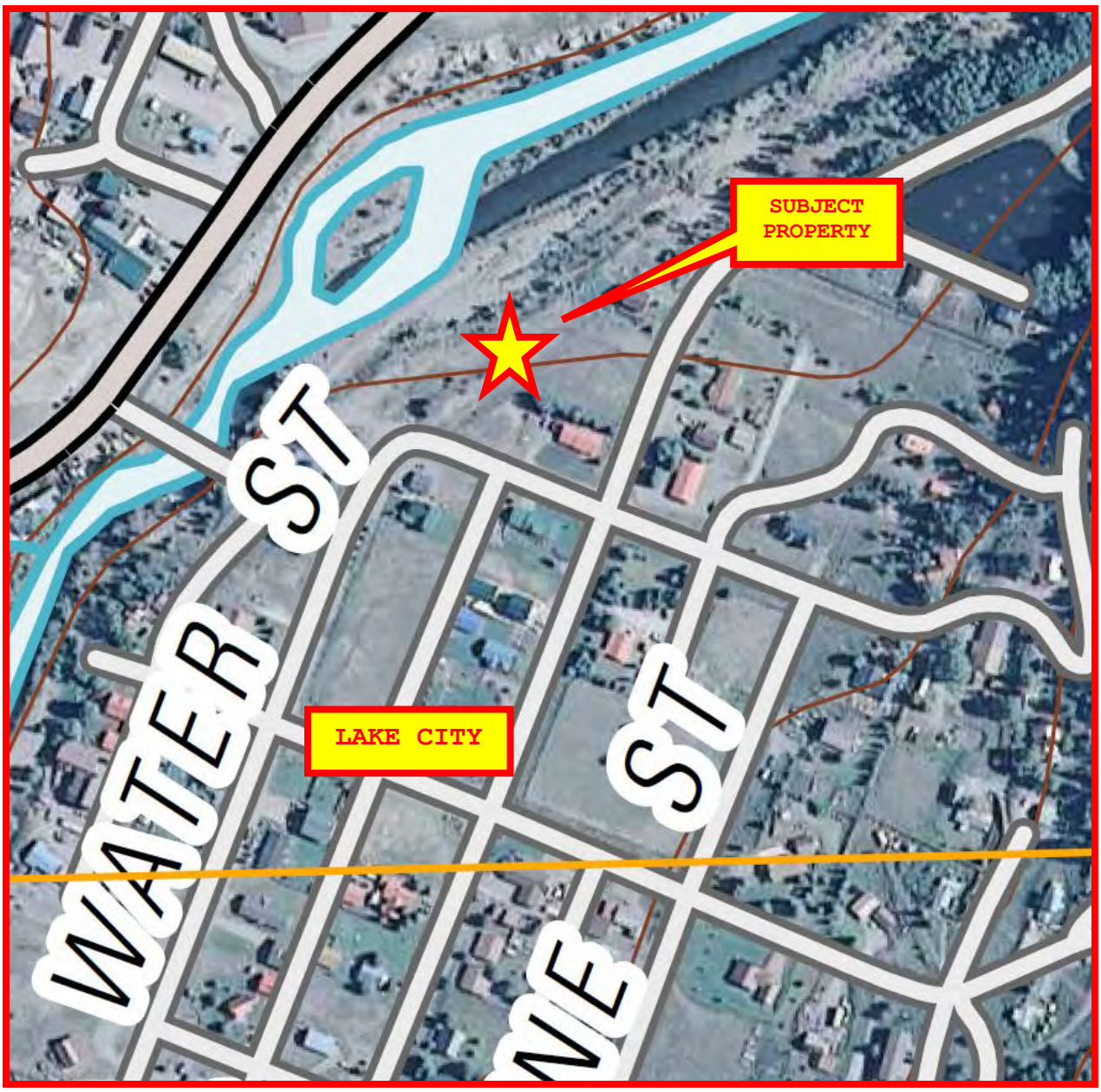
$5,000 with no buildable land

Market Value as River Front Residential Building Site:	**$165,000**
Market Value as Encumbered by a trail Easement:	**$160,000**
Value of the Trail Easement:	**$5,000**

*** The above value conclusions are based on the subject property having a physically, legally and environmentally suitable buildable house site. If a house site is not physically possible or if the site requires abnormal development costs, then the value of the entire property is substantially less. If there is no building site available, the subject has a Highest and Best Use as open space and recreational land with the potential to be assembled to other parcels.**

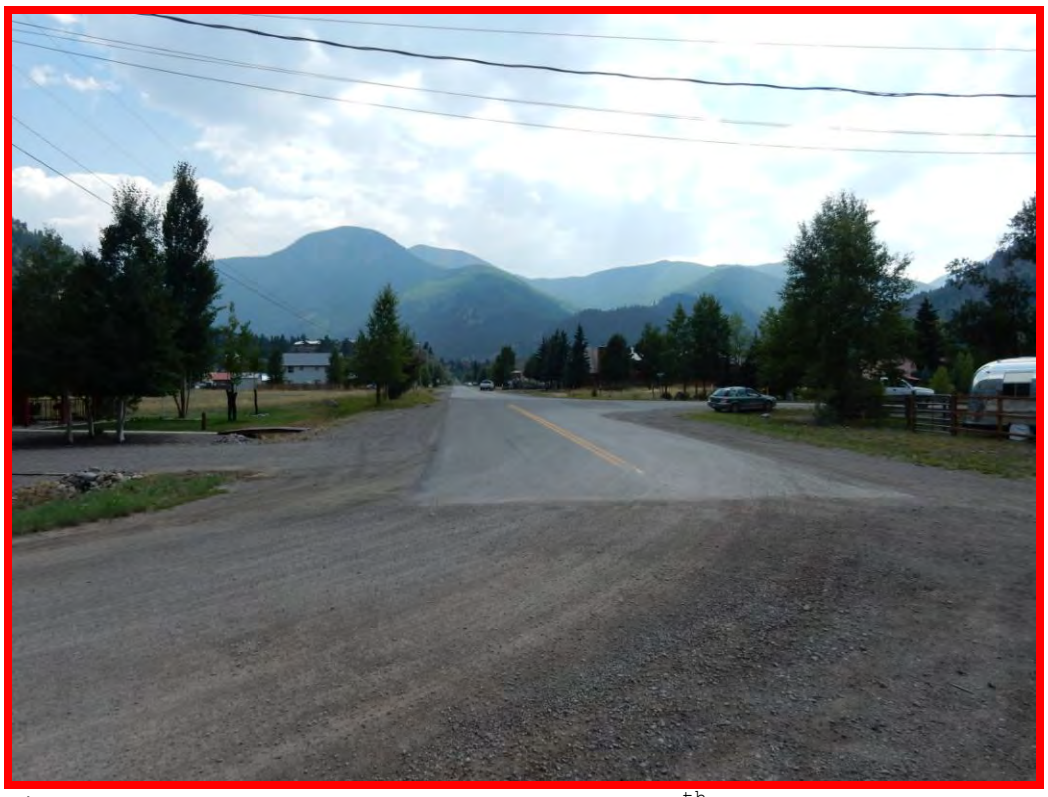
Effective Date of Value: January 4, 2016

Date of Report: January 22, 2016


SUBJECT
PROPERTY
WATER ST
LAKE CITY
ST
NE

View to the west of the river bottom land

View to the southwest of the hillside that separates the uplands from the river bottom



View to the south of the corner of 9th and Water Streets

View to the north of the uplands

View to the northeast from the 8-1/2 Street Bridge

View to the northeast from the 8½ Street Bridge

View to the southwest of the uplands

View to the southeast from Highway 149

CERTIFICATE OF APPRAISAL

I certify that, to the best of my knowledge and belief:

-The statements of fact contained in this report are true and correct.

-The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and is my personal, impartial, and unbiased professional analyses, opinions, and conclusions.

- I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved. In compliance with the Ethics Rule of USPAP, I hereby certify that this appraiser has no current or prospective interest in the subject property or parties involved. I completed a restricted use analysis on the subject property in May of 2013 to establish the preliminary value estimates. Prior to the Restricted Use analysis, I have not performed any services regarding the subject property within the 3 year period immediately preceeding acceptance of that assignment, as an appraiser or any other capacity.

-I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.

-My engagement in this assignment was not contingent upon developing or reporting predetermined results.

-My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.

-The reported analyses, opinions, and conclusions were developed and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics & Standards of Professional Appraisal Practice of the Appraisal Institute, which include the *Uniform Standards of Professional Appraisal Practice,* except to the extent that the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA) required invocation of USPAP'S Jurisdictional Rule.

-the appraisal was made and the appraisal report prepared in conformity with the UASFLA.

-The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.

-I have made a personal inspection of the property that is the subject of this report.

-No one provided significant real property appraisal assistance to the person signing this certification.

-As of the date of this report, R. Arnold Butler, has completed the continuing education program of the Appraisal Institute and the States of Colorado and Utah.
-Based on my analysis and with consideration to the Certificate, Assumptions and Limiting Conditions, I have concluded the following values for the different interests of the subject property.

Value Conclusions:

Fee Simple Market Value:	**$165,000**
Value After the Trail Easement:	**$160,000**
Value of the Trail Easement:	**$5,000.00**
Block 13, Lots 31 and 32	**$5,000.00**

Sincerely,

R. Arnold Butler, MAI
Certified General Appraiser
Colorado License No. 1313160

SILVER RIVER ESTATES
SUMMARY OF SALIENT FACTS AND IMPORTANT CONCLUSIONS

Location: North end of Water and Hotchkiss Streets, southeast side of Highway 149 and on both sides of the Lake Fork of the Gunnison River in Hinsdale County.

Legal Description: LARGER PARCEL
Account No. R001325
Parcels in Lot 4, Section 27, T44N, R4W, NMPM; Less 1.19-acre tract (B 119 Page 160; Less a 0.011-acre easement (Book 122 Page 315 and per Main/Silver River Boundary Survey, Hinsdale County, State of Colorado.

Purpose of Appraisal: Provide a credible opinion of the fee simple interest of the Larger Parcel and the value as encumbered by a public access easements on both sides of the Lake Fork River. This appraisal may also be used for charitable donation purposes regarding the donation of the land to be encumbered to the Lake Fork Conservancy.

Interests Appraised: Fee simple for the Larger Parcel as unencumbered and the partial interest as restricted by the proposed public access Easement.

History: The subject property is owned by Silver River Estates, LLC. According to the Assessor's Office, they purchased the property on January 7, 2009 for $250,000. The property is currently listed for sale for $495,000. There has been a boundary line adjustment since the 2009 purchase.

There have been no known offers to purchase the property within the past 3 years, the length of time the property has been listed for sale.

Hypothetical Condition: Because the subject property is proposed for a public access and trail easement that will encumber a portion of the site, and that easement does not encumber the site at this time, USPAP states that the appraisal is based on Hypothetical Condition.

Client, Use and User Of the Appraisal: The clients for this assignment are the Lake Fork Valley Conservancy, Colorado Parks and Wildlife (CPW), and the United States Fish and

Wildlife Service (USFWS). They will use this appraisal to tender an offer to the property owner for the taking of a right-of-way access easement or a fee simple purchase of the affected land area.

Scope of Analysis: This analysis conforms to the appraisal requirements of the Uniform Standards for Professional Appraisal Practice (USPAP) and the Uniform Appraisal Standards for Federal Land Acquisitions (UASFLA). When there are conflicts between UASFLA and USPAP, UASFLA prevails and a jurisdictional exception is noted regarding the USPAP regulations. This analysis included the inspection of the subject property and the analysis of vacant riverfront land sales in Lake City/Hinsdale County. These sales were analyzed so a credible opinion of market value for the subject could be made. This analysis also analyzed sales of properties that are encumbered by Fishing Easements and sales of properties with and without river/creek frontage. These sales were used to provide support as to the loss in value caused by a Fishing Easement on the subject property.

Site Data- Larger Parcel:

4.002 acres of river bottom land according to the Main/Silver Boundary Adjustment and Lot Line Correction Survey completed by Alpine Surveying, Inc . Part of the site is located south and west of the river, part of the site is within the river and part of the site is west and north of the river.

The site ranges from generally dry uplands to river bottom and river floodway to hillsides on the west side of the river. The area south and east of the river has been filled and leveled and is now approximately 4 feet above the grade of the river bottom. Based on my scaling of the survey, there appears to be approximately 2.75 acres that have been improved with 4 feet of fill.

The southern site area has frontage and access to Water and Hotchkiss Streets. The westerly part of the site has frontage to State Highway 149. It is not known if there is any legal ingress and egress from the highway, but because of the slope of the hillside, access is not likely nor cost effective.

Flood Plain: Along the river corridor

Utilities: Extended to the property boundary.

Zoning: Residential

Improvements: The property is vacant

Public Access Easement: The **Perpetual Public Access & Trail Easement** will allow foot traffic along both sides of the Lake Fork of the Gunnison River. The Access Easement includes the 25 feet of bank along both sides of the river. Camping, domestic animals, or any other use that would jeopardize the conservation values of the property are not allowed.

Highest and Best Use:
The subject property has the physical ability to be sold and subdivided as mixed use development land. Because of the topography and river frontage, it is not known how many building lots that subject can be developed with at this time.

Market Value – Whole Property: **$375,000**

Highest and Best Use After the Easement: The Highest and Best Use does not change after the trail easement is in place. However, part of the bundle of rights will be removed. In addition, the uninterrupted access to the river will be affected. Between the change in the bundle or rights and allowing the public to access the river on the subject property, the market value of the subject property will be impacted.

Market Value with Trail - West side of River: **$350,000**

Market Value with Trail – East side of River: **$325,000**

Value of Trail Easement – West side: **$25,000**

Value of Trail Easement – East side: **$25,000**
(assumes that west side with completed at the same time)

Value of the 1.75 acres west of River: **$25,000**
(Assuming it is purchased or donated)

Effective Date of Value: November 9, 2015
Date of Report: November 26, 2015

CERTIFICATE OF APPRAISAL

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved. In compliance with the Ethics Rule of USPAP, I hereby certify that this appraiser has no current or prospective interest in the subject property or parties involved, and has not performed any services regarding the subject property within the 3 year period immediately preceeding acceptance of the assignment, as an appraiser or any other capacity.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- The reported analyses, opinions, and conclusions were developed and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics & Standards of Professional Appraisal Practice of the Appraisal Institute, which include the *Uniform Standards of Professional Appraisal Practice*.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- I have made a personal inspection of the property that is the subject of this report.
- No one provided significant real property appraisal assistance to the person signing this certification.
- As of the date of this report, R. Arnold Butler, has completed the continuing education program of the Appraisal Institute.

Sincerely,

R. Arnold Butler, MAI
Certified General Appraiser
Colorado License No. CG01313160

SILVER RIVER ESTATES
SUMMARY OF SALIENT FACTS AND IMPORTANT CONCLUSIONS

Location: North end of Water and Hotchkiss Streets, southeast side of Highway 149 and on both sides of the Lake Fork of the Gunnison River in Hinsdale County.

Legal Description: LARGER PARCEL
Account No. R001325
Parcels in Lot 4, Section 27, T44N, R4W, NMPM; Less 1.19-acre tract (B 119 Page 160; Less a 0.011-acre easement (Book 122 Page 315 and per Main/Silver River Boundary Survey, Hinsdale County, State of Colorado.

Purpose of Appraisal: Provide a credible opinion of the fee simple interest of the Larger Parcel and the value as encumbered by a public access easements on both sides of the Lake Fork River. This appraisal may also be used for charitable donation purposes regarding the donation of the land to be encumbered to the Lake Fork Conservancy.

Interests Appraised: Fee simple for the Larger Parcel as unencumbered and the partial interest as restricted by the proposed public access Easement.

History: The subject property is owned by Silver River Estates, LLC. According to the Assessor's Office, they purchased the property on January 7, 2009 for $250,000. The property is currently listed for sale for $495,000. There has been a boundary line adjustment since the 2009 purchase.

There have been no known offers to purchase the property within the past 3 years, the length of time the property has been listed for sale.

Hypothetical Condition: Because the subject property is proposed for a public access and trail easement that will encumber a portion of the site, and that easement does not encumber the site at this time, USPAP states that the appraisal is based on Hypothetical Condition.

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Utilities: Extended to the property boundary.

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Effective Date of Value: November 9, 2015
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- The statements of fact contained in this report are true and correct.
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- I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved. In compliance with the Ethics Rule of USPAP, I hereby certify that this appraiser has no current or prospective interest in the subject property or parties involved, and has not performed any services regarding the subject property within the 3 year period immediately preceeding acceptance of the assignment, as an appraiser or any other capacity.
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- I have made a personal inspection of the property that is the subject of this report.
- No one provided significant real property appraisal assistance to the person signing this certification.
- As of the date of this report, R. Arnold Butler, has completed the continuing education program of the Appraisal Institute.

Sincerely,

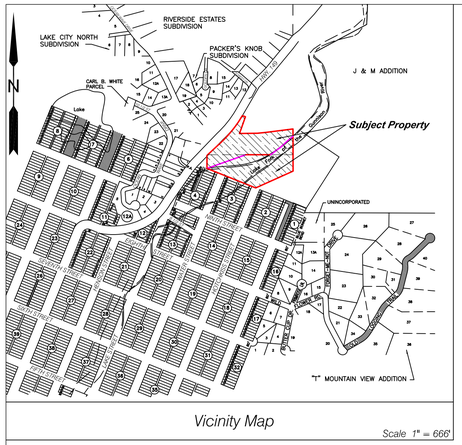
R. Arnold Butler, MAI
Certified General Appraiser
Colorado License No. CG01313160

Main/Silver River Boundary Adjustment and Lot Line Corrections

Located within Lot 4 & the SW ¼ NE ¼ Section 27,T44 N,R4W,N.M.P.M.

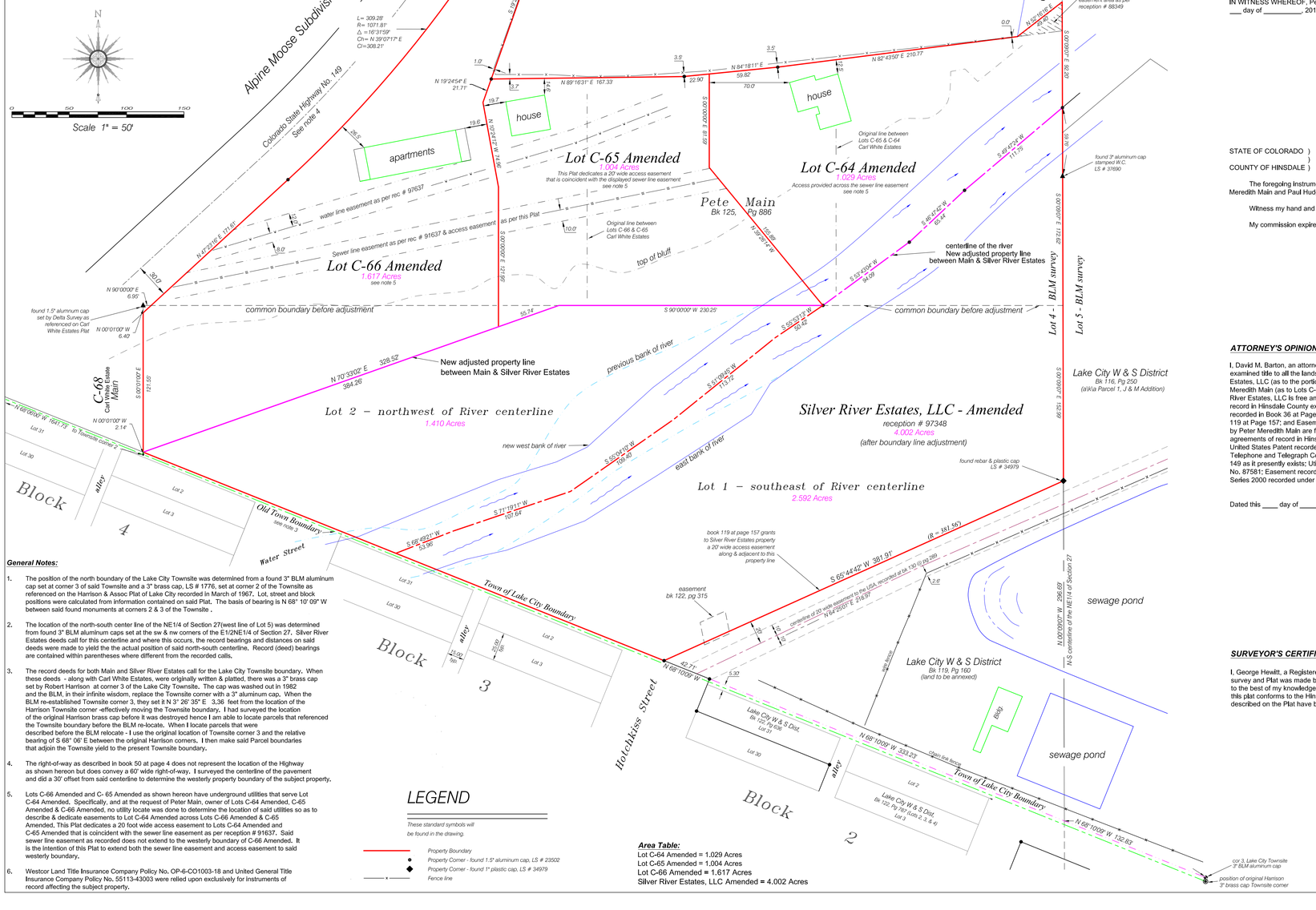
Hinsdale County, Colorado

Pursuant to Section 8.9-17.A of the Hinsdale County Subdivision Regulations



Vicinity Map

Scale 1" = 666'



LEGEND

These standard symbols will be found in the drawing.

- Property Boundary
- Property Corner - found 1.5" aluminum cap, LS # 23502
- Property Corner - found 1" plastic cap, LS # 34979
- Fence line

Area Table:

Lot C-64 Amended = 1.029 Acres
Lot C-65 Amended = 1.004 Acres
Lot C-66 Amended = 1.617 Acres
Silver River Estates, LLC Amended = 4.002 Acres

General Notes:

1. The position of the north boundary of the Lake City Townsite was determined from a found 3" BLM aluminum cap set at corner 3 of said Townsite and a 3" brass cap, LS # 1776, set at corner 2 of the Townsite as referenced on the Harrison & Assoc Plat of Lake City recorded in March of 1967, Lot, street and block positions were calculated from information contained on said Plat, The basis of bearing is N 68° 10' 09" W between said found monuments at corners 2 & 3 of the Townsite .

2. The location of the north-south center line of the NE1/4 of Section 27(west line of Lot 5) was determined from found 3" BLM aluminum caps set at the sw & nw corners of the E1/2NE1/4 of Section 27, Silver River Estates deeds call for this centerline and where this occurs, the record bearings and distances on said deeds were made to yield the the actual position of said north-south centerline, Record (deed) bearings are contained within parentheses where different from the recorded calls,

3. The record deeds for both Main and Silver River Estates call for the Lake City Townsite boundary, When these deeds - along with Carl White Estates, were originally written & platted, there was a 3" brass cap set by Robert Harrison at corner 3 of the Lake City Townsite, The cap was washed out in 1982 and the BLM, in their infinite wisdom, replace the Townsite corner with a 3" aluminum cap, When the BLM re-established Townsite corner 3, they set it N 3° 26' 35" E 3.36 feet from the location of the Harrison Townsite corner -effectively moving the Townsite boundary, I had surveyed the location of the original Harrison brass cap before it was destroyed hence I am able to locate parcels that referenced the Townsite boundary before the BLM re-locate, When I locate parcels that were described before the BLM relocate - I use the original location of Townsite corner 3 and the relative bearing of S 68° 06' E between the orlginal Harrison corners, I then make said Parcel boundaries that adjoin the Townsite yield to the present Townsite boundary,

4. The right-of-way as described in book 50 at page 4 does not represent the location of the Highway as shown hereon but does convey a 60' wide right-of-way, I surveyed the centerline of the pavement and did a 30' offset from said centerline to determine the westerly property boundary of the subject property,

5. Lots C-66 Amended and C- 65 Amended as shown hereon have underground utilities that serve Lot C-64 Amended, Specifically, and at the request of Peter Main, owner of Lots C-64 Amended, C-65 Amended & C-66 Amended, no utility locate was done to determine the location of said utilities so as to describe & dedicate easements to Lot C-64 Amended across Lots C-66 Amended & C-65 Amended, This Plat dedicates a 20 foot wide access easement to Lots C-64 Amended and C-65 Amended that is coincident with the sewer line easement as per reception # 91637, Said sewer line easement as recorded does not extend to the westerly boundary of C-66 Amended, It is the intention of this Plat to extend both the sewer line easement and access easement to said westerly boundary,

6. Westcor Land Title Insurance Company Policy No. OP-6-CO1003-18 and United General Title Insurance Company Policy No. 55113-43003 were relied upon exclusively for instruments of record affecting the subject property,

DEDICATION

We, Peter Meredith Main and Silver River Estates, LLC, being all of the owners of the lands shown hereon, consisting of 7.651 acres, more or less, have laid out, platted, corrected and adjusted the boundaries of the same as shown on this plat, which constitutes both an adjustment of the common boundary between the lands owned by Peter Meredith Main and Silver River Estates, LLC, and a correction of the lot lines between Lots C-64, C-65 and C-66, Carl White Estates, according to the Delta Surveying Company Plat of Carl B. White Lands dated November 6, 1974 and recorded July 30, 1976, bearing Reception No, 65291, Peter Meredith Main hereby conveys and quit claims to Silver River Estates, LLC all the property shown hereon heretofore owned by Peter Meredith Main lying between the common boundary before adjustment and the new adjusted property line, Silver River Estates, LLC hereby conveys and quit claims to Peter Meredith Main all the property shown hereon heretofore owned by Silver River Estates, LLC lying between the common boundary before adjustment and the new adjusted property line,

IN WITNESS WHEREOF, Peter Meredith Main and Silver River Estates, LLC have subscribed their names this ___ day of _____, 2014.

Peter Meredith Main
PO Box 512
Lake City, CO 81235

Silver River Estates, LLC
PO Box 905
Lake City, CO 81235

By: _____
Manager

STATE OF COLORADO)
)
COUNTY OF HINSDALE)

The foregoing Instrument was acknowledged before me this ___ day of _____, 2014, by Peter Meredith Main and Paul Hudgeons as manager of Silver River Estates, LLC.

Witness my hand and official seal.

My commission expires:

_____
Notary Public

Legal Description of subject property perimeter

Township 44 North, Range 4 West, N.M.P.M.
Section 27; Lot 4 & SW1/4NE1/4
A Tract of land described as follows:

Beginning at a Point on the northeasterly boundary of the Town of Lake City from which corner 2 of the Lake City Townsite bears North 68° 10' 09" West 1640.93 feet, thence the following courses:

1. North 0° 01' 00" West 121.55 feet along the east boundary of Lot C-68 as per the plat of Carl White Estates, said plat having a reception # of 65291 In the records of Hinsdale County, to the southeasterly right-of-way of Colorado State Highway No. 149;
2. North 47° 23' 16" East 171.61 feet along said right-of-way;
3. 309.28 feet along a curve to the left, said curve having a radius of 1071.81 feet, a central angle of 16° 31' 59" and a chord which bears North 39° 07' 17" East 308.21 feet, along said right-of-way;
4. North 30° 51' 17" East 17.02 feet along said right-of-way to the south line of Tract A as per the Plat of the Hinsdale City - County Cemetery, said plat having a reception # of 88235 in the records of Hinsdale County;
5. South 70° 35' 06" East 30.62 feet along the south boundary of said Tract A to the boundary of said Cemetery as per said Plat;
6. South 19° 24' 54" West 165.14 feet along the Cemetery boundary as per said Plat;
7. North 89° 16' 31" East 167.33 feet along the Cemetery boundary as per said Plat;
8. North 84° 18' 11" East 82.72 feet along the Cemetery boundary as per said Plat;
9. North 82° 43' 50" East 210.77 feet along the Cemetery boundary as per said Plat;
10. North 52° 16' 16" East 49.40 feet along the south boundary of Tract B as per said Cemetery Plat to the east boundary of said Lot 4;
11. South 0° 09' 07" East 417.82 feet along said East line to the northwest boundary of the Lake City Water & Sanitation District property as described in book 119 at page 160 In the records of Hinsdale County;
12. South 65° 44' 42" West 381.91 feet along said northwest boundary to the the northeast boundary of the Town of Lake City;
13. North 68° 10' 09" West 489.23 feet along said northeast boundary to the Point of Beginning of the herein described Tract.

County of Hinsdale,
State of Colorado.

THE APPROVAL OF THE BOUNDARY LINE ADJUSTMENT AND LOT LINE CORRECTIONS SHOWN ON THIS SURVEY PURSUANT TO THE EXEMPTION PROVIDED FOR IN SECTION 8.9-17.A OF THE HINSDALE COUNTY SUBDIVISION REGULATIONS DOES NOT CONSTITUTE OR IMPLY ASSURANCE THAT WATER AND/OR ELECTRICITY ARE NOW OR WILL IN THE FUTURE BE AVAILABLE TO THE PROPERTY SHOWN ON THE SURVEY OR THAT A BUILDING PERMIT WILL BE ISSUED WHEN REQUESTED, NOR DOES SUCH APPROVAL CONSTITUTE A CHANGE IN, OR AN AGREEMENT TO CHANGE, THE ZONING CLASSIFICATION OF THE PROPERTY.

THE APPROVAL OF THE BOUNDARY LINE ADJUSTMENT AND LOT LINE CORRECTIONS SHOWN ON THIS SURVEY PURSUANT TO THE EXEMPTION PROVIDED FOR IN SECTION 8.9-17 OF THE HINSDALE COUNTY SUBDIVISION REGULATIONS DOES NOT CONSTITUTE OR IMPLY THE AGREEMENT OF HINSDALE COUNTY TO PROVIDE MAINTENANCE OF ANY KIND ON ANY PRIVATE ROADS SHOWN ON THE SURVEY.

ATTORNEY'S OPINION

I, David M. Barton, an attorney at law duly licensed to practice in the State of Colorado hereby certify that I have examined title to all the lands herein dedicated and subdivided, Such title is held in the name of Silver River Estates, LLC (as to the portion of the property shown hereon labeled Silver River Estates, LLC) and Peter Meredith Main (as to Lots C-64, C-65 and C-66 as shown hereon), The property shown hereon owned by Silver River Estates, LLC is free and clear of all mortgages, judgments, liens, easements, contracts and agreements of record in Hinsdale County except as follows: The exceptions and reservations in the United States Patent recorded in Book 36 at Page 38; easement from the Lake City Area Water and Sanitation District recorded in Book 119 at Page 157; and Easement Agreement recorded in Book 122 at Page 315, The lands shown hereon owned by Peter Meredith Main are free and clear of all mortgages, judgments, liens, easements, contracts and agreements of record in Hinsdale County except as follows: The exceptions and reservations as contained in the United States Patent recorded In Book 36 at Page 38; Easement and Right of Way conveyed to Mountain States Telephone and Telegraph Company recorded in Book 50 at Page 119; Right of Way for Colorado State Highway 149 as it presently exists; Utility Improvements Agreement with the Town of Lake City recorded under Reception No. 87581; Easement recorded under Reception No. 88349; Board of County Commissioners Resolution No. 16, Series 2000 recorded under Reception No. 91218; and Easement recorded under Reception No. 91637.

Dated this ____ day of _____, 2014.

_____
David M. Barton, Reg. #13139

HINSDALE COUNTY PLANNING COMMISSION RECOMMENDATION

APPROVAL OF THE BOUNDARY LINE ADJUSTMENT AND LOT LINE CORRECTIONS ARE RECOMMENDED THIS ____ DAY OF _____, 2014.

_____
Chairman, Hinsdale County Planning Commission

SURVEYOR'S CERTIFICATE

I, George Hewitt, a Registered Professional Land Surveyor in the State of Colorado, do hereby certify that this survey and Plat was made by me and under my direct supervision and checking and that both are true and correct to the best of my knowledge, I further certify that, after review and consent by the Hinsdale County Attorney,that this plat conforms to the Hinsdale County Zoning and Development Regulations and that the monuments described on the Plat have been placed as described.

George Hewitt, Colorado PLS # 23502
Alpine Surveying Inc.
PO Box 93
Gunnison, Colorado 81230
(970) 641-2937

BOARD OF COUNTY COMMISIONERS APPROVAL

THE BOUNDARY ADJUSTMENT AND LOT LINE CORRECTIONS ARE APPROVED PURSUANT TO THE EXEMPTION PROVIDED BY SUB-SECTION A OF SECTION 8.9-17 OF THE HINSDALE COUNTY SUBDIVISION REGULATIONS THIS _____ DAY OF _____, 2014.

_____
Chairman, Hinsdale County Board of County Commissioners

HINSDALE COUNTY CLERK AND RECORDER'S ACCEPTANCE

This plat was accepted for filing in the office of the Clerk and Recorder of Hinsdale County, Colorado, on this _____ day of _____, 2014,

Reception Number _____.

Time _____ Date _____.

_____
County Clerk