

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

Transfer No. 81372

RECEIVED

DEC 22 2016

Department of Water Resources
Eastern Region

MINIMUM REQUIREMENTS CHECKLIST
TO BE SUBMITTED WITH APPLICATION FOR TRANSFER

An application for transfer must be prepared in accordance with the minimum requirements listed below to be acceptable for processing by the Department. Incomplete applications will be returned. The instructions, fee schedule, Part 2A reports and additional Part 2B forms are available from any Department office or on the Department's website at www.idwr.idaho.gov.

Name of Applicant(s) USDA Bureau of Land Management Idaho State Office, Boise, ID 83709-1657

Check whether each item below is *attached* (Yes) or *not applicable* (N/A) for the proposed transfer.

Yes N/A * Means the item is always required and must be included with the application.

- ☒ * Completed Application for Transfer of Water Right form, Part 1.
- ☒ * Signature of applicant(s) or applicant's authorized representative on Application for Transfer Part 1. Include evidence of authority labeled Attachment #3 (see below) if signed by representative.
- ☒ * Application for Transfer Part 2A. Attach a Part 2A report describing each water right in the transfer as currently recorded.
- ☐ ☐ Complete and attach an Application for Transfer Part 2B for each water right for which only a portion is proposed to be changed through this transfer application.
- ☒ * Application for Transfer Part 3A is always required (see Attachment #7a below); Parts 3B and 3C must be completed for transfer applications proposing to change the nature of use of the water right(s) or proposing changes to supplemental right(s).
- ☒ * Correct fee submitted with transfer application form. (Fee schedule is on website and instructions for application for transfer.)

Attachments to Application - Label each attachment with the corresponding number shown below as Attachment #1-10.

- ☐ ☐ #1 If the applicant is a business, partnership, organization, or association, and not currently registered in the State of Idaho as a business entity, attach documentation identifying officers authorized to sign or act on behalf of right holder. (See Part 1.)
- ☐ ☐ #2a Water Right ownership documentation if Dept. records do not show the applicant as the current water right owner. **
- ☐ ☐ #2b If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s).**
** Additional fee(s) required for water right ownership changes; see fee schedule.
- ☐ ☐ #3 Documentation of authority to make the change if the applicant is not the water right owner.
- ☐ ☐ #4 Power of Attorney or documentation providing authority to sign or act on the applicant's behalf. (See Part 1.)
- ☐ ☐ #5 If the transfer application proposes to change the point of diversion for a water right affecting the Eastern Snake Plain Aquifer (ESPA), attach the results of an ESPA analysis and a detailed mitigation plan to offset any depletions to hydraulically connected reaches of the Snake River. ESPA transfer spreadsheet and model grid labeled cells are available on the Department's website at www.idwr.idaho.gov/WaterManagement/WaterRights/WaterRightTransfers/resources.htm.
- ☐ ☐ #6 Notarized statement of agreement or a statement on official letterhead signed by an authorized representative from each lien holder or other entity with financial interest in the water right(s) or land affected by the proposed transfer. (See Part 1.5.c.)
- ☒ * #7a Attach a map identifying the proposed point(s) of diversion, place(s) of use, and water diversion and distribution system details as described on the application. Include legal description labels. If only a portion of the right is proposed to be changed, identify the current location of the part of the existing right(s) proposed to be changed. (See Part 3A.)
- ☐ ☐ #7b If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (GIS) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. If some or all of any right is leased to the Water Supply Bank, you must also show the the specific location and/or acres to be idled at the new, proposed place of use to satisfy lease requirements.
- ☐ ☐ #8a If the transfer application proposes to change the nature of use or period of use for one or more rights, provide documentation describing the extent of historic beneficial use for the water rights proposed to be transferred and document how enlargement will be avoided. (See Part 3B.) Additional fee required for proposed changes to nature of use; see fee schedule.
- ☐ ☐ #8b If the transfer application proposes to change the place of use of a supplemental irrigation right, provide documentation regarding the historic use of the supplemental right(s) and availability or reliability of the primary right(s) being supplemented, both before and after the proposed change. (See Part 3C.)
- ☐ ☐ #9 Water Supply Bank information for all rights proposed for transfer and currently leased to the Bank. (Attachment WSB)
- ☐ ☐ #10 Other. Please describe: _____

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT PART 1

Name of Applicant(s) USDA Bureau of Land Management Idaho State Office Phone 208-373-4000
Mailing address 1387 S. Vinnell Way, Boise, ID 83709-1657 Email littlejohn@blm.gov

- ☐ If applicant is not an individual and not registered to do business in the State of Idaho, attach documentation identifying officers authorized to sign or act on behalf of the applicant. Label it **Attachment #1**.
- ☐ Attach water right ownership documentation if Department records do not show the transfer applicant as the current water right owner. Label it **Attachment #2a**.
- ☐ If the ownership of the water right will change as a result of the proposed transfer to a new place of use, attach documentation showing land and water right ownership at the new place of use. Include documentation for all affected land and owner(s). Label it **Attachment #2b**.
- ☐ Attach documentation of authority to make the proposed change if the applicant is not the water right owner. Label it **Attachment #3**.

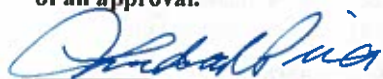
Provide contact information below if a consultant, attorney, or any other person is representing the applicant in this transfer process.

☐ No Representative

Name of Representative _____ Phone _____
Mailing address _____ Email _____

- ☐ Send all correspondence for this application to the representative and not to the applicant.
OR
- ☐ Send original correspondence to the applicant and copies to the representative.
- ☐ The representative may submit information for the applicant but is not authorized to sign for the applicant.
OR
- ☐ The representative is authorized to sign for the applicant. Attach a Power of Attorney or other documentation providing authority to sign for the applicant and label it **Attachment #4**.

I hereby assert that no one will be injured by the proposed changes and that the proposed changes do not constitute an enlargement in use of the original right(s). The information contained in this application is true to the best of my knowledge. I understand that any willful misrepresentations made in this application may result in rejection of the application or cancellation of an approval.



Signature of Applicant or Authorized Representative

Linda R. Price Field Manager

Print Name and Title if applicable

12/13/14
Date

Signature of Applicant or Authorized Representative

Print Name and Title if applicable

Date

A. PURPOSE OF TRANSFER

1. ☒ Change point of diversion ☐ Add diversion point(s) ☒ Change place of use
☐ Change nature of use ☐ Change period of use ☐ Other _____
2. Describe your proposal in narrative form, including a detailed description of non-irrigation uses to justify amounts transferred (i.e. number of stock, etc.), and provide additional explanation of any other items on the application. Attach additional pages if necessary and label it **Part 1A.2**.
As part of the interagency Hawley Creek Habitat Restoration Project, water will be diverted into a new irrigation pipeline at the existing Lemhi-Hawley Creek-02 (LHaC-02) diversion. This irrigation pipeline will replace the open ditch that was incorrectly identified as the POD for 74-7205 and 74-14368. (see Part 1A.2 continued)

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Department of Water Resources
Eastern Region

APPLICATION FOR TRANSFER OF WATER RIGHT
PART 1 Continued

B. DESCRIPTION OF RIGHTS AFTER THE REQUESTED CHANGES. IF THE RIGHTS ARE BEING SPLIT, DESCRIBE PORTIONS TO BE CHANGED AS THEY WOULD APPEAR AFTER THE REQUESTED CHANGES.

1.	Right Number	Amount (cfs/ac-ft)	Nature of Use	Period of Use	Source & Tributary
All or Part ☒ ☐	74-7205	0.03 cfs	wildlife and stockwater	1/01 to 12/31	Hawley Creek
☒ ☐	74-14368	0.02 cfs	stockwater	1/01 to 12/31	Hawley Creek
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	
☐ ☐				to	

Total authorized under rights 0.05 cfs and/or _____ acre-feet.

2. Total amount of water proposed to be transferred or changed 0.05 cubic feet per second and/or _____ acre-feet per year.

3. Point(s) of Diversion:

- ☐ No changes to point(s) of diversion are proposed - the following chart is therefore not completed. (Proceed to #4.)
- ☒ Attach Eastern Snake Plain Aquifer analysis if this transfer proposes to change a point of diversion affecting the ESPA.
Label it Attachment #5.

New ?	Lot	¼	¼	¼	Sec	Twp	Rge	County	Source	Local name or tag #
Yes			SE	NE	03	15N	27E	Lemhi	Hawley Creek	LHaC-02

4. Place of use: (If irrigation, identify with number of acres irrigated per ¼ ¼ tract.)

- ☐ No changes to place of use are proposed - the following chart is therefore not completed. (Proceed to #5.)

Twp	Rge	Sec	NE ¼				NW ¼				SW ¼				SE ¼				Acre Totals
			NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	NE	NW	SW	SE	
16N	26E	25					S							S					
16N	27E	29															SW		
16N	27E	20											SW						
Total Acres (for irrigation use)																			

813724

STATE OF IDAHO
DEPARTMENT OF WATER RESOURCES

APPLICATION FOR TRANSFER OF WATER RIGHT PART 1 Continued

5. General Information:

- a. Describe the complete diversion system, including how you will accommodate a measuring device and lockable controlling works should they be required now or in the future:
IDFG is authorized to build rock diversion and grade control structures at the LHAC-02 POD, and install a headgate structure fabricated by IDFG. The rock diversion and grade control structures will: (1) replace the current check structure that is a year-round fish passage barrier, (2) control water levels, (cont. Part 1B.5)
- b. Who owns the property at the point(s) of diversion? Bureau of Land Management Salmon Field Office
 If other than the applicant, describe the arrangement enabling the applicant to access the property for the diversion system:

- c. Are the lands from which you propose to transfer the water right subject to any liens, deeds of trust, mortgages, or contracts?
 If yes, ☐ attach a notarized statement from the holder of the lien, deed of trust, mortgage or contract agreeing to the proposed changes on official letterhead signed by an authorized representative. Label it Attachment #6. List the name of the entity and type of lien:

It is the applicant's responsibility to provide notice to lien holder, trustee, mortgagor, or contract holder of the proposed changes that may impact or change the value of the water rights or affected real property. Any misrepresentation of legal encumbrance on this application may result in rejection of the application or cancellation of an approval.

- d. Are any of the water rights proposed for transfer currently leased to the Water Supply Bank?
 If yes, ☐ complete Attachment WSB.
- e. Describe the effect on the land now irrigated if the place or purpose of use is changed pursuant to this transfer:

- f. Describe the use of any other water right(s) for the same purpose or land, or the same diversion system as right(s) proposed to be transferred at both the existing and proposed point(s) of diversion and place(s) use:

- g. To your knowledge, has/is any portion of the water right(s) proposed to be changed:

Yes No

- ☐ ☒ undergone a period of five or more consecutive years of non-use,
☐ ☒ currently leased to the Water Supply Bank,
☐ ☒ currently used in a mitigation plan limiting the use of water under the right, or
☐ ☒ currently enrolled in a Federal set-aside program limiting the use of water under the rights?

If yes, describe:

**IDAHO DEPARTMENT OF WATER RESOURCES
APPLICATION FOR TRANSFER OF WATER RIGHT
PART 2A**

Current Water Right No.: 74-7205

Current Owner: UNITED STATES OF AMERICA ACTING THROUGH
Priority Date: 8/10/1983
Origin: Water Right
Status: Active
Basis: Decreed

Source

SPRING

Tributary

HAWLEY CREEK

<u>Beneficial Use</u>	<u>From To</u>	<u>Diversion Rate</u>	<u>Annual Volume</u>
WILDLIFE	1/01 to 12/31	0.01 CFS	1.2 AF
STOCKWATER	5/01 to 9/30	0.02 CFS	1.2 AF
	<u>Total Diversion</u>	0.03 CFS	1.2 AF

Location of Point(s) of Diversion

SPRING

NE 1/4 NE 1/4 SW 1/4

Sec. 32, Twp 16N, Rge 27E B.M.

LEMHI County

Place of Use

WILDLIFE Within LEMHI County

T16N R27E S29 SWSE

STOCKWATER Within LEMHI County

T16N R27E S29 SWSE

Conditions of Approval:

1. N13 THE QUANTITY OF WATER UNDER THIS RIGHT SHALL NOT EXCEED 13,000 GALLONS PER DAY.
2. BLM RECORD ID = 7404688251 STOCKWATER, 303 RANGE CATTLE; WILDLIFE VAR. AMT.
3. C05 RIGHT INCLUDES ACCOMPLISHED CHANGE IN PLACE OF USE PURSUANT TO SECTION 42-1425, IDAHO CODE.
4. N11 THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.

Decreed Date: 8/25/2000

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Page _____ of _____

**IDAHO DEPARTMENT OF WATER RESOURCES
APPLICATION FOR TRANSFER OF WATER RIGHT
PART 2A**

Current Water Right No.: 74-14368

Current Owner: UNITED STATES OF AMERICA ACTING THROUGH

Priority Date: 6/28/1934

Origin: Water Right

Status: Active

Basis: Decreed

Source

UNNAMED STREAM

Tributary

HAWLEY CREEK

Beneficial Use

STOCKWATER

From To

1/01 to 12/31

Total Diversion

Diversion Rate

0.02 CFS

0.02 CFS

Annual Volume

Location of Point(s) of Diversion

UNNAMED STREAM

LEMHI County

SE1/4SE1/4SW1/4

Sec. 25, Twp 16N, Rge 26E B.M.
(End of Reach)

UNNAMED STREAM

LEMHI County

NW1/4NE1/4SE1/4

Sec. 26, Twp 16N, Rge 26E B.M.
(Beginning of Reach)

Place of Use

STOCKWATER Within LEMHI County

T16N R26E S25

NWSW

T16N R26E S25

SWSW

T16N R26E S25

SESW

T16N R26E S26

NESE

Conditions of Approval:

1. N11 THE QUANTITY OF WATER DECREED FOR THIS WATER RIGHT IS NOT A DETERMINATION OF HISTORICAL BENEFICIAL USE.
2. BLM RECORD ID = 7404681802 STOCKWATER, 100 RANGE CATTLE, 5 HORSES; WILDLIFE VAR. AMT.
3. N13 THE QUANTITY OF WATER UNDER THIS RIGHT SHALL NOT EXCEED 13,000 GALLONS PER DAY.

Decreed Date: 1/7/2000

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APPLICATION FOR TRANSFER OF WATER RIGHT

PART 3

A. PLAT MAP (See Part 3A of Instructions for application for transfer for complete requirements.)

- ☒ Attach a map of the diversion, measurement, control, and distribution system. Label it **Attachment #7a**.
- ☐ If the transfer application proposes to change the place or purpose of use of an irrigation right attach a Geographic Information System (**GIS**) shape file, or an aerial photo or other image clearly delineating the location and extent of existing acres and changes to the place of use. Label it **Attachment #7b**.

If the place of use currently consists of a permissible place of use, then the attachment is not required if the application contains a clear statement that the boundaries for the place of use are not proposed to be changed by the transfer and the total number of irrigated acres within the place of use before and after the transfer is clearly stated.

If any part of the irrigation water right is leased to the Water Supply Bank, you must also specify the location and number of acres that will remain idled for the duration of the lease contract at the new, proposed place of use.

B. CHANGES IN NATURE OF USE (Water Balance)

- ☐ If you propose to change the nature of use or period of use of all or part of the right(s) listed in this application, attach documentation describing the extent of historic beneficial use of the portion of the right(s) proposed to be changed. Also attach documentation showing that the portion of the right(s) to be changed will not be enlarged in rate, volume, or consumptive use through the proposed change. Label it **Attachment #8a**.

C. PLACE OF USE CHANGES TO SUPPLEMENTAL IRRIGATION RIGHTS

- ☐ If you propose to change the place of use of a supplemental irrigation right, answer below and attach supporting documentation. Label it Attachment #8b.

Describe how the supplemental water rights have been used historically in conjunction with other water rights at the existing place of use. Describe the time during the irrigation season that the supplemental rights have been used. Include information about the availability or reliability of the primary right(s) being supplemented, both before and after the change. If the applicant is proposing to change a supplemental irrigation right to a primary right, provide the information required on Part 3B above:

[illegible]**FOR DEPARTMENT USE ONLY**

Transfer contains _____ pages and _____ attachments.

Received by _____ Date _____ Preliminary check by _____ Date _____

Fee paid 200 Date 12/22/14 Received by J Receipt # E042666

Add'l fee paid _____ Date _____ Received by _____ Receipt # _____

Check all that apply: Attachment WSB ☐ (copy sent to state office) Lessor Designation form ☐ &/or W-9 ☐ (originals to state office)

Part 1A.2 (cont.) The NRCS designed the 12-inch diameter LHaC-02 irrigation pipeline to: (1) meet NRCS standards to not exceed velocities of 5 feet per second in the pipe, (2) convey the amount of water needed to operate the system, and (3) preserve the head needed to provide full gravity pressure to the whole system. A flowmeter behind the debris screen will be used to measure flow.

Two risers will be installed in the pressurized pipeline. Water will be diverted at the risers into 1.5" diameter 160 PSI PE pipelines. The "Trouble Spring Pipeline" will be 9,386 feet long. The "Hatch Pipeline" will be 5,240 feet long. The Trouble Spring and Hatch pipeline and trough systems will replace the stockwater and wildlife water that was previously provided by the open ditch. The upland trough locations will reduce livestock and wildlife pressure on the newly established Hawley Creek riparian vegetation.

Each pipeline will supply two 500-gallon poly-tanks in the BLM Leadville Allotment. The pipelines will have shut-off valves and the troughs will be floated so water will be supplied based on the consumptive rate. The gravity system will supply water to 250 head with a peak daily capacity of 15 GPD per head. Delivery rate will be 3.0 GPM to supply the full daily requirement in 20 hours. The Leadville Allotment permit is for up to 500 head between 5/1-9/30 for a maximum of 528 Animal Unit Months.

Attachment #5. The LHaC-02 POD has not changed. However, the PODs identified in the current water rights 74-7205 and 74-14368 are in fact **re-diversions** of water carried in the LHaC-02 ditch. This error occurred because prior to implementation of this project, Hawley Creek has been dewatered during the irrigation season for over 100 years.

Part 1B.5 (cont.) and (3) stabilize Hawley Creek below the POD.

A new fish screen designed in accordance with NMFS anadromous salmonid passage facility design will be installed in the existing ditch about 165 feet downstream of the new POD. The screen design will provide up to 5 cfs of instream flow savings, depending on the available baseflow, in addition to the 0.8 cfs fish return flow.

The fish screen would have two buried PVC bypass pipes. A 10-inch diameter by 130-foot long pipe would transport entrained fish back to Hawley Creek as per NMFS criteria. A second 18-inch diameter by 130-foot long pipe would return water in excess of 7.1 cfs (i.e., up to the 9.18 cfs design flow) to Hawley Creek. If the irrigation is shut off, this overflow pipe would instantly return the diverted water to Hawley Creek, allowing the water to stay instream and relieve pressure on the pivot system.

The long-term benefits of this project are improvement of the historic migratory corridors between the Lemhi River and Hawley Creek for spring/summer Chinook salmon, steelhead, bull trout, and westslope cutthroat trout by:

- Increasing water quantity and perennial flow in Hawley and Canyon creeks below the LHaC-01, LHaC-02, and LCC-03 diversions up to 1.48 cfs in Canyon Creek and 5.0 cfs in Hawley Creek;
- Removing three diversion structures that are fish passage barriers;
- Eliminating entrainment and mortality of fish in the irrigation ditches and the LHaC-02 bubbler;
- Reducing the potential for fish stranding and mortality caused by rapid flow fluctuations and dewatering that occur during irrigation operations; and
- Improving the water quantity and quality limiting factors identified by BOR and IDEQ.

Attachment 7a. Maps

LEADVILLE STOCKWATER SYSTEM TOPO MAP

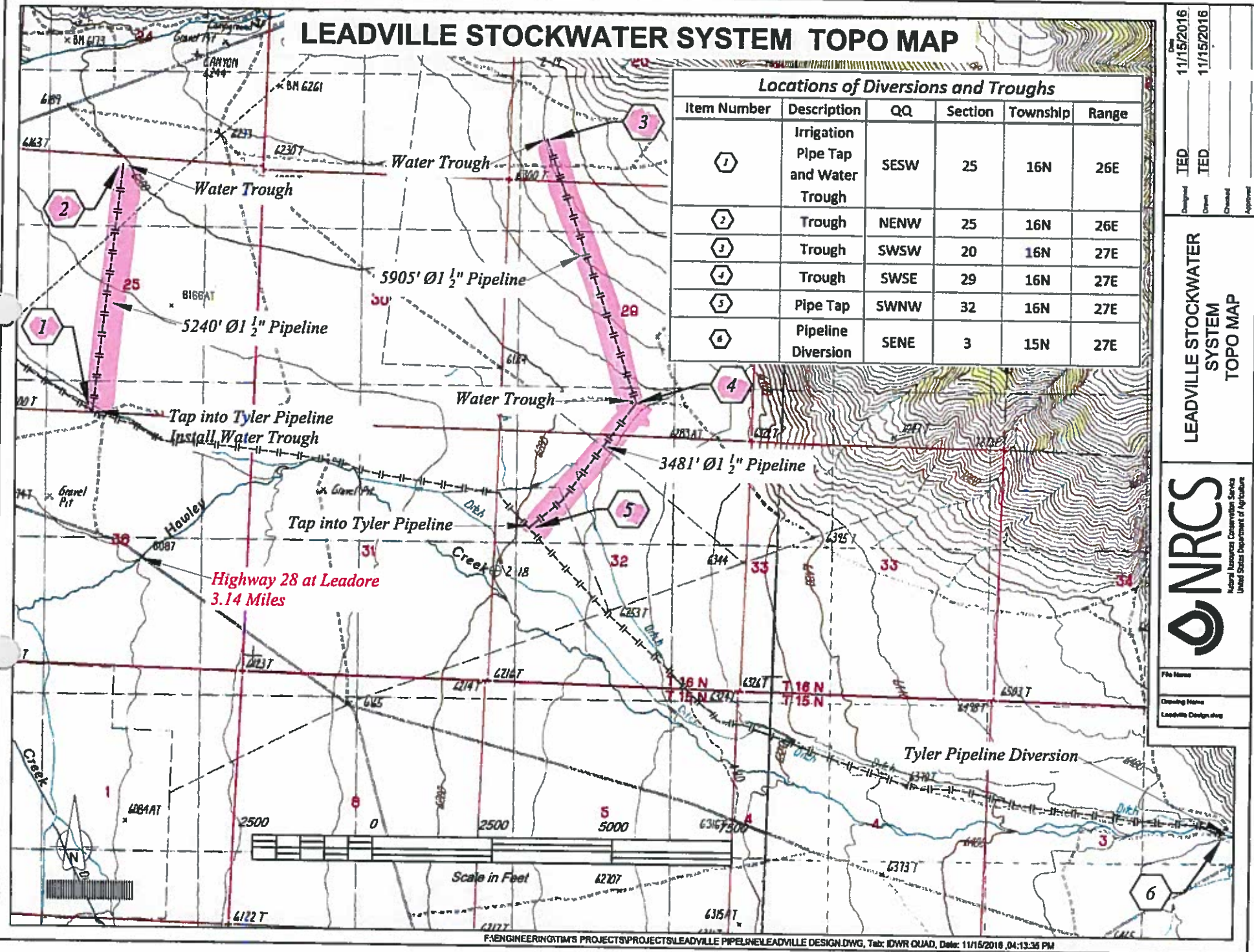
Locations of Diversions and Troughs					
Item Number	Description	QQ	Section	Township	Range
1	Irrigation Pipe Tap and Water Trough	SESW	25	16N	26E
2	Trough	NENW	25	16N	26E
3	Trough	SWSW	20	16N	27E
4	Trough	SWSE	29	16N	27E
5	Pipe Tap	SWNW	32	16N	27E
6	Pipeline Diversion	SENE	3	15N	27E

Date: 11/15/2016
 Drawn: TED
 Checked: TED
 Approved:

LEADVILLE STOCKWATER
 SYSTEM
 TOPO MAP



File Name:
 Drawing Name:
 Leadville Design.dwg



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Canyon Creek-Hawley Creek Habitat Restoration Project Map 2 BLM Proposed Action

Legend

- Proposed Project Points
- Proposed Pipeline
- + Project Fords
- Beaver Mimicry Inundated Area
- Right of Way
- Leadore Land Partners
- Idaho Fish & Game

Surface Management Agency

- Bureau of Land Management
- U.S. Forest Service
- State
- Private

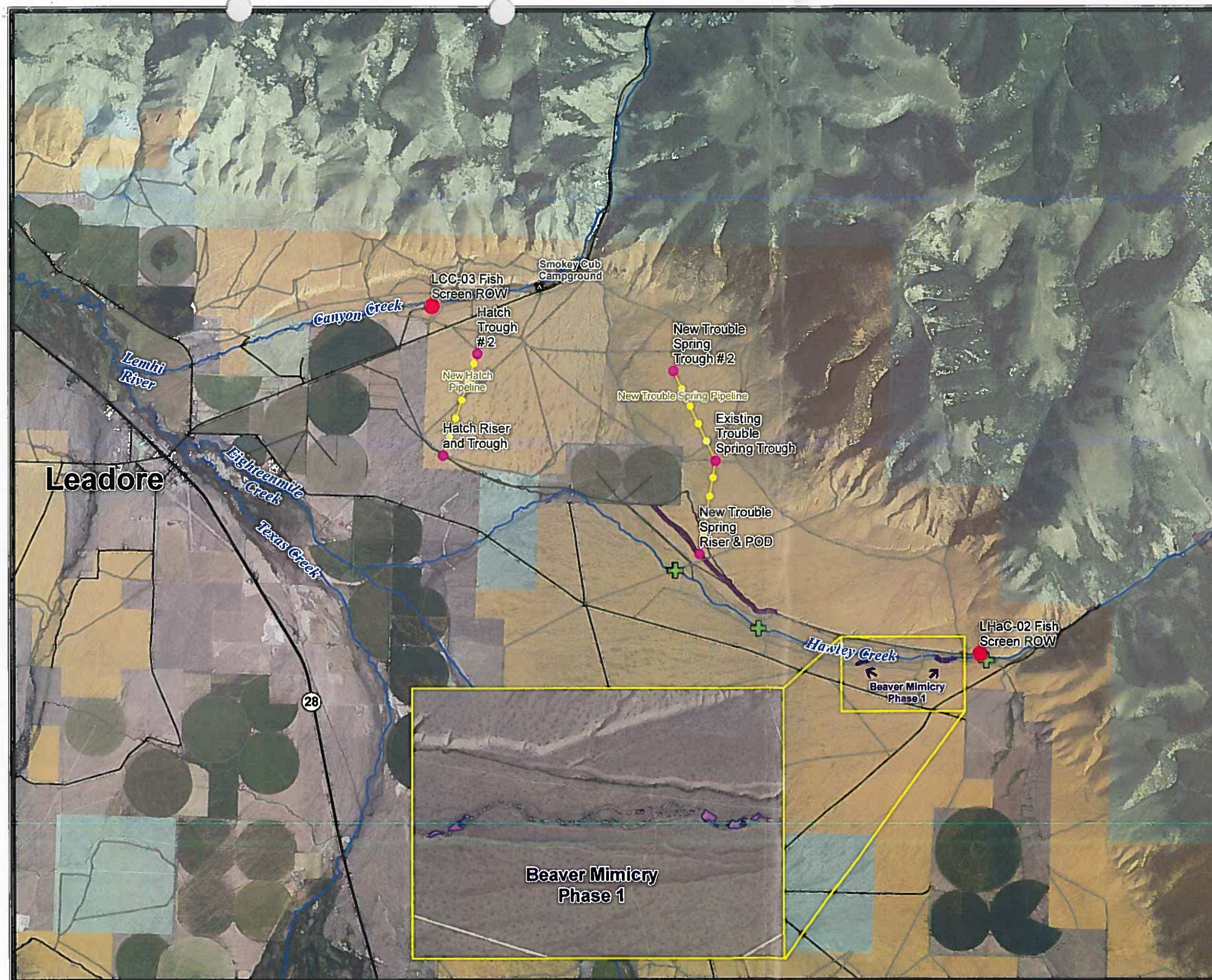
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June 2016

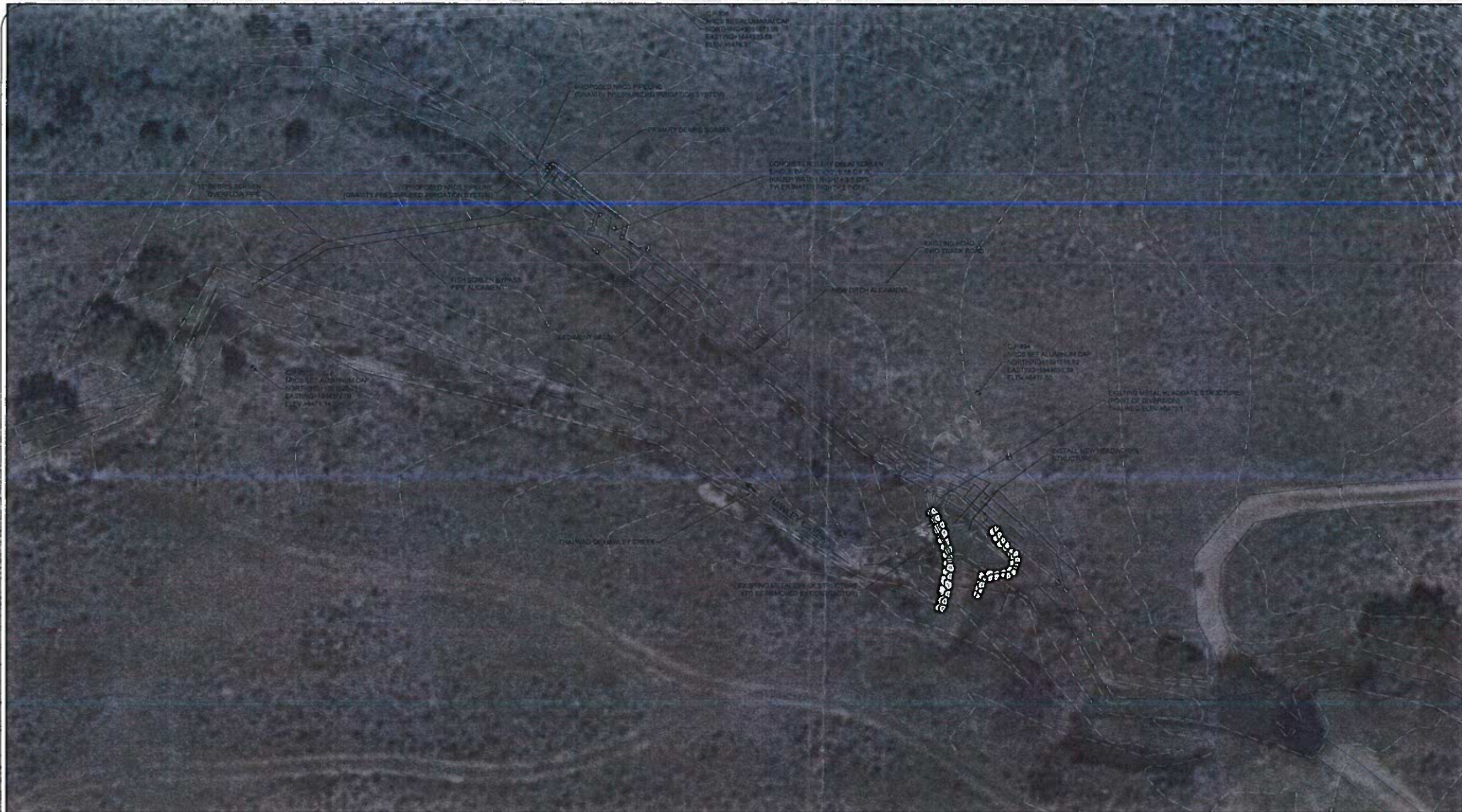


0 0.75 1.5
Miles



No warranty is made by the Bureau of Land Management (BLM). The accuracy, reliability, or completeness of these data for individual use or aggregate use with other data is not guaranteed.





DRAWING IS REDUCED TO 50% OF FULL SCALE

0 1"

BAR IS 1 INCH ON ORIGINAL DRAWING. IF NOT 1 INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

LEGEND

FLOW LINE OF DITCH
DITCH TOE OF BANK
THALWEG OF STREAM
STREAM TOE OF BANK
STREAM TOP OF BANK
CONTOUR LINE
CONTROL POINT
FLOW DIRECTION

EXISTING

PROPOSED



GENERAL NOTES

INSTALL NEW SINGLE BAY CONCRETE SCREEN STRUCTURE. STRUCTURE TO BE A DRUM PADDLE WHEEL DESIGN WITH A 36" DIA. SCREEN 10' LONG. DESIGN FLOW=9.18 CFS AT 85% SUBMERGENCE, FLOW AGREEMENT = 7.0 CFS (KAUER=3.3 CFS, TYLER=3.7 CFS)

INSTALLATION OF SCREEN, PADDLE WHEEL, TRASH RACK, AND MECHANICAL APPURTENANCES TO BE COMPLETED BY IDFG

EXCAVATED MATERIAL SHALL BE USED TO REGRADE DITCH, PROVIDE FILL AROUND NEW STRUCTURE AND BUILD UP DITCH BANKS UPSTREAM OF NEW STRUCTURE.

CONSTRUCT A TEMPORARY BYPASS CHANNEL IF NEEDED AND FILL IN AFTER PROJECT IS COMPLETE. ALL BYPASSED WATER MUST BE SCREENED IN A MANNER ACCEPTABLE TO THE IDFG ENGINEER. CONSTRUCTION OF THE SCREEN SHOULD BE COORDINATED WITH LANDOWNER/WATER USERS FOR OPTIMAL USE.

STRIP TOPSOIL AND STOCKPILE. REPLACE UPON COMPLETION OF WORK AND RESEED WITH GRASSES SPECIFIED IN CONTRACT DOCUMENTS. DISTURBANCE OF EXISTING VEGETATION ON DITCH BANK AND RIVER BANK SHALL BE KEPT TO A MINIMUM.

MAINTAIN MINIMUM 18" OF COVER OVER TOP OF BYPASS PIPE, PROVIDE FILL MATERIAL AND MOUND AS NECESSARY.

RIPRAP WORK REQUIRED. SEE PLAN VIEW FOR LOCATIONS AND SIZE. ROCK TO BE PLACED OVER GEOTEXTILE FILTER FABRIC (CONTECH C-80NW OR EQUIVALENT) INSTALLED PER MANUFACTURES RECOMMENDATIONS. CARE SHOULD BE TAKEN WHEN PLACING ROCK TO AVOID DAMAGING GEOTEXTILE.

INSTALL NON-STANDARD 4 1/4" DIAMETER ORIFICE AT BYPASS OUTLET FROM STRUCTURE.

NOT APPROVED FOR CONSTRUCTION

REV.	DATE	DESCRIPTION	BY
		STATE OF IDAHO	
		DEPARTMENT OF FISH AND GAME	
		BOISE, IDAHO	
DESIGNED	JSS	HAWLEY CREEK LHaC-02	
DRAWN	JSS	FISH SCREEN DESIGN	
CHECKED	PM		
DATE	03-31-2011	OVERALL SITE PLAN	
SCALE	1"=20'		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG: LHaC-02 FISH SCREEN DESIGN.DWG		SHEET 1 OF 1	

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LEADVILLE STOCKWATER SYSTEM

Sheet List Table

Sheet Number	Sheet Title
1	Title Sheet
2	Site Location
3	Site Plan
4	Trough Details
5	Appurtenance Details
6	West Pipeline Profile
7	East Pipeline Profile with Piping Detail

CONSTRUCTION NOTES:

1. ALL CONSTRUCTION SHALL CONFORM TO REQUIREMENTS OF THESE DRAWINGS AND THE NATURAL RESOURCES CONSERVATION SERVICE (NRCS) SPECIFICATIONS ID-516 AND ID-614.
2. IT IS THE OWNER/OPERATOR'S RESPONSIBILITY TO LOCATE AND PROTECT ALL UNDERGROUND AND OVERHEAD UTILITIES PRIOR TO CONSTRUCTION.
3. DURING INSTALLATION, PARTICULAR ATTENTION SHALL BE PAID TO THE PRESENCE OF CULTURAL RESOURCES. IF CULTURAL RESOURCES ARE ENCOUNTERED, ALL WORK SHALL CEASE AND AN NRCS REPRESENTATIVE SHALL BE CONTACTED.
4. PIPE IS TO BE ASTM D2239, MATERIAL PE3408, 180 psi RATING. ALL JOINTS TO BE DOUBLE Banded WITH STAINLESS STEEL BANDS
5. CONTINUOUS ACTING COMBINATION AIR VENT AND VACUUM RELIEF VALVES ARE REQUIRED AT ALL PIPE SUMMITS AND DRAINS ARE REQUIRED AT ALL PIPE LOW POINTS.
6. THE STOCKWATER SYSTEM IS DESIGNED TO SUPPLY WATER TO APPROXIMATELY 250 HEAD WITH A PEAK DAILY WATER REQUIREMENT OF 15 GPD PER HEAD.
7. THE PLAN IS TO WATER 5 GALLONS AT A TIME 3 TIMES A DAY. THE GRAVITY LINE SUPPLYING WATER TO THE WATERING FACILITY WILL DELIVER WATER AT A RATE OF APPROXIMATELY 3.0 GPM, DELIVERING THE PERIODIC REQUIREMENT IN APPROXIMATELY 7 HOURS AND THE FULL DAILY REQUIREMENT IN APPROXIMATELY 20 HOURS.
8. THE WATER TROUGHS ARE PLANNED TO BE 250 GALLON, RECTANGULAR POWDER RIVER TYPE TROUGHS

REVIEW AND ACCEPTANCE

Practice Standards ID-516 and ID-614
Design Prepared For: *BLM and Leadore Land Partners*

This is a Job Class II project. (77 psi at start of pipeline)

DESIGNED BY: _____ DATE: _____

APPROVED BY: _____ DATE: _____

I have received and reviewed plans for this project. I have reviewed the design drawings, construction specifications, inspection plan (if developed), and operation and maintenance requirements for this design. I agree to construct this project or to have it constructed in accordance with these plans. Construction shall follow the inspection plan (if developed) and shall be in accordance with the design drawings, NRCS construction specifications, and all pertinent federal, state, or local requirements. Construction specifications included in these plans are: Practice ID-516 (Mar 2012) Livestock Pipeline and Practice ID-614 (Mar 2012) Watering Facility.

I will ensure that required permits or easements are obtained prior to construction. I will ensure all underground and overhead public utilities within the work area(s) are located and protected.

I agree to operate and maintain this project as required by the plans and any applicable program requirements.

If any changes to these approved plans and specifications are proposed, I agree to obtain approval from an NRCS representative prior to construction/installation. I understand that any deviation(s) from these approved design drawings, construction specifications, inspection plan (if developed), or operation and maintenance requirements without prior NRCS approval may result in my becoming ineligible for incentive payments.

COOPERATOR: _____ DATE: _____

NRCS REPRESENTATIVE: _____ DATE: _____

NOT FOR CONSTRUCTION



Know what's below.
Call before you dig.

Current as of 7/5/2016, 1:57:PM
ALL EARLIER VERSIONS OBSOLETE

07/05/2016
07/05/2016

TED TED

Checked

Approved

LEADVILLE STOCKWATER SYSTEM
TITLE PAGE



File Name

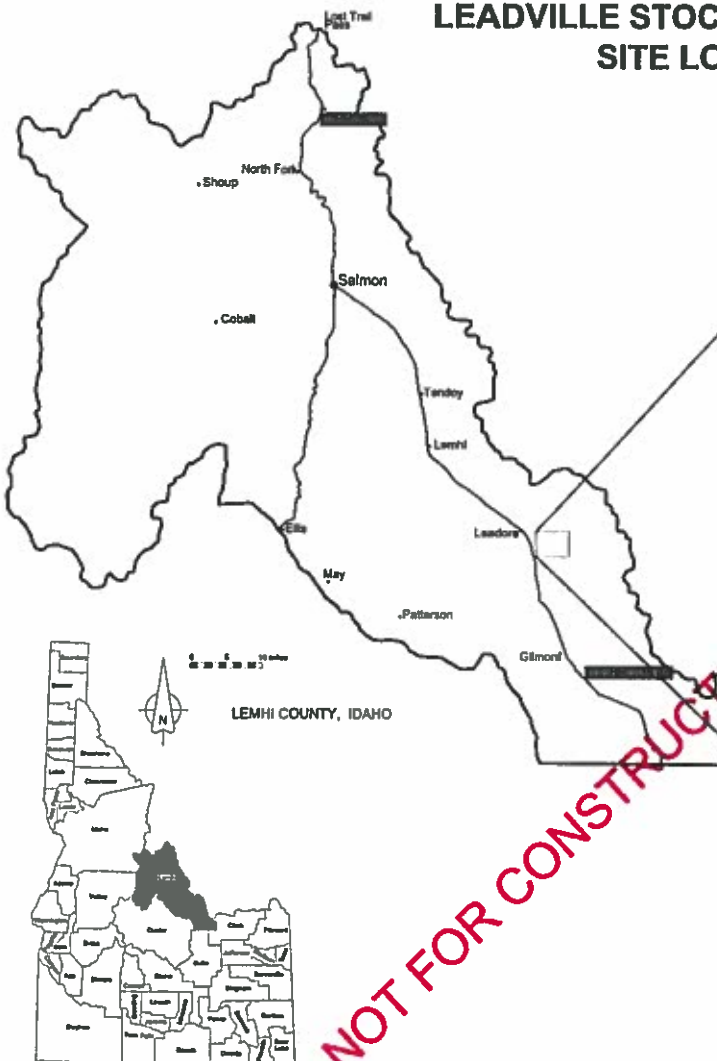
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Leadville Design.dwg

Sheet 1 of 7

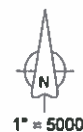
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LEADVILLE STOCKWATER SYSTEM SITE LOCATION



SECTION 25 T16N R26E and SECTIONS 20,29,32 T16N R27E
LEMHI COUNTY, IDAHO

NOT FOR CONSTRUCTION



Design	JED	Date	07/05/2018
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Draw		Date	
Approval		Date	

LEADVILLE STOCKWATER SYSTEM
PROJECT LOCATION



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Drawing Name	
Leadville Design Aug	
Sheet	2 of 7

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LEADVILLE STOCKWATER SYSTEM SITE PLAN

NOT FOR CONSTRUCTION

Sta 52+83 End Ø1½"
160 psi PE pipe
Install 250 gallon
Power River Trough
or Equivalent

Sta 38+30
Cross historic
railroad grade
Install CAAV at high
point

5283' of Ø1½" 160 psi PE pipe

Sta 263+00 on Tyler Pipeline. Tap into nipple on
saddle tee. Reduce to 1½" as necessary. Install 1½"
gate valve and continuous acting airvent. start Ø1½"
160 psi PE pipe

Sta 93+84
End Ø1½" 160 psi PE pipe
Move existing 250 gallon
Power River Trough 220' SW
and tie pipeline into trough

Existing 250 gallon
Power River Trough

Sta 34+82 Install Tee
and new 250 gallon
Power River Trough.
Continue PE pipe to
upper trough
See piping detail Sheet 7

3482' of Ø1½" 160 psi PE pipe

6140.76
CP-3

Sta 166+00 on Tyler Pipeline. Tap into nipple on
saddle tee. Reduce to 1½" as necessary. install 1½"
gate valve and continuous acting airvent. start Ø1½"
160 psi PE pipe

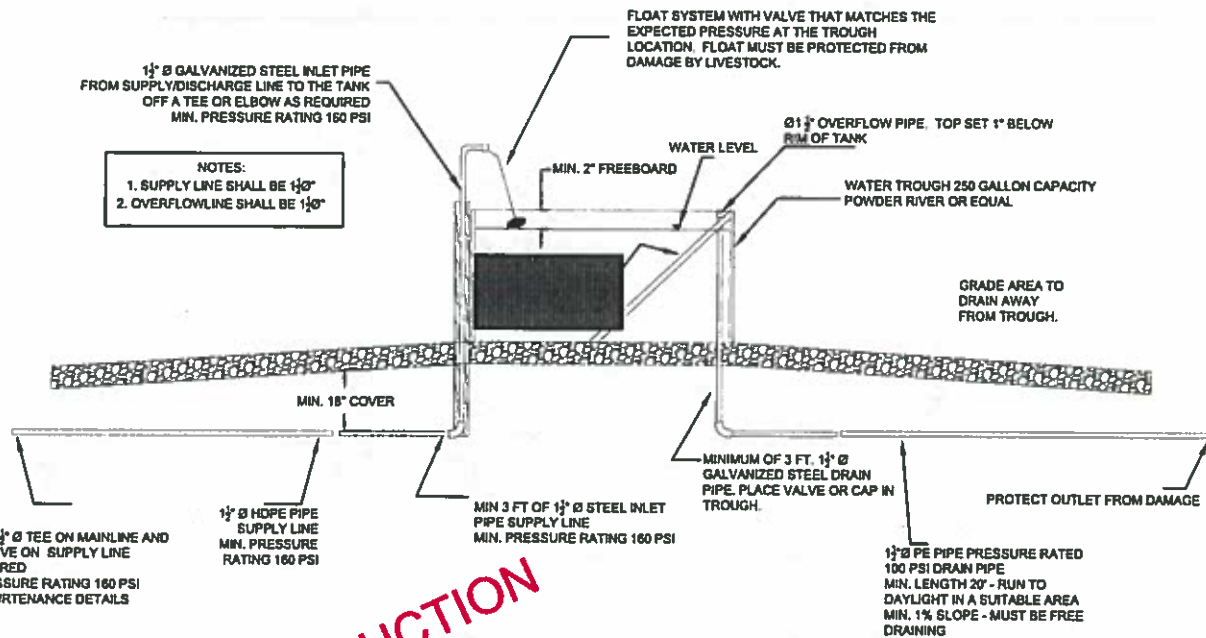
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Checked			
Approved			

LEADVILLE STOCKWATER SYSTEM SITE PLAN



NRCS
Natural Resource Conservation Service
United States Department of Agriculture

LEADVILLE STOCKWATER SYSTEM TROUGH DETAILS



**WATER TROUGH SECTION VIEW
NO SCALE**

NOT FOR CONSTRUCTION

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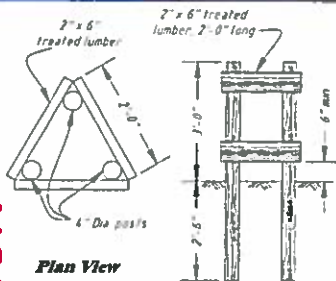
LEADVILLE STOCKWATER SYSTEM
TROUGH DETAILS



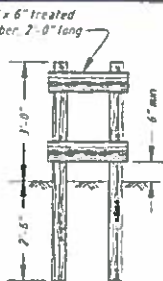
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Drawing Name	Leadville Drough.dwg
Sheet	4 of 7

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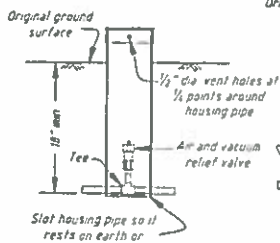


Plan View

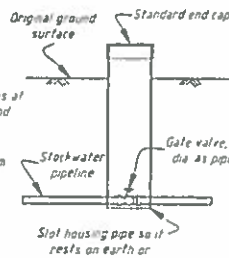


Elevation

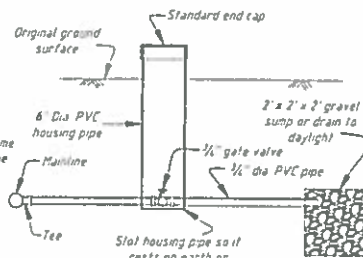
GUARD POST ASSEMBLY



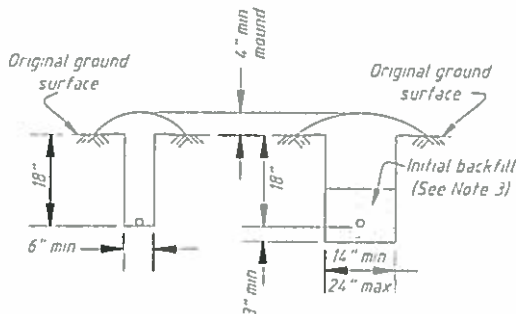
AIR AND VACUUM
RELIEF VALVE DETAIL



GATE VALVE DETAIL



PIPELINE DRAIN DETAIL



Fine Grained Soils Coarse Grained Soils
TRENCH DETAILS

NOTES:

1. Where special bedding is required, the minimum trench width shall be fourteen (14) inches. The maximum trench width shall be twenty-four (24) inches.
2. Where the bottom of the trench is not free from rock, hard un-weathered shale or boulders, bedding shall be provided. The trench shall be over excavated a minimum of three (3) inches below grade. The bedding material used to establish the final grade shall be sand or fine graded stable soil finer than a number four (4) screen.
3. Backfill materials placed within the first six (6) inches over the pipeline shall be finer than a number four (4) screen. The backfill shall be mounded for four (4) inches above the natural ground line.
4. Earthen water bars shall be provided where necessary to divert excess water runoff away from the trench.
5. Areas disturbed by construction activity shall be revegetated.
6. Shallow pipelines for summer use installed to a minimum depth of eighteen (18) inches will require drain provisions at all low points. Positive grade will be provided from all drain locations.
7. Vents for removing air should be located at all summits. An air release valve shall be located at the first summit from the water source. Special care shall be taken during the layout of the pipeline to eliminate grade changes that cause minor high points between the air vents. In no case shall the air vents be more than one (1) mile apart.
8. Automatic vacuum relief valves shall be designed for pipelines subject to extreme surge flow conditions such as pumping, fluctuating flow, or high velocity flow.
9. Guard posts shall be installed at all appurtenances which have above ground housing pipes.

Appurtenance Schedule

Line	Station	Appurtenance
West	0+00	Drain, CAAV, Gate Valve
West	10+00	CAAV
West	20+00	CAAV
West	30+00	CAAV
West	38+30	CAAV
West	50+00	CAAV
West	52+83	Trough
East	0+00	Drain, CAAV, Gate Valve
East	6+12	Drain
East	12+17	Drain
East	15+00	Drain
East	17+70	CAAV
East	18+58	Drain
East	25+10	CAAV
East	30+32	Drain
East	34+82	CAAV
East	34+82	Trough
East	34+82	Gate Valves
East	35+90	Drain
East	38+90	Drain
East	61+88	CAAV
East	76+72	CAAV
East	80+73	Drain
East	88+30	CAAV
East	93+84	Trough

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NO SCALE

07/05/2016
07/05/2018

LEADVILLE STOCKWATER SYSTEM
APPURTENANCE DETAILS

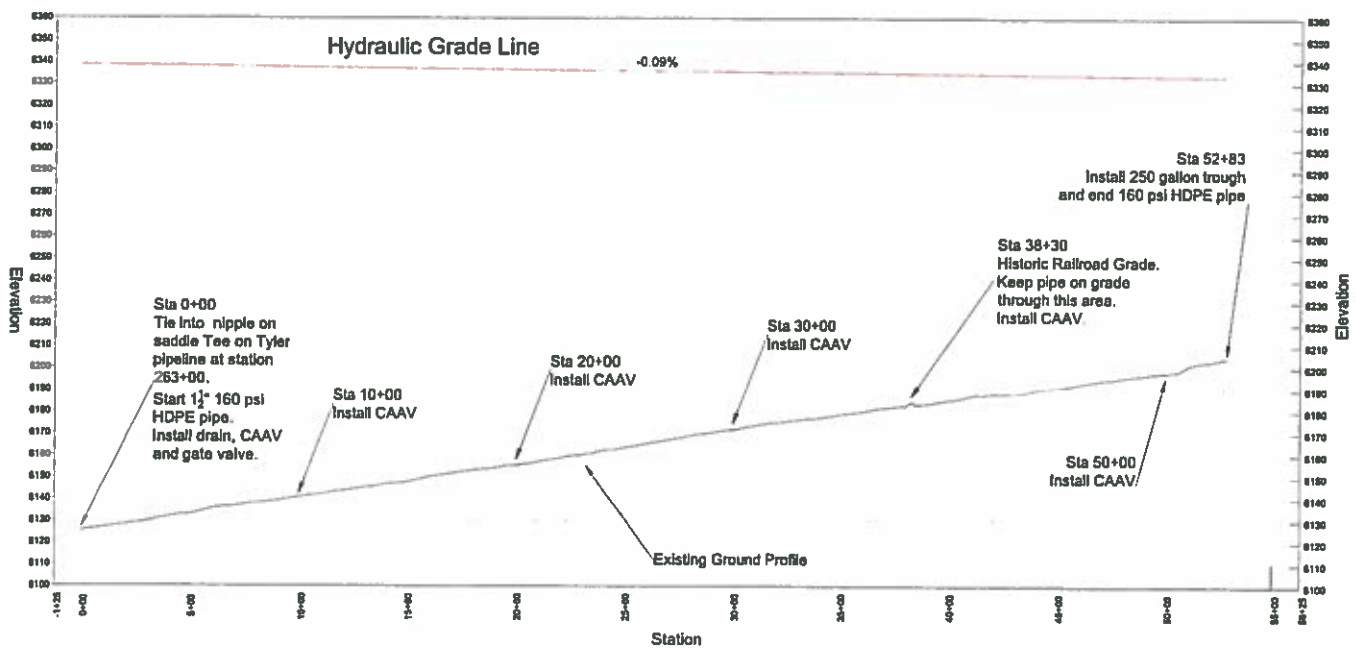


File Name
Drawing Name
Leadville Design.dwg

Page 5 of 7

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Profile View of West Pipeline Alignment



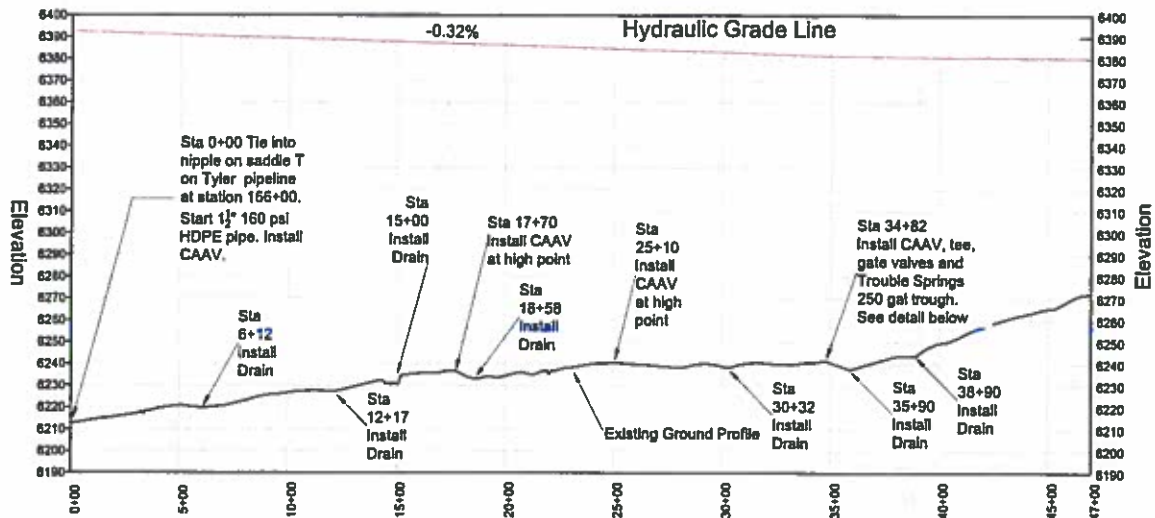
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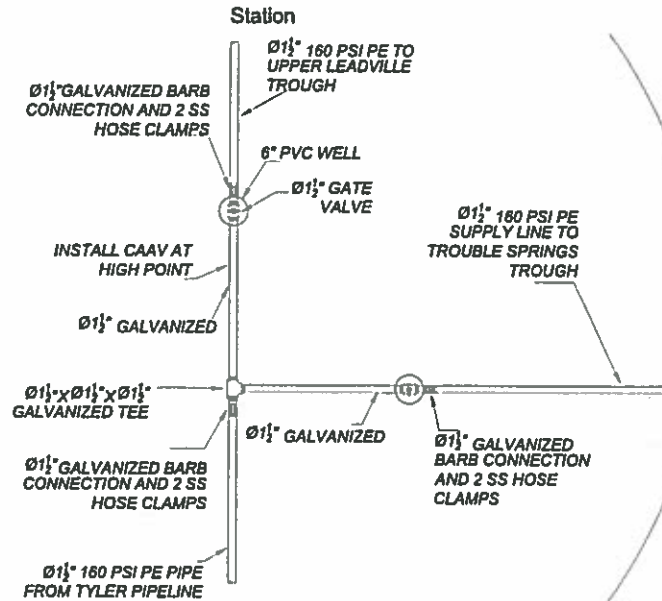
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LEADVILLE STOCKWATER SYSTEM WEST PIPELINE PROFILE	
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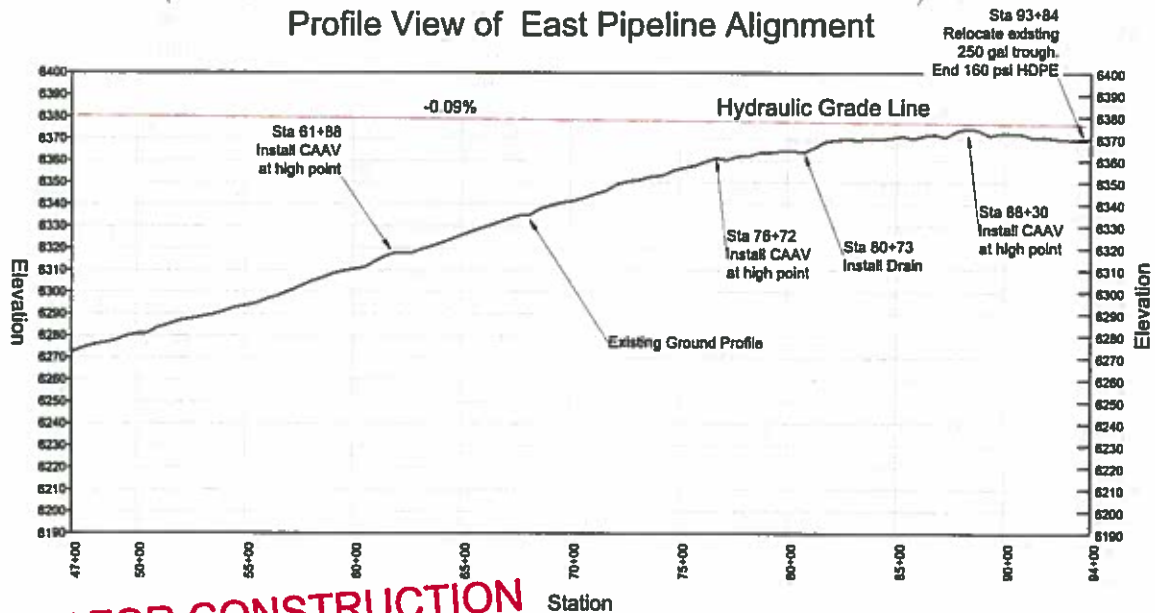
Profile View of East Pipeline Alignment



FITTINGS DETAIL AT STATION 34+82



Profile View of East Pipeline Alignment



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Station

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LEADVILLE STOCKWATER SYSTEM
EAST PIPELINE PROFILES

Drawn: JED 07/05/2016
Check: JED 07/05/2016
Approved: _____

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NATURAL RESOURCES CONSERVATION SERVICE
Idaho
CONSTRUCTION SPECIFICATIONS
FOR
PIPELINE

Leadore Land Partners
 (Owner/Operator)

Leadville Stockwater
 (Project Title)

GENERAL

Installation shall be in accordance with an approved design and plan. Details of construction shown on the drawings, but not included herein, shall be considered as part of these specifications. Construction activities shall be in accordance with Department of Labor, Occupational Safety and Health Administration (OSHA) regulations. This construction specification pertains to buried installations.

MATERIALS

Only new materials will be used in construction of this project.

Pipe shall be of the type, size and pressure rating shown on the drawings and shall meet the requirements of the appropriate material specifications.

Steel pipe and fittings shall be galvanized and meet the requirements of AWWA Specification C-200.

Plastic pipe shall comply with ASTM Specifications:

- D 1527 or D 2282 for AcrylonitrileButadiene-Styrene (ABS).
- D 2104, D 2239, D 2447, D 2737 or D 3035 for Polyethylene (PE).
- D 1785, D 2241, D 2672 or D 2740 for Polyvinyl Chloride (PVC).
- D 2513 for Thermoplastic Gas Pressure Pipe.
- D3350 and D 2837 for PE3408 HDPE Pipe.

The pressure rating of fittings shall meet or exceed the strength requirements of the pipe. All fittings shall be of a material that is recommended for use with the type of pipe that

is specified. As appropriate, plastic pressure pipe fittings shall conform to ASTM Specifications: D 2464, D 2466, D 2467, D 2468, D 2609, D 2683, D 3139 and/or D 3261.

Solvents for solvent-welded plastic pipe joints shall conform to one of the following ASTM specifications as appropriate: D 2235, D 2564, or D 2855. Rubber joints for pipe joints shall conform to ASTM F 477, Elastomeric Seals (Gaskets) for Joining Plastic Pipe.

Pipelines to convey water that may be used for human consumption shall meet the requirements of the Idaho Department of Health and Welfare for material and installation, and plastic pipe shall be marked with NSF approval.

INSTALLATION

The pipe trench shall be excavated at the required location and depth as shown on the drawings and/or staked in the field. The bottom of the trench shall be reasonably smooth so that pipe will be properly supported.

All above-ground pipe shall be steel, galvanized or HDPE. No PVC is to be installed above ground.

Trenches for pipelines shall be free of rocks and other sharp edged materials. Plastic pipe shall be placed in a "snake" like position. Semi-rigid pipe may require expansion joint couplers.

Plastic pipelines may be placed by "plow-in" equipment where soils are suitable and rocks and boulders will not be detrimental to the pipe.

Pipelines shall be placed so they are protected against hazards imposed by traffic, farm operations, freezing temperatures or soil cracking.

Pipelines shall have a minimum cover of 18 inches. Other means of protection must be

provided where the depth required for protection is impractical due to shallow soils over rock or for other reasons, i.e., mounding of backfill. Pipelines designated for winter use shall be buried the greater of (1) a minimum of three (3) feet, (2) below the depth of the anticipated frost line or (3) minimum depth shown on the drawings or specified in the ADDITIONAL SPECIFICATIONS.

To minimize thermal stresses, installation should be planned to avoid exposing pipe to high temperatures prior to backfilling.

METAL PROTECTION

Whenever steel tees, ells or risers are used, they shall be adequately protected from corrosion by wrapping with plastic tape, galvanizing or other approved corrosion preventatives. Clamps and steel fittings may either be stainless steel or steel properly protected from corrosion.

APPURTENANCES

Pipeline appurtenances shall be of the type, size, pressure class and material as shown on the drawings.

TESTING

Before backfilling, the pipe shall be filled with water and at design working head or a minimum-testing head of ten (10) feet, whichever is greater. All leaks shall be repaired and test repeated before backfilling begins.

Plowed in pipelines shall be pressure tested at the working pressure for two (2) hours. The allowable leakage shall not be greater than one (1) gallon per diameter inch per mile. Should the test exceed this rate, the defect shall be repaired until retests show that the leakage is within the allowable limits.

BACKFILLING

All backfilling shall be completed before the pipeline is placed into service.

The initial backfill within three (3) inches of the pipe shall be of selected materials, free from debris, rocks or other sharp edged material that could damage the pipe. The completed trench backfill shall be mounded for settlement. Backfill of plastic pipe should be done after the pipe reaches the same temperature as the water

or soil. This can be done by filling with water or by leaving the trench open overnight prior to starting the backfill operations. Deformation or displacement of the pipe must not occur during backfilling.

EROSION CONTROL

Disturbed areas shall be treated as listed in ADDITIONAL SPECIFICATIONS to prevent erosion and re-establish protective cover.

ADDITIONAL SPECIFICATIONS

NATURAL RESOURCES CONSERVATION SERVICE
Idaho
CONSTRUCTION SPECIFICATIONS
FOR
WATERING FACILITY

Leadore Land Partners
 (Owner/Operator)

Leadville Stockwater
 (Project Title)

GENERAL

Installation shall be in accordance with an approved design and plan. Details of construction shown on the drawings but not included herein are considered as a part of this specification. Construction activities shall be in accordance with applicable Occupational Safety and Health Administration (OSHA) regulations.

EXCAVATION

The foundation area will be cleared of all roots, brush, sod and debris. The base materials for the trough shall be placed on a firm foundation. Unsuitable materials shall be removed. Gravel, rock or other material, as shown on the drawings, shall be placed under and around the trough to provide drainage and minimize trampling by livestock.

MATERIAL

The trough shall be constructed of the materials as specified on the drawings. No used material is allowed in the installation. PE and HDPE are the only plastic trough materials that will be accepted. No fiberglass troughs will be accepted.

CONCRETE

Concrete work under these specifications shall be constructed to the dimensions, lines and grades as shown on the drawings. Concrete shall have a consistency such that it can be worked into corners and around reinforcement, but without permitting the materials to segregate or excess water to collect.

Concrete compressive strength shall be at least 3000 psi at 28 days. The mix design shall be in accordance with ASTM C 94 and this specification.

Cement shall be low alkali Type II or IIA Portland cement.

Fly ash shall conform to requirements of ASTM C 618 as applicable.

Water reducing admixtures shall be Type "A" meeting the requirements of ASTM C 494.

Coarse aggregate shall be a maximum size of 1-1/2 inches per designations in ASTM C 33.

Air entrainment conforming to the requirements of ASTM C 260 shall be used. The air content shall be 5 to 7 percent.

Forms shall conform to the shapes, lines and dimensions as shown on the drawings. They shall be braced and/or tied together so as to maintain position and shape, and be sufficiently tight to prevent leakage of mortar. Forms shall be thoroughly oiled or wetted and cleaned of debris prior to placement of concrete. Forms shall not be removed without the approval of the Technician.

Reinforcing steel deformed bars shall meet the requirements of ASTM A 615 and welded wire reinforcement shall meet the requirements of ASTM A 185. All reinforcement shall be free from rust, oil, grease, paint or other deleterious matter. Items to be embedded in the concrete shall be positioned accurately and firmly anchored to prevent displacement during placement of concrete. The minimum splice length for deformed bars is 30 bar diameters, and for welded wire mesh the larger of 6 inches or 2 mesh spacings.

Concrete shall be deposited as closely as possible to its final position and shall be worked into the corners and angles of the forms and around all reinforcement and embedded items in a manner

to prevent segregation of aggregates or excessive laitance. Consolidation of concrete shall be accomplished by means of internal type mechanical vibrators, rodding, spading or hand tamping. Concrete slump shall be in the range of 3 inches plus or minus 1 inch, unless cylinder test break data is submitted showing that compressive strength can be achieved with the higher slump.

Construction joints shall be provided as shown in the plans or as approved by the engineer. Joints shall be thoroughly cleaned and laitance removed before a new pour is made. Each joint shall be wetted immediately before the placing of new concrete.

Finishing. After the concrete has been consolidated, the unformed surfaces shall be given a wood float finish. Immediately after form removal, formed surfaces shall be cleaned of all defective concrete and effectively repaired. Snap ties shall be removed and the holes mortared.

Protection and Curing. Concrete shall be prevented from drying for a curing period of at least 7 days after it is placed. Exposed surfaces shall be kept continuously moist for the entire period. For formed surfaces, the protection may be accomplished by leaving the forms in place and keeping them wet for the entire curing period. In lieu of water curing, the concrete shall be cured by spraying with an approved sealing compound. The sealing compound shall be applied as soon as practicable after the concrete is finished. The sealing compound shall meet or exceed the requirements of ASTM C 309. All surfaces shall be kept moist until the compound is applied.

Concreting in Cold Weather. Before any concrete is placed, all ice, snow and frost shall be completely removed from all surfaces to be in contact with the new concrete and the temperature of these surfaces shall be raised to as close as may be practical to the temperature of the new concrete that is to be placed thereon. No concrete shall be placed on a frozen subgrade or on one that contains frozen materials. Concrete shall not be mixed or placed when daily minimum atmospheric temperature is less than 40 degrees F., unless facilities are provided to ensure the adequate protection of the concrete. Temperature of the concrete at the time of

placing shall not be less than 50 degrees F. or more than 90 degrees F. The use of accelerators or antifreeze compounds will not be allowed.

WOOD ITEMS

Unless otherwise specified on the drawings, all timber and lumber shall not be less than select merchantable boards, construction grade beams or timbers.

METAL ITEMS

Steel shall be a minimum thickness of 20 gage. All metal items, with the exception of galvanized or aluminum, shall be painted with two coats of synthetic primer paint and one coat of aluminum paint or equivalent protective coatings.

FROST FREE PLASTIC TROUGHS

Commercial frost-free stock troughs may be used when specified on the drawings. The manufacturer's installation instruction shall be followed. However, the piping, foundation and site preparation shall also meet the minimum requirements of this specification.

RUBBER TIRE TROUGHS

Large rubber tires with concrete floors may be used when specified on the drawings.

WATER CONTROL

Float controls shall be installed when shown on the drawings. Float controls shall be protected from damage by livestock. The piping shall be of the size, type and pressure class shown on the drawings.

CLEAN-UP

The site shall be cleared of all unused materials, forms, etc. needed for the construction. Waste earth material shall be smoothed and seeded.

PIPES

Pipe shall be of the type, size and pressure rating shown on the drawings and shall meet the requirements of the appropriate material specifications.

Steel pipe and fittings shall be galvanized and meet the requirements of AWWA Specification C-200.

Plastic pipe shall comply with ASTM Specifications:

- D 1527 or D 2282 for AcrylonitrileButadiene-Styrene (ABS).
- D 2104, D 2239, D 2447, D 2737 or D 3035 for Polyethylene (PE).
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The pressure rating of fittings shall meet or exceed the strength requirements of the pipe. All fittings shall be of a material that is recommended for use with the type of pipe specified. As appropriate, plastic pressure pipe fittings shall conform to ASTM Specifications D 2464, D 2466, D 2467, D 2468, D 2609, D 2683, D 3139 and/or D 3261.

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Pipelines shall be placed so they are protected against hazards imposed by traffic, farm

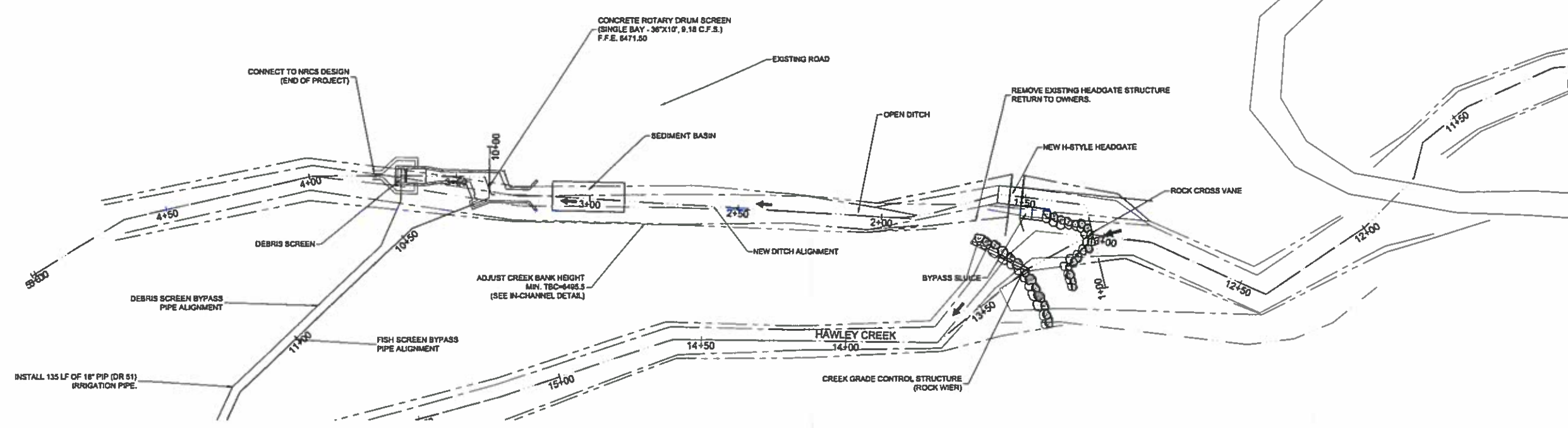
operations, freezing temperatures or soil cracking.

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To minimize thermal stresses, installation should be planned to avoid exposing pipe to high temperatures prior to backfilling.

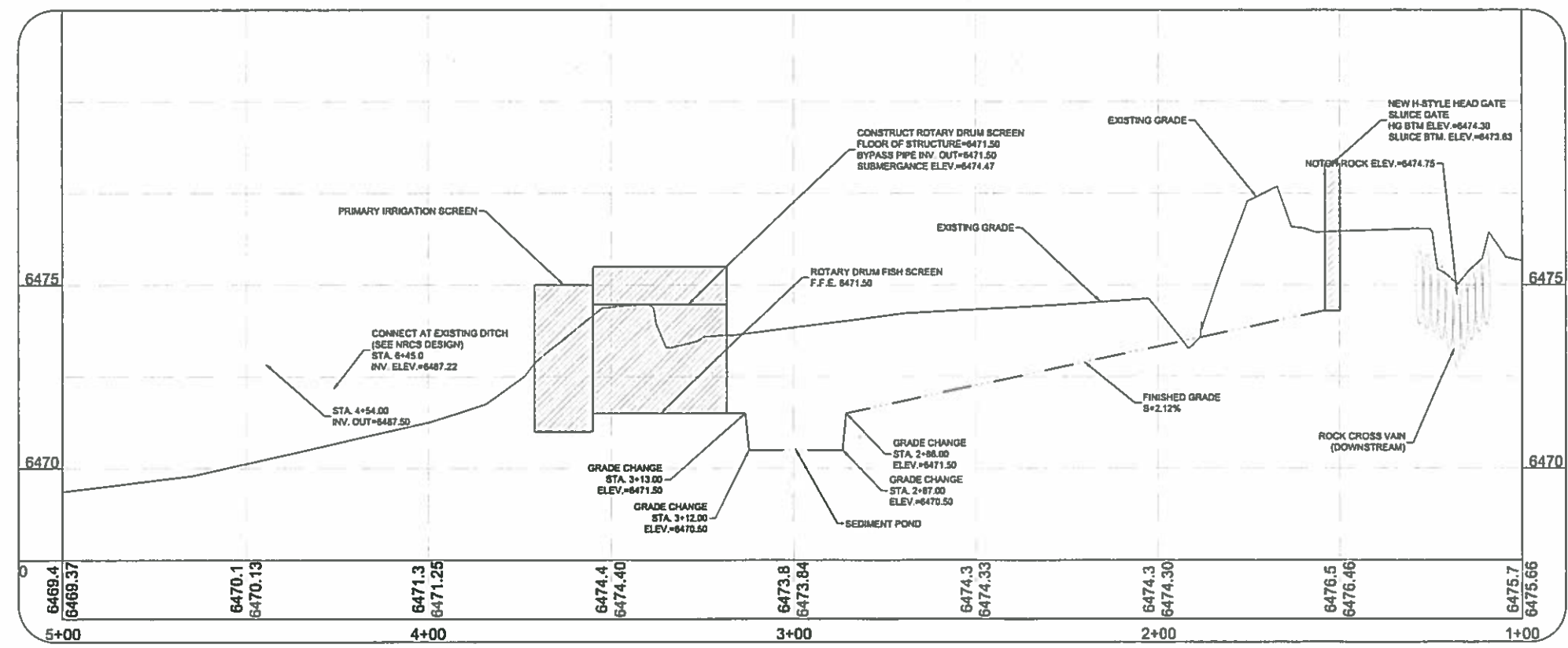
ADDITIONAL SPECIFICATIONS



DRAWING IS REDUCED TO 50%
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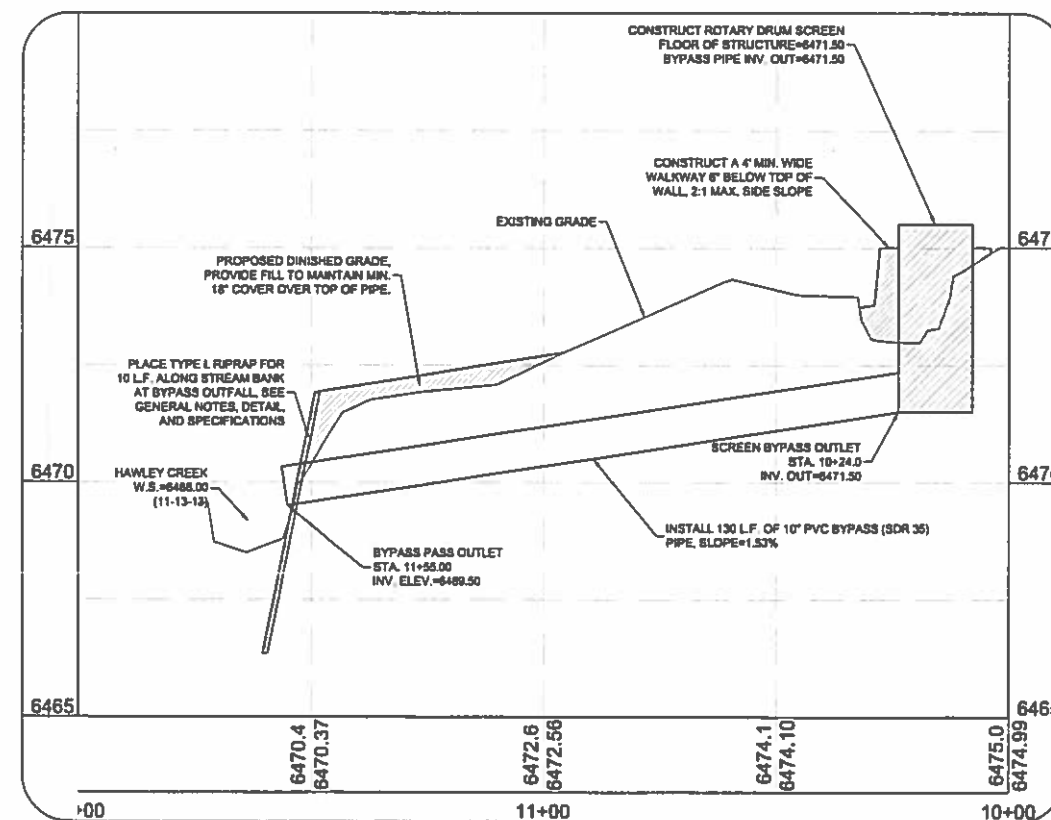
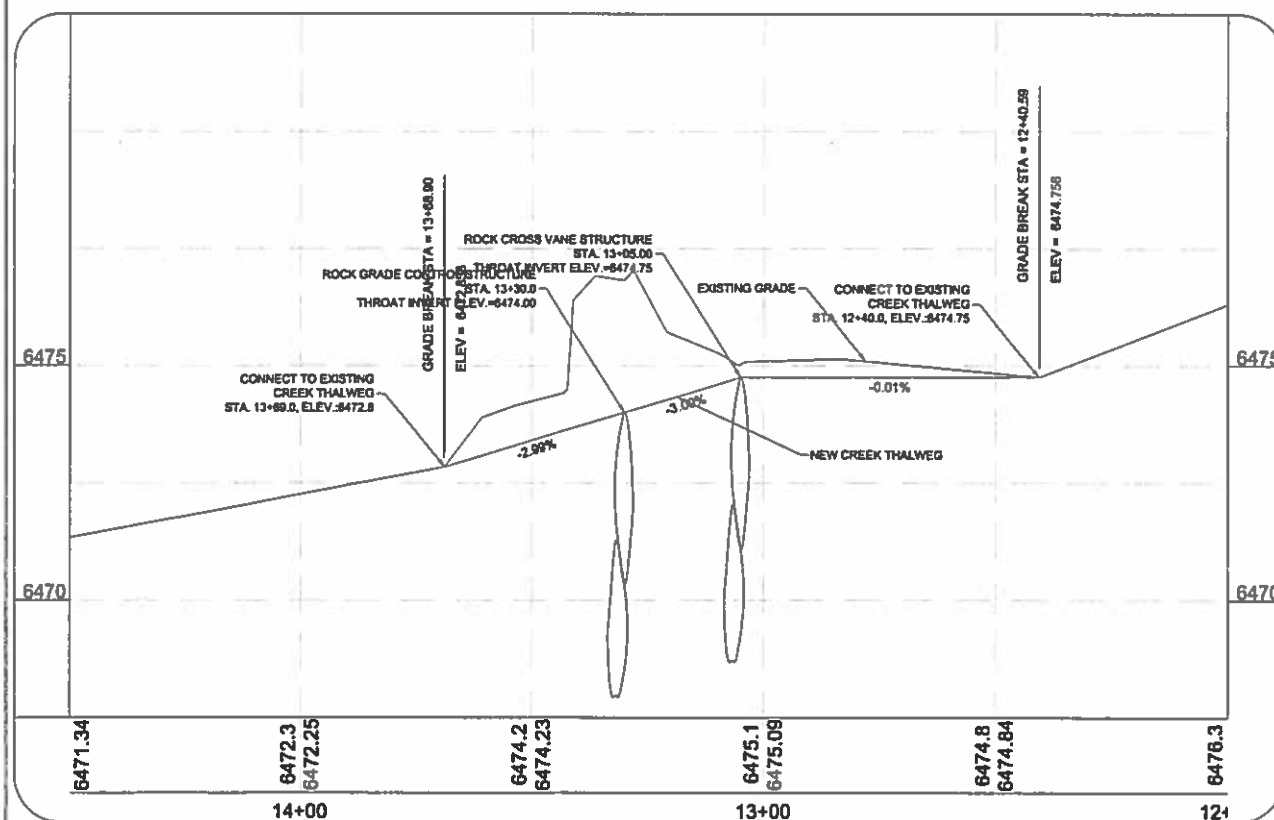
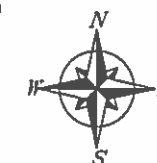
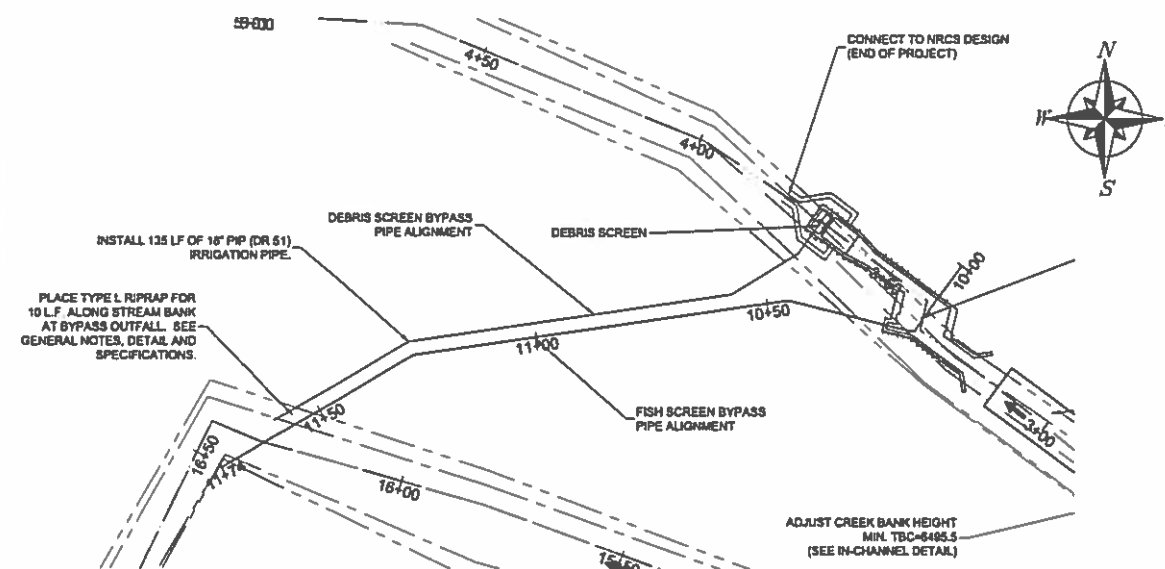
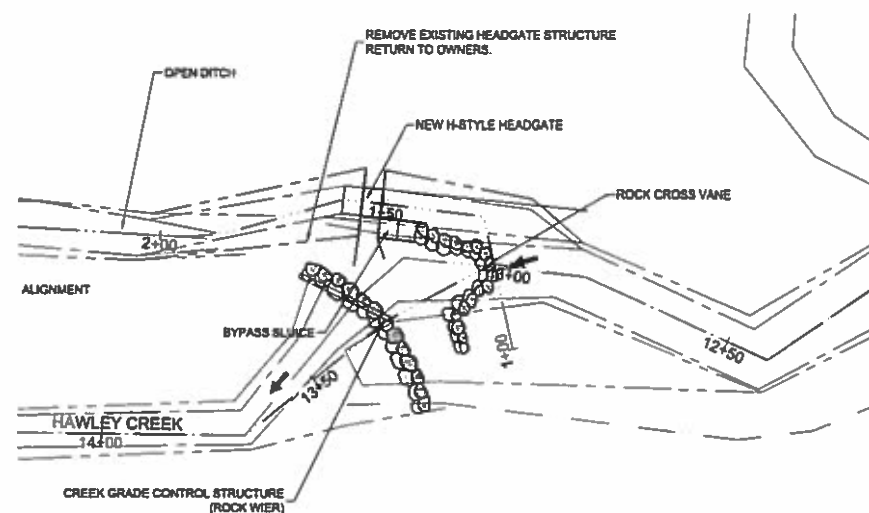


REV.	DATE	DESCRIPTION	BY
STATE OF IDAHO			
DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSB	HAWLEY CREEK LH&C-02 FISH SCREEN DESIGN	
DRAWN	JSB		
CHECKED	PM		
DATE:	03-31-2018		
SCALE:	1"=20'	PROPOSED DITCH PLAN & PROFILE	
APPROVED			
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG: LH&C-02 FISH SCREEN DESIGN.DWG		SHEET 2 OF 7	

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DRAWING IS REDUCED TO 50%
OF FULL SCALE

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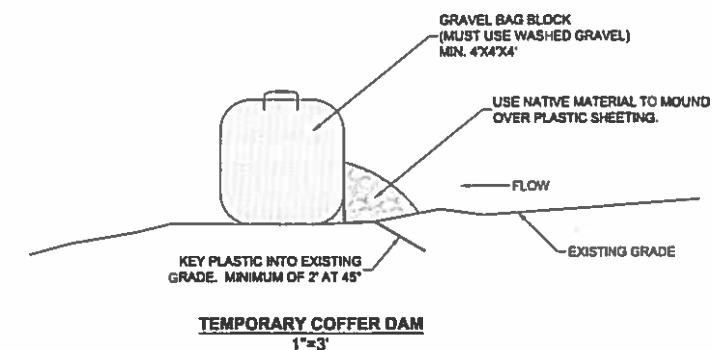
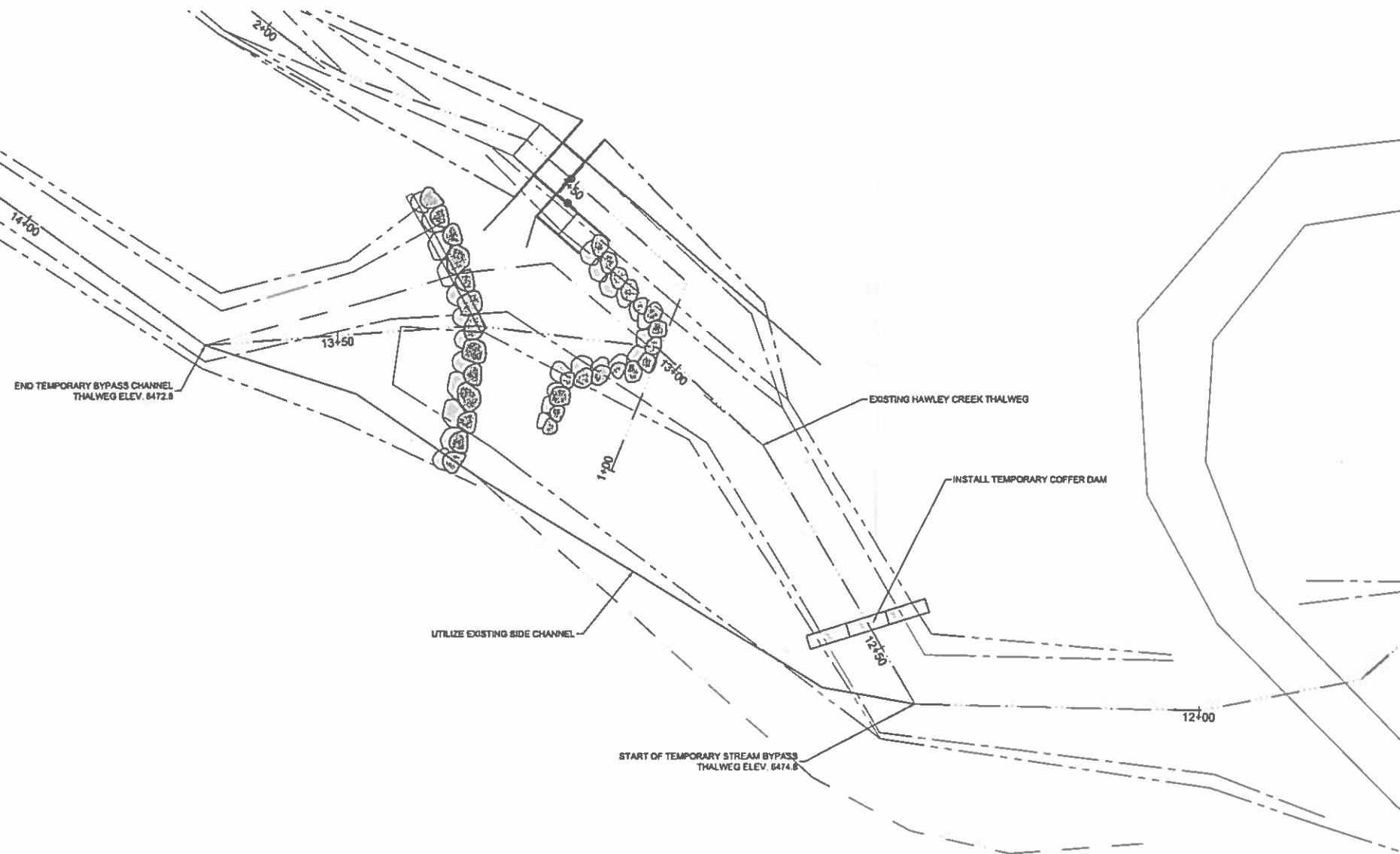
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DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSS	HAWLEY CREEK LHAC-02	
DRAWN	JSS	FISH SCREEN DESIGN	
CHECKED	PM		
DATE	03-31-2011	PLAN & PROFILES	
SCALE	1"=20'		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG.: LHAC-02 FISH SCREEN DESIGNING		SHEET 3 OF 7	

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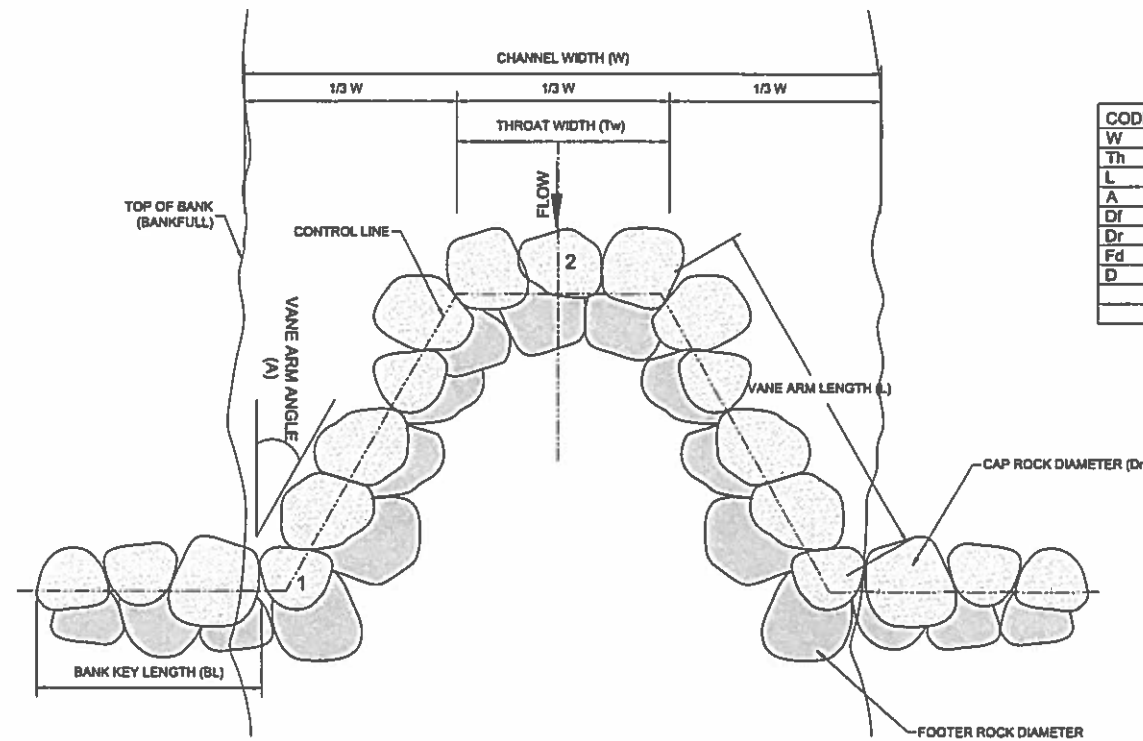
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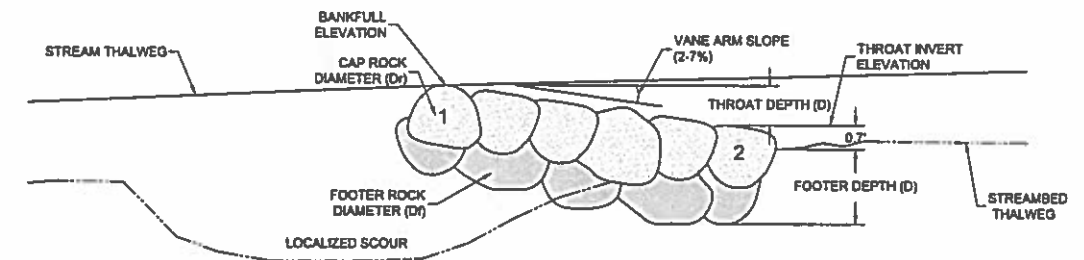
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DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSB	HAWLEY CREEK LH&C-02 FISH SCREEN DESIGN	
DRAWN	JSB		
CHECKED	PM		
DATE	03-31-2018	PLAN & PROFILES	
SCALE	1"=20'		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG.: LH&C-02 FISH SCREEN DESIGN DWG.		SHEET 4 OF 7	

81372

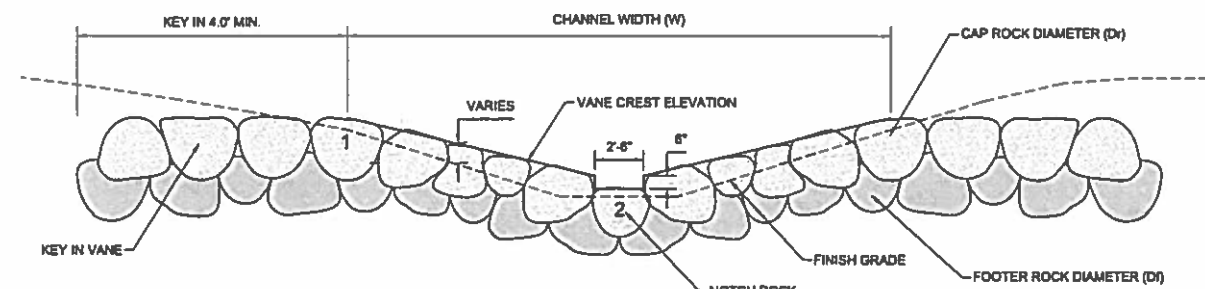


ROCK CROSS VANE - PLAN VIEW
NTS

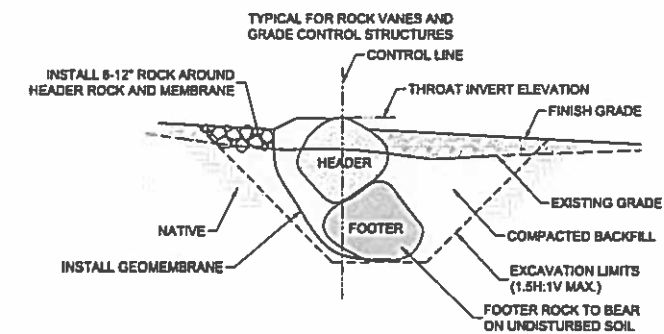
CODE	DESCRIPTION	INPUT
W	CHANNEL WIDTH (ft.)	18
Th	THROAT WIDTH (ft.)	6
L	VANE ARM LENGTH (ft.)	10.5
A	VANE ARM ANGLE (deg.)	25
Dc	CAP ROCK DIAMETER (ft.)	2.5-3
Dr	FOOTER ROCK DIAMETER (ft.)	2.5-3
Fd	FOOTER DEPTH (ft.)	4
D	THROAT DEPTH (ft.)	2



ROCK CROSS VANE - PROFILE VIEW
NTS

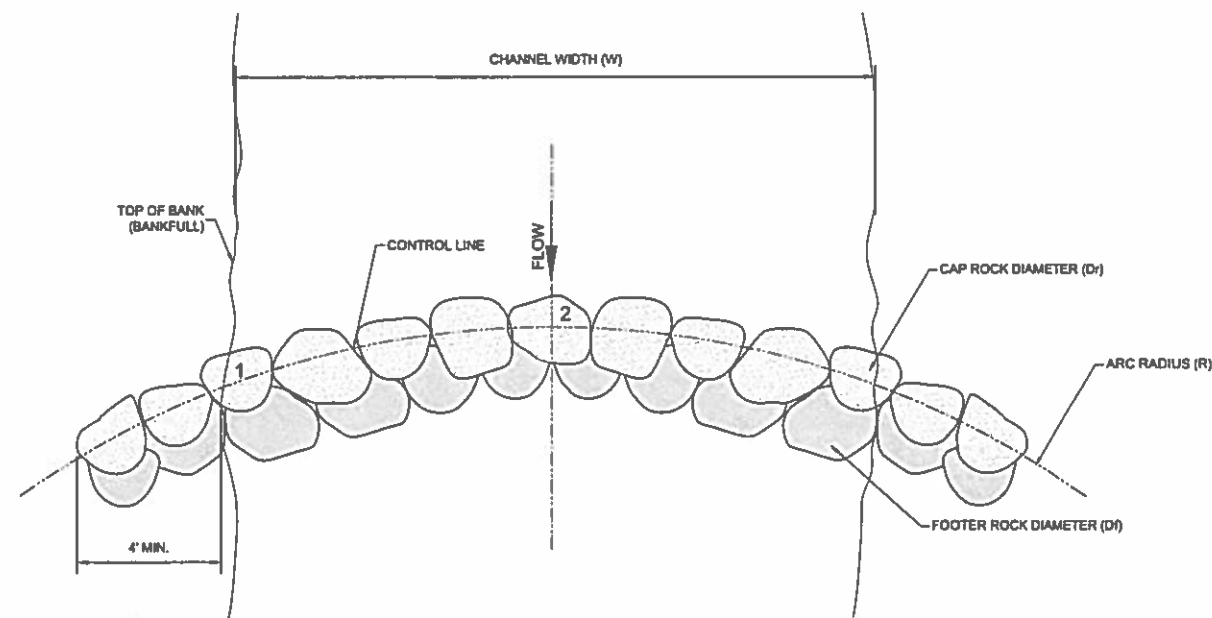


SECTION A-A
NTS



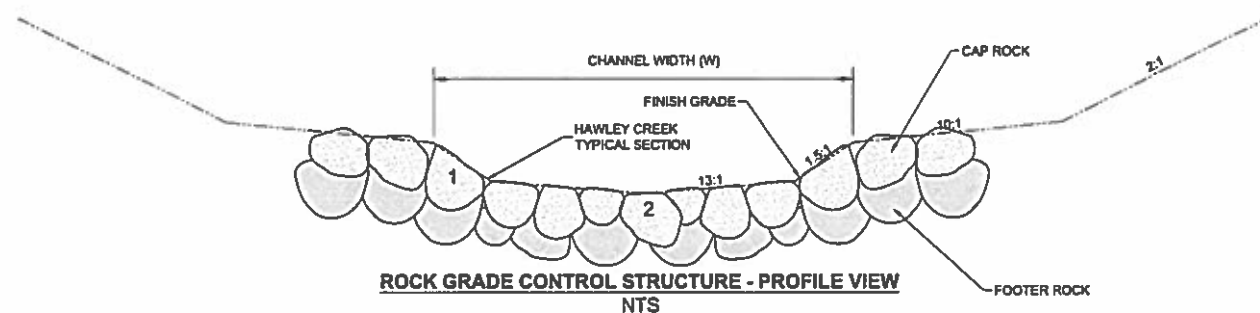
SECTION B-B
NTS

REV	DATE	DESCRIPTION	BY
STATE OF IDAHO			
DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSS	HAWLEY CREEK LHaC-02	
DRAWN	JSS	FISH SCREEN DESIGN	
CHECKED	PM		
DATE	03-31-2011	DETAIL SHEET #1	
SCALE	NTS		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG.: LHaC-02 FISH SCREEN DESIGN.DWG		SHEET 5 OF 7	

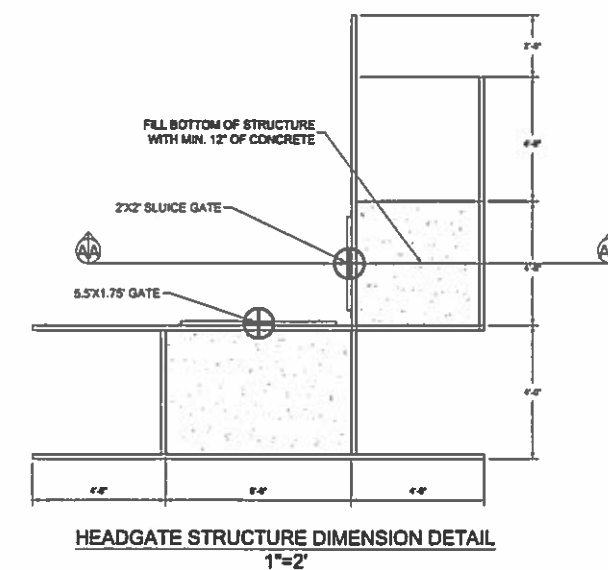


ROCK GRADE CONTROL STRUCTURE - PLAN VIEW
NTS

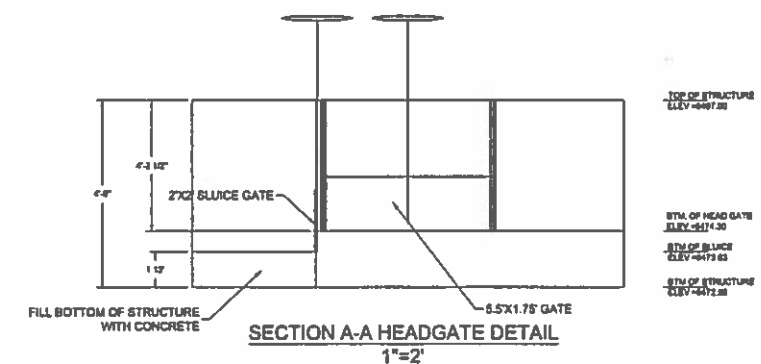
CODE	DESCRIPTION	INPUT
W	CHANNEL WIDTH (ft.)	18
Dc	CAP ROCK DIAMETER (ft.)	2.5-3
Df	FOOTER ROCK DIAMETER (ft.)	2.5-3
Fd	FOOTER DEPTH (ft.)	4
R	ARC RADIUS (ft.)	40



ROCK GRADE CONTROL STRUCTURE - PROFILE VIEW
NTS

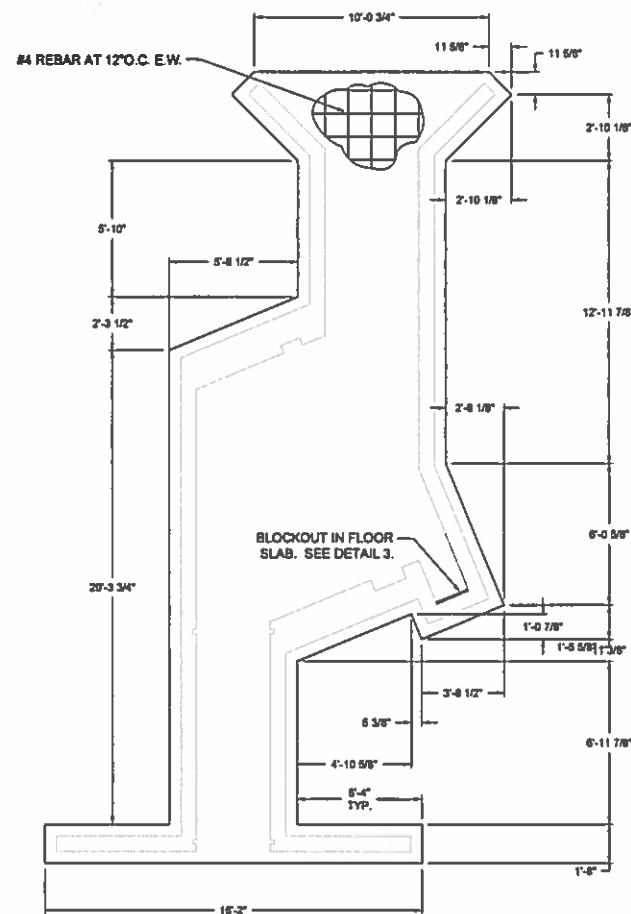


HEADGATE STRUCTURE DIMENSION DETAIL
1"=2'



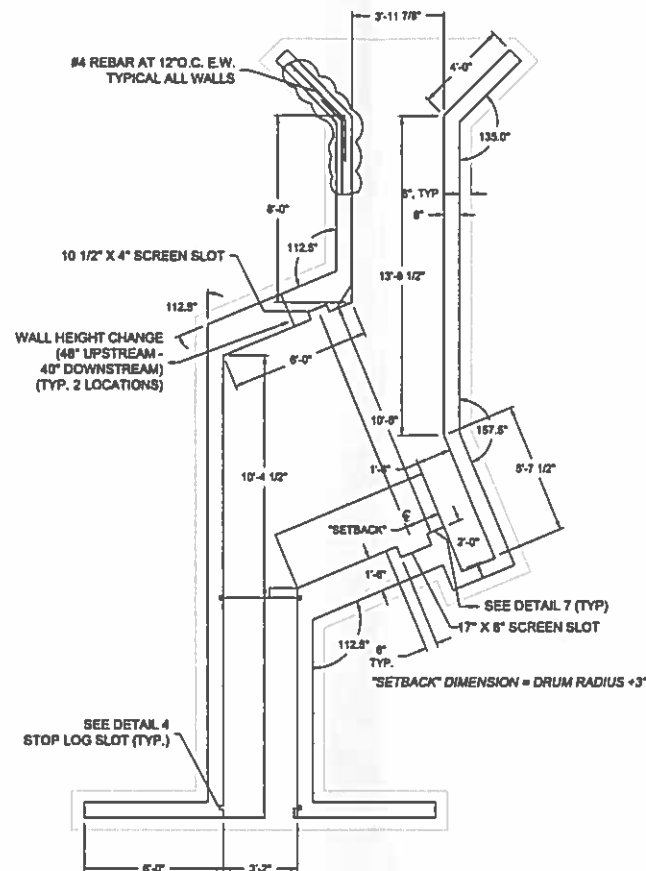
SECTION A-A HEADGATE DETAIL
1"=2'

REV.	DATE	DESCRIPTION	BY
STATE OF IDAHO			
DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSB	HAWLEY CREEK LH&C-02 FISH SCREEN DESIGN	
DRAWN	JSB		
CHECKED	PM		
DATE:	03-31-2018	DETAIL SHEET #2	
SCALE:	NTS		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG.: LH&C-02 FISH SCREEN DESIGN.DWG		SHEET 6 OF 7	



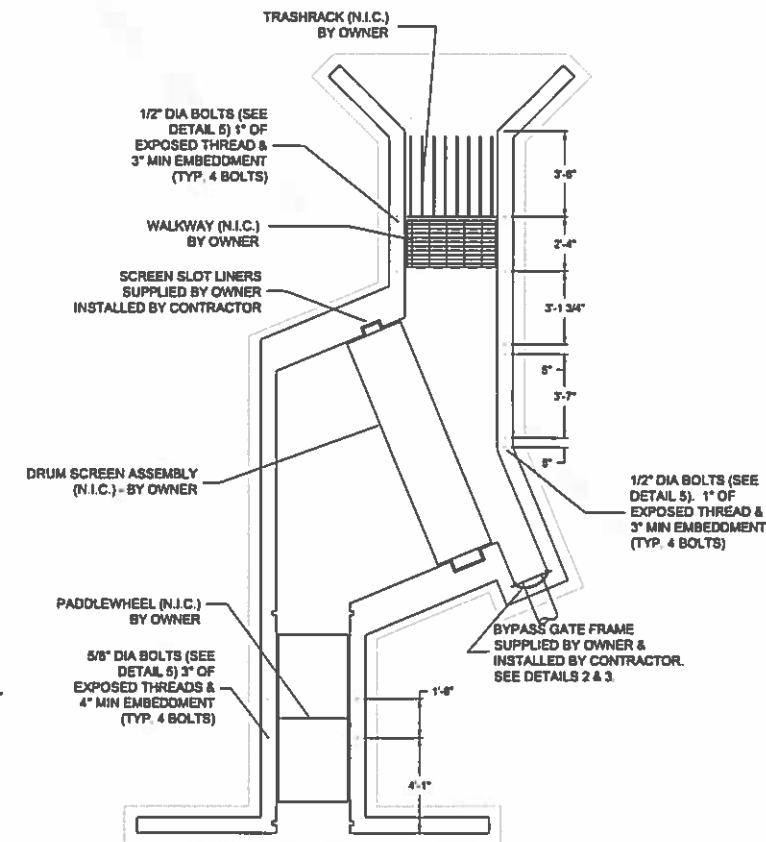
FOUNDATION PLAN
SCALE 1" = 4'-0"

1. CONSULT SPECIFICATIONS FOR LINE/GRADE AND REINFORCEMENT TOLERANCE INFORMATION.
2. WHEN CHECKED WITH A 10' STRAIGHTEDGE, THE SLAB SURFACE SHALL NOT VARY MORE THAN 0.03 FEET (3/8").
3. SLAB ALIGNMENT SHALL NOT VARY MORE THAN 0.2 FEET.
4. BLOCKOUT AT BASE OF SLIDE GATE SHALL BE THOROUGHLY CLEANED.



DIMENSIONAL PLAN
SCALE 1" = 4'-0"

1. CONSULT SPECIFICATIONS FOR LINE/GRADE AND REINFORCEMENT TOLERANCE INFORMATION.
2. WHEN CHECKED WITH A 10' STRAIGHTEDGE, THE WALL SURFACE SHALL NOT VARY MORE THAN 0.03 FEET (3/8").
3. WALL ALIGNMENT SHALL NOT VARY MORE THAN 0.05' AND LOCATION SHALL NOT VARY MORE THAN 0.1'.
4. ALL WALLS SHALL BE WITHIN 1/4" OF PLUMB.
5. ALL REBAR SHALL HAVE A MINIMUM OF 2" OF COVER.
6. ALL STOP LOG SLOTS, SCREEN SLOTS, AND SLIDE GATE SLOTS SHALL BE THOROUGHLY CLEANED OF EXCESS CONCRETE.
7. PIER NOSE FORM PROVIDED BY OWNER. CONSULT SPECIFICATIONS



EMBEDDMENT/FIT-UP PLAN
SCALE 1" = 4'-0"

1. CONSULT SPECIFICATIONS FOR BOLT TYPES, INSTALLATION PROCEDURES, AND BOLT LOCATION/TOLERANCE INFORMATION.
2. BOLT LOCATION TOLERANCES ARE AS FOLLOWS:
5/8" DIA PADDLEWHEEL BOLTS - LOCATION - 1/8"
5/8" DIA PADDLEWHEEL BOLTS - PATTERN DIAGONAL - 1/8"
ALL OTHER BOLTS - LOCATION - 1/8"
ALL OTHER BOLTS - PATTERN DIAGONAL - 1/4"

REV	DATE	DESCRIPTION	BY
STATE OF IDAHO			
DEPARTMENT OF FISH AND GAME			
BOISE, IDAHO			
DESIGNED	JSB	HAWLEY CREEK LH&C-02 FISH SCREEN DESIGN	
DRAWN	JSB		
CHECKED	PM		
DATE	03-31-2010	DETAIL SHEET #3	
SCALE	NTS		
APPROVED		APPROVED	
CHIEF, BUREAU OF ENGINEERING		DIRECTOR	
DWG: LH&C-02 FISH SCREEN DESIGN.DWG		SHEET 2 OF 7	