

Agenda Item 7A



STAFF REPORT

TO: Board of Directors

PREPARED BY: Steven Palmer, PE, CSDM, General Manager *SP*

SUBJECT: Receive and File the Preliminary Engineering Plans, Specifications, Estimate for the Big Bend Water System Pipeline Replacement Phase 1

RECOMMENDATION

Receive and file the preliminary engineering documents for the Big Bend Water System Pipeline Replacement Phase 1 Project.

BACKGROUND

The General Manager applied for funding from the 2023 and 2024 Placer County Water Agency (PCWA) Financial Assistance Program (FAP) Funding for Phase 1 of the Big Bend Water System Pipeline Replacement Project (Project). PCWA awarded to the District a total of \$54,000 for the preliminary engineering of the Project. The District Board approved the associated funding agreements on June 23, 2023 and June 18, 2024.

A Request for Proposals was issued for environmental permitting and design and one proposal was received from Bennett Engineering, Inc (Bennett). The proposed fee was significantly higher than estimated for the grant applications. After negotiations with Bennett and PCWA, a scope was developed to fit within the available funding. The scope includes evaluating the bridge for pipe supports, topographic and right of way survey, Basis of Design Report to summarize the Project feasibility, alternatives, and cost, and preliminary engineering plans.

The Basis of Design Report was reviewed and approved at the October 2025 Board meeting. Preliminary engineering plans, specifications, and cost estimate for a 60% design have been completed and are now being presented for Board review.

DISCUSSION

The Project Description, specifications, engineering plans, and cost estimate for a 60% design are included in the attachments to this staff report. The Phase 1 Project design includes installing approximately 735 linear feet of new 4-inch plastic water line, and abandoning the existing 2-inch steel pipe through the campground and across the Yuba River.

The Project is designed to install the new water line in Hampshire Rocks Road. The Yuba River crossing will be accomplished by coring through the bridge abutments and hanging a 6-inch welded steel casing under the center of the bridge. The 4-inch water line will then be slid into the casing using pipe supports.

The Engineer's Opinion of Probable Construction Cost for funding purposes is \$914,000.

- Environmental and Engineering - \$275,000
- Construction - \$532,850
- Construction Contingency (20%) - \$106,570

These documents and the information presented in them will be used to plan and budget for these improvements, as well as apply for any grant opportunities.

FISCAL IMPACT

The total cost of the work performed to date is \$67,009. The District will receive reimbursement from PCWA of \$54,000 and the District will fund the balance of \$13,009.

CEQA ASSESSMENT

This action is not a CEQA Project. A CEQA analysis will be performed as part of preparing the engineering plans and specifications.

ATTACHMENTS

1. Project Description
2. Preliminary Engineering Plans
3. Engineer's Opinion of Probable Cost
4. Draft Specifications

Attachment 1



Big Bend Water System Pipeline Replacement Phase 1

Project Description

March 25, 2026

Prepared for:

Donner Summit Public Utility District

Prepared by:

Dave Harden, PE

Logan Howard, PE

Jessica Ginnever, EIT



Project Overview

The Donner Summit Public Utility District (DSPUD) proposes to construct the Big Bend Water System Pipeline Replacement Phase 1, a critical infrastructure improvement intended to enhance water system reliability, improve fire protection capability, and increase long-term resilience for the Big Bend community in Nevada County/Placer County, California. This project will replace aging and undersized portions of the existing distribution system that currently limit service reliability and emergency response capacity. The project supports DSPUD's mission to provide safe, reliable drinking water service while strengthening infrastructure in a high wildfire risk area.

Project Background

DSPUD annexed the Big Bend community in 2013. Prior to annexation, the water system had reportedly operated without a permit and under a boil water notice for more than eight years. Since then, DSPUD has made substantial improvements, including construction of a new treatment plant completed in 2020. However, much of the remaining distribution infrastructure is still old, with portions believed to consist of aging steel boiler pipe that has deteriorated and now requires replacement. A 2018 Preliminary Engineering Report identified a broader set of system upgrades, but due to budget constraints the work was divided into phases. This project represents Phase 1 of replacing the aging Big Bend water system infrastructure.

The Big Bend system serves a small mountain community located approximately 16 miles west of Truckee, south of Interstate 80, and bisected by the South Yuba River. Existing constraints include old steel piping, limited redundancy, difficult access, and reduced fire flow capability. These deficiencies create ongoing risk of leaks, outages, and inadequate emergency response in a wildfire-prone area. The proposed project addresses these vulnerabilities by replacing a critical segment of the system with a new 4-inch main located within public right-of-way, allowing older lines on U.S. Forest Service property to be abandoned.

Project Scope of Work

Phase 1 consists of installation of approximately 720 linear feet of new 4-inch potable water pipeline, including roughly 610 linear feet installed by open trench and approximately 110 linear feet carried across the existing bridge over the South Yuba River. The work will connect from the existing valve near the treatment plant to the eastern tie-in point identified in the conceptual design and will include abandonment of the existing 2-inch steel pipe crossing under the river.

The open trench sections are anticipated to use 4-inch C-900 PVC or HDPE pipe, while the exposed bridge crossing is anticipated to use 4-inch flanged ductile iron pipe or welded steel pipe, with ductile iron identified as the recommended material due to field-fitting needs at the bridge abutments. The bridge crossing concept calls for attaching the new pipeline to the north face of the existing Placer County bridge using concrete anchors, steel support brackets, and pipe

straps/U-bolts. The crossing is approximately 105 feet long and is expected to require multiple supports spaced along the structure. Special transition details will be required where the buried pipeline emerges and wraps around the bridge abutments.

Associated improvements include trenching, bedding, backfill, appurtenances, and valve installation. For maintenance and operational flexibility, valves are proposed on both sides of the bridge crossing, including isolation at the eastern tie-in and valves on all three legs of the tee at the western tie-in. The project may also include coordination for future fire protection improvements such as a wharf hydrant or pumper hydrant, subject to final design evaluation and coordination with the local fire jurisdiction.

Project Location

The project is located primarily along Hampshire Rocks Road / New Hampshire Rocks Road within the Big Bend neighborhood, in a mountainous environment with constrained roadway width, mature trees, nearby utilities, and proximity to the South Yuba River. Existing site conditions are expected to make construction challenging. The BODR notes that the local geology is highly rocky, with granite slabs and boulders encountered as shallow as 2 to 3 feet below grade, and that trenching may require jackhammering or other heavy excavation methods.

Utility investigations identified overhead and buried communication infrastructure as key constraints. AT&T has buried fiber optic and overhead communication lines in the area, and PG&E has overhead power near Ida Lane. These existing facilities will require protection in place or minor horizontal alignment adjustments during final design and construction.

Construction and Design Considerations

The project design criteria call for buried pipe to be installed with a minimum cover of 48 inches due to cold-climate conditions. Bedding is anticipated to consist of crushed rock wrapped in filter fabric, with additional bedding depth where rocky or wet trench conditions are encountered. Because of the age of the roadway, trench restoration rather than full-width lane restoration is expected to be acceptable, subject to jurisdictional requirements.

Traffic control will be an important project element. Open trench work is expected to require at least a one-lane closure, and bridge work may require temporary lane restrictions or detour planning depending on construction staging and available travel width.

Environmental and Regulatory Considerations

The project will be designed and implemented in accordance with applicable federal, state, and local requirements, including CEQA, stormwater and erosion control requirements, and right-of-way encroachment permitting. The BODR identifies anticipated permits including a Caltrans encroachment permit for work in Caltrans right-of-way and a Placer County Utility Encroachment Permit for work within county right-of-way. The permit process is expected to require preparation of a traffic control plan and erosion control documentation.

While a full SWPPP is not anticipated based on project size, the BODR states that the contractor should prepare an erosion control plan and a Water Pollution Control Plan addressing staging, fueling, best management practices, and procedures for work over water, including concrete drilling and bridge-mounted pipeline installation. Environmental review will also need to consider potential impacts related to riparian areas, work near the riverbank, and construction activities over the South Yuba River.

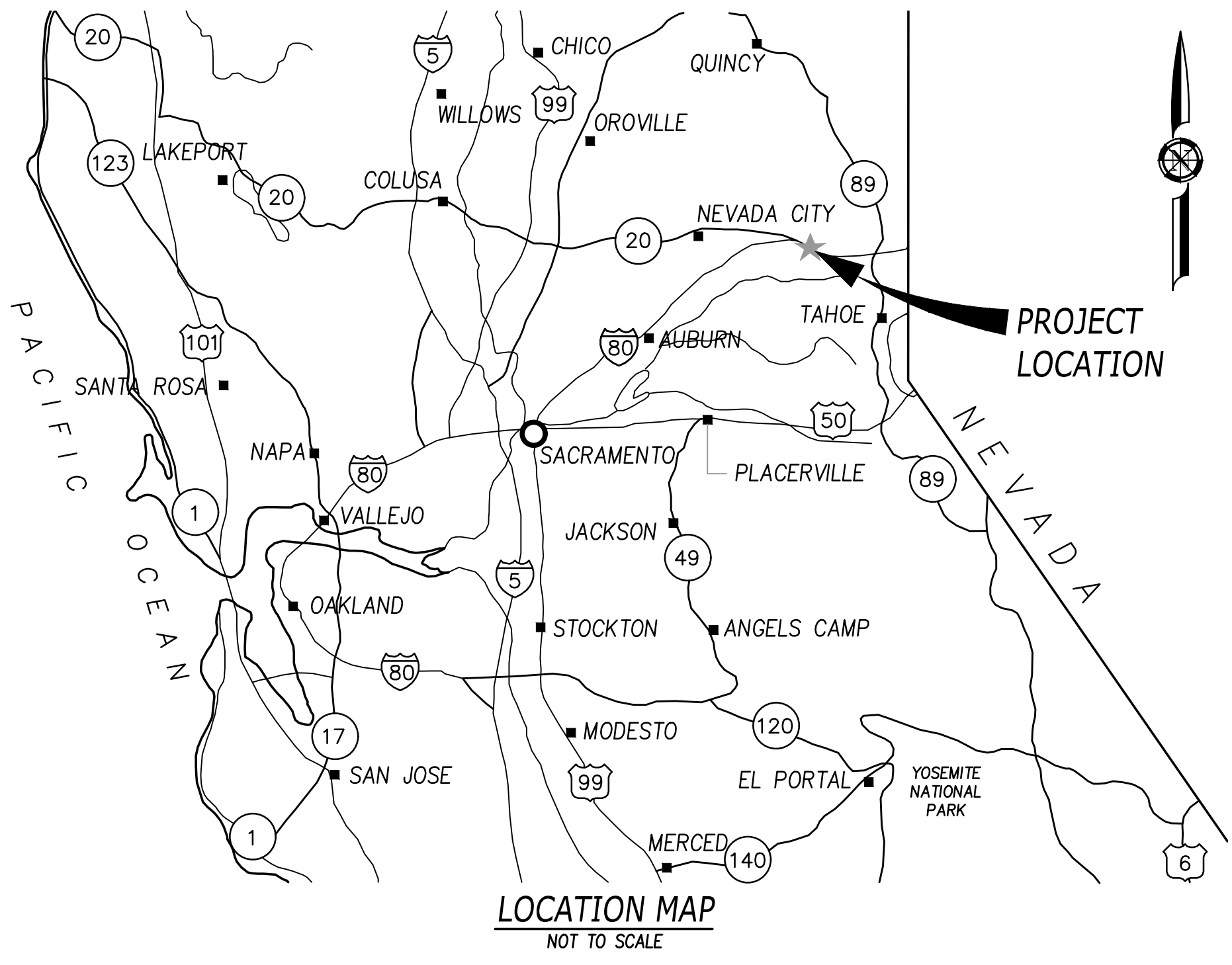
Community and Fire Protection Benefits

This project will provide substantial public benefit by improving system reliability and reducing dependence on failing legacy pipe. By constructing a new 4-inch main in public right-of-way and replacing vulnerable steel lines, DSPUD will improve hydraulic performance, reduce leak potential, and enhance operational flexibility. The project also supports fire protection objectives by improving water delivery capacity in a community exposed to significant wildfire risk. These upgrades will strengthen emergency response capability, protect homes and infrastructure, and improve long-term sustainability of the Big Bend water system.

Conclusion

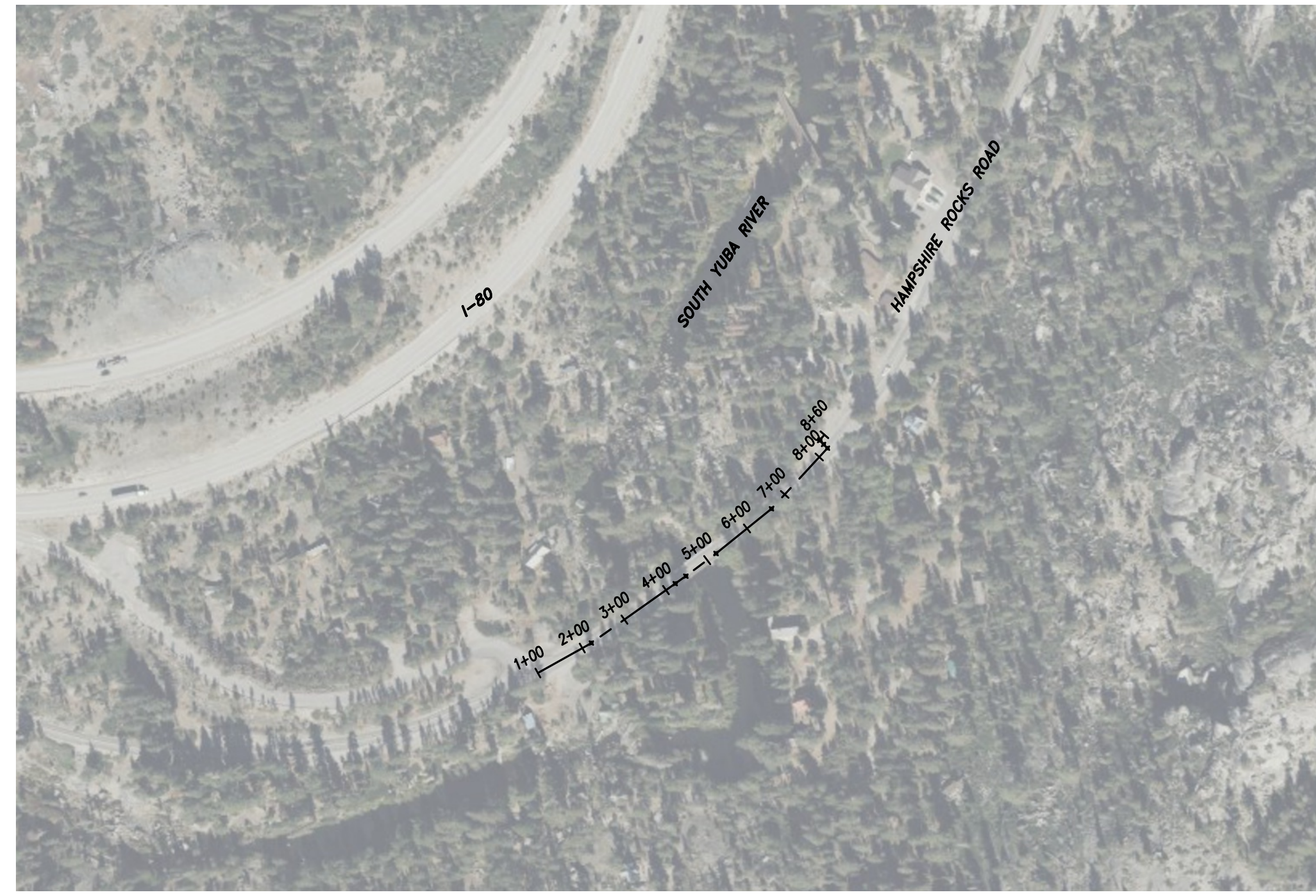
The Big Bend Water System Pipeline Replacement Phase 1 project is a high-priority water infrastructure investment that will replace deteriorated pipeline, create a more reliable crossing to serve customers south of the river, and improve the resilience of DSPUD's system in a constrained mountain environment. Funding assistance will allow DSPUD to advance this long-needed phase of work and continue modernizing critical infrastructure for the Donner Summit community.

Attachment 2



BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT

HAMPSHIRE ROCKS RD SEGMENT WITHIN DONNER SUMMIT PUBLIC UTILITY DISTRICT,
IN CISCO GROVE, COUNTY OF PLACER, CALIFORNIA
PROJECT NO. #####



PROJECT AREA
NOT TO SCALE

SHEET INDEX		
SHT NUMBER	DWG NUMBER	TITLE
01	T-1	TITLE SHEET
02	G-1	GENERAL NOTES
03	SC-1	SURVEY CONTROL AND DEMO PLAN
04	C-1	PLAN & PROFILE
05	C-2	PLAN & PROFILE
06	CD-1	CONSTRUCTION DETAILS
07	CD-2	CONSTRUCTION DETAILS

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DIAL TOLL FREE
1-800-642-2444
AT LEAST TWO DAYS
BEFORE YOU DIG
UNDERGROUND SERVICE ALERT OF NORTHERN CALIFORNIA

UTILITY REPRESENTATIVES			
CONTACT	UTILITY	COMPANY	PHONE/EMAIL
NICK MORLOCK	ELECTRIC	PGE	530-889-3256 NIMW@PGE.COM
LEE NIETO	TELECOMMUNICATION	ATT	916-484-2384 916-505-7308
CALEB KING	TELECOMMUNICATION	LEVEL 3 COMMUNICATIONS	CALEB.KING@LEVEL3.COM
STEVE ABELIA	TELECOMMUNICATION	COMCAST	STEVE_ABELIA@CABLE.COMCAST.COM CC: CAL_DESIGN@COMCAST.COM
STEVE PALMER	WATER	DONNER SUMMIT PUD	916-396-4221

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DESIGN BY: L. HOWARD
 DRAWN BY: J. GINNEVER
 CHECKED BY: D. HARDEN
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PRELIMINARY PLANS
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BEN EN
 1082 Sunrise Avenue, Suite 100
 Roseville, California 95661
 T916.783.4100

BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT

 DONNER SUMMIT PUBLIC UTILITY DISTRICT
 TITLE SHEET
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NOTES:

- ALL WORK SHALL BE PERFORMED TO THE SATISFACTION OF THE GENERAL MANAGER OF THE DONNER SUMMIT PUBLIC UTILITY DISTRICT (DSPUD) OR THEIR AUTHORIZED REPRESENTATIVE.
- ALL REFERENCES TO DSPUD SHALL MEAN THE GENERAL MANAGER OF THE DISTRICT OR THEIR AUTHORIZED REPRESENTATIVE.
- WORK ACTIVITIES ASSOCIATED WITH THIS PROJECT HAVE SPECIAL LIMITATIONS RELATING TO THE SCHEDULING OF WORK AND ACCESS TO THE VARIOUS WORK AREAS. YOUR ATTENTION IS DIRECTED TO THE PROJECT SPECIAL PROVISIONS FOR A SUMMARY OF THESE LIMITATIONS.
- THE TYPES, SIZES, LOCATIONS, STATIONING, AND/OR DEPTHS OF THE EXISTING FACILITIES IDENTIFIED ON THESE PLANS, ARE APPROXIMATE ONLY. THERE MAY BE OTHER EXISTING FACILITIES OR UNDERGROUND UTILITIES NOT SHOWN ON THE PLANS. ANY DISCREPANCIES BETWEEN THE PLANS AND ACTUAL EXISTING CONDITIONS, DISCOVERED BY THE CONTRACTOR DURING THE COURSE OF WORK, SHALL BE PROTECTED AND REPORTED TO THE DISTRICT AND DESIGN ENGINEER IMMEDIATELY.
- THE WORK ACTIVITIES ASSOCIATED WITH THIS PROJECT ARE NOT EXPECTED TO REQUIRE CONSTRUCTION STAKING. SHOULD THE CONTRACTOR NEED CONSTRUCTION STAKING OR ADDITIONAL DIRECTION, THEY SHALL NOTIFY THE DISTRICT PRIOR TO COMMENCEMENT OF SAID STAKING.
- ALL PHASES OF CONSTRUCTION ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE DISTRICT OR ITS AUTHORIZED REPRESENTATIVE PRIOR TO PROCEEDING WITH SUBSEQUENT PHASES. ANY IMPROVEMENTS CONSTRUCTED WITHOUT INSPECTION OR CONTRARY TO THE INSTRUCTIONS OF THE DISTRICT WILL NOT BE ACCEPTED.
- THE CONTRACTOR SHALL CONDUCT THEIR WORK IN SUCH A MANNER AS TO NOT INTERFERE WITH OR BLOCK EXISTING DRAINAGE. IN AN EFFORT TO ELIMINATE PONDING, THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE SUBJECT TO THE APPROVAL OF THE DISTRICT.
- THE CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROTECTION OF PROPERTY, THAT THIS REQUIREMENT SHALL BE CONTINUOUS AND NOT LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR SHALL PLAN THEIR WORK AND PROVIDE AND MAINTAIN, AT THE EXPENSE OF THE CONTRACTOR, A MEANS OF INGRESS AND EGRESS FOR ALL PROPERTY OWNERS ALONG ANY SECTION OF THE PROJECT WHERE PRIVATE OR PUBLIC ROADS EXIST.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL DURING CONSTRUCTION. ANY PERMITS OR PLANS, THAT MAY BE REQUIRED BY THE COUNTY, DURING THE COURSE OF THIS WORK, ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- IF ANY AMOUNTS OF BONE, SHELL, ARTIFACTS OR HUMAN REMAINS ARE UNCOVERED DURING CONSTRUCTION, ALL WORK SHALL BE STOPPED WITHIN THE IMMEDIATE VICINITY AND THE DISTRICT SHALL BE NOTIFIED OF ANY FINDINGS. THIS MAY REQUIRE THAT THE DISTRICT CONSULT WITH A QUALIFIED ARCHEOLOGIST FOR AN ON-SITE EVALUATION. IF THE BONE APPEARS TO BE HUMAN, THE PLACER COUNTY CORONER AND THE NATIVE AMERICAN HERITAGE COMMISSION MUST BE CONTACTED.
- CONSTRUCTION HOURS FOR THE PROJECT WORK ACTIVITIES SHALL BE LIMITED TO THE HOURS OF 7:00 AM TO 7:00 PM, MONDAY THROUGH FRIDAY, FROM 8:00 AM TO 5:00 PM ON WEEKENDS AND HOLIDAYS, WITH DSPUD APPROVAL. EXCEPTIONS MAY BE ALLOWED IF IT CAN BE SHOWN THAT CONSTRUCTION OTHER THAN THESE TIMES IS NECESSARY TO MEET CONSTRUCTION DEADLINES OR TO PREVENT SAFETY HAZARDS.
- THE CONTRACTOR SHALL PROVIDE ADEQUATE SANITATION FACILITIES FOR THEIR EMPLOYEES WITHIN EACH OF THE WORK AREAS DURING CONSTRUCTION. THIS WOULD INCLUDE BUT NOT BE LIMITED TO PORTABLE TOILETS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ALL WASH WATER DEBRIS FROM THE WASHOUT LOCATION(S) AT THE END OF THE PROJECT, AT THE CONTRACTORS EXPENSE. NO WASH WATER OR LEFTOVER CONCRETE SHALL BE SPOILED ON SITE OR NEARBY WATER WAYS.
- WHERE CONSTRUCTION DETAILS ARE NOT SPECIFICALLY SHOWN OR NOTED FOR ANY PORTION OF THE WORK, SUCH WORK SHALL CONFORM TO DETAILS SHOWN FOR SIMILAR INSTALLATIONS IN THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL NOTIFY THE DISTRICT A MINIMUM OF 2 WEEKS PRIOR TO THE START OF WORK. PRIOR TO THE START OF WORK, THE CONTRACTOR SHALL ARRANGE WITH THE DISTRICT FOR A PRE-PROJECT CONFERENCE AT THE DISTRICT OFFICE. THIS CONFERENCE WILL INCLUDE A REVIEW OF THE PLANS AND SPECIFICATIONS AT THE DISTRICT OFFICE WITH A FIELD REVIEW OF EACH OF THE WORK AREAS TO ENSURE THAT ALL PARTIES ARE FAMILIAR WITH THE ENTIRE PROJECT.
- UPON JOB COMPLETION, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE INFORMATION TO THE DISTRICT REGARDING ANY MATERIAL CHANGES MADE DURING CONSTRUCTION AS WELL AS ANY OTHER INFORMATION WHICH IS REQUIRED TO BE SHOWN ON THE RECORD DRAWINGS BY THE DISTRICT, OTHER UTILITY COMPANIES OR OTHER RESPONSIBLE AGENCIES.
- ENGINEER'S STATIONING SHOWN ON THESE PLANS IS APPROXIMATE. CONTRACTOR SHALL PERFORM FIELD SURVEY AND VERIFICATION OF HORIZONTAL AND VERTICAL CONTROL PRIOR TO WATERLINE INSTALLATION AND ANY GROUND DISTURBING WORK.

ABBREVIATIONS:

L	ANGLE
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
AP	ANGLE POINT
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BSW	BACK OF SIDEWALK
C&G	CURB AND GUTTER
CG&S	CURB, GUTTER AND SIDEWALK
C	CENTER LINE
CH	CHORD
CLR	CLEAR
CO	CLEANOUT
CONC	CONCRETE
CONST	CONSTRUCT
CTV	CABLE TV
CR	CURB RETURN
DI	DROP INLET
DRWY	DRIVEWAY
DWG	DRAWING
EC	END CURVE
ECR	END CURB RETURN
EG	EXISTING GRADE
EJ	EXPANSION JOINT
EL,ELEV	ELEVATION
EP	EDGE OF PAVEMENT
EX	EXISTING
FC	FACE OF CURB
FD	FOUND
FG	FINISHED GROUND
FH	FIRE HYDRANT
FL	FLOW LINE
FM	FORCE MAIN
G	GAS
GB	GRADE BREAK
GFL	GUTTER FLOW LINE
GR	GRATE
GV	GATE VALVE
HP	HIGH POINT
HR	HANDICAP RAMP
INV	INVERT
IP	IRON PIPE
JP	JOINT POLE
L=	LENGTH
LF	LINEAR FEET
LP	LEFT
LP	LOW POINT
ME	MAINTENANCE EASEMENT
MH	MANHOLE
MP	MIDPOINT
OH	OVERHEAD
PB	PULL BOX
PCC	POINT OF COMPOUND CURVE
PI	POINT OF INTERSECTION
R	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PS	PLANTER STRIP
PT	POINT
PUE	PUBLIC UTILITY EASEMENT
PVMT	PAVEMENT
R,R=	RADIUS
RT	RIGHT
R/W	RIGHT-OF-WAY
S=	SLOPE
SD	STORM DRAIN
SDCO	STORM DRAIN CLEANOUT
SDMH	STORM DRAIN MH
SDWK,SW	SIDEWALK
SECT	SECTION
SHT	SHEET
SS	SANITARY SEWER
SSMH	SANITARY SEWER MH
STA	STATION
T	TELEPHONE
TC	TOP OF CURB
TCE	TEMPORARY CONSTRUCTION ENTRANCE
TYP	TYPICAL
W	WATER
W/WTR	WATER
WV	WATER VALVE
XW	CROSSWALK

LEGEND:

	EXISTING	PROPOSED
SURVEY BENCHMARK		
SPOT ELEVATION		
JOINT UTILITY POLE		
UTILITY POLE		
SANITARY SEWER MANHOLE		
GATE VALVE		
CUT & CAP WATER PIPE		
BLOW OFF VALVE		
TELEPHONE MANHOLE		
TELEPHONE POLE		
MISC MANHOLE		
TREE/TREE WELL		
BUILDING		
WATER PIPE		
ABANDON WATER PIPE		
STORM DRAIN		
OVERHEAD TELEVISION		
UNDERGROUND FIBER OPTIC CABLE		
OVERHEAD ELECTRIC		
ROW/R		

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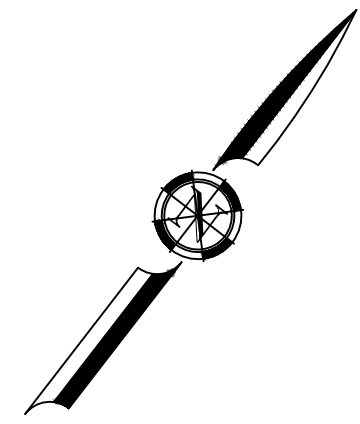


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BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT

 DONNER SUMMIT PUBLIC UTILITY DISTRICT
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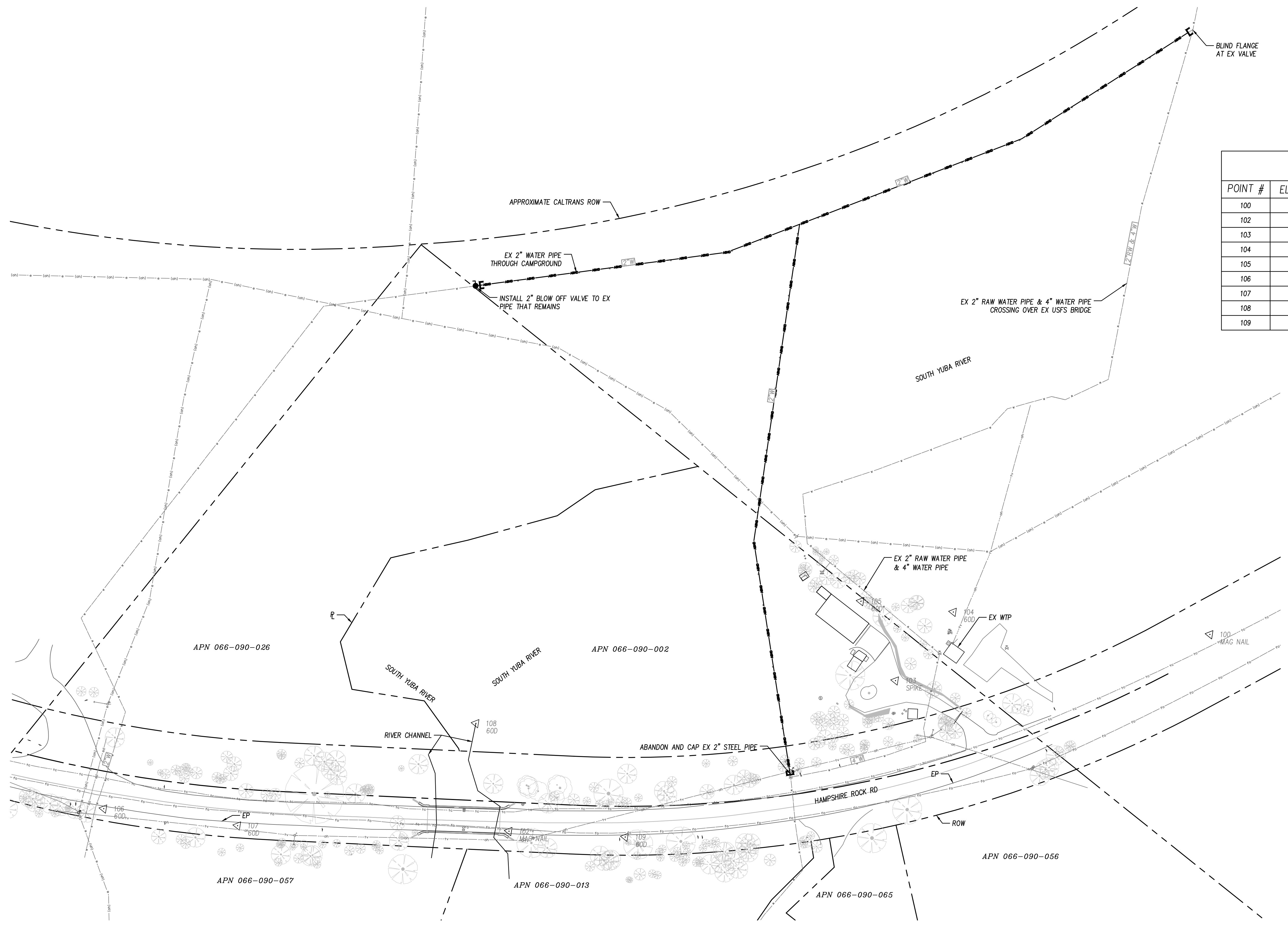
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CONTROL POINTS				
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100	5747.00	2241066.87	6981120.01	MAG NAIL
102	5737.25	2240460.94	6980686.79	MAG NAIL
103	5748.96	2240828.61	6980898.72	SPIKE
104	5747.77	2240920.41	6980900.96	60D
105	5741.66	2240869.78	6980820.34	60D
106	5737.58	2240219.32	6980349.00	60D
107	5736.00	2240291.52	6980466.69	60D
108	5728.26	2240525.78	6980591.32	60D
109	5738.81	2240530.74	6980783.25	60D

NOTES:

- SEE PLAN AND PROFILE SHEETS FOR PROPOSED INSTALLATION WORK.
- CONTRACTOR SHALL VERIFY LOCATION, SIZE, AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL COORDINATE SERVICE SHUT DOWN WITH DISTRICT. CONTRACTOR SHALL NOTIFY RESIDENTS 3 DAYS PRIOR TO INTERRUPTIONS AND MAY NOT BE SHUT DOWN FOR MORE THAN 8 HOURS.
- PIPE TO BE ABANDONED SHALL BE CUT AND CAPPED.
- ALL WATER PIPES AND FITTINGS TO BE RESTRAINED AS SHOWN ON THESE PLANS.
- WATER PIPE TO BE ABANDONED SHALL BE REMOVED WHERE IT INTERFERES WITH THE PROPOSED NEW WATER PIPE.
- CONTRACTOR TO RESTRIPE WITH THERMOPLASTIC MATERIAL ALL ROADWAY STRIPING DEMOLISHED DURING CONSTRUCTION.
- WHEN DRILLING INTO THE EXISTING BRIDGE, CONTRACTOR SHALL PLACE TARPULLINS BELOW THE WORK AREA TO CAPTURE AND PROPERLY DISPOSE OF CONCRETE DUST.
- TOPOGRAPHIC SURVEY IS LIMITED TO MAJOR ROADWAY CORRIDOR AND WATER TREATMENT FACILITY WHERE TREE SYMBOLS ARE VISIBLE.



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 T 916.783.4100

BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT

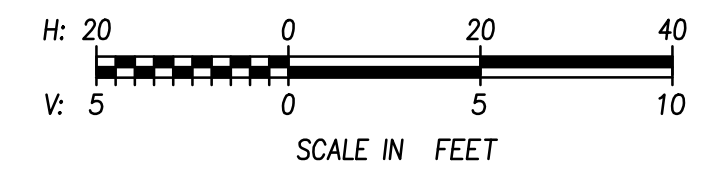
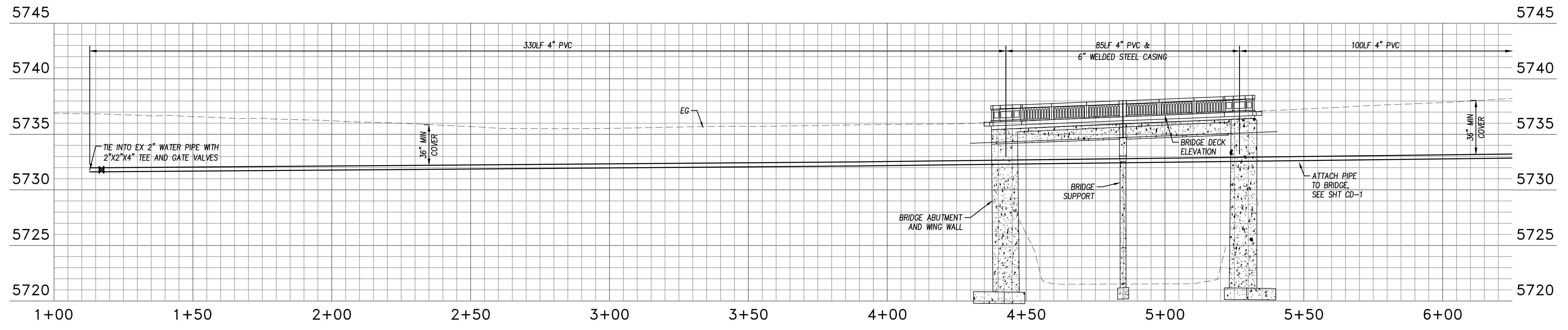
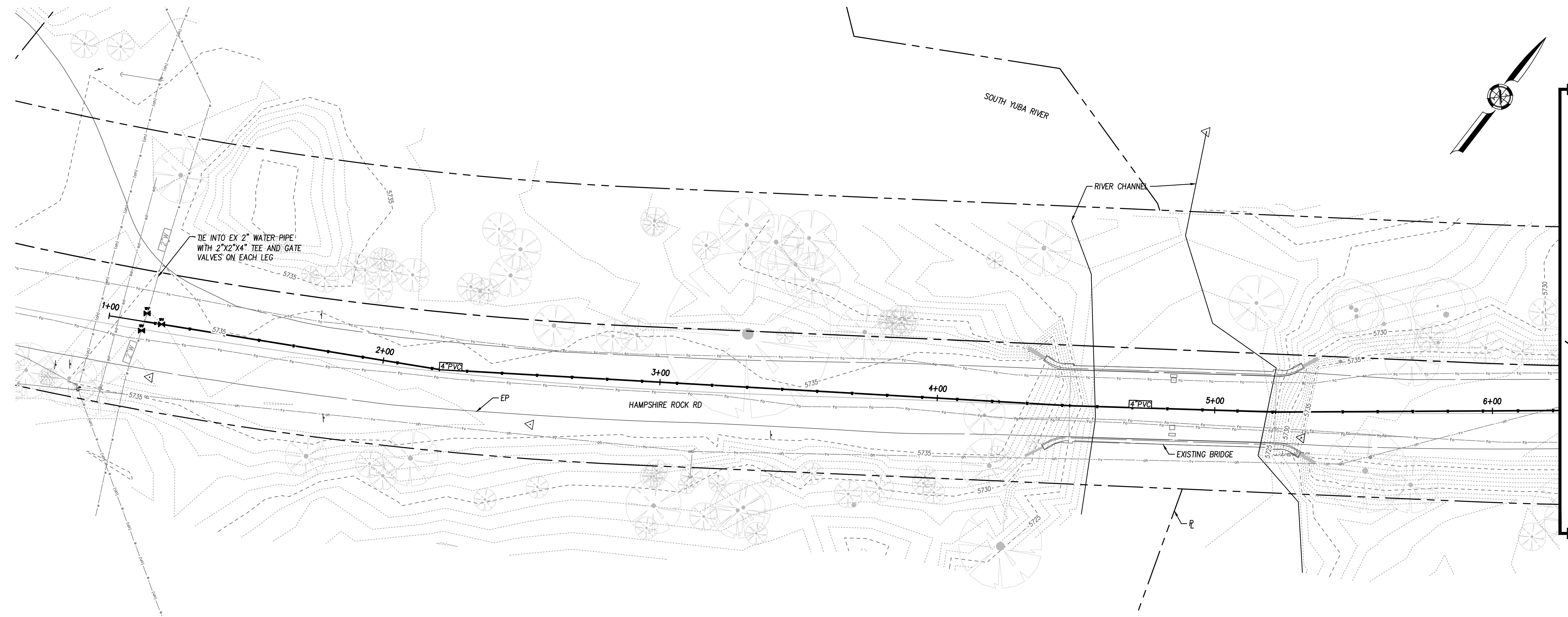
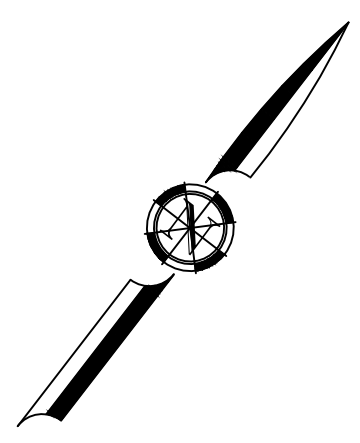
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6. CONTRACTOR TO RESTRIPE WITH THERMOPLASTIC MATERIAL ALL ROADWAY STRIPING DEMOLISHED DURING CONSTRUCTION.
7. WHEN DRILLING INTO THE EXISTING BRIDGE, CONTRACTOR SHALL PLACE TARPULINS BELOW THE WORK AREA TO CAPTURE AND PROPERLY DISPOSE OF CONCRETE DUST.

MATCH LINE STA 6+25 / SEE SHEET C-2



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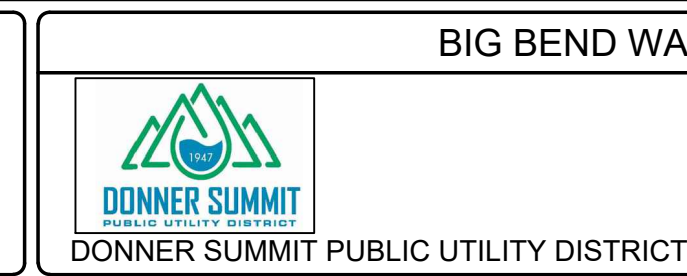
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VERIFY SCALE
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 Roseville, California 95661
 T 916.783.4100

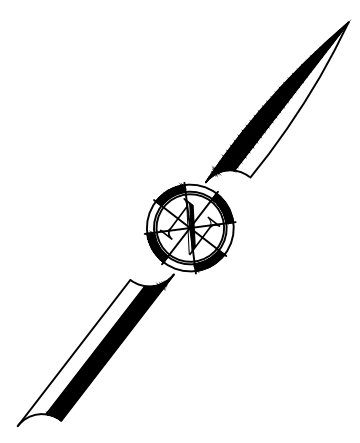


BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT
PLAN & PROFILE
 STA 1+00 to STA 6+25
 CALIFORNIA

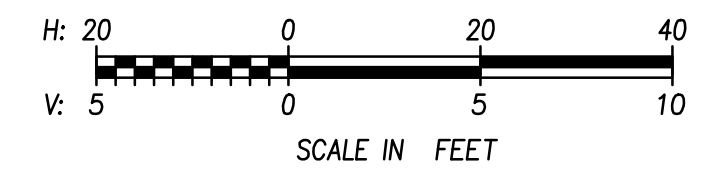
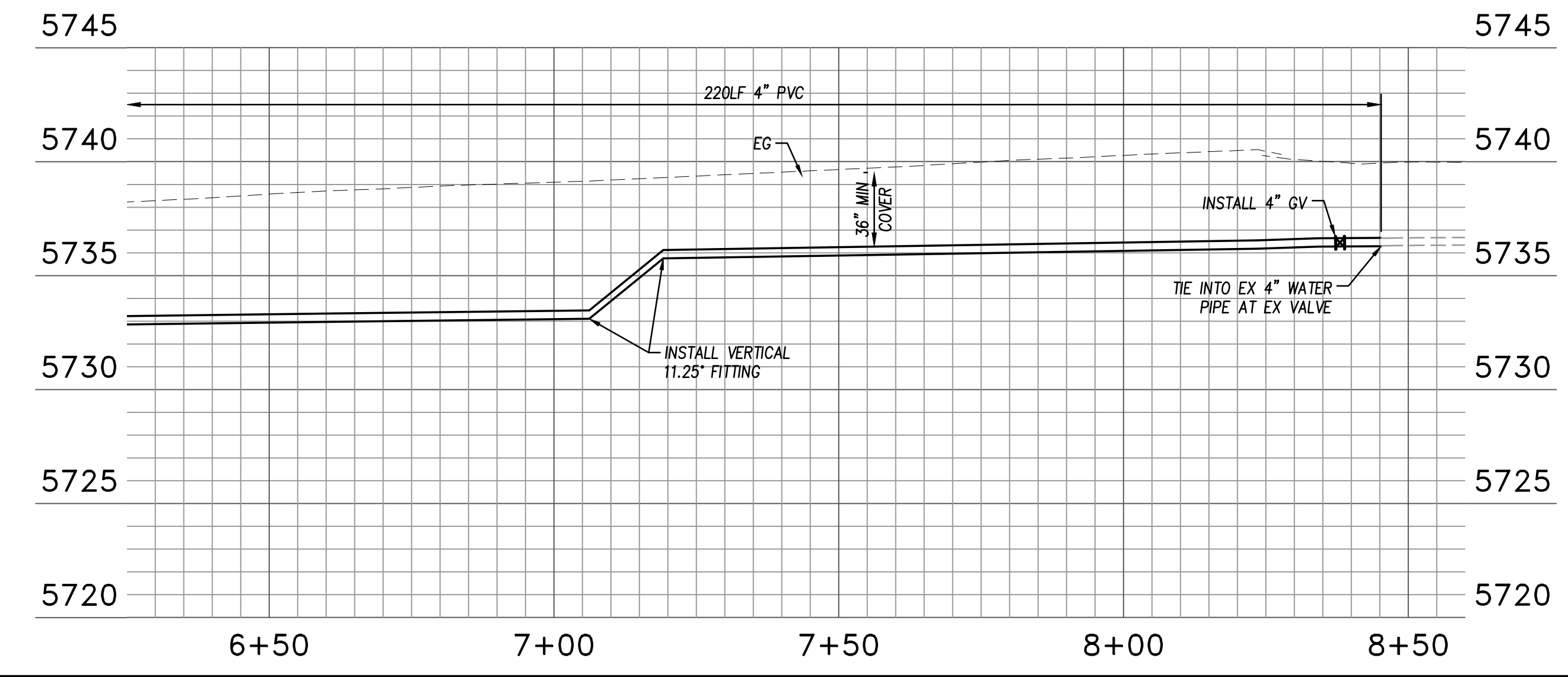
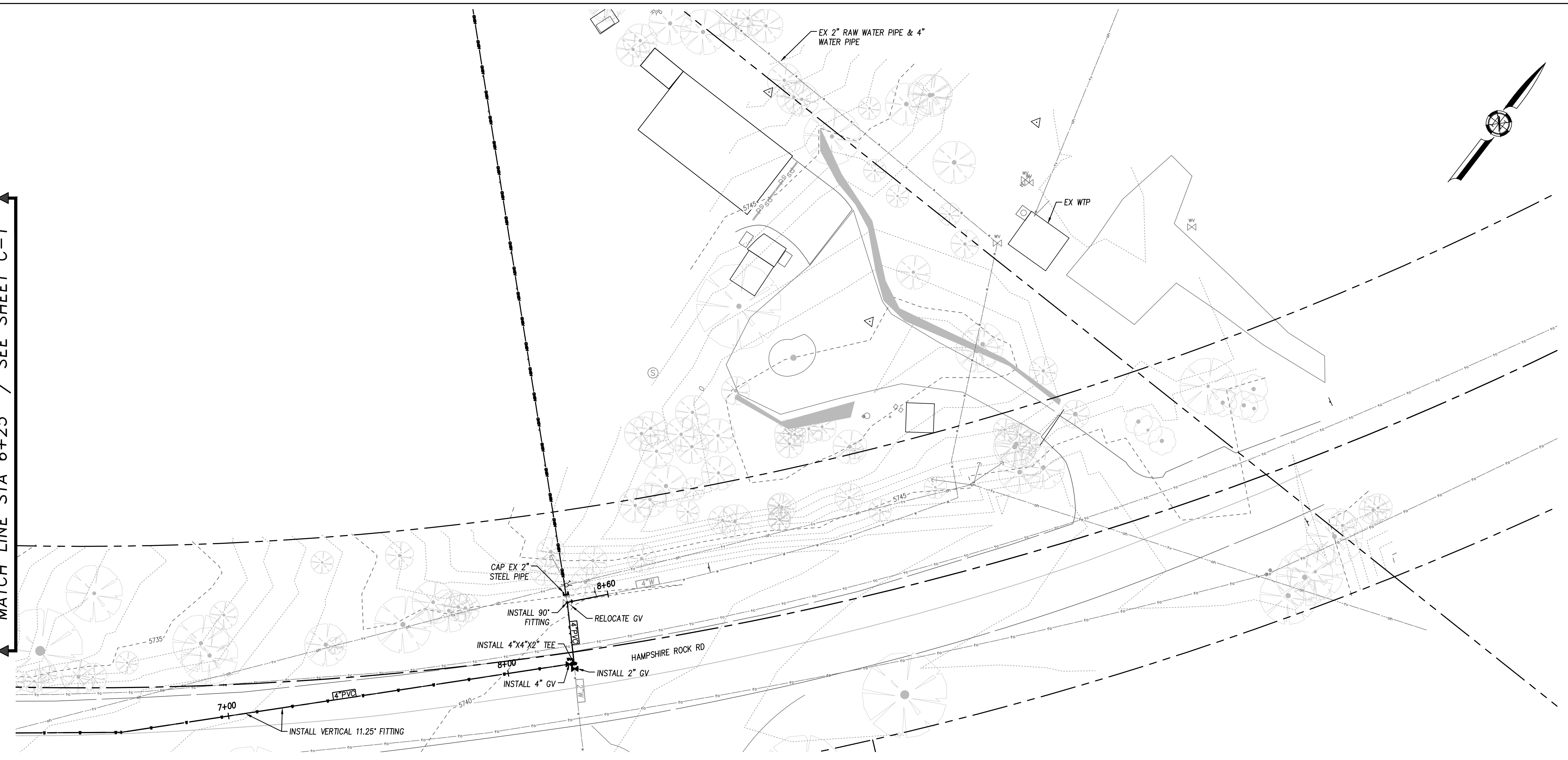
C-1
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NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION, SIZE, AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
2. CONTRACTOR SHALL COORDINATE SERVICE SHUT DOWN WITH DISTRICT. CONTRACTOR SHALL NOTIFY RESIDENTS 3 DAYS PRIOR TO INTERRUPTIONS AND MAY NOT BE SHUT DOWN FOR MORE THAN 8 HOURS.
3. PIPE TO BE ABANDONED SHALL BE CUT AND CAPPED AFTER INSTALLATION OF PROPOSED WATER PIPE.
4. ALL WATER PIPES AND FITTINGS TO BE RESTRAINED AS SHOWN ON THESE PLANS.
5. WATER PIPE TO BE ABANDONED SHALL BE REMOVED WHERE IT INTERFERES WITH THE PROPOSED NEW WATER PIPE.
6. CONTRACTOR TO RESTRIPE WITH THERMOPLASTIC MATERIAL ALL ROADWAY STRIPING DEMOLISHED DURING CONSTRUCTION.
7. WHEN DRILLING INTO THE EXISTING BRIDGE, CONTRACTOR SHALL PLACE TARPULINS BELOW THE WORK AREA TO CAPTURE AND PROPERLY DISPOSE OF CONCRETE DUST.



MATCH LINE STA 6+25 / SEE SHEET C-1



Login Name: jinnover, 2026, 6:59 pm, Proj. State: MIP
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NO.	REVISIONS	BY	DATE

BENCH MARK ELEV: 6761.83 DATUM: NAVD 88
 DESCRIPTION:
 HORIZONTAL DATUM: HORIZONTAL DATUM
 CALIFORNIA STATE PLAN COORDINATE SYSTEM,
 ZONE 2, NAD83, 2010 EPOCH. VERTICAL
 DATUM: NAVD 88 AS ADJUSTED TO NGS KS0096
 EL: 6761.83

DESIGN BY: L. HOWARD
 DRAWN BY: J. GINNEVER
 CHECKED BY: D. HARDEN
 SCALE: 1"=20'
 DATE: 2/24/2026
 PROJ NO.: 23113

VERIFY SCALE
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PRELIMINARY PLANS
 NOT FOR CONSTRUCTION
 2/24/2026

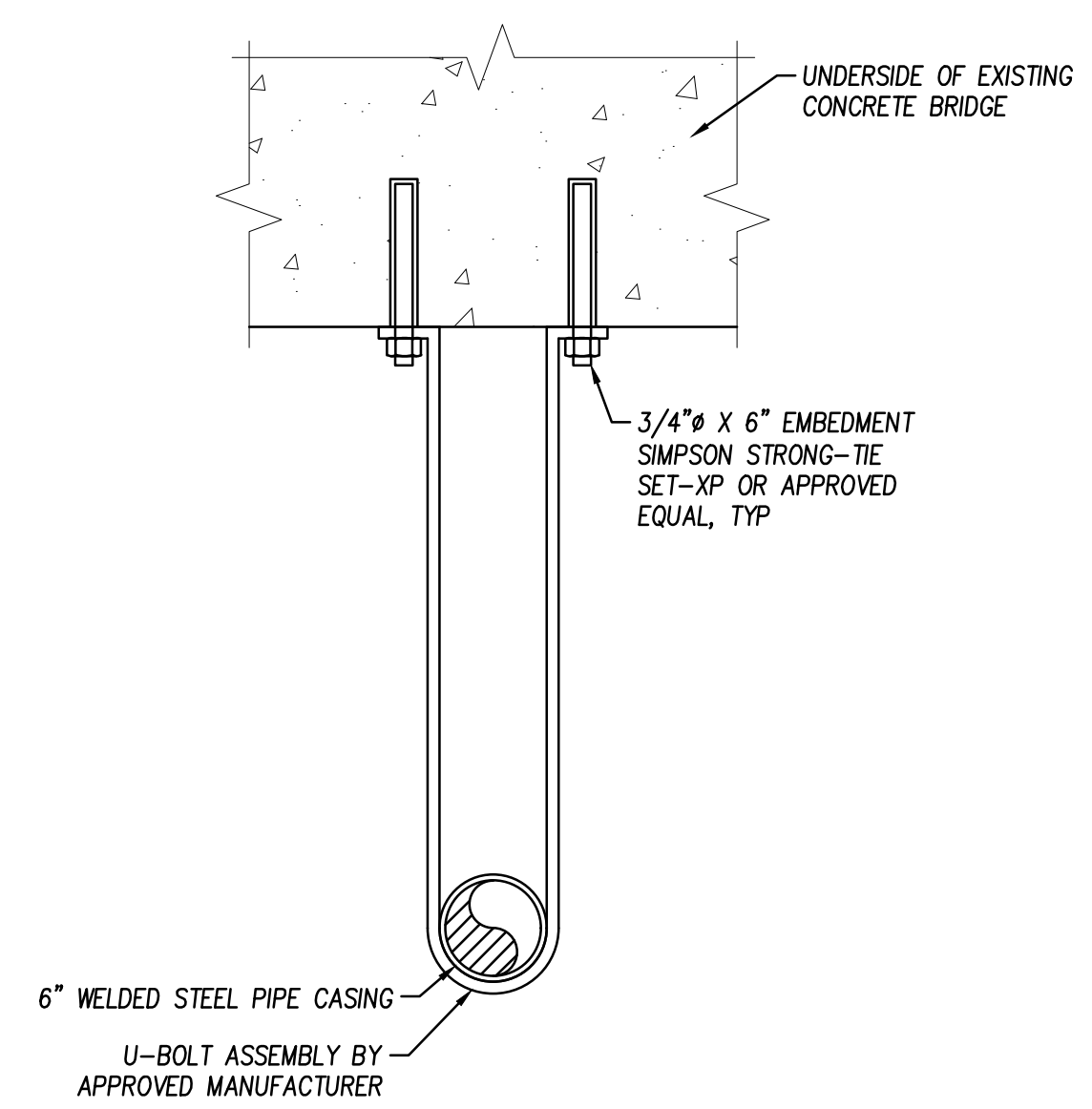
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 Roseville, California 95661
 T 916.783.4100

DONNER SUMMIT
 DONNER SUMMIT PUBLIC UTILITY DISTRICT

BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT
 PLAN & PROFILE
 STA 6+25 to STA 8+42
 CALIFORNIA

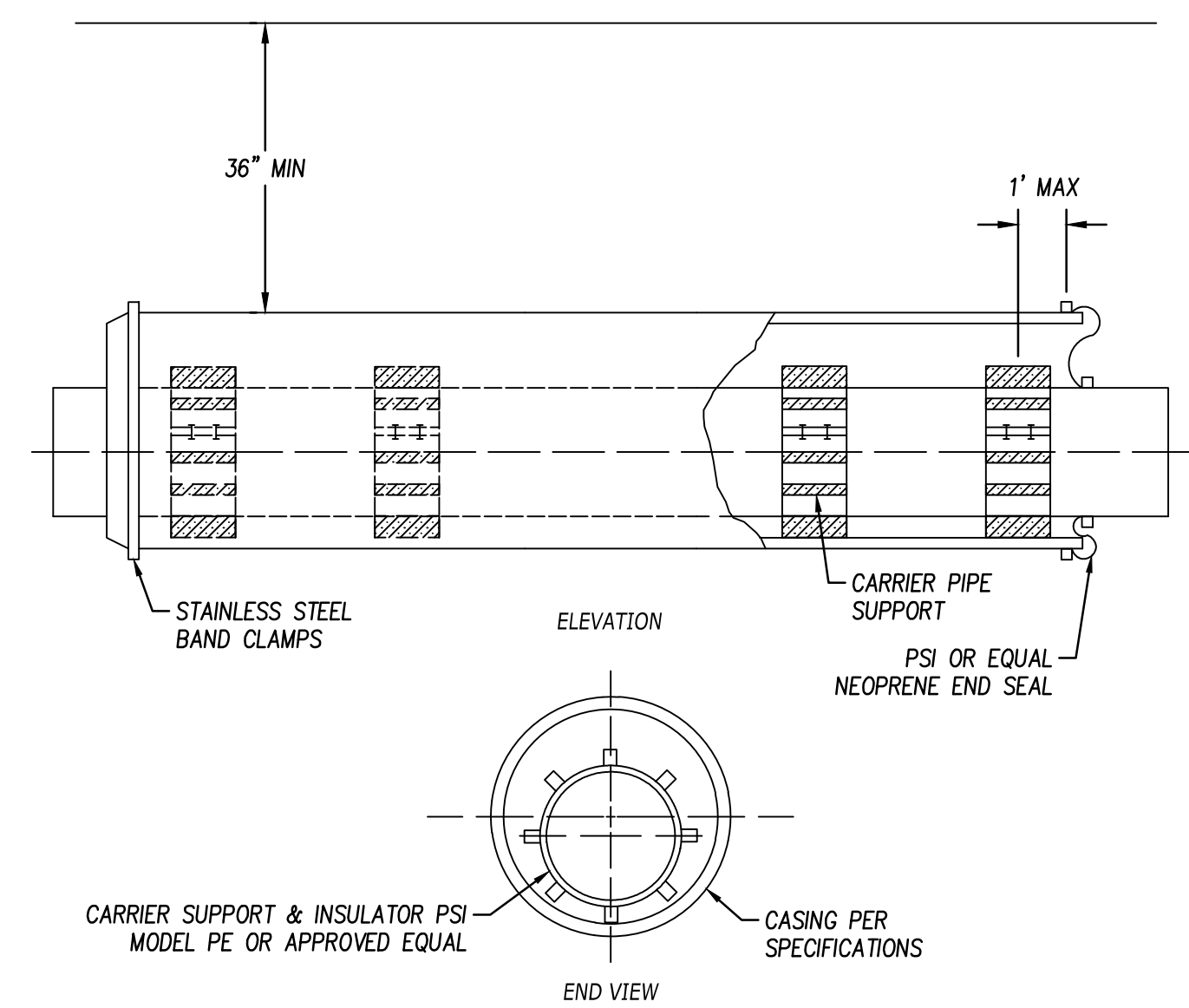
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- NOTES:**
- 2 (TWO) PIPE SUPPORTS ON EACH SIDE OF BRIDGE SUPPORT
 - INSTALL U-BOLT ASSEMBLY PER MANUFACTURER'S INSTRUCTIONS
 - PROVIDE NEOPRENE ISOLATION PAD BETWEEN PIPE AND U-BOLT

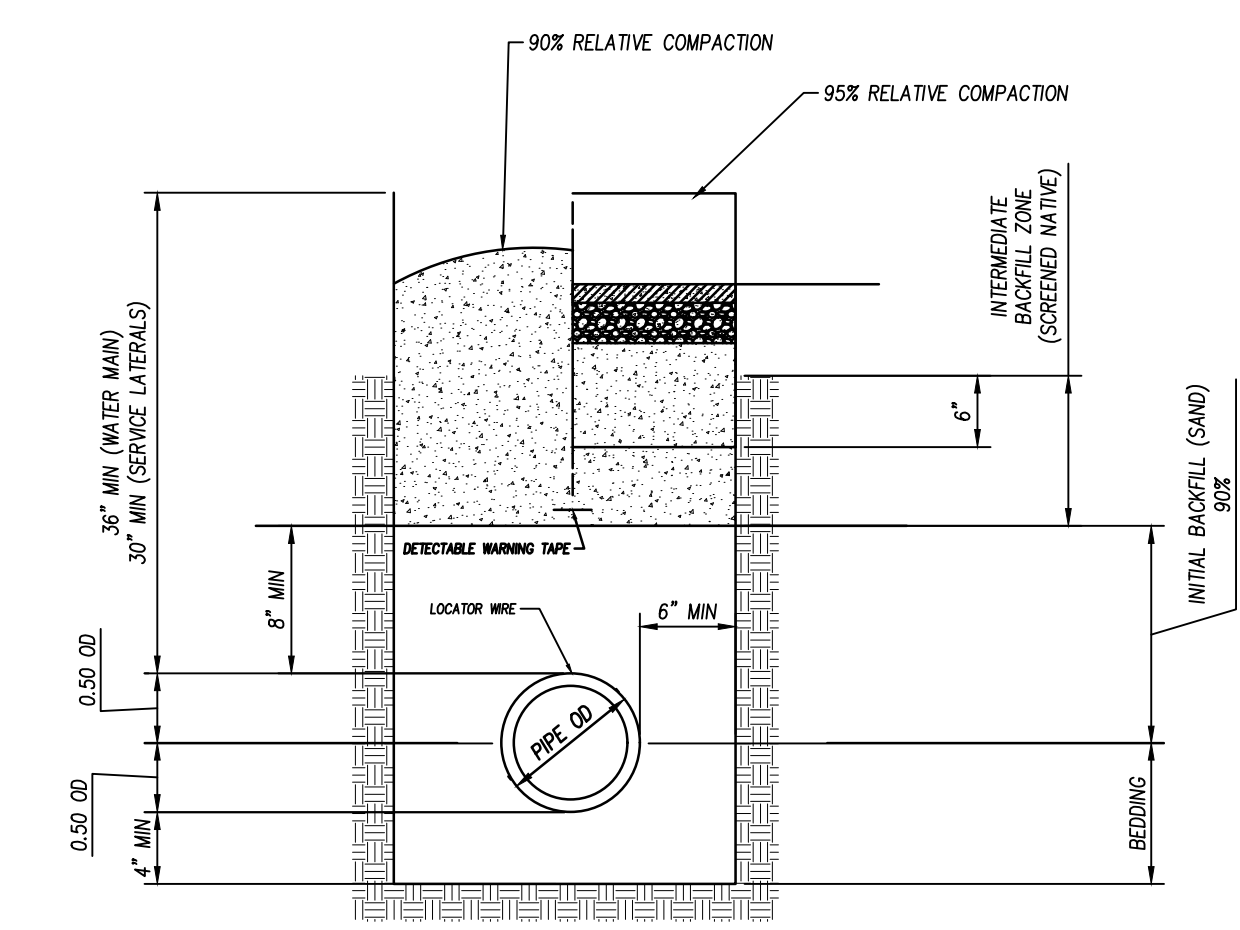


1 PIPE SUPPORT DETAIL
- NTS

- NOTES:**
- SKIDS OF CARRIER PIPE SUPPORTS SHALL BE GREASED BEFORE INSTALLATION.
 - SPACING OF CARRIER PIPE SUPPORTS SHALL BE PER MANUFACTURERS' RECOMMENDATION OR 9', WHICH EVER IS LESS.
 - CARRIER PIPE SHALL BE TESTED BEFORE SEALING ENDS.
 - BELLS OF CARRIER PIPE SHALL NOT REST ON CASING PIPE.
 - CASING LENGTH & THICKNESS SHALL CONFORM TO DSPUD STANDARDS OR ROADWAY CONTROLLING AGENCY'S SPECIFICATIONS WHICH EVER IS MORE STRINGENT.
 - CARRIER PIPE TO BE DUCTILE IRON PIPE WITH RESTRAINED JOINTS.
 - VALVES SHALL BE LOCATED ON EACH SIDE OF CASING.

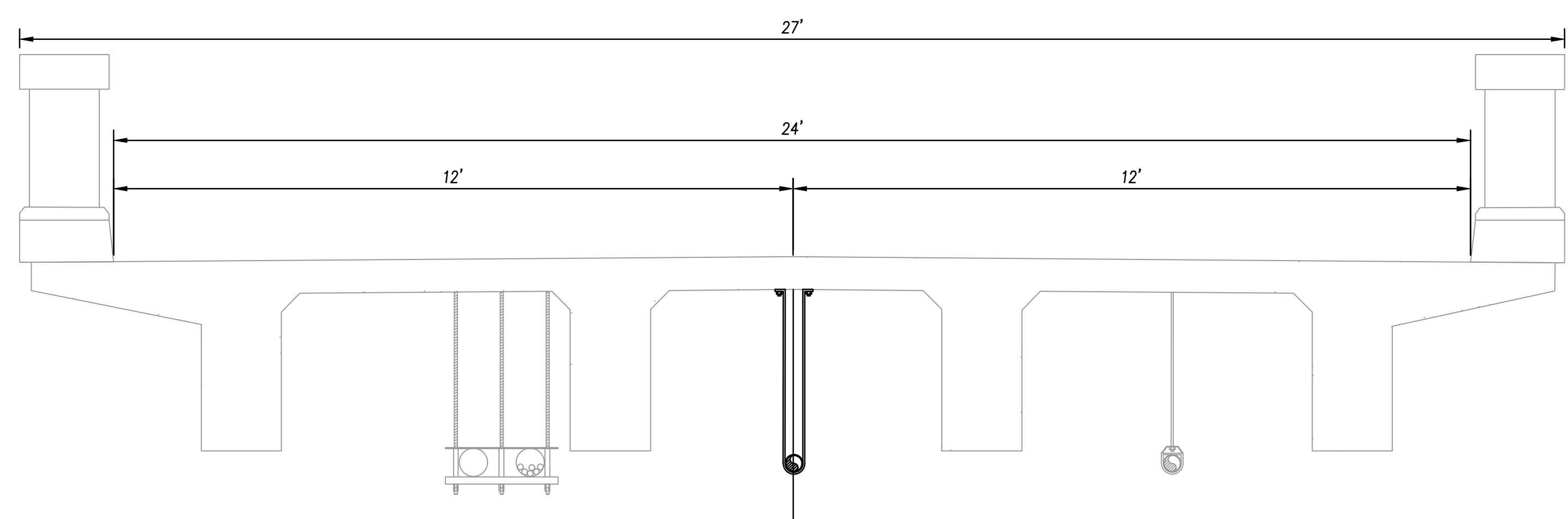


2 PIPE CASING DETAIL
- NTS



- NOTES:**
- TRENCH EXCAVATION AND BACKFILL PER PRODUCT TECHNICAL SPECIFICATIONS.
 - RELATIVE COMPACTION AS SHOWN.
 - TRENCH WALL SHOWN VERTICAL FOR CLARITY, EXCAVATE PER OSHA REQUIREMENTS
 - MOUND NOT REQUIRED FOR TRENCHES LESS THAN OR EQUAL TO 14\"/>

3 TRENCH AND BACFILL DETAIL
- NTS



4 BRIDGE SECTION DETAIL
- NTS

Login Name: vordigaez
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BENCH MARK ELEV: 6761.83 DATUM: NAVD 88
 DESCRIPTION:
 HORIZONTAL DATUM: HORIZONTAL DATUM
 CALIFORNIA STATE PLAN COORDINATE SYSTEM,
 ZONE 2, NAD83, 2010 EPOCH, VERTICAL
 DATUM: NAVD 88 AS ADJUSTED TO NGS KS0096
 EL: 6761.83

DESIGN BY: L. HOWARD
 DRAWN BY: J. GINNEVER
 CHECKED BY: D. HARDEN
 SCALE: NTS
 DATE: 2/24/2026
 PROJ NO.: 23113

VERIFY SCALE
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PRELIMINARY PLANS
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BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT
DONNER SUMMIT
 DONNER SUMMIT PUBLIC UTILITY DISTRICT
 CONSTRUCTION DETAILS
 CALIFORNIA

CD-1
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COLD CLIMATE 2" BLOW-OFF

ITEM DESCRIPTION

- 2" NPT GATE VALVE W/2" SQ. OPERATING NUT
- 2" NPT BRASS TEE
- 2" NPT BRASS CAP
- LATERAL MAY BE THD TYPE M COPPER, BRONZE, OR BRASS
- 6" OF 3/4" CRUSHED ROCK. EXTEND 6" ON ALL SIDES
- FINISHED GRADE
- H20-RATED PRECAST 42"x20" UTILITY BOX W/ALUMINUM, H20-RATED, SPRING ASSIST, LOCKABLE LID WITH DRAIN
- RESTRAINED DIP BLIND FLANGE W/2-1/2" NPT OUTLET.
- 2" NPT BRASS STREET ELBOW
- 6" CONCRETE COLLAR W/#4 REBAR
- BRONZE SERVICE SADDLE
- LOCATING WIRE PER S109
- NOTCHED VALVE WELL EXTENSION PER S105 (8" SDR 35 PVC VALVE WELL EXTENSION, ONE CONTINUOUS LENGTH OF PIPE.
- 2" NPT BRASS NIPPLE
- 2" NPT BRASS 45° ELBOW
- NYLON BUSHING
- 1 CUBIC FT. 3/4" CRUSHED ROCK IN FILTER FABRIC
- BACK OF SIDEWALK OR CURB

NOTES:

- ALL PIPE TO BE 2" BRASS UNLESS OTHERWISE SHOWN.
- DRAPE EXPOSED PIPING AND APPURTENANCES IN INSULATING BLANKETS.
- MINIMUM DIMENSION TO BE 1/4 OF THE MAIN PIPE DIAMETER

PLAN VAULT

VAULT PROFILE

A PRE-APPROVED MATERIALS LIST IS LOCATED IN APPENDIX D.

PCWA APPROVED: R. Brent Smith, P.E., DIRECTOR OF TECHNICAL SERVICES

DRAWING NO. S506

REVISION DATE 01-31-17

VALVE AND WELL INSTALLATION

ITEM DESCRIPTION

- 8" SDR 35 PVC VALVE WELL EXTENSION (ONE CONTINUOUS LENGTH OF PIPE)
- CONCRETE VALVE BOX WITH CAST IRON TRAFFIC LID
- 6"x6" CONCRETE PAD W/#4 REBAR
- GATE VALVE
- ACTUATOR
- 1 CUBIC FOOT CRUSHED ROCK
- MJ/FLG ADAPTER
- TEE
- FINISHED GRADE
- LOCATING WIRE PER S109

NOTES:

- SHOWN AS FLANGED GATE VALVE. 2" THD GATE VALVE AND BUTTERFLY VALVE APPLICATION ARE SIMILAR.
- IF VALVE NUT IS MORE THAN 30" BELOW FINISHED GRADE, INSTALL AN OPERATING EXTENSION, PER S110.
- FOR LOCKING LIDS, SEE S107.
- PROVIDE MAG. ANODE PER S112.
- SET VALVE BOX AT OR 1/4" BELOW PAVEMENT.
- NOTCH EXTENSION TO PLACE WIRE.
- 6" MIN. OVERLAP BETWEEN GS AND VALVE WELL EXTENSION.
- CENTER VALVE WELL EXTENSION OVER VALVE NUT.

VALVE WELL DETAILS

VALVE INSTALLATION

ALL VALVES ≥ 4" TO BE FLANGED

A PRE-APPROVED MATERIALS LIST IS LOCATED IN APPENDIX D.

PCWA APPROVED: R. Brent Smith, P.E., DIRECTOR OF TECHNICAL SERVICES

DRAWING NO. S106

REVISION DATE 01-31-17

WALL PENETRATION

ITEM DESCRIPTION

- STEEL PIPE SLEEVE, 1/4" THICK MIN., GALVANIZED AFTER FABRICATION
- ADJUSTABLE LINKED RUBBER SEAL WITH STAINLESS STEEL METALLIC PARTS ON INSIDE FACE OF VAULT OR WALL
- STEEL WEEP RING, PIPE O.D. PLUS 3" MIN. X 1/2" TH.
- NON-SHRINK GROUT
- PIPELINE OR CONDUIT
- MASTIC SEALANT W/FOAM OR MINERAL WOOL BACKER ROD

NOTES:

- THIS DETAIL IS APPLICABLE ONLY IN STABLE SOIL CONDITIONS. PROVIDE AN ENGINEERED DESIGN FOR OTHER CONDITIONS.
- CORE-DRILL THE WALL PENETRATION.

NEW WALL INSTALLATION

EXISTING WALL INSTALLATION

A PRE-APPROVED MATERIALS LIST IS LOCATED IN APPENDIX D.

PCWA APPROVED: R. Brent Smith, P.E., DIRECTOR OF TECHNICAL SERVICES

DRAWING NO. S405

REVISION DATE 03-13-15

TRANSVERSE TRENCH RESURFACING SECTIONS

DEPARTMENT OF PUBLIC WORKS
COUNTY OF PLACER

TYPE A: PAVEMENT SURFACES LESS THAN 5 YEARS OLD, SURFACE TREATMENTS LESS THAN 3 YEARS OLD, & MAJOR THOROUGHFARES WITH HIGH QUALITY RIDING SURFACES, BORING OR JACKING ONLY. NO PAVEMENT CUTTING PERMITTED.

TYPE B: PAVEMENT GREATER THAN 5 YEARS OLD

TYPE C: UNSURFACED ROAD SHOULDER OR OTHER AREAS SUBJECT TO TRAFFIC LOADS

TYPE D: OUTSIDE ROADWAY, NOT SUBJECT TO TRAFFIC LOADS

NOTES:

- SEE ST-40 AND PLACER COUNTY GENERAL SPECIFICATIONS SECTION 19 FOR APPLICABLE TRENCH, BACKFILL, AND COMPACTION REQUIREMENTS.
- WHERE OPEN-GRADE OR OTHER SPECIALIZED HMA/SURFACE TREATMENT IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
- WHERE GEOTEXTILE FABRIC IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.

REVISED: AUG 2023

SCALE: NOT TO SCALE

DESIGN DETAIL **ST-38**

LONGITUDINAL TRENCH RESURFACING SECTIONS

DEPARTMENT OF PUBLIC WORKS
COUNTY OF PLACER

TYPE A: PAVEMENT LESS THAN 5 YRS OLD, SURFACE TREATMENT LESS THAN 3 YRS OLD, AND MAJOR THOROUGHFARES WITH HIGH QUALITY RIDING SURFACES

- BORING AND JACKING ONLY-NO PAVEMENT CUTTING UNLESS REQUESTED IN WRITING AND APPROVED IN WRITING BY THE DIRECTOR OF DPW.
- RESTORATION SHALL BE AS DIRECTED BY THE ENGINEER AND MAY INCLUDE:
 - COMPLETE ROAD OVERLAY AFTER TRENCHING 0.2 FT. MIN. THICKNESS OR AS SPECIFIED ON THE PERMIT.
 - COMPLETE ROAD RECONSTRUCTION TO MATCH EXISTING.
- ANY OTHER RESTORATION MUST BE REQUESTED IN WRITING AND APPROVED IN WRITING BY THE DIRECTOR OF PUBLIC WORKS.

TYPE B: PAVEMENT OLDER THAN 5 YEARS, OR SURFACE TREATMENT OLDER THAN 3 YRS

- THE ENGINEER SHALL DETERMINE WHICH OPTION (I OR II) APPLIES.
- IF USING OPTION I: TRENCH RESTORATION TO INCLUDE PLACEMENT OF NEW HMA USING OFFSET JOINT WITH MIN. 6" + 6" LAP EACH SIDE. GRIND DEPTH (A) TO BE 0.2" AT DISCRETION OF COUNTY WHERE EXISTING AC SECTION IS LESS THAN 3". NEW HMA SHALL BE PLACED IN TWO LIFTS. THE FIRST LIFT SHALL BE TO TOP OF OFFSET JOINT AT SAWCUT LINE (1) SECOND LIFT SHALL BE FULL WIDTH OF NEW AC TO GRIND LINE (2). COUNTY MAY REQUIRE PLACEMENT OF GEOTEXTILE FABRIC BETWEEN TWO AC LIFTS WHERE EXTENSIVE SURFACE CRACKS ARE PRESENT OR IF POOR SOIL CONDITIONS EXIST.
- IF K<3 FT. FOR ALL TRENCHES REPAVE TO E.P.
- SLURRY SEAL OR OTHER ASPHALT MATERIAL AS DIRECTED BY THE ENGINEER, MINIMUM OF 2 FT. EITHER SIDE OF TRENCH LIMITS, IF X<5 FT. SEAL TO E.P. A MINIMUM OF ONE FOOT BEYOND THE SAWCUT/GRIND LIMITS AND/OR LIMITS OF DISTURBANCE.
- DAMAGE TO THE STRUCTURAL SECTION OR THE PAVEMENT SURFACE RESULTING FROM WORK UNDER THIS PERMIT SHALL BE RESTORED BY THE PERMITTEE TO EQUAL OR BETTER CONDITIONS AS DIRECTED BY THE COUNTY. EXTENSIVE DAMAGE MAY REQUIRE RESTORATION VIA CREATION OF A NEW STRUCTURAL SECTION.
- IF OPEN GRADE OR OTHER SPECIALIZED HMA/SURFACE TREATMENT IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
- PAVEMENT REPAIR JOINTS SHALL BE LOCATED OUTSIDE OF VEHICLE WHEEL PATH.
- WHERE GEOTEXTILE FABRIC IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
- SEE DESIGN DETAIL ST-40 AND PLACER COUNTY GENERAL SPEC SECTION 19 FOR TRENCH, BACKFILL, AND COMPACTION REQUIREMENTS.

TYPE C: UNSURFACED ROAD SHOULDER OR OTHER AREAS SUBJECT TO TRAFFIC LOADS

TYPE D: OUTSIDE ROADWAY PRISM, NOT SUBJECT TO TRAFFIC

REVISED: AUG 2023

SCALE: NOT TO SCALE

DESIGN DETAIL **ST-39**

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BENCH MARK ELEV: 6761.83 DATUM: NAVD 88

DESCRIPTION: HORIZONTAL DATUM CALIFORNIA STATE PLAN COORDINATE SYSTEM, ZONE 2, NAD83, 2010 EPOCH, VERTICAL DATUM: NAVD 88 AS ADJUSTED TO NGS KS0096 EL: 6761.83

DESIGN BY: L. HOWARD

DRAWN BY: J. GINNEVER

CHECKED BY: D. HARDEN

SCALE: NTS

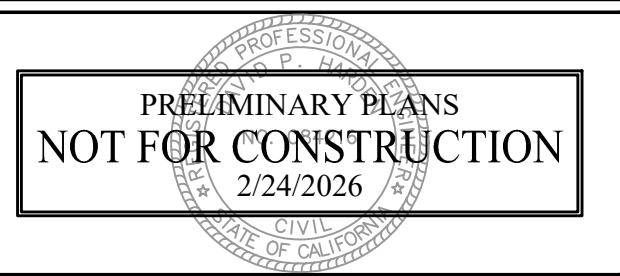
DATE: 2/24/2026

PROJ NO.: 23113

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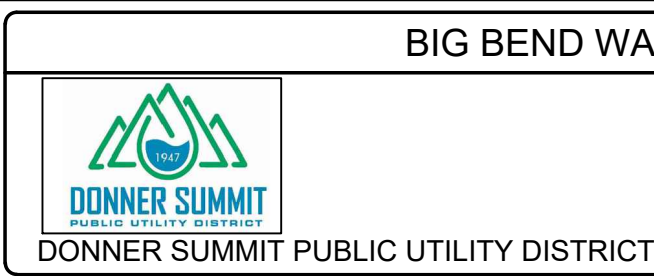
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BIG BEND WATER SYSTEM PIPELINE REPLACEMENT PROJECT

CONSTRUCTION DETAILS

CALIFORNIA

CD-2

07 OF 07

Attachment 3

60% Engineer's Opinion of Probable Construction Cost					
Donner Summit Public Utilities District					
Project Name: Big Bend Water System Pipeline Replacement Phase 1				Project No: 23-113	
Location Southwest of 49645 Hampshire Rocks Rd, Soda Springs, CA 95728				Contract No:	Client Name DSPUD
QTY. ORIGINATOR J. Ginnever	DATE 03/16/26	QTY. CHECKER D. Harden	DATE 03/17/26	PRICED BY J. Ginnever	
					DATE 03/16/26
Item No.	ITEM DESCRIPTION	Estimated Quantity	Unit	Unit Price (\$/Unit)	Amount (\$)
Engineering/Design					
1	Final Design and Engineering During Construction	1	LS	\$90,000.00	\$90,000.00
2	Environmental and Permitting	1	LS	\$150,000.00	\$150,000.00
3	Geotech and Materials Testing	1	LS	\$35,000.00	\$35,000.00
Engineering/Design SUBTOTAL					\$275,000.00
Construction					
4	Mobilization/Demobilization	1	LS	\$50,000.00	\$50,000.00
5	Traffic Control	1	LS	\$24,000.00	\$24,000.00
6	Water Pollution Control Plan	1	LS	\$12,000.00	\$12,000.00
7	Erosion Control/ Environmental BMPs	1	LS	\$24,000.00	\$24,000.00
8	Pipeline Testing and Disinfection	1	LS	\$12,000.00	\$12,000.00
9	4-inch Polyvinyl Chloride Pipe (Hard Rock Trenching)	735	LF	\$400.00	\$294,000.00
10	Pipe Hangers and 6 Inch Welded Steel Casing	85	LF	\$1,250.00	\$106,250.00
11	4-inch Gate Valve	2	EA	\$4,500.00	\$9,000.00
12	2-inch Gate Valve	2	EA	\$800.00	\$1,600.00
Construction SUBTOTAL					\$532,850.00
Contingency 20% =					\$106,570.00
Grand Total for Funding Purposes =					\$914,000.00
BENNETT ENGINEERING SERVICES ASSUMES NO RESPONSIBILITY FOR DIFFERENCES BETWEEN THESE QUANTITIES AND FINAL PAY QUANTITIES.					



Attachment 4



Big Bend Water System Pipeline Replacement Phase 1

60% Specification Outline

March 17, 2026

Prepared for:

Donner Summit Public Utility District

Prepared by:

Dave Harden, PE

Logan Howard, PE

Jessica Ginnever, EIT

BEN**EN**

SPECIFICATION INDEX

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- 01 22 00 – Measurement and Payment
- 01 31 00 – Project Coordination
- 01 33 00 – Submittal Procedures
- 01 50 00 – Temporary Facilities and Controls
- 01 55 00 – Traffic Control and Public Safety
- 01 57 00 – Environmental Controls
- 01 77 00 – Closeout Procedures

DIVISION 02 — EXISTING CONDITIONS

- 02 41 00 – Demolition and Removal of Existing Utilities

DIVISION 31 — EARTHWORK

- 31 23 16 – Excavation for Utilities
- 31 23 33 – Trenching and Backfill

DIVISION 32 — SURFACE RESTORATION

- 32 01 17 – Pavement Cutting and Patching
- 32 12 16 – Asphalt Concrete Paving

DIVISION 33 — WATER UTILITIES

- 33 05 23 – Utility Pipe Bedding and Backfill
- 33 05 31 – Thrust Restraints and Thrust Blocks
- 33 11 00 – Water Distribution Piping
- 33 11 20 – Pressure Pipe
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- 33 13 00 – Disinfection of Water Utilities
- 33 14 00 – Hydrostatic Testing of Water Pipelines

DIVISION 01 – GENERAL REQUIREMENTS

SECTION 01 11 00

SUMMARY OF WORK

1.1 Description of Work

The work consists of furnishing all labor, materials, equipment, and incidentals necessary to construct the Big Bend Water System Pipeline Replacement Project.

Work includes, but is not limited to:

- Removal of existing water pipeline
- Installation of new water main
- Installation of valves and fittings
- Trenching, bedding, and backfill
- Thrust blocks and pipe supports
- Pipe casing installation
- Roadway and surface restoration
- Pressure testing and disinfection

1.2 Location

The project is located along Hampshire Rocks Road in Cisco Grove, Placer County, California within the Donner Summit Public Utility District service area.

1.3 Work Limits

The pipeline alignment extends approximately from 750 feet along Hampshire Rocks Road.

1.4 Contractor Responsibilities

Contractor shall:

- Verify field conditions
- Protect existing utilities
- Maintain public access
- Coordinate with DSPUD

SECTION 01 22 00

MEASUREMENT AND PAYMENT

2.1 General

Measurement and payment for the various items of work shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals necessary to complete the work as shown on the Drawings and as specified.

Each Bid Item shall include all work necessary to provide a complete and operable system, including all connections, testing, cleanup, and incidental work, unless specifically noted otherwise.

Measurement shall be based on in-place completed work. No allowance will be made for waste, rejected materials, or work not conforming to the Contract Documents.

Bid Items are not intended to be exclusive descriptions of work categories. The Contractor shall include in each item all materials, labor, and equipment necessary to complete that portion of the work.

2.2 Bid Items

Bid Item No. 1 – Mobilization and Demobilization

Unit: Lump Sum (LS)

Measurement:

Partial payment based on Engineer's determination.

Payment:

Payment includes full compensation for all work required to complete mobilization and demobilization.

Scope of Bid Item: Includes, but is not limited to:

- Mobilization of labor, materials, tools, equipment, and incidentals to the project site.
- Establishment of staging areas and temporary facilities.
- Permits, insurance, and bonds.
- Project coordination and submittals.
- Site security and safety measures.
- Coordination with Donner Summit Public Utility District and other agencies.

- Final cleanup, demobilization, and site restoration.

All other incidental work necessary to complete Mobilization and Demobilization in accordance with the Contract Documents.

Bid Item No. 2 – Traffic Control

Unit: Lump Sum (LS)

Measurement:

Partial payment based on Engineer's determination.

Payment:

Payment includes full compensation for all work required to complete traffic control.

Scope of Bid Item: Includes, but is not limited to:

- Preparation and implementation of a traffic control plan.
- Furnishing and placement of signage, cones, barricades, and warning devices.
- Flaggers and traffic control personnel.
- Lane closures and traffic routing.
- Maintaining access to properties and emergency services.
- Compliance with California MUTCD requirements.

All other incidental work necessary to complete Traffic Control in accordance with the Contract Documents.

Bid Item No. 3 – Water Pollution Control and Environmental BMPs

Unit: Lump Sum (LS)

Measurement:

Partial payment based on Engineer's determination.

Payment:

Payment includes full compensation for all work required to prepare, implement, maintain, and remove water pollution control measures and environmental BMPs.

Scope of Bid Item: Includes, but is not limited to:

- Preparation of the Water Pollution Control Plan (WPCP) or SWPPP as required.
- Furnishing, installing, maintaining, and removing BMPs.

- Dust control.
- Erosion and sediment control.
- Spill prevention and housekeeping practices.
- Inspection, monitoring, and reporting.
- Compliance with applicable regulatory requirements.

All other incidental work necessary to complete Water Pollution Control and Environmental BMPs in accordance with the Contract Documents.

Bid Item No. 4 – Pipeline Testing and Disinfection

Unit: Lump Sum (LS)

Measurement:

Partial payment based on Engineer's determination.

Payment:

Payment includes full compensation for all work required to complete testing and disinfection of the pipeline.

Scope of Bid Item: Includes, but is not limited to:

- Hydrostatic pressure testing.
- Leakage testing.
- Flushing and chlorination.
- Bacteriological testing.
- Coordination with the Engineer for testing procedures and acceptance.

All other incidental work necessary to complete Pipeline Testing and Disinfection in accordance with the Contract Documents.

Bid Item No. 5 – 4-Inch PVC Pipe (Hard Rock Trenching)

Unit: Linear Foot (LF)

Measurement:

Measurement shall be by the linear foot of pipe installed and accepted in place.

Payment:

Payment includes full compensation for furnishing and installing 4-inch PVC water main complete in place.

Scope of Bid Item: Includes, but is not limited to:

- Trenching and excavation, including hard rock excavation.
- Dewatering, if required.
- Pipe bedding and backfill.
- Furnishing and installation of PVC pipe, fittings, and appurtenances.
- Thrust blocks, restrained joints, and anchorage.
- Connections to existing water system.
- Trench safety and shoring as required.
- Compaction of backfill materials.
- Sawcutting, removal, and restoration of pavement and surface improvements.
- Disposal of excess materials.

All other incidental work necessary to complete installation of the 4-inch PVC Pipe in accordance with the Contract Documents.

Bid Item No. 6 – Pipe Hangers and 6-Inch Welded Steel Casing

Unit: Linear Foot (LF)

Measurement:

Measurement shall be by the linear foot of casing and associated installation completed and accepted in place.

Payment:

Payment includes full compensation for furnishing and installing pipe hangers and steel casing complete in place.

Scope of Bid Item: Includes, but is not limited to:

- Furnishing and installation of welded steel casing.
- Installation of carrier pipe within casing.
- Pipe spacers, end seals, and fittings.
- Furnishing and installation of pipe hangers and supports.
- Anchoring and attachment to existing structures.
- **Concrete coring through bridge abutments and/or structural elements as required for installation.**
- Coordination with structural details and requirements.

All other incidental work necessary to complete Pipe Hangers and Steel Casing installation in accordance with the Contract Documents.

Bid Item No. 7 – 4-Inch Gate Valve

Unit: Each (EA)

Measurement:

Measurement shall be by each valve installed and accepted in place.

Payment:

Payment includes full compensation for furnishing and installing 4-inch gate valves.

Scope of Bid Item: Includes, but is not limited to:

- Furnishing and installation of gate valve.
- Valve box, lid, and appurtenances.
- Excavation, backfill, and compaction.
- Thrust restraint and anchorage.
- Surface restoration associated with valve installation.

All other incidental work necessary to complete installation of the 4-inch Gate Valve in accordance with the Contract Documents.

Bid Item No. 8 – 2-Inch Gate Valve

Unit: Each (EA)

Measurement:

Measurement shall be by each valve installed and accepted in place.

Payment:

Payment includes full compensation for furnishing and installing 2-inch gate valves.

Scope of Bid Item: Includes, but is not limited to:

- Furnishing and installation of gate valve.
- Valve box, lid, and appurtenances.
- Excavation, backfill, and compaction.
- Thrust restraint and anchorage.
- Surface restoration associated with valve installation.

All other incidental work necessary to complete installation of the 2-inch Gate Valve in accordance with the Contract Documents.

SECTION 01 31 00

PROJECT COORDINATION

PART 1 – GENERAL

1.01 SUMMARY

This section includes requirements for project coordination, meetings, and scheduling.

1.02 PRECONSTRUCTION CONFERENCE

A preconstruction conference will be held prior to commencement of work.

Attendees shall include:

- Contractor
- Engineer
- Donner Summit Public Utility District (DSPUD)
- Major subcontractors (as required)

Topics will include:

- Construction schedule
 - Traffic control
 - Submittals
 - Utility coordination
 - Safety requirements
-

1.03 COORDINATION

Contractor shall coordinate work with:

- Donner Summit Public Utility District
- Utility providers
- Local agencies

Contractor shall:

- Notify affected parties prior to construction

- Coordinate shutdowns and tie-ins
 - Maintain continuous access to properties
-

1.04 CONSTRUCTION SCHEDULE

Contractor shall submit a construction schedule within **10 calendar days** of Notice to Proceed.

Schedule shall include:

- Major work activities
 - Sequencing of pipeline installation
 - Traffic control phases
 - Testing and commissioning
-

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

SECTION 01 33 00

PART 1 – GENERAL

1.01 SUMMARY

This section defines requirements for submission and approval of materials and equipment.

1.02 SUBMITTALS REQUIRED

Contractor shall submit the following:

- Pipe material certifications
- Valve and appurtenance data

- Fitting specifications
- Concrete mix design (for thrust blocks)
- Traffic control plan

Additional submittals may be required by the Engineer.

1.03 REVIEW PROCESS

- Submittals shall be reviewed by the Engineer prior to installation
 - Work performed without approved submittals may be rejected
 - Allow minimum **10 working days** for review
-

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

Not Used.

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 SUMMARY

Contractor shall provide temporary facilities and controls necessary to complete the work.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 GENERAL

Contractor shall provide:

- Construction staging areas
- Temporary utilities as required
- Site access and security

3.02 DUST CONTROL

- Apply water or approved methods to control dust
 - Prevent dust from leaving project limits
-

3.03 EROSION CONTROL

- Install erosion control measures as required
 - Prevent sediment migration from site
-

3.04 SAFETY FACILITIES

- Provide barriers, fencing, and signage
 - Maintain safe working conditions
-

SECTION 01 55 00

TRAFFIC CONTROL AND PUBLIC SAFETY

PART 1 – GENERAL

1.01 SUMMARY

This section includes requirements for maintaining traffic and public safety during construction.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 GENERAL

Contractor shall maintain safe traffic flow along **Hampshire Rocks Road** throughout construction.

3.02 TRAFFIC CONTROL PLAN

Contractor shall prepare and implement a traffic control plan including:

- Lane closures
 - Flagging operations
 - Signage placement
 - Work zone delineation
-

3.03 TRAFFIC CONTROL MEASURES

Provide:

- Flaggers when required
 - Warning signs
 - Cones and barricades
 - Temporary striping (if required)
-

3.04 STANDARDS

Traffic control shall conform to:

- **California MUTCD**
- Local agency requirements

SECTION 01 57 00

ENVIRONMENTAL CONTROLS

PART 1 – GENERAL

1.01 SUMMARY

Contractor shall implement environmental protection measures during construction.

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 DUST SUPPRESSION

- Control dust using water or approved methods
-

3.02 EROSION CONTROL

- Prevent sediment discharge
 - Stabilize disturbed areas
-

3.03 SPILL PREVENTION

- Store fuels and chemicals properly
 - Provide spill containment materials
-

3.04 VEGETATION PROTECTION

- Protect existing vegetation outside work limits
- Minimize disturbance

SECTION 01 77 00

CLOSEOUT PROCEDURES

PART 1 – GENERAL

1.01 SUMMARY

This section defines requirements for project closeout.

PART 3 – EXECUTION

3.01 CLOSEOUT SUBMITTALS

Contractor shall provide:

- Record drawings
 - Material certifications
 - Testing documentation
 - Warranty documentation
-

3.02 FINAL ACCEPTANCE

Project will be accepted upon:

- Completion of work
 - Approval of testing
 - Receipt of all documentation
-

DIVISION 02 – EXISTING CONDITIONS

SECTION 02 41 00

DEMOLITION AND REMOVAL OF EXISTING UTILITIES

PART 1 – GENERAL

1.01 SUMMARY

This section includes removal of existing water system components.

PART 3 – EXECUTION

3.01 GENERAL

Contractor shall remove existing pipeline segments as shown on the plans.

3.02 DISPOSAL

- Dispose of materials in accordance with local regulations
 - Salvage materials if directed by District
-

3.03 PROTECTION

- Protect existing utilities not designated for removal
 - Repair damage at Contractor's expense
-

DIVISION 31 – EARTHWORK

SECTION 31 23 16

EXCAVATION FOR UTILITIES

EXCAVATION FOR UTILITIES

PART 1 – GENERAL

1.01 SUMMARY

This section includes excavation required for pipeline installation.

PART 3 – EXECUTION

3.01 GENERAL

Contractor shall excavate trenches to required depth and alignment.

3.02 WORK INCLUDED

- Soil excavation
 - Removal of obstructions
 - Dewatering as required
-

3.03 SAFETY

- Comply with **Cal/OSHA trench safety standards**
 - Provide shoring, sloping, or shielding as required
-

SECTION 31 23 33

TRENCHING AND BACKFILL

PART 1 – GENERAL

Includes trench excavation, bedding, and backfill.

PART 2 – PRODUCTS

2.01 BEDDING

- Class II aggregate base
- Minimum 6 inches below pipe

2.02 BACKFILL

- Native or imported
 - Free of rocks > 3 inches
-

PART 3 – EXECUTION

3.01 TRENCH EXCAVATION

- Width sufficient for pipe installation
- Shore per Cal/OSHA

3.02 BEDDING INSTALLATION

- Shape to support pipe
- No point loading

3.03 BACKFILL

- Compact to:
 - **95% relative compaction (roadway)**
 - 90% (non-structural areas)

3.04 PAVEMENT ZONE

- Restore per detail (PCWA trench section shown in plans)
-

DIVISION 32 – SURFACE RESTORATION

SECTION 32 01 17

PAVEMENT CUTTING AND PATCHING

PART 3 – EXECUTION

3.01 SAWCUTTING

- Sawcut pavement prior to excavation
 - Maintain straight, clean edges
-

3.02 PATCHING

- Restore pavement to match existing condition
 - Remove loose or damaged material
-

SECTION 32 12 16

ASPHALT CONCRETE PAVING

PART 2 – PRODUCTS

2.01 MATERIALS

- Aggregate base
 - Asphalt concrete
-

PART 3 – EXECUTION

3.01 RESTORATION

- Restore disturbed roadway areas to existing condition
-

3.02 SECTION

Typical section includes:

- Aggregate base
 - Asphalt concrete surface
-

3.03 THICKNESS

- Match existing pavement thickness unless otherwise directed
-

DIVISION 33 – WATER UTILITIES

SECTION 33 05 23

PIPE BEDDING AND BACKFILL

PART 1 – GENERAL

1.01 SUMMARY

This section includes requirements for **pipe zone bedding, initial backfill, and final backfill** for water pipeline installation.

Work includes:

- Bedding material
- Pipe zone backfill
- Trench backfill
- Compaction

This section shall be used in conjunction with:

- Section 31 23 33 – Trenching and Backfill
 - Construction Details (Trench and Backfill Detail)
-

1.02 REFERENCES

- ASTM D2487 – Soil Classification
 - ASTM D1557 – Modified Proctor
 - AWWA M55 – HDPE Pipe Design and Installation
-

1.03 SUBMITTALS

Contractor shall submit:

- Source and gradation of bedding material
 - Compaction test results (if required)
-

PART 2 – PRODUCTS

2.01 PIPE BEDDING MATERIAL

Pipe bedding shall consist of:

- **Class II Aggregate Base (Caltrans)**
OR
 - Approved granular material meeting the following:
 - Well-graded sand and gravel
 - Free of organic material
 - Maximum particle size: **3/4 inch** (recommended for 4" HDPE)
-

2.02 PIPE ZONE BACKFILL

Material placed from bottom of trench to **12 inches above top of pipe** shall be:

- Same material as bedding
 - Free of rocks larger than **1 inch**
 - Free of debris or organic material
-

2.03 TRENCH BACKFILL

Material above pipe zone may consist of:

- Native material (if approved), or
- Imported fill

Material shall be:

- Free of rocks greater than **3 inches**
 - Free of organic or unsuitable material
-

PART 3 – EXECUTION

3.01 GENERAL

All bedding and backfill shall conform to the **Trench and Backfill Detail** shown in the plans.

3.02 BEDDING INSTALLATION

- Provide minimum **6 inches of bedding below pipe** (*your requirement—now locked in*)
 - Shape bedding to provide **uniform support along full pipe length**
 - Bell holes (if needed) shall be excavated to prevent point loading
-

3.03 PIPE ZONE BACKFILL

- Place material in lifts not exceeding **8 inches loose thickness**
 - Compact to minimum:
 - **90% relative compaction (non-traffic areas)**
 - **95% relative compaction (roadways)**
 - Hand tamp or use mechanical methods that **do not damage HDPE pipe**
-

3.04 FINAL BACKFILL

- Place in lifts not exceeding **12 inches**
 - Compact to:
 - **95% relative compaction in roadways**
 - **90% in non-structural areas unless otherwise directed**
-

3.05 SPECIAL CONDITIONS

A. Rock Excavation

Where trench bottom is rock:

- Over-excavate minimum **6 inches**
- Replace with approved bedding material

B. Over-Excavation

Areas over-excavated shall be backfilled with:

- Approved granular material
 - Compacted to specified density
-

3.06 PROTECTION OF PIPE

- Do not drop material directly onto pipe
 - Maintain pipe alignment during backfill
 - Prevent pipe flotation during placement
-

SECTION 33 11 00

HDPE WATER DISTRIBUTION PIPING

PART 1 – GENERAL

1.01 SUMMARY

This section includes furnishing and installing **4-inch HDPE water main**, including fittings, fusion, installation, and testing.

1.02 REFERENCES

- AWWA C906 – Polyethylene Pressure Pipe
- ASTM D3035 – PE Pipe
- ASTM F2620 – Heat Fusion Joining
- NSF 61 – Drinking Water System Components

1.03 SUBMITTALS

- Pipe manufacturer data
- Fusion procedure qualifications
- Installer certification (fusion technician)
- Material certifications

1.04 QUALITY ASSURANCE

- Fusion technicians shall be **manufacturer certified**
 - Pipe and fittings from **same manufacturer preferred**
 - Minimum 5 years experience in HDPE installation
-

PART 2 – PRODUCTS

2.01 PIPE

- Material: HDPE PE4710
- Size: **4-inch**

- Dimension Ratio: **DR11**
- Pressure Class: **200 psi minimum**
- Color: Black with blue stripe or solid blue

2.02 FITTINGS

- Butt fusion fittings (preferred)
- Electrofusion fittings (allowed for repairs/connections)
- Mechanical couplings only where approved

2.03 IDENTIFICATION

- Detectable warning tape:
“CAUTION – WATER LINE BELOW”
-

PART 3 – EXECUTION

3.01 HANDLING

- Prevent kinking, gouging, or UV damage
- Do not drag pipe on ground

3.02 TRENCH INSTALLATION

Install pipe per Section 31 23 33 and detail sheet.

- Minimum cover: **36 inches (verify final)**
- Maintain continuous support along pipe

3.03 FUSION

- Butt fusion per ASTM F2620
- Maintain fusion logs
- No fusion below manufacturer minimum temp without enclosure

3.04 ALIGNMENT

- Pipe shall be installed to line and grade shown on plans
- Deflection by bending allowed within manufacturer limits

3.05 FIELD QUALITY CONTROL

- Visual inspection of all fusion joints
- Remove and replace failed joints

SECTION 33 12 00

WATER VALVES AND APPURTENANCES

PART 1 – GENERAL

Includes gate valves, valve boxes, fittings, and appurtenances.

PART 2 – PRODUCTS

2.01 GATE VALVES

- AWWA C509 or C515 resilient wedge
- Mechanical joint ends
- 2-inch square operating nut
- Epoxy coated

2.02 VALVE BOXES

- Cast iron adjustable boxes
- Traffic rated
- Marked “WATER”

2.03 FITTINGS

- Ductile iron, AWWA C110/C153
 - Pressure rating: 250 psi minimum
 - Cement mortar lined
-

PART 3 – EXECUTION

3.01 INSTALLATION

- Install valves plumb
 - Provide thrust restraint
 - Valve box centered and flush with grade
-

SECTION 33 05 31

THRUST RESTRAINTS AND THRUST BLOCKS

PART 1 – GENERAL

Includes restraint systems at bends, tees, and terminations.

PART 2 – PRODUCTS

2.01 CONCRETE

- 3000 psi minimum

2.02 RESTRAINT

- Mechanical joint restraints or fused HDPE system
-

PART 3 – EXECUTION

3.01 INSTALLATION

- Install thrust blocks per detail sheet
 - Bearing against **undisturbed native soil**
 - Do not cover joints until inspection
-

SECTION 33 41 00

PIPE CASINGS AND SUPPORTS

PART 1 – GENERAL

Includes steel casing and structural pipe supports at crossings.

PART 2 – PRODUCTS

2.01 CASING PIPE

- Steel casing
- Diameter per plans
- Coated (bituminous or epoxy)

2.02 SUPPORT SYSTEM

- Steel supports with saddles
 - Stainless steel banding and hardware
 - Isolation padding between pipe and steel
-

PART 3 – EXECUTION

3.01 INSTALLATION

- Install casing per detail sheet
- Center carrier pipe using spacers
- Seal casing ends

3.02 PIPE SUPPORTS

- Install per **bridge support detail shown in plans**
 - Anchor supports to structure
 - Provide corrosion protection
-

SECTION 33 13 00

DISINFECTION OF WATER UTILITIES

PART 1 – GENERAL

Disinfect water main prior to service.

PART 2 – EXECUTION

2.01 PROCEDURE

- Per AWWA C651
- Chlorination methods:
 - Continuous feed or slug method

2.02 FLUSHING

- Flush until clear

2.03 TESTING

- Bacteriological testing required
 - Two consecutive passing samples
-

SECTION 33 14 00

HYDROSTATIC TESTING

PART 1 – GENERAL

Pressure and leakage testing of installed pipeline.

PART 3 – EXECUTION

3.01 TEST PRESSURE

- **150 psi minimum or 1.5× operating pressure (TBD final)**

3.02 DURATION

- Minimum 2 hours

3.03 LEAKAGE

- No visible leakage
 - HDPE expected to pass with zero leakage
-