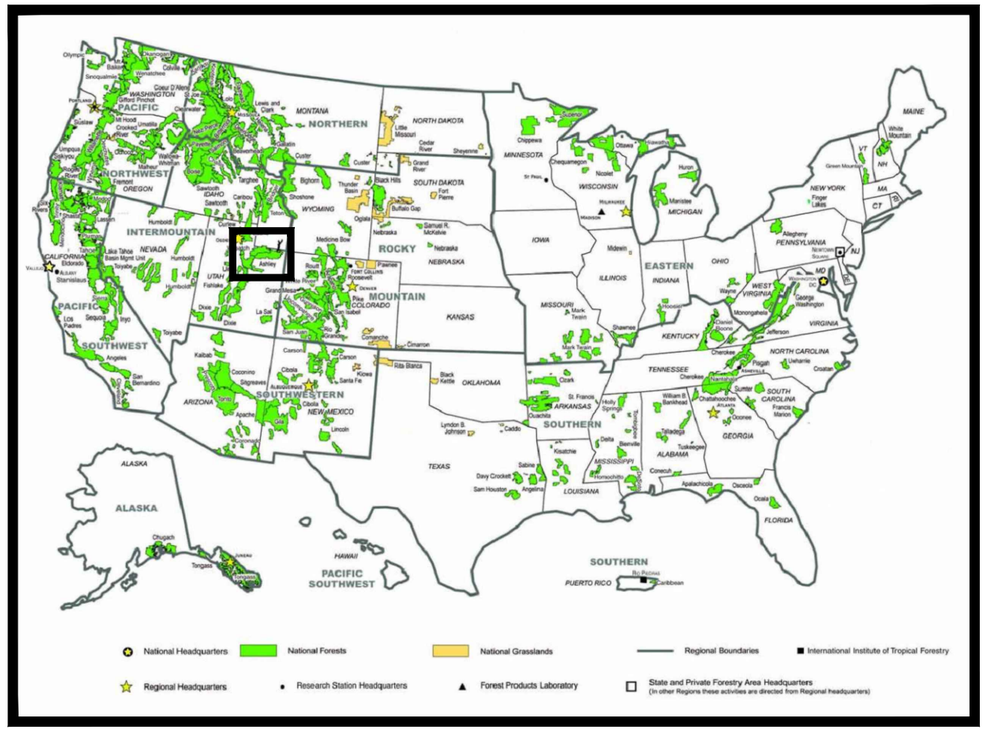
4/7/26 08:42 SAMTABRAHMBHATT C:\USERS\SAMTABRAHMBHATT\BOXIENGDESIGN\UINTAWASATCHCACHE\BEARRIVERADMINSITE.WATERSYSTEM.2022\DRAWINGS\BEARRIVER_WELL DEVELOPMENT 2.27.26.DWG;

United States Department of Agriculture
Forest Service

UTAH
SUMMIT COUNTY
R - 4 INTERMOUNTAIN REGION
UINTA - WASATCH - CACHE NATIONAL FOREST
EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

BEAR RIVER ADMINISTRATIVE SITE
WATER SYSTEM IMPROVEMENTS



FOREST LOCATION

TRAVEL DIRECTIONS:

STARTING AT THE USDA FOREST SERVICE OFFICE AT 1565 WY-150 IN EVANSTON, WY 82930. TURN LEFT ONTO WY-150 AND FOLLOW FOR 29.6. THE BEAR RIVER ADMINISTRATIVE SITE AND GUARD STATION WILL BE ON THE EAST SIDE OF HWY 150. THE APPROXIMATE PROJECT COORDINATES ARE: 40.882717, -110.830471

INDEX OF SHEETS

SHEET	DWG	SHEET TITLE
1	G-01	COVERSHEET
2	S1	EXISTING BEAR RIVER ADMIN SITE PLAN
3	S2	WATER LINE SITE PLAN
4	S3	WATER MAIN PROFILE
5	S4	DRAIN LINE PROFILE
6	S5	WATER HYDRANT SPUR PROFILE
7	W1	SUBMERSIBLE PUMP INSTALLATION DETAIL
8	W2	UTILITY BUILDING
9	W3	WATER LINE DETAILS
10	W4	WATER HYDRANT DETAIL
11	W5	WATER VALVE AND THRUST BLOCK DETAIL
12	W6	UTILITY BOX DETAIL
13	E1	ELECTRICAL SITE PLAN

RECOMMENDED BY:

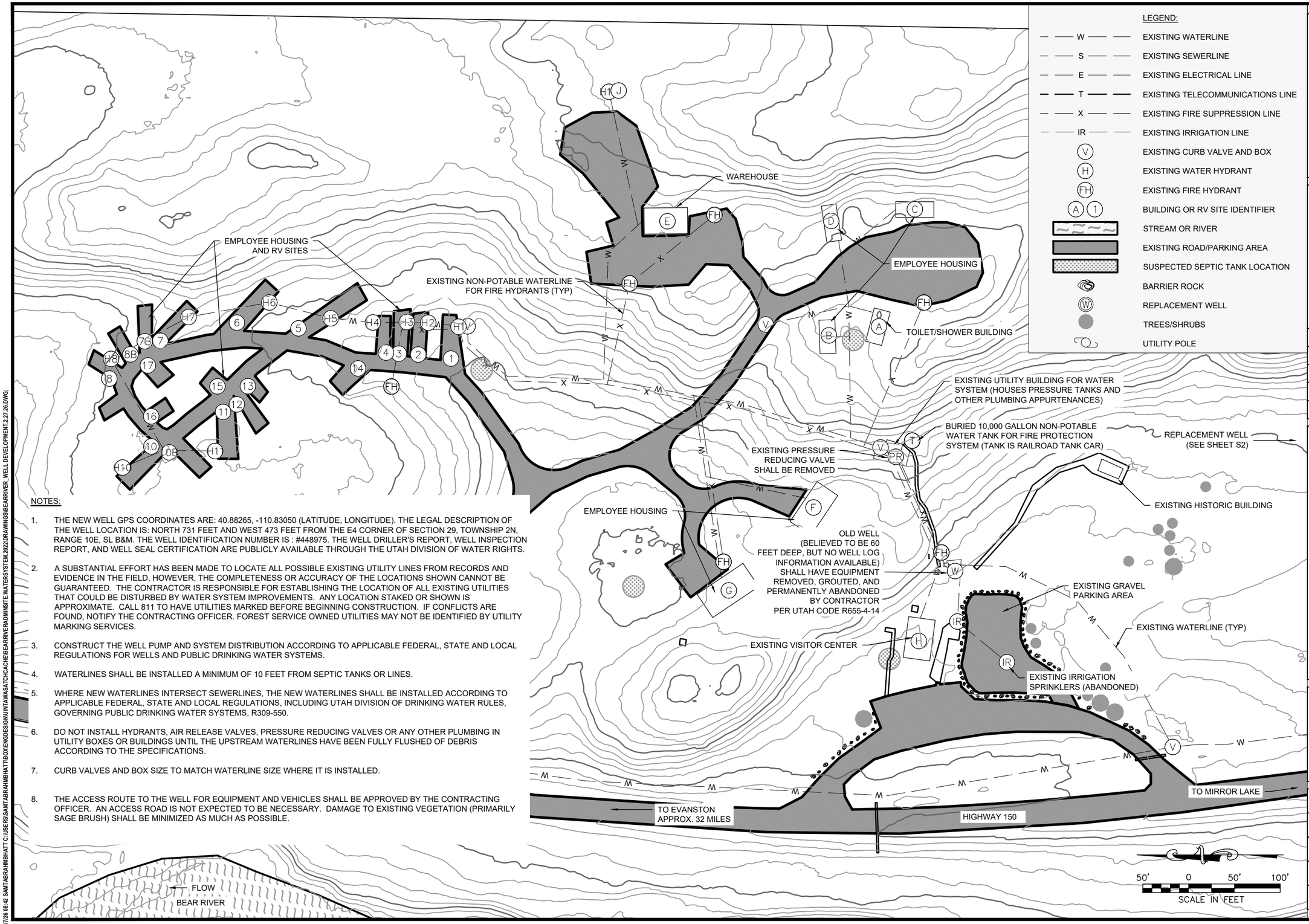
FOREST ENGINEER _____ DATE _____

DISTRICT RANGER _____ DATE _____

FOREST SUPERVISOR _____ DATE _____

APPROVED:

DIRECTOR OF ENGINEERING _____ DATE _____



NOTES:

1. THE NEW WELL GPS COORDINATES ARE: 40.88265, -110.83050 (LATITUDE, LONGITUDE). THE LEGAL DESCRIPTION OF THE WELL LOCATION IS: NORTH 731 FEET AND WEST 473 FEET FROM THE E4 CORNER OF SECTION 29, TOWNSHIP 2N, RANGE 10E, SL B&M. THE WELL IDENTIFICATION NUMBER IS : #448975. THE WELL DRILLER'S REPORT, WELL INSPECTION REPORT, AND WELL SEAL CERTIFICATION ARE PUBLICLY AVAILABLE THROUGH THE UTAH DIVISION OF WATER RIGHTS.
2. A SUBSTANTIAL EFFORT HAS BEEN MADE TO LOCATE ALL POSSIBLE EXISTING UTILITY LINES FROM RECORDS AND EVIDENCE IN THE FIELD, HOWEVER, THE COMPLETENESS OR ACCURACY OF THE LOCATIONS SHOWN CANNOT BE GUARANTEED. THE CONTRACTOR IS RESPONSIBLE FOR ESTABLISHING THE LOCATION OF ALL EXISTING UTILITIES THAT COULD BE DISTURBED BY WATER SYSTEM IMPROVEMENTS. ANY LOCATION STAKED OR SHOWN IS APPROXIMATE. CALL 811 TO HAVE UTILITIES MARKED BEFORE BEGINNING CONSTRUCTION. IF CONFLICTS ARE FOUND, NOTIFY THE CONTRACTING OFFICER. FOREST SERVICE OWNED UTILITIES MAY NOT BE IDENTIFIED BY UTILITY MARKING SERVICES.
3. CONSTRUCT THE WELL PUMP AND SYSTEM DISTRIBUTION ACCORDING TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS FOR WELLS AND PUBLIC DRINKING WATER SYSTEMS.
4. WATERLINES SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM SEPTIC TANKS OR LINES.
5. WHERE NEW WATERLINES INTERSECT SEWERLINES, THE NEW WATERLINES SHALL BE INSTALLED ACCORDING TO APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, INCLUDING UTAH DIVISION OF DRINKING WATER RULES, GOVERNING PUBLIC DRINKING WATER SYSTEMS, R309-550.
6. DO NOT INSTALL HYDRANTS, AIR RELEASE VALVES, PRESSURE REDUCING VALVES OR ANY OTHER PLUMBING IN UTILITY BOXES OR BUILDINGS UNTIL THE UPSTREAM WATERLINES HAVE BEEN FULLY FLUSHED OF DEBRIS ACCORDING TO THE SPECIFICATIONS.
7. CURB VALVES AND BOX SIZE TO MATCH WATERLINE SIZE WHERE IT IS INSTALLED.
8. THE ACCESS ROUTE TO THE WELL FOR EQUIPMENT AND VEHICLES SHALL BE APPROVED BY THE CONTRACTING OFFICER. AN ACCESS ROAD IS NOT EXPECTED TO BE NECESSARY. DAMAGE TO EXISTING VEGETATION (PRIMARILY SAGE BRUSH) SHALL BE MINIMIZED AS MUCH AS POSSIBLE.

United States Department of Agriculture
Forest Service

R4
INTERMOUNTAIN REGION

STAMPS, LOGOS, AND SEALS

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA-WASATCH-CACHE NATIONAL FOREST

EVANSTON DISTRICT

DRAWING TITLE

EXISTING BEAR RIVER ADMINISTRATIVE SITE PLAN

DATE	ARCHIVE NO.
DESIGNER: E.PRIMMER	DRAWING SHEET NO.: S1
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 2 OF 13

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EXISTING UTILITY BUILDING FOR WATER SYSTEM (HOUSES PRESSURE TANKS AND OTHER PLUMBING APPURTENANCES)

FOUR EXISTING PRESSURE TANKS SHALL BE REMOVED AND DISPOSED AND REPLACED BY NEW PRESSURE TANKS AS LISTED IN SPECIFICATIONS (SHEET W3).

EXISTING HISTORIC BUILDING SHALL NOT BE DISTURBED BY CONTRACTOR OR WORK ASSOCIATED WITH WATER SYSTEM IMPROVEMENTS.

BURIED ELECTRICAL LINE SHALL BE INSTALLED TO PROVIDE POWER TO UTILITY BUILDING

PUMPOUT DRAIN

REPLACEMENT WELL
WIN#: 448975
(40.88265, -110.83050)

PRECAST CONCRETE UTILITY BUILDING SHALL BE INSTALLED. LOCATION SHALL BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

CONTRACTOR SHALL COORDINATE WITH BRIDGER VALLEY ELECTRIC ASSOCIATION (BVEA) TO ENSURE REQUIRED 12" SEPARATION OF WATERLINE AND EXISTING ELECTRICAL LINE.

EXISTING BURIED ELECTRICAL LINE. CONTRACTOR TO VERIFY EXISTING SUPPLY LINE PHASE AND VOLTAGE.

CURB VALVE AND BOX SHALL BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

BEAR RIVER GUARD STATION

PUMPOUT DRAIN

WATER HYDRANT TO BE STAKED IN FIELD BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

WATERLINE SHALL BE CUT AND CAPPED BY CONTRACTOR NEAR STILLWATER CAMPGROUND. LOCATION TO BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

EXISTING WATERLINE FROM CHRISTMAS MEADOWS TO LILY LAKE DUMP STATION

CURB VALVE AND BOX SHALL BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

SHEET S5

SHEET S4

SHEET S3

TO EVANSTON, WY

NEW CURB VALVE AND BOX TO BE INSTALLED

EXISTING WATERLINE FROM CHRISTMAS MEADOWS TO BE CUT AND CAPPED SOUTH OF THE NEW CONNECTION POINT TO BEAR RIVER ADMIN SITE DISTRIBUTION SYSTEM.

50' 0 50' 100'
SCALE IN FEET

NOTES:

1. ALL WATERLINE SHALL BE SLOPED A MINIMUM 1% TO DRAIN.
2. BURY WATERLINE A MINIMUM OF 36 INCHES. ADDITIONAL DEPTH MAY BE REQUIRED TO MAINTAIN A MINIMUM SLOPE OF 1%.
3. LOCATION AND ORIENTATION OF ALL STRUCTURES AND HYDRANTS SHALL BE STAKED BY THE CONTRACTOR AND APPROVED BY THE CONTRACTING OFFICER.
4. THE MINIMUM ALLOWABLE BENDING RADIUS FOR HDPE PIPE IS 30 TIMES THE NOMINAL PIPE DIAMETER.

NOM. PIPE DIA.	MIN. BENDING RADIUS
1"	2' - 6"
2"	5' - 0"
3"	7' - 6"
4"	10' - 0"
12"	30' - 0"

5. INSTALL THE WATER SYSTEM ACCORDING TO APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS FOR PUBLIC DRINKING WATER SYSTEMS.
6. CONNECTIONS BETWEEN NEW AND EXISTING WATERLINES SHALL BE INSTALLED IN A MANNER RECOMMENDED BY THE PIPE MANUFACTURER AND APPROVED BY THE CONTRACTING OFFICER. USE HDPE/GSP TRANSITION FITTINGS FOR CONNECTIONS TO GALVANIZED STEEL AND HDPE PIPE. COMPRESSION - TYPE FITTINGS ARE NOT ALLOWED
7. TAPPING INTO A BURIED ELECTRICAL LINE REQUIRES MANDATORY 811 UTILITY LOCATING, ADHERENCE TO NEC BURIAL DEPTHS (TYP. 18"-24", OR 6"-12" WITH RIGID CONDUIT/ GFCI PROTECTION), AND USING WATERTIGHT CONNECTORS. SECURE THE NECESSARY PERMITS, ENSURING PROPER TRENCH BEDDING, AND USING APPROVED, DAMAGE-RESISTANT CABLE.

LEGEND:

- EXISTING WATERLINE
- PROPOSED WATERLINE
- EXISTING ELECTRICAL LINE
- PROPOSED ELECTRICAL LINE
- EXISTING NONPOTABLE WATER LINE (FIRE)
- EXISTING IRRIGATION LINE
- EXISTING CURB VALVE AND BOX
- PROPOSED CURB VALVE AND BOX
- EXISTING WATER HYDRANT
- PROPOSED WATER HYDRANT
- EXISTING FIRE HYDRANT
- EXISTING BUILDING OR RV SITE IDENTIFIER
- STREAM OR RIVER
- EXISTING ROAD/PARKING AREA
- EXISTING REPLACEMENT WELL
- EXISTING TREES/SHRUBS
- EXISTING UTILITY POLE
- PROPOSED WATERLINE DRAIN
- BARRIER ROCK

United States Department of Agriculture
Forest Service

R4
INTERMOUNTAIN REGION

STAMPS, LOGOS, AND SEALS

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER LINE SITE PLAN

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. S2
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 3 OF 13

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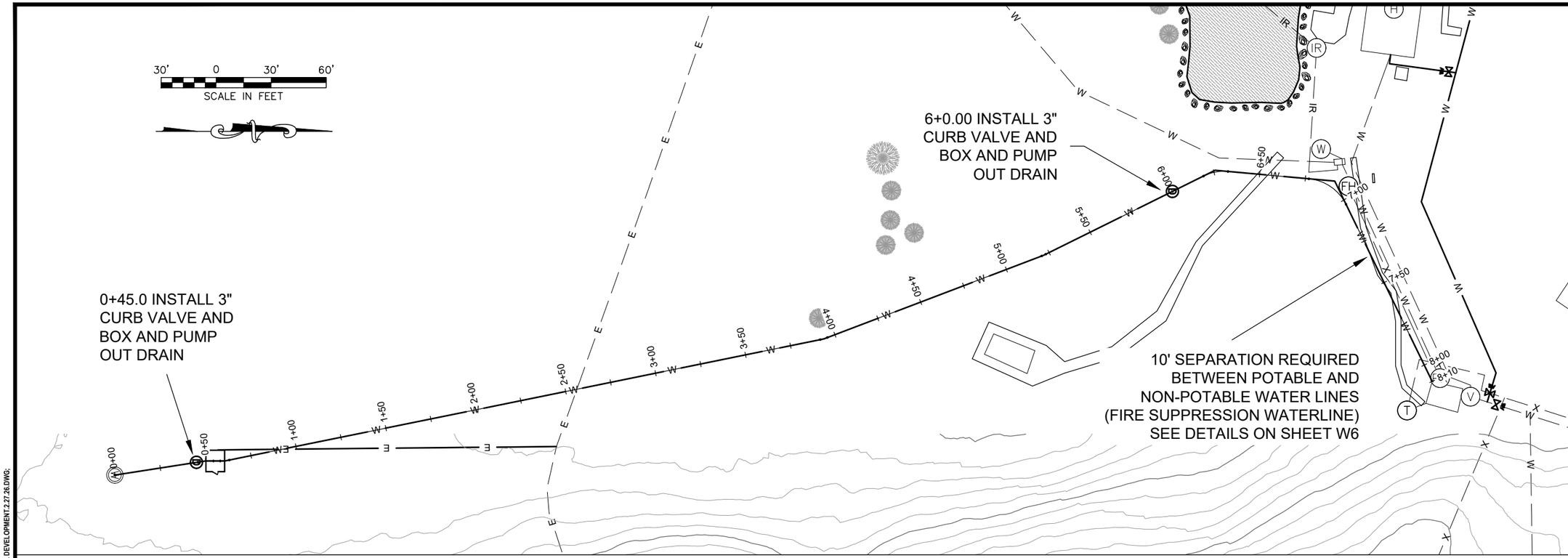

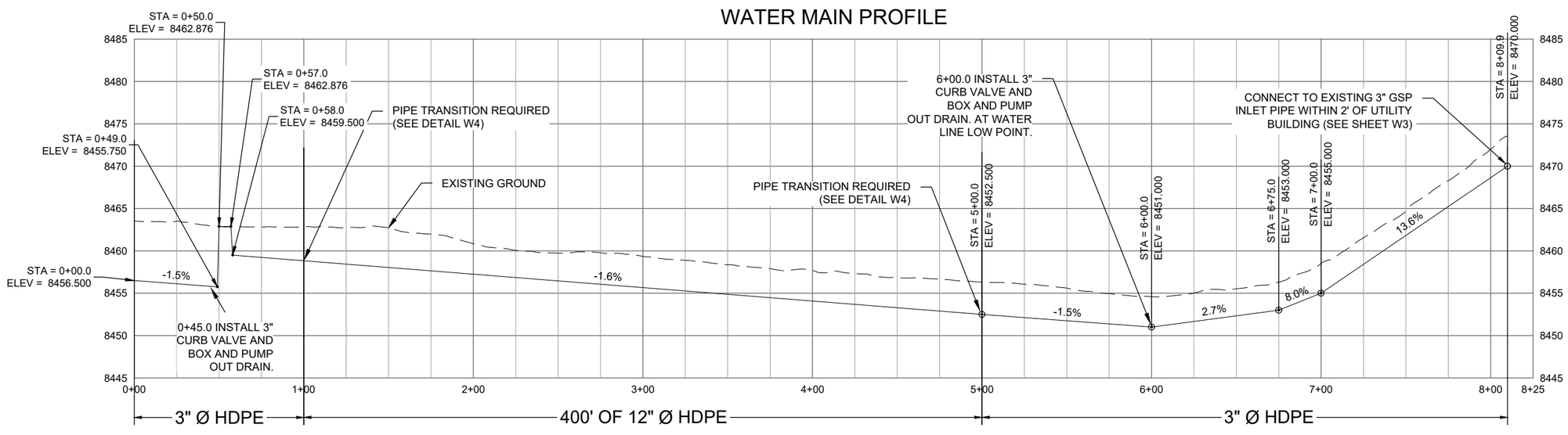

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United States Department of Agriculture
Forest Service

R4
INTERMOUNTAIN REGION

STAMPS, LOGOS, AND SEALS

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4		
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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER MAIN PROFILE

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO.
DRAWN: E. PRIMMER	**S3**
CHECKED: C. CROSS	
PROJECT NO.	SHEET 4 OF 13

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EXISTING PRESSURE REDUCING VALVE SHALL BE REMOVED

EXISTING VALVE SHALL BE REMOVED AND REPLACED WITH WATER LINE CONFIGURATION SEEN ON SHEET W3

CONNECT TO EXISTING 3" GSP INLET PIPE WITHIN 2' OF UTILITY BUILDING (SEE SHEET W3)

WATERLINES THAT ARE BEING REPLACED SHALL BE CUT, CAPPED, AND ABANDONED.

EXISTING GRAVEL PATH SHALL BE DISTURBED ONLY WHERE NECESSARY. GRAVEL MATERIAL SHALL BE REPLACE IN KIND WHERE DISTURBED.

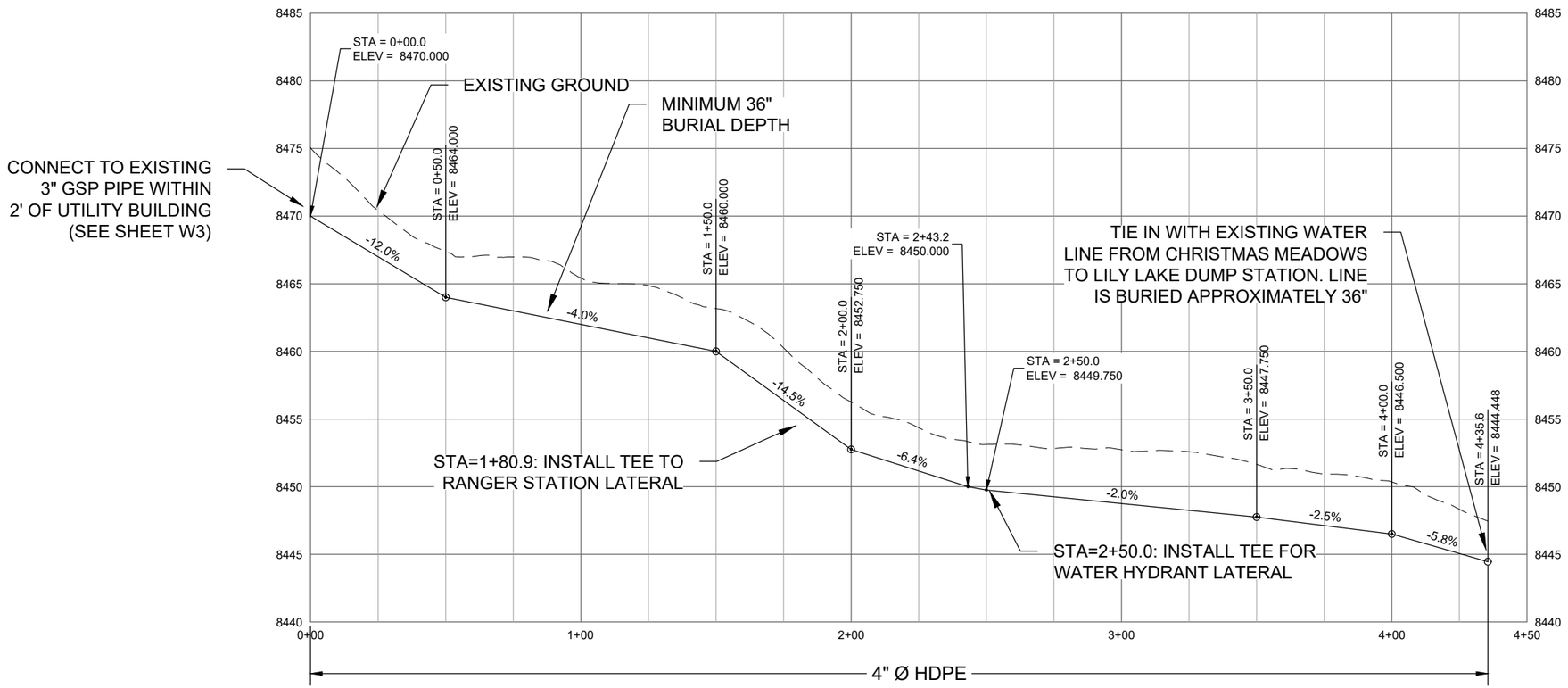
CONNECT TO EXISTING 2" GSP INLET PIPE WITHIN 2' OF BEAR RIVER RANGER STATION

ANTICIPATED SEPTIC TANK LOCATION FOR BEAR RIVER RANGER STATION. WATER LINES SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM SEPTIC TANKS (SEE SHEET W6). CONTRACTOR IS RESPONSIBLE FOR LOCATING EXACT LOCATION OF SEPTIC TANKS AND DRAIN FIELDS. WATER LINE ALIGNMENT MAY BE SHIFTED TO ACCOMMODATE FOR REQUIRED 10 FOOT SEPARATION.

EXISTING WATER LINE CONNECTING CHRISTMAS MEADOWS TO LILY LAKE DUMP STATION SHALL BE CUT AND CAPPED.

25' 0 25' 50'
SCALE IN FEET

DRAIN LINE PROFILE



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1		

PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

DRAINLINE PROFILE

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. S4
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 5 OF 13

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0+00

CURB VALVE AND BOX SHALL BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

CONCRETE PATH TO BE DEMOLISHED ONLY WHERE NECESSARY TO INSTALL HYDRANT SPUR WATER LINE. CONCRETE PATH SHALL BE REPLACED IN KIND WHERE DEMOLISHED.

2" HDPE WATERLINE LATERAL SHALL BE INSTALLED.

ANTICIPATED SEPTIC TANK LOCATION FOR BEAR RIVER RANGER STATION. WATER LINES SHALL BE INSTALLED A MINIMUM OF 10 FEET FROM SEPTIC TANKS (SEE SHEET W6). CONTRACTOR IS RESPONSIBLE FOR LOCATING EXACT LOCATION OF SEPTIC TANKS AND DRAIN FIELDS. WATER LINE ALIGNMENT MAY BE SHIFTED TO ACCOMMODATE FOR REQUIRED 10 FOOT SEPARATION.

MINIMUM 2% SLOPE

WATER HYDRANT (SEE SHEET W5)

0+40

CONCRETE PAD ELEVATION TO MATCH EXISTING ASPHALT SURFACE ELEVATION

5' 0 5' 10'
SCALE IN FEET

BEAR RIVER RANGER STATION

H

EXISTING CONCRETE PATH

2" HDPE WATERLINE LATERAL SHALL BE INSTALLED.

CURB VALVE AND BOX SHALL BE STAKED BY CONTRACTOR AND APPROVED BY CONTRACTING OFFICER

0+00

MINIMUM 2% SLOPE

EXISTING CONCRETE PAD (DO NOT DISTURB)

WATER SYSTEM DRAIN EXISTS WITHIN BEAR RIVER RANGER STATION

CONNECT TO EXISTING 2" GSP INLET PIPE WITHIN 2' OF BEAR RIVER RANGER STATION

0+41

EXISTING WATER LINE SHALL BE CUT AND CAPPED

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

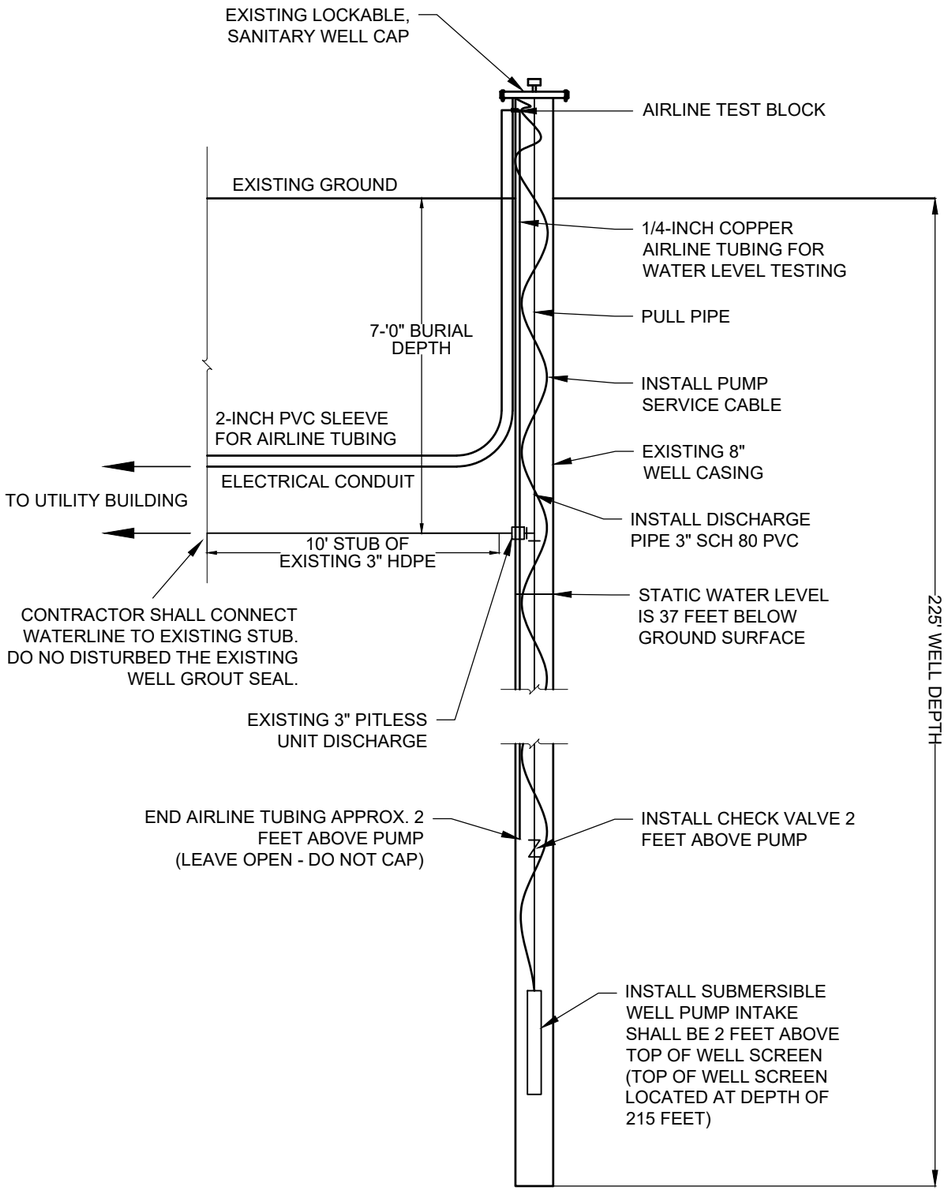
UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER LINE LATERAL SITE PLAN

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. S5
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 6 OF 13



SUBMERSIBLE PUMP INSTALLATION DETAIL

NO SCALE

WELL PUMP INSTALLATION NOTES:

1. GRADE AREA AROUND WELL CASING SO WATER WILL DRAIN AWAY FROM CASING.

2. PUMP IS DESIGNED TO DELIVER A MINIMUM OF 68 GPM UNDER THE FOLLOWING CONDITIONS:
   - MAXIMUM DRAWDOWN IS EXPECTED TO BE 53 FEET WHEN PUMPING AT 68 GPM.
   - PRESSURE TANK FLUCTUATES BETWEEN 60 AND 80 PSI.
   - TOTAL DYNAMIC HEAD OF 217 TO 275 FEET.
   - WELL YIELDS 100+ GPM AS TESTED WITH AIR LIFT ON WELL DRILLERS REPORT.

   IF ACTUAL CONDITIONS ARE NOT WITHIN THIS RANGE OR IF THE PUMP CURVE IS NOT APPROPRIATE, AN ALTERNATE PUMP WILL BE SELECTED BY THE CONTRACTING OFFICER.

3. PUMP SHALL BE A GRUNDFOS, 7.5 HP, MODEL 77S75-15, OR AN APPROVED EQUAL.

4. VARIABLE FREQUENCY DRIVE (VFD) SHALL BE CUE 1X200-240V IP66 7.5 KW (PN#: 92588566) AS MANUFACTURED BY GRUNDFOS, OR AN APPROVED EQUAL.

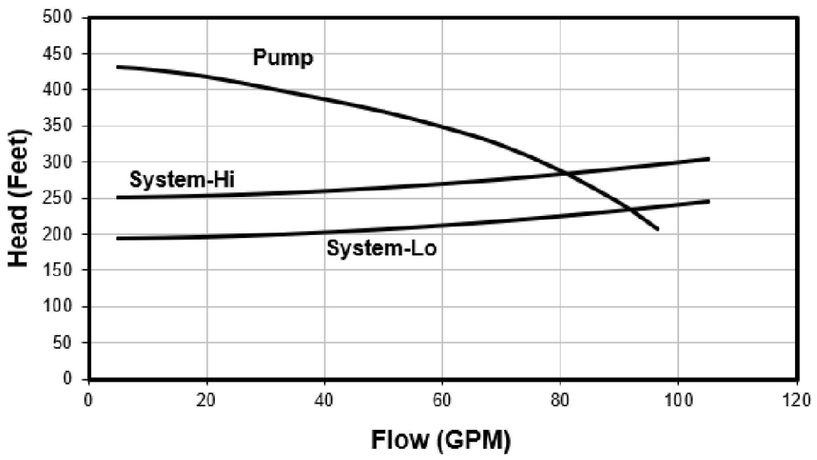
5. A MINIMUM OF 220V SINGLE PHASE ELECTRICAL SERVICE IS REQUIRED TO RUN THE VARIABLE FREQUENCY DRIVE AND SUBMERSIBLE PUMP WHICH IS TO BE PROVIDED THROUGH BRIDGER VALLEY ELECTRIC ASSOCIATION (BVEA).

6. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRICAL SERVICE, PANEL AND DISTRIBUTION SYSTEM TO SERVE THE PUMP, PUMP CONTROLS, AND UTILITY BUILDING. ELECTRICAL SERVICE AND SYSTEM SHALL BE DESIGNED BY A LICENSED ELECTRICIAN OR ELECTRICAL ENGINEER AND SHALL BE SUBMITTED TO THE CONTRACTING OFFICER FOR APPROVAL. LAYOUT MUST COMPLY WITH PUMP AND CONTROL PANEL MANUFACTURER REQUIREMENTS AND RECOMMENDATIONS.

7. INSTALL AIRLINE TUBING WITHIN CONDUIT IN A MANNER THAT PREVENTS KINKING OR BLOCKAGE OF THE TUBE. INSTALL SWEEP ELBOWS AT ALL CHANGES IN DIRECTION. ALLOW TUBING TO HANG AS STRAIGHT AS POSSIBLE WITHIN THE WELL CASING

8. PROVIDE EXACT LENGTH OF AIRLINE TUBING WITHIN THE WELL TO THE CONTRACTING OFFICER SO WELL DEPTH GAUGE CAN BE ACCURATELY SET.

Pump and System Curve



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BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

SUBMERSIBLE PUMP INSTALLATION DETAIL

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO.: W1
DRAWN: E. PRIMMER	
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PROJECT NO.	SHEET 7 OF 13

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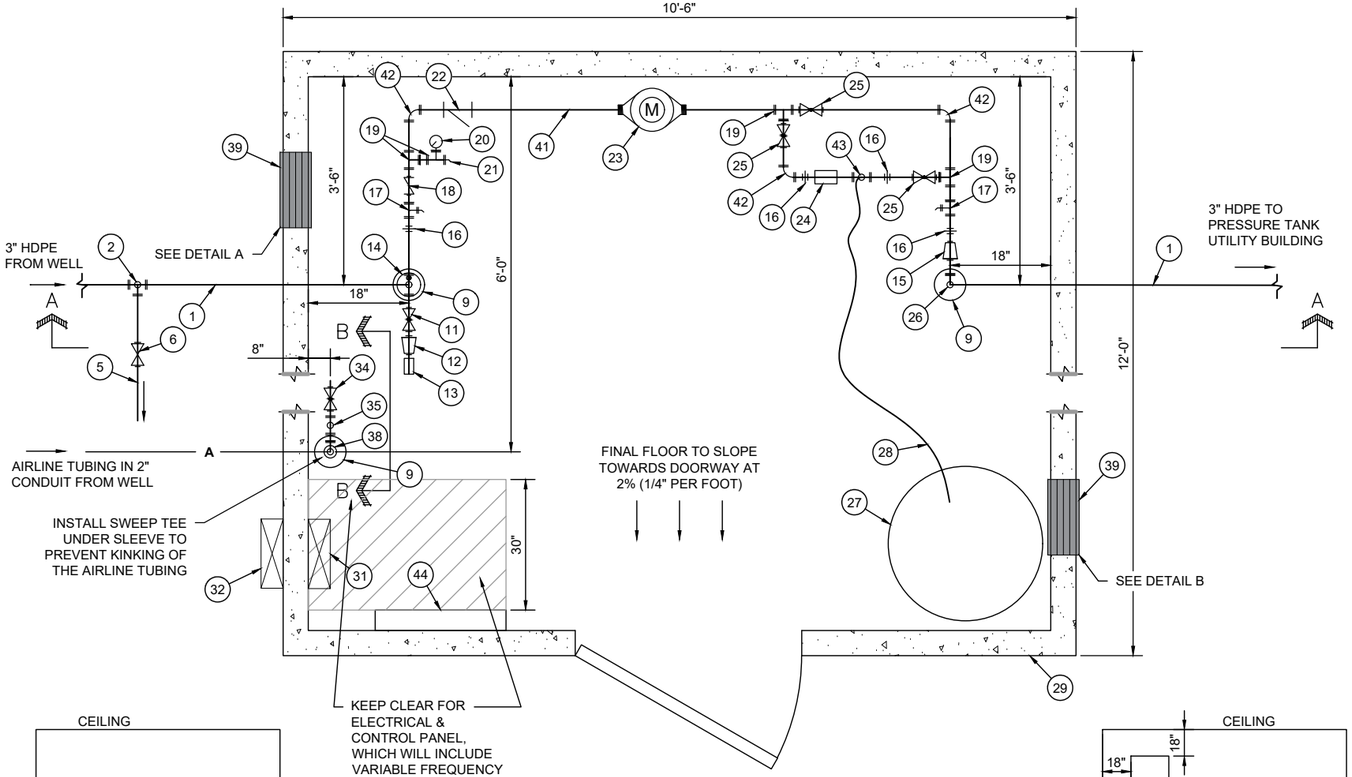
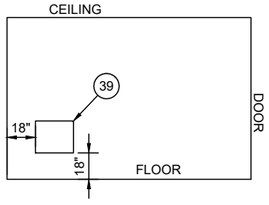
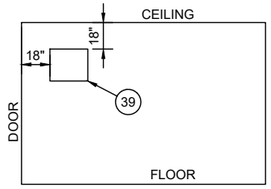


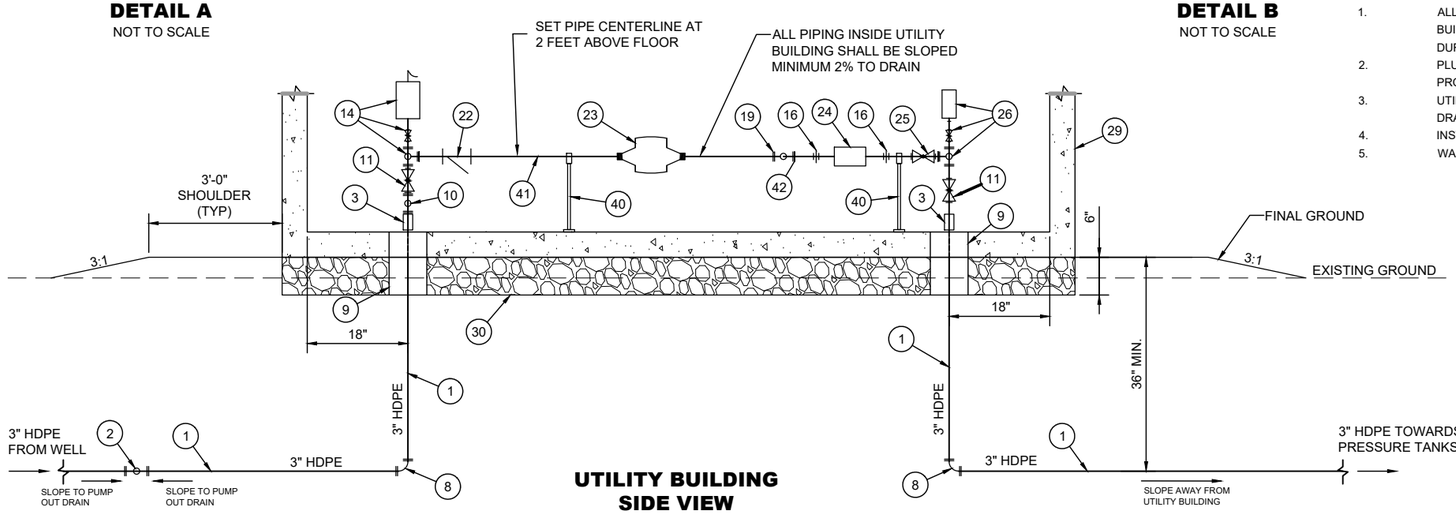
UTILITY BUILDING PLAN VIEW
NOT TO SCALE



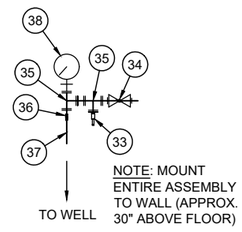
DETAIL A
NOT TO SCALE



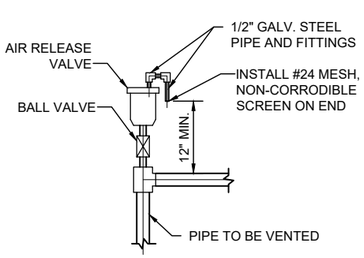
DETAIL B
NOT TO SCALE



UTILITY BUILDING SIDE VIEW
NOT TO SCALE



WELL WATER DEPTH GAUGE ASSEMBLY
NOT TO SCALE



AIR RELEASE VALVE INSTALLATION
NOT TO SCALE

UTILITY BUILDING NOTES

ALL PIPE AND FITTINGS SHALL BE GALVANIZED STEEL, UNLESS OTHERWISE NOTED.

1. 3" HDPE
2. 3" X 3" X 3" HDPE TEE
3. HDPE/GSP TRANSITION FITTING
4. NOT USED
5. 3" HDPE DRAINLINE
6. 3" CURB VALVE AND BOX
7. NOT USED
8. 3" HDPE 90-DEG ELBOW
9. 5" HDPE OR PVC PIPE SLEEVE
10. 2" X 2" X 2" TEE
11. 2" BALL VALVE
12. 2" X 1-1/2" REDUCER
13. FIRE HOSE ADAPTER (1-1/2" NPT X 1-1/2" MNH) AND 50-FEET OF 1-1/2" FIRE HOSE TO SERVE AS PUMP-TO-WASTE DISCHARGE
14. 2" X 2" X 2" TEE, 2" X 1" REDUCER, 1" BALL VALVE, 1" AIR RELEASE VALVE. SEE INSTALLATION DETAIL ON THIS SHEET.
15. NOT USED
16. 2" UNION
17. 2" X 2" X 2" TEE WITH SMOOTH NOSED SAMPLE TAP
18. 2" CHECK VALVE
19. 2" X 2" X 2" TEE
20. PRESSURE GAUGE WITH 1/4" BALL VALVE
21. 3/4" HOSE BIB WITH VACUUM BREAKER AND 10 FEET OF 3/4" RUBBER HOSE
22. 2" WYE STRAINER
23. 2" WATER METER (AS LISTED IN CONTRACT SPECIFICATIONS)
24. CHLORINATOR (MODEL B921-D98HI AS MANUFACTURED BY LMI, OR APPROVED EQUAL)
25. 2" BALL VALVE
26. 2" X 2" X 2" TEE, 2" X 1" REDUCER, 1" BALL VALVE AND PRESSURE RELIEF VALVE
27. 35 GALLON CHLORINE SOLUTION CONTAINER
28. 3/8" POLYETHYLENE CHLORINE INJECTION TUBE (CONNECT TO HYPOCHLORINATOR)
29. 10'-6"W X 12'-0"L X 8'-0"H PRECAST CONCRETE UTILITY BUILDING.
30. 6" GRAVEL BASE
31. ELECTRICAL CONTROL BOX AND VARIABLE FREQUENCY DRIVE (SEE SHEET E1)
32. CABLE STORAGE BOX (SEE SHEET E1)
33. 1/4-INCH NPT SCHRADER VALVE, PROVIDE AIR PUMP TO CHARGE LINE
34. 1/4-INCH BALL VALVE (BLEED-OFF VALVE), SECURELY COVER END WITH NON-CORRIDIBLE #24 SCREEN
35. 1/4-INCH TEE
36. 1/4-INCH COPPER TUBING TO 1/4-INCH GSP TRANSITION
37. 1/4-INCH COPPER TUBING (INSTALL WITHIN 2-INCH PVC SLEEVE BETWEEN UTILITY BUILDING AND WELL WITH SWEEPING BENDS)
38. WELL WATER DEPTH GAUGE
39. INSTALL MOTORIZED SHUTTERED WALL VENTS. SEE SHEET E1 AND NOTE 5 BELOW.
40. PIPE SUPPORTS (UNISTRUT OR EQUAL)
41. 2" GALVANIZED STEEL PIPE
42. 2" 90-DEG. ELBOW
43. 2" X 2" 2" TEE (VERTICAL, FACING DOWN) WITH HYPOCHLORINATOR INJECTING VALVE FITTING. CONNECT TO HYPOCHLORINATOR WITH 3/8" POLYETHYLENE TUBING.
44. EYEWASH STATION. MOUNT TO WALL 54" ABOVE FLOOR.

GENERAL NOTES

1. ALL PIPES AND PLUMBING APPURTENANCES SHALL BE SECURELY ATTACHED TO FLOOR OR WALLS OF UTILITY BUILDING. USE PIPE SUPPORTS (UNISTRUT OR APPROVED EQUAL) AS NECESSARY TO PREVENT MOVEMENT OF PIPES DURING NORMAL OPERATION.
2. PLUMBING APPURTENANCES AND PIPING MAY BE SUBSTITUTED WITH COPPER PIPE AND SWEAT FITTINGS. ENSURE PROPER DIELECTRIC FITTINGS ARE USED WHERE NECESSARY.
3. UTILITY BUILDING FLOOR SHALL BE AT LEAST 6 INCHES ABOVE THE FINAL GROUND ELEVATION. SLOPE FLOOR TO DRAIN TOWARDS DOORWAY.
4. INSTALL SWEEP TEE UNDER SLEEVE TO PREVENT KINKING OF THE AIRLINE TUBING.
5. WALL VENT CUTOUT DIMENSIONS SHALL BE COORDINATED WITH FAN AND SHUTTER SIZES CALLED OUT ON SHEET E1.

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

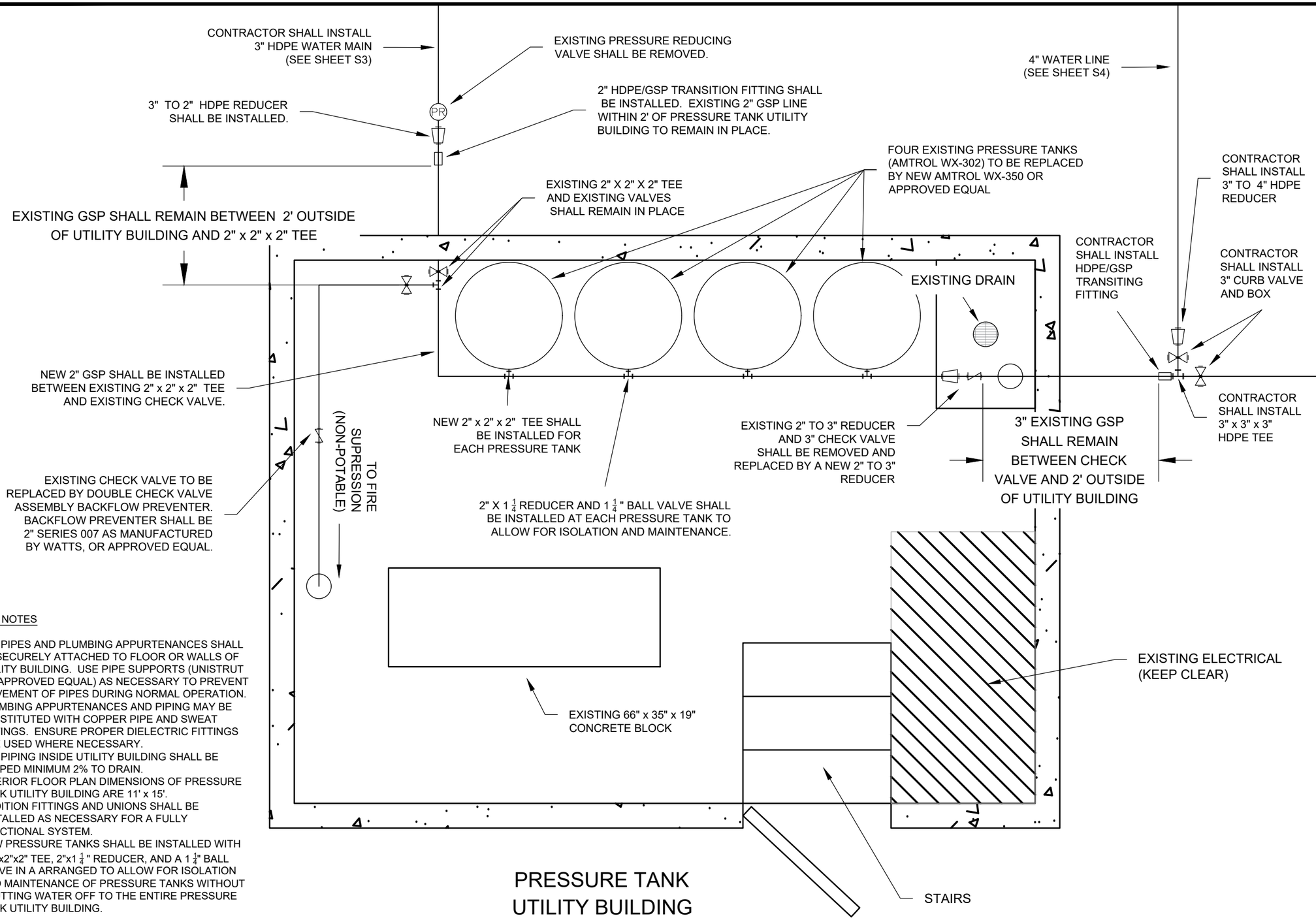
EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

UTILITY BUILDING

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. W2
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 8 OF 13

4/7/26 08:42 SAMTABRAHMBHATT C:\USERS\SAMTABRAHMBHATT\BOXENGDESIGN\UINTAWASATCHCACHE\BEARRIVERADMINSITE.WATERSYSTEM 2022\DRAWINGS\BEARRIVER_WELL DEVELOPMENT 2.27.26.DWG;



PRESSURE TANK
UTILITY BUILDING
(NOT TO SCALE)

GENERAL NOTES

1. ALL PIPES AND PLUMBING APPURTENANCES SHALL BE SECURELY ATTACHED TO FLOOR OR WALLS OF UTILITY BUILDING. USE PIPE SUPPORTS (UNISTRUT OR APPROVED EQUAL) AS NECESSARY TO PREVENT MOVEMENT OF PIPES DURING NORMAL OPERATION.
2. PLUMBING APPURTENANCES AND PIPING MAY BE SUBSTITUTED WITH COPPER PIPE AND SWEAT FITTINGS. ENSURE PROPER DIELECTRIC FITTINGS ARE USED WHERE NECESSARY.
3. ALL PIPING INSIDE UTILITY BUILDING SHALL BE SLOPED MINIMUM 2% TO DRAIN.
4. INTERIOR FLOOR PLAN DIMENSIONS OF PRESSURE TANK UTILITY BUILDING ARE 11' x 15'.
5. ADDITION FITTINGS AND UNIONS SHALL BE INSTALLED AS NECESSARY FOR A FULLY FUNCTIONAL SYSTEM.
6. NEW PRESSURE TANKS SHALL BE INSTALLED WITH A 2"x2"x2" TEE, 2"x1 1/4 " REDUCER, AND A 1 1/4" BALL VALVE IN A ARRANGED TO ALLOW FOR ISOLATION AND MAINTENANCE OF PRESSURE TANKS WITHOUT SHUTTING WATER OFF TO THE ENTIRE PRESSURE TANK UTILITY BUILDING.

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

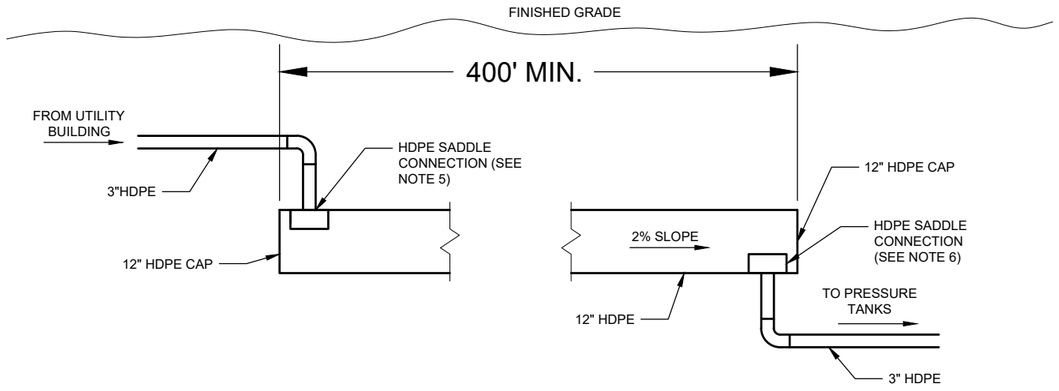
UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

PRESSURE TANK UTILITY BUILDING

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO.: W3
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 9 OF 13



NOTES:

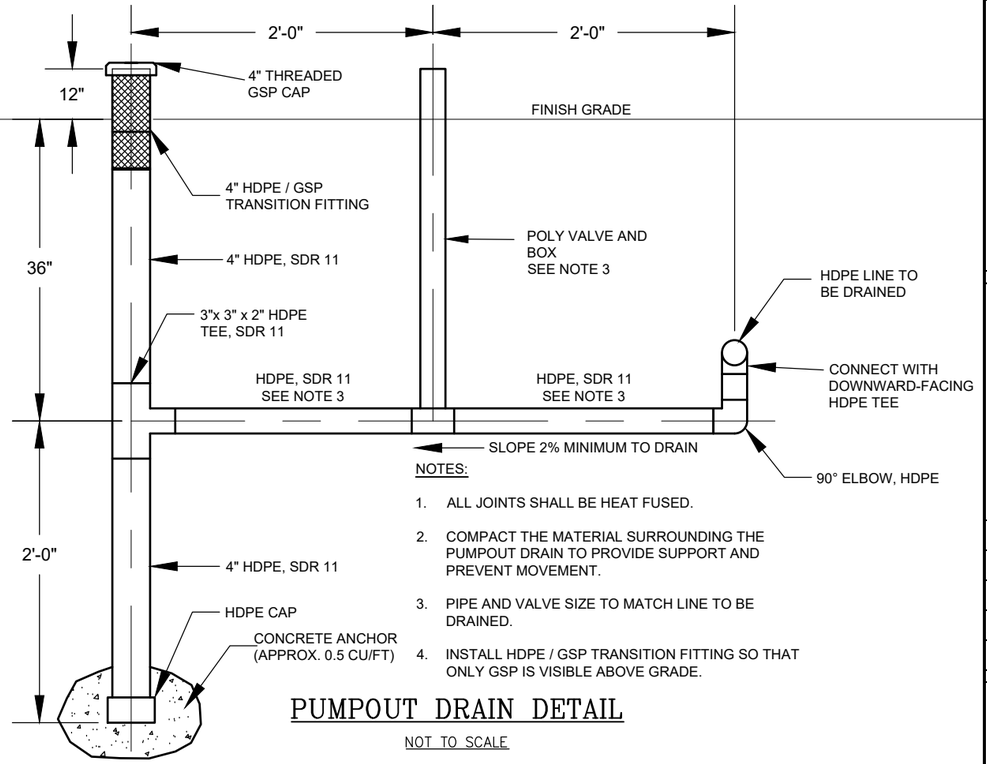
1. DESIGN SHOWN IS A SUGGESTED METHOD FOR THE PIPE TRANSITIONS. PROPOSAL FOR PIPE TRANSITIONS SHALL BE SUBMITTED TO AND APPROVED BY THE CONTRACTING OFFICER PRIOR TO CONSTRUCTION.
2. TRANSITIONS SHALL BE CONSTRUCTED IN A MANNER THAT PREVENTS AIR BUILDUP IN THE LINES AND IS SLOPED TO DRAIN.
3. INSTALL CONCRETE THRUST BLOCKS AT THE BEGINNING AND END OF THE 12" PIPE AS WELL AS AT ANY ELBOWS ALONG THE LINE (SEE DETAIL ON SHEET W6).

NOTES (CONT.):

4. ENSURE WATERLINE IS BURIED AT LEAST 36" BELOW GROUND.
5. INSTALL SADDLE CONNECTION AT 12 O'CLOCK POSITION TO ENSURE PROPER DRAINAGE AND PREVENTION OF AIR BUILD UP IN LINE.
6. INSTALL SADDLE CONNECTION AT 6 O'CLOCK POSITION ON THE 12" PIPE TO PREVENT BUILD UP OF AIR IN THE LINE.

PIPE TRANSITION DETAIL

NOT TO SCALE

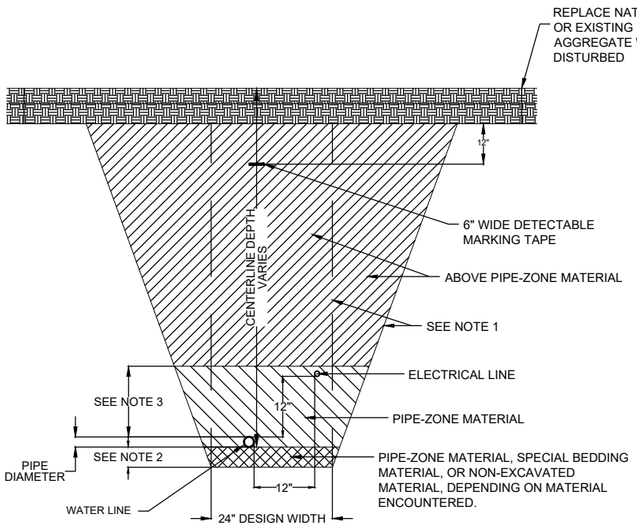


NOTES:

1. ALL JOINTS SHALL BE HEAT FUSED.
2. COMPACT THE MATERIAL SURROUNDING THE PUMPOUT DRAIN TO PROVIDE SUPPORT AND PREVENT MOVEMENT.
3. PIPE AND VALVE SIZE TO MATCH LINE TO BE DRAINED.
4. INSTALL HDPE / GSP TRANSITION FITTING SO THAT ONLY GSP IS VISIBLE ABOVE GRADE.

PUMPOUT DRAIN DETAIL

NOT TO SCALE

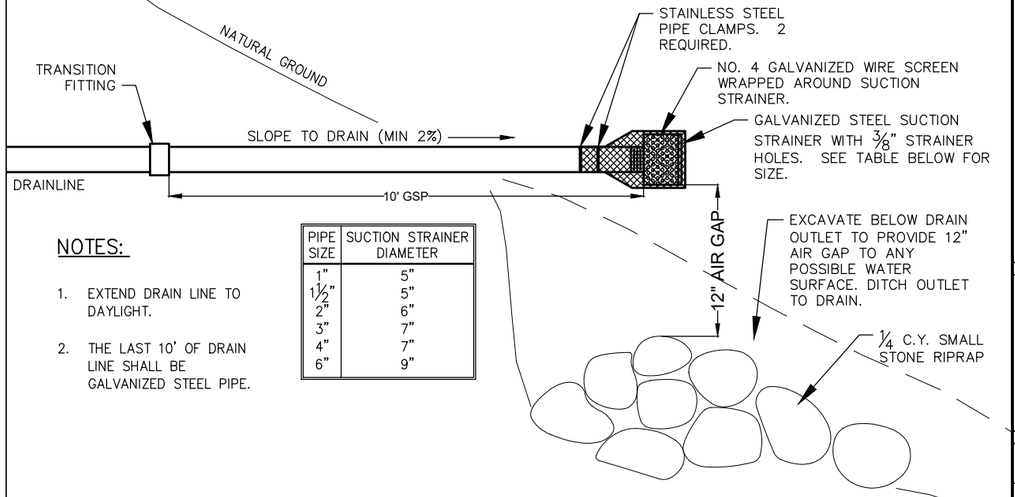


TRENCH CROSS SECTION WITH MULTIPLE UTILITIES

NOT TO SCALE

TRENCHING NOTES:

1. WALLS SHALL BE VERTICAL FOR TRENCHES LESS THAN 5'-0" DEEP AT CENTERLINE. FOR DEPTHS GREATER THAN 5'-0", THE WALLS SHALL BE LAID BACK TO MEET APPLICABLE SAFETY STANDARDS.
2. IF BOTTOM OF TRENCH IS UNSATISFACTORY BEDDING MATERIAL, A MINIMUM OF 6" OF PIPE-ZONE MATERIAL OR IMPORTED SPECIAL BEDDING SHALL BE USED DEPENDING ON MATERIAL ENCOUNTERED. IF SOIL IS OF A UNIFORM TEXTURE MEETING PIPE-ZONE MATERIAL SPECIFICATIONS, THIS NEED NOT BE EXCAVATED. IF FOR SEWERLINE, ROUND TRENCH SO BOTTOM HALF OF CIRCUMFERENCE OF THE PIPE WILL REST ON UNDISTURBED SOIL.
3. REQUIRED DEPTH OF BEDDING VARIES WITH TYPE OF PIPE. SEE SPECIFICATIONS TO DETERMINE IF OTHER THAN 12" IS REQUIRED OVER TOP OF PIPE.
4. UTILITY LINES SHALL BE BURIED A MINIMUM OF 36 INCHES UNLESS OTHERWISE NOTED.
5. WRAP ALL BURIED, NON-METALLIC PIPE WITH TRACER WIRE. WHERE POSSIBLE, ATTACH TRACER WIRE TO OBJECTS OR STRUCTURES ABOVE GRADE (SEE SPECIFICATION SECTION 312000).



NOTES:

1. EXTEND DRAIN LINE TO DAYLIGHT.
2. THE LAST 10' OF DRAIN LINE SHALL BE GALVANIZED STEEL PIPE.

PIPE SIZE	SUCTION STRAINER DIAMETER
1"	5"
1½"	5"
2"	6"
3"	7"
4"	7"
6"	9"

DAYLIGHT DRAIN WITH RODENT PROOF DRAIN OUTLET

NOT TO SCALE

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER LINE DETAILS

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. W4
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 10 OF 13

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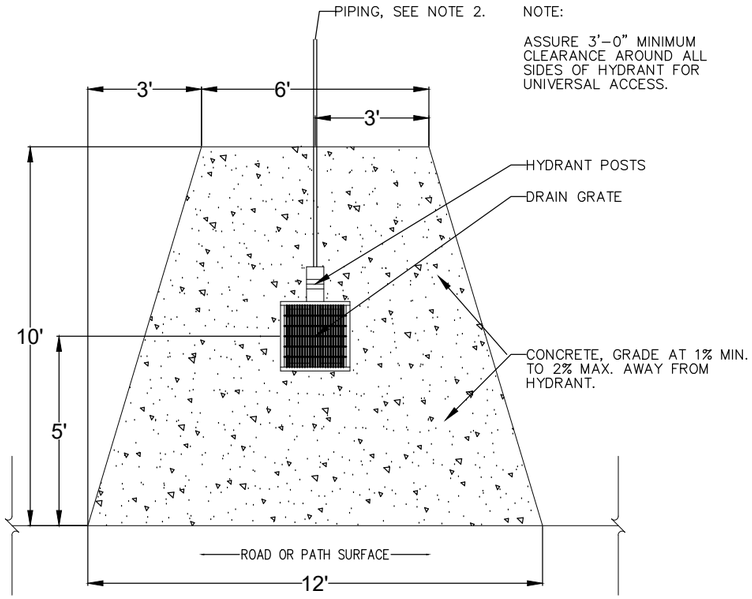


HYDRANT PAD DETAIL

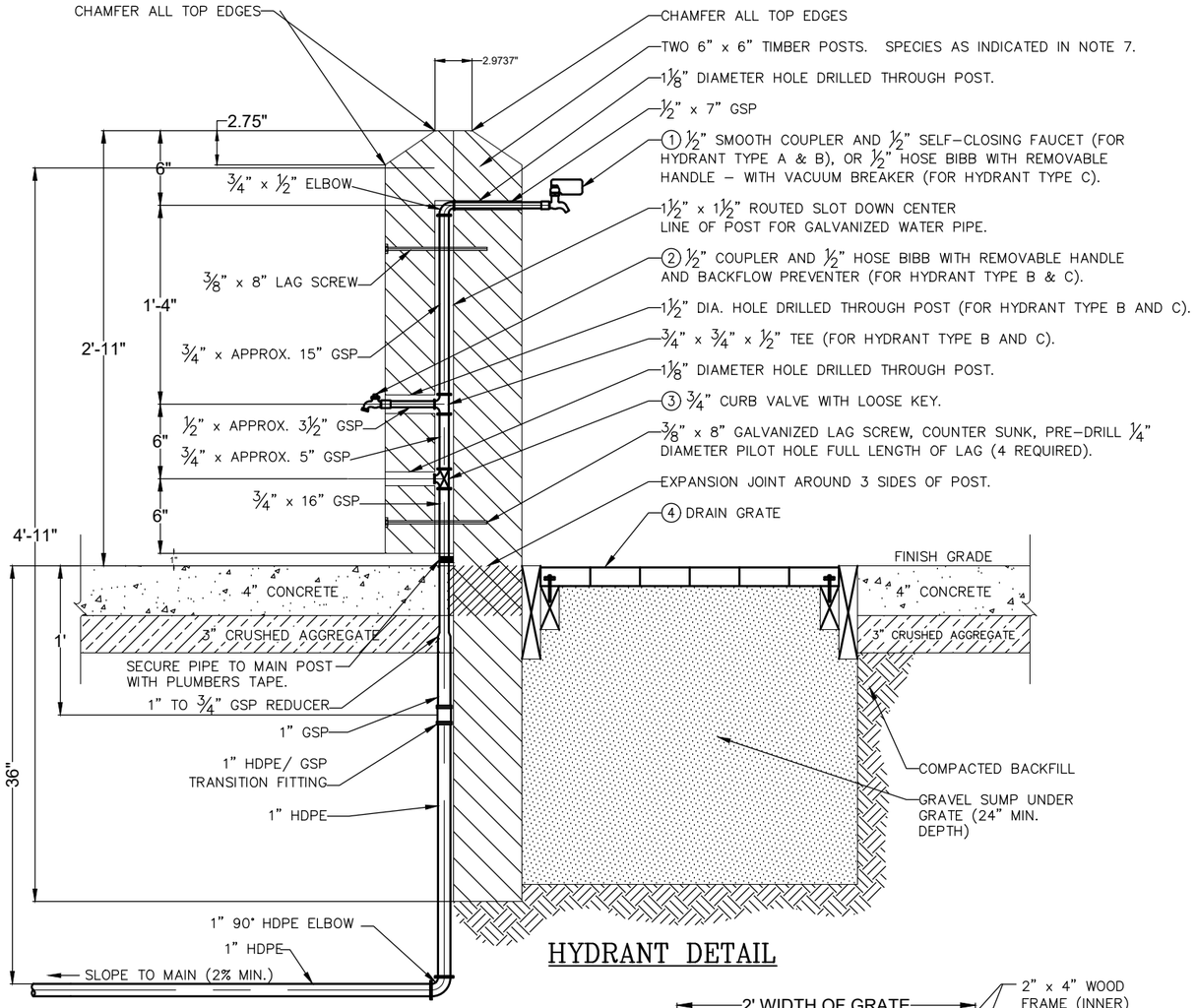
NOTES:

1. HYDRANT TYPES INCLUDE:
   TYPE A – A SELF-CLOSING FAUCET.
   TYPE B – A SELF-CLOSING FAUCET AND HOSE BIBB WITH BACKFLOW PREVENTER.
   TYPE C – TWO HOSE BIBBS, UPPER BIBB WITH VACUUM BREAKER, LOWER BIBB WITH BACKFLOW PREVENTER.
2. ALIGN THE PIPING AT BOTTOM OF HYDRANT AS NECESSARY TO OBTAIN PROPER ORIENTATION OF HYDRANT AS SHOWN ON THE WATER SYSTEM DRAWINGS.
3. HYDRANT LOCATION SHALL BE AS STAKED IN THE FIELD OR AS SHOWN ON THE DRAWINGS. ALTER HYDRANT LOCATION OR PAD SIZE ONLY WITH APPROVAL FROM THE CONTRACTING OFFICER.
4. ELEVATION OF EDGE OF PAD OR GRAVEL SUMP SHALL BE THE SAME AS ADJACENT FINISHED SURFACE OF EDGE OF ROAD, SPUR, OR TRAIL.
5. HYDRANT PADS MAY BE IN CUT OR FILL ALONG SIDE OF ROADWAY. CUT AND FILL SLOPES SHALL MATCH ADJACENT ROADSIDE SLOPES.
6. CONSTRUCT TIMBER FRAME BOX USING ANODIZED GRABBER SCREWS (2 EACH CORNER). SECURE FRAME BOX TO HYDRANT POST WITH ANODIZED GRABBER SCREWS (2 PLACES).
7. HYDRANT POSTS AND ALL WOOD FRAMING SHALL BE CONSTRUCTED OF CEDAR OR REDWOOD.
8. DRILLED HOLES THROUGH POSTS SHALL BE CHISELED OUT TO ACCOMMODATE RIDGES ON FITTINGS.
9. BUILD HYDRANT AS SHOWN OR AS ALTERED BY THE CONTRACTING OFFICER. SELF-CLOSING FAUCET HEIGHT ABOVE FINISH GRADE MUST BE 28" MINIMUM TO 36" MAXIMUM FOR UNIVERSAL ACCESS.

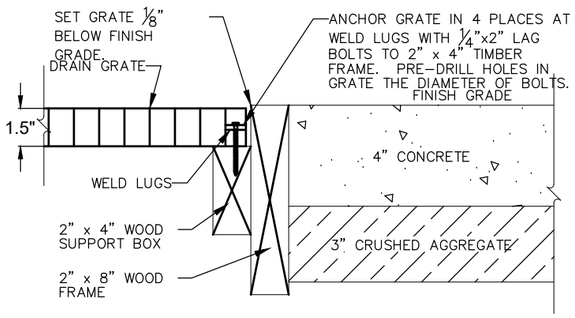
MATERIAL SCHEDULE

REF. NO.	HYDRANT TYPE	ITEM	DESCRIPTION
①	A & B	½" SELF-CLOSING FAUCET	½" HAWS MODEL 6252EHLF WITH SELF-CLOSING LEVER HANDLE
②	B & C	½" HOSE BIBB WITH REMOVABLE KEY	½" ARROWHEAD MODEL 253BFPLK (ROUGH BRASS FINISH)
③	A, B & C	¾" STOP VALVE WITH REMOVABLE KEY	¾" MUELLER H-10284 STOP AND DRAIN VALVE WITH LOOSE KEY
④	A, B & C	DRAIN GRATE	8P2 1/2"x2" O.C. PRESS-LOCKED CLOSE MESH, ADA COMPLIANT, HOT DIPPED GALVANIZED STEEL, 23 3/4" SQUARE, & 1 1/2" DEPTH WITH WELDED LUGS
	C	VACUUM BREAKER	WATTS NO. 8A (WHEN HOSE END LOWER THAN FAUCET AT ALL TIMES)
	B & C	BACKFLOW PREVENTER	WATTS SERIES 7 (WHEN CONNECTED TO PRESSURE VESSEL OR TRAILER)
	A, B & C	WASHED ROCK SUMP	OPEN GRADED ¼" TO 1" RANGE

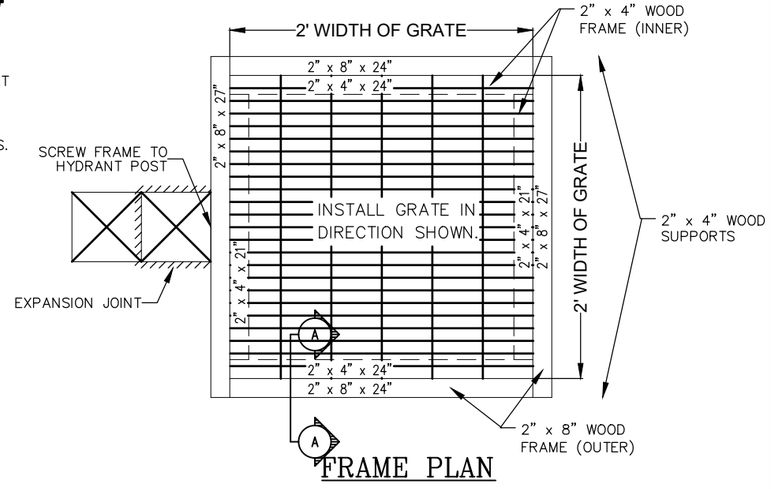
* SEE HYDRANT TYPES ABOVE



HYDRANT DETAIL



SECTION A–A



FRAME PLAN

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PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER HYDRANT DETAIL

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO. W5
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 11 OF 13

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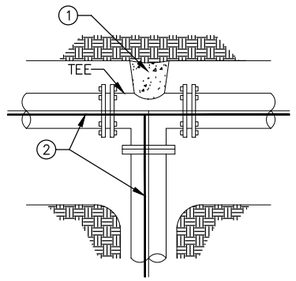
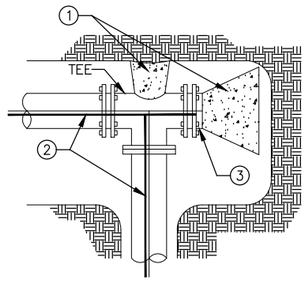
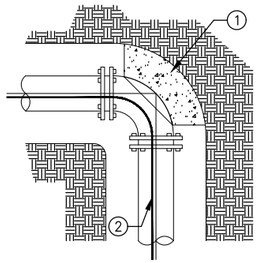


TEE DETAIL



TEE AND PLUG DETAIL



90° BEND DETAIL

MINIMUM THRUST BLOCK BEARING AREAS (SQ. FT.) *					
PIPE SIZE	TEE OR END	BENDS			
		90°	45°	22 1/2°	11 1/4°
4"	1.4	2.0	1.1	0.6	0.4
6"	2.8	4.0	2.2	1.6	1.0
8"	5.0	7.0	3.7	2.0	1.0
10"	8.0	10.3	5.6	2.9	1.0
12"	10.3	14.6	8.0	4.0	1.5

* BASED ON 150 P.S.I. MAIN PRESSURE AND 2000 P.S.F. SOIL BEARING PRESSURE.

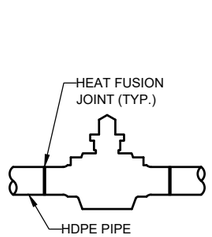
LEGEND:

1. PROVIDE A MIN. 4 CUBIC FEET CONCRETE POURED AGAINST UNDISTURBED EARTH.
2. NO. 14 COPPER FINDER WIRE (IF USING NON-METALLIC PIPE).
3. PLUG.

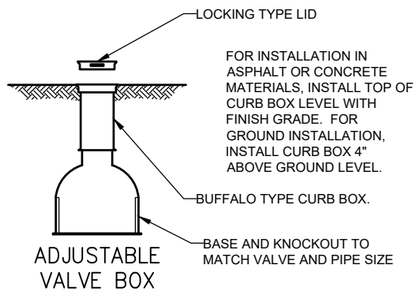
NOTES:

1. COVER BOLTS AND FLANGES WITH PLASTIC TO PROTECT FROM CONCRETE ADHERENCE DURING CONSTRUCTION OF THRUST BLOCKS.
2. SEE CHART FOR MINIMUM THRUST BLOCKS BEARING AREAS.
3. ALL CONCRETE SHALL BE PLACED AGAINST UNDISTURBED EARTH.
4. PROVIDE 6 MIL. POLYPROPYLENE BETWEEN FITTINGS AND CONCRETE.
5. NOTIFY CONTRACTING OFFICER FOR ANY CONDITION OR PIPE SIZE NOT INDICATED.
6. THRUST BLOCKS ONLY REQUIRED FOR 12" HDPE LINE.

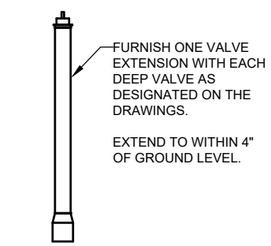
THRUST BLOCKS



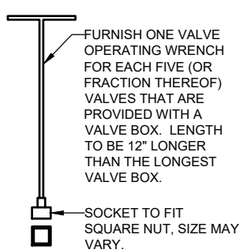
VALVE



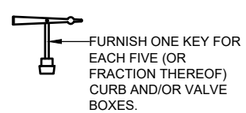
ADJUSTABLE VALVE BOX



VALVE EXTENSION

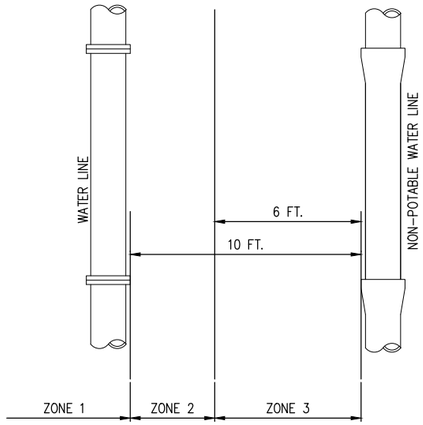


VALVE OPERATING WRENCH



PENTAGON KEY

POLY VALVES AND CURB BOXES



NOTES:

ZONE 1: A) WATER AND NPWL SEPARATED 10' OR MORE – NO SPECIAL REQUIREMENTS

ZONE 2: A) WATER AND NPWL SEPARATED BY AT LEAST 6 FEET AT OUTSIDE WALLS.

AND B) WATER AT LEAST 18 INCHES HIGHER IN ELEVATION THAN THE NPWL.

AND EITHER C) AT LEAST ONE OF THE PIPES (EITHER THE WATERLINE OR NPWL) SHALL BE CONSTRUCTED OR RECONSTRUCTED WITH 200 PSI PIPE OR ENCASED IN A CONTINUOUS SLEEVE WITH SAME RATING

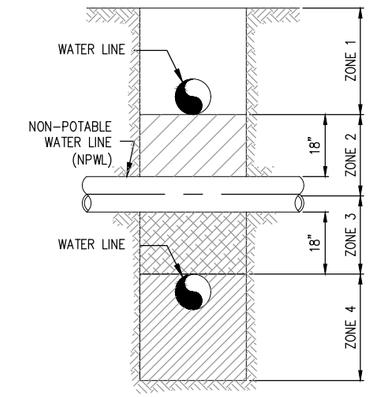
OR D) NPWL ENCASED IN AT LEAST 4 INCHES OF CONCRETE MEASURED AT THE BELL.

OR E) SITE SPECIFIC REQUIREMENTS APPROVED BY DEQ.

ZONE 3: WATER AND NPWL SEPARATED LESS THAN 6' – NOT ALLOWED.

NOTE: SANITARY SEWER FORCE MAINS MUST HAVE MIN. 10' HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION. ZONE 2 AND ZONE 3 PLACEMENTS ARE NOT ALLOWED.

HORIZONTAL SEPARATION REQUIREMENTS



NOTE: SANITARY SEWER FORCE MAINS MUST HAVE MIN. 10' HORIZONTAL SEPARATION AND 18" VERTICAL SEPARATION AT INTERSECTIONS. ZONE 2 AND ZONE 3 PLACEMENTS ARE NOT ALLOWED.

NOTES:

ZONE 1: A) WATER ABOVE NPWL MUST BE SEPARATED BY AT LEAST 18 INCHES.

AND B) ONE FULL, UNCUT LENGTH OF WATER PIPE MUST BE CENTERED OVER THE CROSSING SO THAT THE JOINTS ARE AS FAR AS POSSIBLE FROM THE NPWL. AT LEAST ONE OF THE PIPES (EITHER THE WATERLINE OR NPWL) SHALL BE CONSTRUCTED OR RECONSTRUCTED WITH 200 PSI PIPE OR ENCASED IN A CONTINUOUS SLEEVE WITH SAME RATING. AT CROSSING, EXTEND 200 PSI PIPE OR SLEEVE FOR A DISTANCE OF 10 FEET PERPENDICULAR DISTANCE FROM EACH SIDE OF THE WATERLINE. THE WATERLINE AND NPWL PIPES OR SLEEVES SHALL BE CENTERED AT THE CROSSING SO THAT THE JOINTS WILL BE AN EQUAL DISTANCE AND AS FAR AS POSSIBLE FROM THE CROSSING.

ZONE 2: A) WATERLINE ABOVE NPWL, LESS THAN 18 INCHES – SAME AS ZONE 1

OR B) EITHER THE NPWL OR WATER MAIN OR BOTH MUST BE ENCASED IN AT LEAST 4 INCHES OF CONCRETE MEASURED AT THE BELL FOR A HORIZONTAL DISTANCE OF 10 FEET ON BOTH SIDES OF THE CROSSING.

ZONE 3: WATERLINE BELOW NPWL, LESS THAN 18 INCHES – SAME REQUIREMENTS AS ZONE 2 EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.

ZONE 4: WATERLINE BELOW NPWL, MORE THAN 18 INCHES SAME REQUIREMENTS AS ZONE 1 EXCEPT THE NPWL MUST ALSO BE SUPPORTED ABOVE THE CROSSING TO PREVENT SETTLING.

VERTICAL SEPARATION REQUIREMENTS

POTABLE & NON-POTABLE UTILITY LINE INTERSECTION DETAILS

United States Department of Agriculture
Forest Service

R4
INTERMOUNTAIN REGION

STAMPS, LOGOS, AND SEALS

NO.	REVISION / ISSUE	DATE
4		
3		
2		
1		

PROJECT NAME

BEAR RIVER ADMINISTRATIVE SITE WATER SYSTEM IMPROVEMENTS

UINTA - WASATCH - CACHE NATIONAL FOREST

EVANSTON - MOUNTAIN VIEW RANGER DISTRICT

DRAWING TITLE

WATER VALVE AND THRUST BLOCK DETAIL

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO.: W6
DRAWN: E. PRIMMER	
CHECKED: C. CROSS	
PROJECT NO.	SHEET 12 OF 13

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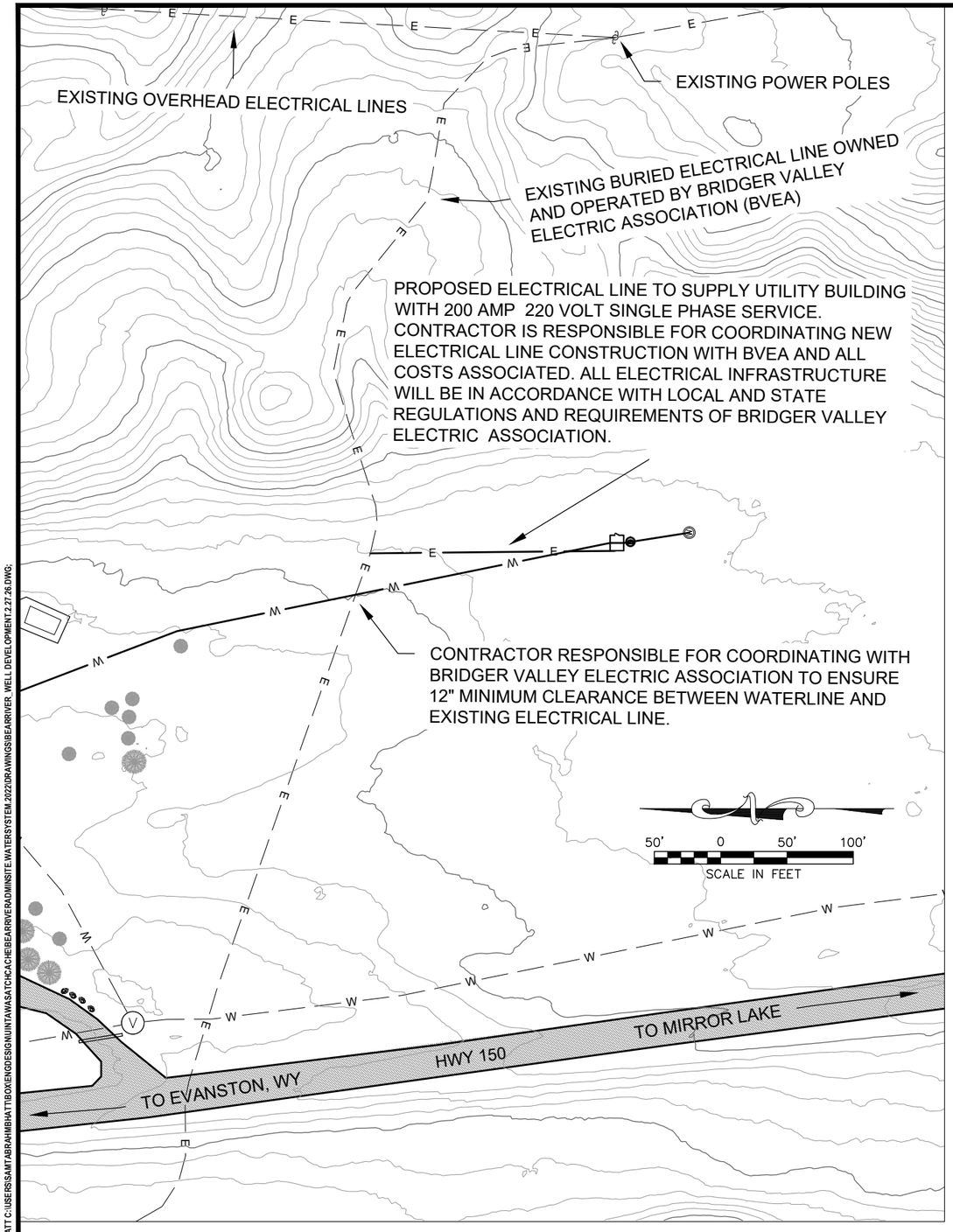

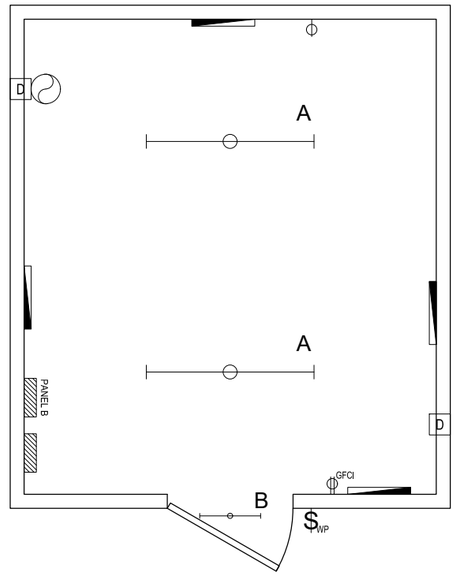

UTILITY BUILDING
ELECTRICAL FLOORPLAN

6" 0 6" 1' 2' 4'

LEGEND

- ELECTRICAL LOAD CENTER OR WELL PUMP CONTROLS
- PANEL TYPE EXHAUST FAN PACKAGE WITH WEATHERHOOD, AMERICRAFT MFG (800-848-2938), MODEL 912 /PKG AND OPTIONAL WEATHERHOOD, 115 VAC, 12-INCH (REQUIRES 16-INCH OPENING)
- D — MOTORIZED INTAKE SHUTTER/DAMPER FOR 16-INCH OPENING, GALVANIZED STEEL
- UTILITY WELL HOUSE HEATER, BERKO #PHT500, 240 VAC, 500 WATTS (4 TOTAL)
- A — LED LUMINAIRE, TYPE "X": SURFACE MOUNT
- $WP — SINGLE POLE SWITCH IN WEATHERPROOF BOX AND COVER
- GFCI — RECEPTACLE, GFCI
- RECEPTACLE, SINGLE

INSTALLATION NOTES

1. INSTALL FEEDER FROM NEW CONNECTION MAIN DISTRIBUTION PANEL.
2. ELECTRICAL EQUIPMENT SHALL BE BLOCKED OUT TO EXTEND ABOVE ANY INSULATION, WHILE CONDUITS OR CABLES SHALL BE MOUNTED SECURELY BEHIND THE INSULATION TO THE CONCRETE WALL.
3. UTILITY BUILDING PLUMBING DETAIL, SHEET W2, HAS ADDITIONAL INFORMATION WITH MOUNTING LOCATIONS FOR THE INTAKE AND EXHAUST.
4. THE SWITCH WHICH CONTROLS THE LIGHT SHALL ALSO CONTROL THE EXHAUST FAN AND SHUTTER/DAMPERS.
5. WELL CABLE DOWN CASING TO PUMP SHALL BE TAPED TO DOWN PIPE EVERY 10 FEET. SPLICES AT WELL HEAD SHALL BE LISTED WATERPROOF.
6. THE UTILITY BUILDING SHALL BE WIRED TO ALLOW CONNECTION OF A PORTABLE GENERATOR FOR EMERGENCY POWER. THE GENERATOR HOOKUP MUST BE CAPABLE OF SUPPLYING SUFFICIENT POWER TO OPERATE THE 7.5 HP PUMP AND ASSOCIATED CONTROLS WITH A MINIMUM 12 KW GENERATOR. PROVIDE A MANUAL TRANSFER SWITCH OR APPROVED INTERLOCK SYSTEM TO ENSURE SAFE ISOLATION BETWEEN UTILITY POWER AND GENERATOR POWER. ALL WIRING AND EQUIPMENT SHALL COMPLY WITH NEC REQUIREMENTS AND LOCAL CODES.

UTILITY BUILDING LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL #	LAMPS	MOUNTING	Qty	NOTES:
A	STRIP LED	LITHONIA	C 232 120 GEB10IS	(2) LED*	SURFACE/CEILING	2	W/ #WGCSMR WIREGUARD
B	EXTERIOR LED	LITHONIA	ARC1 LED P1 30K MVOLT PE DBLXD	(1) LED	EXTERIOR WALL/ABOVE DOOR	1	

* USE PHILIPS LED INSTANT FIT 12T8/48-4000 IF 10/1 LAMPS, BALLAST REMAINS OPERATION

THESE DEVICES ARE GREATER THAN SPECIFICATION AND EQUAL OR BETTER IS REQUIRED WITHIN THE UTILITY BUILDING.

	Manufacturer				
Device	Bryant	Cooper	Hubbell	Leviton	** P&S
Receptacle, GFCI	-	VGF15*	GF15L*	7599-HG*	1595*
Receptacle, Single	5251	5261*	HBL5261	5261*	5261*
Switch	CSB115B*	CSB115*	CS115*	CSB1-15*	CSB15AC1*

* Color per specifications
** Pass & Seymour

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ELECTRICAL SITE PLAN

DATE	ARCHIVE NO.
DESIGNER: E. PRIMMER	DRAWING SHEET NO.: E1
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