

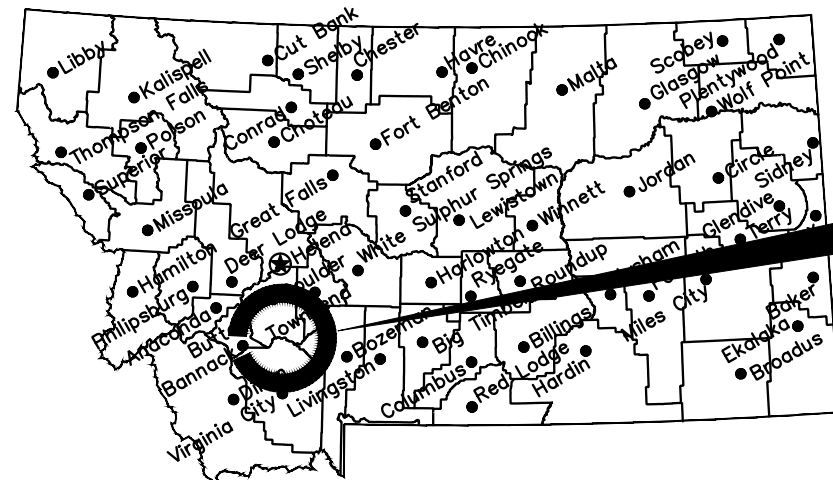
MONTANA FISH, WILDLIFE & PARKS

BANNACK VISITOR CENTER WWTS

S01, T08S, R12W

CONSTRUCTION PLAN SET

FWP # 7196148



Project Location

Location Map

No Scale



Project Location

Vicinity Map

No Scale

North



MONTANA FISH, WILDLIFE AND PARKS
DESIGN AND CONSTRUCTION

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- 1 OF 5 COVER SHEET
- 2 OF 5 SITE PLAN & OVERALL WASTEWATER IMPROVEMENTS
- 3 OF 5 WASTEWATER IMPROVEMENTS DETAILS 1
- 4 OF 5 WASTEWATER IMPROVEMENTS DETAILS & WORK REQUIREMENTS
- 5 OF 5 ELECTRICAL REQUIREMENTS



CASNE & ASSOCIATES 10/24/2022
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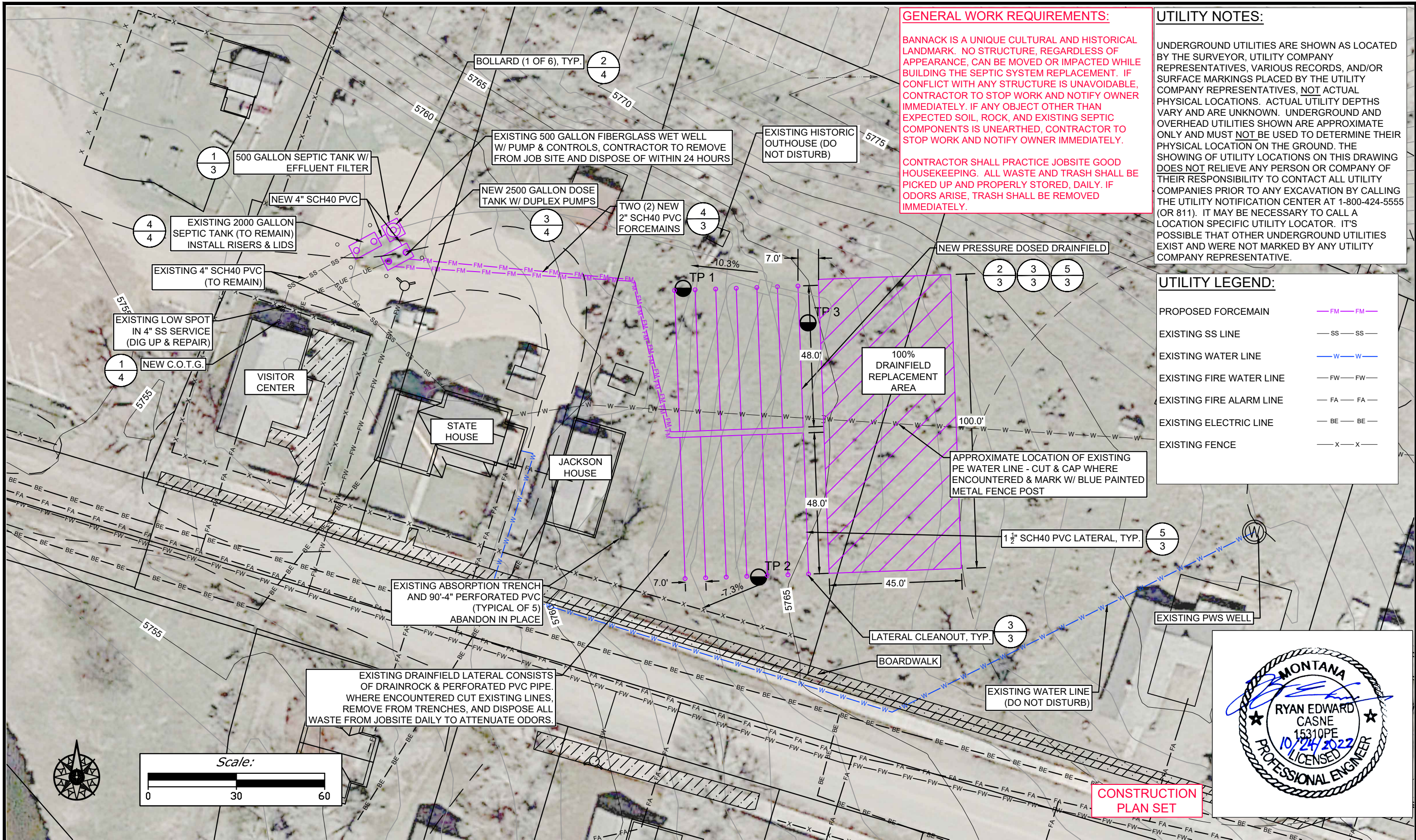
**MONTANA FISH,
WILDLIFE & PARKS**

133

COVER SHEET

BANNACK SP 4200 BANNACK ROAD, DILLON, 59725

SHEET: 1 of 5



GENERAL WORK REQUIREMENTS:

BANNACK IS A UNIQUE CULTURAL AND HISTORICAL LANDMARK. NO STRUCTURE, REGARDLESS OF APPEARANCE, CAN BE MOVED OR IMPACTED WHILE BUILDING THE SEPTIC SYSTEM REPLACEMENT. IF CONFLICT WITH ANY STRUCTURE IS UNAVOIDABLE, CONTRACTOR TO STOP WORK AND NOTIFY OWNER IMMEDIATELY. IF ANY OBJECT OTHER THAN EXPECTED SOIL, ROCK, AND EXISTING SEPTIC COMPONENTS IS UNEARTHED, CONTRACTOR TO STOP WORK AND NOTIFY OWNER IMMEDIATELY.

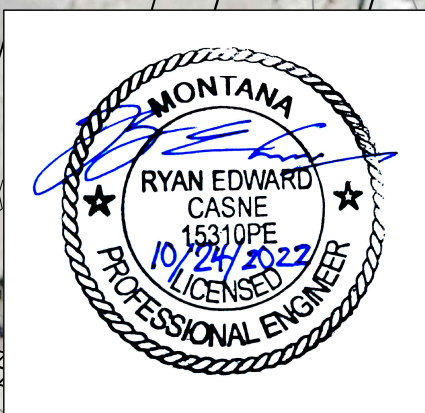
CONTRACTOR SHALL PRACTICE JOBSITE GOOD HOUSEKEEPING. ALL WASTE AND TRASH SHALL BE PICKED UP AND PROPERLY STORED, DAILY. IF ODORS ARISE, TRASH SHALL BE REMOVED IMMEDIATELY.

UTILITY NOTES:

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UTILITY LEGEND:

PROPOSED FORCEMAIN	FM FM
EXISTING SS LINE	SS SS
EXISTING WATER LINE	W W
EXISTING FIRE WATER LINE	FW FW
EXISTING FIRE ALARM LINE	FA FA
EXISTING ELECTRIC LINE	BE BE
EXISTING FENCE	X X



CONSTRUCTION PLAN SET



EXISTING DRAINFIELD LATERAL CONSISTS OF DRAINROCK & PERFORATED PVC PIPE. WHERE ENCOUNTERED CUT EXISTING LINES, REMOVE FROM TRENCHES, AND DISPOSE ALL WASTE FROM JOBSITE DAILY TO ATTENUATE ODORS.

EXISTING ABSORPTION TRENCH AND 90'-4" PERFORATED PVC (TYPICAL OF 5) ABANDON IN PLACE

APPROXIMATE LOCATION OF EXISTING PE WATER LINE - CUT & CAP WHERE ENCOUNTERED & MARK W/ BLUE PAINTED METAL FENCE POST

LATERAL CLEANOUT, TYP.

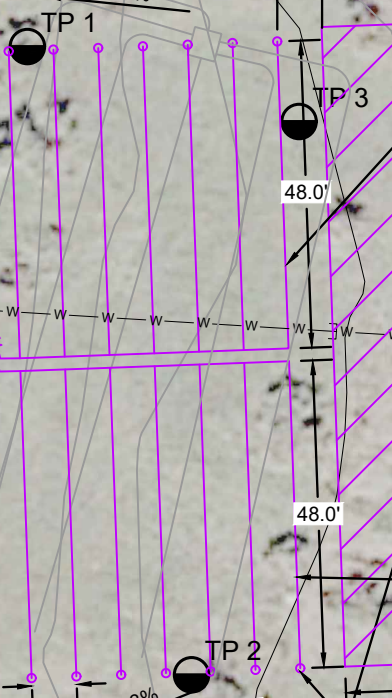
BOARDWALK

EXISTING WATER LINE (DO NOT DISTURB)

EXISTING PWS WELL

1 1/2" SCH40 PVC LATERAL, TYP.

100% DRAINFIELD REPLACEMENT AREA



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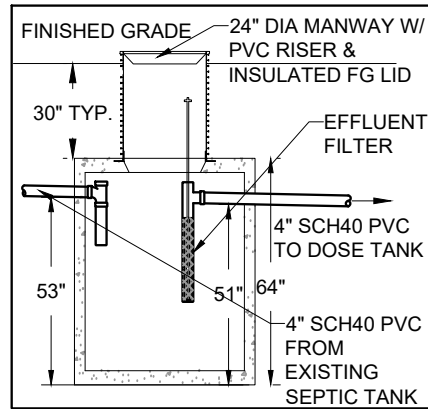
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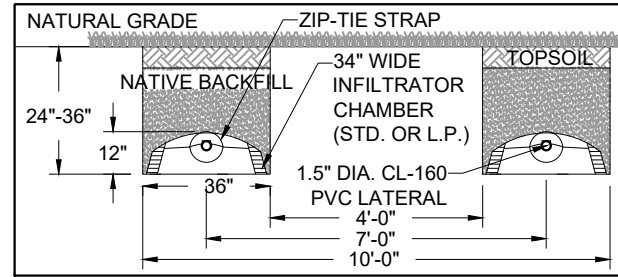


SITE PLAN & OVERALL WASTEWATER IMPROVEMENTS
 BANNACK SP 4200 BANNACK ROAD, DILLON, 59725

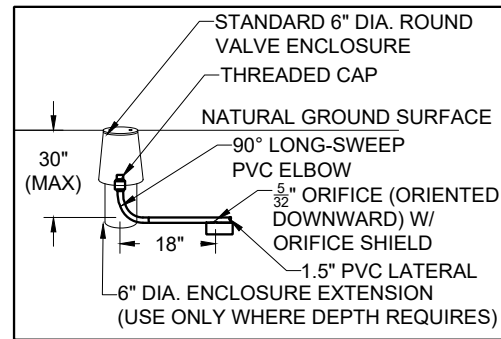
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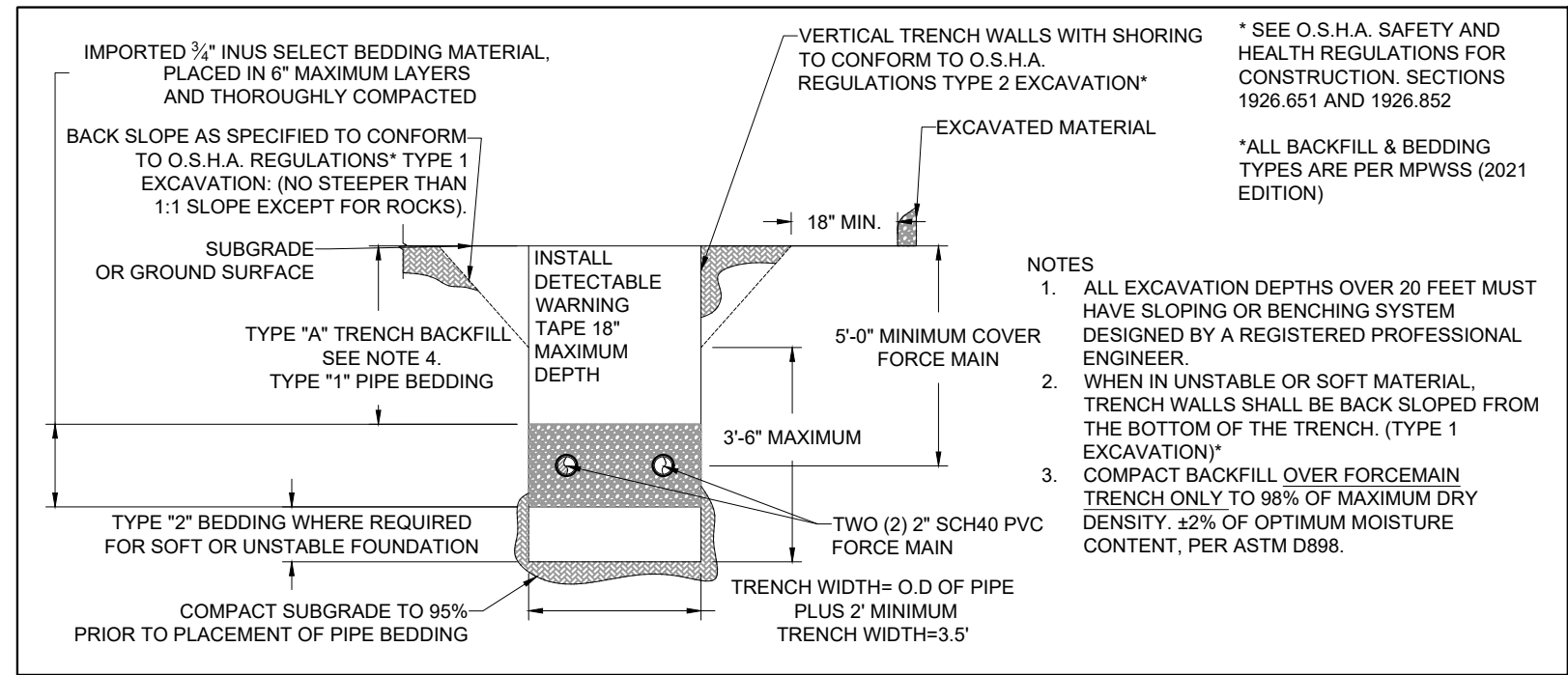
1 500 GALLON SEPTIC TANK
N.T.S.



2 INFILTRATOR CHAMBER & TRENCH
N.T.S.



3 DRAINFIELD INSPECTION RISER
N.T.S.



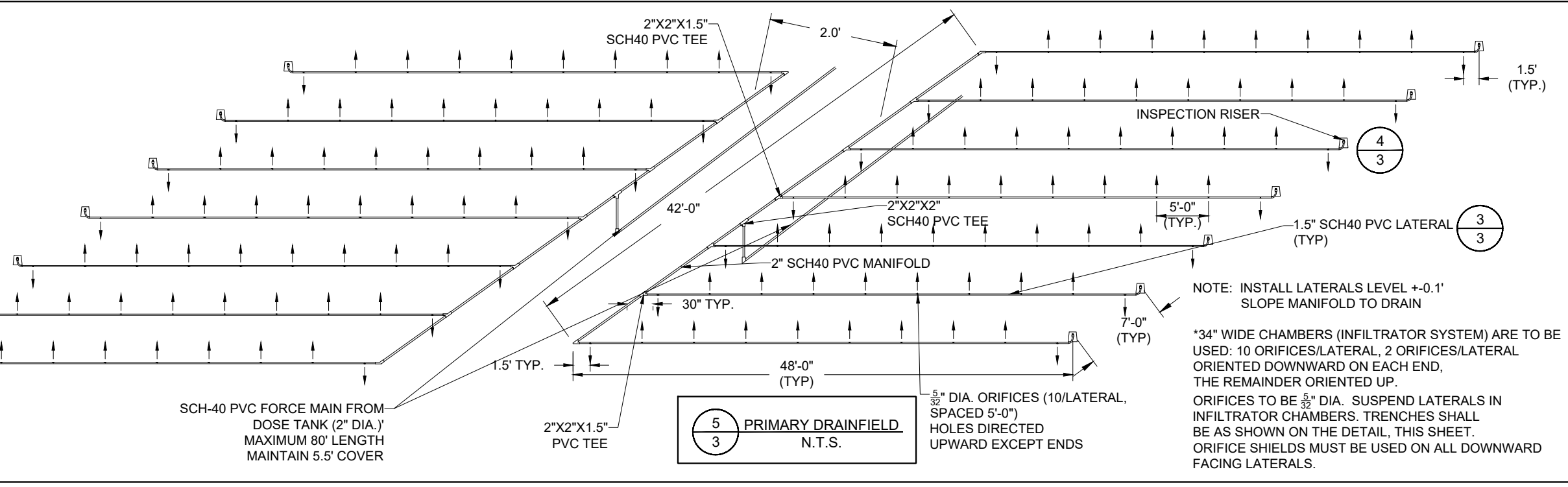
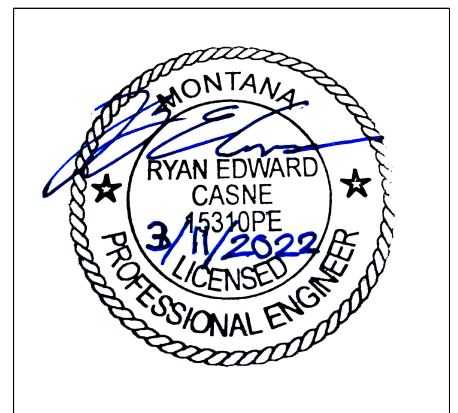
4 FORCEMAIN TRENCH
N.T.S.

- NOTES
1. ALL EXCAVATION DEPTHS OVER 20 FEET MUST HAVE SLOPING OR BENCHING SYSTEM DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER.
 2. WHEN IN UNSTABLE OR SOFT MATERIAL, TRENCH WALLS SHALL BE BACK SLOPED FROM THE BOTTOM OF THE TRENCH. (TYPE 1 EXCAVATION)*
 3. COMPACT BACKFILL OVER FORCEMAIN TRENCH ONLY TO 98% OF MAXIMUM DRY DENSITY. ±2% OF OPTIMUM MOISTURE CONTENT, PER ASTM D898.

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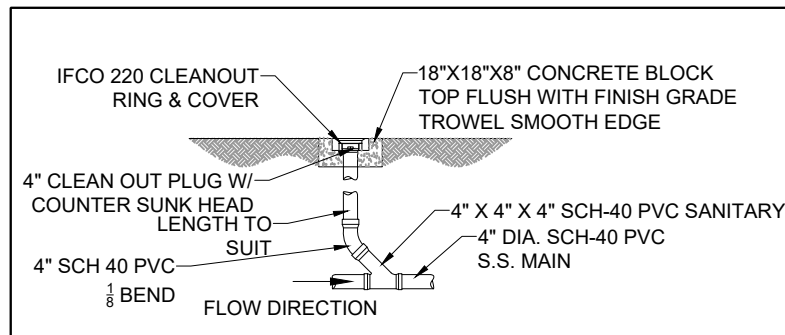
5 PRIMARY DRAINFIELD
N.T.S.

CONSTRUCTION
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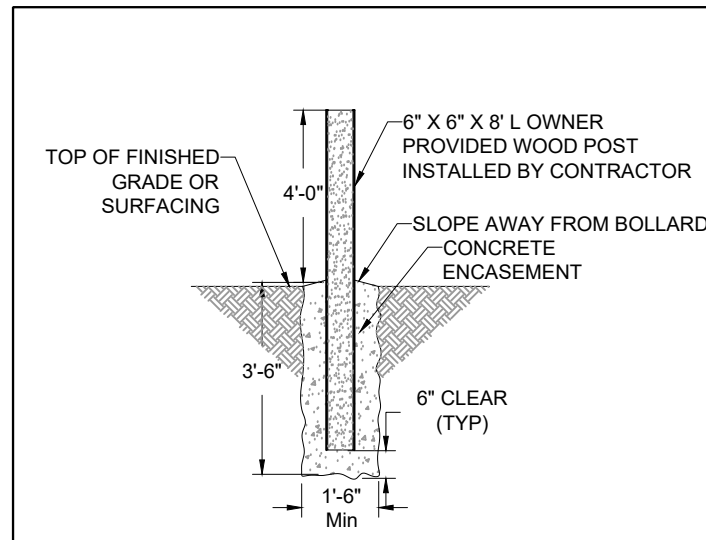


WASTEWATER IMPROVEMENTS DETAILS 1
BANNACK SP 4200 BANNACK ROAD, DILLON, 59725



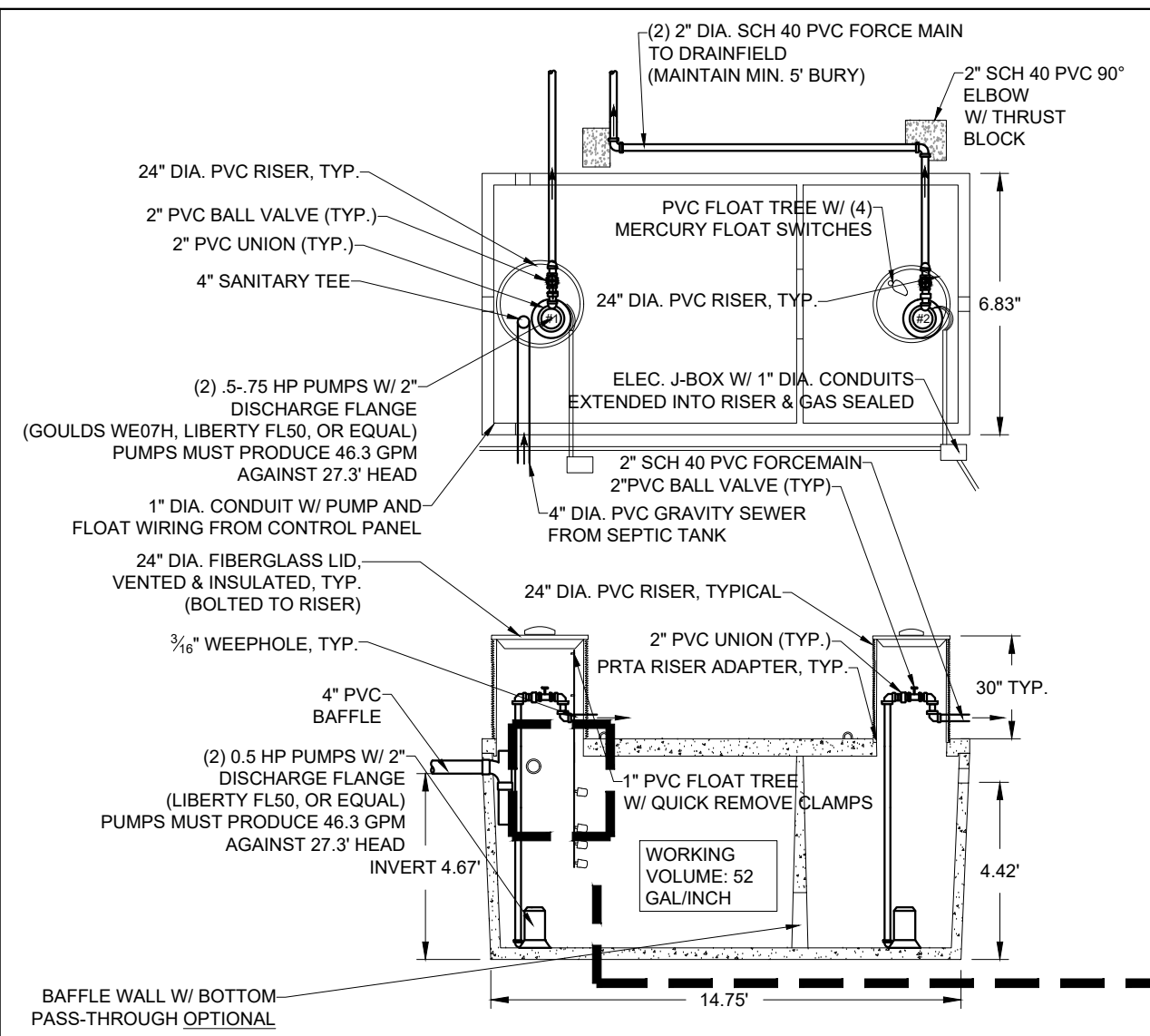
1 SEWER CLEANOUT TO GRADE (COTG)
4 N.T.S.

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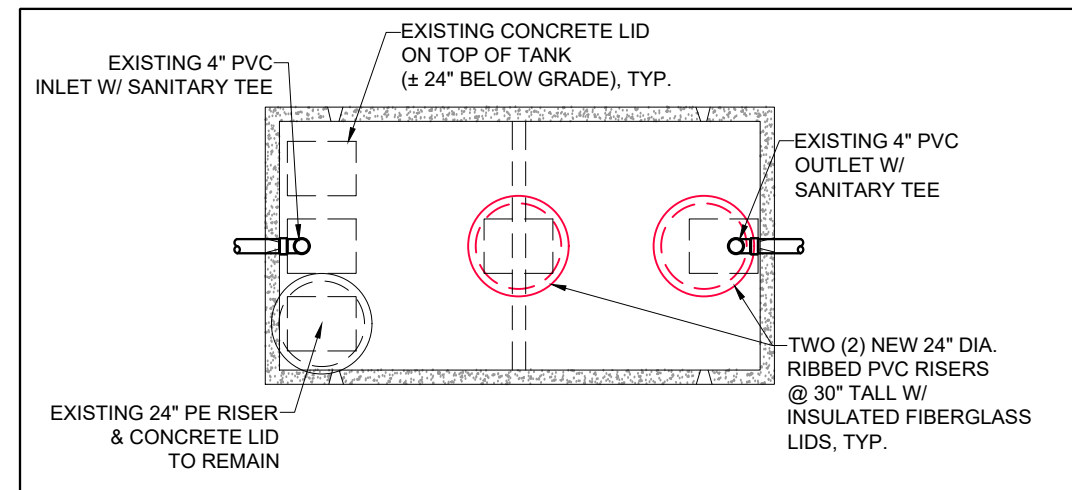
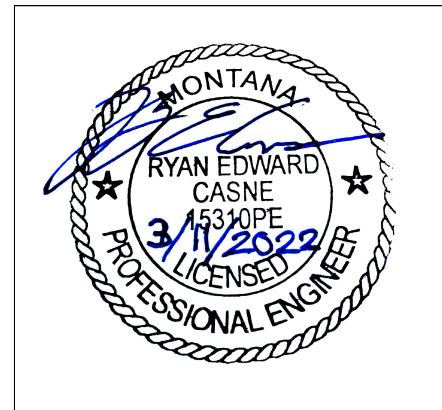


2 BOLLARD
4 N.T.S.

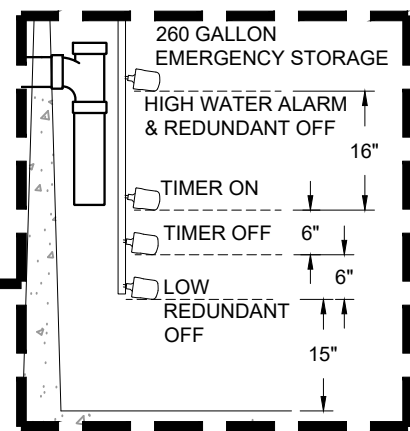
WORK REQUIREMENTS:
 CONTRACTOR WORK DAYS: WORK CANNOT BE OCCURRING DURING THESE TWO WEEKS DUE TO EVENTS: JULY 13-20, 2022. SEPTEMBER 14- 21, 2022.
 SMOKING: SMOKING IS ONLY ALLOWED IN VEHICLES.
 TOPSOIL RETENTION: TOPSOIL, AS MUCH AS POSSIBLE, SHOULD BE STOCKPILED SEPARATELY FOR REPLACEMENT OVER DRAINFIELD AND FORCE MAIN TRENCH. SEE SPECIFICATIONS FOR CLEARING, REHABILITATION, AND SEEDING/MULCH REQUIREMENTS.
 CONSTRUCTION MATERIALS & CONTRACTOR PARKING: BANNACK IS A TIGHT WORK SITE. CONTRACTOR EMPLOYEE PARKING MUST BE IN THE MAIN PARKING LOT NEAR THE VISITOR'S CENTER. ALL CONSTRUCTION-RELATED MATERIALS AND SUPPLIES MUST BE STORED ON THE EAST END OF BANNACK AT THE MAINTENANCE YARD. NOTE THAT TOPSOIL CAN BE TEMPORARILY STOCKPILED JUST TO THE EAST OF THE DRAINFIELD BUT BACKFILL WILL NEED TO BE HAULED ON AN AS-NEEDED OVER THE COURSE OF TWO DAYS. NO WASTE PILES SHOULD REMAIN AT THE COMPLETION OF THE PROJECT AND MUST BE REMOVED FROM THE SITE.
 EXISTING TANK REQUIREMENTS: CONTRACTOR MUST HAVE THE EXISTING TANKS PUMPED BY A LICENSED SEPTIC HAULER JUST PRIOR TO DISABLING THE EXISTING WASTEWATER SYSTEM. THIS WILL ALLOW THE VISITOR'S CENTER RESTROOM TO REMAIN OPEN DURING CONSTRUCTION. THE EXISTING SEPTIC SYSTEM CANNOT BE DISABLED FOR MORE THAN 10 CALENDAR DAYS UNLESS THE CONTRACTOR CHOSSES TO PUMP THE EXISTING TANKS MORE FREQUENTLY.



3 2,500 GALLON DRAINFIELD DOSE TANK
4 N.T.S.



4 EXISTING 2,000 GALLON SEPTIC TANK MODIFICATIONS
4 PLAN VIEW - N.T.S.



CONSTRUCTION PLAN SET

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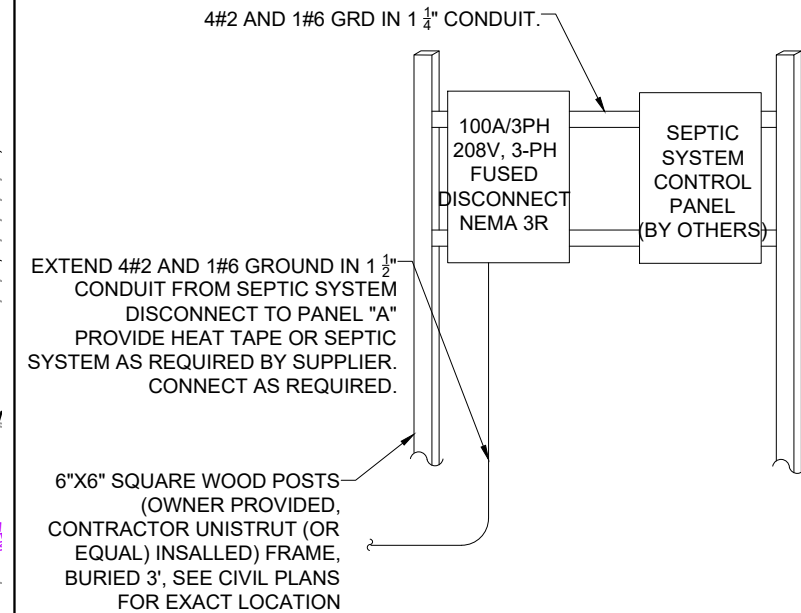
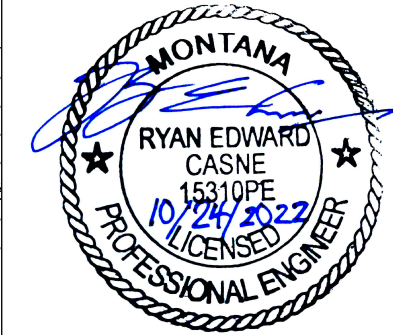


WASTEWATER IMPROVEMENTS DETAILS & WORK REQUIREMENTS
 BANNACK SP 4200 BANNACK ROAD, DILLON, 59725

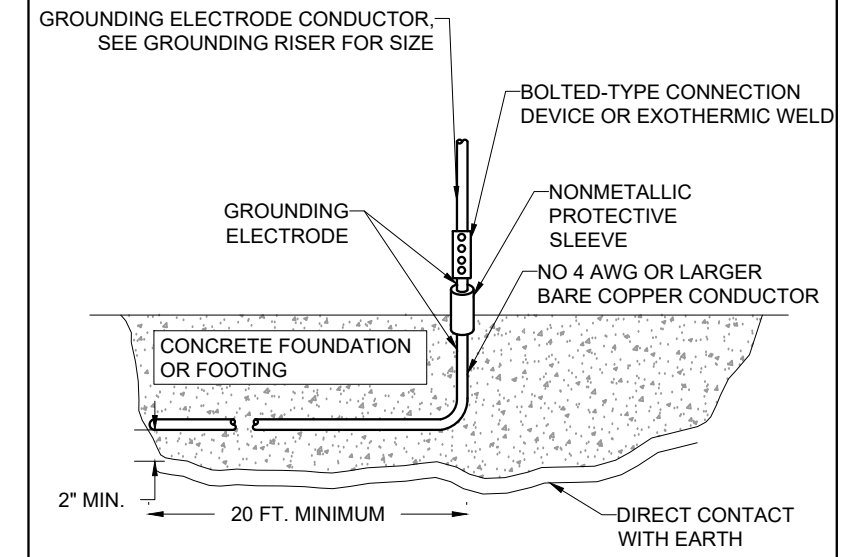
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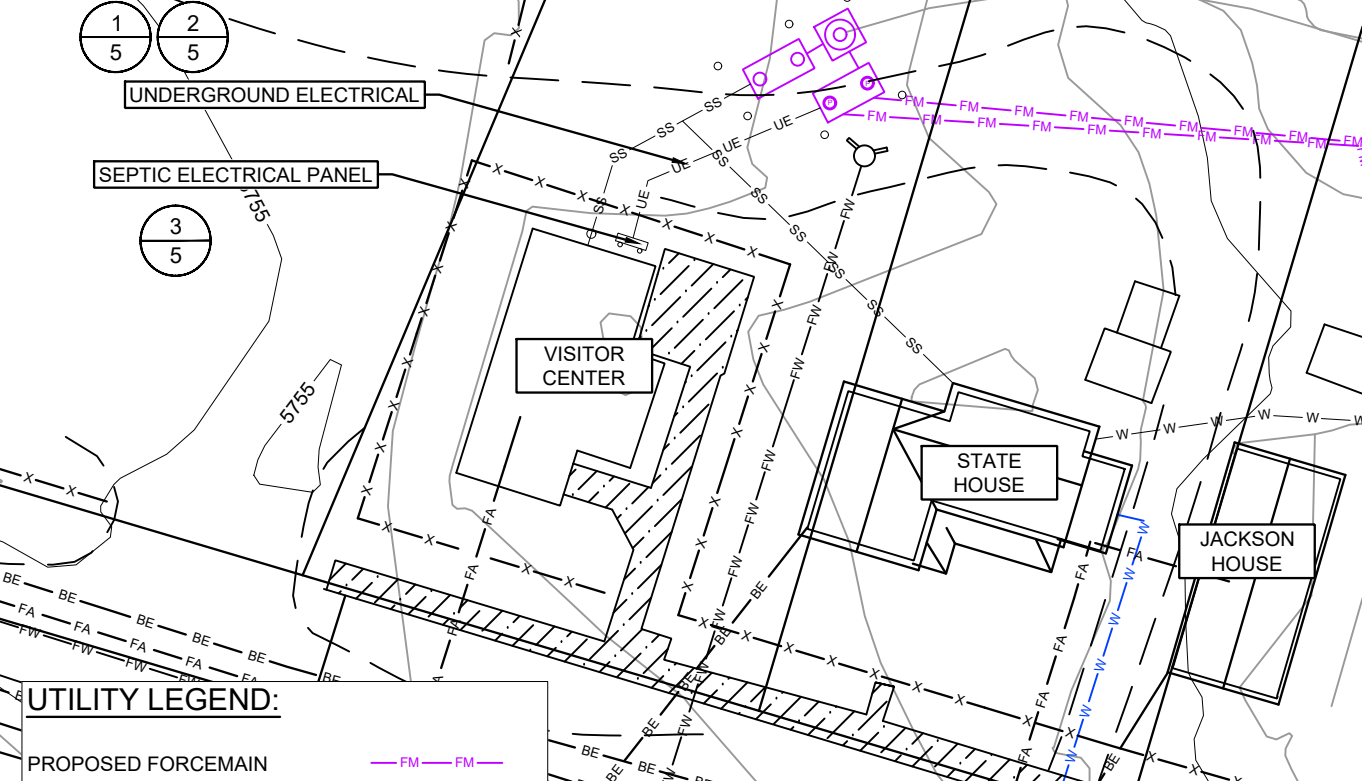
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1 SEPTIC SYSTEM ELECTRICAL DETAIL
5 N.T.S.



2 GROUNDING ELECTRODE DETAIL
5 N.T.S.

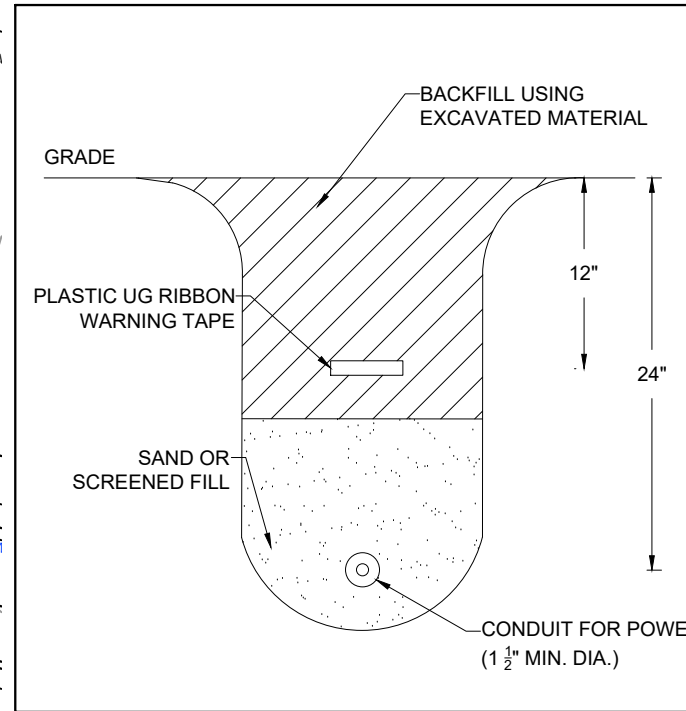


UTILITY LEGEND:

- PROPOSED FORCEMAIN — FM — FM —
- EXISTING SS LINE — SS — SS —
- EXISTING WATER LINE — W — W —
- EXISTING FIRE WATER LINE — FW — FW —
- EXISTING FIRE ALARM LINE — FA — FA —
- EXISTING ELECTRIC LINE — BE — BE —
- EXISTING FENCE — X — X —

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3 ELECTRICAL TRENCH DETAIL
5 N.T.S.

- Section 02810
General Electrical Requirements
1. **General**
The Contractor shall provide the complete electrical system needed for proper operation of the wastewater treatment system described within the Plans and these Specifications. All electrical work shall be completed by a licensed electrician. Regardless of the service location, the contractor is responsible for providing a separate service disconnect, to be mounted with the pump control panels where shown on the *Plan Sheets*.

The Contractor shall provide all labor, materials, tools, equipment and services required to complete the furnishing, installation, wiring, connection, calibration, adjustment, testing and operation of all electrical equipment and components necessary to complete the wastewater treatment system.
 2. **Source Power**
Power supply will be single-phase, 230V. The electrical meter/main disconnect at the WWTS area shall be a 100A NEMA 3R panel located near the pump control panels. The panel board(s) shall be sized appropriately for the pump control panels and service disconnect equipment and shall be constructed galvanized UniStrut® metal bracing and cast-in-place concrete pier supports. The panel board shall provide a power source and hook up points for the pump control panel(s).

Conduit and electrical lines shall be installed from the new service location or from the feed from the Visitor's Center to the wastewater treatment system area. One or two panel boards and backboards shall be installed at the sewage treatment system area.
 3. **Electrical Equipment**
It will be the Contractors responsibility to supply and install all required conduits, meters, service disconnects/breakers, pump controller(s) for the recirculation tank and dose tank pumps, as well as the high water alarm panel for the septic tank.
 4. **Junction Boxes & Wiring**
All junction boxes shall be located outside of the tank risers and shall be housed within fiberglass irrigation control boxes. The splice boxes shall be UL listed and approved for wet locations. UL listed waterproof butt connectors shall also be used. Coat all connections with corrosion protection sealant and ensure box has a water and gas-tight seal at the cord grips and lid. The splice boxes shall be connected to the pumps, floats, and/or panels using individual 1" diameter PVC electrical conduits.

Septic & Dose Tank gasses must be sealed out of the splice boxes and conduit. Conduit shall be gas sealed in accordance with Engineer Representative's instructions. All wire shall be color coded; tagging of wire is not an acceptable equal. The Contractor shall provide a wiring schematic for each tank upon project completion. This schematic will be integrated within the Operation & Maintenance Manual.

Entire electrical components shall comply with UL508. Adequate electrical cord length shall be provided so the floats can be removed from the tanks without breaking electrical connection with the splice box.
 5. **Standards and Codes**
 - A. Permits, licenses, approvals and other arrangements for work shall be obtained and paid for by the Contractor and included in the bid price.
 - B. Electrical work shall be executed in strict accordance with the latest edition of the National Electrical Code and local ordinances and regulations.
 - C. All electrical equipment, materials, construction methods, tests and definitions shall be in strict conformity with the established standards of the following in their latest adopted revision:
 1. Underwriters' Laboratories, Inc. (UL)
 2. National Electrical Manufacturers Association (NEMA)
 3. Canadian Standards Association (CSA)
 4. Electrical Testing Laboratories (ETL)
 5. Factory Mutual (FM)
 - D. All materials and equipment specified herein shall, within the scope of UL Examination Services, be approved by the Underwriter's Laboratories for the purpose for which they are used and shall bear the UL label.
 - E. All materials shall be new, free from defects, of current manufacture, of quality specified or shown. Each type of material shall be of the same manufacturer throughout the work.

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**MONTANA FISH,
WILDLIFE & PARKS**

ELECTRICAL REQUIREMENTS
BANNACK SP 4200 BANNACK ROAD, DILLON, 59725

SHEET: 5 of 5