U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES
PUBLIC HEALTH SERVICE, INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL HEALTH & ENGINEERING
DIVISION OF SANITATION FACILITIES CONSTRUCTION
PORTLAND AREA OFFICE
SPOKANE DISTRICT OFFICE, SPOKANE, WASHINGTON

BID DOCUMENTS

OCTOBER 2026

Water Pressure System for SR 2427

Nez Perce Tribe
Nez Perce Reservation
Kamiah, ID

IHS Project No. PO-23-D13

Prepared by:

Indian Health Service
528 E. Spokane Falls Blvd., Ste. 302
Spokane, WA 99202
Telephone: (509) 455-3525
Fax: (509) 624-1450



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NEZ PERCE TRIBE
WATER PRESSURE SYSTEM FOR SR 2427
KAMIAH, IDAHO

IHS PROJECT PO-23-D13

TABLE OF CONTENTS

Division 01 – General Requirements

00011	Bid Schedule
01100	Summary of Work
01220	Price and Payment
01310	Project Management and Coordination
01330	Submittal Procedures and Requirements
01420	References
01430	Quality Control
01770	Closeout Procedures
01780	Closeout Submittals
01785	Operation and Maintenance Manuals

Division 02 – Site Construction

02222	Underground Utility Conflicts
02230	Clearing and Grubbing
02340	Excavation, Trenching, and Backfill
02350	Grading
02512	Water Pressure System
02905	Road Restoration

Division 16 – Site Electrical

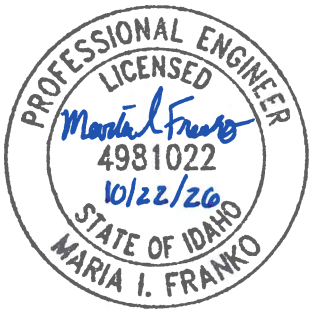
16210	Basic Electrical Materials and Methods

Drawings

Individual Homesite Water Pressure System Plan

Appendices

Appendix A	Existing Well - Test Information
Appendix B	Water Well Pumping Test Forms
Appendix C	Submittal Forms
Appendix D	Contract Invoice Form



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SECTION 01100
SUMMARY OF WORK

PART 1 – GENERAL

1.1 SUMMARY

A. The work to be performed under this contract shall consist of furnishing the following to perform the work outlined in these specifications and as indicated by Project Drawings:
   1. Tools
   2. Equipment
   3. Materials
   4. Labor
   5. Supplies
   6. Manufactured articles
   7. All transportation to complete the work
   8. Temporary facilities
   9. Locate Services

B. Location of Work: 2189 Hill Street
   Kamiah, Idaho county, Idaho
   Nez Perce Reservation

C. Incidentals Items: All work, materials, and services not expressly listed as being provided by others or not expressly called for in the contract but necessary for the completion of the work in good faith, shall be furnished, installed, and performed by the contractor.

1.2 WORK REQUIRED

A. Furnish all labor, materials, equipment, and supervision necessary to construct the following facilities as described by these specifications and drawings. All work, materials, and services not expressly listed as being provided by others or that are called for in the contract or necessary to provide a complete and operational system shall be furnished, installed, and performed by the Contractor.
   1. Coordinate with:
      a. City of Kamiah to determine requirements for working within city limits and obtain required permits.

b. Idaho Department of Water Resources (IDWR) to determine requirements for reporting for existing well.

2. Install submersible well pump, variable speed control system with protection, and pitless adapter.
3. Install 1” drop pipe with submersible cable.
4. Install well cap with in-well pressure system.
5. Install 1-inch polyethylene water service line from the well to the residence.
6. Install buried electrical cable in conduit and provide electrical connections and circuit breaker for the well system.
7. Collect water sample, coordinate bacteriological analysis and provide test results to the Nez Perce Tribe and Indian Health Service.
8. Restore the gravel driveway along the water service line alignment.

B. The materials and construction methods specified herein are minimum requirements. Where the applicable codes and ordinances require more stringent materials or execution methods, they shall apply.

1.3 SITE CONDITIONS

A. Utilities
1. Buried utilities shown on the site plan indicate what the Contractor may encounter, they are NOT FOR LOCATION plans or PURPOSES. Locations, material, and sizes of any utilities shown are approximate and not meant as a complete representation. Contractor must obtain exact locations of utilities using state “Utility Locate” hotlines. Contractor should contact all other utility owners not covered by the state “Utility Locate” hotlines.
2. Protect existing utilities during construction.
3. Immediately notify Tribal Point of Contact, Project Engineer, and the utility owner of any damaged utilities.
4. Any and all damage that results from work under this contract shall be promptly repaired at the expense of the Contractor.

B. State of Idaho
1. All applicable state laws and ordinances are required to be followed, including but not limited to:
   a. Idaho Administrative Code (IDAPA)
   b. Idaho State Plumbing Code
   c. Idaho Statutes
2. The Contractor must, where applicable, have work performed by permitted and/or licensed businesses and employees.

C. Permits
   1. All required permits are the responsibility of the Contractor.

1.4 SAFETY

A. Follow OSHA safety guidelines at all times.

B. Examples of required safety practices include, but are not limited to:
   1. Personal protective equipment worn on the job site, such as head protection, eye protection, hearing protection, hand protection, protective clothing, high-visibility clothing, foot protection, and fall protection.
   2. Trench shoring and/or other practices required to ensure safety to workers in trenches.
   3. Barricades, covers, or other adequate methods of preventing passerby access to unattended excavations.

1.5 DISTURBED AREAS

A. All areas that are disturbed by the Contractor are to be returned to their original condition or better. This includes, but it not limited to:
   1. Sidewalks
   2. Roadways
   3. Driveways
   4. Fencing
   5. Landscaping
   6. Grass
   7. Vegetation

1.6 CLOSEOUT

A. Coordinate with Tribal Point of Contact and Project Engineer to establish date and time for Final Inspection. Final Inspection should include inspection of all installed facilities. All deficiencies will need to be completed before full payment is made.

B. Submittals and as-built drawings of systems constructed must be received in a correct and complete manner before final payment can be made.

1.7 ADDITIONAL INFORMATION

A. For information regarding the technical aspects of the project, contact the Project Engineer:

Maria Franko, PE
Senior Engineer
Indian Health Service
528 E Spokane Falls Blvd, Ste 302
Spokane, WA 99202
227-276-8210
maria.franko@ihs.gov

B. For information regarding contracting information, contact the Tribal Coordinator for this project:

Quincy Ellenwood
SRBA Project Cooordinator
PO Box 365
Lapwai, ID 83540
208-621-4771
quincye@nezperce.org

C. All project activities shall comply with all Tribal regulations related to the completion of the work including the acquisition of necessary permits and the payment of Tribal taxes.

END OF SECTION

SECTION 01220
PRICE AND PAYMENT

PART 1 – GENERAL

1.1 SUMMARY

A. Work covered by this section includes method of measurement and basis of payment for all divisions included.

B. Payment for the various items of the Bid Schedules, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, materials, labor, supplies, manufactured articles, transportation, and temporary facilities required to complete the work, including incidentals.

C. Respective prices and payment shall constitute full compensation for all work completed including incidentals.

D. All items described in these specifications that do not have a pay item associated with them shall be considered incidental to the bid.

E. All items not expressly listed as being provided by others that are necessary for the completion of work shall be furnished and installed by the Contractor.

1.2 ESTIMATED QUANTITIES

A. All quantities stipulated in the bid schedule or other contract documents are approximate and are to be used:
   1. as a basis for estimating the probable cost of the work, and
   2. for the purpose of comparing the bids submitted.

B. The Contractor shall be paid for actual quantities installed based on the quantities measured in the field. The actual amounts of work completed and materials furnished may differ from estimated quantities. The Contractor shall make no claim for damages, anticipated profits, or otherwise, on account of differences between the estimated amounts and the actual amount of work performed and materials furnished.

   A. At no time shall the Contractor exceed the agreed upon total cost without prior approval from the Contracting Officer.

1.3 SURVEY AND MEASUREMENTS

A. All quantity measurements shall be the responsibility of the Contractor and will be verified by the Project Engineer.

B. All measurements and subsequent payments will be based on completed and accepted work performed in strict accordance with the drawings, specifications, and other contract documents.

PART 2 – PRODUCTS

2.1 GENERAL

A. Payment shall be full compensation to complete the work items in good faith, including incidental work.

B. In addition to those things listed under each item, the unit price bid shall be full compensation for all of the following:

1. General requirements in Division 01, but not limited to the following:
   a. Submittals
   b. As-built drawings
2. Specific requirements in Division 02, including but not limited to the following (unless otherwise expressly defined as a line item in the bid schedule):
   a. Erosion control
   b. Clearing and grubbing
   c. Removal and replacement of obstructions
   d. Associated trenching, excavation and backfill, including the removal of any nuisance water, bedding, haunching, and compaction.
   e. Disposal of any excess material
   f. Traffic control
   g. Rough grading
   h. Finish work, where called for, including finish grading, driveway restoration, topsoiling, landscaping, and seeding.
   i. Site restoration.

2.2 BID ITEMS

A. Schedule A: Water Pressure System
   1. Mobilization
      a. Measurement: By the lump sum.

   b. Basis for Payment: Includes mobilization and demobilization of all equipment, materials, and personnel; compensation for furnishing bonds and insurance, and payment of applicable taxes, duties, and permits.

2. Submersible Well Pump w Variable Speed Control w Protection & Pitless Adapter
   a. Measurement: By the lump sum.
   b. Basis for Payment: Includes submersible pump, motor, check valve in pump, torque arrestor, submersible variable frequency drive pump control with protection, pitless adapter, and connection to drop pipe; all work, materials, fittings, and appurtenances required to install the pump, motor, check valve, torque arrester, pump control with protection and pitless adapter and complete the work as specified.
3. 1” Drop Pipe with Submersible Cable
   a. Measurement: By the vertical foot installed.
   b. Basis for Payment: Includes drop pipe, submersible cable, couplings, check valves, centering devices, adapters, attaching tape or ties, splice kits, wire nuts and connections. Measurement shall be made from the pitless adapter to the top of the submersible pump.
4. Well Cap with In-Well Pressure System:
   a. Measurement: By the lump sum.
   b. Basis for Payment: Includes the constant pressure tank, pressure switch, pressure gauge well cap, and all other fittings and appurtenances required to complete the work as specified.
5. 1-inch PE Water Service Line
   a. Measurement: By the linear foot installed.
   b. Basis for Payment: Includes all pipe, fittings, flushing, disinfection, pressure testing, connections to pitless adapter and stub out, excavation, backfilling, compaction, labor, tools, equipment, and all other appurtenances required to complete the work as specified.
6. Buried Electrical Cable in PVC Conduit w Electrical Connections & Circuit Breaker
   a. Measurement: By the linear foot installed.
   b. Basis for Payment: Includes cable, electrical connections, circuit breaker, splice kits, wire nuts, and connections; conduit, fittings, connections, and excavation, backfilling, compaction, labor, tools, equipment required to complete work as specified.
7. Bacteriological Analysis
   a. Measurement: By the lump sum.
   b. Basis for Payment: Includes all work and materials required to complete bacteriological analysis sampling and lab testing.
8. One Hour Flow Test
   a. Measurement: By the lump sum.

b. Basis for Payment: Includes all work and materials required to complete one hour flow test.

9. Gravel Road Restoration
   a. Measurement: By the Square Yard of gravel road surface removed, measured at the centerline of the pipe with a maximum width of 6 feet.
   b. Basis for Payment: Includes gravel, compaction and all other incidentals which may be required to complete the work as specified.

END OF SECTION

SECTION 01310
PROJECT MANAGEMENT AND COORDINATION

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes the pre-construction conference, construction scheduling, contract time, and coordination requirements. The Project Engineer may choose to waive these requirements. If waived, the Project Engineer may reinstitute these requirements at any time during the project as deemed necessary.

B. Costs associated with project management and coordination are incidental to the contract work and are included in the contract unit and lump sum costs.

1.2 PRE-CONSTRUCTION CONFERENCE AND PROGRESS MEETINGS

A. Prior to beginning construction but following contract award, the Contractor, Subcontractors, and other interested parties must participate in a Pre-Construction Conference. This meeting may be in person or may be conducted by teleconference.

B. Periodically throughout the contract performance period, the Contractor and Subcontractors shall participate in project progress meetings. These meetings shall be held as often as the parties determine is necessary but will be at least once every week.

C. Representatives from the following shall attend the meeting:
   1. Prime Contractor
   2. Subcontractors
   3. Contracting Officer (CO)
   4. Contracting Officer's Representative (COR)
   5. Project Engineer and Construction Control Inspector
   6. Tribal Coordinator

D. The Project Engineer shall arrange a date that is mutually acceptable to all parties planning to attend.

E. The Contractor is responsible for notifying subcontractors of meeting time and date.

F. Meeting Minutes:
   1. Meeting Minutes will be recorded, typed up in a memorandum and distributed to all attendees by the Project Engineer.
   2. Any attendee may question or challenge the content of the meeting minutes in writing to the Project Engineer prior to the next project meeting. If the meeting minutes are unchallenged, they will be accepted as an accurate representation of the meeting discussions and decisions.

1.3 SUBMITTALS

A. Construction schedule

B. Construction Company name and license number

C. Name and contact information for project superintendent

1.4 CONSTRUCTION SCHEDULE

A. The Contractor shall provide the Project Engineer and Tribal Coordinator with a written preliminary construction schedule containing start and completion dates of the major items at the preconstruction meeting.

B. The Contractor shall notify the Project Engineer three full working days in advance of starting any construction phase.

C. The Contractor shall communicate major changes to the schedule to the Project Engineer in writing.

1.5 CONTRACT TIME

A. The Contractor shall not work on Saturdays, Sundays, or federal holidays unless written approval from the Contracting Officer is obtained in advance.

B. The Contractor shall request approval a minimum of 24 hours in advance of Saturdays and 96 hours in advance of Sundays or federal holidays.

C. The Contractor shall perform work between the hours of 7:00 am and 5:00 pm local time or as otherwise established with the Project Engineer and Tribal representative

1.6 WEEKLY ACTIVITY SCHEDULE

A. The Contractor shall provide the Project Engineer with a written weekly activity schedule (email is acceptable) indicating planned activities, locations, and approximate schedules.

B. The Contractor shall note the planned visits by manufacturer's representatives, testing firms, or other site visitors that may be of significance to the Project Engineer.

C. The Contractor shall provide the weekly activity schedule to the Project Engineer by noon on the last day of the workweek for activities during the following week.

1.7 COORDINATION WITH OTHER CONTRACTORS/UTILITIES

A. Coordinate work with other Contractors (i.e. roads, buildings, etc) in the area as necessary to complete the work specified.

B. Coordinate work with local utilities (i.e. water and sewer, electrical, cable, telephone, etc.). Note: Not all buried utilities may be shown on the project drawings. The Contractor is responsible for marking utilities prior to construction.

1.8 PROGRESS

A. The Contractor shall provide daily progress reports to the Project Engineer.

B. The progress report shall include station locations of completed work, items installed, and quantities of items installed.

END OF SECTION

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SECTION 01330
SUBMITTAL PROCEDURES AND REQUIREMENTS

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes information on submittal procedures and general submittal requirements.

B. Materials requiring submittal are listed in the appropriate specification section.

1.2 SUBMITTAL PROCEDURES

A. Submit submittals in digital form or by print form (two copies) to the Project Engineer.

B. Identify each cut sheet or shop drawing with the following information:
   1.
   3. Contract number
   4. Supplier
   5. Specification section, plan sheet, or detail drawing number to which the submittal pertains

C. Submit the following information, as applicable, in accordance with the submittal requirements of each section:
   1. Manufacturer's cut sheets indicating compliance with references and standards (e.g., applicable ASTM, AWWA standards)
   2. Laboratory results
   3. Dimensional drawings or shop drawings
   4. Other specific information required by the particular specification

D. Variations / Substitutions from contract documents or products specified:
   1. Bring all submitted variations / substitutions to the attention of the Project Engineer.
   2. Variations / Substitutions not brought to the Project Engineer's attention in writing and that conflict with the contract documents do not relieve the Contractor from the requirements of the contract documents.

E. Revisions and Resubmittals
   1. Revise and resubmit submittals as required and identify all changes made since previous submittal.
   2. Project Engineer obligations for resubmittals:
      a. The Project Engineer will review the original submittal and one resubmittal for each item requiring submittal.
      b. Subsequent resubmittals will be at the Contractor's expense.
   3. Incomplete submittals or rejected submittals that result in the need for the Contractor to resubmit cannot be grounds for a contract time extension or adjustment to contract price unless the Project Engineer did not meet their obligations.

F. Submittal time requirements:
   1. The Contractor shall provide all submittals to the Project Engineer within 14 days after receipt of the Notice to Proceed.
   2. The Contractor shall allow 10 days from receipt by the Project Engineer for review and approval or rejection.
   3. For each material re-submittal required, the Contractor shall allow an additional 7 days from date of receipt by the Project Engineer for review and approval or rejection.
   4. Repeated resubmittals resulting from "Rejected" or "Incomplete" submittals shall not be grounds for a contract time extension.
   5. Lack of response by the Project Engineer does not constitute approval.

G. The Contractor shall distribute copies of approved submittals to concerned parties (i.e., suppliers, subcontractors, etc.).

H. Approval required before installation:
   1. Approval of submittals must be provided by the Project Engineer prior to installation of materials.
   2. Materials installed without written submittal approval will be at the Contractor's risk and may require removal at no expense to the Owner.

1.3 DEFINITIONS

A. Approved: Deemed to be acceptable for use in accomplishing the requirements of the plans and specifications, but does not extend to the means, methods, or procedures of construction (except where specific means, methods, or procedures are specifically required by the contract documents) and does not imply approval of the system or construction in which the submitted item is a part.

B. Conditionally Approved: Deemed to be acceptable for use in accomplishing the requirements of the plans and specifications if the conditions noted in the submittal approval letter are met. The approval does not extend to the means, methods, or procedures of construction (except where specific means, methods, or procedures are specifically required by the contract documents) and does not imply approval of the system or construction in which the submitted item is a part.

C. Not Approved: Not approved for the use for which it was submitted.

D. Incomplete: Information is insufficient to ascertain acceptability.

END OF SECTION

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SECTION 01420
REFERENCES

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes a list of organizations, associations or appropriate agencies with jurisdiction that have references, standards, laws or regulations cited in these specifications.

B. Use latest revision of all references, standards, laws or regulations.

1.2 LIST OF ORGANIZATIONS, ASSOCIATIONS & AGENCIES

A. National Standards Organizations & Associations

American Association of State Highway and Transportation Officials (AASHTO)
444 North Capital Street NW, Suite 249
Washington DC, 20001
(202) 624-5800
www.aashto.org

American Concrete Institute (ACI)
ACI International
PO Box 9094
Farmington Hills, Michigan 48333-9094
(810) 848-3700
www.aci-int.org

American Society for Testing and Materials (ASTM)
100 bar Harbor Drive
West Conshohocken, Pa 19428-2959
(610) 832-9585
www.astm.org

American Water Works Association AWWA
6666 West Quincy Avenue
Denver, CO 80235
(303) 794-7711
www.awwa.org

National Electric Code (NEC)
National Fire and Protection Association
1 Batterymarch Park
Quincy, MA 02269-9959
1 888 632-2633
www.nec.com

National Electrical Manufacturer's Association NEMA
1300 North 17th Street
Rosslyn, VA 22209
(703) 841-3200
www.nema.org

Underwriters' Laboratories, Inc. UL
333 Pfingston Road
Northbrook, IL 60062
(847) 272-8800
www.ul.com

B. Federal Agencies

Environmental Protection Agency (EPA)
U.S. EPA Region 10
1200 6th Avenue
Seattle, WA 98101
(206) 553-1200
http://www.epa.gov/region10

Occupational Health and Safety Administration 1111 Third Avenue, Suite 715
Seattle, Washington 98101-3212
(206) 553-5930
(206) 553-6499 FAX
www.osha.gov

C. State Agencies

Idaho Transportation Department
Engineering Publications
PO Box 7129
Boise, ID 83707-1129
Phone 208-334-8000
http://www.itd.idaho.gov

Idaho Department of Environmental Quality
1410 N. Hilton St.
Boise, ID 83706
208-373-0502
http://www.deq.idaho.gov

END OF SECTION

SECTION 01430
QUALITY CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes prerequisites and procedures to assure the quality of construction.

B. Related work – all work under the contract.

1.2 SUBMITTAL

A. Warranties

1.3 CONTRACTORS QUALIFICATIONS

A. Work shall be performed by a registered contractor in the state where the project is proposed and for the type and magnitude of construction being performed.

B. Work shall be installed under the direction of personnel licensed in the state where the project is proposed and where licensing of the trade is regulated by the state including, but not limited to, plumbing, well drilling, septic system installation, HVAC, and electrical work.

1.4 CONTROL OF INSTALLATION

A. Review materials for acceptability when delivered to the site.

B. Store and handle materials to prevent damage, vandalism, and theft.

C. Review materials, services, and workmanship to ensure that work is performed in accordance with the specifications.

D. Comply fully with manufacturers' instructions.

E. Should manufacturers' instructions conflict with contract documents, request clarification from Project Engineer before proceeding with any project activities.

F. Correct defective work to the satisfaction of the Project Engineer.

1.5 SAMPLES

A. When requested by the Project Engineer, supply samples of materials proposed for use.

1.6 START-UP

A. Prior to start-up, ensure that all equipment is ready for its use, as designed.

B. Ensure that all power sources are balanced and ready for use.

C. Provide the services of manufacturers' field representative for start-up, testing, and adjustment of all major equipment items.

D. Provide reports from the manufacturer, including their observations and documentation of workmanship to the Project Engineer within 30 days of manufacturer's visit, unless a sooner response is required by the applicable specification section.

E. Work will not be considered complete until all systems and subsystems have been tested for proper functionality and proper adjustment.

1.7 MANUFACTURER'S FIELD SERVICES

A. Provide reports on observations and documentation of workmanship to the Project Engineer within 30 days of visit for review where manufacturers' field services are provided.

1.8 WARRANTY

A. Provide a minimum one (1) year warranty for all materials and labor, covering defects in the materials or deficiencies resulting from contractor installation.

B. Provide additional warranties as required by specific sections.

END OF SECTION

SECTION 01770
CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes information on closeout procedures and final cleaning.

B. Related work – all work under the contract.

1.2 CLOSEOUT PROCEDURES

A. Preliminary Inspection:
   1. Coordinate with the Project Engineer at least five days in advance to set a time for the preliminary inspection.
   2. A preliminary punch list will be provided.
   3. The preliminary punch list is not considered a complete or final list of deficiencies, and does not relieve the Contractor from completion of the contract in accordance with the contract documents.

B. Substantial Completion Process:
   1. Provide the Project Engineer certification that preliminary punch list is complete and that facilities are ready for beneficial use by the Owner.
   2. If the Project Engineer concurs, the Project Engineer will document a warranty date for substantially complete facilities.

C. Final Inspection:
   1. Submit written certification that work is complete in accordance with contract documents and ready for final inspection at least ten (10) calendar days prior to final inspection.
   2. Perform and coordinate the final inspection with the Project Engineer, representatives of the owner and other funding partners (i.e. funding agencies) involved in the project.
   3. Final Punch List: Remaining deficiencies will be listed, in a written letter, from the Project Engineer.
   4. Provide warranties and record documents (e.g. as-built drawings) to Project Engineer within ten (10) days of final inspection.

D. Final Completion: Final completion will be established once the final punch list deficiencies are remedied, record drawings have been submitted, and applicable General and Contracting Requirements are met.

1.3 FINAL CLEANING

A. Complete final clean-up prior to final inspection.

B. Remove waste and surplus materials, rubbish, and construction facilities from the site.

END OF SECTION

SECTION 01780
CLOSEOUT SUBMITTALS

PART 1 - GENERAL

1.1 SUMMARY

A. This section describes the requirements for closeout submittals including, record drawings, warranty information, and general operation and maintenance information.

B. Related Sections
Section 01430 - Quality Control

1.2 SUBMITTALS

A. Record Drawings

1.3 DELIVERY

A. Provide all closeout submittals meeting these requirements and any specific requirements of each section.

B. All closeout submittals must be received in a correct and complete manner before final payment shall be made.

1.4 DEFINITIONS

A. Record Drawing: A drawing showing the actual installation of facilities, showing changes from the plans, and showing detail enough that future persons can readily locate all objects.

B. Ties: Measurements from permanent easily located objects to an installed object.

PART 2 – EXECUTION

2.1 RECORD DRAWINGS

A. Provide record data in one of the following manners:
1. On a set of project drawings, neatly draw tie measurements and changes.
2. On separate 8½ X 11 sheets, neatly draw site sketches, structure sketches, etc., indicating the necessary information.

B. Provide three (3) swing tie measurements from permanent structures to all buried utility objects installed under the contract that may need to be located in the future, including, but not limited to:
   1. Gate valves
   2. Corporation stops
   3. Curb stops
   4. Water main fittings
   5. Couplings to existing water systems
   6. Cleanouts
   7. Sewer wyes
   8. Utility crossings
   9. Septic tank manholes and access covers
   10. Corners of drainfields

C. Provide offset measurements for buried utilities (e.g. water main) installed parallel to roads.

D. Provide revised elevation data for all items that have elevations shown on the plan drawings, including, but not limited to, the following:
   1. Manhole inverts (inlet and outlet)
   2. Manhole rims
   3. Lift station invert
   4. Lift station top
   5. Lift station pipe penetrations
   6. Float elevations
   7. Septic tank elevations
   8. Elevations of pipe entering and leaving structures

3.2 WARRANTIES

A. Submit all warranty information regarding the materials installed.

B. Minimum warranty information is listed in Section 01430 Quality Control. Specific warranties may be required for each Section of specifications.

3.3 OPERATION AND MAINTENANCE INFORMATION

A. Submit all operation and maintenance information as included in the packaging from the manufacturer regarding the materials installed as described in Section 01785 Operation and Maintenance Manual.

END OF SECTION

SECTION 01785
OPERATION AND MAINTENANCE MANUALS

PART 1 - GENERAL

1.1 SUMMARY

A. Work under this section defines the requirements to complete an Operation and Maintenance Manual.

B. RELATED SECTIONS
   1. Section 01780 Closeout Submittals
   2. Section 02512 Water Pressure Systems
   3. Section 16210 Basic Electrical Material and Methods

1.2 REFERENCES

A. National Electric Code (NFPA 70) (NEC)

B. Local Utility Requirements

1.3 SUBMITTALS

A. Operation and Maintenance Manual

PART 2 - PRODUCTS

2.1 OPERATION AND MAINTENANCE (O&M) MANUAL

A. Provide three (3) electronic copies in MS Word format and three (3) hard copies of bound operation and maintenance manuals for the following systems:
   1. Water Pressure System
   2. Electrical Service

B. Contents of the Facilities O&M Manual
   1. A Table of Contents
   2. Water or Sewer System:
      a. A revised set of custom circuit drawings specific to the water or wastewater control system indicating any changes from the submittals.
      b. Functional descriptions of each major component complete with operating instructions.

c. Instructions for operating pump controls in all modes of operation.
d. Information for calibration and adjustment of equipment for initial startup, replacement level control components, or as required for routine maintenance.
e. Support data for commercially available components not produced by the station manufacturer, but supplied in accordance with the specifications.
f. A revised narrative description of the operation of the water or wastewater control system indicating any changes from the submittals.
g. A revised enclosure dimension print indicating any changes from the submittals.
h. A revised layout illustration showing component locations and labels indicating any changes from the submittals.
i. All drawings and diagrams shall be in an 11 x 17 format developed using AutoCAD v/14 or higher.
j. Contact information for service technicians.

3. Maintenance manuals for all components and subcomponents integrated into the facilities system that require regular operation, trouble-shooting, or maintenance.
4. Troubleshooting information.
5. A list of replacement parts and sources for purchasing them; including addresses, phone number, and website.
6. A list of service technicians qualified to service the facilities and components of the facilities.
7. Functional descriptions of each major component, complete with operating instructions.
8. Instructions for operating pumps and controls in all modes of operation.
9. Information for calibration and adjustment of equipment for initial start-up, replacement of components, or as required for routine maintenance.
10. Support data for commercially available components not produced by the manufacturer, but supplied in accordance with the specifications.
11. Electrical Schematics
    a. Schematics shall meet the National Electric Code (NFPA 70) and local utility requirements.
    b. Schematics shall illustrate all circuits.
    c. Terminals and wires shall be numbered to match the facility.
    d. Schematics shall be revised to match the actual installation.
    e. All drawings and diagrams shall be in an 11 x 17 format developed using AutoCAD v/14 or higher.

PART 3 – EXECUTION

3.1 DELIVERY

A. Provide the Project Engineer with draft copies of the O&M Manuals for review prior to substantial completion of the facilities.

B. Allow the Project Engineer 21 calendar days for review and comment.

C. Revise and submit final O&M Manuals prior to closeout (Section 01780).

END OF SECTION

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SECTION 02222
UNDERGROUND UTILITY CONFLICTS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes materials and procedures for protecting and repairing existing underground utilities.

B. Related Sections
   1. Section 02340 Clearing and Grubbing
   2. Section 02340 Excavation, Trenching, and Backfill
   3. Section 02350 Grading

1.2 REFERENCES – Not Used

1.3 SUBMITTALS – Not Used

1.4 ACCEPTANCE – Not Used

PART 2 - PRODUCTS

2.1 REPLACEMENT IN KIND

A. Except as indicated or as specifically authorized by the Project Engineer, reconstruct utilities with new material of the same size, type, and quality as that removed.

B. The Contractor shall supply all materials, including, but not limited to, steel beams and bracing, support straps, sheeting and shoring, timbers, and all other items necessary to protect existing underground utilities.

PART 3 - EXECUTION

3.1 GENERAL

A. Replace in kind street improvements, such as curbs and gutters, fences, signs, paved surfaces, etcetera, that are cut, removed, damaged, or otherwise disturbed by the construction.

B. Where utilities are parallel to or cross the pipeline trench but do not conflict with the permanent work to be constructed, follow the procedures given below and as indicated on the Drawings. Notify the utility owner 48 hours in advance of the construction crossing and coordinate the construction schedule with the utility owner's requirements. For utility crossing not shown on the Drawings, coordinate with the utility owner and the Project Engineer.

C. Determine the true location and depth of utilities and service connections which may be affected by or affect the work. Determine the type, material, and condition of these utilities. In order to provide sufficient lead time to resolve unforeseen conflicts, order materials and take appropriate measures to ensure that there is no delay in the work. Expose utilities in advance of the pipeline construction by potholing a minimum of 250 feet ahead of pipe laying.

3.2 PROCEDURES

A. Protect in Place: Protect utilities in place, unless abandoned, and maintain the utility in service, unless otherwise specified.

B. Cut and Plug Ends: Cut abandoned utility lines and plug the ends with concrete plug. Pour a concrete lug completely around the plugged end of the abandoned utility line such that the line is encapsulated with a minimum of 6 inches of concrete on all sides. Dispose of the cut pipe as unsuitable material.

C. Remove and Reconstruct: Where necessary or as required by the Project Engineer, remove the utility and, after passage, reconstruct it with new materials. Provide temporary service for the disconnected utility.

3.3 COMPACTION

A. Utilities Protected in Place: Backfill and compact under and around the utility so that no voids are left. Where utilities are concrete encased, use sand slurry for backfill around utility.

B. Sand Slurry: Sand slurry consisting of one sack (94 pounds) of Portland cement per cubic yard of sand and sufficient moisture for workability may be required for backfill to aid in reducing compaction difficulties. Submit specific methods and procedures for review by the Project Engineer prior to construction.

3.4 ADJACENT PARALLEL UTILITIES

A. Protect existing parallel utilities from any disturbances and repair the lines and associated appurtenances if they are damaged in any way. All costs incurred for protection of utilities or costs incurred due to the presence of the lines, whether or not they lie within the new construction, shall be borne in full by the Contractor.

END OF SECTION

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SECTION 02230
CLEARING AND GRUBBING

PART 1 – GENERAL

1.1 SUMMARY

A. This section covers clearing and grubbing within the proposed areas of construction.

B. Related Sections
   1. Section 02340 Excavation, Trenching, and Backfill
   2. Section 02350 Grading

1.2 REFERENCES – Not Used

1.3 SUBMITTALS – Not Used

1.4 ACCEPTANCE – Not Used

PART 2 – PRODUCTS – NOT USED

PART 3 – EXECUTION

3.1 CLEARING AND GRUBBING

A. Obtain necessary permits from Tribe or other governing agencies prior to cutting any trees or brush.

B. Remove and dispose of all trees, stumps, brush, debris, and all other obstructions as needed to complete construction as specified.

C. If possible, within right-of-way and property lines, extend clearing and grubbing a minimum of 10 feet beyond all proposed structures unless otherwise directed by the Engineer.

D. The contractor shall haul the grubbed material away from the site. The contractor shall not burn, bury, and/or leave materials in construction areas unless approved by the Project Engineer and the Tribe.

E. Grub deep enough to remove all stumps, roots, buried logs, and other vegetative material.

F. Old growth stumps may be encountered within clearing and grubbing area. No additional payment will be made for clearing, grubbing, and removal of old growth stumps.

3.2 DISPOSAL METHODS

A. Disposal Method #1: The Contractor may elect to haul woody vegetative material to a waste site obtained by the Contractor or at a site explicitly identified by the Contract Documents.

B. Disposal Method #2: Chipping
   1. Chip into pieces no larger than 6-square inches and ½" thickness.
   2. Spread chipped wood evenly across the site.

END OF SECTION

SECTION 02340
EXCAVATION, TRENCHING, AND BACKFILL

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes excavation, trenching, and backfill necessary for the construction of the facilities as indicated on the plans including, but not limited to: water mains and service lines, sewer mains and service lines, concrete manholes, septic tanks, and other structures.

B. Related Sections
   1. Section 2230 Clearing and Grubbing
   2. Section 02350 Grading
   3. Section 02512 Water Pressure Systems

1.2 REFERENCES

A. Manual on Uniform Traffic Control Devices (MUTCD) – FHWA Current Addition.

B. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort

C. ASTM D2321 – Standard Practice for Underground installation of Flexible Thermoplastic Pipe for Sewer and Other Gravity-Flow Applications.

D. ASTM D2487 – Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System).

E. Occupational Safety and Health Administration - OSHA 1910 and 1926

F. Roadway Design Manual - Idaho Transportation Department Roadway Design Manual

G. All applicable Tribal, City, County, State, and Federal Specifications must be met in addition to the requirements of this Standard. In the case of conflict, the more rigid Specification or Standard shall apply.

1.3 SUBMITTALS

A. When requested by the Project Engineer, submit the result of standard proctors, including proctor curve, for each soil type encountered and used on the job.

B. Submit all compaction test results in writing within five (5) days of being performed.

C. Polystyrene Insulation.

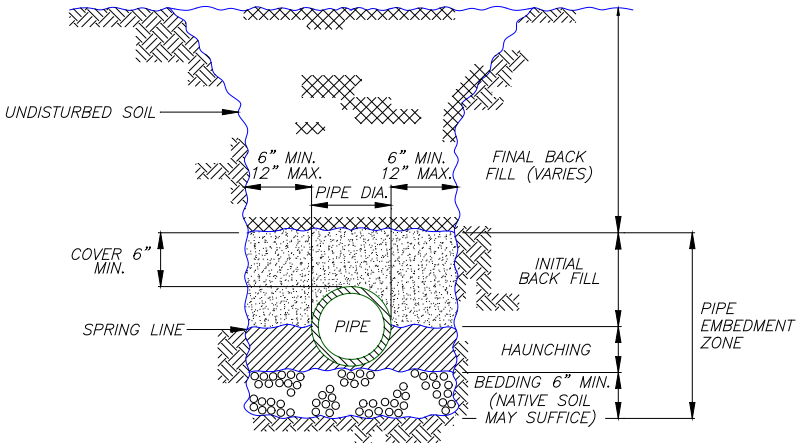
1.4 ACCEPTANCE

A. Compaction testing qualifications: Tests must be performed by a firm or professional regularly engaged in soil testing for engineering purposes. The individual on site shall be certified to operate nuclear density equipment.

B. Locations: Provide compaction test results to Project Engineer.

1.5 DEFINITIONS

A. Bedding, Haunching, and Initial Backfill zones as defined herein and on the standard thermoplastic pipe trench detailed drawing below.



THERMOPLASTIC PIPE TRENCH DETAIL

B. Soil Materials as summarized in the table below and defined in ASTM D2321 and ASTM D2487

Description and Comparison of Soil Material Classifications

ASTM D2321		*ASTM D2487*	
Class	*Type*	*USCS Group Symbol*	*Description*
IA	Manufactured aggregates: ¼ to 1 ½ inch open graded, clean.	** None*	Closest to "Poorly graded gravel (GP)"
IB	Manufactured aggregates: ¼ to 1 ½ inch dense graded, clean.	** None*	Closest to "Poorly graded gravel with sand (GP)"
II	Coarse sands and gravels with maximum particle size of 1 ½ inch, clean.	GW	Well-graded gravels and gravel-sand mixtures; little or no fines.
		GP	Poorly graded gravels and gravel sand mixtures; little or no fines.
		SW	Well-graded sands and gravelly sands; little or no fines.
		SP	Poorly graded sands and gravelly sands; little or no fines
	Coarse sands and gravels with maximum particle size of 1 ½ inch, borderline clean.	GW-GC SP-SM Etc.	Sands and gravels which are borderline between clean and with fines
III	Fine sand and clayey gravels.	GM	Silty gravels, gravel-sand-silt mixtures.
		GC	Clayey gravels, gravel-sand-clay mixtures
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
IV	Fine grained soils (inorganic)	ML	Inorganic silts and very fine sands, rock flour, silty or clayey fine sands, silts with slight plasticity.
		CL	Inorganic clays of low to medium plasticity, gravely clays, sandy clays, silty clays, lean clays.
		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts.
		CH	Inorganic clays of high plasticity, fat clays.
V	Organic soils	OL	Organic silts and organic silty clays of low plasticity.
		OH	Organic clays of medium to high plasticity, organic silts.
		PT	Peat and other high organic soils.

* USCS system is limited to naturally occurring soils. Manufactured aggregates not covered.

PART 2 – PRODUCTS

2.1 BEDDING, HAUNCHING, AND INITIAL BACKFILL MATERIAL

A. Class I, Class II or Class III, utilized in accordance with restrictions described in Part 3 – Execution

2.2 FINAL BACKFILL MATERIAL

A. General:
   1. Free from soil chunks larger than 4-inches in dimension
   2. Free from stones or rocks larger than 4-inches in dimension
   3. Free from organic materials
   4. Free from frost chunks

B. Import final backfill for wet conditions: Use Class 5 soil that meets the general requirements listed above (Article 2.2, Paragraph A of this specification).

PART 3 - EXECUTION

3.1 GENERAL

A. Obtain all permits from appropriate agencies.

B. Trenching and excavation work shall conform to recommended safety standards such as OSHA 1910 and 1926.

C. Provide adequate signs, barricades, fences, and amber lights, and take all necessary precautions to provide for the safety of the public in all construction areas and to protect the work.
   1. Placement of construction signs and barricades shall conform to the “Manual on Uniform Traffic Control Devices.”
   2. Protect barricades and obstructions at night by amber signal lights that burn from sunset to sunrise. Barriers shall also be of substantial construction, painted white or with reflective paint to increase their visibility at night.
   3. Perform work without obstruction to traffic or inconvenience to the general public and the residents in the vicinity of the work.

3.2 EXCAVATION

A. Remove trees and stumps from excavation and site.

B. Remove and stockpile existing topsoil.

C. Install facilities as staked unless otherwise approved by Project Engineer.

D. Maintain surface drainage away from trenching or excavation.

E. Remove unsuitable foundation materials from excavation as shown on the plans or as authorized by the Project Engineer.

F. Maintain a minimum 1-foot clearance between outer surface of structure being installed and wall of excavation.

3.3 TRENCHING

A. Bottom width: No less than 12 inches or more than 24 inches wider than the outside diameter of the pipe.

B. Depth: Provide minimum cover as specified, or depths shown on plans.

C. Length of open trench:
   1. Unless authorized by the Project Engineer in writing, the length of trench excavation in advance of pipe being laid shall not exceed 200-feet during active construction
   2. All trenches must be backfilled during non-work hours, or alternately, up to 20-feet of trench can be left open during non-work hours if the trench is completely barricaded and fenced and approved by the Project Engineer.
   3. If open trenches in excess of this specification result in the wetting of moisture-sensitive stockpiled materials, such that the moisture content makes it impossible to meet compaction requirements, the Contractor shall provide imported material that complies with these specifications and haul away the wet materials at no expense to the project.

3.4 BEDDING

A. If existing soil cannot provide uniform, stable bearing support, over-excavate 6 inches below bottom of pipe or structure and provide bedding material.

B. Utilize Class I, II or III materials as appropriate for bedding as listed in Table below.

Use of Soils and Aggregate for Bedding

	Class IA	*Class IB*	*Class II*	*Class III*
General	Excellent pipe support. Excellent drainage.	Excellent pipe support. Good drainage. Minimizes migration of adjacent material.	Good pipe support. Fair drainage.	Reasonable pipe support. Poor drainage
Compaction	Not required	Not required	Required 90% of Standard Proctor.	Required 90% of Standard Proctor.
Wet Conditions (below current or future water table). Rock Cuts	Acceptable. Must use same material for Haunching.	Acceptable. Must use same material for Haunching.	Acceptable. Clean groups only suitable for drainage blanket.	Not- Acceptable
Dry Conditions	Acceptable	Acceptable	Acceptable	Acceptable

3.5 HAUNCHING AND INITIAL BACKFILL

A. General
   1. Provide complete and uniform bearing and support for the pipe, including allowance for bell holes, or structure.
   2. Work material under and around the pipe to ensure full pipe support.
   3. Prevent movement of the pipe during placement of material.
   4. Avoid contact between the pipe and mechanical compaction equipment.

B. Utilize Class I, II, or III materials as appropriate for haunching and initial backfill as listed in Table below. No frozen materials or frozen clods.

Use of Soils and Aggregate for Haunching and Initial Backfill

	Class IA		*Class II*	*Class III*
General	Excellent pipe support. Excellent drainage. Install to a minimum of 6" above the pipe crown.	Excellent pipe support. Good drainage. Minimizes migration of adjacent material. Install to a minimum of 6" above the pipe crown.	Good pipe support. Fair drainage. Install and compact to a minimum of 6" above the pipe crown.	Reasonable pipe support. Poor drainage. Install and compact to a minimum of 6" above the pipe crown.
Compaction	Not required	Not required	Required 85% of Standard Proctor. 6 inch maximum lifts.	Required 90% of Standard Proctor. 6 inch maximum lifts.
Wet Conditions (below current or future water table). Rock Cuts	Acceptable. Must use same material for Bedding. Extend Haunching to the top crown of the pipe.	Acceptable. Must use same material for Bedding. Extend Haunching to the top crown of the pipe.	Acceptable. Clean groups only suitable for drainage.	Not- Acceptable
Dry Conditions	Acceptable	Acceptable	Acceptable	Acceptable

3.6 FINAL BACKFILL

A. Backfill remainder of excavation with native material, free from large clods, large stones, organic material or frost chunks.

B. Compact in 12-inch lifts to a density not less than the density of the surrounding undisturbed soil.
   1. Compact with a mechanical tamper to a density not less than 90% of the maximum dry density, determined by ASTM D698.
   2. Provide 4 feet minimum cover over the top of the pipe before utilization of hydro-hammer compaction equipment.
   3. Provide 3 feet minimum of backfill over the pipe before wheel loading the trench.
   4.

C. Backfill and compact around manholes, valve boxes, and other appurtenances in 12-inch lifts. Compact with a mechanical tamper to a density not less than 90% of the maximum dry density, determined by ASTM D698.

D. Backfill around septic tanks in 18-inch lifts.

E. Compact in a manner that will not produce undue strain on the tank.

F. Compaction may be accomplished with the use of water, provided the material is thoroughly wetted from the bottom up, and the tank is filled with water to prevent floating.

G. Repair any trenches improperly backfilled or where settlement occurs, then refill and compact.

H. Restore surface to the required grade and compaction. Conform to Section 02350 Grading for rough grading, finish grading, and site surface drainage.

I. Remove all surplus backfill materials to a location approved by the Engineer.

3.7 REMOVAL OF NUISANCE WATER

A. Remove nuisance water entering the trenches. Nuisance water that can be removed through the use of sump or trash pumps is not considered dewatering.

B. Keep trenches free from water until the facilities are in place, sealed against the entrance of water, and backfill has been placed and compacted above the water level.

3.8 LOCATE EXISTING UTILITIES

A. Field locate all existing underground utilities.
   1. Utilize state “Request a Locate” or 811 hotlines.
   2. Contact all other utility owners not covered by the state “dig safe” hotlines.

3.9 UTILITY CONFLICTS

A. Protect existing utilities from damage during excavation and backfilling operations.

B. Provide temporary support for existing water, gas, telephone, power, or other utility services that cross the trench until backfilling of trench is complete
   1. Compact backfill to 95% of Standard Proctor Density under disturbed utilities.
   2. Repair or replace any damaged existing utilities, at no additional cost to the project.

C. Water and sewer main crossing and parallel installation
   1. Maintain a 10-foot horizontal separation (O.D. to O.D.) for parallel mains.
   2. Upon approval by the Engineer, water and sewer mains may be installed closer than 10 feet, provided all of the following conditions;
      a. Vertical separation is 18 inches (O.D. to O.D.)
      b. Water main is above the sewer
      c. Separate trenches are maintained.
   3. Maintain a minimum 18-inch vertical separation (O.D. to O.D.) for crossing mains. Lay pipe with joints equidistant from the point of crossing.
   4. If it is impossible to meet any of the above separation distances and deviations, one of the following methods shall be adhered to.
      a. Sewer main shall be constructed to water main pressure pipe standards, and successfully pass a 150-psi pressure test prior to backfilling.
      b. Either the water main or the sewer main may be encased in a watertight carrier pipe that extends 10 feet on both sides of the crossing. The carrier pipe shall be of materials approved by the regulatory agency for use in water main construction.

D. Water and sewer service crossing and parallel installation
   1. Maintain a 30-inch horizontal separation from water and sewer services.
   2. Maintain a 12-inch vertical separation for crossing water and sewer services.
   3. Water service line splices or joints will not be permitted within 10 feet of a sewer line crossing.

3.10 MOVING FENCES AND MINOR STRUCTURES

A. Remove and reset culverts, drainage pipes or other minor structures that fall within the alignment of the new construction, to their original location and grade.

B. Visit the project site and determine actual conditions with regard to the existence of old car bodies, abandoned houses, fences, driveways, trees, stumps, brush, sidewalks, approaches, and other miscellaneous obstacles to construction. Unless specifically referenced in a bid item, no separate payment will be made for the removal or replacement of these items.

3.11 RECORDS

A. Conform to as-built requirements in Section 01780 – Closeout Submittals.

END OF SECTION

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SECTION 02350
GRADING

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes rough and finished site grading of all areas disturbed during construction.

B. Related Sections
   1. Section 02340 Excavation, Trenching, and Backfill
   2. Section 02512 Water Pressure Systems

1.2 REFERENCES – Not Used

1.3 ACCEPTANCE – Visual by the Project Engineer.

PART 2 – PRODUCTS – Not Used

PART 3 – EXECUTION

3.1 ROUGH GRADING

A. Grade the area in the vicinity of the excavation to prevent surface water from flowing into the excavation.

B. Maintain existing drainage.

3.2 FINISH GRADING

A. Grade site to true grades as specified on the plans after all structures and piping have been installed.

B. Grade sites for effective drainage away from structures.

C. Dress and trim all slopes.

D. Round off the tops of slopes and toes of slopes.

E. Place topsoil on all disturbed areas and reseed or sod as soon as possible in accordance with Section 02910 – Seeding.

END OF SECTION

SECTION 02512
WATER PRESSURE SYSTEMS

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes the installation of submersible pumps, drop pipe, electrical cable and controls, pressure tanks, service lines, and pitless units from the well to the household.

B. Related Sections
   1. Section 01770 Closeout Procedures
   2. Section 01780 Closeout Submittals
   3. Section 02340 Excavation, Trenching, and Backfill

1.2 REFERENCES

A. ASTM A53 - Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless

B. ASTM D876 – Standard Test Methods for Nonrigid Vinyl Chloride Polymer Tubing Used for Electrical Insulation

C. ASTM D877 – Standard Test Method for Dielectric Breakdown Voltage of Insulating Liquids Using Disk Electrodes

D. ASTM D1785 – Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120

E. ASTM D2239 – Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter

F. AWWA C901 – Polyethylene (PE) Pressure Pipe and Tubing, 3/4 Inch Through 3 Inch, for Water Service

G. NSF ANSI Certified

H. National Electric Code (NEC)

I. State of Idaho – Department of Water Resources, IDAPA 37.03.09 Well Construction Standards

1.3 SUBMITTALS

A. Submersible Pump
   1. Check Valves
   2. Flow Control Valve

B. Submersible VFD Pump Control

C. Drop Pipe - Interior Tubing/Pipe and Fittings

D. Submersible Cable

E. Well Cap with In-Well Pressure System
   1. Pressure Tank
   2. Pressure Tank Switch

F. Water Service Line and Fittings

G. Pitless Adapter

H. Method of disinfection

I. Water Analysis Laboratory

1.4 ACCEPTANCE

A. Meet all acceptance criteria of Idaho Department of Water Resources / EPA.

PART 2 - PRODUCTS

2.1 SUBMERSIBLE PUMPS

A. Submersible pumps shall be sealed and constructed of all corrosion resistant materials including all exposed parts of both the pump and motor.
   1. Impellers and diffusers shall be constructed of bronze, stainless steel, or plastic.
   2. Pump shaft shall be hexagonal or splined stainless steel and connected to the motor shaft with a splined coupling.

3. Pump casing shall be bronze, brass, or stainless steel.
4. Motor adapter and pump discharge head shall be bronze, brass, or other corrosion resistant material.
5. Motor casing and end caps shall be stainless steel, brass, bronze, or other corrosion resistant material.

B. Pump Requirements:
1. Pump Design for 3 Wire Installation High Torque Motor
2. 230 Volt Operation
3. Overload Protection
4. Solid State Starting Switch
5. NEMA Standard for Universal Motor Replacement
6. 1/3 horsepower pumps shall have a pumping capacity of 8 gpm against a total head of 150 feet.
7. 1/2 horsepower pumps shall have a pumping capacity of 8 gpm against a total head of 200 feet.
8. 3/4 horsepower pumps shall have a pumping capacity of 8 gpm against a total head of 280 feet.
9. 1 horsepower pumps shall have a pumping capacity of 8 gpm against a total head of 360 feet
10. A check valve shall be installed in the pump.

C. Pump to be sized and installed based on test pump data and well log.

D. Lightning protection shall be built into the pump motor or a submittal for the arrestor and installation method shall be provided.

2.2 SUBMERSIBLE PUMP CABLE

A. Use RHW insulated and jacketed, U.L. approved, rated at 600 volts, manufactured in accordance with the NEC and be a minimum size of No. 12.
1. Submersible pump cable shall be Essex CPE, MilSpec Milpreme double insulated or approved equal.
2. THW insulated and jacketed pump cable meeting the above requirements such as Centriline HILO Supreme or approved equal may be substituted for the RHW standard.

B. Allowable voltage drop through the cable, from the electrical service to the pump motor, shall be in accordance with pump manufacturer’s recommendation.

C. Waterproof splice shall be in accordance with pump manufacturer’s recommendation.

2.3 PRESSURE TANK

A. Interior Installed Pressure Tanks
   1. Supply pressure tanks precharged in accordance with the manufacturer's recommendations having a sealed container or diaphragm that prevents contact of water with air.
   2. Tanks shall be lined with a noncorrosive material that does not impart taste or odor to the water and provide a minimum of 8.9 useable gallons of draw down.
   3. Tanks shall be equal to Well-X-Trol Model WX-203 or Champion Model CM-8003.
   4. The plumbing tree in front of the pressure tank includes the following:
      a. ¼ turn brass lever ball valve
      b. Metal sample faucet with smooth bore hole. Minimum diameter ¼ inch.
      c. Pressure switch
      d. Pressure gauge
      e. Dielectric union

B. Exterior Installed Pressure Tanks
   1. Supply in-well pressure tanks pre-charged in accordance with the manufacturer's recommendations having a sealed container or diaphragm that prevents contact of water with air.
   2. Tanks shall be equal to Flexcon Industries, In-Well Model IWSS 5.

2.4 PRESSURE TANK SWITCH

A. Operating range of 40 to 60 pounds per square inch (psi).

B. NEMA 3R Enclosure

C. Pressure switches shall be equal to Schneider Electric Square D Pumptrol Model 9013FSW2.

2.5 DROP PIPE

A. Steel Drop Pipe
   1. Conform to ASTM A53
   2. Pipe shall be Schedule 40 galvanized steel with a nominal size of 1-inch.
   3. Galvanized steel couplings shall be used to connect pipe sections.

B. PVC Drop Pipe
   1. Conform to ASTM D1785
   2. Pipe shall be threaded Schedule 80 with a nominal size of 1-inch.

3. Couplings shall be machined from extruded, not molded, PVC.

C. PE Drop Pipe
   1. Conform to AWWA C901
   2. Pipe shall be ultra-high molecular weight, IDR 7, 1-inch IPS with a minimum pressure rating of 160 psi.
   3. Torque arrestor shall be equal to Merril No. STA-48.
   4. Cable protector centering device shall be equal to Merril No. CG-46.

2.6 CHECK VALVES

A. Heavy duty brass material with NSF/ANSI no lead certification

B. Spring loaded with Buna-N rubber seals

C. Equal to Clayton Mark No. 6300.

2.7 FLOW CONTROL VALVES

A. Rated for flows as indicated on plans.

B. Size shall match the drop pipe diameter.

C. Flow control valves shall be equal to a Merrill Dole Valve, G series flow regulator.

2.8 WATER SERVICE LINE AND FITTINGS

A. Water Service line
   1. Conform to AWWA C901.
   2. PE 4710, ASTM D2239 material with a minimum SIDR 9 sizing and pressure rating of 200 psi suitable for use with potable water.

B. Fittings
   1. NSF certified no-lead bronze or stainless-steel material
   2. AWWA C800 certified
   3. Accepted joining options:
      a. Barbed insert fittings with double stainless-steel clamps over each end
      b. Compression fittings with stainless steel inserts
   4. Equal to Ford Meter Box Company or A.Y. McDonald products

2.9 BURIED CABLE

A. Underground wiring shall be type UF for direct burial with a minimum size of No. 12.

B. Size underground wiring to limit the total voltage drop to 5% from the electrical service to the pump motor in accordance with manufacturer's recommendations.

2.10 INTERIOR PIPING AND FITTINGS

A. Copper tubing: ¾ inch seamless, thick-wall type L with a minimum wall thickness of 0.045 inches. Only copper tubing is allowed for installations under mobile homes and other homes without a basement where piping is located in an unheated space.

B. PEX tubing: ¾ inch cross linked polyethylene tubing, ASTM F876 and F877, and approved for use with potable water.

C. Copper tubing fittings: Compression type connections or adapter with union used for copper pipe equal to those manufactured by Hays Manufacturing Company, A.Y. McDonald, Mueller Company or Ford Meter Company.

D. PEX tubing fittings: Crimp fittings specifically manufactured for use on PEX tubing.

E. No galvanized fittings are allowed.

2.11 PITLESS ADAPTER

A. Weld-on type, equal to Maass Model J, with 1-inch size water outlet.

2.12 WELL CAP

J. Vented, weather and vermin proof cap with gasket. All nuts and bolts shall be made of non-corrodible material.

2. Screened downward facing vent not less than ¼-inch in diameter. Screen shall be made of non-corrodible material.

PART 3 - EXECUTION

3.1 GENERAL

A. Obtain Project Engineer's approval to install water system if well yields less than 5 gpm.

B. Install water system in accordance with applicable laws, codes, and ordinances.

3.2 PITLESS ADAPTER

A. Steel Cased Wells
   1. Weld onto casing 5 feet below grade.
   2. Seal with neoprene o-ring.
   3. Conform to applicable codes.

3.3 WELL CAP

A. Install well cap tightly to top of well casing to provide sanitary seal.

B. Seal any unscreened openings until conduits are connected.

3.4 PUMP AND DROP PIPE

A. Install pump a minimum of 5 feet to a maximum of 20 feet below the drawdown level measured from the top of pump unless otherwise directed by the Project Engineer.

B. Do not install pump in well screen.

C. Set and install drop pipe, submersible pump, and in-well pressure tank in accordance with local codes and manufacturer instructions. If a change in pump size is required, the Contractor and Project Engineer shall negotiate a new pump price.

D. Install a check valve midway between the pump and pitless adapter in drop pipe greater than 200 feet.

E. Use tape or approved joint compound on all threaded connections.

F. The depth limitation for using Schedule 80 PVC is 400 feet.

G. PE Pipe Installation

1. Install PE pipe in one single length (no couplings) from the pitless unit to the submersible pump.
2. Install an approved torque arrestor at the pump.
3. Install cable protector devices every 50 feet above the pump to center the PE pipe in the casing.
4. The depth limitation for PE pipe is 300 feet and the maximum pump size is 1 horsepower.

H. If required by the Project Engineer, install flow control valve between the pitless spool and the drop pipe.

3.5 SUBMERSIBLE CABLE

A. Securely attach submersible pump cable to the drop pipe every 10 feet, using tape or other method approved by the Project Engineer.

B. Provide an extra 12 inches of cable under the well cap.

C. The only splice allowed in the pump cable will be at the motor and the splices shall be made using taped, mechanical or resin splices.

D. Test cables for leakage or shorts using an ohmmeter or megger.

3.6 TRENCH EXCAVATION AND BACKFILLING

Refer to Section 02340 for excavation and backfilling requirements.

3.7 WATER SERVICE LINE

A. Bury water service lines 5 feet deep unless otherwise noted.

B. Connect water service line to the pitless adapter with a brass or bronze swing joint connection.

C. If a water service line from the house has been installed, connect the water line to the stubbed-out line from the house, otherwise terminate the water service line 5 feet from the house and cap. Mark the end with a 2 by 4-inch stake painted blue extending 1-foot above grade and 4 feet below grade.

3.8 UNDERGROUND UTILITY CONFLICTS

A. Refer to Section 01100, Part 1.3, Article A, Utilities.

3.9 BURIED CABLE

A. Install underground cable in accordance with local utility regulations, the NEC, applicable state and local codes, and the attached drawings.

B. No underground splices are allowed.

C. Control power to each unit with a fused disconnect switch or manually reset circuit breakers placed in the home, where possible, or otherwise on a power pole near the well.

D. Provide disconnecting means located in site of controller location.

E. Connect underground wiring to the pump cable under the well cap. Provide an extra 12 inches of slack cable under the well cap.

F. Securely attach the ground wire to the casing with a threaded metal screw tapped into or drilled through the casing.

G. Ground the submersible pump and well casing to the panel in accordance with the NEC.

H. Install wiring in a rigid galvanized steel or Schedule 80 PVC conduit at the electrical entrance and the wellhead to 2 feet below ground.
   1. Conduit end shall be smooth and free of sharp edges
   2. Snugly fit the conduit end into the well cap. Maintain sanitary seal.
   3. Bushings are required as shown on the detailed drawing.

I. Provide sufficient slack in the wire to prevent separation of the cable.

J. Underground wire may be placed in the same trench and located at the same depth as the water service line.

K. For mobile homes and houses without basements, install underground wire in rigid conduit when placed below the structure.

3.10 PRESSURE TANK AND FITTINGS

A. Interior Pressure Tanks
   1. Install interior at sites where homes have permanent, concrete foundations.
   2. Install tanks, including pressure gauge, pressure switch, brass tank cross, sample faucet, ball valve and all miscellaneous fittings and adapters.
   3. Install sample faucet a minimum of 12-inches above finished floor elevation.

4. Use leveling blocks or hangers when installing tanks.
5. Connect tank to existing plumbing if available. If plumbing is not available, install tank so that it can be connected to future house plumbing.
6. For tanks with a steel inlet fitting use a dielectric union, installed between the inlet pipe and the brass cross.
7. Install tank and cross such that the tank can be easily removed.
8. Install pressure relief valve if required.

B. Exterior Pressure Tanks
1. Install in-well pressure tanks at sites where homes do not have a permanent, concrete foundation.
2. Install in-well pressure tanks per manufacturer's instructions.

3.11 CONNECTION OF WATER SERVICE LINE TO INTERIOR PRESSURE SYSTEM

A. Connection of the water service line to the home within a heated space shall be done with similar pipe material as the house plumbing with either copper or PEX tubing as specified.

3.12 AS-BUILTS

A. Provide as-built information on each system in accordance with Section 01780.

B. Provide Project Engineer with Pump Installation Report.

3.13 BACTERIOLOGICAL ANALYSIS

A. Provide negative bacteriological sample report for water system after system has been installed and flushed, prior to placement in service.

B. No payment will be made for water system until the negative bacteriological sample report has been received.

END OF SECTION

SECTION 02905
ROAD RESTORATION

PART 1 - GENERAL

1.1 SUMMARY

A. This section includes road restoration required when existing roadways or driveways are disturbed during the normal course of construction.

B. Related Sections
1. Section 01430 – Quality Control
2. Section 01770 – Closeout Procedures
3. Section 01780 – Closeout Submittals
4. Section 02220 – Erosion and Sedimentation Controls
5. Section 02222 – Underground Utility Conflicts
6. Section 02230 – Clearing and Grubbing
7. Section 02340 – Excavation, Trenching, and Backfill
8. Section 02350 – Grading
9. Section 02910 - Seeding

1.2 REFERENCES

A. ASTM D698 – Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort – (Moisture Density Relations of Soils and Soil-Aggregate Mixtures Using 5.5-pound Rammer and 12-in. Drop [Standard Proctor Test).

B. Idaho Standards for Public Works Construction (ISWC).

1.3 SUBMITTALS

A. Road cut permit if applicable

B. Furnish bonds if applicable

1.4 DEFINITIONS

A. Roadways: Driveways, paved parking lots, unimproved roads, paved streets, and highways.

B. Roadway Limits: To be established by Project Engineer and may include highway shoulders and drainage ditches.

1.5 RESPONSIBILITIES

A. Comply with the standards and construction requirements of the applicable local, municipal, county, state, and federal authorities.

PART 2 - PRODUCTS

2.1 ASPHALT CONCRETE PAVEMENT

A. Meet the requirements of Section 406 of the Standard Specifications for Highway Construction - Idaho Standards for Public Works Construction (ISWC).

B. Comply with additional construction requirements of the applicable Tribal or Federal (Bureau of Indian Affairs – Roads Division) entity.

2.2 CEMENT CONCRETE PAVEMENT

A. Meet the requirements of Section 409 of the Standard Specifications for Highway Construction - Idaho Standards for Public Works Construction (ISWC).

2.3 GRAVEL

A. Comply with the standards and construction requirements of the applicable local, municipal, county, state, or federal authorities.

PART 3 - EXECUTION

3.1 ROAD CROSSING

A. Cut pavement prior to excavation with pavement saw, backhoe wheel, or by method approved in writing by the Project Engineer.

B. Replace or repair damages to roadway at own expense if the road cut extends beyond the approved road cut width.

3.2 BACKFILL

A. Stockpile material for backfilling.

B. Compact backfill to a density no less than 90% of the maximum density determined by the Standard Proctor Test ASTM D698 to within 3-feet of the surface.

C. Within 3-feet of the surface compact backfill to a density no less than 95% of the maximum density determined by the Standard Proctor Test ASTM D698.

D. No special compaction required if a well graded gravel ranging in size from 3/8-inch to 1 ½ - inch with not more than 10% of the material less than 3/8-inch size is used as backfill.

E. See Section 02340 for backfill requirements around manholes, hydrants, valve boxes, and other appurtenances.

F. Do not use heavy compaction within 2-feet of pipelines. Refer to Section 02340 for more detail.

3.3 REGRAVELING ROADWAYS

A. Remove existing gravel surfacing and stockpile material.

B. Restore road to original conditions as approved by Project Engineer or local authority.

3.4 BITUMINOUS OR CONCRETE RESTORATION

A. Restore asphalt driveways and road to original conditions.

B. Match existing surfacing with respect to depth, material, surface finish, including pavement markings and appurtenances.

C. Comply with the standards and construction requirements of the applicable local, municipal, county, state, and federal authorities.

END OF SECTION

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SECTION 16210
BASIC ELECTRICAL MATERIAL AND METHODS

PART 1 – GENERAL

1.1 SUMMARY

A. This section includes the furnishing and installing of basic electrical materials.

B. Related Work - Section 16210 – Water Pressure Systems

1.2 REFERENCES

A. National Electric Code (NEC)

B. Underwriters Laboratories, Inc. (UL)

1.3 SUBMITTALS

A. Conductors and Cables

B. Conduit, Raceways, and Boxes

C. Wiring Devices

D. Shop drawings showing general wiring methods, locations, coordination with equipment contractors.

PART 2 – PRODUCTS

2.1 GENERAL

A. Meet UL standards and UL labeling requirements

B. New and unused for New Work

C. All work shall be in conduit.

2.2 CONDUCTORS AND CABLES

A. THWN insulation in conduit

B. USE or UF insulation underground

C. Minimum 600 volt rating

D. All Copper conductors

2.3 CONDUIT, RACEWAYS, AND BOXES

A. Rigid Non-metallic Conduit and Raceways in Mechanical Areas
   1. Interior/underground - PVC Schedule 40
   2. Exterior/above ground – PVC Schedule 80
   3. Office area EMT or PVC conduit, fittings to match

B. Fittings, Boxes, Clamps, and Straps – PVC to match conduit and raceway

C. Corrosion-proof or corrosion-resistant hardware

D. Suitable for wet location in mechanical spaces

2.4 WIRING DEVICES

A. Commercial Grade quality

B. Suitable for wet location in mechanical spaces

C. Rated at minimum of 20 Amps

D. GFI Duplex receptacles

PART 3 – EXECUTION

3.1 INSTALLATION

A. Work in accordance with NEC and local codes

B. Minimum No. 12 AWG branch circuits

C. Minimum No. 14 AWG control circuits

D. Color code and number conductors

E. Surface mount conduit, raceways, and boxes to walls - Conduit, raceways, and boxes shall be installed through attic where feasible

F. Conduit bends shall be formed with a bending machine

G. Provide support clamps and straps to ensure a rigid installation

H. Install switches and outlets at locations shown on the plans.

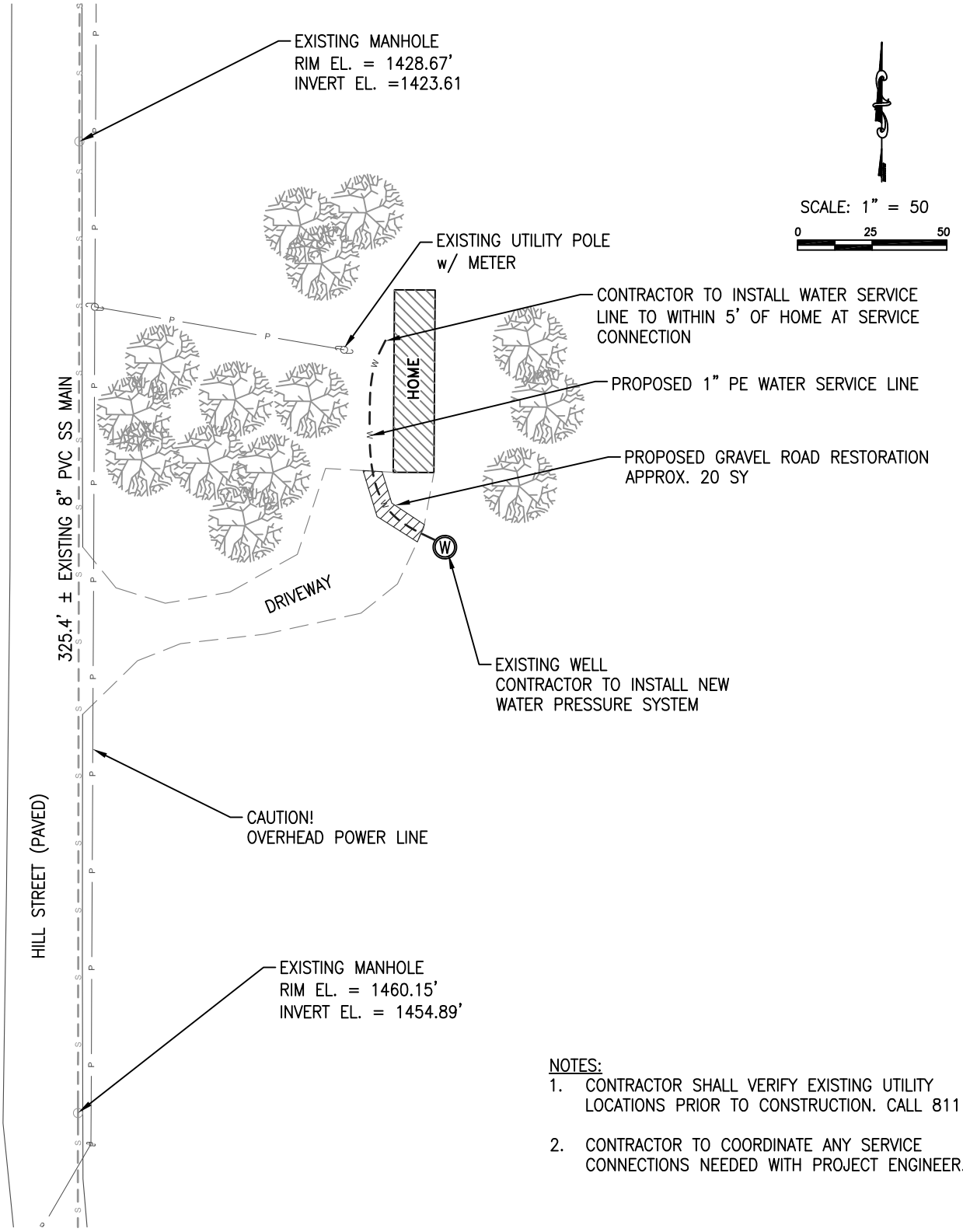
I. Complete installation suitable for wet location

J. Exposed conduit and boxes shall be painted to match walls and ceiling.

K. Contractor shall provide conduit, wiring necessary for controls, and other equipment functions that may not be on plans and drawings.

END OF SECTION

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NOTES:

1. CONTRACTOR SHALL VERIFY EXISTING UTILITY LOCATIONS PRIOR TO CONSTRUCTION. CALL 811
2. CONTRACTOR TO COORDINATE ANY SERVICE CONNECTIONS NEEDED WITH PROJECT ENGINEER.

SR 2427 – INDIVIDUAL HOMESITE

2189 HILL STREET, KAMIAH, IDAHO 83536
Home Phone# (208) 935–8317

INDIAN HEALTH SERVICE
OFFICE OF ENVIRONMENTAL
HEALTH & ENGINEERING

SANITATION FACILITIES CONSTRUCTION

SR 2427 – INDIVIDUAL HOMESITE
NEZ PERCE INDIAN RESERVATION
INDIVIDUAL HOMESITE WATER PRESSURE SYSTEM PLAN
PO-23-D13

DATE:	10/21/26	FILE NAME:	23-D13
SCALE:	1:50	LAYOUT NAME:	SR 2427
DRAWN BY: R K PULLIN	CHECKED BY: M FRANKO	PROJ ENG:	K KENDALL



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APPENDIX A

EXISTING WELL

TEST INFORMATION



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Kendall, Karla (IHS/POR/SPO)

Subject: FW: Flow Test Information for Etta Davis Well

From: Mike Uhlenkott <uhleem@gmail.com>
Sent: Wednesday, 17 June 2026 17:09:09
To: Quincy Ellenwood <quincye@nezperce.org>
Subject: Re: Fw: Flow Test Information for Etta Davis Well

4/23/26
WELL INFO
DEPTH 118'
STATIC 102'
PUMP AT 116'
FLOW TESTED WELL AT 12 GPM FOR 3 HRS STATIC DROPPED 2'
THANK YOU
MIKE



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APPENDIX B

Water Well Pumping Test Forms



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INDIAN HEALTH SERVICE
SPOKANE DISTRICT OFFICE
WATER WELL PUMPING TEST RESULTS

Project No: _____ Date: _____

Owner: _____ Location: _____

Well Location: Section: _____ T: _____ R: _____

Pumping Company _____ Operator: _____

Observers: _____

Measuring point is top of well casing with is _____ feet above ground surface.

Static water level: _____ feet below the top of the well casing at _____ (am, pm)

Well Casing: Type _____ Diameter ____ inches Wall Thickness _____ inches

Condition _____

Power Cable: Type _____ Awg _____ Condition _____

Pump is _____ feet below the top of well casing.

Pump Manufacturer: _____ Model:_____

KW: _____ Volts: _____

Pump Condition: _____

Total Well Depth _____ feet below the top of the well casing.

Screen: Material _____ Diameter ____ inches Slot Size ____ Length _____ feet

Water Well Pumping Test Data

Date: _____ Project: _____

Well Name: _____ Location: _____

Inspector: _____ Type of Test: _____

Starting Wate Level (ft bgl): _____ Test Description: _____

Pump Setting (ft bgl): _____ Pump Description: _____

Screen Interval (ft gbl): _____ Pump Model: _____

Time Test Started: _____ Time Test Ended: _____

Elapsed Time (minutes)	Depth to Water (feet)	Drawdown (feet)	Pumping Rate (GPM)	Comments

Water Well Recovery Test Data

Date: _____ Project: _____

Well Name: _____ Location: _____

Inspector: _____ Pump Shut-off Time: _____

Elapsed Time (minutes)	Depth to Water (feet)	Recovery (feet)	Comments



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APPENDIX C

SUBMITTAL FORMS

APPENDIX B
SUBMITTAL LOG

Specification		Submittal	Date Submitted	Date Returned	Approved	Conditionally Approved	Rejected	Incomplete	Not Applicable
Section	Part								
01220	1.2	Erosion Control Plan							
01220	1.2	Landscape Restoration Plan							
01310	1.3	Construction Schedule							
01310	1.3	Contractor Name & License #							
01310	1.3	Name & Contact Infor for Superintendent							
01430	1.2	Warranties							
01780	1.2	Record Drawings							
02340	1.3	Standard Proctor							
02340	1.3	Polystyrene Insulation							
02340	1.3	Compaction Test Results							
02512	1.3	Submersible Pump							
02512	1.3	VFD Pump Control							
02512	1.3	Drop Pipe							
02512	1.3	Submersible Cable							
02512	1.3	Well Cap with In-Wall Pressure System							
02512	1.3	Water Service Line and Fittings							
02512	1.3	Pitless Adapter							
02512	1.3	Method of Disinfection							
02512	1.3	Water Analysis Laboratory							
16210	1.3	Conductors & Cables							
16210	1.3	Conduit, Raceways, & Boxes							
16210	1.3	Wiring Devices							
16210	1.3	Shop Drawings							

SUBMITTAL TRANSMITTAL

Project: _____ Project Number: _____

Contractor _____ Submittal Number: _____

_____ Submittal Date: _____

Contractor's Signature

	Date	Initial
Received by IHS		
Returned to Contractor		

SUBMITTALS

Item Bid Number	Item Description and Specification Reference	Type, Model Number, Manufacturer, etc.	Approved	Conditionally Approved	Rejected	Incomplete	Not Applicable

Project Engineer Signature _____ Date _____



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APPENDIX D

CONTRACT INVOICE FORM



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CONTRACT INVOICE

Water Pressure System
Nez Perce Tribe
PO-23-D13

SCHEDULE A - WATER PRESSURE SYSTEM

ITEM	DESCRIPTION	ACTUAL QUANTITY INSTALLED	UNIT	APPROVED UNIT PRICE	ACTUAL TOTAL PRICE
SR 2427					
1.	Mobilization		LS		
2.	Submersible Well Pump w Variable Speed Control w Protection & Pitless Adapter		LS		
3.	1" Drop Pipe w Submersible Cable		VF		
4.	Well Cap with In-Well Pressure System		LS		
5.	1-inch PE Water Service Line		LF		
6.	Buried Electrical Cable in Conduit w Electrical Connections & Circuit Breaker		LF		
7.	Bacteriological Analysis		LS		
8.	One Hour Flow Test		LS		
9.	Gravel Road Restoration		SY		

Subtotal Schedule A _____

TERO Fee (3.5% of Subtotal if Subtotal is $15,000 or more) _____

Schedule A - Bid Total (Subtotal plus TERO FEE) _____

_____ _____
Signature of Offeror Date

_____
Position and Company