



PURCHASING DEPARTMENT
33 East Broadway Ave., Ste 106
Meridian, ID 83642
Phone: (208) 888-4433 x416
Fax: (208) 887-4813

INVITATION FOR BID PUBLIC WORKS CONSTRUCTION

BID NO. PW-1619-10461.f

CONTRACT SPECIFICATIONS FOR: WELL 29 PRODUCTION WELL - CONSTRUCTION

BIDS MUST BE RECEIVED PRIOR TO 2:30 P.M.
March 18, 2016

DELIVER TO: CITY OF MERIDIAN, PURCHASING DEPARTMENT
33 EAST BROADWAY AVE., STE 106
MERIDIAN, ID 83642

Pre-Bid Meeting/Walk Through
Attendance is strongly encouraged.

March 8, 2016 1:30 p.m.
Well 29 – McDermott Road between McMillan
and Ustick, East Side
Meridian, ID

Prepared by Kathy Wanner

NAME AND ADDRESS OF VENDOR SUBMITTING BID

BUSINESS NAME: _____ ADDRESS: _____	
DATE: _____	_____
_____	_____
IDAHO CONTRACTORS LICENSE NO. _____	_____
IDAHO PUBLIC WORKS CONTRACTORS LICENSE NO. _____	_____

Please submit this page with your bid documents.

INVITATION FOR BID

**CITY OF MERIDIAN
Meridian, Idaho 83642**

PROJECT # PW-1619-10461.f

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GENERAL INFORMATION AND INSTRUCTIONS TO BIDDER

PROJECT DESCRIPTION

The City of Meridian is requesting bids for the construction of WELL 29 PRODUCTION WELL - CONSTRUCTION. SPF Water Engineering the City's project designer.

PRE-BID MEETING

A Pre-Bid Conference will be held on the date, time and location listed on the cover of this Invitation to Bid. The purpose of the pre-bid conference is to allow bidders to familiarize themselves with the location of the project and to review bid requirements. The project designer along with the City's Project Manager will be on hand to answer questions. Any question requiring clarification of the plans, specifications or bid requirements will be issued to all bidders of record in the form of a written addendum. Failure to attend the pre-bid meeting shall not be the basis of any subsequent claim or contract modification.

DEFINITIONS, TERMS & CONDITIONS AND SPECIFICATIONS

Definitions, contract terms and conditions and specifications are included in Exhibit B (Contract for Public Works Construction).

FORM CONTRACT

Exceptions and Alternatives: The Contract attached to this Invitation for Bid ("IFB") and, by this reference, made a part hereof, contains the terms and conditions that apply to the performance of this work. If the bidder suggests alternatives or states exceptions to any term or condition in the Agreement, or to any provision of the IFB, such alternative or exception shall be clearly stated and identified in the submitted bid. Any alternative must satisfy all minimum qualifications specified in the IFB. The City expressly reserves the right, in its sole discretion, to (1) reject a bid containing any exception or alternatives as non-conforming, or (2) accept any bid alternative or exception and to award a contract based there on if determination to be in the best interest of the City. If no alternative or exceptions are noted, submission of a bid shall be the bidder's acceptance of the Contract as included in this IFB. The successful bidder will be expected to sign the Contract upon award of the bid.

EXAMINATION OF CONTRACT DOCUMENTS

Bidders shall carefully examine the specifications, and satisfy themselves as to their sufficiency, and shall not at any time after submission of the bid, dispute such specifications and the directions explaining or interpreting them.

Should a Bidder find discrepancies in, or omissions from, the specifications and/or drawings, or should he/she be in doubt of their meaning, he/she shall at once notify the City of Meridian Purchasing Department through written notification to be received no later than 3 working days prior to bid opening date, noon local time. The notification shall be in written form and will state the exact nature of the clarification sought, describing the location of the specification or clause in the Bid document. Any interpretations by the City will be made in written form. Any change

in bid requirements and/or specifications will be done in the form of a written addendum. The receipt of any resulting addendums must be acknowledged in accordance with the directions on the addendum. **Oral explanations or instructions given before the award of the contract will not be binding.**

COST OF PREPARATION OF BID

The City shall not pay costs incurred in the bid preparation, printing or demonstration process. All such costs shall be borne by the Bidder.

PUBLIC WORKS CONTRACTOR

All contractors bidding on Public Works projects MUST be licensed with the state as a Public Works Contractor at time of bid and MUST submit their Public Works Contractors License number with their bid.

RIGHTS TO PERTINENT MATERIALS

All responses, inquiries, and correspondence relating to the Invitation for Bid and all reports, charts, coverage maps, displays, schedules, exhibits, and other documentation produced by the bidder that are submitted as part of the bid shall become the property of the City after the bid submission deadline.

PUBLIC RECORDS

The City of Meridian is a public agency. All documents in its possession are public records. Bids are public records and, except as noted below, will be available for inspection and copying by any person. If any Bidder claims any material to be exempt from disclosure under the Idaho Public Records Law, the Bidder will expressly agree to defend, indemnify and hold harmless the City from any claim or suit arising from the City's refusal to disclose any such material. No such claim of exemption will be valid or effective without such express agreement. The City will take reasonable efforts to protect any information marked "confidential" by the Bidder, to the extent permitted by the Idaho Public Records Law. Confidential information must be submitted in a separate envelope, sealed and marked "Confidential Information" and will be returned to the Bidder upon request after the award of the contract. It is understood, however, that the City will have no liability for disclosure of such information. Any proprietary or otherwise sensitive information contained in or with any Bid is subject to potential disclosure.

RIGHT OF THE CITY TO REJECT BIDS

The City reserves the right to reject any and all bids or any part of any bids, to waive minor defects or technicalities, or to solicit new bids on the same project or on a modified project which may include portions of the originally proposed project as the City may deem necessary

BID EVALUATION

In determining the amount proposed by each Contractor, the City shall disregard the mathematical errors in addition, subtraction, multiplication and division that appear obvious on the face of the bid. When an item price is required to be set forth in the bid and the total for the

item set forth separately does not agree with a figure which is derived by multiplying the item price times the City's estimate of the quantity of work to be performed for said item, the item price shall prevail over the sum set forth as the total for the item unless, in the sole discretion of the City, such a procedure would be inconsistent with the policy of the bid procedure. The total paid for each such item of work shall be based upon the item price and not the total price.

Should the bid contain only a total price for the item and the item price is omitted, the City shall determine the item price by estimated quantities of work to be performed as items of work.

If the bid contains neither the item price nor the total price for the item, then it shall be deemed incomplete and the bid shall be non-responsive.

SEPARATE CONTRACTS

The City of Meridian reserves the right to let separate contracts for portions of the work concurrently with the project. The successful bidder shall work and coordinate with separate contractors and City personnel if required.

AWARD

The City of Meridian reserves the right to award this contract to the Contractor whose total aggregate bid is lowest, most responsive to the needs of the City. The winning Contractor will be required to enter into a "Contract for Public Work Construction".

SUBMITTAL REQUIREMENTS

Bids shall be delivered to the Purchasing Department, 33 East Broadway Ave., Ste. 106, Meridian, ID 83642 prior to the due date and time stated on the cover of this IFB. Bids, received after that time will be returned unopened to the respective bidder and will not be considered for evaluation.

Mistakes must be corrected and the correction inserted; correction must be initialed in ink by the person signing the Bid.

All bids shall be submitted in a sealed envelope and clearly identified on the outside to read:

INVITATION FOR BID

Bidder Firm Name
Bid/Procurement Title
Bid/Procurement Number
Bid Opening Date and Time
Attention: Purchasing

Bids shall be opened in public at 2:30 P.M. on said date at City of Meridian Purchasing Department.

A Bid Bond is required in the amount of five percent (5%) of total bid price, payable to the City of Meridian (City). Bid bond to be forfeited to the City as liquidated damages in the event the successful bidder fails to enter into a Contract in accordance with their bid/proposal as specified in the Instructions to Bidders.

Contractor must list all sub-contractors engaged for this bid per State of Idaho Statute #67-2310 (Exhibit 1). Contractor shall require that all of its sub-contractors be licensed per State of Idaho Statute # 54-1901.

Alternate bids will NOT be considered unless otherwise stipulated.

If required, before award or execution of the contract by the City, the Contractor shall file with the City a surety bond satisfactory to the City in the amounts and for the purpose noted. Bonds shall be duly executed by a responsible corporate surety, authorized to issue such bonds in Idaho and secured through an authorized agent with an office in Idaho. Contractor shall pay all bond premiums, costs and incidentals.

The City reserves the right to waive any informalities or minor irregularities in connection with the bids received.

All provisions of the City code are applicable to any bid submitted or contract awarded pursuant thereto.

If equipment is proposed, it is to be newest and latest model in current production. Used, remanufactured, shopworn, demonstrator, prototype or discontinued models are not acceptable unless otherwise stipulated.

Within thirty (30) days after the bid opening, a contract may be awarded by the City to the most responsive bidder, subject to the right of the City to reject all bids, as it may deem proper in its absolute discretion. The time for awarding a contract may be extended at the sole discretion of the City. If required to evaluate bids or for such other purposes as the City may determine, unless the bidder objects to such extension in writing with his bid.

If awarded the contract, the most responsive bidder agrees to execute and to deliver to the City within seven (7) calendar days after receipt of the City's Conditional Notice of Award, the applicable Contract or Agreement form, Insurance Certificates and Payment/Performance Bonds (if required).

The City of Meridian does not discriminate on the basis of race, religion, sex, national origin, marital status, age, physical handicap, ownership by women or minorities or sexual orientation.

The CONTRACTOR will be responsible for utilizing the City's current contract management tool for project management correspondence throughout the duration of the project. CONTRACTOR will be required to submit written communication to the City through the contract management tool. This includes but is not limited to the following: Reports, drawings, Requests for information, Request for action by City, General Project Documentation & Communication, Pay applications/Invoices, and Change Orders. The Contractor will be required to register with the City of Meridian Public Works Department for access to the program. There is no charge for use of this system.

Required Submittal Documents

- a) IFB Cover Page
- b) Bid Form (pages 8 – 9)
- c) List of Sub-contractor - Exhibit A (page 10)
- d) Bid Bond

ANTICIPATED PROJECT SCHEDULE

February 29, 2016	Bid Released/Advertised
March 8, 2016	Pre-Bid Conference
March 11, 2016	Last Date to submit questions
March 15, 2016	Addendum Issued (if needed)
March 18, 2016	Bid Opening
April 5, 2016	Anticipated Council Award
April 11, 2016	Notice to Proceed

CITY'S REPRESENTATIVES


Purchasing Representative

Kathy Wanner, Buyer
33 East Broadway Ave
Meridian, ID 83642
(208) 489-0416
Fax (208) 887-4813
kwanner@meridiacity.org

Any and all explanations desired by a respondent regarding the meaning or interpretation of this Invitation for Bid or any part thereof must be requested in writing and directed to the person named as the Purchasing Representative and in accordance with "Additional Terms and Conditions (Bid Inquires). Violation(s) may be caused for rejection of the Bid.

Dated: 2/29/16

CITY OF MERIDIAN



Kathy Wanner, Buyer

BID FORM
WELL 29 PRODUCTION WELL - CONSTRUCTION
BID NUMBER PW-1619-10461.f

Contractor Name: _____

MILESTONE SCHEDULE

Milestone 1	Substantial Completion	50 Days from Notice to Proceed
Milestone 2	Final Completion	60 Days from Notice to Proceed

PRICING SCHEDULE

Furnish all labor, materials, equipment, and incidentals as required for the above named project, per the attached drawings and specifications included in Exhibit B.

ITEM	DESCRIPTION	QNTY	UNIT	PRICE	EXTENDED PRICE
1	Stormwater Management	1	LS		
2	Mobilization and Demobilization	1	LS		
3	Install pit run work pad	185	CY		
4	Drill for, furnish, install, and seal 24-inch surface casing	65	LF		
5	Drill 8-inch pilot borehole	405	LF		
6	Geophysical logging	1	LS		
7	Ream for 23-inch borehole	260	LF		
8	Furnish and install PVC casing	328	LF		
9	Furnish and install bentonite/cement grout seal	325	LF		
10	Ream for 15-inch borehole	145	LF		
11	Furnish and install 9-inch, stainless steel well screen	100	LF		
12	Furnish and install 9-inch "tight-wrap" stainless steel headpipe/blank	70	LF		
13	Furnish and install sand filter pack	170	LF		
14	Furnish and install packer	1	LS		
15	Install and remove test pump	1	LS		
16	Mechanical and pump development	32	HR		
17	Test pumping	28	HR		
18	Video log	1	LS		
19	Disinfection	1	LS		
20	Rig time	2	HR		

TOTAL BID AMOUNT \$ _____

THIS BID WILL BE AWARDED ON THE BASE BID TOTAL ONLY. LINE ITEM PRICING WILL BE USED FOR BID TOTAL VERIFICATION AND ANY ADDITIONAL INCREASES OR DECREASES IN WORK REQUESTED BY CITY

Total cost to include all labor, material, equipment, freight, bonds, insurance, travel, lodging, incidental, and applicable taxes

Certificate of Understanding

The undersigned, as bidder, certifies under penalty of perjury that the only persons or parties interested in this bid as principals are those named herein as bidder; that this bid is made without collusion with any other person, firm, or corporation; that in submitting this he/she has examined the "General Conditions and

Instructions to bidders” and the plans, specifications and other documents; that he/she has examined the location of the proposed work and is familiar with the local conditions at the place where the work is to be done; that he/she proposes and agrees if this bid is accepted, he/she will perform all the work and /or furnish all the materials specified in the contract, in the manner and time therein prescribed, and according to the requirements as therein set forth; and that he/she will take in full payment therefore, the prices set forth in the attached schedule.

The undersigned has checked carefully all the above figures and understands that the City of Meridian will not be responsible for any errors or omissions on the part of the undersigned in creating this bid.

The undersigned declares: that he/she holds the position indicated below as a corporate officer or the owner or a partner in the business entity submitting this bid; that the undersigned is informed of the relevant facts surrounding the preparation and submission of this bid, that the undersigned knows and represents and warrants to the City of Meridian that this bid is prepared and submitted without collusion with any other person, business entity, or corporation with any interest in this bid.

WELL 29 PRODUCTION WELL - CONSTRUCTION
BID NUMBER PW-1619-10461.f

I declare under penalty of perjury that the foregoing is true and correct.

Contractor/Firm _____

Address _____

City _____ State _____ Zip Code _____

Email Address _____

Phone No: _____ Fax No: _____

Idaho Public Works License
No.: _____

Idaho Well Driller License
No: _____

Signature _____

Printed Name _____

Title _____

Date _____

**ALL ADDENDUMS MUST BE ACKNOWLEDGED BELOW, FAILURE TO DO SO MAY DEEM
YOUR BID RESPONSE NON-RESPONSIVE**

ADDENDUMS ACKNOWLEDGED:

No. 1 _____ No. 2 _____ No. 3 _____ No. 4 _____

EXHIBIT A

LIST OF SUBCONTRACTORS

Requirements

In the event that the general contractor intends to self-perform the plumbing, HVAC or electrical work, the general contractor must be properly licensed by the state of Idaho to perform such work.

The general contractor shall demonstrate compliance with this requirement by listing their valid contractor's license number for the plumbing, HVAC or electrical work to be self-performed by the general contractor on the bid form.

Subcontractors

As required by Idaho Codes 54-1902 and 67-2310 the following list includes the names, addresses, Idaho Public Works License number and the percentage of project in dollars for all Subcontractors. Failure to name subcontractor (if used) for plumbing, heating, air-conditioning and electrical as required by said section 67-2310 will render any bid submitted by a general Contractor unresponsive and void.

Public Works and Trade license numbers MUST be provided
(Only list subcontractors or self when trade is required for project, please use N/A if trade is not required for this project).

NAME OF SUBCONTRACTOR	TRADE	PW CONTRACTORS LICENSE#	PERCENTAGE OF BID PRICE

COMPLETE AND RETURN THIS PAGE WITH BID

IF NOT APPLICABLE WRITE N/A AND RETURN WITH BID

**WELL 29 PRODUCTION WELL - CONSTRUCTION
BID NUMBER PW-1619-10461.f**

EXHIBIT B

SCOPE OF WORK

All construction work shall be done in accordance with the 2012 version of the Idaho Standards for Public Works Construction (ISPWC), the 2013 City of Meridian Supplemental Specifications to the ISPWC (and any Addendums).

This project entails construction of a Production Well on a .45-acre lot within The Oaks South Subdivision located South of McMillan Road and East of McDermott. The Contractor shall furnish all materials, labor, equipment, tools, supplies, transportation, and appurtenances for drilling, casing, developing, completing, and testing of one production well in accordance with IDWR Well Construction Standards and all requirements of the contract documents as specified herein. The well site will be staked by the City prior to contractor mobilization.

See separate attached documents:

- **Contract For Public Works Construction**
- **Site Map (1 page)**
- **Well 29 Preliminary Design (1 page)**
- **Technical Specifications City of Meridian Municipal Supply Well 29 by SPF Water Engineering dated January 18, 2016 (25 pages)**
- **Clarification to Technical Specifications dated January 18, 2016 for the Construction of City of Meridian Municipal Supply Well 29 (1 page)**

**CONTRACT FOR PUBLIC WORKS CONSTRUCTION
WELL 29 PRODUCTION WELL - CONSTRUCTION
PROJECT # 10461.f**

THIS CONTRACT FOR PUBLIC WORKS CONSTRUCTION is made this _____ day of _____, 2016, and entered into by and between the City of Meridian, a municipal corporation organized under the laws of the State of Idaho, hereinafter referred to as "CITY", 33 East Broadway Avenue, Meridian, Idaho 83642, and _____, hereinafter referred to as "CONTRACTOR", whose business address is _____ and whose Public Works Contractor License # is C-_____.

INTRODUCTION

Whereas, the City has a need for services involving WELL 29 PRODUCTION WELL - CONSTRUCTION; and

WHEREAS, the Contractor is specially trained, experienced and competent to perform and has agreed to provide such services;

NOW, THEREFORE, in consideration of the mutual promises, covenants, terms and conditions hereinafter contained, the parties agree as follows:

TERMS AND CONDITIONS

1. Scope of Work:

1.1 CONTRACTOR shall perform and furnish to the City upon execution of this Contract and receipt of the City's written notice to proceed, all services and work, and comply in all respects, as specified in the document titled "Scope of Work" a copy of which is attached hereto as Exhibit "A" and incorporated herein by this reference, together with any amendments that may be agreed to in writing by the parties.

1.2 All documents, drawings and written work product prepared or produced by the Contractor under this Agreement, including without limitation electronic data files, are the property of the Contractor; provided, however, the City shall have the right to reproduce, publish and use all such work, or any part thereof, in any manner and for any purposes whatsoever and to authorize others to do so. If any such work is copyrightable, the Contractor may copyright the same, except that, as to any work which is copyrighted by the Contractor, the City reserves a royalty-free, non-exclusive, and irrevocable license to reproduce, publish and use such work, or any part thereof, and to authorize others to do so.

1.3 The Contractor shall provide services and work under this Agreement consistent with the requirements and standards established by applicable federal,

state and city laws, ordinances, regulations and resolutions. The Contractor represents and warrants that it will perform its work in accordance with generally accepted industry standards and practices for the profession or professions that are used in performance of this Agreement and that are in effect at the time of performance of this Agreement. Except for that representation and any representations made or contained in any proposal submitted by the Contractor and any reports or opinions prepared or issued as part of the work performed by the Contractor under this Agreement, Contractor makes no other warranties, either express or implied, as part of this Agreement.

1.4 Services and work provided by the Contractor at the City's request under this Agreement will be performed in a timely manner in accordance with a Schedule of Work, which the parties hereto shall agree to. The Schedule of Work may be revised from time to time upon mutual written consent of the parties.

2. Consideration

2.1 The Contractor shall be compensated on a Not-To-Exceed basis as provided in Exhibit B "Payment Schedule" attached hereto and by reference made a part hereof for the Not-To-Exceed amount of **\$00,000.**

2.2 The Contractor shall provide the City with a monthly statement and supporting invoices, as the work warrants, of fees earned and costs incurred for services provided during the billing period, which the City will pay within 30 days of receipt of a correct invoice and approval by the City. The City will not withhold any Federal or State income taxes or Social Security Tax from any payment made by City to Contractor under the terms and conditions of this Agreement. Payment of all taxes and other assessments on such sums is the sole responsibility of Contractor.

2.3 Except as expressly provided in this Agreement, Contractor shall not be entitled to receive from the City any additional consideration, compensation, salary, wages, or other type of remuneration for services rendered under this Agreement including, but not limited to, meals, lodging, transportation, drawings, renderings or mockups. Specifically, Contractor shall not be entitled by virtue of this Agreement to consideration in the form of overtime, health insurance benefits, retirement benefits, paid holidays or other paid leaves of absence of any type or kind whatsoever.

3. Term:

3.1 This agreement shall become effective upon execution by both parties, and shall expire upon (a) completion of the agreed upon work, (b) or unless sooner terminated as provided in Sections 3.2, 3.3, and Section 4 below or unless some other method or time of termination is listed in Exhibit A.

3.2 Should Contractor default in the performance of this Agreement or materially breach any of its provisions, City, at City's option, may terminate this Agreement by giving written notification to Contractor.

3.3 Should City fail to pay Contractor all or any part of the compensation set forth in Exhibit B of this Agreement on the date due, Contractor, at the Contractor's option, may terminate this Agreement if the failure is not remedied by the City within thirty (30) days from the date payment is due.

4. Liquidated Damages:

Substantial Completion shall be accomplished within 50 (fifty) calendar days from Notice to Proceed. This project shall be considered Substantially Complete when the Owner has full and unrestricted use and benefit of the facilities, both from an operational and safety standpoint, and only minor incidental work, corrections or repairs remain for the physical completion of the total contract. Contractor shall be liable to the City for any delay beyond this time period in the amount of \$150.00 (one hundred fifty dollars) per calendar day. Such payment shall be construed to be liquidated damages by the Contractor in lieu of any claim or damage because of such delay and not be construed as a penalty.

Upon receipt of a Notice to Proceed, the Contractor shall have 60 (sixty) calendar days to complete the work as described herein. Contractor shall be liable to the City for any delay beyond this time period in the amount of \$150.00 (one hundred fifty dollars) per calendar day. Such payment shall be construed to be liquidated damages by the Contractor in lieu of any claim or damage because of such delay and not be construed as a penalty. See Milestones listed in the Payment Schedule for Substantial Completion.

5. Termination:

5.1 If, through any cause, CONTRACTOR, its officers, employees, or agents fails to fulfill in a timely and proper manner its obligations under this Agreement, violates any of the covenants, agreements, or stipulations of this Agreement, falsifies any record or document required to be prepared under this agreement, engages in fraud, dishonesty, or any other act of misconduct in the performance of this contract, or if the City Council determines that termination of this Agreement is in the best interest of CITY, the CITY shall thereupon have the right to terminate this Agreement by giving written notice to CONTRACTOR of such termination and specifying the effective date thereof at least fifteen (15) days before the effective date of such termination. CONTRACTOR may terminate this agreement at any time by giving at least sixty (60) days notice to CITY.

In the event of any termination of this Agreement, all finished or unfinished documents, data, and reports prepared by CONTRACTOR under this Agreement shall, at the option of the CITY, become its property, and CONTRACTOR shall be entitled to receive just and equitable compensation for any work satisfactorily complete hereunder.

5.2 Notwithstanding the above, CONTRACTOR shall not be relieved of liability to the CITY for damages sustained by the CITY by virtue of any breach of this Agreement by CONTRACTOR, and the CITY may withhold any payments to CONTRACTOR for the purposes of set-off until such time as the exact amount of damages due the CITY from CONTRACTOR is determined. This provision shall survive the termination of this agreement and shall not relieve CONTRACTOR of its liability to the CITY for damages.

6. Independent Contractor:

6.1 In all matters pertaining to this agreement, CONTRACTOR shall be acting as an independent contractor, and neither CONTRACTOR nor any officer, employee or agent of CONTRACTOR will be deemed an employee of CITY. Except as expressly provided in Exhibit A, Contractor has no authority or responsibility to exercise any rights or power vested in the City and therefore has no authority to bind or incur any obligation on behalf of the City. The selection and designation of the personnel of the CITY in the performance of this agreement shall be made by the CITY.

6.2 Contractor, its agents, officers, and employees are and at all times during the term of this Agreement shall represent and conduct themselves as independent contractors and not as employees of the City.

6.3 Contractor shall determine the method, details and means of performing the work and services to be provided by Contractor under this Agreement. Contractor shall be responsible to City only for the requirements and results specified in this Agreement and, except as expressly provided in this Agreement, shall not be subjected to City's control with respect to the physical action or activities of Contractor in fulfillment of this Agreement. If in the performance of this Agreement any third persons are employed by Contractor, such persons shall be entirely and exclusively under the direction and supervision and control of the Contractor.

7. Sub-Contractors:

Contractor shall require that all of its sub-contractors be licensed per State of Idaho Statute # 54-1901

8. Removal of Unsatisfactory Employees:

The Contractor shall only furnish employees who are competent and skilled for work under this contract. If, in the opinion of the City, an employee of the Contractor is incompetent or disorderly, refuses to perform in accordance with the terms and conditions of the contract, threatens or uses abusive language while on City property, or is otherwise unsatisfactory, that employee shall be removed from all work under this contract.

9. Indemnification and Insurance:

9.1 CONTRACTOR shall indemnify and save and hold harmless CITY and its elected officials, officers, employees, agents, and volunteers from and for any and all losses, claims, actions, judgments for damages, or injury to persons or property and losses and expenses and other costs including litigation costs and attorney's fees, arising out of, resulting from, or in connection with the performance of this Agreement by the CONTRACTOR, its servants, agents, officers, employees, guests, and business invitees, and not caused by or arising out of the tortious conduct of CITY or its employees. CONTRACTOR shall maintain, and specifically agrees that it will maintain, throughout the term of this Agreement, liability insurance, in which the CITY shall be named an additional insured in the minimum amounts as follow: General Liability One Million Dollars (\$1,000,000) per incident or occurrence, Automobile Liability Insurance One Million Dollars (\$1,000,000) per incident or occurrence and Workers' Compensation Insurance, in the statutory limits as required by law.. The limits of insurance shall not be deemed a limitation of the covenants to indemnify and save and hold harmless CITY; and if CITY becomes liable for an amount in excess of the insurance limits, herein provided, CONTRACTOR covenants and agrees to indemnify and save and hold harmless CITY from and for all such losses, claims, actions, or judgments for damages or injury to persons or property and other costs, including litigation costs and attorneys' fees, arising out of, resulting from , or in connection with the performance of this Agreement by the Contractor or Contractor's officers, employs, agents, representatives or subcontractors and resulting in or attributable to personal injury, death, or damage or destruction to tangible or intangible property, including use of. CONTRACTOR shall provide CITY with a Certificate of Insurance, or other proof of insurance evidencing CONTRACTOR'S compliance with the requirements of this paragraph and file such proof of insurance with the CITY at least ten (10) days prior to the date Contractor begins performance of its obligations under this Agreement. In the event the insurance minimums are changed, CONTRACTOR shall immediately submit proof of compliance with the changed limits. Evidence of all insurance shall be submitted to the City Purchasing Agent with a copy to Meridian City Accounting, 33 East Broadway Avenue, Meridian, Idaho 83642.

9.2 Insurance is to be placed with an Idaho admitted insurer with a Best's rating of no less than A-.

9.3 Any deductibles, self-insured retention, or named insureds must be declared in writing and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles, self-insured retentions or named insureds; or the Contractor shall provide a bond, cash or letter of credit guaranteeing payment of losses and related investigations, claim administration and defense expenses.

9.4 To the extent of the indemnity in this contract, Contractor's Insurance coverage shall be primary insurance regarding the City's elected officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City or the City's elected officers, officials, employees and volunteers shall be excess of

the Contractor's insurance and shall not contribute with Contractor's insurance except as to the extent of City's negligence.

9.5 The Contractor's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

9.6 All insurance coverages for subcontractors shall be subject to all of the insurance and indemnity requirements stated herein.

9.7 The limits of insurance described herein shall not limit the liability of the Contractor and Contractor's agents, representatives, employees or subcontractors.

10. Time is of the Essence:

The parties hereto acknowledge and agree that time is strictly of the essence with respect to each and every term, condition and provision hereof, and that the failure to timely perform any of the obligations hereunder shall constitute a breach of, and a default under, this Agreement by the party so failing to perform.

11. Bonds:

Payment and Performance Bonds are required on all Public Works Improvement Projects per the ISPWC and the City of Meridian Supplemental Specifications & Drawings to the ISPWC, which by this reference are made a part hereof. Contractor is required to furnish faithful performance and payment bonds in the amount of 100% of the contract price issued by surety licensed to do business in the State of Idaho. In the event that the contract is subsequently terminated for failure to perform, the contractor and/or surety will be liable and assessed for any and all costs for the re-procurement of the contract services.

12. Warranty:

All construction and equipment provided under this agreement shall be warranted for 2 years from the date of the City of Meridian acceptance per the ISPWC and the Meridian Supplemental Specifications & Drawings to the ISPWC and any modifications, which by this reference are made a part hereof.

All items found to be defective during a warranty inspection and subsequently corrected will require an additional two (2) year warranty from the date of City's acceptance of the corrected work.

13. Changes:

The CITY may, from time to time, request changes in the Scope of Work to be performed hereunder. Such changes, including any increase or decrease in the amount of CONTRACTOR'S compensation, which are mutually agreed upon by and between the CITY and CONTRACTOR, shall be incorporated in written

amendments which shall be executed with the same formalities as this Agreement.

14. Taxes:

The City of Meridian is exempt from Federal and State taxes and will execute the required exemption certificates for items purchased and used by the City. Items purchased by the City and used by a contractor are subject to Use Tax. All other taxes are the responsibility of the Contractor and are to be included in the Contractor's Bid pricing.

15. Meridian Stormwater Specifications:

All construction projects require either a Storm Water Pollution Prevention Plan (SWPPP) or an erosion sediment control plan (ESCP) as specified in the City of Meridian Construction Stormwater Management Program (CSWMP) manual. The CSWMP manual containing the procedures and guidelines can be found at this address: <http://www.meridiancity.org/environmental.aspx?id=13618>.

Contractor shall retain all stormwater and erosion control documentation generated on site during construction including the SWPPP manual, field inspections and amendments. Prior to final acceptance of the job by the City the contractor shall return the field SWPPP manual and field inspection documents to the City for review. A completed Contractor Request to File Project N.O.T. with the EPA form shall be provided to the City with the documents. These documents shall be retained, reviewed and approved by the City prior to final acceptance of the project.

16. ACHD:

Contractor shall be responsible for coordinating with the City to obtain appropriate ACHD permit(s) and will reimburse the City for fees, fines, or penalties City incurs due to Contractor's violation of any ACHD policy. City shall certify to ACHD that Contractor is authorized to obtain a Temporary Highway and Right-of-Way Use Permit from ACHD on City's behalf. The parties acknowledge and agree that the scope of the agency granted by such certification is limited to, and conterminous with, the term and scope of this Agreement.

17. Reports and Information:

17.1 At such times and in such forms as the CITY may require, there shall be furnished to the CITY such statements, records, reports, data and information as the CITY may request pertaining to matters covered by this Agreement.

17.2 Contractor shall maintain all writings, documents and records prepared or compiled in connection with the performance of this Agreement for a minimum of four (4) years from the termination or completion of this or Agreement. This includes any handwriting, typewriting, printing, photo static, photographic and every other means of recording upon any tangible thing, any form of communication or

representation including letters, words, pictures, sounds or symbols or any combination thereof.

18. Audits and Inspections:

At any time during normal business hours and as often as the CITY may deem necessary, there shall be made available to the CITY for examination all of CONTRACTOR'S records with respect to all matters covered by this Agreement. CONTRACTOR shall permit the CITY to audit, examine, and make excerpts or transcripts from such records, and to make audits of all contracts, invoices, materials, payrolls, records of personnel, conditions of employment and other data relating to all matters covered by this Agreement.

19. Publication, Reproduction and Use of Material:

No material produced in whole or in part under this Agreement shall be subject to copyright in the United States or in any other country. The CITY shall have unrestricted authority to publish, disclose and otherwise use, in whole or in part, any reports, data or other materials prepared under this Agreement.

20. Equal Employment Opportunity:

In performing the work herein, Contractor agrees to comply with the provisions of Title VI and VII of the Civil Rights Act, Revenue Sharing Act Title 31, U.S. Code Section 2176. Specifically, the Contractor agrees not to discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. Contractor will take affirmative action during employment or training to insure that employees are treated without regard to race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. In performing the Work required herein, CONTRACTOR shall not unlawfully discriminate in violation of any federal, state or local law, rule or regulation against any person on the basis of race, color, religion, sex, national origin or ancestry, age or disability.

21. Employment of Bona Fide Idaho Residents:

Contractor must comply with Idaho State Statute 44-1002 which states that the Contractor employ ninety-five percent (95%) bona fide Idaho residents.

22. Advice of Attorney:

Each party warrants and represents that in executing this Agreement. It has received independent legal advice from its attorney's or the opportunity to seek such advice.

23. Attorney Fees:

Should any litigation be commenced between the parties hereto concerning this

Agreement, the prevailing party shall be entitled, in addition to any other relief as may be granted, to court costs and reasonable attorneys' fees as determined by a Court of competent jurisdiction. This provision shall be deemed to be a separate contract between the parties and shall survive any default, termination or forfeiture of this Agreement.

24. Construction and Severability:

If any part of this Agreement is held to be invalid or unenforceable, such holding will not affect the validity or enforceability of any other part of this Agreement so long as the remainder of the Agreement is reasonably capable of completion.

25. Waiver of Default:

Waiver of default by either party to this Agreement shall not be deemed to be waiver of any subsequent default. Waiver or breach of any provision of this Agreement shall not be deemed to be a waiver of any other or subsequent breach, and shall not be construed to be a modification of the terms of this Agreement unless this Agreement is modified as provided above.

26. Entire Agreement:

This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

27. Assignment:

It is expressly agreed and understood by the parties hereto, that CONTRACTOR shall not have the right to assign, transfer, hypothecate or sell any of its rights under this Agreement except upon the prior express written consent of CITY.

28. Payment Request:

Payment requests shall be submitted to City of Meridian through the City's project management software. The Project Manager will compare the invoice against the Payment Schedule in the Agreement for compliance. Upon approval that the work has been done and is in compliance with the Agreement, the Project Manager will approve the pay request for processing. City of Meridian payment terms are Net 30 from the date City receives a correct invoice. Final payment will not be released until the City has received a tax release from the Tax Commission.

29. Cleanup:

Contractor shall keep the worksite clean and free from debris. At completion of work and prior to requesting final inspection, the Contractor shall remove all traces of waste materials and debris resulting from the work. Final payment will not be made if cleanup has not been performed.

30. Order of Precedence:

The order or precedence shall be the contract agreement, the Invitation for Bid document, then the winning bidders submitted bid document.

31. Compliance with Laws:

In performing the scope of work required hereunder, CONTRACTOR shall comply with all applicable laws, ordinances, and codes of Federal, State, and local governments.

32. Applicable Law:

This Agreement shall be governed by and construed and enforced in accordance with the laws of the State of Idaho, and the ordinances of the City of Meridian.

33. Notices:

Any and all notices required to be given by either of the parties hereto, unless otherwise stated in this agreement, shall be in writing and be deemed communicated when mailed in the United States mail, certified, return receipt requested, addressed as follows:

CITY
City of Meridian
Purchasing Manager
33 E Broadway Ave
Meridian, ID 83642
208-489-0417

CONTRACTOR
NAME OF CONTRACTOR
Attn:

Phone:
Email:
Idaho Public Works License #
Idaho Well Drillers License #:

Either party may change their address for the purpose of this paragraph by giving written notice of such change to the other in the manner herein provided.

34. Approval Required:

This Agreement shall not become effective or binding until approved by the City of Meridian.

CITY OF MERIDIAN

NAME OF CONTRACTOR

BY: _____
TAMMY de WEERD, MAYOR

BY: _____

Dated: _____

Dated: _____

Approved by Council: _____

Attest:

JAYCEE L. HOLMAN, CITY CLERK

Purchasing Approval

Department Approval

BY: _____
KEITH WATTS, Purchasing Manager

BY: _____
WARREN STEWART, Engineering Manager

Dated:: _____

Dated:: _____

Project Manager
Dean Stacey

EXHIBIT A

SCOPE OF WORK

REFER TO INVITATION TO BID PW-1619-10461.f

ALL ADDENDUMS, ATTACHMENTS, AND EXHIBITS included in the Invitation to Bid Package # PW-1619-10461.f, are by this reference made a part hereof.

SPECIFICATIONS / SCOPE OF WORK

All construction work shall be done in accordance with the 2012 version of the Idaho Standards for Public Works Construction (ISPWC), the 2013 City of Meridian Supplemental Specifications to the ISPWC (and any Addendums).

See separate attached documents:

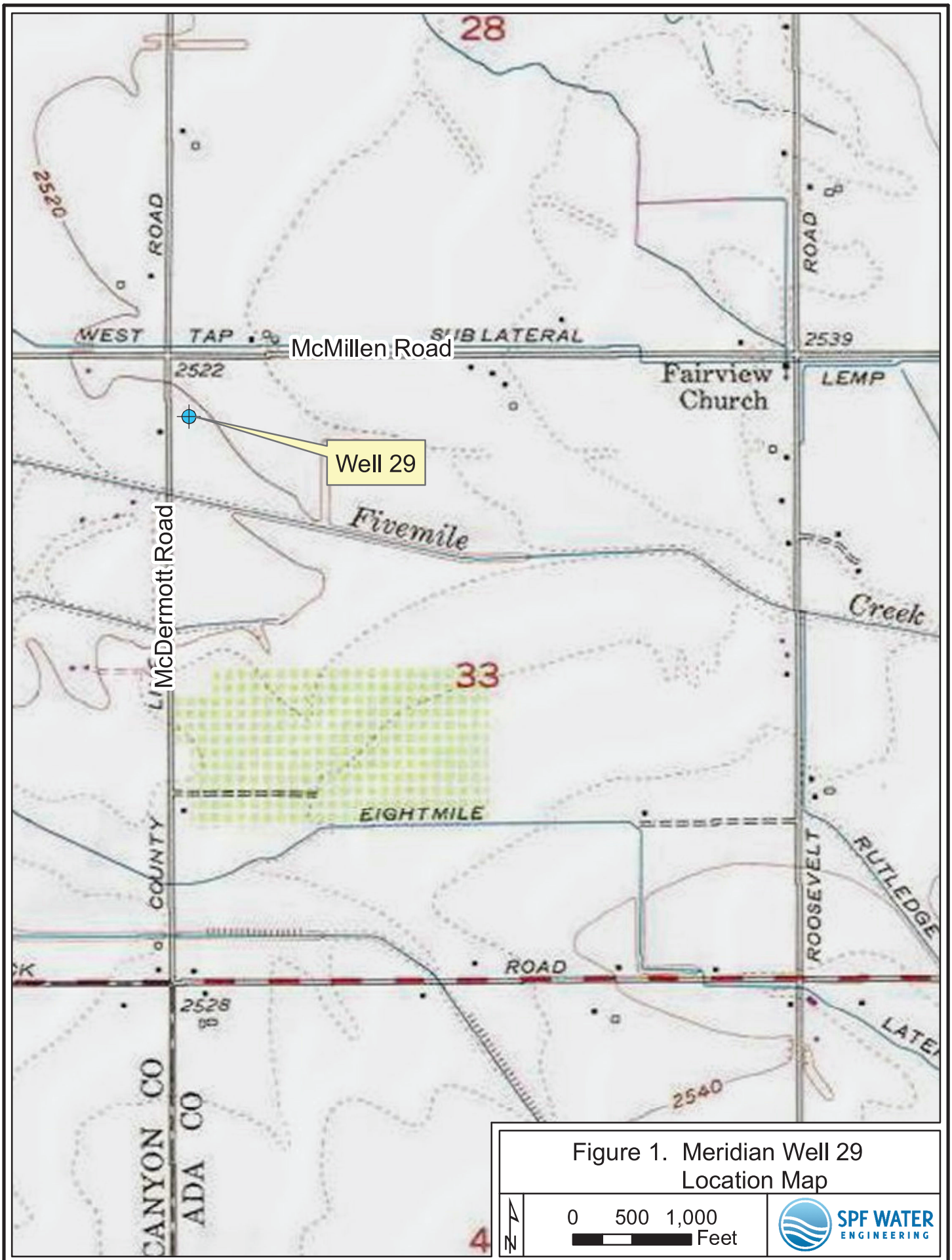
- **Technical Specifications City of Meridian Municipal Supply Well 29 by SPF Water Engineering dated January 18, 2016 (25 pages)**
- **Clarification to Technical Specifications dated January 18, 2016 for the Construction of City of Meridian Municipal Supply Well 29 (1 page)**
- **Site Map (1 page)**
- **Well 29 Preliminary Design (1 page)**

Exhibit B

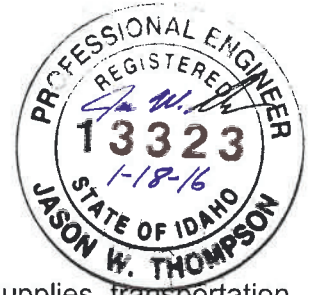
MILESTONE / PAYMENT SCHEDULE

A. Total and complete compensation for this Agreement shall not exceed **\$00,000.**

MILESTONE DATES/SCHEDULE				
Milestone 1	Substantial Completion	50 Days from Notice to Proceed		
Milestone 2	Final Completion	60 Days from Notice to Proceed		
PRICING SCHEDULE				
Contract includes furnishing all labor, materials, equipment, and incidentals as required for the WELL 29 PRODUCTION WELL - CONSTRUCTION per IFB PW-1619-10461.f				
NOT TO EXCEED CONTRACT TOTAL..... \$00,000				
Contract is a not to exceed amount. Line item pricing below will be used for invoice verification and any additional increases or decreases in work requested by city. The City will pay the contractor based on actual quantities of each item of work in accordance with the contract documents.				
Contract Pricing Schedule				
Item No.	Description	Quantity	Unit	Unit Price



**TECHNICAL SPECIFICATIONS
CITY OF MERIDIAN MUNICIPAL SUPPLY WELL 29**



PART 1 -- GENERAL

1.1 THE REQUIREMENT

- A. The Contractor shall furnish all materials, labor, plant, equipment, tools, supplies, transportation, and appurtenances for drilling, casing, developing, completing, and testing the new water supply Well 29 in Meridian, Idaho, for the City of Meridian (the Owner) as specified herein and in accordance with the requirements of the Contract Documents.
- B. Approximate depths of drilling and lengths of well casings, screens, filter packs, and seals are to be used for the purpose of price estimation only. Exact depths and lengths may be adjusted by the Owner depending on subsurface conditions.
- C. Work requirements for the well are summarized below. Each item is discussed in subsequent sections of the Specifications.
1. Mobilize to the work site.
 2. Implement Erosion and Sediment Control Plan (ESCP) and receive approval from the Owner prior to beginning construction.
 3. Drill minimum 30-inch diameter borehole and install 24-inch mild steel surface casing into clay layer at 65 feet bgs. Provide 3 feet of casing stickup above ground surface. Seal the annular space between the surface casing and borehole with cement-bentonite grout, cement grout, or bentonite chips from ground surface to the bottom of the surface casing.
 4. Drill an 8-inch diameter exploration borehole below surface casing to 470 feet for geophysical logging purposes.
 5. Conduct geophysical logging of the borehole.
 6. Ream exploration borehole to nominal 23-inch diameter to approximately 325 feet below ground surface (bgs).
 7. Furnish and install 17.4-inch O.D. (18.7-inch coupler O.D.), 15.1-inch minimum I.D., blank, Certa-Lok PVC Well Casing as supplied by CertainTeed Corporation, **OR** 18-inch O.D. (1.06-inch minimum wall thickness), SDR17 PVC well casing as supplied by Johnson Screens (or equal), from 2.5 feet above ground surface to approximately 325 feet bgs.
 8. Seal the annular space between the nominal 23-inch borehole and PVC casing from ground surface to 320 feet bgs using a cement-bentonite grout, place ¾-inch bentonite chips from 320 to 325 feet bgs.
 9. Ream exploration borehole below well casing to nominal 15-inch diameter to 470 feet bgs.
 10. Furnish and install 9-inch pipe-size (10-inch "telescope"), stainless steel, wire-wrap well screen from approximately 330 to 380 feet bgs, from 400 to 415 feet bgs, and from 430 to 465 feet bgs. "Tight-wrap" 9-inch stainless steel screen shall be installed as blank casing between the screen intervals and as a headpipe from approximately 300 to 330 feet bgs.

11. Furnish and install Colorado Silica Sand filter pack from approximately 300 feet to 470 feet bgs.
 12. Develop the well by airlifting and swabbing or other methods as approved by the Engineer.
 13. Furnish and install a removable packer assembly between the 9-inch stainless steel headpipe and the PVC casing.
 14. Install test pump to approximately 250 feet.
 15. Complete development of the well using the test pump.
 16. Use the test pump to perform a 4-hour step-rate discharge test and a 24-hour constant-rate discharge test.
 17. Video log the well.
 18. Disinfect the well.
 19. Provide a temporary cap on the new well (welded steel plate with access port).
 20. Clean site and demobilize.
- D. All well construction work not specifically addressed in these specifications shall conform to IDAPA 37.03.09 Well Construction Standards Rules (Idaho Department of Water Resources) and IDAPA 58.01.01 Rules for Public Drinking Water Systems (Idaho Department of Environmental Quality).
- E. All materials used for well construction, including drilling fluids, shall be certified to NSF Standard 60, NSF Standard 61, or equivalent.

1.2 BEGINNING AND COMPLETION OF WORK

- A. The work shall begin on receipt of notice to proceed from the owner. All work shall be completed within 90 calendar days of receipt of notice to proceed.

1.3 SERVICES FURNISHED BY THE OWNER

- A. The Owner will provide land and rights-of-way for the Work specified in this contract. Provisions for access to the Work site will be provided by the Owner. The Contractor shall not enter on or occupy with laborers, tools, equipment, or material any ground outside the property and rights-of-way provided by the Owner unless stated otherwise by the Owner. Other contractors, employees, or agents of the Owner may enter the work site and premises used by the Contractor for business purposes.
- B. The Engineer (as the Owner's Representative) will participate in well testing, evaluation of drilling characteristics, sample examination, and geologic log interpretation, and will advise the Contractor on the final design placement of well casings, annular seals, filter pack and well screens. The Engineer shall be present during placement of well seals and filter pack.
- C. The Owner will obtain the drilling permit. The Contractor is responsible for all other applicable permits.

1.4 WORK SITE

- A. The well site is owned by the City of Meridian and is located in the NW ¼ of the NW ¼ of Section 33, Township 4N Range 1W in Ada County, Idaho. The well site is located on the southeast corner of the intersection of McDermott and McMillan Roads. The well site can be accessed from McDermott Road. The well site will be staked prior to Contractor mobilization.
- B. The Contractor shall contact Idaho Digline prior to any drilling at 800-342-1585.

1.5 DRILLING CONDITIONS

- A. It is anticipated that drilling will be in clay, silt, sand, and gravel. Artesian conditions (approximately 5 psi shut-in pressure) are expected within the anticipated screen interval. It is the Contractor's responsibility to make his own determination of subsurface conditions.
- B. The City recently completed a Test Well near the Well 29 site. The driller's log for this well is attached to these specifications.
- C. It is the Contractor's responsibility to become informed about local conditions affecting this Work. Neither the information contained in these specifications, nor gleaned from the Owner, or their agents, shall act to relieve the Contractor from any responsibility set forth in the contract.

1.6 CONTRACTOR QUALIFICATION AND EQUIPMENT

- A. The Contractor shall have at least five years of well drilling experience, and shall have successfully completed at least five water supply well projects to depths of more than 500 feet. A list of completed projects shall be provided upon request.
- B. The Contractor shall hold a valid Idaho Public Works License and be a licensed well driller in Idaho.
- C. The Contractor shall submit a list of equipment to be used on the project. The list shall include: (1) manufacturer; (2) load capacities; (3) year of manufacture; and (4) year of purchase by current owner. The Contractor is responsible for providing equipment capable of performing the Work specified.
- D. Damages to the well or surrounding property by the Contractor's equipment, leased or otherwise, shall be repaired or replaced at the Contractor's expense.
- E. The Contractor shall have equipment capable of swabbing and airlifting the well to a total depth of 500 feet.

1.7 SUBMITTALS

- A. The Contractor shall provide submittals for all materials to the Engineer for review and approval prior to their use. The submittals shall be provided in an electronic format. Submittals shall be provided for steel and PVC casing, well screen, packer assembly, centralizers, seal materials, filter pack materials, and drilling fluids and additives. All materials shall be new and unused.

1.8 CONTRACT DOCUMENTS

- A. The form and detail of the various features of the Work are illustrated on the following drawings accompanying and made part of the Contract Documents:

- Figure 1 – Meridian Well 29 – Location Map
- Figure 2 – Meridian Well 29 – Preliminary Design

1.9 WATER, POWER, AND SITE IMPROVEMENTS

- A. The Contractor shall be responsible for obtaining water supply for drilling. All water used for well construction purposes shall be of potable quality and adequately disinfected to prevent the spread of bacteria. If the Contractor plans to obtain potable water from the City of Meridian, the Contractor will need to coordinate with the City on obtaining water from a hydrant and comply with all City requirements including but not limited to metering water use and providing appropriate backflow prevention.
- B. The Contractor shall provide, at his own expense, all necessary piping and components to transfer discharged well water from the drill site to a suitable disposal site during well development and testing. It is anticipated that clean water can be discharged to a location within 150 feet of the well site. A plan for water disposal must be provided by the Contractor and approved by the Owner prior to commencing drilling. The Contractor shall not discharge water off-site without obtaining applicable permits. The Contractor shall not discharge to Fivemile Creek without first obtaining a Short Term Activity Exemption from the Idaho Department of Environmental Quality if required and consulting with the Nampa and Meridian Irrigation District.
- C. The Contractor shall provide, at his own expense, all power required for his operations under the contract.
- D. Preparation of the drill site and excavation or backfilling of mud pits, ditches, or settling ponds shall be the responsibility of the Contractor. The Contractor shall be responsible for protecting life and property from excavated mud pits and settling ponds and shall backfill pits as soon as drilling and testing operations are complete. Holes, pits, equipment, and chemicals shall be safely stored and fenced per OSHA standards. All materials shall be stored where safe from damage or contamination.
- E. The Contractor shall provide a temporary security fence around the work site to prevent entry into the work site by unauthorized personnel. The work site shall be properly secured by the Contractor whenever the site is unattended.
- F. The Contractor will be responsible for complying with all applicable erosion and sediment control requirements including applicable erosion control permits.

1.10 WORKING HOURS AND SAFETY

- A. The Contractor shall work on this project in a steady and diligent manner. The Contractor shall, during all work periods, provide an adequate crew of suitably qualified personnel to prevent unnecessary delays in project completion.
- B. The Contractor shall limit work activities to normal daylight working hours unless otherwise approved by the Owner.
- C. The Contractor is responsible for compliance with all applicable safety laws of any jurisdictional agency and for safe working practices.

1.11 EROSION AND SEDIMENT CONTROL

- A. The Contractor will be required to prepare, comply with, and implement an approved erosion and sediment control plan (ESCP) for the drilling and test pumping operation. The plan shall describe construction activities, potential impacts to water quality, nearby drainage features, location and type of Best Management Practices (BMPs), inspection and maintenance schedule, materials and waste management, and spill prevention and control. The plan shall be approved by the Owner prior to start of drilling. The Contractor shall be the person responsible for implementing the plan, and shall receive approval from the Owner on ESCP implementation including BMPs prior to beginning work.
- B. The ESCP shall be updated as required throughout construction phase using a similar amendment process to that for SWPPPs. The ESCP will be active until the City accepts the work.
- C. The Contractor shall utilize BMPs per the Idaho Department of Environmental Quality Catalog of Stormwater BMPs for Idaho Cities and Counties in conjunction with any other applicable requirements.
- D. The Contractor shall provide, maintain, and be responsible for all Erosion and Sediment Control (ESC) structures, practices, permits, and plans to meet all project, local, state, and federal requirements for water quality and erosion and sediment control.

1.12 FINAL CLEANUP

- A. The Contractor shall thoroughly clean the site after completion of the drilling, well construction, and test pumping operations. All excess drilling fluids, debris, and other materials used during these operations shall be removed and properly disposed of by the Contractor. Backfilled mud pits, if applicable, shall be compacted. The Contractor shall give the Engineer and Owner at least 48 hours notice prior to compaction in order for the Owner or Engineer to observe the compaction effort. At the Owner's discretion, the compaction may be tested to ensure 90 percent maximum dry density as determined by Standard Proctor Test (ASTM 698-00).
- B. The Contractor shall promptly remove his equipment, temporary facilities, and materials, and leave the site in a condition approved by the Owner. The Contractor shall repair any damage to the property or facilities caused by his operations prior to final acceptance of the Work by the Owner.
- C. The Contractor shall be responsible for repair of underground utilities damaged by his activities. The Contractor shall be responsible for contacting the appropriate utility location service (i.e., DigLine) prior to excavation.

PART 2 -- PRODUCTS

2.1 SURFACE CASING

- A. The surface casing shall be 24-inch diameter, 0.500-inch wall thickness, mild (low-carbon) steel casing.

2.2 WELL CASING

- A. The blank PVC well casing shall be 17.4 inch O.D. (18.7-inch O.D. coupler) with a minimum I.D. of 15.1 inches (SDR 17), Certa-Lok manufactured by CertainTeed Corporation, **OR** 18-inch

O.D. (1.06-inch minimum wall thickness), SDR17 PVC well casing as supplied by Johnson Screens (or equal). The casing shall conform to ASTM F480 and ANSI/NSF Standard 61. The casing shall be specifically designed for use as water well casing and shall be stamped as such by the manufacturer. The casing shall be new and unused.

2.3 WELL SCREEN

- A. Well screen shall be of the V-slot continuous wire-wrap type in 304 stainless steel of 9-inch pipe size (10-inch "telescope"), Hi-Flow manufactured by Johnson Screens or equal. The top of the well screen shall be equipped with a welding ring. The bottom of the well screen shall be equipped with a stainless steel plate bottom (0.375-inch thickness) or a welding ring for connection to blank pipe. In order to provide adequate collapse, column, and tensile strengths, the screen construction shall include sufficient wire and rod sizes to be compatible with the depth and pressures of the installation, as recommended by the screen manufacturer.
- B. Final screen length, slot size, and placement depths will be determined by the Engineer after completion of the borehole and geophysical survey and receipt and evaluation of driller's logs and drill cuttings.

2.4 CENTRALIZERS

- A. Centralizers shall be provided at nominal 60-foot intervals and at each screen section. Centralizers shall be attached to PVC casing using straps or other Engineer-approved devices. Stainless steel centralizers shall be welded at both ends of each screen section at the weld rings. A shop drawing of the centralizer shall be submitted to the Engineer for review and approval prior to installation.

2.5 SAND FILTER PACK

- A. A sand filter pack shall be placed from approximately 300 to 470 feet bgs, with a minimum of 20 feet above the top of the screen. The filter pack shall consist of clean, well-rounded siliceous material with a uniformity coefficient of 2.5 or less, manufactured by Carmeuse (Colorado Silica Sand, Inc.), Colorado Springs, CO (or approved equal), and conforming to one of the following gradation specifications to be determined following analysis of drill cuttings.

10-20 Filter Sand	8-12 Filter Sand
90-100% passing No.10 sieve	90-100% passing No. 8 sieve
90-100% retained on No. 20 sieve	90-100% retained on No. 12 sieve
6-9 Filter Sand	
90-100% passing No.6 sieve	
90-100% retained on No. 9 sieve	

2.6 PACKER ASSEMBLY

- A. The annular space between the 15-inch nominal diameter (I.D.) PVC casing and the 9-inch head pipe of the screen assembly shall be sealed with a removable packer.

- B. All steel used to fabricate the packer shall be 304L stainless steel with a minimum wall thickness of 0.25 inches.
- C. The packer shall have two neoprene Figure K packers (minimum 3 lips per ring) that seal to the 17.4-inch PVC casing (I.D. can range from 15.08 inches to 15.35 inches).
- D. The packer shall have a 12-inch by 9-inch stainless steel reducer. The assembly shall allow the packer to be placed onto the headpipe so that the packer assembly can be removed. The 12-inch section of the packer shall be minimum 4 feet in length.
- E. The packer shall be fitted with centralizers to maintain spacing inside the PVC casing.
- F. The Contractor shall provide a schematic of the packer assembly for approval by the Engineer prior to fabrication of the assembly.

2.7 WELL SEAL

- A. The surface seal for the annular space outside the 24-inch surface casing shall be placed using neat cement, bentonite chips, or cement-bentonite grout. Seal thickness shall meet the requirements of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08). Bentonite chips used for the surface seal shall be specifically recommended by the manufacturer for use as a seal in water wells. The cement-bentonite grout mix shall be approved by the Idaho Department of Water Resources.
- B. The annular space between the nominal 23-inch borehole and the PVC casing shall be sealed with a cement-bentonite grout mix from ground surface to approximately 320 feet and with ¾-inch bentonite chips from 320 feet to approximately 325 feet. The volume of the seal material shall be carefully monitored and checked against calculated volume requirements.
- C. Each cement-bentonite grout batch shall consist of the following: 24 gallons of potable water, one 92-pound bag of Type II Portland Cement, and one 50-pound bag of bentonite grout (Grout Well DF from Wyo-Ben, Inc. or equivalent).
- D. A minimum of 50% excess grout shall be available on site prior to seal placement.

2.8 WELL HEAD

- A. The completed well shall have 24-inch surface casing to 3 feet above ground surface and 15-inch ID PVC well casing to a minimum of 2.5 feet above ground surface. The Contractor shall install a temporary cap on the completed well (welded steel plate with access port).

PART 3 -- EXECUTION

3.1 MOBILIZATION AND DEMOBILIZATION

- A. Upon receiving the Notice to Proceed, the Contractor shall move in all tools, equipment, and supplies necessary for the Work, and upon completion of the Work, shall remove all such items from the premises promptly and leave the site in a clean and orderly fashion.

3.2 CONSTRUCTION SEQUENCE

- A. The sequence of construction for this project shall consist of the following:
 1. Mobilize to the work site.

2. Implement ESCP and receive approval from the Owner prior to beginning construction.
3. Drill minimum 30-inch borehole and install and seal the 24-inch diameter surface casing into clay layer at approximately 65 feet bgs, with at least 3 feet of casing stickup above ground surface.
4. Drill an 8-inch diameter exploration borehole below surface casing to 470 feet for geophysical logging purposes.
5. Conduct geophysical logging of the borehole.
6. Ream exploration borehole to nominal 23-inch diameter to approximately 325 feet below ground surface (bgs).
7. Furnish and install 17.4-inch pipe O.D. (18.7-inch coupler O.D.), 15.1-inch minimum I.D., blank, Certa-Lok PVC Well Casing as supplied by CertainTeed Corporation, **OR** 18-inch O.D. (1.06-inch minimum wall thickness), SDR17 PVC well casing as supplied by Johnson Screens (or equal), from 2.5 feet above ground surface to approximately 325 feet bgs.
8. Seal the annular space between the PVC casing and 23-inch borehole from ground surface to 320 feet using a cement-bentonite grout mix installed by tremie. Place $\frac{3}{4}$ -inch bentonite chips in the bottom of the borehole from 320 feet to approximately 325 feet.
9. Ream exploration borehole below well casing to nominal 15-inch diameter to 470 feet bgs.
10. Furnish and install 9-inch pipe-size (10-inch "telescope"), stainless steel, wire-wrap well screen from approximately 330 to 380 feet bgs, from 400 to 415 feet bgs, and from 430 to 465 feet bgs. "Tight-wrap" 9-inch stainless steel screen shall be installed as blank casing between the screen intervals and as a headpipe from approximately 300 to 330 feet bgs.
11. Furnish and install Colorado Silica Sand filter pack from approximately 300 feet to 470 feet bgs.
12. Develop the well by airlifting and swabbing or other methods as approved by the Engineer.
13. Furnish and install a removable packer assembly between the 9-inch stainless steel headpipe and the PVC casing.
14. Install test pump to approximately 250 feet bgs.
15. Complete development of the well using the test pump.
16. Use the test pump to perform a 4-hour step-rate discharge test and a 24-hour constant-rate discharge test.
17. Video log the well.
18. Disinfect the well.
19. Provide a temporary cap on the new well (welded steel plate with access port).
20. Clean site and demobilize.

3.3 DRILLING

- A. The drilling method below the surface casing shall be mud-rotary or reverse-rotary. The borehole shall be of sufficient diameter to meet the requirements of the Idaho Rules for Public Drinking Water Systems (IDAPA 58.01.08) for sealing of casing.
- B. Drilling fluid properties shall be maintained in such a manner to ensure the structural integrity of the borehole and to circulate drill cuttings representative of the strata penetrated to the ground surface. Drilling fluid additives shall be ANSI/NSF 60 approved. A mud kit shall be available for measuring drilling fluid properties throughout the project.
- C. The Contractor shall sample the drill cuttings at 5-foot intervals below 65 feet and at pronounced changes in geologic formation. These samples shall be saved and maintained on the job site in a clean dry area. All samples are to be submitted to the Owner. The samples shall be of at least one-pint size, shall be kept in cloth sample bags or zip-lock style plastic bags, to be provided by the Contractor, and shall be clearly labeled to show the depth and well from which collected.
- D. All drilling fluids shall be disposed of in accordance with State and Federal regulations. Method and place of drilling fluid disposal shall be approved by the Owner. Costs incurred in connection with the disposal of drilling fluids and developed water shall be borne by the Contractor.
- E. Logs and records shall be kept by the Contractor's drillers on forms suitable to the Engineer, which shall indicate each shift worked; the general character, thickness, and type of material penetrated; and the type of all other Work performed, including the exact time spent on each item of Work. Information that shall be listed on the drilling log includes: (1) drilling fluids and additives, including quantity of materials used and any loss of fluid to the borehole; (2) drilling fluid properties, including weight and viscosity; (3) type and diameter of bits used for drilling and total footage for each bit; and (4) any remarks or comments concerning the drilling characteristics of the borehole, including locations of any lost circulation zones. The forms shall be kept on-site for inspection by the Engineer. Forms shall be provided for Engineer approval prior to commencing construction.
- F. Copies of the logs shall be available for inspection by the Owner and Engineer at all times. Copies of all logs shall be furnished to the Owner and Engineer following completion of all operations. The Contractor shall submit a Well Driller's Report to the Idaho Department of Water Resources.

3.4 PLUMBNESS AND ALIGNMENT

- A. The hole shall be drilled to the depth designated by the Owner with a total deviation not to exceed one degree per 100 feet of the well. The alignment of the 15-inch I.D. diameter PVC well casing (to 325 feet) will be considered satisfactory if the casing will permit the free lowering and raising of a dummy between land surface and the bottom of the casing section. The dummy shall be constructed of a 20-foot length of 14-inch O.D. pipe. It shall be the responsibility of the Contractor to see that the well is being constructed straight and plumb within these limits at all times. Any indications of inadequate plumbness or alignment during drilling, casing, or development shall be cause to require measurement of plumbness or alignment by a method approved the Owner. No payment shall be made for tests of alignment; any such tests shall be considered subsidiary to other items in this contract.
- B. If the casing has unacceptable plumbness or alignment, the Contractor shall undertake remedial measures. Any alignment work required by the Contractor in re-drilling or straightening the

borehole shall be at his sole expense. If a well is deemed unacceptable following remedial measures, then as much casing as can be removed from the well shall be salvaged by the Contractor. Salvaged casing will be the property of the Contractor. The well shall be abandoned in accordance with Idaho State regulations at the Contractor's expense. All payments associated with construction of the abandoned well shall be credited to construction of a replacement well.

3.5 GEOPHYSICAL LOGGING

- A. Geophysical logging shall be conducted upon completion of pilot borehole drilling. The Engineer shall be given at least 24 hours notice of the time when the survey will be run in order to witness the performance of the survey. The logs run shall include normal resistivity (8-inch, 16-inch and 64-inch), single point resistivity, natural gamma radiation, and temperature.
- B. It is the Contractor's responsibility to ensure that the borehole remains open to the total completion depth for geophysical logging.
- C. Three full-scale and three reduced-scale printed copies of the logs shall be provided to the Engineer. The logs shall also be provided in electronic format (ASCII or similar) on DVD or CD or transmitted by email.

3.6 INSTALLATION OF WELL CASINGS, SCREEN, AND CENTRALIZERS

- A. Individual lengths of steel casing and screen shall be joined by welding. Welding shall be performed by properly qualified operators following the manufacturer's recommendations and in accordance with AWWA C206. Welds shall penetrate the full thickness of the casing wall.
 - 1. The standards of the American Welding Society, Structural Welding Code (AWS D1.1) shall apply for all welded joint casing and accessories. All welds shall conform to the latest revision of ANSI B31.1.
 - 2. There shall be a minimum of three (3) weld passes on pipe sizes 6-inches and greater.
- B. For PVC casing, the Contractor shall conform to the installation standards prescribed by the casing manufacturer.
- C. Centralizers shall be installed at intervals of no more than 60 feet. Centralizer groups in well casings will be placed as follows:
 - 1. All centralizer groups shall be vertically aligned, one above the other, in order to permit the passage of tremie pipe alongside the casing to the bottom of the borehole.
 - 2. Centralizers shall be welded at the top and bottom of each screen section.

3.7 INSTALLATION OF FILTER PACK

- A. Filter pack shall be poured for placement in the borehole opposite the screen assembly from approximately 300 feet to 470 feet bgs. The level of the filter pack shall be tagged at frequent intervals to confirm that it is not bridging. The volume of the filter pack shall be monitored during placement to confirm that the pack is not bridging. The Contractor shall prevent filter pack from entering the screen assembly during pouring by means of an approved temporary sealing apparatus ("bonnet").

- B. The Contractor shall maintain the top of the filter pack at 300 feet until after mechanical well development is complete. If the filter pack settles following development, the Contractor shall add additional filter pack to return the top to 300 feet.

3.8 WELL SEAL

- A. The surface seal shall extend from the bottom of the 24-inch casing to ground surface. Any temporary casing shall be withdrawn as the seal is placed.
- B. Bentonite chips are acceptable for the surface seal material. If bentonite chips are used as a surface seal material, the top of the seal shall be tagged at a minimum 10-foot interval. Seal shall be tagged during placement to determine if the seal is reaching its intended position. Pour rates shall not exceed manufacturer's recommended rates. Seal level shall be checked by tagging with a sinker bar or other means.
- C. The cement-bentonite seal between the nominal 23-inch borehole and the PVC casing shall extend from 0 to 320 feet bgs. The ¾-inch bentonite chip seal shall extend from approximately 320 to 325 feet bgs.
- D. The cement-bentonite seal shall be installed by the tremie method. The cement-bentonite grout shall be pumped into the annular space through a tremie pipe that shall be extended from ground surface to the bottom of the zone being grouted. Grout shall be placed from the bottom up in a continuous operation. The grout pipe shall be slowly raised as the grout is placed, but the discharge end of the tremie pipe must be submerged in the emplaced grout at all times until grouting is complete. The grout pipe shall be maintained full to the surface at all times until completion of the grouting of the entire specified interval. Once grouting is complete, no further work shall be performed on the well for a minimum of 24 hours. No standby or rig time will be paid while grout is setting. In the event of borehole collapse prior to placement of the grout, the Contractor shall take whatever steps are necessary to reopen the hole and to place the seal as specified. Any such remedial action shall be conducted at the Contractor's expense.
- E. The volume of seal material placed shall be carefully monitored and checked against calculated volume requirements.
- F. The Engineer shall be notified a minimum of 24-hours prior to well seal placement, and shall be present during seal placement.
- G. The Contractor shall develop and submit a plan for the Engineer's review and approval. The plan shall provide details of methods and materials proposed for installation of the seal. The Contractor shall be responsible for providing means for equalization of pressure on the interior and exterior of the well casing to prevent casing collapse.

3.9 DEVELOPMENT

- A. The well shall be developed by airlifting and swabbing or other methods approved by the Engineer. A surge block shall have two swabs separated by 10 to 20 feet of perforated drill pipe. The drill pipe shall be fitted with an air eductor pipe to allow air lift pumping through the drill pipe. The swabs shall have an outside diameter not more than 1-inch smaller than the inside diameter of the screen section of the well.
- B. Surge block and air lift development of the well shall begin by gently surging and simultaneously air lifting in the casing immediately above the uppermost section of well screen. The surge block shall be raised and lowered several times every 15 minutes. Periodically, the Contractor

shall measure and bail from the well all sand, silt, and clay that has accumulated at the bottom. Surging in the casing section shall continue until no additional appreciable quantity of sand, silt, or clay is brought into the well.

- C. Following surging and airlifting of the casing, the surge block shall be lowered into the uppermost screened section and surge development continued by gently surging and simultaneously air lifting from the top of the screened interval downward. The screen shall be surged and airlifted in 20-foot sections. The surge block shall be raised and lowered several times every 15 minutes. Each 20-foot interval of screened section shall be worked until successive surging produces little change in color and discharge is relatively clear as assessed by the Engineer.
- D. Following initial surge block development, hydraulic jetting shall be performed using polymer dispersant. The jetting assembly shall be capable of jetting 100 gpm at a minimum pressure of 300 psi, with the nozzle located no more than 1 inch from the inside of the well screen. Following jetting, the Contractor shall allow the dispersant to sit in the well for at least 24 hours before performing additional mechanical development with the surge block and air-lifting. The Contractor shall be prepared to do both as part of the mechanical development effort.
- E. Following mechanical development, the Contractor shall add filter pack as necessary to return the top of the filter pack to 300 feet and then install the removable packer assembly.
- F. The well shall also be developed by alternative pumping and surging with the test pump. The well shall be developed by pumping and surging until it produces at maximum discharge, as determined by Engineer, and the specified sand production limitations are met. The well shall be pumped at a restricted initial pumping rate. As water clears, the pumping rate shall be gradually increased until maximum discharge rate is reached. At regular intervals, the pump shall be stopped and the water in the pump column shall be allowed to surge back through the pump intake.
- G. The well shall be considered thoroughly developed when specific capacity is no longer increasing and the well does not produce sand in excess of acceptable standards, i.e. the water contains less than 5 parts per million of sand after 15 minutes of pumping at the design capacity of the well.
- H. The Contractor shall provide a 1-inch access tube for installation of a pressure transducer or other water level monitoring device during test pumping. The access tube shall be securely fastened to the pump column assembly, terminate approximately 5 feet above the pump, and shall be perforated along the bottom 10 feet.
- I. Upon completion of the development, all material shall be thoroughly cleaned from the inside of the casing and screen. Material shall be removed by bailing or by suction pumping. If removed by pumping, the Contractor shall have sufficient tubing or pipe to reach the total depth of the well.

3.10 TEST PUMPING

- A. Following completion of development operations, the well shall be allowed to recover for 24 hours, or less if approved by the Owner, prior to starting the pumping tests. Anticipated methods of aquifer testing include: (1) a step-test lasting approximately 4 hours, which will consist of pumping the well at various rates from approximately 500 gallons per minute (gpm) to the maximum capability of the pump or well; and (2) a constant-rate pumping test lasting 24 hours. A recovery period of at least 4 hours is anticipated between the step-rate and constant-

rate tests. Standby time will not be paid for the recovery periods between tests or at the conclusion of test pumping. The Engineer shall be present at the start of test pumping.

- B. The test pump shall be capable of delivering 2,500 gallons per minute from a pumping level of 250 feet. The pump shall be set at a minimum depth of 250 feet. The Contractor shall furnish and install all necessary equipment for testing, including a discharge valve or throttle to control flow rate, orifices or flow meter for accurately measuring the discharge from the well, and a nominal 1-inch pipe to the top of the pump to facilitate the installation and removal of electric-line water-level probes. The Contractor shall measure and record water level, pumping rate, and elapsed time as directed by the Engineer. The Contractor shall provide a threaded port for attachment of a Rossum Sand Tester by the Engineer. The Engineer shall be responsible for sand testing.
- C. The Contractor shall be responsible for providing power for the test pump. The Contractor shall provide a means for safe refueling during operations to prevent even brief shutdowns during the testing. Shutdowns before the end of the testing procedure in excess of ten (10) percent of the total time anticipated for this testing procedure may require the Contractor to allow the water level to recover to pre-pumping conditions and re-start the test, as determined by the Engineer.
- D. The Engineer shall collect water quality samples toward the end of the constant-rate pumping test. The Contractor shall provide a hose bib or other acceptable sampling port approved by the Engineer on the discharge piping for sample collection.

3.11 DISINFECTION

- A. Upon completion of all well construction activities and prior to installing the test pump, the well shall be disinfected. The Contractor shall disinfect the well using calcium hypochlorite or sodium hypochlorite.
 - 1. The quantity of calcium hypochlorite or sodium hypochlorite shall be calculated per Idaho Well Construction Standards (IDAPA 37.03.09.025.23) to achieve 50 ppm chlorine concentration throughout the water column.
 - 2. If chlorine granules or tablets are used, they must be dissolved and placed into the well as a solution.
 - 3. The Contractor shall distribute the disinfecting compound throughout the well to achieve a uniform concentration for “in place” disinfection of the well. This can be accomplished by working the chlorine solution throughout the water column and into the gravel pack by turning the pump on and off while recirculating a portion of the pump discharge.
 - 4. All interior surfaces of the well above the static water level shall be wetted with calcium hypochlorite or sodium hypochlorite solution.
- B. Near the end of the constant-rate discharge test, duplicate samples shall be collected by the Engineer and the samples shall be tested for the presence of coliform bacteria. If any sample shows the presence of coliform bacteria, the Contractor shall collect duplicate samples (without charging rig or standby time while waiting on sampling results). If the second sampling event shows the presence of coliform bacteria, the Contractor shall re-disinfect the well until duplicate samples show the absence of coliform bacteria.

- C. Following removal of the test pump and completion of the video log, the well shall be disinfected again by adding sufficient sodium or calcium hypochlorite solution to achieve 50 ppm chlorine concentration in the well. The well shall be capped with a vented well cap or sanitary well seal following disinfection.

3.12 VIDEO LOG

- A. The Contractor shall give the Engineer 48-hour advance notice prior to performing the video survey. Notify Engineer of anticipated delays whenever they become apparent.
- B. The video survey shall be conducted following the completion of well discharge tests, after all sediment accumulated in the well from test pumping has been removed, after fresh water has been introduced from the surface to clarify the water column (as approved by the Engineer), and prior to final disinfection of the well.
- C. The camera shall be disinfected prior to being placed in the well. The proposed camera survey shall receive the Engineer's approval before being performed. The survey shall be performed in the presence of the Engineer.
- D. The video camera shall have color vertical down-hole and horizontal side-hole viewing capability with centralizers. Horizontal side-hole viewing shall be controllable to allow viewing at any angle within a 360 degree rotation. The equipment used to complete the video survey shall produce a video with an automatic on-screen depth indication to the nearest 0.1 feet.
- E. A dynamic vertical down-hole view video shall be run from the top of the well to the bottom of the well at a speed not exceeding 30 feet per minute.
- F. The video camera during the dynamic vertical down-hole view run shall be interrupted at the direction of the Engineer for periodic static horizontal side-hole viewing.
- G. Should the survey fail to produce a clear picture of the internal casing conditions, additional clear, potable water shall be introduced and additional surveys conducted until a clear video is obtained to the satisfaction of the Engineer. All such remedial work shall be conducted at the Contractor's expense.
- H. The Engineer reserves the right to inspect the video survey for defects in the well casing. Any defects noted will be either cause for rejection by the Owner or correction by the Contractor. If defects in the casing are found and the cause is due to installation by the Contractor, the Contractor shall bear the cost for the necessary repairs and the cost of resurveying the hole.

3.13 PROTECTION OF WATER QUALITY

- A. All water used for drilling and development operations shall be of potable quality.
- B. The Contractor shall take all necessary precautions to prevent contamination of the water in the well by the introduction of any foreign substance, including contaminated water, gasoline, oil, etc., and shall conform to all laws or regulations applicable to the protection of water quality. Facilities, equipment, and materials for disposing of the water produced during the development and testing of the well shall be provided by the Contractor. It is anticipated that clear water can be disposed of in the vicinity of the well site. Water leaving the well site shall be free of chemicals and seal materials. Water shall not be discharged to streams, ponds, or lakes without proper regulatory authorization.

- C. All downhole materials (that is, casing, pipe, pumps, sand filter pack, drilling tools, etc.) shall be disinfected with 500 ppm chlorine solution.
- D. Chlorinated water shall be disposed of in accordance with federal, state, and local requirements. Where applicable, the Contractor shall obtain appropriate permits from regulatory agencies before discharging chlorinated water to the environment. Appropriate contacts and disposal methods vary depending upon the location where the chlorinated water will be disposed, as summarized below:
1. For discharge to surface waters of the United States, including indirectly through storm sewers, ditches, or canals, the Contractor shall contact the Environmental Protection Agency (EPA) Region 10 Permitting Section to determine if a NPDES permit is required. The EPA may refer the applicant back to the Idaho Department of Environmental Quality (IDEQ) Surface Water Group for consultation regarding the discharge. Typically, any discharge to surface waters must at a minimum comply with the following requirements of the State of Idaho Water Quality Standards (IDAPA 58.01.02):
 - a. The maximum instantaneous or 1-hour average concentration of the total chlorine residual of the discharge must not exceed 19 µg/L more than once every three years. This is the acute criteria for chlorine.
 - b. The 4-day average concentration of the total chlorine residual of the discharge must not exceed 11 µg/L more than once every three years. This is the chronic criteria for chlorine.
 - c. Dechlorination of chloramines can create ammonia. The 1-hour average concentration of total ammonia (mg/L N) must not exceed the acute criteria value more than once every three years. The acute criteria value is dependent upon temperature and pH and is calculated using the applicable equation in §250.02.d.i of the State of Idaho Water Quality Standards. The 30-day average concentration of total ammonia (mg/L N) must not exceed the chronic criteria value more than once every three years. The chronic criteria value is dependent upon temperature and pH and is calculated using the applicable equation in §250.02.d.ii of the State of Idaho Water Quality Standards.
 - d. IDEQ may consider the effects of the mixing zone where the discharge enters the receiving body when evaluating allowable concentrations of total residual chlorine.
 2. For discharge to sanitary sewer, the Contractor shall consult with the local sewer department and request approval to discharge into the sewer. The Contractor must verify with the sewer department that there is adequate capacity in the sewer mains to accommodate the discharge and that the wastewater treatment plant can accept the discharge.
 3. For land application of the chlorinated water, the Contractor must receive approval from the land owner to discharge the water. The Contractor shall also contact the IDEQ Regional Office Engineering Group to confirm any permitting requirements.
 4. If required by federal, state, or local agencies, the Contractor shall dechlorinate chlorinated water before disposal using a chlorine-neutralizing agent. The Contractor shall refer to AWWA C651 Appendix C as a guide for the amount of neutralizing agent required. The Contractor shall consult with the appropriate jurisdictional body on maximum allowable concentrations of de-chlorination chemicals prior to discharge.

3.14 FINAL CLEANUP

- A. After completion of all Work associated with this contract, the Contractor shall clean up the Work site and any property used by his operations to the satisfaction of the Owner. The Contractor shall remove and dispose of all excess materials resulting from his work, and shall repair, replace, or restore all property of any type or nature which has been moved, damaged, or altered in any way by his operations, to the satisfaction of the Owner. The Contractor shall return all landscape, roadway, and adjoining surfaces to their original condition and appearance as soon as reasonably feasible.

PART 4 -- MEASUREMENT AND PAYMENT

4.1 SCOPE

- A. The quantities of work or material stated in unit price items of the Bid are supplied only to give an indication of the general scope of the Work; the Owner does not expressly or by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price item of the Work without a change in the unit price, and shall include the right to delete any Bid item in its entirety. Payment for materials and labor will be based on actual quantities furnished, installed, or constructed in accordance with the prices bid for unit price items.
- B. The Owner may terminate Work on the project at any point if, in the Owner's judgment, the Owner's best interests are not served by continuation. Conditions which may lead to project termination include, but are not limited to, indications of low groundwater development potential as determined during drilling. In such an event, the Contractor shall be paid for the value of Work completed at that time on the basis of the unit price and lump sum items listed on the Bid Schedule. In addition, if well construction is terminated by decision of the Owner, the Contractor may be required to properly abandon the borehole. Abandonment procedures in excess of those explicitly required in these specifications must comply with current Idaho State regulations. Materials used in abandonment shall be paid at invoice cost plus 10 percent to cover handling. Payment for rig time shall be at the bid unit price.
- C. No payment shall be made for tests of borehole and well casing plumbness and alignment; it shall be the responsibility of the Contractor to ensure that the hole remains within plumbness and alignment specifications.
- D. No payment shall be made for rig time associated with the borehole geophysical survey. The Contractor shall be available for the survey and all such costs shall be considered to be included in the unit prices listed on the Bid Schedule.
- E. No payment shall be made for drilling fluid materials used during normal drilling operations. All such costs shall be considered to be included in the unit prices listed on the Bid Schedule.
- F. No payment shall be made for time or expenses incurred in the recovery or replacement of tools or equipment lost during the drilling phase or any other phase of the Work.
- G. No payment shall be made for time, materials, or labor costs incurred during remedial measures or operations in the event the well is of unacceptable plumbness or alignment.
- H. No payment shall be made for time, materials, or labor costs incurred in abandoning the well in the event the well is of unacceptable plumbness or alignment following remedial measures, or if

lost tools or equipment cannot be recovered from the borehole. The costs incurred for construction of the abandoned well shall be applied to construction of a replacement well.

4.2 STORM WATER MANAGEMENT (ITEM 1; LUMP SUM ITEM)

- A. Measurement for payment for storm water management will be based upon completion of the Work as a lump sum unit. The lump sum price listed on the Bid Schedule shall be full compensation for preparing and implementing the erosion and sediment control plan.

4.3 MOBILIZATION/DEMOBILIZATION (ITEM 2; LUMP SUM ITEM)

- A. Measurement for payment for mobilization/demobilization to and from the work site will be based upon completion of the Work as a lump sum unit. The lump sum price listed on the Bid Schedule shall be full compensation for the moving in of rigs, pumps, equipment, power, labor, fuel, tools, and incidentals necessary to do the Work, and moving out of all such equipment, materials, tools, and incidentals, and well disinfection and final site cleanup upon completion of the Work. For purposes of partial payment, the mobilization portion of this bid item shall be considered as 60% of the total lump sum.

4.4 DRILL FOR, FURNISH, INSTALL, AND SEAL 24-INCH DIAMETER SURFACE CASING (ITEM 3; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement for payment to drill for, furnish, install, and seal the surface casing will be based upon the number of feet of surface casing installed in accordance with these Contract Documents. The unit price listed on the Bid Schedule shall be full compensation for the moving in of rigs, pumps, equipment, power, labor, fuel, tools, and incidentals necessary to do the Work, and moving out of all such equipment, materials, tools, and incidentals.

4.5 DRILL 8-INCH PILOT BOREHOLE (ITEM 4; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for drilling the 8-inch nominal diameter pilot borehole will be based upon the number of vertical linear footage actually drilled in accordance with these Contract Documents. Payment for drilling the pilot borehole shall constitute full compensation for miscellaneous materials, transportation, labor, fuel, bits, drilling fluids, equipment, and incidentals necessary to drill the borehole.
- B. No payment shall be made for drilling fluid materials used during normal drilling operations. All such costs shall be considered to be included in the unit prices listed on the Bid Schedule.
- C. No payment shall be made for time or expenses incurred in the recovery or replacement of tools or equipment lost during the drilling phase or any other phase of the Work.
- D. No payment will be made for time, materials, or labor costs incurred in abandoning the well in the event the well is of unacceptable plumbness or alignment following remedial measures, or if lost tools or equipment cannot be recovered from the borehole. The costs incurred for construction of the abandoned well shall be applied to construction of a replacement well.

4.6 GEOPHYSICAL LOGGING (ITEM 5; LUMP SUM ITEM)

- A. Measurement for payment for geophysical logging will be based upon completion of the entire work as a lump sum unit, in accordance with these contract documents. Payment for geophysical logging shall constitute full compensation for labor, equipment, and incidentals necessary to perform the logging.

- B. No rig or standby time will be paid to the Contractor during the time that the Contractor's logging service is being brought to the site, or during the time that the logs are being run.
- C. No rig or standby time will be paid to the Contractor following completion of logging during which an exact determination of the final well design will be made by the Engineer.

4.7 REAM PILOT BOREHOLE TO 23-INCH NOMINAL DIAMETER (ITEM 6; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for reaming the pilot borehole to 23-inch nominal diameter will be based upon the number of vertical linear footage actually reamed in accordance with these Contract Documents. Payment for reaming the borehole shall constitute full compensation for miscellaneous materials, transportation, labor, fuel, bits, drilling fluids, equipment, and incidentals necessary to ream the borehole.
- B. No payment shall be made for tests of borehole plumbness and alignment; it shall be the responsibility of the Contractor to ensure that the hole remains within plumbness and alignment specifications.
- C. No payment shall be made for drilling fluid materials used during normal drilling operations. All such costs shall be considered to be included in the unit prices listed on the Bid Schedule.
- D. No payment shall be made for time or expenses incurred in the recovery or replacement of tools or equipment lost during the drilling phase or any other phase of the Work.
- E. No payment shall be made for time, materials, or labor costs incurred during remedial measures or operations in the event the well is of unacceptable plumbness or alignment.
- F. No payment will be made for time, materials, or labor costs incurred in abandoning the well in the event the well is of unacceptable plumbness or alignment following remedial measures, or if lost tools or equipment cannot be recovered from the borehole. The costs incurred for construction of the abandoned well shall be applied to construction of a replacement well.

4.8 FURNISH AND INSTALL PVC CASING (ITEM 7; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement for payment for the PVC casing will be based upon the number of linear feet of such pipe actually installed in the borehole in accordance with these Contract Documents. Payment for the PVC casing shall constitute full compensation for materials, transportation, labor, fuel, equipment, centralizers, welding materials, and incidentals necessary to furnish and install the well casing.

4.9 FURNISH AND INSTALL ANNULAR SEAL (ITEM 8; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for furnishing and installing the well seal between the PVC casing and 23-inch borehole will be based upon vertical linear feet of well seal installed in the borehole. Payment for the well seal shall constitute full compensation for cement, materials, transportation, labor, equipment, and incidentals necessary to furnish and install the seal.

4.10 REAM PILOT BOREHOLE TO 15-INCH NOMINAL DIAMETER (ITEM 9; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for reaming the pilot borehole to 15-inch nominal diameter below the PVC casing will be based upon the number of vertical linear footage actually reamed in accordance with these Contract Documents. Payment for reaming the borehole shall constitute full compensation for miscellaneous materials, transportation, labor, fuel, bits, drilling fluids, equipment, and incidentals necessary to ream the borehole.
- B. No payment shall be made for tests of borehole plumbness and alignment; it shall be the responsibility of the Contractor to ensure that the hole remains within plumbness and alignment specifications.
- C. No payment shall be made for drilling fluid materials used during normal drilling operations. All such costs shall be considered to be included in the unit prices listed on the Bid Schedule.
- D. No payment shall be made for time or expenses incurred in the recovery or replacement of tools or equipment lost during the drilling phase or any other phase of the Work.
- E. No payment shall be made for time, materials, or labor costs incurred during remedial measures or operations in the event the well is of unacceptable plumbness or alignment.
- F. No payment will be made for time, materials, or labor costs incurred in abandoning the well in the event the well is of unacceptable plumbness or alignment following remedial measures, or if lost tools or equipment cannot be recovered from the borehole. The costs incurred for construction of the abandoned well shall be applied to construction of a replacement well.

4.11 FURNISH AND INSTALL 9-INCH STAINLESS STEEL WIRE-WRAP WELL SCREEN (ITEM 10; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for furnishing and installing the 9-inch well screen will be based upon the number of linear feet of such well screen actually installed in the borehole in accordance with these Contract Documents. Payment for the well screen shall constitute full compensation for screen, materials, transportation, labor, equipment, and incidentals necessary to furnish and install the well screen.

4.12 FURNISH AND INSTALL 9-INCH STAINLESS STEEL "TIGHT-WRAP" BLANK AND HEAD PIPE (ITEM 11; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement for payment for the nominal 9-inch "tight-wrap" stainless steel head pipe and blank pipe between screen intervals will be based upon the number of linear feet of such pipe actually installed in the borehole in accordance with these Contract Documents. Payment for the pipe shall constitute full compensation for materials, transportation, labor, fuel, equipment, centralizers, welding materials, and incidentals necessary to furnish and install the pipe.

4.13 FURNISH AND INSTALL SAND FILTER PACK (ITEM 12; PRICES BASED ON LINEAR MEASUREMENT)

- A. Measurement and payment for furnishing and installing the sand filter pack will be based on the number of vertical feet of filter pack actually installed in the well in accordance with these Contract Documents. Payment for filter pack shall constitute full compensations for materials, tremie pipe, transportation, labor, equipment, and incidentals necessary to furnish and install the filter pack.

- 4.14 FURNISH AND INSTALL PACKER ASSEMBLY (ITEM 13; PRICES BASED ON LUMP SUM)
- A. Measurement and payment for furnishing and installing the packer assembly will be based upon a lump sum price. Payment for the packer shall constitute full compensation for transportation, labor, equipment, and incidentals necessary to furnish and install the packer.
- 4.15 TEST PUMP INSTALLATION (ITEM 14; PRICES BASED ON LUMP SUM)
- A. Measurement and payment for furnishing and installing the test pump will be based upon a lump sum price. Payment for the test pump shall constitute full compensation for transportation, labor, equipment, and incidentals necessary to furnish and install the pump.
- 4.16 MECHANICAL AND PUMP DEVELOPMENT (ITEM 15; PRICES BASED UPON TIME, HOURS)
- A. Measurement for payment for well development will be based on the actual number of hours of development operations. Payment will be made at the unit price listed in the Bid Schedule.
- B. No payment shall be made for equipment acquisition, set-up, or installation, or for recovery periods required by the Owner to ensure thorough well development.
- C. Payment for chemicals as may be required by the Owner to ensure thorough well development shall be reimbursed for the cost of the chemicals actually used at invoice cost plus 10 percent for handling.
- 4.17 TEST PUMPING (ITEM 16; PRICES BASED UPON TIME, HOURS)
- A. Measurement for payment for test pumping will be based on the actual number of hours of test pumping that occur. Payment will be made at the unit price listed in the Bid Schedule.
- B. No payment shall be made for equipment acquisition, test pump installation, set-up, or installation, or for recovery periods required by the Owner to ensure thorough well development.
- 4.18 VIDEO LOG (ITEM 17; PRICES BASED UPON LUMP SUM)
- A. Measurement for payment for the video log will be based on a lump sum price. Payment for the video log shall constitute full compensation for transportation, labor, equipment, and incidentals necessary to complete the log.
- 4.19 DISINFECTION (ITEM 18; PRICES BASED UPON LUMP SUM)
- A. Measurement for disinfection will be based on a lump sum price. Payment for the disinfection shall constitute full compensation for transportation, labor, equipment, and incidentals necessary to complete the disinfection process.
- 4.20 RIG TIME (ITEM 19; PRICES BASED UPON TIME, HOURS)
- A. Measurement and payment for rig time will be based on the unit price listed on the Bid Schedule. Payment for rig time for additional work specifically directed by the Owner not otherwise covered in these Contract Documents will be based on the actual number of hours of work done and shall be full compensation for rig, fuel, labor, equipment, and materials normally associated with Contractor's drilling activities. Additional materials, which may be required by the Owner, shall be paid at the Contractor's invoice cost plus 10 percent for handling.

- END OF PRODUCTION WELL 29 TECHNICAL SPECIFICATIONS-

IDAHO DEPARTMENT OF WATER RESOURCES WELL DRILLER'S REPORT

1. WELL TAG NO. D 0070061
Drilling Permit No. 970056 - 876113

Water right or injection well # _____

2. OWNER: City of Meridian

Name _____

Address 33 East Broadway, Suite 200

City Meridian State ID Zip 83642

3. WELL LOCATION:

Twp. 4 North or South Rge. 1 East or West

Sec. 33 1/4 NW 1/4 NW 1/4

Gov't Lot _____ County Ada

Lat. 43 0 38.824 (Deg. and Decimal minutes)

Long. -116 0 28.358 (Deg. and Decimal minutes)

Address of Well Site SE corner McDermott and McMillian Roads

City Meridian

(Give at least name of road + Distance to Road or Landmark)

Lot _____ Blk. _____ Sub. Name _____

4. USE:

Domestic Municipal Monitor Irrigation Thermal Injection
 Other _____

5. TYPE OF WORK:

New well Replacement well Modify existing well
 Abandonment Other _____

6. DRILL METHOD:

Air Rotary Mud Rotary Cable Other Reverse Rotary

7. SEALING PROCEDURES:

Seal material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method/procedure
Bentonite	0	42	10,000 lbs	Dry pour
See Attachment				

8. CASING/LINER:

Diameter (nominal)	From (ft)	To (ft)	Gauge/Schedule	Material	Casing	Liner	Threaded	Welded
24	+2	38	.375	Mild Steel	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
					<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Was drive shoe used? Y N Shoe Depth(s) _____

9. PERFORATIONS/SCREENS:

Perforations Y N Method _____

Manufactured screen Y N Type Johnson PVC

Method of installation See Attachment

From (ft)	To (ft)	Slot size	Number/ft	Diameter (nominal)	Material	Gauge or Schedule

Length of Headpipe _____ Length of Tailpipe _____

Packer Y N Type _____

10. FILTER PACK:

Filter Material	From (ft)	To (ft)	Quantity (lbs or ft ³)	Placement method
See Attachment				

11. FLOWING ARTESIAN:

Flowing Artesian? Y N Artesian Pressure (PSIG) See Attachment

Describe control device 2" reduced to 3/4" ball valve

12. STATIC WATER LEVEL and WELL TESTS: SEE ATTACHMENT

Depth first water encountered (ft) _____ Static water level (ft) _____

Water temp. (°F) _____ Bottom hole temp. (°F) _____

Describe access port _____

Well test:	Test method:			
	Pump	Bailer	Air	Flowing artesian
Drawdown (feet)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Discharge or yield (gpm)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Test duration (minutes)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<u>SEE ATTACHMENT</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Water quality test or comments: _____

13. LITHOLOGIC LOG and/or repairs or abandonment:

Bore Dia. (in)	From (ft)	To (ft)	Remarks, lithology or description of repairs or abandonment, water temp.	Water	
				Y	N
			****See attachments		

Completed Depth (Measurable): See attached drawing
Date Started: Jul 6, 2015 Date Completed: Sep 18, 2015

14. DRILLER'S CERTIFICATION:

I/We certify that all minimum well construction standards were complied with at the time the rig was removed.

Company Name Riverside Inc Co. No. 333

*Principal Driller [Signature] Date 10/14/15

*Driller [Signature] Date 10-14-15

*Operator II _____ Date _____

Operator I _____ Date _____

* Signature of Principal Driller and rig operator are required.

Seal / Filter Pack

Zone	Media	Depth (feet)
8	Seal: Bentonite chips	0-151
8	Filter Pack: #6-9 Sand	151-192
7	Seal: Bentonite chips	192-251
7	Filter Pack: #6-9 Sand	251-295
6	Seal: Bentonite chips	295-324
6	Filter Pack: #6-9 Sand	324-375.5
5	Seal: Bentonite chips	375.5-390
5	Filter Pack: #6-9 Sand	390-417
4	Seal: Bentonite chips	417-429
4	Filter Pack: #6-9 Sand	429-476
3	Seal: Bentonite chips	476-487
3	Filter Pack: #6-9 Sand	487-549
2	Seal: Bentonite chips	549-596
2	Filter Pack: #6-9 Sand	596-689
1	Seal: Bentonite chips	689-725
1	Filter Pack: #6-9 Sand	725-797

Casing / Screens

Casing: 2" Sch 80 PVC Threaded Set in one string
 Screens: 2" Sch 80 PVC .020 Slot size

Monitoring Well	Casing Depth (Feet)	Screens Depth (Feet)
Well 1	+1 - 745	745 - 785
Well 2	+1 - 615	615- 675
Well 3	+1 - 490	490 - 540
Well 4	+1 - 432	432-472
Well 5	+1 - 394	394 - 414
Well 6	+1 - 330	330 - 370
Well 7	+1 - 260	260 - 290
Well 8	+1 - 160	160 - 180

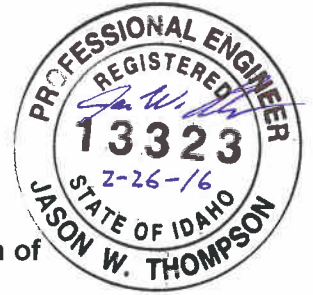
Lithological Log

Bore Dia (in)	From (Ft)	To (Ft)	Lithological Log	Water	
				Y	N
32	0	4	Top soil		x
32	4	36	Fine-coarse brown sand	x	
32	36	40	Brown clay		x
22	40	67	Brown clay		x
22	67	72	Fine-coarse brown sand	x	
22	72	76	Brown clay		x
22	76	114	Fine-coarse brown sand	x	
22	114	123	Brown clay		x
22	123	134	Fine-coarse brown sand	x	
22	134	144	Brown clay		x
22	144	148	Fine-coarse brown sand	x	
22	148	149	Brown clay		x
22	149	153	Fine-coarse brown sand	x	
22	153	157	Brown clay		x
22	157	182	Fine-medium brown sand w/ clay seams	x	
22	182	188	Brown clay		x
22	188	198	Blue clay		x
22	198	203	Brown clay		x
22	203	206	Blue clay		x
22	206	208	Fine-coarse blue sand	x	
22	208	212	Blue clay		x
22	212	214	Fine-coarse blue sand	x	
22	214	216	Blue clay		x
22	216	217	Medium-coarse blue sand	x	
22	217	218	Blue clay		x
22	218	222	Fine-coarse blue sand	x	
22	222	223	Brown clay		x
22	223	225	Fine-coarse brown sand	x	
22	225	226	Brown clay		x
22	226	227	Blue clay		x
22	227	228	Brown clay		x
22	228	229	Medium brown sand	x	
22	229	253	Brown clay		x
22	253	255	Blue clay		x
22	255	261	Brown clay		x
22	261	265	Fine-medium brown sand	x	
22	265	267	Brown clay		x
22	267	268	Fine-coarse brown sand	x	
22	268	273	Brown sticky clay		x
22	273	274	Blue sticky clay		x
22	274	275	Fine-coarse blue sand	x	
22	275	281	Blue clay		x
22	281	284	Fine-medium blue sand	x	
22	284	288	Blue clay		x
22	288	289	Fine-coarse blue sand	x	
22	289	292	Blue clay		x
22	292	294	Fine-coarse blue sand	x	
22	294	302	Blue clay		x
22	302	308	Brown clay		x
22	308	309	Fine-coarse brown sand	x	
22	309	314	Brown clay		x
22	314	322	Fine-coarse brown sand	x	
22	322	331	Brown clay		x
22	331	349	Fine-coarse brown sand	x	
22	349	352	Brown clay		x
22	352	381	Fine-coarse brown sand w/clay seam	x	x
22	381	389	Brown clay w/sand streak	x	x
22	389	393	Blue clay		x
22	393	398	Brown clay		x
22	398	409	Fine-medium brown sand w/clay streak	x	x
22	409	413	Brown clay		x
22	413	416	Fine-coarse brown sand w/clay seam	x	x

City of Meridian
Drilling Permit No. 970056 - 876113
Drilling Permit I.D. Tag No. D0070061

Well Test:

Zone	(PSIG) Static	Flow (gpm)	Discharge (gpm)	Test Duration (minutes)
1	7 psig	22	35	120
2	7 psig	21	37.5	120
3	6 psig	20	27	120
4	5 psig	19	28.5	120
5	5 psig	12	28.5	120
6	3 psig	15	44.5	120
7	2'	no flow	31.5	120
8	5'	no flow	29	120



Clarification

To

Technical Specifications dated January 18, 2016 for Construction of
City of Meridian Municipal Supply Well 29

PLANS AND SPECIFICATIONS

Specification Section 2.8, Part A, Page 7

Replace with:

- A. The well head shall include a well head assembly connected to the top of the 24-inch surface casing to control artesian flow. The assembly shall consist of a 24 x 24 x 12-inch fabricated steel tee. The tee shall be fabricated from standard wall-thickness steel pipe. The top of the tee shall be equipped with a 24-inch blind flange. The top of the tee shall extend 5 feet above existing ground surface.
- B. The 12-inch tee leg shall be 3 feet long, with a 12-inch diameter butterfly valve (flange by flange) installed on the end. The butterfly valve shall comply with AWWA C504, Class 150, NSF61, with cast iron body, stainless steel seat ring with nitrile rubber resilient seat, stainless steel shaft, and ductile iron disc. The butterfly valve shall be equipped with a handwheel and position indicator. The top of the tee leg shall have a 2-inch threaded port with plug.

Specification Section 1.9, Page 4

Add the following:

- G. The Contractor shall construct a work pad on the well lot consisting of 6-inch minus pit run. The work pad area shall be restricted to the well lot and be of adequate size to cover the anticipated work area.

- End of Clarification -