

Channel Drive & Channel Vista Pump Station Rehabilitation

Contract No. BE21-148

File No. 2051



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SECTION 00030 NOTICE INVITING BIDS

OBTAINING CONTRACT DOCUMENTS. The Contract Documents are entitled:

**Channel Drive & Channel Vista Pump Station Rehabilitation
Contract No. BE21-148**

The Contract Documents may be downloaded from the CBJ Engineering Department webpage at: www.juneau.org/engineering

PRE-BID CONFERENCE. Prospective Bidders are encouraged to attend a pre-Bid conference to discuss the proposed WORK, which will be conducted by the OWNER, at 10:00 a.m. on December 1, 2020, via teleconference. The object of the conference is to acquaint Bidders with the project and bid documents. Prospective bidders intending to participate shall email contracts@juneau.org by 4:30 p.m., November 30, 2020, to obtain the call-in instructions.

DESCRIPTION OF WORK. This Project consists of Work for the retrofit of two wastewater lift stations (pump stations) including demolition and replacement of wet well pumps, discharge piping and support brackets, pump rails, hardware, drain piping and valves, valve vault discharge piping and valves, force main connections, wet well and valve vault concrete lids and aluminum access hatches, on-grade concrete slabs surrounding pump stations, pump electrical gear, conduit and conductors, wet well level sensors and related equipment, demolition and replacement of the existing Channel Drive pump station control panel and installation of a pre-engineered fiberglass shelter on a slab-on-grade. Bypass pumping will be required to maintain wastewater service to the two associated sewer catchment areas, startup and testing of the two pump stations, and all ancillary work resulting in the functional performance of the pump stations.

COMPLETION OF WORK. The WORK must be completed by August 31, 2021.

DEADLINE FOR BIDDER QUESTIONS: 4:30pm on December 7, 2020.

DEADLINE FOR BIDS: Sealed bids must be received by the Purchasing Division **prior to 2:00 p.m., Alaska Time on December 15, 2020**, or such later time as may be announced by addendum at any time prior to the deadline. Bids will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of bids. Bids will be opened immediately thereafter, unless otherwise specified. Bidders may attend the bid opening on the conference call line 907-713-2140, with participant code 258358.

Bid documents delivered in person* or by **courier** service must be delivered to:

Bid documents delivered by **U.S. Postal Service** must be mailed to:

PHYSICAL LOCATION:

City and Borough of Juneau, Purchasing Division
105 Municipal Way, Room 300
Juneau, AK 99801

MAILING ADDRESS:

City and Borough of Juneau, Purchasing Division
155 South Seward Street
Juneau, AK 99801

*** A face covering must be worn in the 105 Municipal Way building per the CBJ Emergency Ordinance No. 2020-45**

SECTION 00030 NOTICE INVITING BIDS

Please affix the label below to outer envelope in the lower left hand corner.

IMPORTANT NOTICE TO BIDDER		
To submit your Bid:		
1. Print your company name and address on the upper left corner of your envelope.		
2. Complete this label and place it on the lower left corner of your envelope.		
S E A L E D	BID NUMBER: <u>BE21-148</u>	B I D
	SUBJECT: <u>Channel Vista & Channel Drive Pump Station Rehabilitation</u>	
	DEADLINE DATE: _____	
	PRIOR TO 2:00PM ALASKA TIME	

Mailing/delivery times to Alaska may take longer than other areas of the U.S. Late bids will not be accepted and will be returned.

SITE OF WORK. The site of the WORK is located at two locations. Channel Drive lift station is located at the end of Channel Drive in Juneau, Alaska. Channel Vista lift station is located around the 2200 block of Channel Vista Drive in Juneau, Alaska.

BIDDING, CONTRACT, or TECHNICAL QUESTIONS. All communications relative to this WORK, prior to opening Bids, shall be directed to the following:

Greg Smith, Contract Administrator
CBJ Engineering Department, 3rd Floor, Marine View Center
Email: greg.smith@juneau.org
Telephone: (907) 586-0873
Fax: (907) 586-4530

BID SECURITY. Each Bid shall be accompanied by a certified or cashier's check or Bid Bond, in the amount of 5% percent of the Bid, payable to the City and Borough of Juneau, Alaska, as a guarantee that the Bidder, if its Bid is accepted, will promptly execute the Agreement. A Bid shall not be considered unless one of the forms of Bidder's security is enclosed with it.

CONTRACTOR'S LICENSE. All contractors are required to have a current Alaska Contractor's License, prior to submitting a Bid, and a current Alaska Business License prior to award.

BID TO REMAIN OPEN. The Bidder shall guarantee the Bid for a period of 120 Days from the date of Bid opening. Any component of the Bid may be awarded anytime during the 120 Days.

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OWNER'S RIGHTS RESERVED. The OWNER reserves the right to reject any or all Bids, to waive any informality in a Bid, and to make award to the lowest responsive, responsible Bidder as it may best serve the interests of the OWNER.

OWNER: City and Borough of Juneau

By: 

Greg Smith, Contract Administrator

11/18/2020
Date

END OF SECTION

SECTION 00100 - INSTRUCTIONS TO BIDDERS

1.0 DEFINED TERMS. Terms used in these Instructions to Bidders and the Notice Inviting Bids, which are defined in the General Conditions, have the meanings assigned to them in the General Conditions. The term "Bidder" means one who submits a Bid directly to the OWNER, as distinct from a sub-bidder, who submits a Bid to a Bidder.

2.0 INTERPRETATIONS AND ADDENDA.

- A. **INTERPRETATIONS.** All questions about the meaning or intent of the Contract Documents are to be directed to the Engineering Contracts Administrator. Interpretations or clarifications considered necessary by the Engineering Contracts Administrator in response to such questions will be issued by Addendum, mailed, faxed, or delivered to all parties recorded by the Engineering Contracts Administrator, or OWNER, as having received the Contract Documents. Questions received less than seven Days prior to the Deadline for Bids may not be answered. Only questions answered by formal written Addendum will be binding. Oral and other interpretations or clarifications will be without legal effect.
- B. **ADDENDA.** Addenda may be issued to modify the Contract Documents as deemed advisable by the OWNER. Addenda may be faxed or, if addendum format warrants, addenda may be posted to the CBJ Engineering Department website. In any event, notification of addendum issuance will be faxed to planholders. Hard copies are available upon request. The OWNER will make all reasonable attempts to ensure that all planholders receive notification of Addenda, however, it is strongly recommended by the OWNER that bidders independently confirm the contents, number, and dates of each Addendum prior to submitting a Bid.

3.0 FAIR COMPETITION. More than one Bid from an individual, firm, partnership, corporation, or association under the same or different names will not be considered. If the OWNER believes that any Bidder is interested in more than one Bid for the WORK contemplated, all Bids in which such Bidder is interested will be rejected. If the OWNER believes that collusion exists among the Bidders, all Bids will be rejected.

4.0 RESPONSIBILITY OF BIDDERS. Only responsive Bids from responsible Bidders will be considered. A Bid submitted by a Bidder determined to be not responsible may be rejected. The OWNER may find a bidder to be not responsible for any one of the following reasons, but is not limited in its responsibility analysis to the following factors:

- A. Evidence of bid rigging or collusion;
- B. Fraud or dishonesty in the performance of previous contracts;
- C. Record of integrity;
- D. More than one bid for the same work from an individual, firm, or corporation under the same or different name;
- E. Unsatisfactory performance on previous or current contracts;
- F. Failure to pay, or satisfactorily settle, all bills due for labor and material on previous contracts;

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- G. Uncompleted work that, in the judgment of the OWNER, might hinder or prevent the bidder's prompt completion of additional work, if awarded;
- H. Failure to reimburse the OWNER for monies owed on any previous contracts;
- I. Default under previous contracts;
- J. Failure to comply with any qualification requirements of the OWNER; special standards for responsibility, if applicable, will be specified. These special standards establish minimum standards or experience required for a responsible Bidder on a specific contract;
- K. Engaging in any activity that constitutes a cause for debarment or suspension under the CBJ Procurement Code 53.50 or submitting a bid during a period of debarment;
- L. Lack of skill, ability, financial resources, or equipment required to perform the contract; or
- M. Lack of legal capacity to contract.
- N. Bidders must be registered as required by law and in good standing for all amounts owed to the OWNER per Paragraph 21.0 of this Section.
- O. Failure to submit all completed documents as required and specified on the Bid Form, Section 00300.

Nothing contained in this section deprives the OWNER of its discretion in determining the lowest responsible bidder. Before a Bid is considered for award, a Bidder may be requested to submit information documenting its ability and competency to perform the WORK, according to general standards of responsibility and any special standards which may apply. It is Bidder's responsibility to submit sufficient, relevant, and adequate information. OWNER will make its determination of responsibility and has no obligation to request clarification or supplementary information.

5.0 NON-RESPONSIVE BIDS. Only responsive Bids will be considered. Bids may be considered non-responsive and may be rejected. Some of the reasons a Bid may be rejected for being non-responsive are:

- A. If a Bid is received by the CBJ Purchasing Division after the Deadline for Bids.
- B. If the Bid is on a form other than that furnished by the OWNER, or legible copies thereof; or if the form is altered or any part thereof is detached; or if the Bid is improperly signed.
- C. If there are unauthorized additions, conditional or alternate Bids, or irregularities of any kind which may tend to make the bid incomplete, indefinite, ambiguous as to its meaning, or in conflict with the OWNER's Bid document.
- D. If the Bidder adds any unauthorized conditions, limitations, or provisions reserving the right to accept or reject any award, or to enter into a contract pursuant to an award. This does not exclude a Bid limiting the maximum gross amount of awards acceptable to any one Bidder at any one Bid opening, provided that any selection of awards will be made by the OWNER.
- E. If the Bid does not contain a Unit Price for each pay item listed, except in the case of

SECTION 00100 - INSTRUCTIONS TO BIDDERS

authorized alternate pay items.

- F. If the Bidder has not acknowledged receipt of each Addendum.
- G. If the Bidder fails to furnish an acceptable Bid guaranty with the Bid.
- H. If any of the Unit Prices Bid are excessively unbalanced (either above or below the amount of a reasonable Bid) to the potential detriment of the OWNER.
- I. If a Bid modification does not conform to Article 15.0 of this Section.

6.0 BIDDER'S EXAMINATION OF CONTRACT DOCUMENTS AND SITE. It is the responsibility of each Bidder before submitting a Bid:

- A. To examine thoroughly the Contract Documents, and other related data identified in the Bidding documents (including "technical data" referred to below):
 - 1. To visit the site to become familiar with and to satisfy the Bidder as to the general and local conditions that may affect cost, progress, or performance, of the WORK,
 - 2. To consider federal, state and local laws and regulations that may affect cost, progress, or performance of the WORK,
 - 3. To study and carefully correlate the Bidder's observations with the Contract Documents, and other related data; and
 - 4. To notify the ENGINEER of all conflicts, errors, or discrepancies in or between the Contract Documents and such other related data.

7.0 REFERENCE IS MADE TO THE SUPPLEMENTARY GENERAL CONDITIONS FOR IDENTIFICATION OF:

- A. Those reports of explorations and tests of subsurface conditions at the site which have been utilized by the Engineer of Record in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such reports, however, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with non-technical data, interpretations, and opinions contained therein or the completeness thereof is the responsibility of the Bidder.
- B. Those Drawings of physical conditions in or relating to existing surface and subsurface conditions (except underground utilities) which are at or contiguous to the site have been utilized by the Engineer of Record in the preparation of the Contract Documents. The Bidder may rely upon the accuracy of the technical data contained in such Drawings, however, the interpretation of such technical data, including any interpolation or extrapolation thereof, together with nontechnical data, interpretations, and opinions contained in such Drawings or the completeness thereof is the responsibility of the Bidder.
- C. Copies of such reports and Drawings will be made available by the OWNER to any Bidder on request if said reports and Drawings are not bound herein. Those reports and Drawings are not part of the Contract Documents, but the technical data contained therein upon which the Bidder is entitled to rely, as provided in Paragraph SGC-4.2 of the Supplementary General Conditions, are incorporated herein by reference.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

- D. Information and data reflected in the Contract Documents with respect to underground utilities at or contiguous to the site is based upon information and data furnished to the OWNER and the Engineer of Record by the owners of such underground utilities or others, and the OWNER does not assume responsibility for the accuracy or completeness thereof unless it is expressly provided otherwise in the Supplementary General Conditions, or in Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements.
- E. Provisions concerning responsibilities for the adequacy of data furnished to prospective Bidders on subsurface conditions, underground utilities and other physical conditions, and possible changes in the Contract Documents due to differing conditions appear in Paragraphs 4.2, 4.3, and 4.4 of the General Conditions.
- F. Before submitting a Bid, each Bidder will, at Bidder's own expense, make or obtain any additional examinations, investigations, explorations, tests, and studies and obtain any additional information and data which pertain to the physical conditions (surface, subsurface, and underground utilities) at or contiguous to the site or otherwise which may affect cost, progress, or performance of the WORK and which the Bidder deems necessary to determine its Bid for performing the WORK in accordance with the time, price, and other terms and conditions of the Contract Documents.
- G. On request in advance, the OWNER will provide each Bidder access to the site to conduct such explorations and tests as each Bidder deems necessary for submission of a Bid. Bidder shall fill all holes and shall clean up and restore the site to its former condition upon completion of such explorations.
- H. The lands upon which the WORK is to be performed, rights-of-way and easements for access thereto and other lands designated for use by the CONTRACTOR in performing the WORK are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by the CONTRACTOR. Easements for permanent structures or permanent changes in existing structures are to be obtained and paid for by the OWNER unless otherwise provided in the Contract Documents.
- I. The submission of a Bid will constitute an incontrovertible representation by the Bidder that the Bidder has complied with every requirement of Article 6.0, "Bidder's Examination of Contract Documents and Site" herein, that without exception the Bid is premised upon performing the WORK required by the Contract Documents and such means, methods, techniques, sequences, or procedures of construction as may be indicated in or required by the Contract Documents, and that the Contract Documents are sufficient in scope and detail to indicate and convey understanding of all terms and conditions for performance of the WORK.

8.0 BID FORM.

- A. The Bid shall be made on the Bid Schedule(s) bound herein, or on the yellow Bid packet provided, or on legible and complete copies thereof, and shall contain the following: Sections 00300, 00310, the required Bid Security, and any other documents required in Section 00300 – Bid.
- B. All blanks on the Bid Form and Bid Schedule must be completed in ink or typed.

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- C. Bids by corporations must be executed in the corporate name by the president, a vice-president (or other corporate officer). The corporate address and state of incorporation must appear below the signature.
- D. Bids by partnerships must be executed in the partnership name and be signed by a managing partner, and the official address of the partnership must appear below the signature.
- E. The Bidder's Bid must be signed. All names must be printed or typed below the signature.
- F. The Bid shall contain an acknowledgment of receipt of all Addenda, the numbers of which shall be filled in on the Bid form. Failure to acknowledge Addenda may render Bid non-responsive and may cause its rejection.
- G. The address to which communications regarding the Bid are to be directed must be shown.

9.0 QUANTITIES OF WORK. 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 amount of any Unit Price item of the WORK by an amount up to and including 25 percent of any Bid item, without a change in the Unit Price, and shall include the right to delete any Bid item in its entirety, or to add additional Bid items up to and including an aggregate total amount not to exceed 25 percent of the Contract Price (see Section 00700 - General Conditions, Article 10 Changes In the WORK).

10.0 SUBSTITUTE OR "OR-EQUAL" ITEMS. Substitution requests are not accepted during the bidding process. The procedure for the submittal of substitute or "or-equal" products is specified in Section 01300 – Contractor Submittals.

11.0 SUBMISSION OF BIDS. The Bid shall be delivered by the time and to the place stipulated in Section 00030 - Notice Inviting Bids. It is the Bidder's sole responsibility to see that its Bid is received in proper time. Oral, telegraphic, emailed, or faxed Bids will not be considered. The envelope enclosing the sealed Bids shall be plainly marked in the upper left-hand corner with the name and address of the Bidder and shall also include the label included in Section 00030 – Notice Inviting Bids. The Bid Security shall be enclosed in the same envelope with the Bid

12.0 BID SECURITY, BONDS, AND INSURANCE. Each Bid shall be accompanied by a certified, or cashier's check, or approved Bid Bond in an amount of at least 5 percent of the total Bid price. The "total Bid price" is the amount of the Base Bid, plus the amount of alternate Bids, if any, which total to the maximum amount for which the CONTRACT could be awarded. Said check or Bond shall be made payable to the OWNER and shall be given as a guarantee that the Bidder, if offered the WORK, will enter into an Agreement with the OWNER, and will furnish the necessary insurance certificates, Payment Bond, and Performance Bond; each of said Bonds, if required, and insurance amounts shall be as stated in the Supplementary General Conditions. In case of refusal or failure to enter into said Agreement, the check or Bid Bond, as the case may be, may be forfeited to the OWNER. If the Bidder elects to furnish a Bid Bond as its Bid security, the Bidder shall use the Bid Bond form bound herein, or one conforming substantially to it in form. Bid Bonds must be accompanied by a legible Power of Attorney.

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13.0 RETURN OF BID SECURITY. The OWNER will return all Bid security checks (certified or cashier's) accompanying such of the Bids as are not considered in making the award. All other Bid securities will be held until the Agreement has been executed. Following execution of the Agreement, all other Bid security checks will be returned to the respective Bidders whose Bids they accompanied and Bid security bonds will be appropriately discarded.

14.0 DISCREPANCIES IN BIDS. In the event there is more than one Pay Item in a Bid Schedule, the Bidder shall furnish a price for all Pay Items in the schedule, and failure to do so may render the Bid non-responsive and cause its rejection. In the event there are Unit Price Pay Items in a Bid Schedule and the "amount" indicated for a Unit Price Bid Item does not equal the product of the Unit Price and quantity, the Unit Price shall govern and the amount will be corrected accordingly, and the Bidder shall be bound by said correction. In the event there is more than one Pay Item in a Bid Schedule and the total indicated for the schedule does not agree with the sum of the prices Bid on the individual items, the prices Bid on the individual items shall govern and the total for the schedule will be corrected accordingly, and the Bidder shall be bound by said correction.

15.0 BID MODIFICATIONS AND UNAUTHORIZED ALTERNATIVE BIDS.

- A. Any bidder may deliver a modification to a bid in person, by mail or fax (907-586-4561), provided that such modification is received by the Purchasing Division no later than the deadline for bids. Modifications will be time and date stamped by the Purchasing Division, which will establish the official time of receipt of the modification. The modification must not reveal the bid price but should be in the form of an addition or subtraction or other modification so that the final prices will not be known until the sealed bid is opened.

The Bid modifications shall be provided on the **Bid Modification Form** located at the end of this Section. Submittal of any other form by the vendor may deem the modification unacceptable by the OWNER. **A mail or fax modification should not reveal the Bid price but should provide the addition or subtraction or other modification so that the final prices will not be known by the City and Borough until the sealed Bid is opened.** Submitted Modification forms shall include the modification to the unit price or lump sum amount of each pay item modified.

FAX DISCLAIMER: It is the responsibility of the bidder to submit modifications in a timely manner. Bidders' use of a fax machine to modify their bid shall be at bidders' sole risk. The Purchasing Division will attempt to keep the fax machine in good working order but will not be responsible for bid modifications that are late due to mechanical failure, a busy fax machine, or any other cause arising from bidder's use of a fax machine, even if bidder submits a transmission report or provides other confirmation indicating that the bidder transmitted a bid modification prior to the deadline. The City will not be responsible for its failure to receive the modification whether such failure is caused by equipment or human error, or otherwise. Bidders are therefore strongly encouraged to confirm receipt of their bid modification with the Purchasing Division (907-586-5258) prior to deadline.

- B. Conditioned bids, limitations, or provisos attached to the Bid or bid modification will render it unauthorized and cause its rejection as being non-responsive. The completed Bid forms shall be without interlineations, alterations, or erasures in the printed text. All changes shall be initialed by the person signing the Bid. Alternative Bids will not be considered unless called for.

SECTION 00100 - INSTRUCTIONS TO BIDDERS

16.0 WITHDRAWAL OF BID. Prior to the Deadline for Bids, the Bid may be withdrawn by the Bidder by means of a written request, signed by the Bidder or its properly authorized representative. Such written request must be delivered to the place stipulated in the Notice Inviting Bids for receipt of Bids.

17.0 AWARD OF CONTRACT.

- A. Award of a contract, if it is awarded, will be on the basis of materials and equipment described in the Drawings or specified in the Technical Specifications and will be made to the lowest responsive, responsible Bidder whose Bid complies with all the requirements prescribed. Unless otherwise specified, any such award will be made within the period stated in the Notice Inviting Bids that the Bids are to remain open. Unless otherwise indicated, a single award will be made for all the Bid items in an individual Bid Schedule.
- B. If the OWNER has elected to advertise this Project with a Base Bid and Alternates, the OWNER may elect to award the contract for the Base Bid, or the Base Bid in combination with one or more Alternates selected by the OWNER. In either case, award shall be made to the responsive, responsible bidder offering the lowest total Bid for the WORK to be awarded.

18.0 EXECUTION OF AGREEMENT.

- A. All Bids of value greater than \$1,000,000 must be approved by the CBJ Assembly. After the CBJ Assembly has approved the award and after the Bid protest period, the OWNER will issue a Notice of Intent to Award to the approved Bidder. The Bidder to whom award is made shall execute a written Agreement with the OWNER on the Agreement form, Section 00500, collect insurance, and shall furnish all certificates and Bonds required by the Contract Documents within 10 Days (calendar) from the date of the Notice of Intent to Award letter.
- B. Failure or refusal to enter into the Agreement as herein provided or to conform to any of the stipulated requirements in connection therewith shall be just cause for annulment of the award and forfeiture of the Bid security. If the lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the second lowest responsive, responsible Bidder. If the second lowest responsive, responsible Bidder refuses or fails to execute the Agreement, the OWNER may award the contract to the third lowest responsive, responsible Bidder. On the failure or refusal of such second or third lowest Bidder to execute the Agreement, each such Bidder's Bid securities shall be likewise forfeited to the OWNER.

19.0 LIQUIDATED DAMAGES. Provisions for liquidated damages if any, are set forth in Section 00500 - Agreement.

20.0 FILING A PROTEST.

- A. A Bidder may protest the proposed award of a competitive sealed Bid by the City and Borough of Juneau. The protest shall be executed in accordance with CBJ Ordinance 53.50.062 PROTESTS and CBJ Ordinance 53.50.080 ADMINISTRATION OF PROTEST. The entire text of the CBJ Purchasing Ordinance can be accessed at the CBJ website, <http://www.juneau.org/law/code/code.php>, or call the CBJ Purchasing Division at

SECTION 00100 - INSTRUCTIONS TO BIDDERS

(907) 586-5258 for a copy of the ordinance.

B. Late protests shall not be considered by the CBJ Purchasing Officer.

21.0 CONTRACTOR'S GOOD STANDING WITH CBJ FINANCE DEPARTMENT: Contractors must be in good standing with the CBJ prior to award, and prior to any contract renewals, and in any event no later than *seven business days* following notification by the CBJ of intent to award. **Good standing** means: all amounts owed to the CBJ are current and the Contractor is not delinquent with respect to any taxes, fees, assessment, or other monies due and owed the CBJ, or a Confession of Judgment has been executed and the Contractor is in compliance with the terms of any stipulation associated with the Confession of Judgment, including being current as to any installment payments due; and Contractor is current in all CBJ reporting obligations (such as sales tax registration and reporting and business personal property declarations). Failure to meet these requirements may be cause for rejection of your bid. To determine if your business is in good standing, or for further information, contact the CBJ Finance Department's Sales Tax Division at (907) 586-5265 for sales tax issues, Assessor's Office at (907)586-0930 for business personal property issues, or Collections Division at (907) 586-5268 for all other accounts.

22.0 PERMITS AND LICENSES. The CONTRACTOR is responsible for all WORK associated with meeting any local, state, and/or federal permit and licensing requirements.

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CITY AND BOROUGH OF JUNEAU
PURCHASING DIVISION
FAX NO. 907-586-4561

BID MODIFICATION FORM

Modification Number: _____

Note: All modifications shall be made to the original bid amount(s). If more than one Modification form is submitted by any one bidder, changes from all Modification forms submitted will be combined and applied to the original bid. Changes to the modified Bid amounts will be calculated by the OWNER. Bidder may use multiple modification pages if required.

PAY ITEM NO.	PAY ITEM DESCRIPTION	MODIFICATIONS TO UNIT PRICE OR LUMP SUM (indicate +/-)

Bid Total Increase or Decrease: \$ _____

Name of Bidding Firm

Responsible Party Signature

Printed Name (must be an authorized signatory for Bidding Firm)

END OF SECTION

SECTION 00300 - BID

BID TO: THE CITY AND BOROUGH OF JUNEAU

1. The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with the OWNER on the form included in the Contract Documents (as defined in Article 7 of Section 00500 - Agreement) to perform the WORK as specified or indicated in said Contract Documents entitled

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2. Bidder accepts all of the terms and conditions of the Contract Documents, including without limitation those in the "Notice Inviting Bids" and "Instructions to Bidders," dealing with the disposition of the Bid Security.
3. This Bid will remain open for the period stated in the "Notice Inviting Bids" unless otherwise required by law. Bidder will enter into an Agreement within the time and in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders," and will furnish insurance certificates, Payment Bond, Performance Bond, and any other documents as may be required by the Contract Documents.
4. Bidder has familiarized itself with the nature and extent of the Contract Documents, WORK, site, locality where the WORK is to be performed, the legal requirements (federal, state and local laws, ordinances, rules, and regulations), and the conditions affecting cost, progress or performance of the WORK and has made such independent investigations as Bidder deems necessary.
5. This Bid is genuine and not made in the interest of or on behalf of any undisclosed person, firm or corporation and is not submitted in conformity with any agreement or rules of any group, association, organization or corporation; Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid; Bidder has not solicited or induced any person, firm or corporation to refrain from bidding; and Bidder has not sought by collusion to obtain for itself any advantage over any other Bidder or over OWNER.
6. To all the foregoing, and including all Bid Schedule and information required of Bidder contained in this Bid Form, said Bidder further agrees to complete the WORK required under the Contract Documents within the Contract Time stipulated in said Contract Documents, and to accept in full payment therefore the Contract Price based on the total bid price(s) named in the aforementioned Bid Schedule.
7. Bidder has examined copies of all the Contract Documents including the following Addenda (receipt of all of which is hereby acknowledged by the Undersigned):

Addenda No.	Date Issued	Addenda No.	Date Issued

Give number and date of each Addenda above. Failure to acknowledge receipt of all Addenda may cause the Bid to be non-responsive and may cause its rejection.

SECTION 00300 - BID

8. The Bidder has read this Bid and agrees to the conditions as stated herein by signing its signature in

Dated: _____	Bidder: _____ (Company Name)
Alaska CONTRACTOR's Business License No: _____	By: _____ (Signature)
Alaska CONTRACTOR's License No: _____	Printed Name: _____ Title: _____
Telephone No: _____	Address: _____ (Street or P.O. Box)
Fax No: _____	_____ (City, State, Zip)
E-mail: _____	

the space provided below.

9. **TO BE CONSIDERED, ALL BIDDERS MUST COMPLETE AND INCLUDE THE FOLLOWING AT THE TIME OF THE DEADLINE FOR BIDS. MISSING DOCUMENTS WILL DEEM THIS BID NON-RESPONSIVE:**

- Bid, Section 00300 (includes Addenda receipt statement)
- Completed Bid Schedule, Section 00310
- Bid Security (Bid Bond, Section 00320, or by a certified or cashier's check as stipulated in the Notice Inviting Bids, Section 00030)
- **Contractor Financial Responsibility, Section 00370**

10. The apparent low Bidder is required to complete and submit the following documents by 4:30 p.m. on the **fifth business day** following the date of the Posting Notice.

- Subcontractor Report, Section 00360

The apparent low Bidder who fails to submit the completed Subcontractor Report within the time specified in Section 00360 – Subcontractor Report, may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER may then consider the next lowest Bidder for award of the contract.

11. The successful Bidder will be required to submit, **within ten Days (calendar)** after the date of the “Notice of Intent to Award” letter, the following executed documents:

- Agreement Forms, Section 00500
- Performance Bond, Section 00610
- Payment Bond, Section 00620
- Certificates of Insurance, (CONTRACTOR) Section 00700 and Section 00800

END OF SECTION

SECTION 00310 - BID SCHEDULE

PAY ITEM NO.	PAY ITEM DESCRIPTION	PAY UNIT	APPROX. QUANTITY	UNIT PRICE		AMOUNT	
				DOLLARS	CENTS	DOLLARS	CENTS
01505.1	Mobilization	Lump Sum	All Req'd	LUMP	SUM		
01570.1	Erosion and Sediment Control	Lump Sum	All Req'd	LUMP	SUM		
02050.1	Demolition of Existing Lift Stations	Lump Sum	All Req'd	LUMP	SUM		
02201.1	Clearing and Grubbing	Lump Sum	All Req'd	LUMP	SUM		
2202.1	Mining Area Restoration & Road Clearing Guarantee	Contingent Sum	All Req'd	CONT.	SUM	\$1,000.00	00
02702.1	Construction Surveying	Lump Sum	All Req'd	LUMP	SUM		
03301.1	Structural Concrete	CY	12				
11176.1	Channel Drive Pump Station	Lump Sum	All Req'd	LUMP	SUM		
11176.1(A)	Channel Drive Bypass Pumping	Lump Sum	All Req'd	LUMP	SUM		
11176.2	Channel Vista Pump Station	Lump Sum	All Req'd	LUMP	SUM		
11176.2(A)	Channel Vista Bypass Pumping	Lump Sum	All Req'd	LUMP	SUM		
13122.1	Channel Drive Electrical and Controls Hut	Lump Sum	All Req'd	LUMP	SUM		
260000.1	Channel Drive Pump Station Electrical	Lump Sum	All Req'd	LUMP	SUM		
260000.2	Channel Drive Pump Station Electrical AEL&P Service Coordination	Lump Sum	All Req'd	LUMP	SUM		
260000.3	Channel Vista Pump Station Electrical	Lump Sum	All Req'd	LUMP	SUM		

TOTAL BID _____

COMPANY NAME: _____

SECTION 00320 - BID BOND

KNOW ALL PERSONS BY THESE PRESENTS, that _____
_____ as Principal, and _____
as Surety, are held and firmly bound unto **THE CITY AND BOROUGH OF JUNEAU** hereinafter called
"OWNER," in the sum of _____
_____dollars, (not less than five percent of the total amount of the Bid) for the
payment of which sum, well and truly to be made, we bind ourselves, our heirs, executors, administrators,
successors, and assigns, jointly and severally, firmly by these presents.

WHEREAS, said Principal has submitted a Bid to said OWNER to perform the WORK required under
the Bid Schedule of the OWNER's Contract Documents entitled.

**Channel Drive & Channel Vista Pump Station Rehabilitation
Contract No. BE21-148**

NOW THEREFORE, if said Principal is awarded a contract by said OWNER and, within the time and
in the manner required in the "Notice Inviting Bids" and the "Instructions to Bidders" enters into a written
Agreement on the form of Agreement bound with said Contract Documents, furnishes the required certificates
of insurance, and furnishes the required Performance Bond and Payment Bond, then this obligation shall be
null and void, otherwise it shall remain in full force and effect. In the event suit is brought upon this bond by
said OWNER and OWNER prevails, said Surety shall pay all costs incurred by said OWNER in such suit,
including a reasonable attorney's fee to be fixed by the court.

SIGNED AND SEALED, this _____ day of _____, 20____

(SEAL) _____
(Principal)

(SEAL) _____
(Surety)

By: _____
(Signature)

By: _____
(Signature)

END OF SECTION

SECTION 00360 - SUBCONTRACTOR REPORT

LIST OF SUBCONTRACTORS (AS 36.30.115)

The apparent low Bidder must submit a list of Subcontractors that the Bidder proposes to use in the performance of this contract *on the fifth business day* following the Posting Notice of Bids. If the fifth day falls on a weekend or holiday, the report is due by close of business on the next business Day following the weekend or holiday. The Subcontractor Report list must include each Subcontractor's name, address, location, evidence of valid Alaska Business License, and valid Alaska Contractor's Registration under AS 08.18. *If no Subcontractors are to be utilized in the performance of the WORK, write in ink or type "NONE" on line (1) below.*

<u>SUBCONTRACTOR</u>	¹ AK Contractor <u>License No.</u>	¹ <u>Contact Name</u>	<u>Type of</u>	<u>Contract</u>	✓ if <u>DBE</u>
<u>ADDRESS</u>	² AK Business <u>License No.</u>	² <u>Phone No.</u>	<u>Work</u>	<u>Amount</u>	
1. _____ _____ _____	1 _____ 2 _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
2. _____ _____ _____	1 _____ 2 _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
3. _____ _____ _____	1 _____ 2 _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>
4. _____ _____ _____	1 _____ 2 _____	_____ _____	_____ _____	\$ _____	<input type="checkbox"/>

I certify that the above listed Alaska Business License(s) and CONTRACTOR Registration(s), if applicable, were valid at the time Bids were opened for this Project.

CONTRACTOR, Authorized Signature

CONTRACTOR, Printed Name

COMPANY

SECTION 00360 - SUBCONTRACTOR REPORT

- A. A Bidder may replace a listed Subcontractor if the Subcontractor:
1. fails to comply with AS 08.18;
 2. files for bankruptcy or becomes insolvent;
 3. fails to execute a contract with the Bidder involving performance of the WORK for which the Subcontractor was listed and the Bidder acted in good faith;
 4. fails to obtain bonding;
 5. fails to obtain insurance acceptable to the OWNER;
 6. fails to perform the contract with the Bidder involving work for which the Subcontractor was listed;
 7. must be substituted in order for the CONTRACTOR to satisfy required state and federal affirmative action requirements;
 8. refuses to agree or abide with the Bidder's labor agreement; or
 9. is determined by the OWNER not to be responsible.
 10. is not in "Good Standing" with the OWNER as required in Article 21.0 in Section 00100 – Instructions to Bidders.
- B. If a Bidder fails to list a Subcontractor or lists more than one Subcontractor for the same portion of WORK, the Bidder shall be considered to have agreed to perform that portion of WORK without the use of a Subcontractor and to have represented the Bidder to be qualified to perform that WORK.
- C. A Bidder who attempts to circumvent the requirements of this section by listing as a Subcontractor another contractor who, in turn, sublets the majority of the WORK required under the contract violates this section.
- D. If a contract is awarded to a Bidder who violates this section, the OWNER may:
1. cancel the contract; or
 2. after notice and a hearing, assess a penalty on the Bidder in an amount that does not exceed 10 percent of the value of the subcontract at issue.
- E. On the Subcontractor Report, the apparent low Bidder must list all Subcontractors anticipated to perform WORK on the project.
- F. An apparent low Bidder who fails to submit a completed Subcontractor Report within the time specified in this section may be found to be not a responsible Bidder and may be required to forfeit the Bid security. The OWNER will then consider the next lowest Bidder for award of the contract.

END OF SECTION

SECTION 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

To be considered, all bidders must complete and include this form *at the time of the deadline for bids*. Attach additional sheets as necessary to respond to questions.

PROJECT: Channel Drive & Channel Vista Pump Station Rehabilitation

As the General Contractor on this project, I intend to subcontract _____% of the total value of this contract.

A. EXPERIENCE

1. Have you ever failed to complete a contract due to insufficient resources?

No Yes If YES, explain:

2. Describe arrangements you have made to finance this work:

3. Have you had previous construction contracts or subcontracts with the City and Borough of Juneau?

Yes No

4. Describe your most recent or current contract, its completion date, and scope of work:

5. List below, and/or as an attachment to this questionnaire, other construction projects you have completed, dates of completion, scope of work, and total contract amount for each project completed in the past twelve months.

SECTION 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

6. Per Alaska Statute 36.90.210, on previously awarded public contracts (including contracts still in progress), have you ever failed to pay a subcontractor or material supplier within eight working days after receiving payment from the Owner (for projects occurring within the last 3 years)?

Yes No If yes, please attach a detailed explanation for each occurrence.

B. EQUIPMENT

1. Describe below, and/or as an attachment, the equipment you have available and intend to use for this project.

ITEM	QUANTITY	MAKE	MODEL	SIZE/CAPACITY	PRESENT MARKET VALUE

2. Do you propose to purchase any equipment for use on this project not listed on table B-1?

No Yes If YES, describe type, quantity, and approximate cost:

3. Do you propose to rent any equipment for this work not listed on table B-1?

No Yes If YES, describe type and quantity:

SECTION 00370 - CONTRACTOR'S FINANCIAL RESPONSIBILITY

4. Is your bid based on firm offers for all materials necessary for this project?

Yes No If NO, please explain:

I hereby certify that the above statements are true and complete.

Contractor

Name and Title of Person Signing

Signature

Date

SECTION 00500 - AGREEMENT

THIS AGREEMENT is between THE CITY AND BOROUGH OF JUNEAU (hereinafter called OWNER) and _____ (hereinafter called CONTRACTOR) OWNER and CONTRACTOR, in consideration of the mutual covenants hereinafter set forth, agree as follows:

ARTICLE 1. WORK.

CONTRACTOR shall complete the WORK as specified or as indicated under the Bid Schedule of the OWNER's Bid Documents entitled Contract No. BE21-148 Channel Drive & Channel Vista Pump Station Rehabilitation.

The WORK is generally described as follows: Work for the retrofit of two wastewater lift stations (pump stations) including demolition and replacement of wet well pumps, discharge piping and support brackets, pump rails, hardware, drain piping and valves, valve vault discharge piping and valves, force main connections, wet well and valve vault concrete lids and aluminum access hatches, on-grade concrete slabs surrounding pump stations, pump electrical gear, conduit and conductors, wet well level sensors and related equipment, demolition and replacement of the existing Channel Drive pump station control panel and installation of a pre-engineered fiberglass shelter on a slab-on-grade. Bypass pumping will be required to maintain wastewater service to the two associated sewer catchment areas, startup and testing of the two pump stations, and all ancillary work resulting in the functional performance of the pump stations. And miscellaneous related WORK.

The WORK to be paid under this contract shall include the following: Total Bid as shown in Section 00310 - Bid Schedule.

ARTICLE 2. CONTRACT COMPLETION TIME.

All work shall be completed by August 31, 2021.

ARTICLE 3. DATE OF AGREEMENT

The date of this Agreement will be the date of the last signature on page three of this section.

ARTICLE 4. LIQUIDATED DAMAGES.

OWNER and the CONTRACTOR recognize that time is of the essence of this Agreement and that the OWNER will suffer financial loss if the WORK is not completed within the time specified in Article 2 herein, plus any extensions thereof allowed in accordance with Article 12 of the General Conditions. They also recognize the delays, expense, and difficulties involved in proving in a legal proceeding the actual damages suffered by the OWNER if the WORK is not completed on time. Accordingly, instead of requiring any such proof, the OWNER and the CONTRACTOR agree that as liquidated damages for delay (but not as a penalty) the CONTRACTOR shall pay the OWNER **\$550** for each Day that expires after the completion time specified in Article 2 herein. The amount of liquidated damages specified above is agreed to be a reasonable estimate based on all facts known as of the date of this Agreement.

ARTICLE 5. CONTRACT PRICE.

OWNER shall pay CONTRACTOR for completion of the WORK in accordance with the Contract Documents in the amount set forth in the Bid Schedule. The CONTRACTOR agrees to accept as full and complete payment for all WORK to be done in this contract for: Contract No. BE21-148 Channel Drive & Channel Vista Pump Station Rehabilitation, those Unit Price amounts as set forth in the Bid Schedule in the Contract

**CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
Contract No. BE21-148**

**AGREEMENT
Page 00500-1**

SECTION 00500 - AGREEMENT

Documents for this Project.

The total amount of this contract shall be _____ (\$ _____),
except as adjusted in accordance with the provisions of the Bid Documents.

ARTICLE 6. PAYMENT PROCEDURES.

CONTRACTOR shall submit Applications for Payment in accordance with Article 14 of the General Conditions. Applications for Payment will be processed by the ENGINEER as provided in the General Conditions.

Progress payments will be paid in full in accordance with Article 14 of the General Conditions until ninety (90) percent of the Contract Price has been paid. The remaining ten (10) percent of the Contract Price may be retained, in accordance with applicable Alaska State Statutes, until final inspection, completion, and acceptance of the Project by the OWNER.

ARTICLE 7. CONTRACT DOCUMENTS.

The Contract Documents which comprise the entire Agreement between OWNER and CONTRACTOR concerning the WORK consist of this Agreement (pages 00500-1 to 00500-6, inclusive) and the following sections of the Contract Documents:

- Table of Contents (pages 00005-1 to 00005-2, inclusive)
- Notice Inviting Bids (pages 00030-1 to 00030-3, inclusive).
- Instructions to Bidders (pages 00100-1 to 00100-9, inclusive).
- Bid (pages 00300-1 to 00300-2, inclusive).
- Bid Schedule (pages 00310-1, inclusive).
- Bid Bond (page 00320-1, inclusive) or Bid Security.
- Subcontractor Report (pages 00360-1 to 00360-2, inclusive).
- Contractor Financial Responsibility (pages 00370-1 to 00370-3, inclusive).
- Performance Bond (pages 00610-1 to 00610-2, inclusive).
- Payment Bond (pages 00620-1 to 00620-2, inclusive).
- Insurance Certificate(s).
- General Conditions (pages 00700-1 to 00700-49, inclusive).
- Supplementary General Conditions (pages 00800-1 to 00800-6, inclusive).
- Alaska Labor Standards, Reporting, and Prevailing Wage Determination (page 00830-1).
- Permits, (page 00852-1 to 00852-40).
- Special Provisions (pages 1 to 108 inclusive)
- Standard Specifications for Civil Engineering Projects and Subdivision Improvements
December 2003 with current Errata Sheets.
- Drawings consisting of ____ sheets, as listed in the Table of Contents.
- Addenda numbers ____ to ____, inclusive.
- Change Orders which may be delivered or issued after the Date of the Agreement and which are not attached hereto.

There are no Contract Documents other than those listed in this Article 7. The Contract Documents may only be amended by Change Order as provided in Paragraph 3.3 of the General Conditions.

SECTION 00500 - AGREEMENT

ARTICLE 8. MISCELLANEOUS.

Terms used in this Agreement which are defined in Article 1 of the General Conditions will have the meanings indicated in the General Conditions.

No assignment by a party hereto of any rights under or interests in the Contract Documents will be binding on another party hereto without the written consent of the party sought to be bound; and specifically but without limitation monies that may become due and monies that are due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.

OWNER and CONTRACTOR each binds itself, its partners, successors, assigns and legal representatives to the other party hereto, its partners, successors, assigns and legal representatives in respect of all covenants, agreements and obligations contained in the Contract Documents. This Agreement shall be governed by the laws of the State of Alaska. Jurisdiction shall be in the State of Alaska, First Judicial District.

IN WITNESS WHEREOF, OWNER and CONTRACTOR have caused this Agreement to be executed on the date listed below by OWNER.

OWNER:

CONTRACTOR:

_____ City and Borough of Juneau

_____ (Company Name)

_____ (Signature)

_____ (Signature)

By: Duncan Rorie Watt, City & Borough Manager
(Printed Name)

By: _____
(Printed Name, Authority or Title)

Date: _____

CONTRACTOR Signature Date: _____

OWNER's address for giving notices:

CONTRACTOR's address for giving notices:

_____ 155 South Seward Street

_____ Juneau, Alaska 99801

_____ 907-586-0873 907-586-4530
(Telephone) (Fax)

_____ (Telephone) (Fax)

_____ (E-mail address)

Contractor License No. _____

SECTION 00500 - AGREEMENT

CERTIFICATE
(if Corporation)

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Board of Directors of the
_____ a corporation existing under the laws of
the State of _____, held on _____, 20____, the following resolution
was duly passed and adopted:

“RESOLVED, that _____, as _____ President
of the Corporation, be and is hereby authorized to **execute the Agreement** with the CITY AND
BOROUGH OF JUNEAU and this corporation and that the execution thereof, attested by the
Secretary of the Corporation, and with the Corporate Seal affixed, shall be the official act and deed
of this Corporation.”

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the
corporation this _____ day of _____, 20_____.

Secretary

(SEAL)

SECTION 00500 - AGREEMENT

CERTIFICATE
(if Partnership)

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Partners of the

_____ a partnership existing under the laws of the State

of _____, held on _____, 20____, the following resolution was duly passed and adopted:

"RESOLVED, that _____, as _____ of the Partnership, be and is hereby authorized to **execute the Agreement** with the CITY AND BOROUGH OF JUNEAU and this partnership and that the execution thereof, attested by the _____ shall be the official act and deed of this Partnership."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of _____, 20_____.

Secretary

(SEAL)

SECTION 00500 - AGREEMENT

**CERTIFICATE
(if Joint Venture)**

STATE OF)
) SS:
COUNTY OF)

I HEREBY CERTIFY that a meeting of the Principals of the
_____ a joint venture existing under the laws of the
State of _____, held on _____, 20____, the following resolution was duly passed and
adopted:

"RESOLVED, that _____, as _____ of the
Joint Venture, be and is hereby authorized to **execute the Agreement** with the CITY AND
BOROUGH OF JUNEAU and this joint venture and that the execution thereof, attested by the
_____ shall be the official act and deed of this Joint Venture."

I further certify that said resolution is now in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand this _____, day of
_____, 20____.

Secretary

(SEAL)

END OF SECTION

SECTION 00610 - PERFORMANCE BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, Individual)

hereinafter called "Principal" and _____
(Surety)

of _____, State of _____ hereinafter called the "Surety," are held and
firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER,"
(Owner) (City and State)

for the penal sum of _____

_____ dollars (\$ _____) in lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors,
administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the CONTRACTOR has entered
into a certain contract with the OWNER, the effective date of which is (CBJ Contracts Office to fill in effective
date) _____, a copy of which is hereto attached and made a part hereof for the
construction of:

**Channel Drive & Channel Vista Pump Station Rehabilitation
CBJ Contract No. BE21-148**

NOW, THEREFORE, if the Principal shall truly and faithfully perform its duties, all the undertakings,
covenants, terms, conditions, and agreements of said contract during the original term thereof, and any
extensions thereof, which may be granted by the OWNER, with or without notice to the Surety, and if it shall
satisfy all claims and demands incurred under such contract, and shall fully indemnify and save harmless the
OWNER from all costs and damages which it may suffer by reason of failure to do so, and shall reimburse and
repay the OWNER all outlay and expense which the OWNER may incur in making good any default, then this
obligation shall be void; otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no
change, extension of time, alteration or addition to the terms of the contract or to the WORK to be performed
thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and
it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the
contract or to the WORK or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge
the right of any beneficiary hereunder, whose claim may be unsatisfied.

SECTION 00610 - PERFORMANCE BOND

**Channel Drive & Channel Vista Pump Station Rehabilitation
CBJ Contract No. BE21-148**

IN WITNESS WHEREOF, this instrument is issued in two (2) identical counterparts, each one of which shall be deemed an original.

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

SURETY:

By: _____
(Signature of Attorney-in-Fact)

Date Issued: _____

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

NOTE: If CONTRACTOR is Partnership, all Partners must execute bond.

END OF SECTION

SECTION 00620 - PAYMENT BOND

KNOW ALL PERSONS BY THESE PRESENTS: That we _____
(Name of Contractor)

_____ a _____
(Corporation, Partnership, Individual)

hereinafter called "Principal" and _____
(Surety)

of _____, State of _____ hereinafter called the "Surety," are held and
firmly bound to the CITY AND BOROUGH of JUNEAU, ALASKA hereinafter called "OWNER,"
(Owner) (City and State)

for the penal sum of _____

_____ dollars (\$ _____) in lawful money of the
United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors,
administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION is such that whereas, the CONTRACTOR has entered
into a certain contract with the OWNER, the effective date of which is (CBJ Contracts Office to fill in effective
date) _____, a copy of which is hereto attached and made a part hereof for the
construction of:

**Channel Drive & Channel Vista Pump Station Rehabilitation
CBJ Contract No. BE21-148**

NOW, THEREFORE, if the Principal shall promptly make payment to all persons, firms,
Subcontractors, and corporations furnishing materials for, or performing labor in the prosecution of the WORK
provided for in such contract, and any authorized extension or modification thereof, including all amounts due
for materials, lubricants, oil, gasoline, coal and coke, repairs on machinery, equipment and tools, consumed or
used in connection with the construction of such WORK, and all insurance premiums on said work, and for all
labor performed in such WORK, whether by Subcontractor or otherwise, then this obligation shall be void;
otherwise to remain in full force and effect.

PROVIDED, FURTHER, that the said Surety, for value received hereby stipulates and agrees that no
change, extension of time, alteration or addition to the terms of the contract or to the work to be performed
thereunder or the specifications accompanying the same shall in any wise affect its obligation on this bond, and
it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the
contract or to the WORK or to the Specifications.

PROVIDED, FURTHER, that no final settlement between the OWNER and the Principal shall abridge
the right of any beneficiary hereunder, whose claim may be unsatisfied.

SECTION 00620 - PAYMENT BOND

**Channel Drive & Channel Vista Pump Station Rehabilitation
CBJ Contract No. BE21-148**

IN WITNESS WHEREOF, this instrument is issued in two (2) identical counterparts, each one of which shall be deemed an original.

CONTRACTOR:

By: _____
(Signature)

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

SURETY:

By: _____
(Signature of Attorney-in-Fact)

Date Issued: _____

(Printed Name)

(Company Name)

(Mailing Address)

(City, State, Zip Code)

(Affix SURETY'S SEAL)

NOTE: If CONTRACTOR is Partnership, all Partners must execute bond.

END OF SECTION

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ARTICLE 1 DEFINITIONS

Wherever used in these General Conditions or in the Contract Documents the following terms have the meanings indicated which are applicable to both the singular and plural thereof. Where an entire word is capitalized in the definitions and is found not capitalized in the Contract Documents it has the ordinary dictionary definition.

Addenda - Written or graphic instruments issued prior to the opening of Bids which make additions, deletions, or revisions to the Contract Documents.

Agreement - The written contract between the OWNER and the CONTRACTOR covering the WORK to be performed; other documents are attached to the Agreement and made a part thereof as provided therein.

Application for Payment - The form furnished by the ENGINEER which is to be used by the CONTRACTOR to request progress or final payment and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

Asbestos - Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

Bid - The offer or proposal of the Bidder submitted on the prescribed form setting forth the price or prices for the WORK.

Bonds - Bid, Performance, and Payment Bonds and other instruments which protect against loss due to inability or refusal of the CONTRACTOR to perform its contract.

CBJ Project Manager - The authorized representative of the City and Borough of Juneau Engineering Department, as OWNER, who is responsible for administration of the contract.

Change Order - A document recommended by the ENGINEER, which is signed by the CONTRACTOR and the OWNER and authorizes an addition, deletion, or revision in the WORK, or an adjustment in the Contract Price or the Contract Time, issued on or after the Effective Date of the Agreement.

Contract Documents - The Table of Contents, Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Information Required of Bidder, Bid Bond, and all required certificates and affidavits), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Technical Specifications, Drawings, Permits, and all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents.

Contract Price - The total monies payable by the OWNER to the CONTRACTOR under the terms and conditions of the Contract Documents.

Contract Time - The number of successive calendar Days stated in the Contract Documents for the completion of the WORK.

CONTRACTOR - The individual, partnership, corporation, joint-venture or other legal entity with whom the OWNER has executed the Agreement.

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Day - A calendar day of 24 hours measured from midnight to the next midnight.

Defective WORK - WORK that is unsatisfactory, faulty, or deficient; or that does not conform to the Contract Documents; or that does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract Documents; or WORK that has been damaged prior to the ENGINEER's recommendation of final payment.

Drawings - The Drawings, plans, maps, profiles, diagrams, and other graphic representations which indicate the character, location, nature, extent, and scope of the WORK and which have been prepared by the ENGINEER and are referred to in the Contract Documents. Shop Drawings are not within the meaning of this paragraph.

Effective Date of the Agreement - The date indicated in the Agreement on which it becomes effective, but if no such date is indicated it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

Engineer of Record - The individual, partnership, corporation, joint-venture or other legal entity named as such in the Contract Documents.

ENGINEER - The ENGINEER is the firm or person(s) selected by the City and Borough of Juneau (CBJ) to perform the duties of project inspection and management. CBJ will inform the CONTRACTOR of the identity of the ENGINEER at or before the Notice to Proceed.

Field Order - A written order issued by the ENGINEER which may or may not involve a change in the WORK.

General Requirements - Division 1 of the Technical Specifications.

Hazardous Waste - The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 9603) as amended from time to time.

Holidays - The CBJ legal holidays occur on:

1. New Year's Day - January 1
2. Martin Luther King's Birthday - Third Monday in January
3. President's Day - Third Monday in February
4. Seward's Day - Last Monday in March
5. Memorial Day - Last Monday in May
6. Independence Day - July 4
7. Labor Day - First Monday in September
8. Alaska Day - October 18
9. Veteran's Day - November 11
10. Thanksgiving Day - Fourth Thursday and the following Friday in November
11. Christmas Day - December 25

If any holiday listed above falls on a Saturday, Saturday and the preceding Friday are both legal holidays. If the holiday should fall on a Sunday, Sunday and the following Monday are both legal holidays.

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Inspector - The authorized representative of the ENGINEER assigned to make detailed inspections for conformance to the Contract Documents. Any reference to the Resident Project Representative in this document shall mean the Inspector.

Laws and Regulations; Laws or Regulations - Any and all applicable laws, rules, regulations, ordinances, codes, and/or orders of any and all governmental bodies, agencies, authorities and courts having jurisdiction.

Mechanic's Lien - A form of security, an interest in real property, which is held to secure the payment of an obligation. When referred to in these Contract Documents, "Mechanic's Lien" or "lien" means "Stop Notice".

Milestone - A principal event specified in the Contract Documents relating to an intermediate completion date of a portion of the WORK, or a period of time within which the portion of the WORK should be performed prior to Substantial Completion of all the WORK.

Notice of Award - The written notice by the OWNER to the apparent successful bidder stating that the apparent successful bidder has complied with all conditions for award of the contract.

Notice of Completion - A form signed by the ENGINEER and the CONTRACTOR recommending to the OWNER that the WORK is Substantially Complete and fixing the date of Substantial Completion. After acceptance of the WORK by the OWNER's governing body, the form is signed by the OWNER and filed with the County Recorder. This filing starts the 30-day lien filing period on the WORK.

Notice to Proceed - The written notice issued by the OWNER to the CONTRACTOR authorizing the CONTRACTOR to proceed with the WORK and establishing the date of commencement of the Contract Time.

Notice of Intent to Award - The written notice by the OWNER to the apparent successful bidder stating that upon compliance by the apparent successful bidder with the requirements listed therein, within the time specified, the OWNER will enter into an Agreement.

OWNER - The City and Borough of Juneau (CBJ), acting through its legally designated officials, officers, or employees.

Partial Utilization - Use by the OWNER or a substantially completed part of the WORK for the purpose for which it is intended prior to Substantial Completion of all the WORK.

PCB's - Polychlorinated biphenyls.

PERMITTEE – See definition for CONTRACTOR.

Petroleum - Petroleum, including crude oil or any fraction thereof which is liquid at standard conditions of temperature and pressure (60 degrees Fahrenheit and 14.7 pounds per square inch absolute), such as oil, petroleum, fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Wastes and crude oils.

Project - The total construction of which the WORK to be provided under the Contract Documents may be the whole, or a part as indicated elsewhere in the Contract Documents.

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Radioactive Material - Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2011 et seq.) as amended from time to time.

Shop Drawings - All Drawings, diagrams, illustrations, schedules and other data which are specifically prepared by or for the CONTRACTOR and submitted by the CONTRACTOR, to the ENGINEER, to illustrate some portion of WORK.

Specifications - Same definition as "Technical Specifications" hereinafter.

Stop Notice - A legal remedy for Subcontractors and suppliers who contribute to public works, but who are not paid for their WORK, which secures payment from construction funds possessed by the OWNER. For public property, the Stop Notice remedy is designed to substitute for mechanic's lien rights.

Sub-Consultant - The individual, partnership, corporation, joint-venture or other legal entity having a direct contract with ENGINEER, or with any of its Consultants to furnish services with respect to the Project.

Subcontractor - An individual, partnership, corporation, joint-venture or other legal entity having a direct contract with the CONTRACTOR, or with any of its Subcontractors, for the performance of a part of the WORK at the site.

Substantial Completion - Refers to when the WORK has progressed to the point where, in the opinion of the ENGINEER as evidenced by Notice of Completion as applicable, it is sufficiently complete, in accordance with the Contract Documents, so that the WORK can be utilized for the purposes for which it is intended; or if no such notice is issued, when final payment is due in accordance with Paragraph 14.8. The terms "substantially complete" and "substantially completed" as applied to any WORK refer to substantial completion thereof.

Supplementary General Conditions (SGC) - The part of the Contract Documents which make additions, deletions, or revisions to these General Conditions.

Supplier - A manufacturer, fabricator, supplier, distributor, materialman, or vendor.

Technical Specifications - Divisions 1 through 16 of the Contract Documents consisting of the General Requirements and written technical descriptions of products and execution of the WORK.

Underground Utilities - All pipelines, conduits, ducts, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or attachments, and any encasements containing such facilities which have been installed underground to furnish any of the following services or materials: water, sewage and drainage removal, electricity, gases, steam, liquid petroleum products, telephone or other communications, cable television, traffic, or other control systems.

WORK, Work - The entire completed construction or the various separately identifiable parts thereof required to be furnished under the Contract Documents. WORK is the result of performing, or furnishing labor and furnishing and incorporating materials and equipment into the construction, and performing or furnishing services and furnishing documents, all as required by the Contract Documents.

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ARTICLE 2 PRELIMINARY MATTERS

- 2.1 DELIVERY OF BONDS/INSURANCE CERTIFICATES. When the CONTRACTOR delivers the signed Agreements to the OWNER, the CONTRACTOR shall also deliver to the OWNER such Bonds and Insurance Policies and Certificates as the CONTRACTOR may be required to furnish in accordance with the Contract Documents.
- 2.2 COPIES OF DOCUMENTS. The OWNER shall furnish to the CONTRACTOR the required number of copies of the Contract Documents specified in the Supplementary General Conditions.
- 2.3 COMMENCEMENT OF CONTRACT TIME; NOTICE TO PROCEED. The Contract Time will start to run on the commencement date stated in the Notice to Proceed.
- 2.4 STARTING THE WORK
- A. The CONTRACTOR shall begin to perform the WORK within 10 days after the commencement date stated in the Notice to Proceed, but no WORK shall be done at the site prior to said commencement date.
- B. Before undertaking each part of the WORK, the CONTRACTOR shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. The CONTRACTOR shall promptly report in writing to the ENGINEER any conflict, error, or discrepancy which the CONTRACTOR may discover and shall obtain a written interpretation or clarification from the ENGINEER before proceeding with any WORK affected thereby.
- C. The CONTRACTOR shall submit to the ENGINEER for review those documents called for under Section 01300 - CONTRACTOR Submittals in the General Requirements.
- 2.5 PRE-CONSTRUCTION CONFERENCE. The CONTRACTOR is required to attend a Pre-Construction Conference. This conference will be attended by the ENGINEER and others as appropriate in order to discuss the WORK in accordance with the applicable procedures specified in the General Requirements, Section 01010 - Summary of WORK in the General Requirements.
- 2.6 FINALIZING CONTRACTOR SUBMITTALS. At least 7 days before submittal of the first Application for Payment a conference attended by the CONTRACTOR, the ENGINEER and others as appropriate will be held to finalize the initial CONTRACTOR submittals in accordance with the General Requirements. As a minimum the CONTRACTOR's representatives should include the project manager and schedule expert. The CONTRACTOR should plan on this meeting taking no less than 8 hours. If the submittals are not finalized at the end of the meeting, additional meetings will be held so that the submittals can be finalized prior to the submittal of the first application for payment. No application for payment will be processed until CONTRACTOR submittals are finalized.

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ARTICLE 3 CONTRACT DOCUMENTS: INTENT, AMENDING, REUSE

3.1 INTENT

- A. The Contract Documents comprise the entire Agreement between the OWNER and the CONTRACTOR concerning the WORK. The Contract Documents shall be construed as a whole in accordance with Alaska Law.
- B. It is the intent of the Contract Documents to describe the WORK, functionally complete, to be constructed in accordance with the Contract Documents. Any work, materials, or equipment that may reasonably be inferred from the Contract Documents as being required to produce the intended result shall be supplied whether or not specifically called for. When words or phrases which have a well-known technical or construction industry or trade meaning are used to describe work, materials, or equipment such words or phrases shall be interpreted in accordance with that meaning, unless a definition has been provided in Article 1 of the General Conditions. Reference to standard specifications, manuals, or codes of any technical society, organization, or association, or to the Laws or Regulations of any governmental authority, whether such reference be specific or by implication, shall mean the latest standard specification, manual, code, or Laws or Regulations in effect at the time of opening of Bids, except as may be otherwise specifically stated. However, no provision of any referenced standard specification, manual, or code (whether or not specifically incorporated by reference in the Contract Documents) shall be effective to change the duties and responsibilities of the OWNER, the CONTRACTOR, or the ENGINEER or any of their consultants, agents, or employees from those set forth in the Contract Documents.
- C. If, during the performance of the WORK, CONTRACTOR discovers any conflict, error, ambiguity or discrepancy within the Contract Documents or between the Contract Documents and any provision of any such Law or Regulation applicable to the performance of the WORK or of any such standard, specification, manual or code or of any instruction of any Supplier referred to in paragraph 6.5, the CONTRACTOR shall report it to the ENGINEER in writing at once, and the CONTRACTOR shall not proceed with the WORK affected thereby (except in an emergency as authorized by the ENGINEER) until a clarification field order, or Change Order to the Contract Documents has been issued.

3.2 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS

- A. In resolving conflicts resulting from, errors, or discrepancies in any of the Contract Documents, the order of precedence shall be as follows:
 - 1. Permits from other agencies as may be required by law, excepting the definition of "PERMITEE" in these permits.
 - 2. Field Orders
 - 3. Change Orders
 - 4. ENGINEER's written interpretations and clarifications.
 - 5. Agreement
 - 6. Addenda
 - 7. CONTRACTOR's Bid (Bid Form)
 - 8. Supplementary General Conditions
 - 9. Notice Inviting Bids

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10. Instructions to Bidders
11. General Conditions
12. Technical Specifications
13. Drawings

B. With reference to the Drawings the order of precedence is as follows:

1. Figures govern over scaled dimensions
2. Detail Drawings govern over general Drawings
3. Addenda/ Change Order drawings govern over Contract Drawings
4. Contract Drawings govern over standard drawings

3.3 AMENDING AND SUPPLEMENTING CONTRACT DOCUMENTS. The Contract Documents may be amended to provide for additions, deletions, and revisions in the WORK or to modify the terms and conditions thereof by a Change Order (pursuant to Article 10 CHANGES IN THE WORK).

3.4 REUSE OF DOCUMENTS. Neither the CONTRACTOR, nor any Subcontractor or Supplier, nor any other person or organization performing any of the WORK under a contract with the OWNER shall have or acquire any title to or ownership rights in any of the Drawings, Technical Specifications, or other documents used on the WORK, and they shall not reuse any of them on the extensions of the Project or any other project without written consent of the OWNER.

ARTICLE 4 AVAILABILITY OF LANDS; PHYSICAL CONDITIONS; REFERENCE POINTS

4.1 AVAILABILITY OF LANDS. The OWNER shall furnish, as indicated in the Contract Documents, the lands upon which the WORK is to be performed, rights-of-way and easements for access thereto, and such other lands which are designated for the use of the CONTRACTOR. Easements for permanent structures or permanent changes in existing facilities will be obtained and paid for by the OWNER, unless otherwise provided in the Contract Documents. Nothing contained in the Contract Documents shall be interpreted as giving the CONTRACTOR exclusive occupancy of the lands or rights-of-way provided. The CONTRACTOR shall provide for all additional lands and access thereto that may be required for temporary construction facilities or storage of materials and equipment; provided, that the CONTRACTOR shall not enter upon nor use any property not under the control of the OWNER until a written temporary construction easement, lease or other appropriate agreement has been executed by the CONTRACTOR and the property owner, and a copy of said agreement furnished to the ENGINEER prior to said use; and, neither the OWNER nor the ENGINEER shall be liable for any claims or damages resulting from the CONTRACTOR's unauthorized trespass or use of any such properties.

4.2 PHYSICAL CONDITIONS - SUBSURFACE AND EXISTING STRUCTURES

A. Explorations and Reports. Reference is made to SGC 4.2 Physical Conditions of the Supplementary General Conditions for identification of those reports of explorations and tests of sub-surface conditions at the site that have been utilized by the ENGINEER in the preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the technical data contained in such reports, however, reports are not to be considered complete or comprehensive and nontechnical data, interpretations, and opinions contained in such reports are not to be relied on by the CONTRACTOR. The CONTRACTOR is

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responsible for any further explorations or tests that may be necessary and any interpretation, interpolation, or extrapolation that it makes of any information shown in such reports.

- B. Existing Structures. Reference is made to SGC 4.2 Physical Conditions of the Supplementary General Conditions for identification of those drawings of physical conditions in or relating to existing surface and subsurface structures (except Underground Utilities referred to in Paragraph 4.4 herein) which are at or contiguous to the site that have been utilized by the ENGINEER in the preparation of the Contract Documents. The CONTRACTOR may rely upon the accuracy of the technical data contained in such drawings, however, nontechnical data, interpretations, and opinions contained in such drawings are not to be relied on by the CONTRACTOR. The CONTRACTOR is also responsible for any interpretation, interpolation, or extrapolation that it makes of any information shown in such drawings.

4.3 DIFFERING SITE CONDITIONS

- A. The CONTRACTOR shall promptly upon discovery (but in no event later than 14 days thereafter) and before the following conditions are disturbed, notify the ENGINEER, in writing of any:
 - 1. Material that the CONTRACTOR believes may be material that is hazardous waste, as defined in Article 1 of these General Conditions, or asbestos, PCB's, petroleum or any other substance or material posing a threat to human or to the environment.
 - 2. Subsurface or latent physical conditions at the site differing from those indicated.
 - 3. Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally recognized as inherent in WORK of the character provided for in the contract.
- B. The OWNER shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the CONTRACTOR's cost of, or the time required for, performance of any part of the WORK shall issue a Change Order under the procedures described in the contract.
- C. In the event that a dispute arises between the OWNER and the CONTRACTOR whether the conditions materially differ, or involved hazardous waste or other materials listed above, or cause a decrease or increase in the CONTRACTOR's cost of, or time required for, performance of any part of the WORK, the CONTRACTOR shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all WORK to be performed under the contract. The CONTRACTOR shall retain any and all rights provided either by contract or by Law which pertain to the resolution of disputes and protests between the contracting parties.

4.4 PHYSICAL CONDITIONS - UNDERGROUND UTILITIES

- A. Indicated. The information and data indicated in the Contract Documents with respect to existing Underground Utilities at or contiguous to the site are based on information and data furnished to the OWNER or the ENGINEER by the owners of such Underground Utilities or by others. Unless it is expressly provided in the Supplementary General Conditions and/or Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements, the OWNER and the ENGINEER shall not be responsible for the accuracy or

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completeness of any such information or data, and the CONTRACTOR shall have full responsibility for reviewing and checking all such information and data, for locating all Underground Utilities indicated in the Contract Documents, for coordination of the WORK with the owners of such Underground Utilities during construction, for the safety and protection thereof and repairing any damage thereto resulting from the WORK, the cost of which will be considered as having been included in the Contract Price.

- B. Not Indicated. If an Underground Utility is uncovered or revealed at or contiguous to the site which was not indicated in the Contract Documents and which the CONTRACTOR could not reasonably have been expected to be aware of, the CONTRACTOR shall identify the owner of such Underground Utility and give written notice thereof to that owner and shall notify the ENGINEER in accordance with the requirements of the Supplementary General Conditions and Section 01530 - Protection and Restoration of Existing Facilities of the General Requirements.

4.5 REFERENCE POINTS

- A. The ENGINEER will provide one bench mark, near or on the site of the WORK, and will provide two points near or on the site to establish a base line for use by the CONTRACTOR for alignment control. Unless otherwise specified in the General Requirements, the CONTRACTOR shall furnish all other lines, grades, and bench marks required for proper execution of the WORK.
- B. The CONTRACTOR shall preserve all bench marks, stakes, and other survey marks, and in case of their removal or destruction by its own employees or by its Subcontractor's employees, the CONTRACTOR shall be responsible for the accurate replacement of such reference points by personnel qualified under the Alaska Statute governing the licensing of Architects, Engineers, and Land Surveyors.

4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT

- A. On City and Borough of Juneau (CBJ) construction projects, the CBJ may make unclassified material available to CONTRACTORS, from the CBJ/State Lemon Creek gravel pit, at a rate less than charged other customers. CONTRACTORS are not required to use material from the CBJ/State pit and the CBJ makes no guarantee as to the quantity or quality of the available material. For this Project, contact Alec Venechuk, CBJ Material Source Manager, at (907) 586-0874 for the current material rates.
- B. CONTRACTORS proposing to use gravel from the CBJ/State pit are required to be in good standing for all amounts owed to the CBJ, for previous gravel operations, prior to submitting a mining plan for approval. CONTRACTORS using the pit must comply with Allowable Use Permit USE 2008-00061. Failure to meet these requirements, if so subject, shall be sufficient reason to deny use of the CBJ/State pit as a gravel source. To determine if your company is subject to these requirements, contact the CBJ Engineering Department, Gravel Pit Management, at (907) 586-0874.
- C. CONTRACTORS deciding to use material from the CBJ/State pit shall provide an Individual Mining Plan prepared by a professional engineer registered in the State of Alaska. The Individual Mining Plan must be reviewed and approved by the CBJ, prior to commencing

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operations within the pit. CONTRACTORS shall also secure a Performance Bond to ensure compliance with contract provisions, including any Individual Mining Plan stipulations. The bond shall remain in full force and effect until a release is obtained from the CBJ.

- D. If CONTRACTOR operations for a project do not exceed 500 tons of material, the CONTRACTOR will not be required to provide an Individual Mining Plan prepared by an engineer. However, the CONTRACTOR must submit an Individual Mining Plan that is in compliance with Allowable Use Permit USE 2008-00061 for gravel extraction within the CBJ/State pit. The CONTRACTOR must contact the CBJ Engineering Department for conditions for the extraction.
- E. CONTRACTORS using the CBJ material may do primary dry separation (screening) of materials within the pit. Crushing and washing of material will not be allowed. CONTRACTORS shall account for placement of materials removed from the pit. The CBJ may require CONTRACTORS to cross-check weight tickets, submit to an audit, or participate in other measures required by the CBJ to ensure accountability. Unprocessed overburden removed from the pit will not be weighed. All other material mined will be weighed at the CBJ scale. CONTRACTORS will be responsible for loading and/or screening their own material. If asphalt pavement is removed as part of the WORK, CONTRACTORS shall dispose of the material at a to-be-specified location within the pit area, as directed by the CBJ Project Manager.
- F. The gravel pit overhead charge shall be paid to the CBJ by the CONTRACTOR within 60 days after removal of all materials from the pit and prior to requesting and/or receiving final payment. Upon completion of each excavation CONTRACTORS shall notify the CBJ, in writing, in sufficient time to perform a field-compliance examination prior to vacating the pit. Any significant deviation from the stipulations of the Individual Mining Plan identified during the field inspection shall be corrected by the CONTRACTOR prior to release of the bond. A signed release from CBJ will be required prior to releasing the CONTRACTOR's bond.
- G. If asphalt pavement is removed as part of this WORK, the CONTRACTOR shall dispose of the material at the location designated as the Asphalt Storage Facility, or as directed by the ENGINEER.
- H. The CBJ/State pit is a seasonal operation. The hours of operation are from 7:00 a.m. to 6:00 p.m., Monday through Friday, from April 1 through October 15 of the year. CONTRACTORS may obtain gravel on weekends, or during the off-season, by applying for a separate agreement with the City and Borough of Juneau Engineering Department. The CONTRACTOR will be responsible for any additional costs incurred during weekend or off-season operations at the gravel pit.
- I. All Contractors/Equipment Operators using the CBJ/State Pit shall be in compliance with Federal Mine Safety and Health Administration regulations for quarry and gravel operations.

ARTICLE 5 BONDS AND INSURANCE

5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS

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- A. The CONTRACTOR shall furnish, when required, Performance and Payment Bonds on forms provided by the CBJ for the penal sums of 100% of the amount of the Bid award. The surety on each bond may be any corporation or partnership authorized to do business in the State of Alaska as an insurer under AS 21.09. These bonds shall remain in effect for 12 months after the date of final payment and until all obligations and liens under this contract have been satisfied. The CONTRACTOR shall also furnish such other Bonds as are required by the Supplementary General Conditions. All Bonds shall be in the form prescribed by the Contract Documents except as provided otherwise by Laws or Regulations, and shall be executed by such sureties as are named in the current list of "Companies Holding Certificates of Authority as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff, Bureau of Government Financial Operations, U.S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of such agent's authority to act.
- B. If the surety on any Bond furnished by the CONTRACTOR is declared bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the WORK is located, the CONTRACTOR shall within 7 days thereafter substitute another Bond and Surety, which must be acceptable to the OWNER.
- C. All Bonds required by the Contract Documents to be purchased and maintained by CONTRACTOR shall be obtained from surety companies that are duly licensed or authorized in the State of Alaska to issue Bonds for the limits so required. Such surety companies shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions. The City Engineer may, on behalf of the OWNER, notify the surety of any potential default or liability.

5.2 INSURANCE

- A. The CONTRACTOR shall purchase and maintain the insurance required under this paragraph. Such insurance shall include the specific coverages set out herein and be written for not less than the limits of liability and coverages provided in the Supplementary General Conditions, or required by law, whichever are greater. All insurance shall be maintained continuously during the life of the Agreement up to the date of Final Completion and at all times thereafter when the CONTRACTOR may be correcting, removing, or replacing Defective WORK in accordance with Paragraph 13.6, but the CONTRACTOR's liabilities under this Agreement shall not be deemed limited in any way to the insurance coverage required.
- B. All insurance required by the Contract Documents to be purchased and maintained by the CONTRACTOR shall be obtained from insurance companies that are duly licensed or authorized in the State of Alaska to issue insurance policies for the limits and coverages so required. Such insurance companies shall have a current Best's Rating of at least an "A" (Excellent) general policy holder's rating and a Class VII financial size category and shall also meet such additional requirements and qualifications as may be provided in the Supplementary General Conditions.
- C. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. All of the policies of insurance so required to be purchased and maintained (or the certificates or other

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evidence thereof) shall contain a provision or endorsement that the coverage afforded will not be cancelled, reduced in coverage, or renewal refused until at least 30 days' prior written notice has been given to the OWNER by certified mail. All such insurance required herein (except for Workers' Compensation and Employer's Liability) shall name the OWNER, its Consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies. The CONTRACTOR shall purchase and maintain the following insurance:

1. Workers' Compensation and Employer's Liability. This insurance shall protect the CONTRACTOR against all claims under applicable state workers' compensation laws. The CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Workers' Compensation law. This policy shall include an "all states" endorsement. The CONTRACTOR shall require each Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Workers' Compensation Insurance. In case any class of employees is not protected, under the Workers' Compensation Statute, the CONTRACTOR shall provide and shall cause each Subcontractor to provide adequate employer's liability insurance for the protection of such of its employees as are not otherwise protected.
2. Commercial General Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims arising from injuries to persons other than its employees or damage to property of the OWNER or others arising out of any act or omission of the CONTRACTOR or its agents, employees, or Subcontractors. The policy shall contain no exclusions for any operations within the scope of this contract.
3. Comprehensive Automobile Liability. This insurance shall be written in comprehensive form and shall protect the CONTRACTOR against all claims for injuries to members of the public and damage to property of others arising from the use of motor vehicles, and shall cover operation on or off the site of all motor vehicles licensed for highway use, whether they are owned, non-owned, or hired. Coverage for hired motor vehicles should include endorsement covering liability assumed under this Agreement.
4. Subcontractor's Commercial General Liability Insurance and Commercial Automobile Liability Insurance. The CONTRACTOR shall either require each of its Subcontractors to procure and to maintain Subcontractor's Commercial General Liability and Property Damage Insurance and Vehicle Liability Insurance of the type and in the amounts specified in the Supplementary General Conditions or insure the activities of its Subcontractors in the CONTRACTOR's own policy, in like amount.
5. Builder's Risk. This insurance shall be of the "all risks" type, shall be written in completed value form, and shall protect the CONTRACTOR, the OWNER, and the ENGINEER, against risks of damage to buildings, structures, and materials and equipment. The amount of such insurance shall be not less than the insurable value of the WORK at completion. Builder's risk insurance shall provide for losses to be payable to the CONTRACTOR and the OWNER, as their interests may appear. The policy shall contain a provision that in the event of payment for any loss under the coverage provided, the insurance company shall have no rights of recovery against the

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CONTRACTOR, the OWNER, and the ENGINEER. The Builder's Risk policy shall insure against all risks of direct physical loss or damage to property from any external cause including flood and earthquake. Allowable exclusions, if any, shall be as specified in the Supplementary General Conditions.

ARTICLE 6 CONTRACTOR'S RESPONSIBILITIES

6.1 SUPERVISION AND SUPERINTENDENCE

- A. The CONTRACTOR shall supervise, inspect, and direct the WORK competently and efficiently, devoting such attention thereto and applying such skills and expertise as may be necessary to perform the WORK in accordance with the Contract Documents. The CONTRACTOR shall be solely responsible for the means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incidental thereto. The CONTRACTOR shall be responsible to see that the completed WORK complies accurately with the Contract Documents.
- B. The CONTRACTOR shall designate in writing and keep on the WORK site at all times during its progress a technically qualified, English-speaking superintendent, who is an employee of the CONTRACTOR and who shall not be replaced without written notice to the OWNER and the ENGINEER. The superintendent will be the CONTRACTOR's representative at the site and shall have authority to act on behalf of the CONTRACTOR. All communications given to the superintendent shall be as binding as if given to the CONTRACTOR. The CONTRACTOR shall issue all its communications to the OWNER through the ENGINEER and the ENGINEER only.
- C. The CONTRACTOR's superintendent shall be present at the site of the WORK at all times while WORK is in progress. Failure to observe this requirement shall be considered suspension of the WORK by the CONTRACTOR until such time as such superintendent is again present at the site.

6.2 LABOR, MATERIALS, AND EQUIPMENT

- A. The CONTRACTOR shall provide competent, suitably qualified personnel to survey and lay out the WORK and perform construction as required by the Contract Documents. The CONTRACTOR shall furnish, erect, maintain, and remove the construction plant and any temporary works as may be required. The CONTRACTOR shall at all times maintain good discipline and order at the site. Except in connection with the safety or protection of persons or the WORK or property at the site or adjacent thereto, and except as otherwise indicated in the Contract Documents, all WORK at the site shall be performed during regular working hours, and the CONTRACTOR will not permit overtime work or the performance of work on Saturday, Sunday, or any legal holiday without the OWNER's written consent. The CONTRACTOR shall apply for this consent through the ENGINEER.
- B. Except as otherwise provided in this Paragraph, the CONTRACTOR shall receive no additional compensation for overtime work, i.e., work in excess of 8 hours in any one calendar day or 40 hours in any one calendar week, even though such overtime work may be required under emergency conditions and may be ordered by the ENGINEER in writing. Additional compensation will be paid the CONTRACTOR for overtime work only in the

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event extra work is ordered by the ENGINEER and the Change Order specifically authorizes the use of overtime work and then only to such extent as overtime wages are regularly being paid by the CONTRACTOR for overtime work of a similar nature in the same locality.

- C. All costs of inspection and testing performed during overtime work by the CONTRACTOR which is allowed solely for the convenience of the CONTRACTOR shall be borne by the CONTRACTOR. The OWNER shall have the authority to deduct the cost of all such inspection and testing from any partial payments otherwise due to the CONTRACTOR.
 - D. Unless otherwise specified in the Contract Documents, the CONTRACTOR shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the WORK.
 - E. All materials and equipment to be incorporated into the WORK shall be of good quality and new, except as otherwise provided in the Contract Documents. All warranties and guarantees specifically called for by the Specifications shall expressly run to the benefit of the OWNER. If required by the ENGINEER, the CONTRACTOR shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the instructions of the applicable Supplier except as otherwise provided in the Contract Documents; but no provisions of any such instructions will be effective to assign to the ENGINEER, or any of the ENGINEER consultants, agents, or employees, any duty or authority to supervise or direct the furnishing or performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraphs 9.9C and 9.9D.
 - F. The CONTRACTOR shall at all times employ sufficient labor and equipment for prosecuting the several classes of WORK to full completion in the manner and time set forth in and required by these specifications. All workers shall have sufficient skill and experience to perform properly the WORK assigned to them. Workers engaged in special WORK, or skilled WORK, shall have sufficient experience in such WORK and in the operation of the equipment required to perform all WORK, properly and satisfactorily.
 - G. Any person employed by the CONTRACTOR or by any Subcontractor who, in the opinion of the ENGINEER, does not perform the WORK in a proper and skillful manner, or is intemperate or disorderly shall, at the written request of the ENGINEER, be removed forthwith by the CONTRACTOR or Subcontractor employing such person, and shall not be employed again in any portion of the WORK without the approval of the ENGINEER. Should the CONTRACTOR fail to remove such person or persons as required above, or fail to furnish suitable and sufficient personnel for the proper prosecution of the WORK, the ENGINEER may suspend the WORK by written notice until such orders are complied with.
- 6.3 ADJUSTING PROGRESS SCHEDULE. The CONTRACTOR shall submit monthly updates of the progress schedule to the ENGINEER for acceptance in accordance with the provisions in Section 01300 - CONTRACTOR Submittals in the General Requirements.

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- 6.4 SUBSTITUTES OR "OR-EQUAL" ITEMS. The CONTRACTOR shall submit proposed substitutes or "or-equal" items in accordance with the provisions in Section 01300 - CONTRACTOR Submittals in the General Requirements.
- 6.5 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS.
- A. The CONTRACTOR shall be responsible to the OWNER and the ENGINEER for the acts and omissions of its Subcontractors and their employees to the same extent as CONTRACTOR is responsible for the acts and omissions of its own employees. Nothing contained in this Paragraph shall create any contractual relationship between any Subcontractor and the OWNER or the ENGINEER nor relieve the CONTRACTOR of any liability or obligation under the prime contract.
- B. The CONTRACTOR shall perform not less than 40% of the WORK with its own forces (i.e., without subcontracting). The 40% requirement shall be understood to mean that the CONTRACTOR shall perform, with its own organization, WORK amounting to at least 40% of the awarded contract amount. The 40% requirement will be calculated based upon the total of the subcontract amounts submitted for contract award, and any other information requested by the OWNER from the apparent low bidder.
- 6.6 PERMITS
- A. Unless otherwise provided in the Supplementary General Conditions, the CONTRACTOR shall obtain and pay for all construction permits and licenses from the agencies having jurisdiction, including the furnishing of insurance and bonds if required by such agencies. The enforcement of such requirements under this contract shall not be made the basis for claims for additional compensation. The OWNER shall assist the CONTRACTOR, when necessary, in obtaining such permits and licenses. The CONTRACTOR shall pay all governmental charges and inspection fees necessary for the prosecution of the WORK, which are applicable at the time of opening of Bids. The CONTRACTOR shall pay all charges of utility owners for connections to the WORK.
- B. These Contract Documents may require that the WORK be performed within the conditions and/or requirements of local, state and/or federal permits. These permits may be bound within the Contract Documents, included within the Contract Documents by reference, or included as part of the WORK, as designated in this Section. The CONTRACTOR is responsible for completing the WORK required for compliance with all permit requirements; this WORK is incidental to other items in the Contract Documents. Any reference to the PERMITTEE in the permits shall mean the CONTRACTOR. If any permits were acquired by the OWNER, this action was done to expedite the start of construction. If the CONTRACTOR does not complete the WORK within the specified permit window, the CONTRACTOR shall be responsible for the permit extension, and for completing any additional requirements placed upon the permit.
- C. The OWNER shall apply for, and obtain, the necessary building permit for this Project, however, the CONTRACTOR is responsible for scheduling and coordinating all necessary inspections. The CBJ Inspection number is 586-1703. All other provisions of this Section remain in effect.

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- 6.7 PATENT FEES AND ROYALTIES. The CONTRACTOR shall pay all license fees and royalties and assume all costs incident to the use in the performance of the WORK or the incorporation in the WORK of any invention, design, process, product, software or device which is the subject of patent rights or copyrights held by others. If a particular invention, design, process, product, or device is specified in the Contract Documents for use in the performance of the WORK and if to the actual knowledge of the OWNER or the ENGINEER its use is subject to patent rights or copyrights calling for the payment of any license fee or royalty to others, the existence of such rights shall be disclosed by the OWNER in the Contract Documents. The CONTRACTOR shall indemnify, defend and hold harmless the OWNER and the ENGINEER and anyone directly or indirectly employed by either of them from and against all claims, damages, losses, and expenses (including attorneys' fees and court costs) arising out of any infringement of patent rights or copyrights incident to the use in the performance of the WORK or resulting from the incorporation in the WORK of any invention, design, process, product, or device not specified in the Contract Documents, and shall defend all such claims in connection with any alleged infringement of such rights.
- 6.8 LAWS AND REGULATIONS. The CONTRACTOR shall observe and comply with all federal, state, and local laws, ordinances, codes, orders, and regulations which in any manner affect those engaged or employed on the WORK, the materials used in the WORK, or the conduct of the WORK. If any discrepancy or inconsistency should be discovered in this contract in relation to any such law, ordinance, code, order, or regulation, the CONTRACTOR shall report the same in writing to the ENGINEER. The CONTRACTOR shall indemnify, defend, and hold harmless the OWNER, the ENGINEER, and their officers, agents, and employees against all claims or liability arising from violation of any such law, ordinance, code, order, or regulation, whether by CONTRACTOR or by its employees, Subcontractors, or third parties. Any particular law or regulation specified or referred to elsewhere in the Contract Documents shall not in any way limit the obligation of the CONTRACTOR to comply with all other provisions of federal, state, and local laws and regulations. The OWNER may, per AS 36.30, audit the CONTRACTOR's or Subcontractor(s) records that are related to the cost or pricing data for this contract, all related Change Orders, and/or contract modifications.
- 6.9 TAXES. The CONTRACTOR shall pay all sales, consumer, use, and other similar taxes required to be paid by the CONTRACTOR in accordance with the Laws and Regulations of the place of the Project which are applicable during the performance of the WORK.
- 6.10 USE OF PREMISES. The CONTRACTOR shall confine construction equipment, the storage of materials and equipment, and the operations of workers to (1) the Project site, (2) the land and areas identified in and permitted by the Contract Documents, and (3) the other land and areas permitted by Laws and Regulations, rights-of-way, permits, leases and easements. The CONTRACTOR shall assume full responsibility for any damage to any such land or area, or to the owner or occupant thereof or of any land or areas contiguous thereto, resulting from the performance of the WORK. Should any claim be made against the OWNER or the ENGINEER by any such owner or occupant because of the performance of the WORK, the CONTRACTOR shall promptly attempt to settle with such other party by agreement or otherwise resolve the claim through litigation. The CONTRACTOR shall, to the fullest extent permitted by Laws and Regulations, indemnify, defend, and hold the OWNER and the ENGINEER harmless from and against all claims, damages, losses, and expenses (including, but not limited to, fees of engineers attorneys, and other professionals and court costs) arising directly, indirectly, or consequentially out of any action, legal or equitable, brought by any such owner or occupant against the OWNER, the ENGINEER, their Consultants, Sub-consultants, and the officers,

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directors, employees and agents of each and any of them to the extent caused by or based upon the CONTRACTOR's performance of the WORK.

6.11 SAFETY AND PROTECTION

- A. The CONTRACTOR shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the WORK. The CONTRACTOR shall take all necessary precautions for the safety of, and shall provide the necessary protection to prevent damage, injury or loss to:
1. all employees on the WORK and other persons and organizations who may be affected thereby;
 2. all the WORK and materials and equipment to be incorporated therein, whether in storage on or off the site; and
 3. other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction.
- B. The CONTRACTOR shall comply with all applicable Laws and Regulations whether referred to herein or not) of any public body having jurisdiction for the safety of persons or property or to protect them from damage, injury, or loss and shall erect and maintain all necessary safeguards for such safety and protection. The CONTRACTOR shall notify owners of adjacent property and utilities when prosecution of the WORK may affect them, and shall cooperate with them in the protection, removal, relocation, and replacement of their property.
- C. The CONTRACTOR shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and program.
- D. Materials that contain hazardous substances or mixtures may be required on the WORK. A Material Safety Data Sheet shall be requested by the CONTRACTOR from the manufacturer of any hazardous product used.
- E. Material usage shall be accomplished with strict adherence to all safety requirements and all manufacturer's warnings and application instructions listed on the Material Safety Data Sheet and on the product container label.
- F. The CONTRACTOR shall be responsible for coordinating communications on any exchange of Material Safety Data Sheets or other hazardous material information that is required to be made available to, or exchanged between, or among, employers at the site in accordance with Laws or Regulations.
- G. The CONTRACTOR shall notify the ENGINEER if it considers a specified product or its intended usage to be unsafe. This notification must be given to the ENGINEER prior to the product being ordered, or if provided by some other party, prior to the product being incorporated in the WORK.

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6.12 SHOP DRAWINGS AND SAMPLES

- A. After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, the CONTRACTOR shall submit to the ENGINEER for review, all Shop Drawings in accordance with Section 01300 - CONTRACTOR Submittals in the General Requirements.
- B. The CONTRACTOR shall also submit to the ENGINEER for review all samples in accordance with Section 01300 - CONTRACTOR Submittals in the General Requirements.
- C. Before submittal of each shop drawing or sample, the CONTRACTOR shall have determined and verified all quantities, dimensions, specified performance criteria, installation requirements, materials, catalog numbers, and similar data with respect thereto and reviewed or coordinated each Shop Drawing or sample with other Shop Drawings and samples and with the requirements of the WORK and the Contract Documents.

6.13 CONTINUING THE WORK. The CONTRACTOR shall carry on the WORK and adhere to the progress schedule during all disputes or disagreements with the OWNER. No work shall be delayed or postponed pending resolution of any disputes or disagreements, except as the CONTRACTOR and the OWNER may otherwise agree in writing.

6.14 INDEMNIFICATION

- A. To the fullest extent permitted by Laws and Regulations, the CONTRACTOR shall indemnify, defend, and hold harmless the OWNER, the ENGINEER, their Consultants, Sub-consultants and the officers, directors, employees, and agents of each and any of them, against and from all claims and liability arising under, by reason of or incidentally to the contract or any performance of the WORK, but not from the sole negligence or willful misconduct of the OWNER, and the ENGINEER. Such indemnification by the CONTRACTOR shall include but not be limited to the following:
 - 1. Liability or claims resulting directly or indirectly from the negligence or carelessness of the CONTRACTOR, its employees, or agents in the performance of the WORK, or in guarding or maintaining the same, or from any improper materials, implements, or appliances used in its construction, or by or on account of any act or omission of the CONTRACTOR, its employees, agents, or third parties;
 - 2. Liability or claims arising directly or indirectly from bodily injury, occupational sickness or disease, or death of the CONTRACTOR's or Subcontractor's own employees engaged in the WORK resulting in actions brought by or on behalf of such employees against the OWNER, and the ENGINEER;
 - 3. Liability or claims arising directly or indirectly from or based on the violation of any law, ordinance, regulation, order, or decree, whether by the CONTRACTOR, its employees, or agents;
 - 4. Liability or claims arising directly or indirectly from the use or manufacture by the CONTRACTOR, its employees, or agents in the performance of this contract of any copyrighted or non-copyrighted composition, secret process, patented or non-patented invention, computer software, article, or appliance, unless otherwise specifically stipulated in this contract.

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5. Liability or claims arising directly or indirectly from the breach of any warranties, whether express or implied, made to the OWNER or any other parties by the CONTRACTOR, its employees, or agents;
 6. Liabilities or claims arising directly or indirectly from the willful or criminal misconduct of the CONTRACTOR, its employees, or agents; and,
 7. Liabilities or claims arising directly or indirectly from any breach of the obligations assumed herein by the CONTRACTOR.
- B. The CONTRACTOR shall reimburse the ENGINEER and the OWNER for all costs and expenses, (including but not limited to fees and charges of engineers, attorneys, and other professionals and court costs including all costs of appeals) incurred by said OWNER, and the ENGINEER in enforcing the provisions of this Paragraph 6.14.
- C. The indemnification obligation under this Paragraph 6.14 shall not be limited in any way by any limitation of the amount or type of damages, compensation, or benefits payable by or for the CONTRACTOR or any such Subcontractor or other person or organization under workers' compensation acts, disability benefit acts, or other employee benefit acts.
- 6.15 **CONTRACTOR'S DAILY REPORTS.** The CONTRACTOR shall complete a daily report indicating total manpower for each construction trade, major equipment on site, each Subcontractor's manpower, weather conditions, etc., involved in the performance of the WORK. The daily report shall be completed on forms provided by the ENGINEER and shall be submitted to the ENGINEER at the conclusion of each workday. The report should comment on the daily progress and status of the WORK within each major component of the WORK. These components will be decided by the ENGINEER. CONTRACTOR shall record the name, affiliation, time of arrival and departure, and reason for visit for all visitors to the location of the WORK.
- 6.16 **ASSIGNMENT OF CONTRACT.** The CONTRACTOR shall not assign, sublet, sell, transfer, or otherwise dispose of the contract or any portion thereof, or its right, title, or interest therein, or obligations thereunder, without the written consent of the OWNER except as imposed by law. If the CONTRACTOR violates this provision, the contract may be terminated at the option of the OWNER. In such event, the OWNER shall be relieved of all liability and obligations to the CONTRACTOR and to its assignee or transferee, growing out of such termination.
- 6.17 **CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES.** It is understood that any turn-on or turn-off, line locates and any other work or assistance necessary by the CBJ Water Utilities Division, will be at the CONTRACTOR's expense unless otherwise stated in the bid documents. All cost must be agreed to prior to any related actions, and will be considered incidental to the project cost. Billing to the CONTRACTOR will be direct from the CBJ Water Utilities Division.
- 6.18 **OPERATING WATER SYSTEM VALVES**
- A. The CONTRACTOR shall submit a written request, to the ENGINEER, for approval to operate any valve on any in-service section of the CBJ water system. The request must be submitted at least 24-hours prior to operating any valves. The CBJ Water Utilities Division reserves the right to approve or deny the request. The request shall specifically identify each valve to be operated, the time of operation, and the operation to be performed. The

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CONTRACTOR shall obtain the written approval of the ENGINEER for any scheduled operation before operating any valve.

- B. The CONTRACTOR shall be responsible for all damages, both direct and consequential, to the City or any other party, caused by unauthorized operation of any valve of the CBJ water system.

6.19 CONTRACTOR'S WORK SCHEDULE LIMITATIONS. Construction of Buildings and Projects. It is unlawful to operate any pile driver, power shovel, pneumatic hammer, derrick, power hoist, or similar heavy construction equipment before 7:00 a.m. or after 10:00 p.m., Monday through Friday, or before 9:00 a.m. or after 10:00 p.m., Saturday and Sunday, unless a permit shall first be obtained from the City and Borough Building Official. Such permit shall be issued by the Building Official only upon a determination that such operation during hours not otherwise permitted hereunder is necessary and will not result in unreasonable disturbance to surrounding residents.

ARTICLE 7 OTHER WORK

7.1 RELATED WORK AT SITE

- A. The OWNER may perform other work related to the Project at the site by the OWNER's own forces, have other work performed by utility owners, or let other direct contracts therefor which may contain General Conditions similar to these. If the fact that such other work is to be performed was not noted in the Contract Documents, written notice thereof will be given to the CONTRACTOR prior to starting any such other work.
- B. The CONTRACTOR shall afford each other contractor who is a party to such a direct contract and each utility owner (or the OWNER, if the OWNER is performing the additional work with the OWNER's employees) proper and safe access to the site and a reasonable opportunity for the introduction and storage of materials and equipment and the execution of such work, and shall properly connect and coordinate the WORK with theirs. The CONTRACTOR shall do all cutting, fitting, and patching of the WORK that may be required to make its several parts come together properly and integrate with such other work. The CONTRACTOR shall not endanger any work of others by cutting, excavating, or otherwise altering their work and will only cut or alter their work with the written consent of the ENGINEER and the others whose work will be affected.
- C. If the proper execution or results of any part of the CONTRACTOR's work depends upon the work of any such other contractor or utility owner (or OWNER), the CONTRACTOR shall inspect and report to the ENGINEER in writing any delays, defects, or deficiencies in such other work that render it unavailable or unsuitable for such proper execution and results. The CONTRACTOR's failure to report such delays, defects, or deficiencies will constitute an acceptance of the other work as fit and proper for integration with the CONTRACTOR's work except for latent or nonapparent defects and deficiencies in the other work.

7.2 COORDINATION. If the OWNER contracts with others for the performance of other work on the Project at the site, the person or organization who will have authority and responsibility for coordination of the activities among the various prime contractors will be identified in the Supplementary General Conditions, and the specific matters to be covered by such authority and

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responsibility will be itemized and the extent of such authority and responsibilities will be provided in the Supplementary General Conditions.

ARTICLE 8 OWNER'S RESPONSIBILITIES

8.1 COMMUNICATIONS

- A. The OWNER shall issue all its communications to the CONTRACTOR through the ENGINEER.
- B. The CONTRACTOR shall issue all its communications to the OWNER through the ENGINEER.

8.2 PAYMENTS. The OWNER shall make payments to the CONTRACTOR as provided in Paragraphs 14.5, 14.8, 14.9 and 14.10.

8.3 LANDS, EASEMENTS, AND SURVEYS. The OWNER's duties in respect of providing lands and easements and providing surveys to establish reference points are set forth in Paragraphs 4.1 and 4.5.

8.4 CHANGE ORDERS. The OWNER shall execute Change Orders as indicated in Paragraph 10.1F.

8.5 INSPECTIONS AND TESTS. The OWNER's responsibility in respect of inspections, tests, and approvals is set forth in Paragraph 13.3.

8.6 SUSPENSION OF WORK. In connection with the OWNER's right to stop WORK or suspend WORK, see Paragraphs 13.4 and 15.1.

8.7 TERMINATION OF AGREEMENT. Paragraphs 15.2 and 15.3 deal with the OWNER's right to terminate services of the CONTRACTOR.

ARTICLE 9 ENGINEER'S STATUS DURING CONSTRUCTION

9.1 OWNER'S REPRESENTATIVE. The ENGINEER will be the OWNER's representative during the construction period. The duties and responsibilities and the limitations of authority of the ENGINEER as the OWNER's representative during construction are set forth in the Contract Documents.

9.2 VISITS TO SITE. The ENGINEER will make visits to the site during construction to observe the progress and quality of the WORK and to determine, in general, if the WORK is proceeding in accordance with the Contract Documents. Exhaustive or continuous on-site inspections to check the quality or quantity of the WORK will not be required of the ENGINEER. The ENGINEER will not, during such visits, or as a result of such observations of the CONTRACTOR's WORK in progress, supervise, direct, or have control over the CONTRACTOR's WORK.

9.3 PROJECT REPRESENTATION. The ENGINEER may furnish an Inspector to assist in observing the performance of the WORK. The duties, responsibilities, and limitations of authority are as follows:

- A. Duties, Responsibilities and Limitations of Authority of Inspector

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General. The Inspector, who is the ENGINEER's Agent, will act as directed by and under the supervision of the ENGINEER and will confer with the ENGINEER regarding its actions. The Inspector's dealings in matters pertaining to the on-site WORK shall, in general, be only with the ENGINEER and the CONTRACTOR, and dealings with Subcontractors shall only be through or with the full knowledge of the CONTRACTOR. Written communication with the OWNER will be only through or as directed by the ENGINEER.

Duties and Responsibilities. The Inspector may:

1. Review the progress schedule, list of Shop Drawing submittals and schedule of values prepared by the CONTRACTOR and consult with the ENGINEER concerning their acceptability.
2. Attend pre-construction conferences. Arrange a schedule of progress meetings and other job conferences as required in consultation with the ENGINEER and notify those expected to attend in advance. Attend meetings and maintain and circulate copies of minutes thereof.
3. Serve as the ENGINEER's liaison with the CONTRACTOR, working principally through the CONTRACTOR's superintendent and assist said superintendent in understanding the intent of the Contract Documents. Assist the ENGINEER in serving as the OWNER's liaison with the CONTRACTOR when the CONTRACTOR's operations affect the OWNER's on-site operations.
4. As requested by the ENGINEER, assist in obtaining from the OWNER additional details or information, when required at the site for proper execution of the WORK.
5. Receive and record date of receipt of Shop Drawings and samples, receive samples which are furnished at the site by the CONTRACTOR and notify the ENGINEER of their availability for examination.
6. Conduct on-site observations of the WORK in progress to assist the ENGINEER in determining if the WORK is proceeding in accordance with the Contract Documents.
7. Report to the ENGINEER whenever the Inspector believes that any WORK is unsatisfactory, faulty, or defective or does not conform to the Contract Documents, or does not meet the requirements of any inspection, tests or approval required to be made or has been damaged prior to final payment; and advise the ENGINEER when the Inspector believes WORK should be corrected or rejected or should be uncovered for observation, or requires special testing, inspection, or approval.
8. Verify that the tests, equipment, and systems startups and operating and maintenance instruction are conducted as required by the Contract Documents and in presence of the required personnel, and that the CONTRACTOR maintains adequate records thereof; observe, record and report to the ENGINEER appropriate details relative to the test procedures and start-ups.
9. Accompany visiting inspectors representing public or other agencies having jurisdiction over the WORK, record the outcome of these inspections, and report to the ENGINEER.
10. Transmit to the CONTRACTOR the ENGINEER's clarifications and interpretations of the Contract Documents.
11. Consider and evaluate the CONTRACTOR's suggestions for modifications in the Contract Documents and report them with recommendations to the ENGINEER.
12. Maintain at the job site orderly files for correspondence, reports of job conferences, Shop Drawings and sample submittals, reproductions of original Contract Documents including all addenda, Change Orders, field orders, additional Drawings issued

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subsequent to the execution of the contract, the ENGINEER's clarifications and interpretations of the Contract Documents, progress reports, and other related documents.

13. Keep a diary or log book, recording hours on the job site, weather conditions, data relative to questions of extras or deductions, list all project visitors, daily activities, decisions, observations in general, and specific observations in more detail as in the case of performing and observing test procedures. Send copies to the ENGINEER.
14. Record names, addresses, and telephone numbers of the CONTRACTOR, Subcontractors, and major suppliers of materials and equipment.
15. Furnish the ENGINEER with periodic reports as required of progress of the WORK and the CONTRACTOR's compliance with the accepted progress schedule and schedule of CONTRACTOR submittals.
16. Consult with the ENGINEER in advance of scheduled major tests, inspections, or start of important phases of the WORK.
17. Report immediately to the ENGINEER upon the occurrence of any accident.
18. Review applications for payment with the CONTRACTOR for compliance with the established procedure for their submittal and forward them with recommendations to the ENGINEER, noting particularly their relation to the schedule of values, WORK completed, and materials and equipment delivered at the site but not incorporated in the WORK.
19. During the course of the WORK, verify that certificates, maintenance and operation manuals, and other data required to be assembled and furnished by the CONTRACTOR are applicable to the items actually installed; and deliver this material to the ENGINEER for its review and forwarding to the OWNER prior to final acceptance of the WORK.
20. Before the ENGINEER prepares a Certificate of Substantial Completion/Notice of Completion, as applicable, review the CONTRACTOR's punch list items requiring completion or correction and add any items that CONTRACTOR has omitted.
21. Conduct final inspection in the company of the ENGINEER, the OWNER, and the CONTRACTOR, and prepare a final punch list of items to be completed or corrected.
22. Verify that all items on the punch list have been completed or corrected and make recommendations to the ENGINEER concerning acceptance.

Limitations of Authority. Except upon written instruction of the ENGINEER, the Inspector:

1. Shall not authorize any deviation from the Contract Documents or approve any substitute material or equipment.
2. Shall not exceed limitations on the ENGINEER's authority as set forth in the Contract Documents.
3. Shall not undertake any of the responsibilities of the CONTRACTOR, Subcontractors or CONTRACTOR's superintendent, or expedite the WORK.
4. Shall not advise on or issue directions relative to any aspect of the means, methods, techniques, sequences, or procedures of construction unless such is specifically called for in the Contract Documents.
5. Shall not advise on or issue directions as to safety precautions and programs in connection with the WORK.

9.4 CLARIFICATIONS AND INTERPRETATIONS. The ENGINEER will issue with reasonable promptness such written clarifications or interpretations of the requirements of the Contract

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Documents (in the form of Drawings or otherwise) as the ENGINEER may determine necessary, which shall be consistent with, or reasonably inferred from, the overall intent of the Contract Documents.

- 9.5 AUTHORIZED VARIATIONS IN WORK. The ENGINEER may authorize variations in the WORK from the requirements of the Contract Documents. These may be accomplished by a Field Order and will require the CONTRACTOR to perform the WORK involved in a manner that minimizes the impact to the WORK and the contract completion date. If the CONTRACTOR believes that a Field Order justifies an increase in the Contract Price or an extension of the Contract Time, the CONTRACTOR may make a claim therefor as provided in Article 11 or 12.
- 9.6 REJECTING DEFECTIVE WORK. The ENGINEER will have authority to reject WORK which the ENGINEER believes to be defective and will also have authority to require special inspection or testing of the WORK as provided in Paragraph 13.3G, whether or not the WORK is fabricated, installed, or completed.
- 9.7 CONTRACTOR SUBMITTALS, CHANGE ORDERS, AND PAYMENTS
- A. In accordance with the procedures set forth in the General Requirements, the ENGINEER will review all CONTRACTOR submittals, including Shop Drawings, samples, substitutes, or "or equal" items, etc., in order to determine if the items covered by the submittals will, after installation or incorporation in the WORK, conform to the requirements of the Contract Documents and be compatible with the design concept of the completed project as a functioning whole as indicated by the Contract Documents. The ENGINEER's review will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions or programs incident thereto.
- B. In connection with the ENGINEER's responsibilities as to Change Orders, see Articles 10, 11, and 12.
- C. In connection with the ENGINEER's responsibilities in respect of Applications for Payment, see Article 14.
- 9.8 DECISIONS ON DISPUTES
- A. The ENGINEER will be the initial interpreter of the requirements of the Contract Documents and judge of the acceptability of the WORK thereunder. Claims, disputes, and other matters relating to the acceptability of the WORK; the interpretation of the requirements of the Contract Documents pertaining to the performance of the WORK; and those claims under Articles 11 and 12 in respect to changes in the Contract Price or Contract Time will be referred initially to the ENGINEER in writing with a request for formal decision in accordance with this paragraph, which the ENGINEER will render in writing within 30 days of receipt of the request. Written notice of each such claim, dispute, and other matter will be delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise thereto. Written supporting data will be submitted to the ENGINEER within 60 days after such occurrence unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim.

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- B. The rendering of a decision by the ENGINEER with respect to any such claim, dispute, or other matter (except any which have been waived by the making or acceptance of final payment as provided in Paragraph 14.12) will be a condition precedent to any exercise by the OWNER or the CONTRACTOR of such rights or remedies as either may otherwise have under the Contract Documents or by Law or Regulations in respect of any such claim, dispute, or other matter.

9.9 LIMITATION ON ENGINEER'S RESPONSIBILITIES

- A. Neither the ENGINEER's authority to act under this Article or other provisions of the Contract Documents nor any decision made by the ENGINEER in good faith either to exercise or not exercise such authority shall give rise to any duty or responsibility of the ENGINEER to the CONTRACTOR, any Subcontractor, any Supplier, any surety for any of them, or any other person or organization performing any of the WORK.
- B. Whenever in the Contract Documents the terms "as ordered," "as directed," "as required," "as allowed," "as reviewed," "as approved," or terms of like effect or import are used, or the adjectives "reasonable," "suitable," "acceptable," "proper," or "satisfactory" or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the ENGINEER as to the WORK, it is intended that such requirement, direction, review, or judgment will be solely to evaluate the WORK for compliance with the requirements of the Contract Documents, and conformance with the design concept of the completed Project as a functioning whole as indicated by the Contract Documents, unless there is a specific statement indicating otherwise. The use of any such term or adjective shall not be effective to assign to the ENGINEER any duty or authority to supervise or direct the performance of the WORK or any duty or authority to undertake responsibility contrary to the provisions of Paragraph 9.9C or 9.9D.
- C. The ENGINEER will not supervise, direct, control, or have authority over or be responsible for the CONTRACTOR's means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the CONTRACTOR to comply with Laws and Regulations, applicable to the performance of the WORK. The ENGINEER will not be responsible for the CONTRACTOR's failure to perform the WORK in accordance with the Contract Documents.
- D. The ENGINEER will not be responsible for the acts or omissions of the CONTRACTOR nor of any Subcontractor, supplier, or any other person or organization performing any of the WORK.

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ARTICLE 10 CHANGES IN THE WORK

10.1 GENERAL

- A. Without invalidating the Agreement and without notice to any surety, the OWNER may at any time or from time to time, order additions, deletions, or revisions in the WORK; these will be authorized by a written Field Order and/or a Change Order issued by the ENGINEER.
- B. If the CONTRACTOR believes that it is entitled to an increase or decrease in the Contract Price, or an extension or shortening in the Contract Time as the result of a Field Order, a claim may be made as provided in Articles 11 and 12.
- C. If the OWNER and CONTRACTOR agree on the value of any work, or the amount of Contract Time that should be allowed as a result of a Field Order, upon receiving written notice from the ENGINEER, the CONTRACTOR shall proceed so as to minimize the impact on and delays to the work pending the issuance of a Change Order.
- D. If the OWNER and the CONTRACTOR are unable to agree as to the extent, if any, of an increase or decrease in the Contract Price or an extension or shortening of the Contract Time that should be allowed as a result of a Field Order, the ENGINEER can direct the CONTRACTOR to proceed on the basis of Time and Materials so as to minimize the impact on and delays to WORK, and a claim may be made therefor as provided in Articles 11 and 12.
- E. The CONTRACTOR shall not be entitled to an increase in the Contract Price nor an extension of the Contract Time with respect to any work performed that is not required by the Contract Documents as amended, modified, supplemented by Change Order, except in the case of an emergency and except in the case of uncovering work as provided in Paragraph 13.3G.
- F. The OWNER and the CONTRACTOR shall execute appropriate Change Orders covering:
 - 1. changes in the WORK which are ordered by the OWNER pursuant to Paragraph 10.1A;
 - 2. changes required because of acceptance of Defective WORK under Paragraph 13.7;
 - 3. changes in the Contract Price or Contract Time which are agreed to by the parties; or
 - 4. changes in the Contract Price or Contract Times which embody the substance of any written decision rendered by the ENGINEER pursuant to Paragraph 9.8.
- G. If notice of any change is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be the CONTRACTOR's responsibility, and the amount of each applicable Bond shall be adjusted accordingly.

10.2 ALLOWABLE QUANTITY VARIATIONS

- A. In the event of an increase or decrease in Bid item quantity of a unit price contract, the total amount of WORK actually done or materials or equipment furnished shall be paid for according to the unit price established for such WORK under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Price may be made for changes which result in an increase or decrease in excess of 25% of

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the estimated quantity of any major item of the WORK. Major Item is defined as any bid item amount that is ten percent (10%) or more of the total contract amount.

- B. In the event a part of the WORK is to be entirely eliminated and no lump sum or unit price is named in the Contract Documents to cover such eliminated work, the price of the eliminated work shall be agreed upon in writing by the OWNER and the CONTRACTOR. If the OWNER and the CONTRACTOR fail to agree upon the price of the eliminated work, said price shall be determined in accordance with the provisions of Article 11.

ARTICLE 11 CHANGE OF CONTRACT PRICE

11.1 GENERAL

- A. The Contract Price constitutes the total compensation payable to the CONTRACTOR for performing the WORK. All duties, responsibilities, and obligations assigned to or undertaken by the CONTRACTOR to complete the WORK shall be at its expense without change in the Contract Price.
- B. The Contract Price may only be changed by a Change Order. Any claim for an increase in the Contract Price shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 7 days) after the start of the occurrence or the event giving rise to the claim and stating the general nature of the claim. Notice of the amount of the claim with supporting data shall be delivered within 14 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the amount claimed covers all known amounts (direct, indirect, and consequential) to which the CONTRACTOR is entitled as a result of said occurrence or event. All claims for adjustment in the Contract Price shall be determined by the ENGINEER in accordance with Paragraph 9.8A if the OWNER and the CONTRACTOR cannot otherwise agree on the amount involved. No claim for an adjustment in the Contract Price will be valid if not submitted in accordance with this Paragraph 11.1B.
- C. The value of any WORK covered by a Change Order or of any claim for an increase or decrease in the Contract Price shall be determined in one of the following ways:
 - 1. Where the WORK involved is covered by unit prices contained in the Contract Documents, by application of unit prices to the quantities of the items involved.
 - 2. By mutual acceptance of a lump sum, which may include an allowance for overhead and profit not necessarily in accordance with Paragraph 11.4.
 - 3. On the basis of the cost of WORK (determined as provided in Paragraphs 11.3) plus a CONTRACTOR's fee for overhead and profit (determined as provided in Paragraph 11.4).

- 11.2 COSTS RELATING TO WEATHER. The CONTRACTOR shall have no claims against the OWNER for damages for any injury to WORK, materials, or equipment, resulting from the action of the elements. If, however, in the opinion of the ENGINEER, the CONTRACTOR has made all reasonable efforts to protect the materials, equipment and work, the CONTRACTOR may be granted a reasonable extension of Contract Time to make proper repairs, renewals, and replacements of the work, materials, or equipment.

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11.3 COST OF WORK (BASED ON TIME AND MATERIALS)

- A. General. The term "cost of work" means the sum of all costs necessarily incurred and paid by the CONTRACTOR for labor, materials, and equipment in the proper performance of extra work. Except as otherwise may be agreed to in writing by the OWNER, such costs shall be in amounts no higher than those prevailing in the locality of the Project; shall include only the following items, and shall not include any of the costs itemized in Paragraph 11.5 EXCLUDED COSTS.
- B. Labor. The costs of labor will be the actual cost for wages prevailing for each craft or type of workers performing the extra work at the time the extra work is done, plus employer payments of payroll taxes, worker's compensation insurance, liability insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessments or benefits required by lawful collective bargaining agreements. Labor costs for equipment operators and helpers shall be paid only when such costs are not included in the invoice for equipment rental. The labor costs for forepersons shall be proportioned to all of their assigned work and only that applicable to extra work shall be paid. Non-direct labor costs including superintendence shall be considered part of the mark-up set out in paragraph 11.4.
- C. Materials. The cost of materials reported shall be at invoice or lowest current price at which materials are locally available and delivered to the job in the quantities involved, plus the cost of freight, delivery and storage, subject to the following:
1. Trade discounts available to the purchaser shall be credited to the OWNER notwithstanding the fact that such discounts may not have been taken by the CONTRACTOR.
 2. For materials secured by other than a direct purchase and direct billing to the purchaser, the cost shall be deemed to be the price paid to the actual supplier as determined by the ENGINEER. Mark-up except for actual costs incurred in the handling of such materials will not be allowed.
 3. Payment for materials from sources owned wholly or in part by the purchaser shall not exceed the price paid by the purchaser for similar materials from said sources on extra work items or the current wholesale price for such materials delivered to the work site, whichever price is lower.
 4. If in the opinion of the ENGINEER the cost of material is excessive, or the CONTRACTOR does not furnish satisfactory evidence of the cost of such material, then the cost shall be deemed to be the lowest current wholesale price for the quantity concerned delivered to the work site less trade discount. The OWNER reserves the right to furnish materials for the extra work and no claim shall be allowed by the CONTRACTOR for costs and profit on such materials.
- D. Equipment. The CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the Supplementary General Conditions. Such rental rate will be used to compute payments for equipment whether the equipment is under the CONTRACTOR's control through direct ownership, leasing, renting, or another method of acquisition. The rental rate to be applied for use of each item of equipment shall be the rate resulting in the least total cost to the OWNER for the total period of use. If it is deemed

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necessary by the CONTRACTOR to use equipment not listed in the publication specified in the Supplementary General Conditions, an equitable rental rate for the equipment will be established by the ENGINEER. The CONTRACTOR may furnish cost data which might assist the ENGINEER in the establishment of the rental rate.

1. All equipment shall, in the opinion of the ENGINEER, be in good working condition and suitable for the purpose for which the equipment is to be used.
 2. Before construction equipment is used on the extra work, the CONTRACTOR shall plainly stencil or stamp an identifying number thereon at a conspicuous location, and shall furnish to the ENGINEER, in duplicate, a description of the equipment and its identifying number.
 3. Unless otherwise specified, manufacturer's ratings and manufacturer approved modifications shall be used to classify equipment for the determination of applicable rental rates. Equipment which has no direct power unit shall be powered by a unit of at least the minimum rating recommended by the manufacturer.
 4. Individual pieces of equipment or tools having a replacement value of \$200 or less, whether or not consumed by use, shall be considered to be small tools and no payment will be made therefor.
 5. Rental time will not be allowed while equipment is inoperative due to breakdowns.
 6. Equipment Rental Rates. Unless otherwise agreed in writing, the CONTRACTOR will be paid for the use of equipment at the rental rate listed for such equipment specified in the current edition of the following reference publication: "Rental Rate Blue Book" as published by Dataquest (a company of the Dunn and Bradstreet Corporation), 1290 Ridder Park Drive, San Jose, CA 95131, telephone number (800) 227-8444.
- E. Equipment on the Work Site. The rental time to be paid for equipment on the work site shall be the time the equipment is in productive operation on the extra work being performed and, in addition, shall include the time required to move the equipment to the location of the extra work and return it to the original location or to another location requiring no more time than that required to return it to its original location; except, that moving time will not be paid if the equipment is used on other than the extra work, even though located at the site of the extra work. Loading and transporting costs will be allowed, in lieu of moving time, when the equipment is moved by means other than its own power, except that no payment will be made for loading and transporting costs when the equipment is used at the site of the extra work on other than the extra work. The following shall be used in computing the rental time of equipment on the work site.
1. When hourly rates are listed, any part of an hour less than 30 minutes of operation shall be considered to be 1/2-hour of operation, and any part of an hour in excess of 30 minutes will be considered one hour of operation.
 2. When daily rates are listed, any part of a day less than 4 hours operation shall be considered to be 1/2-day of operation. When owner-operated equipment is used to perform extra work to be paid for on a time and materials basis, the CONTRACTOR will be paid for the equipment and operator, as set forth in Paragraphs (3), (4), and (5), following.
 3. Payment for the equipment will be made in accordance with the provisions in Paragraph 11.3D, herein.
 4. Payment for the cost of labor and subsistence or travel allowance will be made at the rates paid by the CONTRACTOR to other workers operating similar equipment already

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on the work site, or in the absence of such labor, established by collective bargaining agreements for the type of worker and location of the extra work, whether or not the operator is actually covered by such an agreement. A labor surcharge will be added to the cost of labor described herein in accordance with the provisions of Paragraph 11.3B, herein, which surcharge shall constitute full compensation for payments imposed by state and federal laws and all other payments made to or on behalf of workers other than actual wages.

5. To the direct cost of equipment rental and labor, computed as provided herein, will be added the allowances for equipment rental and labor as provided in Paragraph 11.4, herein.
- F. Specialty Work. Specialty work is defined as that work characterized by extraordinary complexity, sophistication, or innovation or a combination of the foregoing attributes which are unique to the construction industry. The following shall apply in making estimates for payment for specialty work:
1. Any bid item of WORK to be classified as Specialty Work shall be listed as such in the Supplementary General Conditions. Specialty work shall be performed by an entity especially skilled in the work to be performed. After validation of invoices and determination of market values by the ENGINEER, invoices for specialty work based upon the current fair market value thereof may be accepted without complete itemization of labor, material, and equipment rental costs.
 2. When the CONTRACTOR is required to perform work necessitating special fabrication or machining process in a fabrication or a machine shop facility away from the job site, the charges for that portion of the work performed at the off-site facility may, by agreement, be accepted as specialty work and accordingly, the invoices for the work may be accepted without detailed itemization.
 3. All invoices for specialty work will be adjusted by deducting all trade discounts offered or available, whether the discounts were taken or not. In lieu of the allowances for overhead and profit specified in Paragraph 11.4, herein, an allowance of 5 percent will be added to invoices for specialty work.
- G. Sureties. All work performed hereunder shall be subject to all of the provisions of the Contract Documents and the CONTRACTOR's sureties shall be bound with reference thereto as under the original Agreement. Copies of all amendments to surety bonds or supplemental surety bonds shall be submitted to the OWNER for review prior to the performance of any work hereunder.

11.4 CONTRACTOR'S FEE

- A. Extra work ordered on the basis of time and materials will be paid for at the actual necessary cost as determined by the ENGINEER, plus allowances for overhead and profit. The allowance for overhead and profit shall include full compensation for superintendence, bond and insurance premiums, taxes, field office expense, extended overhead, home office overhead, and all other items of expense or cost not included in the cost of labor, materials, or equipment provided for under Paragraph 11.3. The allowance for overhead and profit will be made in accordance with the following schedule:

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Actual Overhead and Profit Allowance

Labor.....	15 percent
Materials	10 percent
Equipment.....	10 percent

To the sum of the costs and mark-ups provided for in this Article, one percent shall be added as compensation for bonding.

- B. It is understood that labor, materials, and equipment may be furnished by the CONTRACTOR or by the Subcontractor on behalf of the CONTRACTOR. When all or any part of the extra work is performed by a Subcontractor, the allowance specified herein shall be applied to the labor, materials, and equipment costs of the Subcontractor, to which the CONTRACTOR may add 5 percent of the Subcontractor's total cost for the extra work. Regardless of the number of hierarchical tiers of Subcontractors, the 5 percent increase above the Subcontractor's total cost which includes the allowances for overhead and profit specified herein may be applied one time only.

11.5 EXCLUDED COSTS. The term "Cost of the Work" shall not include any of the following:

- A. Payroll costs and other compensation of CONTRACTOR's officers, executives, principals (of partnership and sole proprietorships), general managers, engineers, estimators, attorneys' auditors, accountants, purchasing and contracting agents, expenditures, timekeepers, clerks and other personnel employed by CONTRACTOR whether at the site or in CONTRACTOR's principal or a branch office for general administration of the work, or not specifically covered by paragraph 11.3, all of which are to be considered administrative costs covered by the CONTRACTOR's fee.
- B. Expenses of CONTRACTOR's principal and branch offices other than CONTRACTOR's office at the site.
- C. Any part of CONTRACTOR's capital expenses, including interest on CONTRACTOR's capital employed for the WORK and charges against CONTRACTOR for delinquent payments.
- D. Cost of premiums for all bonds and for all insurance whether or not CONTRACTOR is required by the Contract Documents to purchase and maintain the same (except for the cost of premiums covered by paragraph 11.4 above).
- E. Costs due to the negligence of CONTRACTOR , any Subcontractor, or anyone directly or indirectly employed by any of them or for whose acts any of them may be liable, including but not limited to, the correction of Defective WORK, disposal of materials or equipment wrongly supplied and making good any damage to property.
- F. Other overhead or general expense costs of any kind and the cost of any item not specifically and expressly included in paragraph 11.4.

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ARTICLE 12 CHANGE OF CONTRACT TIME

12.1 GENERAL

- A. The Contract Time may only be changed by a Change Order. Any claim for an extension of the Contract Time (or Milestones) shall be based on written notice delivered by the CONTRACTOR to the ENGINEER promptly (but in no event later than 30 days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within 60 days after such occurrence (unless the ENGINEER allows an additional period of time to ascertain more accurate data in support of the claim) and shall be accompanied by the CONTRACTOR's written statement that the adjustment claimed is the entire adjustment to which the CONTRACTOR has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the ENGINEER in accordance with Paragraph 9.8 if the OWNER and the CONTRACTOR cannot otherwise agree. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this Paragraph 12.1A. An increase in Contract Time does not mean that the Contractor is due an increase in Contract Price. Only compensable time extensions will result in an increase in Contract Price.
- B. All time limits stated in the Contract Documents are of the essence of the Agreement.
- C. Where CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of CONTRACTOR, the Contract Times (or Milestones) will be extended in an amount equal to the time lost on the critical path of the project due to such delay if a claim is made therefor as provided in paragraph 12.1. Delays beyond the control of CONTRACTOR shall include, but not be limited to, acts or neglect by OWNER, acts or neglect of utility owners or other contractors performing other work as contemplated by Article 7, fires, floods, epidemics, unprecedented weather conditions or acts of God. Delays attributable to and within the control of a Subcontractor or Supplier shall be deemed to be delays within the control of CONTRACTOR.
- D. Where CONTRACTOR is prevented from completing any part of the WORK within the Contract Times (or Milestones) due to delay beyond the control of both OWNER and CONTRACTOR, an extension of the Contract Times (or Milestones) in an amount equal to the time lost on the critical path of the project due to such delay shall be CONTRACTOR's sole and exclusive remedy for such delay. In no event shall the OWNER be liable to CONTRACTOR, any Subcontractor, any Supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages arising out of or resulting from (i) delays caused by or within the control of CONTRACTOR, or (ii) delays beyond the control of both parties including but not limited to fires, floods, epidemics abnormal weather conditions, acts of God or acts or neglect by utility owners or other contractors performing other work as contemplated by Article 7.

- 12.2 EXTENSIONS OF TIME FOR DELAY DUE TO WEATHER. Contract Time may be extended by the ENGINEER because of delays in completion of the WORK due to unusually severe weather, provided that the CONTRACTOR shall, within 10 days of the beginning of any such delay, notify the ENGINEER in writing of the cause of delay and request an extension of Contract Time. The

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ENGINEER will ascertain the facts and the extent of the delay and extend the time for completing the work when, in the ENGINEER's judgment, the findings of fact justify such an extension. Unprecedented, abnormal, or unusually severe weather will be defined as an event, or events, with a greater than 50-year recurrence interval, as determined by the National Weather Service, or equivalent State or Federal agency

ARTICLE 13 WARRANTY AND GUARANTEE; TESTS AND INSPECTIONS; CORRECTION, REMOVAL, OR ACCEPTANCE OF DEFECTIVE WORK

- 13.1 **WARRANTY AND GUARANTEE.** The CONTRACTOR warrants and guarantees to the OWNER and the ENGINEER that all work will be in accordance with the Contract Documents and will not be defective. Prompt notice of defects known to the OWNER or ENGINEER shall be given to the CONTRACTOR. All defective work, whether or not in place, may be rejected, corrected, or accepted as provided in this Article 13.
- 13.2 **ACCESS TO WORK.** OWNER, ENGINEER, their Consultants, sub-consultants, other representatives and personnel of OWNER, independent testing laboratories and governmental agencies with jurisdictional interests will have access to the WORK at reasonable times for their observation, inspecting and testing. CONTRACTOR shall provide them proper and safe conditions for such access and advise them of CONTRACTOR's site safety procedures and programs so that they may comply therewith as applicable.
- 13.3 **TESTS AND INSPECTIONS**
- A. The CONTRACTOR shall give the ENGINEER timely notice of readiness of the WORK for all required inspections, tests, or approvals, and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.
- B. If Laws or Regulations of any public body having jurisdiction other than the OWNER require any WORK to specifically be inspected, tested, or approved, the CONTRACTOR shall pay all costs in connection therewith. The CONTRACTOR shall also be responsible for and shall pay all costs in connection with any inspection or testing required in connection with the OWNER's or the ENGINEER's acceptance of a Supplier of materials or equipment proposed as a substitution or (or-equal) to be incorporated in the WORK, or of materials or equipment submitted for review prior to the CONTRACTOR's purchase thereof for incorporation in the WORK. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents shall be paid by the OWNER (unless otherwise specified).
- C. The ENGINEER will make, or have made, such inspections and tests as the ENGINEER deems necessary to see that the WORK is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified in the Supplementary General Conditions, the cost of such inspection and testing will be borne by the OWNER. In the event such inspections or tests reveal non-compliance with the requirements of the Contract Documents, the CONTRACTOR shall bear the cost of corrective measures deemed necessary by the ENGINEER, as well as the cost of subsequent reinspection and retesting. Neither observations by the ENGINEER nor inspections, tests, or approvals by others shall relieve the CONTRACTOR from the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.

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- D. All inspections, tests, or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to the ENGINEER and the CONTRACTOR.
 - E. If any WORK (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for observation. Such uncovering shall be at the CONTRACTOR's expense unless the CONTRACTOR has given the ENGINEER timely notice of the CONTRACTOR's intention to perform such test or to cover the same and the ENGINEER has not acted with reasonable promptness in response to such notice.
 - F. If any WORK is covered contrary to the written request of the ENGINEER, it must, if requested by the ENGINEER, be uncovered for the ENGINEER's observation and recovered at the CONTRACTOR's expense.
 - G. If the ENGINEER considers it necessary or advisable that covered WORK be observed by the ENGINEER or inspected or tested by others, the CONTRACTOR, at the ENGINEER's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing as the ENGINEER may require, that portion of the WORK in question, furnishing all necessary labor, material, and equipment. If it is found that such WORK is defective, the CONTRACTOR shall bear all direct, indirect, and consequential costs and damages of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to fees and charges of engineers, attorneys, and other professionals. However, if such WORK is not found to be defective, the CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to such uncovering, exposure, observation, inspection, testing, and reconstruction; and, if the parties are unable to agree as to the amount or extent thereof, the CONTRACTOR may make a claim therefor as provided in Articles 11 and 12.
- 13.4 OWNER MAY STOP THE WORK. If the WORK is defective, or the CONTRACTOR fails to perform work in such a way that the completed WORK will conform to the Contract Documents, the OWNER may order the CONTRACTOR to stop the WORK, or any portion thereof, until the cause for such order has been eliminated; however, this right of the OWNER to stop the WORK shall not give rise to any duty on the part of the OWNER to exercise this right for the benefit of the CONTRACTOR or any other party.
- 13.5 CORRECTION OR REMOVAL OF DEFECTIVE WORK. If required by the ENGINEER, the CONTRACTOR shall promptly, either correct all defective work, whether or not fabricated, installed, or completed, or, if the WORK has been rejected by the ENGINEER, remove it from the site and replace it with non-defective work. The CONTRACTOR shall bear all direct, indirect and consequential costs and damages of such correction or removal, including but not limited to fees and charges of engineers, attorneys, and other professionals made necessary thereby.

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13.6 ONE YEAR CORRECTION PERIOD

- A. If within one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any work is found to be defective, the CONTRACTOR shall promptly, without cost to the OWNER and in accordance with OWNER's written notification, (i) correct such Defective WORK, or, if it has been rejected by the OWNER, remove it from the site and replace it with non-defective work, and (ii) satisfactorily correct or remove and replace any damage to other work of others resulting therefrom. If the CONTRACTOR does not promptly comply with such notification, or in an emergency where delay would cause serious risk of loss or damage, the OWNER may have the Defective WORK corrected or the rejected WORK removed and replaced, and all direct, indirect, and consequential costs and damages of such removal and replacement including but not limited to fees and charges of engineers, attorneys and other professionals will be paid by the CONTRACTOR.
- B. Where Defective WORK (and damage to other WORK resulting therefrom) has been corrected, removed or replaced under this paragraph 13.6, the correction period hereunder with respect to such WORK will be extended for an additional period of one year after such correction or removal and replacement has been satisfactorily completed.

13.7 ACCEPTANCE OF DEFECTIVE WORK. If, instead of requiring correction or removal and replacement of defective work, the OWNER prefers to accept the WORK, the OWNER may do so. The CONTRACTOR shall bear all direct, indirect, and consequential costs attributable to the OWNER's evaluation of and determination to accept such defective work. If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the WORK, and the OWNER shall be entitled to an appropriate decrease in the Contract Price.

ARTICLE 14 PAYMENTS TO CONTRACTOR AND COMPLETION

14.1 SCHEDULE OF VALUES (LUMP SUM PRICE BREAKDOWN). The schedule of values or lump sum price breakdown established as provided in the General Requirements shall serve as the basis for progress payments and will be incorporated into a form of Application for Payment acceptable to the ENGINEER.

14.2 UNIT PRICE BID SCHEDULE. Progress payments on account of Unit Price work will be based on the number of units completed.

14.3 APPLICATION FOR PROGRESS PAYMENT

- A. Unless otherwise prescribed by law, on the 25th of each month, the CONTRACTOR shall submit to the ENGINEER for review, an Application for Payment filled out and signed by the CONTRACTOR covering the WORK completed as of the date of the Application and accompanied by such supporting documentation as is required by the Contract Documents.
- B. The Application for Payment shall identify, as a sub-total, the amount of the CONTRACTOR'S Total Earnings to Date, plus the Value of Materials Stored at the Site which have not yet been incorporated in the WORK, and less a deductive adjustment for

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materials installed which were not previously incorporated in the WORK, but for which payment was allowed under the provisions for payment for Materials Stored at the Site, but not yet incorporated in the WORK.

- C. The Net Payment Due the CONTRACTOR shall be the above-mentioned subtotal from which shall be deducted the total amount of all previous payments made to the CONTRACTOR. Progress payments will be paid in full in accordance with Article 14 of the General Conditions until 90% of the Contract Price has been paid. The remaining 10% of the Contract Price amount may be withheld until:

1. final inspection has been made;
2. completion of the Project; and
3. acceptance of the Project by the OWNER.

- D. The Value of Materials Stored at the Site shall be an amount equal to the specified percent of the value of such materials as set forth in the Supplementary General Conditions. Said amount shall be based upon the value of all acceptable materials and equipment not incorporated in the WORK but delivered and suitably stored at the site or at another location agreed to in writing; provided, each such individual item has a value of more than \$5,000.00 and will become a permanent part of the WORK. The Application for Payment shall also be accompanied by an invoice (including shipping), a certification that the materials meet the applicable contract specifications, and any evidence required by the OWNER that the materials and equipment are covered by appropriate property insurance and other arrangements to protect the OWNER's interest therein, all of which will be satisfactory to the OWNER. Payment for materials will not constitute final acceptance. It shall be the CONTRACTOR's responsibility to protect the material from damage, theft, loss, or peril while in storage. Unless otherwise prescribed by law, the Value of Materials Stored at the Site shall be paid at the invoice amount up to a maximum of 85% of the Contract Price for those items.

- 14.4 CONTRACTOR'S WARRANTY OF TITLE. The CONTRACTOR warrants and guarantees that title to all work, materials, and equipment covered by an Application for Payment, whether incorporated in the WORK or not, will pass to the OWNER no later than the time of payment free and clear of all liens.

14.5 REVIEW OF APPLICATIONS FOR PROGRESS PAYMENT

- A. The ENGINEER will, within 7 days after receipt of each Application for Payment, either indicate in writing a recommendation of payment and present the Application to the OWNER, or return the Application to the CONTRACTOR indicating in writing the ENGINEER's reasons for refusing to recommend payment. In the later case, the CONTRACTOR may make the necessary corrections and resubmit the Application. If the ENGINEER still disagrees with a portion of the Application, it will submit the Application recommending the undisputed portion of the Application to the OWNER for payment and provide reasons for recommending non-payment of the disputed amount. Thirty days after presentation of the Application for Payment with the ENGINEER's recommendation, the amount recommended will (subject to the provisions of Paragraph 14.5B) become due and when due will be paid by the OWNER to the CONTRACTOR.

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- B. The OWNER may refuse to make payment of the full amount recommended by the ENGINEER because claims have been made against the OWNER on account of the CONTRACTOR's performance of the WORK or Liens have been filed in connection with the WORK or there are other items entitling the OWNER to a credit against the amount recommended, but the OWNER must give the CONTRACTOR written notice within 7 days (with a copy to the ENGINEER) stating the reasons for such action.

14.6 PARTIAL UTILIZATION

- A. The OWNER shall have the right to utilize or place into service any item of equipment or other usable portion of the WORK prior to completion of the WORK. Whenever the OWNER plans to exercise said right, the CONTRACTOR will be notified in writing by the OWNER, identifying the specific portion or portions of the WORK to be so utilized or otherwise placed into service.
- B. It shall be understood by the CONTRACTOR that until such written notification is issued, all responsibility for care and maintenance of all of the WORK shall be borne by the CONTRACTOR. Upon issuance of said written notice of partial utilization, the OWNER will accept responsibility for the protection and maintenance of all such items or portions of the WORK described in the written notice.
- C. The CONTRACTOR shall retain full responsibility for satisfactory completion of the WORK, regardless of whether a portion thereof has been partially utilized by the OWNER and the CONTRACTOR's one year correction period shall commence only after the date of Substantial Completion for the WORK.

14.7 SUBSTANTIAL COMPLETION. When the CONTRACTOR considers the WORK ready for its intended use the CONTRACTOR shall notify the OWNER and the ENGINEER in writing that the WORK is substantially complete. The CONTRACTOR will attach to this request a list of all work items that remain to be completed and a request that the ENGINEER prepare a Notice of Completion. Within a reasonable time thereafter, the OWNER, the CONTRACTOR, and the ENGINEER shall make an inspection of the WORK to determine the status of completion. If the ENGINEER does not consider the WORK substantially complete, or the list of remaining work items to be comprehensive, the ENGINEER will notify the CONTRACTOR in writing giving the reasons therefor. If the ENGINEER considers the WORK substantially complete, the ENGINEER will prepare and deliver to the OWNER, for its execution and recording, the Notice of Completion signed by the ENGINEER and CONTRACTOR, which shall fix the date of Substantial Completion.

14.8 FINAL APPLICATION FOR PAYMENT. After the CONTRACTOR has completed all of the remaining work items referred to in Paragraph 14.7 and delivered all maintenance and operating instructions, schedules, guarantees, Bonds, certificates of inspection, record as-built documents (as provided in the General Requirements) and other documents, all as required by the Contract Documents, and after the ENGINEER has indicated that the WORK is acceptable, the CONTRACTOR may make application for final payment following the procedure for progress payments. The final Application for Payment shall be accompanied by all documentation called for in the Contract Documents, together with complete and legally effective releases or waivers (satisfactory to the OWNER) of all liens arising out of or filed in connection with the WORK.

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14.9 FINAL PAYMENT AND ACCEPTANCE

- A. If, on the basis of the ENGINEER's observation of the WORK during construction and final inspection, and the ENGINEER's review of the final Application for Payment and accompanying documentation, all as required by the Contract Documents, the ENGINEER is satisfied that the WORK has been completed and the CONTRACTOR's other obligations under the Contract Documents have been fulfilled, the ENGINEER will, within 14 days after receipt of the final Application for Payment, indicate in writing the ENGINEER's recommendation of payment and present the Application to the OWNER for payment.
- B. After acceptance of the WORK by the OWNER's governing body, the OWNER will make final payment to the CONTRACTOR of the amount remaining after deducting all prior payments and all amounts to be kept or retained under the provisions of the Contract Documents, including the following items:
 - 1. Liquidated damages, as applicable.
 - 2. Two times the value of outstanding items of correction work or punch list items yet uncompleted or uncorrected, as applicable. All such work shall be completed or corrected to the satisfaction of the OWNER within the time stated on the Notice of Completion, otherwise the CONTRACTOR does hereby waive any and all claims to all monies withheld by the OWNER to cover the value of all such uncompleted or uncorrected items.

14.10 RELEASE OF RETAINAGE AND OTHER DEDUCTIONS

- A. After executing the necessary documents to initiate the lien period, and not more than 45 days thereafter (based on a 30-day lien filing period and 15-day processing time), the OWNER will release to the CONTRACTOR the retainage funds withheld pursuant to the Agreement, less any deductions to cover pending claims against the OWNER pursuant to Paragraph 14.5B.
- B. After filing of the necessary documents to initiate the lien period, the CONTRACTOR shall have 30 days to complete any outstanding items of correction work remaining to be completed or corrected as listed on a final punch list made a part of the Notice of Completion. Upon expiration of the 45 days, referred to in Paragraph 14.10A, the amounts withheld pursuant to the provisions of Paragraph 14.9B herein, for all remaining work items will be returned to the CONTRACTOR; provided, that said work has been completed or corrected to the satisfaction of the OWNER within said 30 days. Otherwise, the CONTRACTOR does hereby waive any and all claims for all monies withheld by the OWNER under the Contract to cover 2 times the value of such remaining uncompleted or uncorrected items.

- 14.11 CONTRACTOR'S CONTINUING OBLIGATION. The CONTRACTOR's obligation to perform and complete the WORK in accordance with the Contract Documents shall be absolute. Neither recommendation of any progress or final payment by the ENGINEER, nor the issuance of a Notice of Completion, nor any payment by the OWNER to the CONTRACTOR under the Contract Documents, nor any use or occupancy of the WORK or any part thereof by the OWNER, nor any act of acceptance by the OWNER nor any failure to do so, nor any review of a Shop Drawing or sample submittal, will constitute an acceptance of work not in accordance with the Contract Documents or a release of the CONTRACTOR's obligation to perform the WORK in accordance with the Contract Documents.

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- 14.12 FINAL PAYMENT TERMINATES LIABILITY OF OWNER. Final payment is defined as the last progress payment made to the CONTRACTOR for earned funds, less monies withheld as applicable, pursuant to Paragraph 14.10A. The acceptance by the CONTRACTOR of the final payment referred to in Paragraph 14.9 herein, shall be a release of the OWNER and its agents from all claims of liability to the CONTRACTOR for anything done or furnished for, or relating to, the WORK or for any act of neglect of the OWNER or of any person relating to or affecting the WORK, except demands against the OWNER for the remainder, if any, of the amounts kept or retained under the provisions of Paragraph 14.9 herein; and excepting pending, unresolved claims filed prior to the date of the Notice of Completion.

ARTICLE 15 SUSPENSION OF WORK AND TERMINATION

- 15.1 SUSPENSION OF WORK BY OWNER. The OWNER, acting through the ENGINEER, may, at any time and without cause, suspend the WORK or any portion thereof for a period of not more than 90 days by notice in writing to the CONTRACTOR. The CONTRACTOR shall resume the WORK on receipt from the ENGINEER of a notice of resumption of work. The CONTRACTOR shall be allowed an increase in the Contract Price or an extension of the Contract Time, or both, directly attributable to any suspension if the CONTRACTOR makes an approved claim therefor as provided in Articles 11 and 12.
- 15.2 TERMINATION OF AGREEMENT BY OWNER (CONTRACTOR DEFAULT)
- A. In the event of default by the CONTRACTOR, the OWNER may give 10 days written notice to the CONTRACTOR of OWNER's intent to terminate the Agreement and provide the CONTRACTOR an opportunity to remedy the conditions constituting the default. It shall be considered a default by the CONTRACTOR whenever CONTRACTOR shall: (1) declare bankruptcy, become insolvent, or assign its assets for the benefit of its creditors; (2) fail to provide materials or quality of work meeting the requirements of the Contract Documents; (3) disregard or violate provisions of the Contract Documents or ENGINEER's instructions; (4) fail to prosecute the WORK according to the approved progress schedule; or, (5) fail to provide a qualified superintendent, competent workers, or materials or equipment meeting the requirements of the Contract Documents. If the CONTRACTOR fails to remedy the conditions constituting default within the time allowed, the OWNER may then issue the Notice of Termination.
- B. In the event the Agreement is terminated in accordance with Paragraph 15.2A, herein, the OWNER may take possession of the WORK and may complete the WORK by whatever method or means the OWNER may select. The cost of completing the WORK shall be deducted from the balance which would have been due the CONTRACTOR had the Agreement not been terminated and the WORK completed in accordance with the Contract Documents. If such cost exceeds the balance which would have been due, the CONTRACTOR shall pay the excess amount to the OWNER. If such cost is less than the balance which would have been due, the CONTRACTOR shall not have claim to the difference.
- 15.3 TERMINATION OF AGREEMENT BY OWNER (FOR CONVENIENCE). The OWNER may terminate the Agreement at any time if it is found that reasons beyond the control of either the OWNER or CONTRACTOR make it impossible or against the OWNER's interests to complete the WORK. In such a case, the CONTRACTOR shall have no claims against the OWNER except: (1) for

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the value of work performed up to the date the Agreement is terminated; and, (2) for the cost of materials and equipment on hand, in transit, or on definite commitment, as of the date the Agreement is terminated which would be needed in the WORK and which meet the requirements of the Contract Documents. The value of work performed and the cost of materials and equipment delivered to the site, as mentioned above, shall be determined by the ENGINEER in accordance with the procedure prescribed for the making of the final application for payment and payment under Paragraphs 14.8 and 14.9.

- 15.4 **TERMINATION OF AGREEMENT BY CONTRACTOR.** The CONTRACTOR may terminate the Agreement upon 10 days written notice to the OWNER, whenever: 1) the WORK has been suspended under the provisions of Paragraph 15.1, herein, for more than 90 consecutive days through no fault or negligence of the CONTRACTOR, and notice to resume work or to terminate the Agreement has not been received from the OWNER within this time period; or, 2) the OWNER should fail to pay the CONTRACTOR any monies due him in accordance with the terms of the Contract Documents and within 60 days after presentation to the OWNER by the CONTRACTOR of a request therefor, unless within said 10-day period the OWNER shall have remedied the condition upon which the payment delay was based. In the event of such termination, the CONTRACTOR shall have no claims against the OWNER except for those claims specifically enumerated in Paragraph 15.3, herein, and as determined in accordance with the requirements of said paragraph.

ARTICLE 16 MISCELLANEOUS

- 16.1 **GIVING NOTICE.** Whenever any provision of the Contract Documents requires the giving of written notice, it will be deemed to have been validly given if delivered in person to the individual or to a member of the firm or to an officer of the corporation for whom it is intended, or if delivered at or sent by registered or certified mail, postage prepaid, to the last business address known to the giver of the notice.

16.2 RIGHTS IN AND USE OF MATERIALS FOUND ON THE WORK

- A. The CONTRACTOR may use on the Project, with ENGINEER's approval, such stone, gravel, sand, or other material determined suitable by the ENGINEER, as may be found in the excavation. The CONTRACTOR will be paid for the excavation of such material at the corresponding contract unit price. No additional payment will be made for utilizing the material from excavation as borrow, or select borrow.
- B. The CONTRACTOR shall replace, at its own expense, with other acceptable material, all of that portion of the excavated material so removed and used which was needed for use on the project. No charge for the materials so used will be made against the CONTRACTOR except that the CONTRACTOR shall be responsible for payment of any royalties required.
- C. The CONTRACTOR shall not excavate or remove any material from within the Project location which is not within the grading limits, as indicated by the slope and grade lines, without written authorization from the ENGINEER.
- D. In the event the CONTRACTOR has processed materials from OWNER-furnished sources in excess of the quantities required for performance of this contract, including any waste material produced as a by-product, the CBJ may retain possession of such materials without obligation to reimburse the CONTRACTOR for the cost of their production. When such

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materials are in a stockpile, the ENGINEER may require: That it remain in stockpile; the CONTRACTOR level such stockpile(s); or that the CONTRACTOR remove such materials and restore the premises to a satisfactory condition at the CONTRACTOR's expense. This provision shall not preclude the CBJ from arranging with the CONTRACTOR to produce material over and above the contract needs, payment for which shall be by written agreement between the CBJ and the CONTRACTOR.

- E. Unless otherwise provided, the material from any existing old structure may be used temporarily by the CONTRACTOR in the erection of the new structure. Such material shall not be cut or otherwise damaged except with the approval of the ENGINEER.
- 16.3 **RIGHT TO AUDIT.** If the CONTRACTOR submits a claim to the OWNER for additional compensation, the OWNER shall have the right, as a condition to considering the claim, and as a basis for evaluation of the claim, and until the claim has been settled, to audit the CONTRACTOR's books to the extent they are relevant. This right shall include the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to discover and verify all direct and indirect costs of whatever nature claimed to have been incurred or anticipated to be incurred and for which the claim has been submitted. The right to audit shall include the right to inspect the CONTRACTOR's plants, or such parts thereof, as may be or have been engaged in the performance of the WORK. The CONTRACTOR further agrees that the right to audit encompasses all subcontracts and is binding upon Subcontractors. The rights to examine and inspect herein provided for shall be exercisable through such representatives as the OWNER deems desirable during the CONTRACTOR's normal business hours at the office of the CONTRACTOR. The CONTRACTOR shall make available to the OWNER for auditing, all relevant accounting records and documents, and other financial data, and upon request, shall submit true copies of requested records to the OWNER.
- 16.4 **ARCHEOLOGICAL OR HISTORICAL DISCOVERIES.** When the CONTRACTOR's operation encounters prehistoric artifacts, burials, remains of dwelling sites, paleontological remains, such as shell heaps, land or sea mammal bones or tusks, or other items of historical significance, the CONTRACTOR shall cease operations immediately and notify the ENGINEER. No artifacts or specimens shall be further disturbed or removed from the ground and no further operations shall be performed at the site until so directed. Should the ENGINEER order suspension of the CONTRACTOR's operations in order to protect an archaeological or historical finding, or order the CONTRACTOR to perform extra work, such order(s) shall be covered by an appropriate contract change document.
- 16.5 **CONSTRUCTION OVER OR ADJACENT TO NAVIGABLE WATERS.** All work over, on, or adjacent to navigable waters shall be so conducted that free navigation of the waterways will not be interfered with and the existing navigable depths will not be impaired, except as allowed by permit issued the U.S. Coast Guard and/or the U.S. Army Corps of Engineers, as applicable.
- 16.6 **GRATUITY AND CONFLICT OF INTEREST.** The CONTRACTOR agrees to not extend any loan, gratuity or gift of money of any form whatsoever to any employee or elected official of the OWNER, nor will the CONTRACTOR rent or purchase any equipment or materials from any employee or elected official of the OWNER, or to the best of the CONTRACTOR's knowledge, from any agent of any employee or elected official of the OWNER. Before final payment, the CONTRACTOR shall execute and furnish the OWNER an affidavit certifying that the CONTRACTOR has complied with the above provisions of the contract.

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16.7 SUITS OF LAW CONCERNING THE WORK

- A. Should a suit of law be entered into, either by the CONTRACTOR (or the CONTRACTOR's surety) against the OWNER, or by the OWNER against the CONTRACTOR (or the CONTRACTOR's surety), the suit of law shall be tried in the First Judicial District of Alaska.
- B. If one of the questions at issue is the satisfactory performance of the work by the CONTRACTOR and should the appropriate court of law judge the work of the CONTRACTOR to be unsatisfactory, then the CONTRACTOR (or the CONTRACTOR's surety) shall reimburse the OWNER for all legal and all other expenses (as may be allowed and set by the court) incurred by the OWNER because of the suit of the law and, further, it is agreed that the OWNER may deduct such expense from any sum or sums then, or any that become due the CONTRACTOR under the contract.

16.8 CERTIFIED PAYROLLS

- A. All CONTRACTORs or Subcontractor who perform work on a public construction contract for the OWNER shall file a certified payroll with the Alaska Department of Labor before Friday of each week that covers the preceding week (Section 14-2-4 ACLA 1949; am Section 4 ch 142 SLA 1972).
- B. In lieu of submitting the State payroll form, the CONTRACTOR's standard payroll form may be submitted, provided it contains the information required by AS 36.05.040 and a statement that the CONTRACTOR is complying with AS 36.10.010.
- C. A contractor or subcontractor, who performs work on public construction in the State, as defined by AS 36.95.010(3), shall pay not less than the current prevailing rate of wages as issued by the Alaska Department of Labor before the end of the pay period. (AS 36.05.010).

16.9 PREVAILING WAGE RATES

- A. Wage rates for Laborers and Mechanics on Public Contracts, AS 36.05.070. The CONTRACTOR, or Subcontractors, shall pay all employees unconditionally and not less than once a week. Wages may not be less than those stated in Paragraph 16.8C, regardless of the contractual relationship between the CONTRACTOR or Subcontractors and laborers, mechanics, or field surveyors. The scale of wages to be paid shall be posted by the CONTRACTOR in a prominent, easily accessible place at the site of the WORK.
- B. Failure to Pay Agreed Wages, AS 36.05.080. If it is found that a laborer, mechanic, or field surveyor employed by the CONTRACTOR or Subcontractor has been, or is being, paid a rate or wages less than the established rate, the OWNER may, by written notice, terminate the CONTRACTOR or Subcontractors right to proceed with the work. The OWNER may prosecute the work to completion by contract or otherwise, and the CONTRACTOR and sureties will be held liable to the OWNER for excess costs for completing the WORK. (Section 2 ch 52 SLA 1959).
- C. Listing Contractor's Who Violate Contracts, AS 36.05.090. In addition, a list giving the names of persons who have disregarded the rights of their employees shall be distributed to all departments of State government and all political subdivisions. No person appearing on this

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list, and no firm, corporation, partnership or association in which the person has an interest, may work as a CONTRACTOR or Subcontractor on a public construction contract for the State, or a political subdivision of the state, until three years after the date of publication of the list. (Section 3 ch 52 SLA 1959; am Section 9 ch 142 SLA).

16.10 EMPLOYMENT REFERENCE. Workers employed in the execution of the contract by the CONTRACTOR or by any Subcontractor under this contract shall not be required or permitted to labor more than 8 hours a day or 40 hours per week in violation of the provisions of the Alaska Wage and Hour Act, Section 23.10.060.

16.11 COST REDUCTION INCENTIVE

- A. At any time within 45 days after the date of the Notice of Award, the CONTRACTOR may submit to the ENGINEER in writing, proposals for modifying the plans, specifications, or other requirements of this contract for the sole purpose of reducing the total cost of construction. The cost reduction proposal shall not impair in any manner the essential functions or characteristics of the project, including but not limited to, service life, economy of operation, ease of maintenance, desired appearance or design and safety standards.
- B. The cost reduction proposal shall contain the following information:
1. Description of both the existing contract requirements for performing the WORK and the proposed changes.
 2. An itemization of the contract requirements that must be changed if the proposal is adopted.
 3. A detailed estimate of the time required and the cost of performing the WORK under both the existing contract and the proposed change.
 4. A statement of the date by which the CONTRACTOR must receive the decision from the OWNER on the cost reduction proposal.
 5. The contract items of WORK effected by the proposed changes including any quantity variations.
 6. A description and estimate of costs the OWNER may incur in implementing the proposed changes, such as test and evaluation and operating and support costs.
 7. A prediction of any effects the proposed change would have on future operations and maintenance costs to the OWNER.
- C. The provisions of this section shall not be construed to require the OWNER to consider any cost reduction proposal which may be submitted; nor will the OWNER be liable to the CONTRACTOR for failure to accept or act upon any cost reduction proposal submitted, or for delays to the work attributable to the consideration or implementation of any such proposal.
- D. If a cost reduction proposal is similar to a change in the plans or specifications for the project under consideration by the OWNER at the time the proposal is submitted, the OWNER will not accept such proposal and reserves the right to make such changes without compensation to the CONTRACTOR under the provisions of this section.
- E. The CONTRACTOR shall continue to perform the work in accordance with the requirements of the contract until an executed Change Order incorporating the cost reduction proposal has

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been issued. If any executed Change Order has not been issued by the date upon which the CONTRACTOR's cost reduction proposal specifies that a decision should be made by the OWNER, in writing, the cost reduction proposal shall be considered rejected.

- F. The OWNER, shall be the sole judge of the acceptability of a cost reduction proposal and of the estimated net savings in Contract Time and construction costs resulting from the adoption of all or any part of such proposal. Should the CONTRACTOR disagree with OWNER's decision on the cost reduction proposal, there is no further consideration. The OWNER reserves the right to make final determination.
- G. If the CONTRACTOR's cost reduction proposal is accepted in whole or in part, such acceptance will be made by a contract Change Order, which specifically states that the change is executed pursuant to this cost reduction proposal section. Such Change Order shall incorporate the changes in the plans and specifications which are necessary to permit the cost reduction proposal or such part of it as has been accepted to be put into effect and shall include any conditions upon which the OWNER's approval is based, if such approval is conditional. The Change Order shall also describe the estimated net savings in the cost of performing the work attributable to the cost reduction proposal, and shall further provide that the contract cost be adjusted by crediting the OWNER with the estimated net savings amount.
- H. Acceptance of the cost reduction proposal and performance of the work does not extend the time of completion of the contract, unless specifically provided in the Change Order authorizing the use of the submitted proposal. Should the adoption of the cost reduction proposal result in a Contract Time savings, the total Contract Time shall be reduced by an amount equal to the time savings realized.
- I. The amount specified to the CONTRACTOR in the Change Order accepted in the cost reduction proposal shall constitute full compensation for the performance of WORK. No claims for additional costs as a result of the changes specified in the cost reduction proposal shall be allowed.
- J. The OWNER reserves the right to adopt and utilize any approved cost reduction proposal for general use on any contract administered when it is determined suitable for such application. Cost reduction proposals identical, similar, or previously submitted will not be accepted for consideration if acceptance and compensation has previously been approved. The OWNER reserves the right to use all or part of any cost reduction proposal without obligation or compensation of any kind to the CONTRACTOR.
- K. The CONTRACTOR shall bear the costs, if any, to revise all bonds and insurance requirements for the project, to include the cost reduction WORK.

END OF SECTION

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GENERAL. These Supplementary General Conditions make additions, deletions, or revisions to the General Conditions as indicated herein. All provisions which are not so added, deleted, or revised remain in full force and effect. Terms used in these Supplementary General Conditions which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SGC 1 DEFINITIONS. *Remove* the definition for Contract Documents and *replace* with the following:

Contract Documents – The Table of Contents, Notice Inviting Bids, Instructions to Bidders, Bid Forms (including the Bid, Bid Schedule(s), Subcontractor Report, Bid Bond, and all required certificates and affidavits), Agreement, Performance Bond, Payment Bond, General Conditions, Supplementary General Conditions, Alaska Labor Standards, Reporting, and Prevailing Wage Rate Determination, Special Provisions, Standard Specifications, Technical Specifications, Drawings, Permits, and all Addenda, and Change Orders executed pursuant to the provisions of the Contract Documents.

SGC 2.2 COPIES OF DOCUMENTS. *Add* the following:

The OWNER shall furnish to the CONTRACTOR two (2) hard copies of the Contract Documents which will include bound reduced Drawings and one (1) electronic copy (pdf format) on a CD-ROM. Additional copies of contract documents are the responsibility of the contractor.

SGC 3.2 ORDER OF PRECEDENCE OF CONTRACT DOCUMENTS. *Remove* No. 12. Technical Specifications and No. 13. Drawings, and *add* the following:

12. Special Provisions Section
13. Standard Specifications for Civil Engineering Projects and Subdivision Improvements
December 2003 Edition with current Errata Sheets.
14. Drawings.

SGC 4.2 PHYSICAL CONDITIONS - SUBSURFACE AND EXISTING STRUCTURES. *Add* the following:

- C. In the preparation of the Contract Documents, the Engineer of Record has relied upon field measurements and visual inspection of the existing structures and surface conditions.

SGC - 4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT. *Add* the following.

The CBJ/State Lemon Creek Gravel Pit is available for this Project.

SGC - 4.6 USE OF THE CBJ/STATE LEMON CREEK GRAVEL PIT.

Wherever the land use permits are referenced, *delete* and *replace with* the permit number USE2008-00061.

- *Delete* the last sentence of Paragraph A and *replace with* the following: “Contact Michael Eich, CBJ Material Source Manager, at (907) 586-0874 for the current material rates.”
- *Delete* paragraph C., and *replace* with the following paragraph C.

- C. CONTRACTORs deciding to use material from the CBJ/State pit shall provide an Individual Mining Plan prepared by a professional engineer registered in the State of Alaska. The Individual Mining Plan must be reviewed and approved by the CBJ, prior to commencing operations within

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the pit. CONTRACTORS shall also secure a Performance Bond to ensure compliance with contract provisions, including any Individual Mining Plan stipulations. The bond shall remain in full force and effect until a release is obtained from the CBJ. A \$10,000 cash processing restoration bond is required prior to screening or primary crushing operations.

➤ **Add** the following paragraphs:

- J. Contractors choosing to mine material from CBJ material sources are also subject to the conditions contained in each site's Multi Sector General Permit for Stormwater Discharges associated with industrial activities (MSGP) and the Storm Water Pollution Prevention Plan (SWPPP).
- K. Contractors choosing to perform screening or primary crushing shall comply with all requirements of Mine Safety and Health Administration (MSHA) Part 46, and must obtain a Contractor ID number (7000-52) from MSHA.

SGC 5.1 PERFORMANCE, PAYMENT, AND OTHER BONDS. The Contractor shall furnish Performance and Payment Bonds in the amount of 100% of the Bid.

SGC 5.2 INSURANCE AMOUNTS. The limits of liability for the insurance required by Paragraph 5.2 of the General Conditions shall provide coverage for not less than the following amounts or greater where required by Laws and Regulations. The CONTRACTOR must provide certification of proper insurance coverage and amendatory endorsements or copies of the applicable policy language affecting coverage required in this agreement to the City and Borough of Juneau. All certificates of insurance supplied to the OWNER shall state that the OWNER is named as **"Additional Insured for any and all work performed for the City & Borough of Juneau" for the Commercial General Liability policy and any other policies, if required in this Section.** NOTE: This requirement has changed. The OWNER no longer requires certificates of insurance referencing project names and contract numbers.

Delete paragraph C and **Replace** with the following paragraph C:

- C. The CONTRACTOR shall furnish the OWNER with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of policies. Failure of CBJ to demand such certificate or other evidence of full compliance with these insurance requirements or failure of CBJ to identify a deficiency from evidence that is provided shall not be construed as a waiver of the obligation of the Contractor to maintain the insurance required by this contract. The coverage afforded will not be cancelled, reduced in coverage, or renewal refused until at least 30 days' prior written notice has been given to the OWNER by the CONTRACTOR. **All such insurance required herein (except for Workers' Compensation and Employer's Liability) shall name the OWNER, its Consultants and subconsultants and their officers, directors, agents, and employees as "additional insureds" under the policies.**

The CONTRACTOR shall purchase and maintain the following insurance:

- 1. Workers' Compensation and Employer's Liability. This insurance shall protect the CONTRACTOR against all claims under applicable state workers' compensation laws. The CONTRACTOR shall also be protected against claims for injury, disease, or death of employees which, for any reason, may not fall within the provisions of a Workers' Compensation law. The CONTRACTOR shall require each Subcontractor similarly to provide Workers' Compensation Insurance for all of the latter's employees to be engaged in such work unless such employees are

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covered by the protection afforded by the CONTRACTOR's Workers' Compensation Insurance. In case any class of employees is not protected, under the Workers' Compensation Statute, the CONTRACTOR shall provide and shall cause each subcontractor to provide adequate employer's liability insurance for the protection of such of its employees as are not otherwise protected. **The CONTRACTOR grants a waiver of any right to subrogation against the OWNER by virtue of the payment of any loss under such insurance.** This provision applies regardless of whether or not the OWNER has received a waiver of subrogation endorsement from the insurer.

Workers' Compensation: (under Paragraph 5.2C.1 of the General Conditions) as in accordance with AS 23.30.045:

- a. State: Statutory
- b. Applicable Federal (e.g., Longshore): Statutory

Note: If the WORK called for in the Contract Documents involves work in or on any navigable waters, the CONTRACTOR shall provide Workers' Compensation coverage which shall include coverage under the Longshore and Harbor Workers' Compensation Act, the Jones Act, and any other coverage required under Federal or State laws pertaining to workers in or on navigable waters.

- a. Employers Liability

Bodily Injury by Accident:	\$100,000.00 Each Accident
Bodily Injury by Disease:	\$100,000.00 Each Employee
Bodily Injury by Disease:	\$500,000.00 Policy Limit

- 1. CONTRACTOR agrees to waive all rights of subrogation against the OWNER for WORK performed under contract.
- 2. If CONTRACTOR directly utilizes labor outside of the State of Alaska in the prosecution of the WORK, "Other States" endorsement shall be required as a condition of the contract.

- 2. Commercial General Liability (CGL), including products and completed operations, property damage, bodily injury and personal and advertising injury, with limits no less than \$1,000,000 each occurrence and \$2,000,000 aggregate. (under Paragraph 5.2C.2 of the General Conditions) **This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers.** If Additional insured status is provided in the form of an endorsement to the Contractor's insurance, the endorsement shall be at least as broad as ISO Form CG 20 10 11 85 or **both** CG 20 10, CG 20 26, CG 20 33, or CG 20 38; **and** CG 20 37 forms if later revisions used).

- 3. Commercial Automobile Liability: (under Paragraph 5.2C.3 of the General Conditions) including Owned, Hired, and Non-Owned Vehicles:

Combined Single Limit, Bodily Injury and Property Damage \$1,000,000.00

This insurance policy is to contain, or be endorsed to contain, additional insured status for the CBJ, its officers, officials, employees, and volunteers The CONTRACTOR shall require each Subcontractor similarly to provide Commercial Automobile Liability Insurance

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

for all of the latter's employees to be engaged in such WORK unless such employees are covered by the protection afforded by the CONTRACTOR's Commercial Automobile Liability Insurance.

Add the following paragraphs:

- C. Builder's Risk: CONTRACTOR is not required to obtain a Builder's Risk insurance policy for this project.
- D. All Subcontractors are required to secure and maintain the insurance coverages listed above, unless otherwise noted.
- E. If the CONTRACTOR maintains higher limits than the minimums shown above, the OWNER requires and shall be entitled to coverage for the higher limits maintained by the CONTRACTOR. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the OWNER.
- F. Policies shall also specify insurance provided by CONTRACTOR will be considered primary and not contributory to any other insurance available to the OWNER.
- G. Should any of the policies described above be cancelled before the expiration date thereof, notice will be delivered in accordance with the policy provisions.

SGC 6.5 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS. **Add** the following:

B. The CONTRACTOR shall perform not less than 40% of the WORK with its own forces (i.e., without subcontracting). The 40% requirement shall be understood to mean that the CONTRACTOR shall perform, with its own organization, WORK amounting to at least 40% of the original contract amount. The 40% requirement will be calculated based upon the total of the subcontract amounts submitted for Contract Award, and any other information requested by the OWNER from the apparent low Bidder.

SGC 6.5 CONCERNING SUBCONTRACTORS, SUPPLIERS, AND OTHERS, **Add** the following paragraph:

C. CONTRACTOR must pay Subcontractors and/or Suppliers within 30 days of receiving payment from the OWNER, if that payment was made for Work performed by the Subcontractor and/or materials received. Failure to pay Subcontractors within 30 days of receiving payment from which Subcontractor and/or Supplier is to be paid may result in the OWNER initiating debarment proceedings as prescribed in the City and Borough of Juneau Purchasing Code. *The 30 day City and Borough of Juneau requirement does not supersede AS 36.90.210.*

SGC 6.6 PERMITS, **Add** the following paragraph:

D. Contractor is responsible for obtaining a Hot Works permit from the CBJ Permit Center, if performing work which requires such a permit. Work requiring a Hot Works Permit includes but is not limited to the following: cutting, welding, Thermit welding, brazing, soldering, grinding, thermal spraying, thawing pipe, installation of torch-applied roof systems or any other similar activity.

SECTION 00800 - SUPPLEMENTARY GENERAL CONDITIONS

SGC 14.3 APPLICATION FOR PROGRESS PAYMENT. Paragraph D.

D. The Value of Materials Stored at the site shall be an amount equal to 85%.

SGC 14.9 FINAL PAYMENT AND ACCEPTANCE. *Add* the following paragraph:

C. Prior to the final payment the CONTRACTOR shall contact the Alaska Department of Labor and Workforce Development (ADOL) and provide the OWNER with clearance from the ADOL for the CONTRACTOR and all Subcontractors that have worked on the Project. This clearance shall indicate that all Employment Security Taxes have been paid. A sample form for this purpose is at the end of this section. The CONTRACTOR shall also submit a "NOTICE OF COMPLETION OF PUBLIC WORKS" signed by ADOL.

SGC 16.8 CERTIFIED PAYROLLS. *Change* paragraph A. to read:

A. All CONTRACTORS or Subcontractors who perform work on a public construction contract for the OWNER shall file a certified payroll with Alaska Department of Labor. See Section 00830 - Alaska Labor Standards, Reporting, and Prevailing Wage Rate Determination.



Tax Clearance Request Form for Contractors

Date of request: _____

Business name of the contractor a Tax Clearance is being requested for: _____

Business address: _____

Business contact phone number: _____

Federal Identification Number: _____

Alaska Employer Account Number: _____

Specific time period a tax clearance is being requested for (*i.e. beginning and ending date of a subcontract agreement*):

Subcontract project name: _____

Name and address of the person this Tax Clearance is to be returned to: _____

Comments or additional information: _____

For agency use only:

- Tax Clearance is granted
- Tax Clearance is not granted (*please have employer contact the department*)
- No account on file, liability unknown (*please have employer contact the department*)
- Employer has stated no employees, Tax Clearance not required.

Agency representative signature: _____ Date: _____

Agency representative title: _____

We are an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. labor.alaska.gov/estax

**SECTION 00830 - ALASKA LABOR STANDARDS, REPORTING, AND
PREVAILING WAGE RATE DETERMINATION**

State of Alaska, Department of Labor, Laborers' and Mechanics' Minimum Rates of Pay, AS 36.05.010 and AS 36.05.050, Wage and Hour Administration Pamphlet No. 600, the latest edition published by the State of Alaska, Department of Labor inclusive, are made a part of this contract by reference.

The CONTRACTOR is responsible for contacting the Alaska Department of Labor to determine compliance with current regulations.

Correspondence regarding Title 36 requirements may be submitted electronically or paper copies can be submitted by mail. To submit Title 36 documents electronically, go to <https://myalaska.state.ak.us/home/app>. If filing electronically, submit certified payrolls to ADOL at the website above and email a copy of all certified payrolls to Greg Smith at the email address below. If Contractor elects to submit paper copies, they should be submitted to the physical addresses below.

Within 10 Days of "Notice of Award/Notice to Proceed" make a list of **all** Subcontractors. Include their name, address, phone, estimated subcontract amount, and estimated start and finish dates. Send this list to the Wage and Hour Section (contact information below).

Certified Payrolls must be submitted every two weeks. Before the second Friday, each CONTRACTOR and Subcontractor must file Certified Payrolls with Statements of Compliance for the previous two weeks. Indicate "**Start**" on your first payroll, and "**Final**" on your last payroll for this Project.

As part of the **final payment request package**, CONTRACTOR must submit a "NOTICE OF COMPLETION OF PUBLIC WORKS" form signed by ADOL personnel.

Contact Information:

Wage and Hour Section
State of Alaska
Department of Labor and Workforce Development
Labor Standards and Safety Division and
Wage and Hour Administration
P.O. Box 11149
Juneau, AK 99811-1149
907-465-4842
<http://labor.state.ak.us/lss/home.htm>

Greg Smith, Contract Administrator
City and Borough of Juneau
155 S. Seward Street
Juneau, AK 99801
(907) 586-0873
Greg.Smith@juneau.org

SECTION 00830

APPENDIX A

Laborers' & Mechanics'
Minimum Rates of Pay

Pamphlet 600

Effective September 1, 2020



Laborers' and Mechanics' MINIMUM RATES OF PAY

Effective September 1, 2020
Issue 41

PAMPHLET No. 600

Title 36. Public Contracts
AS 36.05

DEPARTMENT OF LABOR
AND WORKFORCE DEVELOPMENT

Wage and Hour Administration

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THE STATE
of ALASKA
GOVERNOR MIKE DUNLEAVY

Department of Labor and Workforce Development

Office of the Commissioner

Post Office Box 111149
Juneau, Alaska 99811
Main: 907.465.2700
fax: 907.465-2784

September 1, 2020

TO ALL CONTRACTING AGENCIES:

At the Alaska Department of Labor and Workforce Development, our goal is putting Alaskans to work. This pamphlet is designed to help contractors awarded public construction contracts understand the most significant laws of the State of Alaska pertaining to prevailing wage.

This pamphlet identifies current prevailing wage rates for public construction contracts (any construction projects awarded for the State of Alaska or its political subdivisions, such as local governments and certain non-profit organizations). Because these rates may change in a subsequent determination, please be sure you are using the appropriate rates. The rates published in this edition become effective September 1, 2020.

The prevailing wage rates contained in this pamphlet are applicable to public construction projects with a final bid date of September 11, 2020, or later. As the law now provides, these rates will remain stable during the life of a contract or for 24 calendar months, whichever is shorter. **The 24-month period begins on the date the prime contract is awarded.** Upon expiration of the initial 24-month period, the latest wage rates issued by the department shall become effective for a subsequent 24-month period or until the original contract is completed, whichever occurs first. This process shall be repeated until the original contract is completed.

The term "original contract" means the signed contract that resulted from the original bid and any amendments, including changes of work scope, additions, extensions, change orders, and other instruments agreed to by the parties that have not been subject to subsequent open bid procedures.

If a higher federal rate is required due to partial federal funding or other federal participation, the higher rate must be paid.

For additional copies of this pamphlet go to: <http://labor.state.ak.us/lss/pamp600.htm>

For questions regarding prevailing wage or employment preference requirements, please contact the nearest Wage and Hour office. These offices are listed on Page x.

Sincerely,

A handwritten signature in black ink that reads "Tamika L. Ledbetter".

Dr. Tamika L. Ledbetter
Commissioner

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Wage Rates Pages 1-26

Note to Readers: The statutes and administrative regulations listed in this publication were taken from the official codes, as of the effective date of the publication. However, there may be errors or omissions that have not been identified and changes that occurred after the publication was printed. This publication is intended as an informational guide only and is not intended to serve as a precise statement of the statutes and regulations of the State of Alaska. To be certain of current laws and regulations, please refer to the official codes.

EXCERPTS FROM ALASKA LAW

Sec. 36.05.005. Applicability.

This chapter applies only to a public construction contract that exceeds \$25,000.

Sec. 36.05.010. Wage rates on public construction.

A contractor or subcontractor who performs work on a public construction contract in the state shall pay not less than the current prevailing rate of wages for work of a similar nature in the region in which the work is done. The current prevailing rate of wages is that contained in the latest determination of prevailing rate of wages issued by the Department of Labor and Workforce Development at least 10 days before the final date for submission of bids for the contract. The rate shall remain in effect for the life of the contract or for 24 calendar months, whichever is shorter. At the end of the initial 24-month period, if new wage determinations have been issued by the department, the latest wage determination shall become effective for the next 24-month period or until the contract is completed, whichever occurs first. This process shall be repeated until the contract is completed.

Sec. 36.05.040. Filing schedule of employees, wages paid, and other information.

All contractors or subcontractors who perform work on a public construction contract for the state or for a political subdivision of the state shall, before the Friday of every second week, file with the Department of Labor and Workforce Development a sworn affidavit for the previous reporting period, setting out in detail the number of persons employed, wages paid, job classification of each employee, hours worked each day and week, and other information on a form provided by the Department of Labor and Workforce Development.

Sec. 36.05.045. Notice of work and completion; withholding of payment.

- (a) Before commencing work on a public construction contract, the person entering into the contract with a contracting agency shall designate a primary contractor for purposes of this section. Before work commences, the primary contractor shall file a notice of work with the Department of Labor and Workforce Development. The notice of work must list work to be performed under the public construction contract by each contractor who will perform any portion of work on the contract and the contract price being paid to each contractor. The primary contractor shall pay all filing fees for each contractor performing work on the contract, including a filing fee based on the contract price being paid for work performed by the primary contractor's employees. The filing fee payable shall be the sum of all fees calculated for each contractor. The filing fee shall be one percent of each contractor's contract price. The total filing fee payable by the primary contractor under this subsection may not exceed \$5,000. In this subsection, "contractor" means an employer who is using employees to perform work on the public construction contract under the contract or a subcontract.
- (b) Upon completion of all work on the public construction contract, the primary contractor shall file with the Department of Labor and Workforce Development a notice of completion together with payment of any additional filing fees owed due to increased contract amounts. Within 30 days after the department's receipt of the primary contractor's notice of completion, the department shall inform the contracting agency of the amount, if any, to be withheld from the final payment.
- (c) A contracting agency
 - (1) may release final payment of a public construction contract to the extent that the agency has received verification from the Department of Labor and Workforce Development that
 - (A) the primary contractor has complied with (a) and (b) of this section;
 - (B) the Department of Labor and Workforce Development is not conducting an investigation under this title; and
 - (C) the Department of Labor and Workforce Development has not issued a notice of a violation of this chapter to the primary contractor or any other contractors working on the public construction contract; and

- (2) shall withhold from the final payment an amount sufficient to pay the department's estimate of what may be needed to compensate the employees of any contractors under investigation on this construction contract, and any unpaid filing fees.
- (d) The notice and filing fee required under (a) of this section may be filed after work has begun if
 - (1) The public construction contract is for work undertaken in immediate response to an emergency; and
 - (2) The notice and fees are filed not later than 14 days after the work has begun.
- (e) A false statement made on a notice required by this section is punishable under AS 11.56.210.

Sec. 36.05.060. Penalty for violation of this chapter.

A contractor who violates this chapter is guilty of a misdemeanor and upon conviction is punishable by a fine of not less than \$100 nor more than \$1,000, or by imprisonment for not less than 10 days nor more than 90 days, or by both. Each day a violation exists constitutes a separate offense.

Sec. 36.05.070. Wage rates in specifications and contracts for public works.

- (a) The advertised specifications for a public construction contract that requires or involves the employment of mechanics, laborers, or field surveyors must contain a provision stating the minimum wages to be paid various classes of laborers, mechanics, or field surveyors and that the rate of wages shall be adjusted to the wage rate under AS 36.05.010.
- (b) Repealed by §17 ch 142 SLA 1972.
- (c) A public construction contract under (a) of this section must contain provisions that
 - (1) the contractor or subcontractors of the contractor shall pay all employees unconditionally and not less than once a week;
 - (2) wages may not be less than those stated in the advertised specifications, regardless of the contractual relationship between the contractor or subcontractors and laborers, mechanics, or field surveyors;
 - (3) the scale of wages to be paid shall be posted by the contractor in a prominent and easily accessible place at the site of the work;
 - (4) the state or a political subdivision shall withhold so much of the accrued payments as is necessary to pay to laborers, mechanics, or field surveyors employed by the contractor or subcontractors the difference between
 - (A) the rates of wages required by the contract to be paid laborers, mechanics, or field surveyors on the work; and
 - (B) the rates of wages in fact received by laborers, mechanics, or field surveyors.

Sec. 36.05.080. Failure to pay agreed wages.

Every contract within the scope of AS 36.05.070 shall contain a provision that if it is found that a laborer, mechanic, or field surveyor employed by the contractor or subcontractor has been or is being paid a rate of wages less than the rate of wages required by the contract to be paid, the state or its political subdivision may, by written notice to the contractor, terminate the contractor's right to proceed with the work or the part of the work for which there is a failure to pay the required wages and to prosecute the work to completion by contract or otherwise, and the contractor and the contractor's sureties are liable to the state or its political subdivision for excess costs for completing the work.

Sec. 36.05.090. Payment of wages from withheld payments and listing contractors who violate contracts.

- (a) The state disbursing officer in the case of a state public construction contract and the local fiscal officer in the case of a political subdivision public construction contract shall pay directly to laborers, mechanics, or field surveyors from accrued payments withheld under the terms of the contract the wages due laborers, mechanics, or field surveyors under AS 36.05.070.
- (b) The state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees. A person appearing on this list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or

subcontractor on a public construction contract for the state or a political subdivision of the state until three years after the date of publication of the list. If the accrued payments withheld under the contract are insufficient to reimburse all the laborers, mechanics, or field surveyors with respect to whom there has been a failure to pay the wages required under AS 36.05.070, the laborers, mechanics, or field surveyors have the right of action or intervention or both against the contractor and the contractor's sureties conferred by law upon persons furnishing labor or materials, and in the proceedings it is not a defense that the laborers, mechanics, or field surveyors accepted or agreed to accept less than the required rate of wages or voluntarily made refunds.

Sec. 36.05.900. Definition.

In this chapter, "contracting agency" means the state or a political subdivision of the state that has entered into a public construction contract with a contractor.

EXCERPTS FROM ALASKA ADMINISTRATIVE CODE

*****Notice:** Regulations relating to board and lodging and per diem went into effect on November 25, 2018. The new regulations are excerpted here***

8 AAC 30.051. Purpose. The purpose of 8 AAC 30.052 – 8 AAC 30.056 is to ensure that wages paid to laborers, mechanics, and field surveyors do not fall below the prevailing rate of pay.

8 AAC 30.052. Board and lodging; remote sites. (a) A contractor on a public construction project located 65 or more road miles from the international airport closest to the project area in either Fairbanks, Juneau, or Anchorage, or that is inaccessible by road in a two-wheel drive vehicle, shall provide adequate board and lodging to each laborer, mechanic, or field surveyor while the person is employed on the project. If commercial lodging facilities are not available, the contractor shall provide temporary lodging facilities. Lodging facilities must comply with all applicable state and federal laws. For a highway project, the location of the project is measured from the midpoint of the project.

(b) A contractor is not required to provide board and lodging:

(1) to a laborer, mechanic, or field surveyor who is a domiciled resident of the project area; or

(2) on a laborer, mechanic, or field surveyor's scheduled days off, when the person can reasonably travel between the project and the person's permanent residence; for the purposes of this paragraph, "scheduled day off" means a day in which a person does not perform work on-site, is not required to remain at or near the job location for the benefit of the contractor, and is informed of the day off at least seven days before the day off.

(c) Upon a contractor's written request, the commissioner may waive the requirements of (a) of this section where:

(1) the project is inaccessible by road in a two-wheel drive vehicle, but the laborer, mechanic, or field surveyor can reasonably travel between the project and the person's permanent residence within one hour; or

(2) a laborer, mechanic, or field surveyor is not a domiciled resident of the project area, but has established permanent residence, with the intent to remain indefinitely, within 65 road miles of the project, or for a highway project, the mid-point of the project.

8 AAC 30.054. Per diem instead of board and lodging. (a) A contractor may pay a laborer, mechanic, or field surveyor per diem instead of providing board and lodging, when the following conditions are met:

(1) the department determines that per diem instead of board and lodging is an established practice for the work classification; the department shall publish and periodically revise its determinations in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*;

(2) the contractor pays each laborer, mechanic, or field surveyor the appropriate per diem rate as published and periodically revised in the pamphlet *Laborers' and Mechanics' Minimum Rates of Pay*; and

(3) the contractor pays the per diem to each laborer, mechanic, or field surveyor on the same day that wages are paid.

(b) A contractor may not pay per diem instead of board and lodging on a highway project located

- (1) west of Livengood on the Elliot Highway, AK-2;
- (2) on the Dalton Highway, AK-11;
- (3) north of milepost 20 on the Taylor Highway, AK-5;
- (4) east of Chicken on the Top of the World Highway; or
- (5) south of Tetlin Junction to the Alaska-Canada border on the Alaska Highway, AK-2.

8 AAC 30.056. Alternative arrangement. Upon a contractor’s written request, the commissioner may approve an alternative board and lodging or per diem arrangement, provided

- (1) the arrangement does not reduce the laborer, mechanic, or field surveyor’s wages below the prevailing wage rate; and
- (2) the laborer, mechanic, or field surveyor voluntarily enters into and signs the written arrangement; a labor organization representing laborers, mechanics, or field surveyors may enter into the written agreement on their behalf.

8 AAC 30.900. General definitions (selected excerpts only):

In this chapter and in AS 36

(22) “domiciled resident” means a person living within 65 road miles of a public construction project, or in the case of a highway project, the mid-point of the project, for at least 12 consecutive months prior to the award of the public construction project;

(23) “employed on the project” means the time period from the date the laborer, mechanic, or field surveyor first reports on-site to the project through the final date the person reports on-site to the project.

ADDITIONAL INFORMATION

PER DIEM

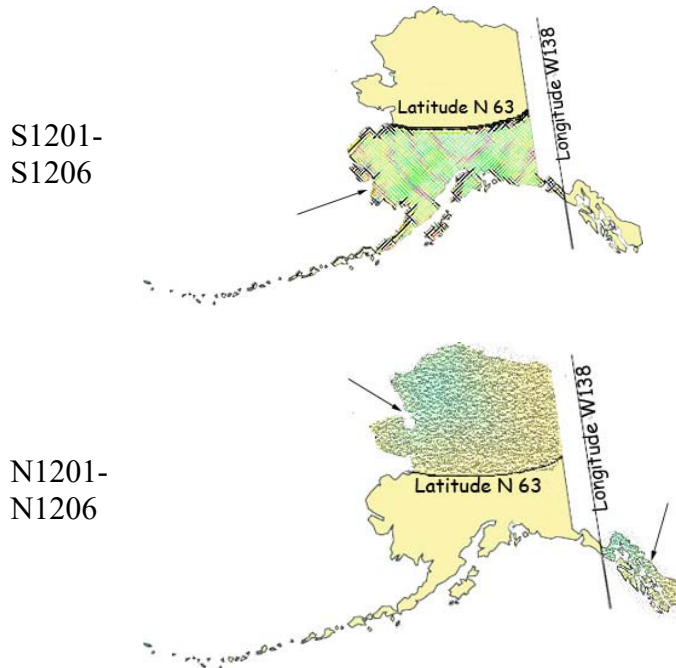
Notice: New regulations relating to board and lodging and per diem went into effect on November 25, 2018. The regulations provide a comprehensive set of requirements for the provision of board and lodging or per diem for workers on remote projects. Please refer to Alaska Administrative Code 8 AAC Chapter 30 and read the chapter carefully.

The Alaska Department of Labor and Workforce Development has determined that per diem is an established work practice for certain work classifications. These classifications are indicated throughout the Pamphlet by an asterisk (*) under the classification title. If all of the conditions of 8 AAC 30.054 are met, an employer may pay workers in these classifications per diem instead of providing board and lodging on a remote project.

Per Diem Rate: As of May 1st, 2019, the minimum per diem rate is \$100.00 per day, or part thereof, the worker is employed on the project. In the event that a contractor provides lodging facilities, but no meals, the department will accept a payment of \$48 per day for meals to meet the per diem requirements.

LABORER CLASSIFICATION CLARIFICATION

The laborer rates categorized in class code S1201-S1206 apply in one area of Alaska; the area that is south of N63 latitude and west of W138 Longitude. The laborer rates categorized in class code N1201-N1206 apply in two areas of Alaska; the Alaska areas north of N63 latitude and east of W138 longitude. The following graphic representations should assist with clarifying the applicable wage rate categories:



APPRENTICE RATES

Apprentice rates at less than the minimum prevailing rates may be paid to apprentices according to an apprentice program which has been registered and approved by the Commissioner of the Alaska Department of Labor and Workforce Development in writing or according to a bona fide apprenticeship program registered with the U.S. Department of Labor, Office of Apprenticeship Training. **Any employee listed on a payroll at an apprentice wage rate who is not registered as above shall be paid the journeyman prevailing minimum wage in that work classification.** Wage rates are based on prevailing crew makeup practices in Alaska and apply to work performed regardless of either the quality of the work performed by the employee or the titles or classifications which may be assigned to individual employees.

FRINGE BENEFIT PLANS

Contractors/subcontractors may compensate fringe benefits to their employees in any one of three methods. The fringe benefits may be paid into a union trust fund, into an approved benefit plan, or paid directly on the paycheck as gross wages.

Where fringe benefits are paid into approved plans, funds, or programs including union trust funds, the payments must be contributed at least monthly. If contractors submit their own payroll forms and are paying fringe benefits into approved plans, funds, or programs, the employer's certification must include, in addition to those requirements of 8 AAC 30.020(c), a statement that fringe benefit payments have been or will be paid at least monthly. Contractors who pay fringe benefits to a plan must ensure the plan is one approved by the Internal Revenue Service and that the plan meets the requirements of 8 AAC 30.025 (eff. 3/2/08) in order for payments to be credited toward the prevailing wage obligation.

SPECIAL PREVAILING WAGE RATE DETERMINATION

Special prevailing wage rate determinations may be requested for special projects or a special worker classification if the work to be performed does not conform to traditional public construction for which a prevailing wage rate has been established under 8 AAC 30.050(a) of this section. Requests for special wage rate determinations must be in writing and filed with the Commissioner at least 30 days before the award of the contract. An applicant for a special wage rate determination shall have the responsibility to support the necessity for the special rate. An application for a special wage rate determination filed under this section must contain:

- (1) a specification of the contract or project on which the special rates will apply and a description of the work to be performed;
- (2) a brief narrative explaining why special wage rates are necessary;
- (3) the job class or classes involved;
- (4) the special wage rates the applicant is requesting, including survey or other relevant wage data to support the requested rates;
- (5) the approximate number of employees who would be affected; and
- (6) any other information which might be helpful in determining if special wage rates are appropriate.

Requests made pursuant to the above should be addressed to:

Director
Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
P.O. Box 111149
Juneau, AK 99811-1149

-or-

Email: statewide.wagehour@alaska.gov

EMPLOYMENT PREFERENCE INFORMATION

In October 2019, the Alaska Attorney General issued a formal opinion stating that the Alaska Statutes 36.10.150 of the State’s 90% Employment Preference law, also known as the Alaska Resident Hire law, violates both the U.S. and Alaska Constitutions. As a result, the state has stopped all enforcement activity.

A copy of the Attorney General opinion is found here:

http://law.alaska.gov/pdf/opinions/opinions_2019/19-005_AK-hire.pdf

**Alaska Department of Labor and Workforce Development
Labor Standards and Safety Division
Wage and Hour Administration
Web site: <http://labor.state.ak.us/lss/pamp600.htm>**

Anchorage

1251 Muldoon Road, Suite 113
Anchorage, Alaska 99504-2098
Phone: (907) 269-4900

Email:
statewide.wagehour@alaska.gov

Juneau

PO Box 111149
Juneau, Alaska 99811
Phone: (907) 465-4842

Email:
statewide.wagehour@alaska.gov

Fairbanks

Regional State Office Building
675 7th Ave., Station J-1
Fairbanks, Alaska 99701-4593
Phone: (907) 451-2886

Email:
statewide.wagehour@alaska.gov

LABOR STANDARDS AND SAFETY NOTICE REQUESTS

If you would like to receive Wage and Hour Administration or Mechanical Inspection **regulation notices** or **publications information**, they are available via electronic mail, by signing up in the GovDelivery System, <https://public.govdelivery.com/accounts/AKDOL/subscriber/new> and selecting topics *LSS – Wage and Hour – Forms and Publications*, *LSS – Mechanical Inspection Regulations*, or *LSS – Wage and Hour Regulations*.

Publications are also available online at <http://labor.alaska.gov/lss/home.htm>

DEBARMENT LIST

AS 36.05.090(b) states that “the state disbursing officer or the local fiscal officer shall distribute to all departments of the state government and to all political subdivisions of the state a list giving the names of persons who have disregarded their obligations to employees.”

A person appearing on the following debarment list and a firm, corporation, partnership, or association in which the person has an interest may not work as a contractor or subcontractor on a public construction contract for the state or a political subdivision of the state for three years from the date of debarment.

Company Name

Debarment Expires

Tim Banach, Individual
Boulder Creek Electric

February 23, 2021
February 23, 2021

Laborers' & Mechanics' Minimum Rates of Pay

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Boilermakers

*See per diem note on last page

A0101	Boilermaker (journeyman)	46.08	8.57	16.72	1.65	VAC 3.50	SAF 0.34	76.86
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Bricklayers & Blocklayers

*See per diem note on last page

A0201	Blocklayer	42.16	9.00	10.05	0.62	L&M 0.20		62.03
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Bricklayer
Marble or Stone Mason
Refractory Worker (Firebrick, Plastic, Castable, and Gunitite Refractory Applications)
Terrazzo Worker
Tile Setter

A0202	Tuck Pointer Caulker	42.16	9.00	10.05	0.62	L&M 0.20		62.03
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Cleaner (PCC)

A0203	Marble & Tile Finisher	35.99	9.00	10.05	0.62	L&M 0.20		55.86
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Terrazzo Finisher

A0204	Torginal Applicator	40.10	9.83	8.50	0.55	L&M 0.15	0.87	60.00
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Carpenters, Region I (North of 63 latitude)

*See per diem note on last page

N0301	Carpenter (journeyman)	38.34	10.08	15.23	1.10	L&M 0.10	SAF 0.10	64.95
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Lather/Drywall/Acoustical

Carpenters, Region II (South of N63 latitude)

*See per diem note on last page

S0301	Carpenter (journeyman)	38.34	10.08	15.77	1.10	L&M 0.10	SAF 0.10	65.49
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Lather/Drywall/Acoustical

Cement Masons

*See per diem note on last page

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Cement Masons
 *See per diem note on last page

							L&M	
A0401	Group I, including:	38.38	8.70	11.80	1.43	0.10		60.41
	Application of Sealing Compound							
	Application of Underlayment							
	Building, General							
	Cement Mason (journeyman)							
	Concrete							
	Concrete Paving							
	Curb & Gutter, Sidewalk							
	Curing of All Concrete							
	Grouting & Caulking of Tilt-Up Panels							
	Grouting of All Plates							
	Patching Concrete							
	Screed Pin Setter							
	Spackling/Skim Coating							

							L&M	
A0402	Group II, including:	38.38	8.70	11.80	1.43	0.10		60.41
	Form Setter							

							L&M	
A0403	Group III, including:	38.38	8.70	11.80	1.43	0.10		60.41
	Concrete Saw (self-powered)							
	Curb & Gutter Machine							
	Floor Grinder							
	Pneumatic Power Tools							
	Power Chipping & Bushing							
	Sand Blasting Architectural Finish							
	Screed & Rodding Machine Operator							
	Troweling Machine Operator							

							L&M	
A0404	Group IV, including:	38.38	8.70	11.80	1.43	0.10		60.41
	Application of All Composition Mastic							
	Application of All Epoxy Material							
	Application of All Plastic Material							
	Finish Colored Concrete							
	Guniting Nozzleman							
	Hand Powered Grinder							
	Tunnel Worker							

							L&M	
A0405	Group V, including:	38.38	8.70	11.80	1.43	0.10		60.41
	Plasterer							

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Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Culinary Workers

A0501	Baker/Cook	28.37	8.40	7.56			LEG	44.33
A0503	General Helper	25.05	8.40	7.56			LEG	41.01
	Housekeeper							
	Janitor							
	Kitchen Helper							
A0504	Head Cook	28.97	8.40	7.56			LEG	44.93
A0505	Head Housekeeper	25.45	8.40	7.56			LEG	41.41
	Head Kitchen Help							

Dredgemen

*See per diem note on last page

A0601	Assistant Engineer	40.76	10.35	13.00	1.00		L&M	65.26
	Craneman							
	Electrical Generator Operator (primary pump/power barge/dredge)							
	Engineer							
	Welder							
A0602	Assistant Mate (deckhand)	39.60	10.35	13.00	1.00		L&M	64.10
A0603	Fireman	40.04	10.35	13.00	1.00		L&M	64.54
A0605	Leverman Clamshell	43.29	10.35	13.00	1.00		L&M	67.79
A0606	Leverman Hydraulic	41.53	10.35	13.00	1.00		L&M	66.03
A0607	Mate & Boatman	40.76	10.35	13.00	1.00		L&M	65.26
A0608	Oiler (dredge)	40.04	10.35	13.00	1.00		L&M	64.54

Electricians

*See per diem note on last page

A0701	Inside Cable Splicer	41.27	13.90	13.88	0.95		L&M	LEG	70.35
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Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Electricians

*See per diem note on last page

A0702	Inside Journeyman Wireman, including: Technicians (including use of drones in electrical construction)	40.94	13.90	14.12	0.95		L&M 0.20	LEG 0.15	70.26
A0703	Power Cable Splicer	57.79	13.90	18.92	0.95		L&M 0.20	LEG 0.15	91.91
A0704	Tele Com Cable Splicer	50.53	13.90	16.17	0.95		L&M 0.20	LEG 0.15	81.90
A0705	Power Journeyman Lineman, including: Power Equipment Operator Technician (including use of drones in electrical construction)	56.04	13.90	18.87	0.95		L&M 0.20	LEG 0.15	90.11
A0706	Tele Com Journeyman Lineman, including: Technician (including use of drones in telecommunications construction) Tele Com Equipment Operator	48.78	13.90	16.11	0.95		L&M 0.20	LEG 0.15	80.09
A0707	Straight Line Installer - Repairman	48.78	13.90	16.11	0.95		L&M 0.20	LEG 0.15	80.09
A0708	Powderman	54.04	13.90	18.81	0.95		L&M 0.20	LEG 0.15	88.05
A0710	Material Handler	26.57	13.33	4.80	0.15		L&M 0.15	LEG 0.15	45.15
A0712	Tree Trimmer Groundman	28.37	13.90	12.59	0.15		L&M 0.15	LEG 0.15	55.31
A0713	Journeyman Tree Trimmer	37.30	13.90	12.86	0.15		L&M 0.15	LEG 0.15	64.51
A0714	Vegetation Control Sprayer	40.85	13.90	12.97	0.15		L&M 0.15	LEG 0.15	68.17
A0715	Inside Journeyman Communications CO/PBX	39.52	13.90	13.83	0.95		L&M 0.20	LEG 0.15	68.55

Elevator Workers

*See per diem note on last page

A0802	Elevator Constructor	41.38	15.73	18.41	0.63		L&M 0.48	VAC 4.59	81.22
A0803	Elevator Constructor Mechanic	59.11	15.73	18.41	0.63		L&M 0.48	VAC 6.56	100.92

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Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other Benefits	THR	
Heat & Frost Insulators/Asbestos Workers								
*See per diem note on last page								
A0902	Asbestos Abatement-Mechanical Systems	38.68	9.24	11.01	1.20	SAF 0.12	60.25	
A0903	Asbestos Abatement/General Demolition All Systems	38.68	9.24	11.01	1.20	SAF 0.12	60.25	
A0904	Insulator, Group II	38.68	9.24	11.01	1.20	SAF 0.12	60.25	
A0905	Fire Stop	38.68	9.24	11.01	1.20	SAF 0.12	60.25	
IronWorkers								
*See per diem note on last page								
A1101	Ironworkers, including:	38.87	9.51	24.28	0.74	L&M 0.20	IAF 0.24	73.84
	Bender Operators							
	Bridge & Structural							
	Hangar Doors							
	Hollow Metal Doors							
	Industrial Doors							
	Machinery Mover							
	Ornamental							
	Reinforcing							
	Rigger							
	Sheeter							
	Signalman							
	Stage Rigger							
	Toxic Haz-Mat Work							
	Welder							
A1102	Helicopter	39.87	9.51	24.28	0.74	L&M 0.20	IAF 0.24	74.84
	Helicopter (used for rigging and setting)							
	Tower (energy producing windmill type towers to include nacelle and blades)							
A1103	Fence/Barrier Installer	35.37	9.51	23.93	0.74	L&M 0.20	IAF 0.24	69.99
A1104	Guard Rail Layout Man	36.11	9.51	23.93	0.74	L&M 0.20	IAF 0.24	70.73
A1105	Guard Rail Installer	36.37	9.51	23.93	0.74	L&M 0.20	IAF 0.24	70.99

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

						L&M	LEG	
N1201	Group I, including:	31.71	8.95	17.81	1.30	0.20	0.20	60.17
	Asphalt Worker (shovelman, plant crew)							
	Brush Cutter							
	Camp Maintenance Laborer							
	Carpenter Tender or Helper							
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro-seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Slurry Work							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

						L&M	LEG	
N1202	Group II, including:	32.71	8.95	17.81	1.30	0.20	0.20	61.17
	Burning & Cutting Torch							
	Cement or Lime Dumper or Handler (sack or bulk)							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Choker Splicer							
	Chucktender (wagon, air-track & hydraulic drills)							
	Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)							
	Culvert Pipe Laborer							
	Cured Inplace Pipelayer							
	Environmental Laborer (asbestos, marine work)							
	Floor Preparation, Core Drilling							
	Foam Gun or Foam Machine Operator							
	Green Cutter (dam work)							
	Gunite Operator							
	Hod Carrier							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)							
	Mason Tender & Mud Mixer (sewer work)							
	Pilot Car							
	Pipelayer Helper							
	Plasterer, Bricklayer & Cement Finisher Tender							
	Powderman Helper							
	Power Saw Operator							
	Railroad Switch Layout Laborer							
	Sandblaster							
	Scaffold Building & Erecting							
	Sewer Caulker							
	Sewer Plant Maintenance Man							
	Thermal Plastic Applicator							
	Timber Faller, Chainsaw Operator, Filer							
	Timberman							

						L&M	LEG	
N1203	Group III, including:	33.61	8.95	17.81	1.30	0.20	0.20	62.07

- Bit Grinder
- Camera/Tool/Video Operator
- Guardrail Machine Operator
- High Rigger & Tree Topper
- High Scaler

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

						L&M	LEG	
N1203	Group III, including:	33.61	8.95	17.81	1.30	0.20	0.20	62.07

- Multiplate
- Plastic Welding
- Slurry Seal Squeegee Man
- Traffic Control Supervisor
- Welding Certified (in connection with laborer's work)

						L&M	LEG	
N1204	Group IIIA	36.89	8.95	17.81	1.30	0.20	0.20	65.35

- Asphalt Raker, Asphalt Belly Dump Lay Down
- Drill Doctor (in the field)
- Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)
- Pioneer Drilling & Drilling Off Tugger (all type drills)
- Pipelayers
- Powderman (Employee Possessor)
- Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)
- Traffic Control Supervisor, DOT Qualified

						L&M	LEG	
N1205	Group IV	21.28	8.95	17.81	1.30	0.20	0.20	49.74

- Final Building Cleanup
- Permanent Yard Worker

						L&M	LEG	
N1206	Group IIIB	40.68	6.24	17.81	1.30	0.20	0.20	66.43

- Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)
- Federal Powderman (Responsible Person in Charge)
- Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)
- Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)
- Stake Hopper

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

						L&M	LEG	
S1201	Group I, including:	31.71	8.95	17.81	1.30	0.20	0.20	60.17

- Asphalt Worker (shovelman, plant crew)
- Brush Cutter
- Camp Maintenance Laborer
- Carpenter Tender or Helper

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

						L&M	LEG	
S1201	Group I, including:	31.71	8.95	17.81	1.30	0.20	0.20	60.17
	Choke Setter, Hook Tender, Rigger, Signalman							
	Concrete Labor (curb & gutter, chute handler, curing, grouting, screeding)							
	Crusher Plant Laborer							
	Demolition Laborer							
	Ditch Digger							
	Dumpman							
	Environmental Laborer (hazard/toxic waste, oil spill)							
	Fence Installer							
	Fire Watch Laborer							
	Flagman							
	Form Stripper							
	General Laborer							
	Guardrail Laborer, Bridge Rail Installer							
	Hydro-seeder Nozzleman							
	Laborer, Building							
	Landscaper or Planter							
	Laying of Mortarless Decorative Block (retaining walls, flowered decorative block 4 feet or less - highway or landscape work)							
	Material Handler							
	Pneumatic or Power Tools							
	Portable or Chemical Toilet Serviceman							
	Pump Man or Mixer Man							
	Railroad Track Laborer							
	Sandblast, Pot Tender							
	Saw Tender							
	Slurry Work							
	Steam Cleaner Operator							
	Steam Point or Water Jet Operator							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Tank Cleaning							
	Utiliwalk & Utilidor Laborer							
	Watchman (construction projects)							
	Window Cleaner							
S1202	Group II, including:	32.71	8.95	17.81	1.30	0.20	0.20	61.17
	Burning & Cutting Torch							
	Cement or Lime Dumper or Handler (sack or bulk)							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

						L&M	LEG	
S1202	Group II, including:	32.71	8.95	17.81	1.30	0.20	0.20	61.17

- Choker Splicer
- Chucktender (wagon, air-track & hydraulic drills)
- Concrete Laborer (power buggy, concrete saws, pumpcrete nozzleman, vibratorman)
- Culvert Pipe Laborer
- Cured Inplace Pipelayer
- Environmental Laborer (asbestos, marine work)
- Floor Preparation, Core Drilling
- Foam Gun or Foam Machine Operator
- Green Cutter (dam work)
- Guniting Operator
- Hod Carrier
- Jackhammer/Chipping Gun or Pavement Breaker
- Laser Instrument Operator
- Laying of Mortarless Decorative Block (retaining walls, flowered decorative block over 4 feet - highway or landscape work)
- Mason Tender & Mud Mixer (sewer work)
- Pilot Car
- Pipelayer Helper
- Plasterer, Bricklayer & Cement Finisher Tender
- Powderman Helper
- Power Saw Operator
- Railroad Switch Layout Laborer
- Sandblaster
- Scaffold Building & Erecting
- Sewer Caulker
- Sewer Plant Maintenance Man
- Thermal Plastic Applicator
- Timber Faller, Chainsaw Operator, Filer
- Timberman

						L&M	LEG	
S1203	Group III, including:	33.61	8.95	17.81	1.30	0.20	0.20	62.07

- Bit Grinder
- Camera/Tool/Video Operator
- Guardrail Machine Operator
- High Rigger & Tree Topper
- High Scaler
- Multiplate
- Plastic Welding
- Slurry Seal Squeegee Man

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Laborers (The area that is south of N63 latitude and west of W138 longitude)

*See per diem note on last page

S1203	Group III, including:	33.61	8.95	17.81	1.30		L&M	LEG	
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Traffic Control Supervisor
Welding Certified (in connection with laborer's work)

S1204	Group IIIA	36.89	8.95	17.81	1.30		L&M	LEG	
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Asphalt Raker, Asphalt Belly Dump Lay Down
Drill Doctor (in the field)
Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)
Pioneer Drilling & Drilling Off Tugger (all type drills)
Pipelayers
Powderman (Employee Possessor)
Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)
Traffic Control Supervisor, DOT Qualified

S1205	Group IV	21.28	8.95	17.81	1.30		L&M	LEG	
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Final Building Cleanup
Permanent Yard Worker

S1206	Group IIIB	40.68	6.24	17.81	1.30		L&M	LEG	
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Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)
Federal Powderman (Responsible Person in Charge)
Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)
Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)
Stake Hopper

Millwrights

*See per diem note on last page

A1251	Millwright (journeyman)	40.77	10.08	12.28	1.10		L&M		
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A1252	Millwright Welder	41.77	10.08	12.28	1.10		L&M		
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Painters, Region I (North of N63 latitude)

*See per diem note on last page

N1301	Group I, including:	32.99	8.71	13.50	1.08		L&M		
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Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Painters, Region I (North of N63 latitude)

*See per diem note on last page

N1301	Group I, including:	32.99	8.71	13.50	1.08		L&M 0.07	56.35
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- Brush
- General Painter
- Hand Taping
- Hazardous Material Handler
- Lead-Based Paint Abatement
- Roll

N1302	Group II, including:	33.51	8.71	13.50	1.08		L&M 0.07	56.87
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- Bridge Painter
- Epoxy Applicator
- General Drywall Finisher
- Hand/Spray Texturing
- Industrial Coatings Specialist
- Machine/Automatic Taping
- Pot Tender
- Sandblasting
- Specialty Painter
- Spray
- Structural Steel Painter
- Wallpaper/Vinyl Hanger

N1304	Group IV, including:	39.64	8.71	16.37	1.05		0.05	65.82
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- Glazier
- Storefront/Automatic Door Mechanic

N1305	Group V, including:	28.63	8.71	5.02	0.83		0.07	43.26
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- Carpet Installer
- Floor Coverer
- Heat Weld/Cove Base
- Linoleum/Soft Tile Installer

Painters, Region II (South of N63 latitude)

*See per diem note on last page

S1301	Group I, including :	30.33	8.71	14.15	1.08		L&M 0.07	54.34
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- Brush
- General Painter
- Hand Taping
- Hazardous Material Handler

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Painters, Region II (South of N63 latitude)

*See per diem note on last page

S1301	Group I, including :	30.33	8.71	14.15	1.08		L&M 0.07	54.34
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Lead-Based Paint Abatement
Roll
Spray

S1302	Group II, including :	31.58	8.71	14.15	1.08		L&M 0.07	55.59
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General Drywall Finisher
Hand/Spray Texturing
Machine/Automatic Taping
Wallpaper/Vinyl Hanger

S1303	Group III, including :	31.68	8.71	14.15	1.08		L&M 0.07	55.69
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Bridge Painter
Epoxy Applicator
Industrial Coatings Specialist
Pot Tender
Sandblasting
Specialty Painter
Structural Steel Painter

S1304	Group IV, including:	39.85	8.71	15.41	1.08		L&M 0.07	65.12
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Glazier
Storefront/Automatic Door Mechanic

S1305	Group V, including:	28.63	8.71	5.02	0.83		L&M 0.07	43.26
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Carpet Installer
Floor Coverer
Heat Weld/Cove Base
Linoleum/Soft Tile Installer

Piledrivers

*See per diem note on last page

A1401	Piledriver	38.34	10.08	15.23	1.10		L&M 0.10	IAF 0.10	64.95
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Assistant Dive Tender
Carpenter/Piledriver
Rigger
Sheet Stabber
Skiff Operator

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Piledrivers
*See per diem note on last page

A1402	Piledriver-Welder/Toxic Worker	39.34	10.08	15.23	1.10	L&M	IAF	65.95
A1403	Remotely Operated Vehicle Pilot/Technician Single Atmosphere Suit, Bell or Submersible Pilot	42.65	10.08	15.23	1.10	L&M	IAF	69.26
A1404	Diver (working) **See note on last page	82.45	10.08	15.23	1.10	L&M	IAF	109.06
A1405	Diver (standby) **See note on last page	42.65	10.08	15.23	1.10	L&M	IAF	69.26
A1406	Dive Tender **See note on last page	41.65	10.08	15.23	1.10	L&M	IAF	68.26
A1407	Welder (American Welding Society, Certified Welding Inspector)	43.90	10.08	15.23	1.10	L&M	IAF	70.51

Plumbers, Region I (North of N63 latitude)
*See per diem note on last page

N1501	Journeyman Pipefitter Plumber Welder	41.91	11.25	17.20	1.50	L&M	S&L	72.51
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Plumbers, Region II (South of N63 latitude)
*See per diem note on last page

S1501	Journeyman Pipefitter Plumber Welder	41.00	11.13	15.02	1.55	L&M		68.90
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Plumbers, Region IIA (1st Judicial District)
*See per diem note on last page

X1501	Journeyman Pipefitter Plumber Welder	38.82	13.37	11.75	2.50	L&M		66.68
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Power Equipment Operators
*See per diem note on last page

A1601	Group I, including:	41.53	10.35	13.00	1.00	L&M		66.03
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Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators

*See per diem note on last page

	L&M						
A1601 Group I, including:	41.53	10.35	13.00	1.00	0.10	0.05	66.03
Asphalt Roller: Breakdown, Intermediate, and Finish							
Back Filler							
Barrier Machine (Zipper)							
Beltcrete with Power Pack & similar conveyors							
Bending Machine							
Boat Coxswain							
Bulldozer							
Cableways, Highlines & Cablecars							
Cleaning Machine							
Coating Machine							
Concrete Hydro Blaster							
Cranes (45 tons & under or 150 feet of boom & under (including jib & attachments))							
(a) Hydralifts or Transporters, (all track or truck type)							
(b) Derricks							
(c) Overhead							
Crushers							
Deck Winches, Double Drum							
Ditching or Trenching Machine (16 inch or over)							
Drag Scraper, Yarder, and similar types							
Drilling Machines, Core, Cable, Rotary and Exploration							
Finishing Machine Operator, Concrete Paving, Laser Screed, Sidewalk, Curb & Gutter Machine							
Grade Checker and/or Line and Grade including Drone							
Helicopters							
Hover Craft, Flex Craft, Loadmaster, Air Cushion, All-Terrain Vehicle, Rollagon, Bargecable, Nodwell, & Snow Cat							
Hydro Ax, Feller Buncher & similar							
Hydro Excavation (Vac-Truck and Similar)							
Loaders (2 1/2 yards through 5 yards, including all attachments):							
(a) Forklifts (with telescopic boom & swing attachment)							
(b) Front End & Overhead, (2-1/2 yards through 5 yards)							
(c) Loaders, (with forks or pipe clamp)							
(d) Loaders, (elevating belt type, Euclid & similar types)							
Material Transfer Vehicle (Elevating Grader, Pickup Machine, and similar types)							
Mechanic, Welder, Bodyman, Electrical, Camp & Maintenance Engineer							
Micro Tunneling Machine							
Mixers: Mobile type with hoist combination							
Motor Patrol Grader							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators

*See per diem note on last page

							L&M						
A1601	Group I, including:						41.53	10.35	13.00	1.00	0.10	0.05	66.03
	Mucking Machine: Mole, Tunnel Drill, Horizontal/Directional Drill Operator and/or Shield												
	Off-Road Hauler (including Articulating and Haul Trucks)												
	Operator on Dredges												
	Piledriver Engineer, L.B. Foster, Puller or similar paving breaker												
	Plant Operator (Asphalt & Concrete)												
	Power Plant, Turbine Operator 200 k.w. & over (power plants or combination of power units over 300 k.w.)												
	Remote Controlled Equipment												
	Scraper (through 40 yards)												
	Service Oiler/Service Engineer												
	Shot Blast Machine												
	Shovels, Backhoes, Excavators with all attachments, and Gradealls (3 yards & under)												
	Sideboom (under 45 tons)												
	Sub Grader (Gurries & similar types)												
	Tack Tractor												
	Truck Mounted Concrete Pump, Conveyor/Tele-belt, & Creter												
	Wate Kote Machine												

							L&M						
A1602	Group IA, including:						43.29	10.35	13.00	1.00	0.10	0.05	67.79
	Camera/Tool/Video Operator (Slipline)												
	Certified Welder, Electrical Mechanic, Camp Maintenance Engineer, Mechanic (over 10,000 hours)												
	Cranes (over 45 tons or 150 feet including jib & attachments)												
	(a) Clamshells & Draglines (over 3 yards)												
	(b) Tower Cranes												
	Licensed Water/Waste Water Treatment Operator												
	Loaders (over 5 yards)												
	Motor Patrol Grader, Dozer, Grade Tractor (finish: when finishing to final grade and/or to hubs, or for asphalt)												
	Power Plants (1000 k.w. & over)												
	Profiler, Reclaimer, and Roto-Mill												
	Quad												
	Scrapers (over 40 yards)												
	Screed												
	Shovels, Backhoes, Excavators with all attachments (over 3 yards)												
	Sidebooms (over 45 tons)												
	Slip Form Paver, C.M.I. & similar types												
	Topside (Asphalt Paver, Slurry machine, Spreaders, and similar types)												

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Power Equipment Operators

*See per diem note on last page

	L&M						
A1603 Group II, including:	40.76	10.35	13.00	1.00	0.10	0.05	65.26
Boiler - Fireman							
Cement Hogs & Concrete Pump Operator							
Conveyors (except those listed in Group I)							
Hoists on Steel Erection, Towermobiles & Air Tuggers							
Horizontal/Directional Drill Locator							
Locomotives, Rod & Geared Engines							
Mixers							
Screening, Washing Plant							
Sideboom (cradling rock drill, regardless of size)							
Skidder							
Trenching Machines (under 16 inches)							
Water/Waste Water Treatment Operator							

	L&M						
A1604 Group III, including:	40.04	10.35	13.00	1.00	0.10	0.05	64.54
"A" Frame Trucks, Deck Winches							
Bombardier (tack or tow rig)							
Boring Machine							
Brooms, Power (sweeper, elevator, vacuum, or similar)							
Bump Cutter							
Compressor							
Farm Tractor							
Forklift, Industrial Type							
Gin Truck or Winch Truck (with poles when used for hoisting)							
Hoists, Air Tuggers, Elevators							
Loaders:							
(a) Elevating-Athey, Barber Greene & similar types							
(b) Forklifts or Lumber Carrier (on construction job sites)							
(c) Forklifts, (with tower)							
(d) Overhead & Front End, (under 2-1/2 yards)							
Locomotives: Dinkey (air, steam, gas & electric) Speeders							
Mechanics, Light Duty							
Oil, Blower Distribution							
Posthole Digger, Mechanical							
Pot Fireman (power agitated)							
Power Plant, Turbine Operator, (under 200 k.w.)							
Pumps, Water							
Roller (other than Asphalt)							
Saws, Concrete							
Skid Hustler							
Skid Steer (with all attachments)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Power Equipment Operators

*See per diem note on last page

A1604	Group III, including:	40.04	10.35	13.00	1.00		L&M	
	Stake Hopper					0.10	0.05	64.54
	Straightening Machine							
	Tow Tractor							

A1605	Group IV, including:	33.83	10.35	13.00	1.00		L&M	
	Crane Assistant Engineer/Rig Oiler					0.10	0.05	58.33
	Drill Helper							
	Parts & Equipment Coordinator							
	Spotter							
	Steam Cleaner							
	Swamper (on trenching machines or shovel type equipment)							

Roofers

*See per diem note on last page

A1701	Roofer & Waterproofer	44.62	11.75	3.91	0.81		L&M	
						0.10	0.06	61.25
A1702	Roofer Material Handler	31.23	11.75	3.91	0.81		L&M	
						0.10	0.06	47.86

Sheet Metal Workers, Region I (North of N63 latitude)

*See per diem note on last page

N1801	Sheet Metal Journeyman	48.64	11.50	14.11	1.65		L&M	
	Air Balancing and duct cleaning of HVAC systems					0.12		76.02
	Brazing, soldering or welding of metals							
	Demolition of sheet metal HVAC systems							
	Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work							
	Fabrication and installation of heating, ventilation and air conditioning ducts and equipment							
	Fabrication and installation of louvers and hoods							
	Fabrication and installation of sheet metal lagging							
	Fabrication and installation of stainless steel commercial or industrial food service equipment							
	Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work							
	Metal lavatory partitions							
	Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Class Code	Classification of Laborers & Mechanics	BHR	H&W	PEN	TRN	Other	Benefits	THR
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Sheet Metal Workers, Region I (North of N63 latitude)

*See per diem note on last page

N1801	Sheet Metal Journeyman	48.64	11.50	14.11	1.65		L&M 0.12	76.02
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- Sheet Metal shelving
- Sheet Metal venting, chimneys and breaching
- Skylight installation

Sheet Metal Workers, Region II (South of N63 latitude)

*See per diem note on last page

S1801	Sheet Metal Journeyman	43.20	11.50	14.09	1.68		L&M 0.43	70.90
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- Air Balancing and duct cleaning of HVAC systems
- Brazing, soldering or welding of metals
- Demolition of sheet metal HVAC systems
- Fabrication and installation of exterior wall sheathing, siding, metal roofing, flashing, decking and architectural sheet metal work
- Fabrication and installation of heating, ventilation and air conditioning ducts and equipment
- Fabrication and installation of louvers and hoods
- Fabrication and installation of sheet metal lagging
- Fabrication and installation of stainless steel commercial or industrial food service equipment
- Manufacture, fabrication assembly, installation and alteration of all ferrous and nonferrous metal work
- Metal lavatory partitions
- Preparation of drawings taken from architectural and engineering plans required for fabrication and erection of sheet metal work
- Sheet Metal shelving
- Sheet Metal venting, chimneys and breaching
- Skylight installation

Sprinkler Fitters

*See per diem note on last page

A1901	Sprinkler Fitter	47.25	10.23	17.85	0.52		L&M 0.25	76.10
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Surveyors

*See per diem note on last page

A2001	Chief of Parties	44.16	11.43	12.64	1.15		L&M 0.10	69.48
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A2002	Party Chief	42.57	11.43	12.64	1.15		L&M 0.10	67.89
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Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Surveyors

*See per diem note on last page

A2003	Line & Grade Technician/Office Technician/GPS, Drones	41.97	11.43	12.64	1.15	L&M 0.10	67.29
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A2004	Associate Party Chief (including Instrument Person & Head Chain Person)/Stake Hop/Grademan	39.85	11.43	12.64	1.15	L&M 0.10	65.17
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A2006	Chain Person (for crews with more than 2 people)	35.51	11.43	12.64	1.15	L&M 0.10	60.83
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Truck Drivers

*See per diem note on last page

A2101	Group I, including:	40.94	11.43	12.64	1.15	L&M 0.10	66.26
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- Air/Sea Traffic Controllers
- Ambulance/Fire Truck Driver (EMT certified)
- Boat Coxswain
- Captains & Pilots (air & water)
- Deltas, Commanders, Rollagons, & similar equipment (when pulling sleds, trailers or similar equipment)
- Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 40 yards up to & including 60 yards
- Helicopter Transporter
- Liquid Vac Truck/Super Vac Truck
- Material Coordinator or Purchasing Agent
- Ready-mix (over 12 yards up to & including 15 yards) (over 15 yards to be negotiated)
- Semi with Double Box Mixer
- Tireman, Heavy Duty/Fueler
- Water Wagon (250 Bbls and above)

A2102	Group 1A including:	42.21	11.43	12.64	1.15	L&M 0.10	67.53
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- Dump Trucks (including rockbuggy, side dump, belly dump & trucks with pups) over 60 yards up to & including 100 yards (over 100 yards to be negotiated)
- Jeeps (driver under load)
- Lowboys, including tractor attached trailers & jeeps, up to & including 12 axles (over 12 axles or 150 tons to be negotiated)

A2103	Group II, including:	39.68	11.43	12.64	1.15	L&M 0.10	65.00
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- All Deltas, Commanders, Rollagons, & similar equipment
- Batch Trucks (8 yards & up)
- Batch Trucks (up to & including 7 yards)

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Truck Drivers
 *See per diem note on last page

						L&M	
A2103	Group II, including:	39.68	11.43	12.64	1.15	0.10	65.00
	Boom Truck/Knuckle Truck (over 5 tons)						
	Cacasco Truck/Heat Stress Truck						
	Construction and Material Safety Technician						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 20 yards up to & including 40 yards						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating over 5 tons)						
	Mechanics						
	Oil Distributor Driver						
	Partsman						
	Ready-mix (up to & including 12 yards)						
	Stringing Truck						
	Turn-O-Wagon or DW-10 (not self loading)						

						L&M	
A2104	Group III, including:	38.86	11.43	12.64	1.15	0.10	64.18
	Boom Truck/Knuckle Truck (up to & including 5 tons)						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) over 10 yards up to & including 20 yards						
	Expeditor (electrical & pipefitting materials)						
	Gin Pole Truck, Winch Truck, Wrecker (truck mounted "A" frame manufactured rating 5 tons & under)						
	Greaser - Shop						
	Semi or Truck & Trailer						
	Thermal Plastic Layout Technician						
	Traffic Control Technician						
	Trucks/Jeeps (push or pull)						

						L&M	
A2105	Group IV, including:	38.28	11.43	12.64	1.15	0.10	63.60
	Air Cushion or similar type vehicle						
	All Terrain Vehicle						
	Buggymobile						
	Bull Lift & Fork Lift, Fork Lift with Power Boom & Swing Attachment (over 5 tons)						
	Bus Operator (over 30 passengers)						
	Cement Spreader, Dry						
	Combination Truck-Fuel & Grease						
	Compactor (when pulled by rubber tired equipment)						
	Dump Trucks (including rockbuggy, side dump, belly dump, & trucks with pups) up to & including 10 yards						
	Dumpster						

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Truck Drivers

*See per diem note on last page

						L&M	
A2105	Group IV, including:	38.28	11.43	12.64	1.15	0.10	63.60
	Expeditor (general)						
	Fire Truck/Ambulance Driver						
	Flat Beds, Dual Rear Axle						
	Foam Distributor Truck Dual Axle						
	Front End Loader with Fork						
	Grease Truck						
	Hydro Seeder, Dual Axle						
	Hyster Operators (handling bulk aggregate)						
	Loadmaster (air & water operations)						
	Lumber Carrier						
	Ready-mix, (up to & including 7 yards)						
	Rigger (air/water/oilfield)						
	Tireman, Light Duty						
	Track Truck Equipment						
	Truck Vacuum Sweeper						
	Warehouseperson						
	Water Truck (Below 250 Bbls)						
	Water Truck (straight)						
	Water Wagon, Semi						

						L&M	
A2106	Group V, including:	37.52	11.43	12.64	1.15	0.10	62.84
	Buffer Truck						
	Bull Lifts & Fork Lifts, Fork Lifts with Power Boom & Swing Attachments (up to & including 5 tons)						
	Bus Operator (up to 30 passengers)						
	Farm Type Rubber Tired Tractor (when material handling or pulling wagons on a construction project)						
	Flat Beds, Single Rear Axle						
	Foam Distributor Truck Single Axle						
	Fuel Handler (station/bulk attendant)						
	Gear/Supply Truck						
	Gravel Spreader Box Operator on Truck						
	Hydro Seeders, Single axle						
	Pickups (pilot cars & all light-duty vehicles)						
	Rigger/Swamper						
	Tack Truck						
	Team Drivers (horses, mules, & similar equipment)						

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)

*See per diem note on last page

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N2201	Group I, including:	34.88	8.95	17.81	1.30	0.20	0.20	63.34
	Brakeman							
	Mucker							
	Nipper							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Topman & Bull Gang							
	Tunnel Track Laborer							

						L&M	LEG	
N2202	Group II, including:	35.98	8.95	17.81	1.30	0.20	0.20	64.44
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Floor Preparation, Core Drilling							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Nozzlemen, Pumcrete or Shotcrete							
	Pipelayer Helper							

						L&M	LEG	
N2203	Group III, including:	36.97	8.95	17.81	1.30	0.20	0.20	65.43
	Miner							
	Retimberman							

						L&M	LEG	
N2204	Group IIIA, including:	40.58	8.95	17.81	1.30	0.20	0.20	69.04
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							
	Traffic Control Supervisor, DOT Qualified							

						L&M	LEG	
N2206	Group IIIB, including:	44.75	6.24	17.81	1.30	0.20	0.20	70.50
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)							
	Federal Powderman (Responsible Person in Charge)							
	Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Tunnel Workers, Laborers (The Alaska areas north of N63 latitude and east of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
N2206	Group IIIB, including:	44.75	6.24	17.81	1.30	0.20	0.20	70.50
	Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)							
	Stake Hopper							

Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)
 *See per diem note on last page

						L&M	LEG	
S2201	Group I, including:	34.88	8.95	17.81	1.30	0.20	0.20	63.34
	Brakeman							
	Mucker							
	Nipper							
	Storm Water Pollution Protection Plan Worker (SWPPP Worker - erosion and sediment control Laborer)							
	Topman & Bull Gang							
	Tunnel Track Laborer							

						L&M	LEG	
S2202	Group II, including:	35.98	8.95	17.81	1.30	0.20	0.20	64.44
	Burning & Cutting Torch							
	Certified Erosion Sediment Control Lead (CESCL Laborer)							
	Concrete Laborer							
	Floor Preparation, Core Drilling							
	Jackhammer/Chipping Gun or Pavement Breaker							
	Laser Instrument Operator							
	Nozzlemen, Pumcrete or Shotcrete							
	Pipelayer Helper							

						L&M	LEG	
S2203	Group III, including:	36.97	8.95	17.81	1.30	0.20	0.20	65.43
	Miner							
	Retimberman							

						L&M	LEG	
S2204	Group IIIA, including:	40.58	8.95	17.81	1.30	0.20	0.20	69.04
	Asphalt Raker, Asphalt Belly Dump Lay Down							
	Drill Doctor (in the field)							
	Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)							
	Pioneer Drilling & Drilling Off Tugger (all type drills)							
	Pipelayer							
	Powderman (Employee Possessor)							
	Storm Water Pollution Protection Plan Specialist (SWPPP Specialist)							

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

Tunnel Workers, Laborers (The area that is south of N63 latitude and west of W138 longitude)
 *See per diem note on last page

S2204	Group IIIA, including:	40.58	8.95	17.81	1.30		L&M	LEG	
						0.20	0.20		69.04

Traffic Control Supervisor, DOT Qualified

S2206	Group IIIB, including:	44.75	6.24	17.81	1.30		L&M	LEG	
						0.20	0.20		70.50

Driller (including, but not limited to wagon drills, air-track drills, hydraulic drills)(over 5,000 hours)
 Federal Powderman (Responsible Person in Charge)
 Grade Checking (setting or transferring of grade marks, line and grade, GPS, drones)
 Pioneer Drilling & Drilling Off Tugger (all type drills)(over 5,000 hours)
 Stake Hopper

Tunnel Workers, Power Equipment Operators
 *See per diem note on last page

A2207	Group I	45.68	10.35	13.00	1.00		L&M		
						0.10	0.05		70.18

A2208	Group IA	47.62	10.35	13.00	1.00		L&M		
						0.10	0.05		72.12

A2209	Group II	44.84	10.35	13.00	1.00		L&M		
						0.10	0.05		69.34

A2210	Group III	44.04	10.35	13.00	1.00		L&M		
						0.10	0.05		68.54

A2211	Group IV	37.21	10.35	13.00	1.00		L&M		
						0.10	0.05		61.71

* Per diem is an established practice for this classification. This means that per diem is an allowable alternative to board and lodging if all criteria are met. See 8 AAC 30.051-08 AAC 30.056, and the per diem information on page vii of this Pamphlet.

** Work in combination of classifications: Employees working in any combination of classifications within the diving crew (working diver, standby diver, and tender) in a shift are paid in the classification with the highest rate for a minimum of 8 hours per shift.

Wage benefits key: BHR=basic hourly rate; H&W=health and welfare; IAF=industry advancement fund; LEG=legal fund; L&M=labor/management fund; PEN=pens fund; SAF=safety; SUI=supplemental unemployment insurance; S&L=SUI & LEG combined; TRN=training; THR=total hourly rate; VAC=vacation

SECTION 00852 - PERMITS

PART 1 - GENERAL

1.1 INDEX OF PERMITS

- A. Alaska DOT Utility Permit No. 3-296217-21-12
- B. Alaska DOT Utility Permit No. 3-296013-21-13

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
UTILITY PERMIT
(MAJOR)

Permit No.
3-296217-21-12

Approval
Recommended: Martin Peters

Page No. 1 of 19

Date: 9/29/2020

Title: Regional Permit Officer

Region: Southcoast

THE STATE OF ALASKA, acting by and through the DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, hereinafter called the DEPARTMENT, under provisions of AS 19.25.010 19.25.020, grants a Utility Permit to **City And Borough Of Juneau of 155 South Seward Juneau, AK 99801** hereinafter called the PERMITTEE, permission to construct, install and thereafter perform routine maintenance, use and operate **Sewage Lift Station Upgrade** hereinafter called the FACILITY, located as follows: State Route **296217 Channel Drive** Route Mileage **0.205** across, along or under property of the DEPARTMENT, acquired and utilized in the operation and maintenance of a State Transportation System, at the aforementioned locations and/or positions and in strict conformance with plans, specifications and special provisions attached hereto and made a part hereof, and not otherwise.

A. In accepting this Utility Permit for the Facility, the PERMITTEE agrees to comply with the provisions of AS 02.15.102, AS 02.15.106, AS 19.25.010, AS 19.25.200, AS 35.10.210, and AS 35.10.230; the terms, requirements and regulations as set forth in 17 AAC 15 as authorized under Administrative Procedures Act, AS 44.62.010 - 44.62.650 and the applicable policies, directives and orders issued by the Commissioner of the Department.

B. The entire cost of routine maintenance operations of the FACILITY are to be paid for by the PERMITTEE, and said FACILITY shall comply with all applicable codes.

C. The PERMITTEE's construction, installation and maintenance operations of the FACILITY shall be accomplished with minimum interference and interruption of the use, operation and maintenance of the DEPARTMENT's right of way and/or public facility; or as hereinafter provided in the DEPARTMENT's Special Provisions, attached hereto and made a part hereof, and shall at all times in no way endanger the general public in its use of the public property. Utility Permits expire if construction or installation of the facility has not started within one year after the date of approval, unless the applicant obtains an extension of time in writing from the department. 17AAC15.011(d)

D. The DEPARTMENT, in granting the Utility Permit, reserves the right to use, occupy and enjoy its property for a public transportation system and for public transportation purposes in such a manner and at such times as it deems necessary, the same as if this instrument had not been executed by the DEPARTMENT. If any such use by the DEPARTMENT shall at any time necessitate any change in location or manner of use of said FACILITY, or any part thereof, such change or alteration shall be made by the PERMITTEE according to the terms of one of the two clauses set out below as identified by a check mark before the applicable clause.

 (1) The PERMITTEE will be reimbursed in full by the DEPARTMENT for all costs incurred in making such changes or alterations to the FACILITY that qualified under the provisions of AS 02.15.104(c), AS 19.25.020(c), or AS 35.10.220(c).

 X (2) The PERMITTEE shall promptly remove or relocate said FACILITY at no cost to the DEPARTMENT in accordance with the provisions of AS 02.15.104(c) (4) or (5), AS 19.25.020(c) (4) or (5), AS 35.10.220(c) (4) or (5).

- E. On public property being utilized for right of way on highways originally established as, or converted to, controlled access highways, ingress and egress thereto for maintenance and operation of the FACILITY is limited to the locations as designated by the DEPARTMENT. However, the DEPARTMENT may allow the PERMITTEE ingress and egress whenever such is necessary to effect repairs and maintenance of the FACILITY and when no other access is available. If the DEPARTMENT determines such access is in conflict with the use of the controlled access highway, the FACILITY will be relocated.
- F. The State of Alaska and the DEPARTMENT for the purpose of this Utility Permit, hereby disclaim any representation of implication to the PERMITTEE that the DEPARTMENT has any title in any property other than the interest conveyed to the DEPARTMENT for specific purposes as described by the instrument conveying the land to the DEPARTMENT.
- G. The PERMITTEE by these presents accepts notice and agrees that any expenses or damages incurred by the PERMITTEE through the abandonment, removal, reconstruction or alteration of any public facility, or incurred by said PERMITTEE as a result of this disclaimer shall be borne by said PERMITTEE at no expense whatsoever to the DEPARTMENT or the State of Alaska.
- H. The waiver or breach of any terms or conditions of this Utility Permit or Provisions of the Administrative Code, by the DEPARTMENT shall be limited to the act or acts constituting such breach, and shall never be construed as being continuing or a permanent waiver of any such term or condition, unless expressly agreed to in writing by the parties hereto, all of which shall remain in full force and affect as to future acts or happenings, notwithstanding any such individual waiver or any breach thereof.
- I. Only the Commissioner of the DEPARTMENT or his delegate shall have the authority to waive any term or condition herein contained.
- J. The PERMITTEE shall not assign or transfer any of the rights authorized by this Utility Permit except upon notification to and approval by the DEPARTMENT.
- K. The PERMITTEE agrees to comply with all regulations concerning present and future use of the public property acquired, or reimbursed by Federal-Aid funds.
- L. The PERMITTEE shall give the DEPARTMENT not less than ten (10) days prior written notice, unless otherwise agreed to by the parties hereto, of the PERMITTEE's intention to enter upon the DEPARTMENT's property for the purpose of major maintenance, reconstruction, altering or removal of the FACILITY, provided, however, that normal routine maintenance is excepted from this provision, and provided further, that in any instance of sudden emergency requiring prompt and immediate action to protect the public safety, or to mitigate damage to private or public property, no prior notification to the DEPARTMENT will be required. The PERMITTEE shall notify the DEPARTMENT and the Alaska State Troopers, of the location of the emergency and extent of work required by the most expeditious means of communication as soon as reasonably possible to do so, and the PERMITTEE shall take such measures as are required to protect the health and safety of the traveling public or public facility users for the duration of such emergency operations.
- M. The PERMITTEE shall indemnify and hold harmless the State of Alaska and the DEPARTMENT, or either of them, from all liability for damage to property, or injury to or death of persons, arising wholly or in part from any action taken by the PERMITTEE in relation to the PERMITTEE's FACILITIES on DEPARTMENT rights of way or other permitted locations.
- N. The permit is subject to all previous Easements and Utility Permits and any damage to any other utility will be the PERMITTEE's responsibility.

- O. The PERMITTEE agrees to be responsible for the compliance with all applicable Federal, State, and local laws, regulations, codes and ordinances.
- P. The PERMITTEE agrees to be responsible for obtaining all other appropriate permits or letters of non-objection needed from Federal, State and local agencies, or conflicting lessees, property owners or utilities.
- Q. The PERMITTEE may be required, within thirty (30) days after completion of any improvement placed upon or in the premises herein, deliver to the DEPARTMENT as-built drawings showing the location and construction specifications of said improvement.
- R. This Utility Permit is issued under the provisions of applicable Alaska Statutes and Administrative Code, effective as of the date of execution of this instrument by the DEPARTMENT.
- S. The PERMITTEE agrees that the FACILITY will be constructed in accordance with the attached:
1. **Plans dated, [REDACTED] 09-30-2020 - jb**
 2. **Specifications consisting of; City & Borough of Juneau and Department of Transportation and Public Facilities (ADOT&PF) Standard Specifications.**
 3. Other *See Below.

Which, by this reference, are made a part hereof, and in accordance with the applicable codes pertaining to the FACILITY, and not otherwise, unless prior written authorization is obtained from the DEPARTMENT to do so.

- T. The PERMITTEE agrees to reimburse the DEPARTMENT for actual costs of inspection and testing as required during the performance of work proposed by the PERMITTEE. The scope of inspection and testing shall be determined by the Regional Utilities Engineer. The costs billed to the PERMITTEE will be the actual DEPARTMENT's costs incurred while performing the inspection and testing.
- U. The PERMITTEE agrees by entering on the DEPARTMENT's property to indemnify the DEPARTMENT and its contractors of all costs tangible or intangible that would be the result of any delay in a construction project of the DEPARTMENT caused by work done under this permit.
- V. The PERMITTEE agrees to reimburse the DEPARTMENT for the length of the facility to be installed in excess of 200 feet (as indicated on the attached plans referenced to in paragraph "S" above) which is calculated to be 0 linear feet at \$1.00 per foot = \$0.00 (but not to exceed \$10,000) payable at the time the permit is executed by the DEPARTMENT unless arrangements have been made for the PERMITTEE to be billed on a monthly basis.

Added Special Conditions:

It is the responsibility of the PERMITTEE to assure that their contractor has fully read and understands the permit.

PIPE CARRIERS

TRANSMITTANT: _____ FLASH POINT: NA

WORKING PRESSURE: <20 psi TEMPERATURE: 50 Degree F

NUMBER OF CONDUITS (PIPES): 1

DIAMETER OF PIPE: 6"

TYPE AND CLASS OF PIPE: DR11 HDPE

ENCASEMENT DIAMETER AND TYPE: NA

VENT LOCATIONS: NA LEFT _____ RIGHT OF HIGHWAY CENTERLINE

CATHODIC PROTECTION: None

CROSSING ANGLE: NA LENGTH: _____

DEPTH BELOW ROAD SURFACE (MIN 48"): NA

DEPTH BELOW DITCH BOTTOM (MIN 36"): NA

METHOD OF CROSSING INSTALLATION: BORING _____ JACKING _____ OPEN CUT _____

LONGITUDINAL FACILITY LENGTH: _____

OFFSET FROM HIGHWAY CENTERLINE: _____ DEPTH OF BURIAL (MIN 36"): _____

METHOD OF LONGITUDINAL INSTALLATION: TRENCHING _____ PLOWING _____

CONSTRUCTION CODE(S) APPLICABLE: _____

ADDITIONAL INFORMATION: Work to include tie-in to existing wastewater force main within DOT ROW adjacent Egan Dr.

STRUCTURES

TYPE (TRANSFORMER, VAULT, PUMP HOUSE, ETC.): Existing Vault

LOCATION: Channel Drive
(TOWN - ROAD NAME - DISTANCE TO NEAREST CROSS STREET)

STRUCTURE DIMENSIONS:
Channel Drive Pump Station

OFFSET FROM CENTERLINE OF ROAD: 50 LF

TYPE AND CLASS OF PIPE OR CONDUIT:
HDPE, DR17

VENT LOCATIONS: LEFT _____ RIGHT 44 _____ OF HIGHWAY CENTERLINE

HEIGHT ABOVE SURROUNDING GROUND: 36"

HEIGHT ABOVE ROAD SURFACE: _____

DEPTH BELOW ROAD SURFACE: _____

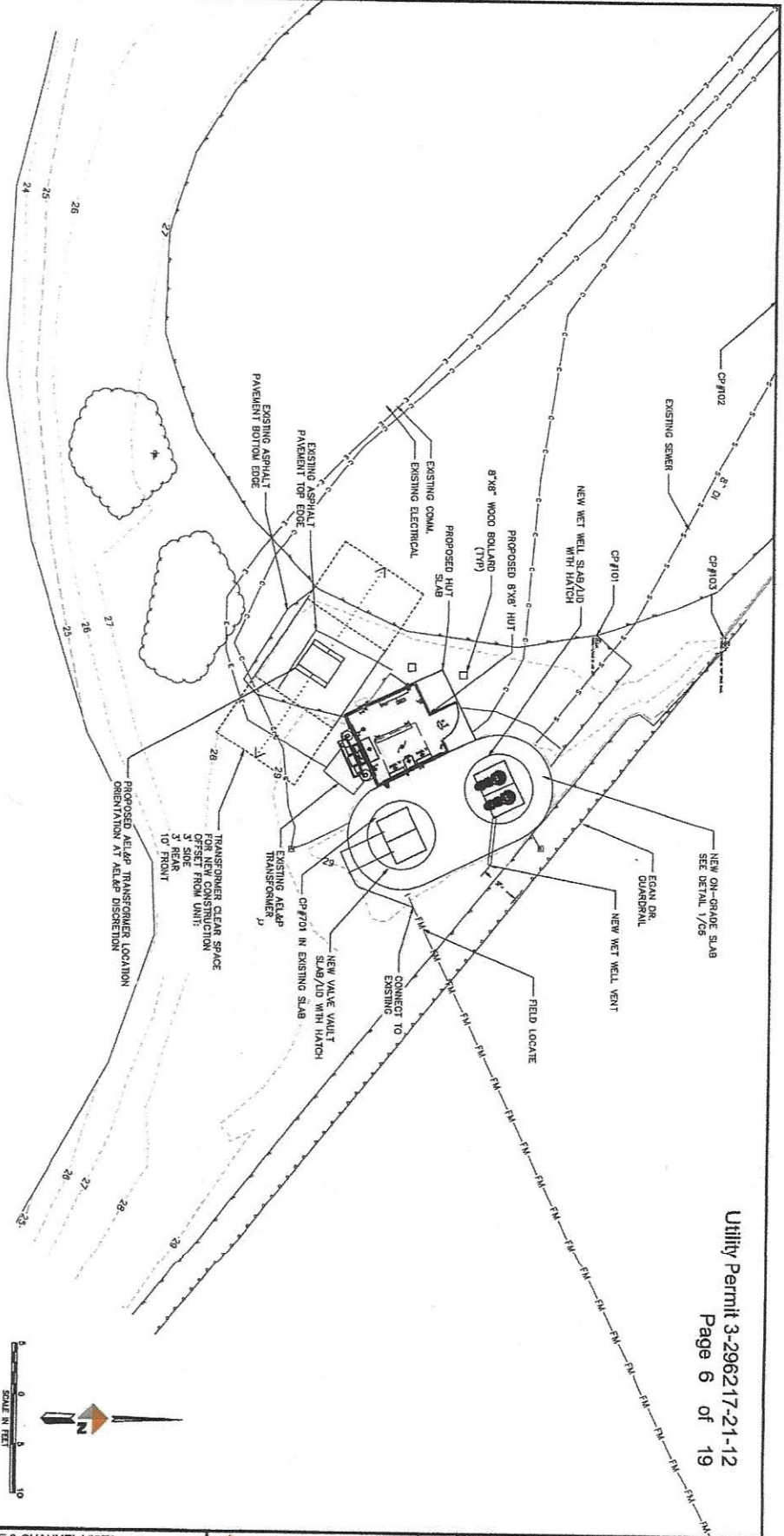
DEPTH BELOW EXISTING SURFACE: _____

CONSTRUCTION CODE(S) APPLICABLE: _____

ADDITIONAL INFORMATION: Existing wastewater lift station rehabilitation, existing vault structures to remain in place, work includes construction of new top slab, vent pipe, electrical conduit and conductors routed to new controls enclosure, and construction of new controls enclosure.

- NOTES:**
1. SEE ELECTRICAL SHEETS FOR NEW ELECTRICAL ROUTING AND CONTROLS HUT DETAILS.
 2. ANY DIFFERENCES -250'-1" FOR LIFT STATION PLAN LAYOUT. THIS PLAN SET SHALL GOVERN.
 3. SET GENERAL DETAILS FOR ELECTRICAL CONTROLS HUT PAD.
 4. CONCRETE SLAB SHALL BE OFFSET A MINIMUM OF 4" FROM EXISTING ELECTRICAL SERVICE.
 5. EXISTING ELECTRICAL SERVICE SHALL BE RELOCATED WITH A MINIMUM OF 4" SEPARATION FROM THE BACK OF EXISTING EGM DRIVE GUARDRAIL.
 6. EXACT LOCATION OF THE EXISTING FORCE MAIN AND REQUIRED HOPE FITTINGS TO BE DETERMINED BY FIELD SURVEY.
 7. REPAIRS SHALL BE IN ACCORDANCE WITH FIELD CONDITIONS.
 8. WOOD BOLLARDS SHALL BE LOCATED TO NOT INTERFERE WITH ELECTRICAL JUNCTION BOXES.
 9. NEW CONDUIT ROUTING MAINTAIN 3" SPACING BETWEEN BOLLARDS AND ELECTRICAL BOXES.
 10. NEW ELECTRICAL SERVICE SHALL BE LOCATED TO EXPAND NEEDS FOR ROUTING OF NEW CONDUIT. DEMOLISH ENTIRE EXISTING CONTROL PANEL CONCRETE SLAB.

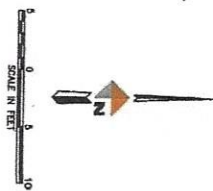
PROPOSED SITE PLAN



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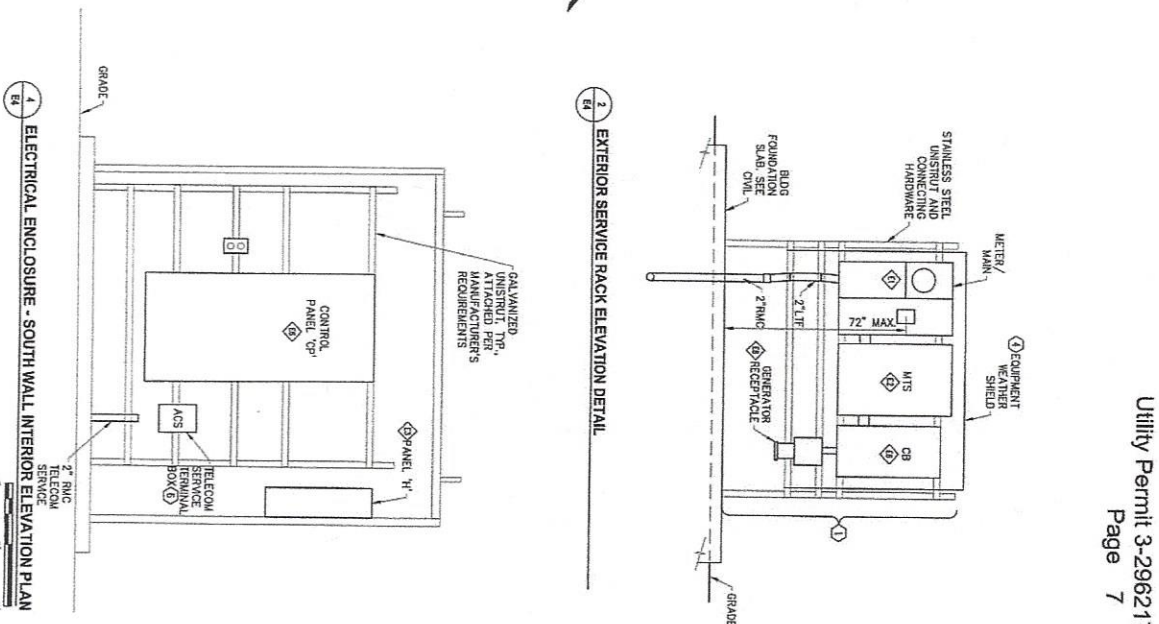
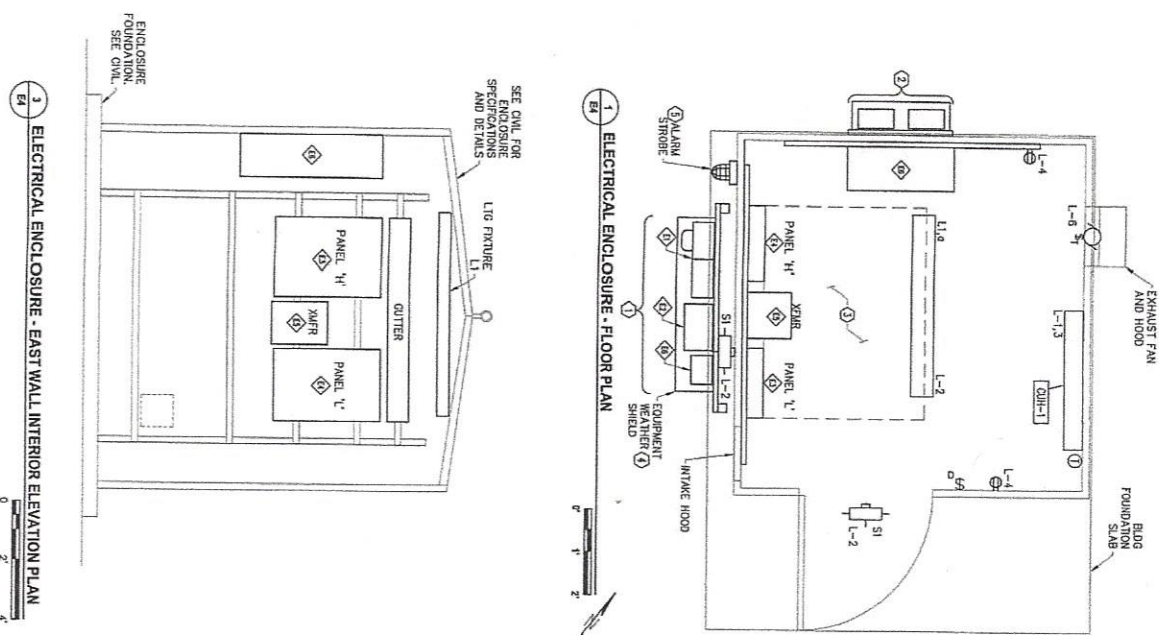
CONTROL POINT TABLE

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
101	5000.00	5000.00	17.92	DOWN-1/MAAG IN AC ANT
102	5081.17	4894.05	17.70	DOWN-2/MAAG IN RD AC
103	5011.14	5000.16	12.77	DOWN-3/MAAG IN TOP CONC WALL
701	4978.03	5018.65	13.35	FWD BC



<p>CHANNEL DRIVE & CHANNEL VISTA PUMP STATION REHABILITATION JUNEAU, ALASKA</p> <p>CHANNEL DRIVE PUMP STATION SITE PLAN</p>	<p>DOWL AECL648</p> <p>WWW.DOWEL.COM</p> <p>9085 Glacier Highway Juneau, Alaska 99801 907-789-3533</p>		REV	DATE	REVISIONS	BY
					DESCRIPTION	

C2



EQUIPMENT CONNECTION SCHEDULE

TAG ID	KVA	HP	R/C	V	PH	CIRCUIT SIZE	NOTES
OH-1	2			120	1	1/2" C, 2M12(14N), #12 EGC	1
F-1	F			120	1	1/2" C, 2M12(14N), #12 EGC	1

- NOTES:
 1. SIZING IS APPROXIMATE. CONTRACTOR SHALL PROVIDE ADEQUATE HEATING AND VENTILATION BASED ON ENCLOSURE SPECIFICATION REQUIREMENTS.

- SHEET NOTES**
1. SERVICE/EQUIPMENT RACK. SEE RACK ELEVATION DETAIL ON THIS SHEET. PROVIDE EQUIPMENT IN ACCORDANCE WITH CSU STANDARD DETAIL 220-5A.
 2. PROVIDE POWER AND CONTROL/INSTRUMENTATION PULL BOXES.
 3. MAINTAIN ELECTRICAL CLEAR SPACE ABOUT EQUIPMENT IN ACCORDANCE WITH NEC 110.26.
 4. PROVIDE WEATHER SHIELDS FOR ALL EXTERIOR EQUIPMENT IN STANDARD DETAIL 220-5.
 5. PROVIDE ALARM STROBE WITH SINKAGE. SEE SHEET E18 DETAIL 3.
 6. TELECOM UTILITY SERVICE BOX COORDINATE WITH TELECOM UTILITY (AS) TO RECONNECT TELEPHONE SERVICE TO MAIN UTILITY PANEL. SEE SITE PLAN ON SHEET E2 FOR SERVICE CONDUIT DETAILS. ALL WORK SHALL BE IN ACCORDANCE WITH ACS'S REQUIREMENTS.
 7. PROVIDE ELECTRICAL SERVICE EQUIPMENT AND CONDUIT IN ACCORDANCE WITH (ALB) REQUIREMENTS.

SEE SHEET E3 FOR ELECTRICAL EQUIPMENT SCHEDULE.

EDC, INC.
 213 W. FIREWEED LANE
 ANCHORAGE, AK 99503
 (907) 562-2222
 LICENSE NO. AECC705

REVISIONS

REV	DATE	DESCRIPTION	BY

CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
 CHANNEL DRIVE PUMP STATION
 ELECTRICAL ENCLOSURE LAYOUT PLAN

PROJECT: 1324-0016-01
 DATE: 7/31/2020

E4

SPECIAL PROVISIONS

1.0 GENERAL AND ADMINISTRATION

- 1.1 The PERMITTEE shall have a copy of this permit at the work site at all times.
- 1.2 The permit, together with these Special Provisions shall take precedence over any additional plans, exhibits, attachments, and/or schedules should discrepancies appear.
- 1.3 All contact between the Department and the PERMITTEE's Contractor shall be through a representative of the PERMITTEE. If the PERMITTEE chooses to perform the work with other than its own forces, a representative of the utility shall be present at all times unless otherwise agreed to by the DEPARTMENT. Failure to comply with this provision is grounds for restricting any further work by the PERMITTEE in the DEPARTMENT's Right of Way.
- 1.4 Any rights granted by this permit may not be assigned or transferred to another entity without prior written approval from the DEPARTMENT. If the utility is sold to another utility or merges with another utility, the new utility shall inform the DEPARTMENT in writing within 30 days after the date of transaction.
- 1.5 Any request for waiver or exception of Special Provision(s), or any request for change in location, alignment, or construction method, shall be submitted in writing to the Regional Utilities Engineer.
- 1.6 The PERMITTEE agrees to furnish the DEPARTMENT with a set of as built plans within sixty (60) days from the completion of the work covered by this Permit.
- 1.7 The PERMITTEE agrees to provide design locates, at no cost to the DEPARTMENT, upon request. If a utility locate service is not available, reference markers shall be installed and maintained at both ends of underground highway crossings, and at angle points in the alignment of the underground Facility. Where utilities are attached to a bridge, the PERMITTEE will attach a plate on the conduit at each abutment describing the content of the pipe or conductor, and the name and phone number of the owning utility.
- 1.8 The Regional Utilities Engineer may assign an inspector or inspectors in order to insure compliance with the provisions of this utility permit. The inspector has the authority to suspend all work in the event of noncompliance.
- 1.9 The PERMITTEE agrees to reimburse the DEPARTMENT for actual costs of inspections during construction of the Facility. Inspection activities will include on-site review of traffic control, highway crossings, and restoration of the right of way. Inspection may also include any testing required to verify conformance to the DEPARTMENT's standards, and responding to questions and/or complaints from the public or agencies. Actual direct and indirect charges shall provide the basis for billings, which include wages, benefits, per diem, travel and vehicle expenses, and lodging.

1.10 This permit will expire if construction or installation of the Facility has not started within one year after the date of approval, unless the PERMITTEE obtains an extension of time in writing from the DEPARTMENT.

2.0 COORDINATION

2.1 The PERMITTEE shall notify the DEPARTMENT's Regional Utility Permit Officer ten (10) days prior to beginning work:

Southeast Region
(907)465-4544

2.2 The PERMITTEE agrees to coordinate their work with other projects, both public and private that may occur within the project limits covered by this permit. The PERMITTEE agrees not to interfere or hinder the work being performed by other contractors.

2.3 The PERMITTEE shall coordinate and obtain the necessary temporary driveway permits for access to travel way from haul routes or staging areas where existing access does not exist. Contact the DEPARTMENT's Right-Of-Way Section at (907) 465-4499 for the driveway permit application or apply on line at www.dot.state.ak.us/permits

3.0 ENVIRONMENTAL

3.1 The PERMITTEE is responsible for obtaining authorization from the U.S. Army Corps of Engineers for any ground disturbing activities in areas designated as wetlands.

3.2 If the PERMITTEE, its Contractor, or Agent discovers environmental contamination in the right-of-way while constructing the Facility, they shall immediately stop work and notify the DEPARTMENT's Regional Utility Engineer.

3.3 The PERMITTEE is not responsible for the cost of investigation, cleanup, or disposal of any contaminated soils it discovers during work on the Facility within the DEPARTMENT's right-of-way, **unless:**

a. The PERMITTEE, its Contractor, or Agent fails to immediately notify the DEPARTMENT of the contamination, or;

b. The contamination is attributed to the PERMITTEE's Facility, or actions of the PERMITTEE, its Contractors, or its Agents.

3.4 If the PERMITTEE, its Contractor, or Agent discovers cultural, historic or archeological resources as a result of ground altering activities, all work that would disturb these resources shall be stopped and the State Historic Preservation Office shall be contacted immediately at (907) 269-8721.

3.5 The PERMITTEE shall not hold the DEPARTMENT responsible for any delay, redesign, rerouting, or additional cost due to encountering environmental contamination, or cultural, historic, or archeological resources.

3.6 The PERMITTEE shall provide an Alaska Certified Erosion and Sediment Control Lead (AK-CESCL) trained person, with the authority to direct activities required by the SWPPP, APDES permit or other permit conditions, during all construction and maintenance activities authorized by this permit that involve ground disturbing activities. Provide proof of current AK-CESCL certification upon request.

3.7 The PERMITTEE, on behalf of itself and its contractors, officers, officials, employees, and agents, shall indemnify, hold harmless, and defend at its sole cost and expense, the DEPARTMENT, its contractors, officers, officials, employees, and agents from any and all fines, costs, claims, damages, liquidated damages, judgments, or civil penalties assessed by the DEPARTMENT of Environmental Conservation pursuant to AS 46.03.760(E), arising wholly or in part from any action taken by the PERMITTEE in relation to the PERMITTEE's Facilities on DEPARTMENT rights of way or other permitted locations. This indemnification provision is in addition to and shall be construed as consistent with General Provision M.

4.0 NOTIFICATIONS

4.1 The PERMITTEE is responsible for notifying businesses and residents that front the project of scheduled road and driveway closures, or any work that may affect them. Property owners shall receive the notices a minimum of 48 hours prior to commencement of the work. Notices shall include a detailed description and map of the project, anticipated construction schedule and contact name and number of a representative of the PERMITTEE.

4.2 The PERMITTEE shall submit weekly public information notices that identify road closures, restrictions to traffic, and detours. Coordinate this effort with the State DOT/PF Navigator Information Program.

5.0 TRAFFIC CONTROL

5.1 The PERMITTEE shall submit a Traffic Control Plan (TCP) to the DEPARTMENT for approval a minimum of ten (10) days before beginning construction.

5.2 The PERMITTEE or the PERMITTEE's contractor shall designate a Traffic Safety Supervisor who shall be responsible for the maintenance of traffic operations on a 24-hour basis. This individual shall have received formal work zone traffic control training. The DEPARTMENT must be supplied with the name of this individual along with written verification of his/her credentials as well as a 24-hour telephone number where he/she can be reached.

5.3 The PERMITTEE shall insure that flagmen are certified by either the International Municipal Signal Association (IMSA) or the American Traffic Services Association (ATSSA). Documentation of certification shall be provided if requested.

5.4 The PERMITTEE shall provide traffic control devices, conforming to the latest addition of the Manual on Uniform Traffic Control Devices published by the U.S. DEPARTMENT of Transportation and Alaska Traffic Manual Supplement while constructing the Facility, or thereafter performing routine maintenance.

5.5 All traffic control devices required by the approved Traffic Control Plan, including signs, barricade, and flagmen, shall be in place prior to beginning work within the right of way.

5.6 The PERMITTEE shall remove or cover all temporary traffic control devices as soon as practical when they are no longer needed or when work on the Facility is suspended for short periods of time.

5.7 The PERMITTEE shall not park vehicles, equipment, or store materials on road or pathway surfaces at any time, unless specifically allowed by the traffic control plan.

5.8 At the close of each work day the construction site on non-detoured roadways shall be restored to a condition that allows two-way traffic to flow in conformance with the normal traffic patterns in that area, unless otherwise approved by the Regional Utilities Engineer.

5.9 The PERMITTEE shall conduct periodic inspections of temporary traffic control devices left in place during non-working hours. A 24 hour telephone contact number for the traffic control supervisor shall be provided to the local State Troopers or Police Departments.

5.10 All illumination and signalization shall remain operational during the construction of the Facility.

5.11 Reduced speed and two-way traffic shall be maintained on non-detoured roadways between the peak traffic hours of 7:30 a.m. to 9:00 a.m. and from 4:30 p.m. to 5:30 p.m.

6.0 EXCAVATION AND BACKFILL

6.1 The PERMITTEE shall backfill and compact all trenches within road prisms and pathways in 6-inch lifts or as accepted by the DEPARTMENT. 6-inch lifts are required if no inspector is present. The backfill shall be of suitable non-frost susceptible, non-organic material (0-6% passing No. 200 sieve). All excavated non-acceptable material shall be removed from the State right-of-way or property by the PERMITTEE.

6.2 The road prism is defined to include the finished roadway surface and underlying structural layers out to, and including, any unpaved shoulders, curbs, and attached pathways.

6.3 The PERMITTEE shall compact all trenches within or crossing road prisms and pathways at a minimum of 95% of the optimum density. All compaction tests shall be at the PERMITTEE's expense. A copy of each test will be submitted to the DEPARTMENT.

6.4 The PERMITTEE shall backfill all trenches, bore pits, and other excavations located outside road and pathway prisms with clean, non-organic, and compactable material meeting the requirements of Select Material, Type C, as defined in the DEPARTMENT's Standard Specifications for Highway Construction. Existing material is acceptable as backfill provided it meets the requirements of Select Material, Type C.

6.5 The PERMITTEE shall remove material not suitable for use as backfill from the site, t. The PERMITTEE shall replace unsuitable backfill material with imported material meeting the requirements of Select Material, Type C.

6.6 All backfill shall be compacted to existing undisturbed soil densities or better, and graded to blend with the existing ground surface. All costs associated with removal of unusable material and placement of import material is the responsibility of the PERMITTEE.

6.7 The top six (6) inches of the road surface or surface under pavement shall be crushed aggregate D-1

7.0 PAVEMENT REPLACEMENT AND TRAFFIC MARKINGS

7.1 Pavement cuts may be authorized from May 1st to September 30th and will only be permitted on an emergency basis from October 1st through April 30th unless the Regional Utilities Engineer approves a request for exception. Planned pavement cuts must be repaired by September 30th. No more than 2500 feet of pavement by project stationing can be disturbed without final repair

7.2 All asphalt cuts shall be permanently repaired with hot asphalt. Asphalt concrete pavement shall be Type II, Class B installed in conformance with Section 401 of the Alaska DOT&PF Southcoast Region Special Specifications dated 2017. The proposed job mix design shall be submitted for review and approval by the DEPARTMENT.

7.3 If the edge of the pavement is damaged during this construction the PERMITTEE shall have his contractor replace the pavement to the centerline of the roadway at least 10 feet each side of the damaged area. If the damage is intermittent and less than 50 feet between damaged areas the PERMITTEE shall make the repair continuous to cover the damage.

7.4 For service crossings, pre-saw the area to be excavated. After completion of the utility, saw back the existing pavement a minimum of 1-1/2' over undisturbed earth on each side of the trench. Install 6" of asphalt installation hot mix which shall be spread and compacted in layers. The top layer shall not exceed a 2" compacted depth. Paint the entire area of all top-lift longitudinal joints with a thick band of polymerized bituminous joint adhesive prior to placement the abutting lanes. The modified joint adhesive materials shall be Pavement Joint Adhesive that meets Table 702-2 of Alaska Standard Specifications for Highway Construction 2017 edition. The temperatures and application method of the joint adhesive shall be per manufacturer's recommendations.

7.5 For lane replacement, pre-saw the area of pavement effected by the utility installation. Cut the pavement so that the edges are vertical, the sides are parallel and the ends are perpendicular to the direction of traffic. The depth of pavement to be replaced will match the depth of the existing pavement unless otherwise specified. The pavement will be spread in layers not to exceed 2" to the seam nearest the centerline of the roadway. Paint the entire area of all top-lift longitudinal joints with a 1/8" thick band of polymerized bituminous joint adhesive prior to placement the abutting lanes. The modified joint adhesive materials shall be Crafcoc Pavement Joint Adhesive No. 34524, or an approved equal. The temperatures and application method of the joint adhesive shall be per manufacturer's recommendations.

7.6 If the contract quantity is less than 1500 tons, the asphalt concrete pavement will be accepted based upon the DEPARTMENT's material engineers approval of the job mix design and the placement and compaction of the asphalt concrete to the specified depth and finished surface requirements and tolerances. The material engineer's approval of the job mix design does not relieve the PERMITTEE or their contractor from the responsibility to produce the approved mix and is subject to field verification testing for oil content, density and gradation. The gradation, density and asphalt content shall be determined in accordance with section 410-4.02. If a calibrated nuclear content gauge is not available, asphalt content of the mix may be determined by extraction in accordance with AASHTO T-164. A minimum of two tests shall be taken for each approved mix design or as designated by the material engineer.

7.7 The finished pavement surface will be tested after final rolling at selected locations using a 16-foot straightedge. Variations of more than 3/16 inch from the testing edge between any two contacts will be corrected.

7.8 Temporary Patches

a. A Polymer modified cold mix asphalt or concrete patch may be used as a temporary patch subject to written approval of the Regional Utilities Engineer. The temporary patch will be replaced as soon as hot asphalt is available. For crossings, saw back existing pavement a minimum of 1' over undisturbed earth on each side of the trench. Paint edges with STE-1 tack coat and install 4" of polymer-modified cold asphalt. Damage to the pavement surface at locations other than crossings will be repaired by replacement of asphalt to the seam nearest centerline of the roadway with 4" of polymer-modified cold asphalt. All edges are to be saw cut and painted with STE-1 tack coat. The polymer-modified cold asphalt shall be spread and compacted in 2" lifts, each compacted to a minimum of 94% of maximum density. Asphalt patch density shall be field controlled utilizing a calibrated nuclear densometer at two locations per patch. Field testing results shall be certified by a registered engineer and forwarded to DOT&PF.

b. Temporary concrete patches shall be a minimum of 6" thick with heavy micro/macro synthetic fiber reinforcement additive or equal. Concrete shall be Class A, six sack mix, with a slump range of 2"- 4.8"

7.9 Asphalt concrete mixture that becomes contaminated with foreign material, is segregated or is in any way determined to be defective will be removed. Defective materials will be removed for the full thickness of the course.

7.10 The PERMITTEE shall replace all damaged or removed pavement markings in kind.

8.0 DRAINAGE

8.1 The PERMITTEE shall be responsible for assuring that all water entering the DEPARTMENT's storm drain facility meets the minimum criteria for water quality standards as set forth in the Alaska Administrative Code(18 AAC 70.010-.110).

8.2 The PERMITTEE shall maintain existing drainage patterns during construction of the Facility. Ditches will be restored to the originally designed flow lines unless otherwise agreed to by the DEPARTMENT.

8.3 The PERMITTEE shall be responsible for all erosion control prior to slopes becoming stabilized.

8.4 The PERMITTEE is responsible for installing and maintaining BMPs required by the NDPES permit throughout the duration of the project.

8.5 The PERMITTEE shall notify the DEPARTMENT of Transportation of drainage problems caused by the work under this Permit and will remedy the problem as directed by the DEPARTMENT of Transportation.

8.6 The PERMITTEE shall replace all culverts damaged by work under this Permit with a culvert. of the same size, or 18-inch, whichever is greater.

9.0 RIGHT OF WAY PROTECTION, MAINTENANCE, AND RESTORATION

11.1 The PERMITTEE shall cleanup within one day behind installation of the facility. The PERMITTEE will not be allowed to trench or plow more than can be cleaned up the following day.

11.2 The PERMITTEE or their contractor shall immediately repair any damage of existing utilities, storm drainage or other highway structures caused as a result of construction authorized by this permit.

11.3 Heavy tracked equipment operation will not be permitted on a paved roadway or shoulder, unless approved in writing by the Regional Utilities Engineer. If approved, planking or rubber tires shall be utilized between the vehicle tracks and the pavement. The PERMITTEE shall repair damage to the pavement as a result equipment operation as directed by the DEPARTMENT.

11.4 The PERMITTEE or his contractor will be responsible for winter and spring maintenance of the road shoulders, ditch lines, backslopes, road surfaces, taxiways, and runways that have not been left in a neat and clean condition, satisfactory to the Maintenance Section of the DEPARTMENT.

11.5 The PERMITTEE shall dispose of trees, brush or other natural growth by mechanical chipping or hauling away. Stumps and grubbing piles shall be loaded and hauled to a disposal site outside the DEPARTMENT's right of way. Trees left for the public shall be limbed and stacked in a location where loading does not interfere with the safe operation of the travel way.

11.6 Guardrail that is removed or damaged during construction shall be replaced in accordance with Section 606 AKDOT&PF Standard Specifications dated 2017, and Standard Drawings Manual.

11.7 Any Survey monument or monument accessory that will be disturbed or destroyed during construction of the Facility shall be referenced prior to beginning work, and restored or replaced by a Registered Land Surveyor licensed in accordance with AS 34.65.040. All monument records shall be reviewed by the DEPARTMENT prior to filing with the District Recorder.

11.8 Highway signs that are in conflict with construction shall be relocated on a temporary basis and reinstalled at the original location as soon as possible. Signs that are damaged during construction shall be replaced in kind to the DEPARTMENT's standards, and at no cost to the DEPARTMENT.

11.9 The PERMITTEE shall replace all curbs and gutters to an existing undisturbed joint.

11.10 The PERMITTEE shall maintain all roadways, pedestrian and bicycle facilities affected by the pavement removal in a smooth and passable condition at all times.

11.11 The PERMITTEE shall provide street sweeping to keep free of loose material all paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where your operations have deposited loose material. Use a street sweeper that can collect materials rather than eject them on the shoulder of the road.

11.12 The PERMITTEE shall furnish, haul, and place water for dust control and pavement flushing. Use water trucks that can provide a high-pressure water stream to flush the pavement and a light-water spray to control dust. If the flushing operations contaminate or fill adjacent catch basins, clean and restore them to their original condition. Pavement flushing and dust control is required in sections off the project where flushing is required.

11.13 Upon completion of the work within the State right-of-way or State property, the PERMITTEE shall remove all equipment, dispose of all waste material and shall leave the premises in a neat and clean condition satisfactory to the DEPARTMENT.

10.0 TOPSOIL AND SEEDING

10.1 The PERMITTEE shall replace and restore all vegetation disturbed. Unless otherwise required, re-vegetation shall consist of establishing seeded grassed slopes over the disturbed ground. The PERMITTEE shall use all means necessary to maintain and protect the disturbed slopes from erosion until such time as the vegetation is established.

10.2 The PERMITTEE shall replace any topsoil lost as a result of construction under this permit.

10.3 The PERMITTEE shall re-seed all areas within the DEPARTMENT's right-of-way disturbed by work under this permit with a seed mix approved by the DEPARTMENT.

10.4 The PERMITTEE shall re-grade all disturbed areas to blend with the existing ground surface and re-seed after completing backfill of pipe.

10.5 If re-seeding is not complete by August 15th, then re-shaping of all disturbed areas shall be completed by July 1st of the following year. The PERMITTEE is responsible for all erosion control measures and cleaning of ditches and culverts.

11.0 OVERHEAD FACILITIES

11.1 New and relocated aerial facilities shall maintain a minimum vertical clearance of twenty feet (20') in all locations within the right of way. (17 AAC 15.201)

11.2 The PERMITTEE shall install guy guards on all down guys installed within the right of way.

11.3 The PERMITTEE shall remove all overhead lines abandoned as the result of this Permit.

11.4 Guy/Anchor attachment shall not be located within clear zone.

.12.0 UNDERGROUND FACILITIES

12.1 The depth of burial for underground facilities constructed or installed under pavement, roadway or runway surfaces must be at least four feet measured from the surface of the pavement to the top of the cable, conduit, pipeline or encasement.

12.2 Underground facilities constructed under other surfaces, including unlined ditches must be buried at least three feet, measured in any direction from the surface to the top of the cable, conduit, pipeline or encasement.

12.3 The PERMITTEE shall place buried caution tape one foot directly above the FACILITY being installed.

12.4 The PERMITTEE shall obtain locates for any existing traffic signals, traffic interconnect cables, street light facilities, or FAA cables prior to construction. Damages shall be repaired and restored to working order within eight hours at the PERMITTEE's expense. Any splice must be located within a Type IA Junction Box or as directed by the DEPARTMENT.

13.0 WARRANTY

13.1 Warrant and Warranty, for the purposes of this Permit, shall mean the DEPARTMENT's concurrence block authority on any warranty release issued by the PERMITTEE.

13.2 The PERMITTEE shall warrant the materials and workmanship of the road, and road right-of-way, to ensure completion of the construction, including the restoration of surfacing, slopes, slope treatment, drainage facilities, pathways, and right-of-way cleanup for the warranty period.

13.3 The DEPARTMENT will notify the PERMITTEE of any surface deformity. The PERMITTEE shall prepare a corrective action plan for review and approval by the DEPARTMENT. The corrective action plan shall include:

- a) A methodology to determine if the pavement surface deformation is due to subsurface forces, such as subsidence or drainage, and;
- b) A proposal for correcting the surface variation.

13.4 The PERMITTEE shall remedy promptly, without cost to the DEPARTMENT, any and all defects in materials and workmanship resulting from defective materials and workmanship. If the defect, in the opinion of the DEPARTMENT, is of such a nature as to demand immediate repair, the DEPARTMENT shall have the right to take corrective action and the cost thereof shall be borne by the PERMITTEE.

13.5 The PERMITTEE or his designee and the DEPARTMENT shall perform construction inspection of the road. The PERMITTEE or his designee shall handle any coordination with respect to inspection activities involving both the DEPARTMENT and PERMITTEE.

13.6 The Warranty period shall mean a period of two (2) years from the acceptance of the road. The Warranty shall remain in effect until final inspection and acceptance by the DEPARTMENT.

14.0 RELEASE OF WARRANTY

14.1 The PERMITTEE and the DEPARTMENT shall perform an inspection prior to the end of the warranty period. The PERMITTEE or his designee is responsible to schedule and coordinate with the DEPARTMENT the final warranty inspection. The PERMITTEE shall correct any defect in the work revealed by the warranty inspection.

14.2 Upon the PERMITTEE's satisfactory performance of all its obligations under this Permit, the DEPARTMENT shall execute a written statement acknowledging performance and release of the warranty obligations. Release of the warranty shall not release the PERMITTEE of all other provisions of the permit.

14.3 Any damage to the roadway prism, fill slopes, ditches, backslopes, structures or underground utilities determined to be a result of work authorized by this permit that becomes apparent within two (2) years after project completion and acceptance by the DEPARTMENT shall be repaired by the PERMITTEE.

15.0 MAINTENANCE AND OPERATIONS

15.1 The PERMITTEE shall perform routine maintenance on the utility FACILITY on a continuing basis. Routine maintenance may be performed without prior notification of the DEPARTMENT however closure of a highway, pedestrian facility, pathway, sidewalk or creating a detour to perform routine maintenance must be specifically authorized by permit. The PERMITTEE shall apply for an annual lane closure permit to cover routine maintenance operations. Prior authorization must be obtained from the DEPARTMENT before performing any maintenance that requires excavation, plowing, jacking or boring within the right of way.

15.2 The PERMITTEE may perform emergency maintenance without prior notice to the DEPARTMENT as long as appropriate traffic control is established and maintained. If the project requires major reconstruction and or placement of traffic control devices for an extended period a lane closure permit is required. If the road surface is affected by the emergency maintenance, contact the local maintenance foreman as soon as possible and place pavement break warning signs in advance of the site until such time as the pavement has been repaired.

15.3 The PERMITTEE is responsible for maintenance and adjustment of manhole frames, valve boxes, junction boxes or other structures located in the pavement or sidewalk.

15.4 The PERMITTEE shall apply for a new utility permit if the facility authorized by this permit is to be reconstructed or modified substantially. If the proposed modifications are not substantial, the PERMITTEE need only apply for an amended permit. A utility permit application is required for all new service connections.

In consideration of the benefits accruing to the Permittee by reasons of the foregoing agreement, this permit is hereby accepted by the Permittee and the Permittee hereby agrees to comply with all of the terms, provisions, conditions, stipulations therein contained. Dated this 27th day of Oct., 2020

The State of Alaska, acting by and through its Department of Transportation and Public Facilities has caused this Utility Permit to be executed on this 6 day of Nov, 2020

City & Borough of Juneau

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES

By: [Signature]

By: [Signature]
Title: Regional Utility Engineer

Title: CITY ENGINEER

Attest: [Signature]

Title: PROJECT ENGINEER

ACKNOWLEDGEMENT OF
COMPANY OR PERMITTEE

STATE OF ALASKA)
1st JUDICIAL DISTRICT) ss

BE IT REMEMBERED that on this 27th day of Oct., 2020, before me the undersigned, a Notary Public of the State of Alaska, personally appeared

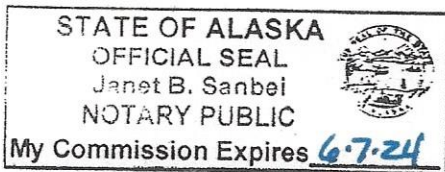
John Behan

and Alan Steffert
both to me personally known and known to me to be the identical individuals named in and who executed the foregoing permit, and acknowledged the said instrument to be the free and voluntary act and deed of the above named company for the uses and purposes therein expressed and on oath stated that they were authorized to execute said instrument.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of my office the day and year first above written.

My Commission Expires: 6.7.2024

Janet B. Sanbei
A Notary Public



STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION
AND PUBLIC FACILITIES
UTILITY PERMIT
(MAJOR)

Permit No.
3-296013-21-13

Page No. 1 of 20

Approval
Recommended: Martin Peters

Date: 10/6/2020

Title: Regional Permit Officer

Region: Southcoast

THE STATE OF ALASKA, acting by and through the DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES, hereinafter called the DEPARTMENT, under provisions of AS 19.25.010 19.25.020, grants a Utility Permit to **City And Borough Of Juneau of 155 South Seward Juneau, AK 99801** hereinafter called the PERMITTEE, permission to construct, install and thereafter perform routine maintenance, use and operate **Sewage Lift Station Upgrade** hereinafter called the FACILITY, located as follows: State Route **296013 Channel Vista** Route Mileage **0.05** across, along or under property of the DEPARTMENT, acquired and utilized in the operation and maintenance of a State Transportation System, at the aforementioned locations and/or positions and in strict conformance with plans, specifications and special provisions attached hereto and made a part hereof, and not otherwise.

A. In accepting this Utility Permit for the Facility, the PERMITTEE agrees to comply with the provisions of AS 02.15.102, AS 02.15.106, AS 19.25.010, AS 19.25.200, AS 35.10.210, and AS 35.10.230; the terms, requirements and regulations as set forth in 17 AAC 15 as authorized under Administrative Procedures Act, AS 44.62.010 - 44.62.650 and the applicable policies, directives and orders issued by the Commissioner of the Department.

B. The entire cost of routine maintenance operations of the FACILITY are to be paid for by the PERMITTEE, and said FACILITY shall comply with all applicable codes.

C. The PERMITTEE's construction, installation and maintenance operations of the FACILITY shall be accomplished with minimum interference and interruption of the use, operation and maintenance of the DEPARTMENT's right of way and/or public facility; or as hereinafter provided in the DEPARTMENT's Special Provisions, attached hereto and made a part hereof, and shall at all times in no way endanger the general public in its use of the public property. Utility Permits expire if construction or installation of the facility has not started within one year after the date of approval, unless the applicant obtains an extension of time in writing from the department. 17AAC15.011(d)

D. The DEPARTMENT, in granting the Utility Permit, reserves the right to use, occupy and enjoy its property for a public transportation system and for public transportation purposes in such a manner and at such times as it deems necessary, the same as if this instrument had not been executed by the DEPARTMENT. If any such use by the DEPARTMENT shall at any time necessitate any change in location or manner of use of said FACILITY, or any part thereof, such change or alteration shall be made by the PERMITTEE according to the terms of one of the two clauses set out below as identified by a check mark before the applicable clause.

 (1) The PERMITTEE will be reimbursed in full by the DEPARTMENT for all costs incurred in making such changes or alterations to the FACILITY that qualified under the provisions of AS 02.15.104(c), AS 19.25.020(c), or AS 35.10.220(c).

 X (2) The PERMITTEE shall promptly remove or relocate said FACILITY at no cost to the DEPARTMENT in accordance with the provisions of AS 02.15.104(c) (4) or (5), AS 19.25.020(c) (4) or (5), AS 35.10.220(c) (4) or (5).

E. On public property being utilized for right of way on highways originally established as, or converted to, controlled access highways, ingress and egress thereto for maintenance and operation of the FACILITY is limited to the locations as designated by the DEPARTMENT. However, the DEPARTMENT may allow the PERMITTEE ingress and egress whenever such is necessary to effect repairs and maintenance of the FACILITY and when no other access is available. If the DEPARTMENT determines such access is in conflict with the use of the controlled access highway, the FACILITY will be relocated.

F. The State of Alaska and the DEPARTMENT for the purpose of this Utility Permit, hereby disclaim any representation of implication to the PERMITTEE that the DEPARTMENT has any title in any property other than the interest conveyed to the DEPARTMENT for specific purposes as described by the instrument conveying the land to the DEPARTMENT.

G. The PERMITTEE by these presents accepts notice and agrees that any expenses or damages incurred by the PERMITTEE through the abandonment, removal, reconstruction or alteration of any public facility, or incurred by said PERMITTEE as a result of this disclaimer shall be borne by said PERMITTEE at no expense whatsoever to the DEPARTMENT or the State of Alaska.

H. The waiver or breach of any terms or conditions of this Utility Permit or Provisions of the Administrative Code, by the DEPARTMENT shall be limited to the act or acts constituting such breach, and shall never be construed as being continuing or a permanent waiver of any such term or condition, unless expressly agreed to in writing by the parties hereto, all of which shall remain in full force and affect as to future acts or happenings, notwithstanding any such individual waiver or any breach thereof.

I. Only the Commissioner of the DEPARTMENT or his delegate shall have the authority to waive any term or condition herein contained.

J. The PERMITTEE shall not assign or transfer any of the rights authorized by this Utility Permit except upon notification to and approval by the DEPARTMENT.

K. The PERMITTEE agrees to comply with all regulations concerning present and future use of the public property acquired, or reimbursed by Federal-Aid funds.

L. The PERMITTEE shall give the DEPARTMENT not less than ten (10) days prior written notice, unless otherwise agreed to by the parties hereto, of the PERMITTEE's intention to enter upon the DEPARTMENT's property for the purpose of major maintenance, reconstruction, altering or removal of the FACILITY, provided, however, that normal routine maintenance is excepted from this provision, and provided further, that in any instance of sudden emergency requiring prompt and immediate action to protect the public safety, or to mitigate damage to private or public property, no prior notification to the DEPARTMENT will be required. The PERMITTEE shall notify the DEPARTMENT and the Alaska State Troopers, of the location of the emergency and extent of work required by the most expeditious means of communication as soon as reasonably possible to do so, and the PERMITTEE shall take such measures as are required to protect the health and safety of the traveling public or public facility users for the duration of such emergency operations.

M. The PERMITTEE shall indemnify and hold harmless the State of Alaska and the DEPARTMENT, or either of them, from all liability for damage to property, or injury to or death of persons, arising wholly or in part from any action taken by the PERMITTEE in relation to the PERMITTEE's FACILITIES on DEPARTMENT rights of way or other permitted locations.

N. The permit is subject to all previous Easements and Utility Permits and any damage to any other utility will be the PERMITTEE's responsibility.

- O. The PERMITTEE agrees to be responsible for the compliance with all applicable Federal, State, and local laws, regulations, codes and ordinances.
- P. The PERMITTEE agrees to be responsible for obtaining all other appropriate permits or letters of non-objection needed from Federal, State and local agencies, or conflicting lessees, property owners or utilities.
- Q. The PERMITTEE may be required, within thirty (30) days after completion of any improvement placed upon or in the premises herein, deliver to the DEPARTMENT as-built drawings showing the location and construction specifications of said improvement.
- R. This Utility Permit is issued under the provisions of applicable Alaska Statutes and Administrative Code, effective as of the date of execution of this instrument by the DEPARTMENT.
- S. The PERMITTEE agrees that the FACILITY will be constructed in accordance with the attached:
1. **Plans dated, 8/14/2020**
 2. **Specifications consisting of; City & Borough of Juneau and Department of Transportation and Public Facilities (ADOT&PF) Standard Specifications.**
 3. Other *See Below.

Which, by this reference, are made a part hereof, and in accordance with the applicable codes pertaining to the FACILITY, and not otherwise, unless prior written authorization is obtained from the DEPARTMENT to do so.

T. The PERMITTEE agrees to reimburse the DEPARTMENT for actual costs of inspection and testing as required during the performance of work proposed by the PERMITTEE. The scope of inspection and testing shall be determined by the Regional Utilities Engineer. The costs billed to the PERMITTEE will be the actual DEPARTMENT's costs incurred while performing the inspection and testing.

U. The PERMITTEE agrees by entering on the DEPARTMENT's property to indemnify the DEPARTMENT and its contractors of all costs tangible or intangible that would be the result of any delay in a construction project of the DEPARTMENT caused by work done under this permit.

V. The PERMITTEE agrees to reimburse the DEPARTMENT for the length of the facility to be installed in excess of 200 feet (as indicated on the attached plans referenced to in paragraph "S" above) which is calculated to be 0 linear feet at \$1.00 per foot = \$0.00 (but not to exceed \$10,000) payable at the time the permit is executed by the DEPARTMENT unless arrangements have been made for the PERMITTEE to be billed on a monthly basis.

Added Special Conditions:

It is the responsibility of the PERMITTEE to assure that their contractor has fully read and understands the permit.

PIPE CARRIERS

TRANSMITTANT: _____ FLASH POINT: NA

WORKING PRESSURE: <50 psi TEMPERATURE: 50 Degree F

NUMBER OF CONDUITS (PIPES): 1

DIAMETER OF PIPE: 6"

TYPE AND CLASS OF PIPE: DR11 HDPE

ENCASEMENT DIAMETER AND TYPE: NA

VENT LOCATIONS: NA LEFT _____ RIGHT OF HIGHWAY CENTERLINE

CATHODIC PROTECTION: None

CROSSING ANGLE: NA LENGTH: _____

DEPTH BELOW ROAD SURFACE (MIN 48"): >48"

DEPTH BELOW DITCH BOTTOM (MIN 36"): _____

METHOD OF CROSSING INSTALLATION: BORING _____ JACKING _____ OPEN CUT _____

LONGITUDINAL FACILITY LENGTH: _____

OFFSET FROM HIGHWAY CENTERLINE: 24' DEPTH OF BURIAL (MIN 36"): _____

METHOD OF LONGITUDINAL INSTALLATION: TRENCHING _____ PLOWING _____

CONSTRUCTION CODE(S) APPLICABLE: _____

ADDITIONAL INFORMATION: Existing wastewater lift station rehabilitation will include constructing new top slab, new force main tie-in, and electrical conduit and controls between existing pump station building and below grade vaults.

STRUCTURES

TYPE (TRANSFORMER, VAULT, PUMP HOUSE, ETC.): Vault

LOCATION: Channel Vista
(TOWN - ROAD NAME - DISTANCE TO NEAREST CROSS STREET)

STRUCTURE Channel Vista Pump Station DIMENSIONS:

OFFSET FROM CENTERLINE OF ROAD: 24 LF

TYPE AND CLASS OF PIPE OR CONDUIT:

VENT LOCATIONS: LEFT _____ RIGHT _____ OF HIGHWAY CENTERLINE

HEIGHT ABOVE SURROUNDING GROUND: _____

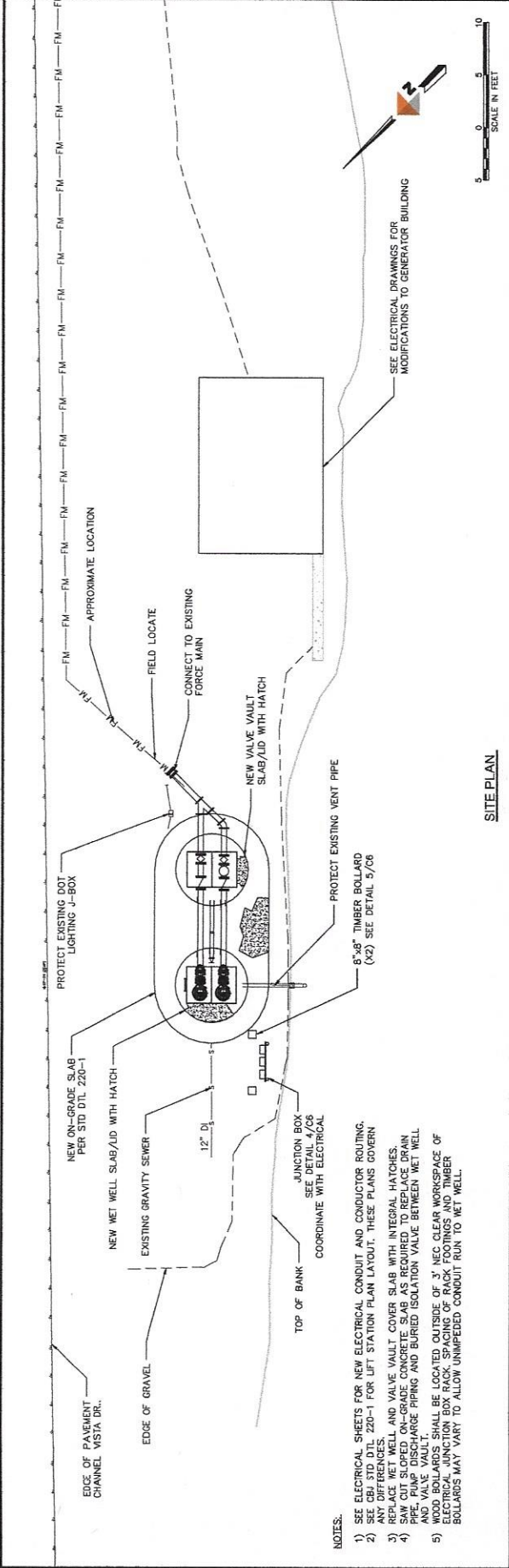
HEIGHT ABOVE ROAD SURFACE: _____

DEPTH BELOW ROAD SURFACE: _____

DEPTH BELOW EXISTING SURFACE: _____

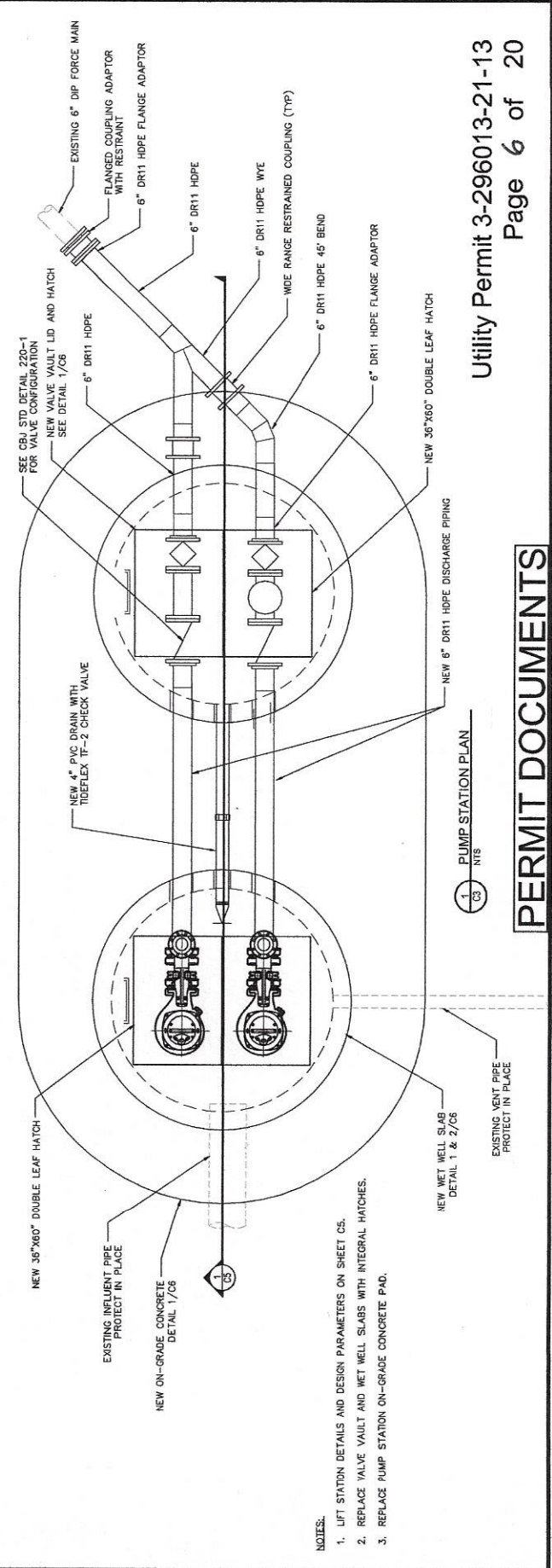
CONSTRUCTION CODE(S) APPLICABLE: _____

ADDITIONAL INFORMATION: Existing wastewater lift station rehabilitation, existing vaults to remain, new concrete top slab, electrical conduit and junction boxes.



- NOTES:**
- SEE ELECTRICAL SHEETS FOR NEW ELECTRICAL CONDUIT AND CONDUCTOR ROUTING.
 - SEE CBJ STD DTL 220-1 FOR LIFT STATION PLAN LAYOUT. THESE PLANS GOVERN.
 - REPLACE WET WELL AND VALVE VAULT COVER SLAB WITH INTEGRAL HATCHES.
 - SAW CUT SLOPED ON-GRADE CONCRETE SLAB AS REQUIRED TO REPLACE DRAIN PIPE, PUMP DISCHARGE PIPING AND BURIED ISOLATION VALVE BETWEEN WET WELL AND VALVE VAULT.
 - SLAB REPAIR SHALL BE LOCATED OUTSIDE OF 3' NEG. CLEAR WORKSPACE OF ELECTRICAL JUNCTION BOX RACK. SPACING OF BACK FOOTINGS AND TIMBER BOLLARDS MAY VARY TO ALLOW UNIMPEDED CONDUIT RUN TO WET WELL.

SITE PLAN



- NOTES:**
- LIFT STATION DETAILS AND DESIGN PARAMETERS ON SHEET 05.
 - REPLACE VALVE VAULT AND WET WELL SLABS WITH INTEGRAL HATCHES.
 - REPLACE PUMP STATION ON-GRADE CONCRETE PAD.

1 PUMP STATION PLAN NIS

PERMIT DOCUMENTS

REV	DATE	DESCRIPTION
BR		



CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
ELECTRICAL SITE DEMO. AND NEW WORK

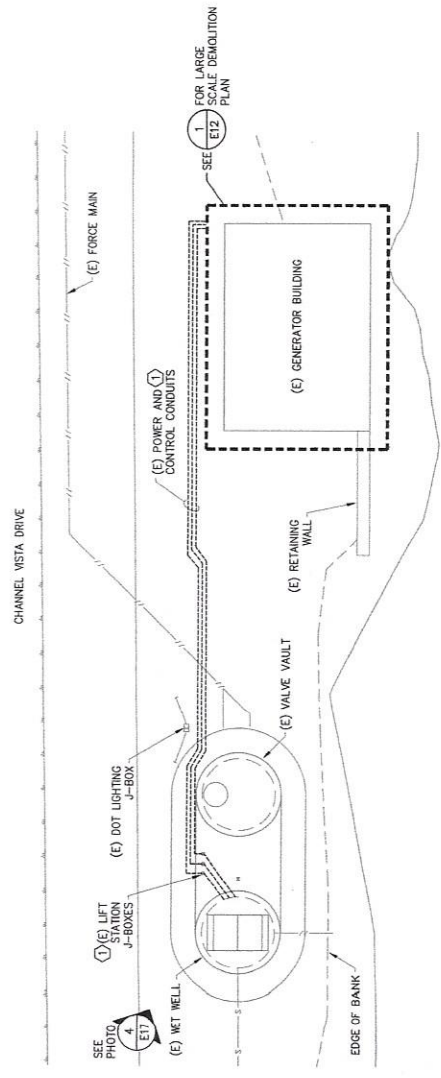
PROJECT: 15-0000000-001
DATE: 07/29/2020
© 2020, 2020
E10

SHEET NOTES

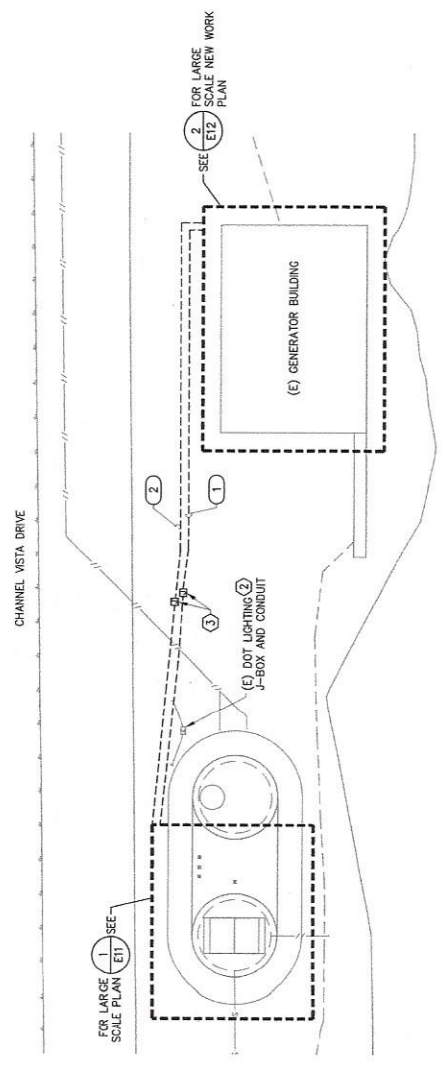
- ① DEMOLISH (E) CONDUIT, CABLING AND IN-GRADE J-BOXES. CUT-OFF AND ABANDON CONDUITS BELOW GRADE. PROVIDE GROUDED WATERPROOF SEALING OF CONDUIT PENETRATIONS INTO THE MAIN TUNNEL. DEMOLITION METHOD SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER.
- ② ADJUST ROADWAY LIGHTING CIRCUIT. PROVIDE LOCATES OF (E) CONDUIT AND CAREFULLY ROUTE NEW CIRCUITS AROUND (E) SYSTEM.
- ③ PROVIDE IN-GRADE CONCRETE TYPE 1A JUNCTION/PULL BOXES WITH TRAFFIC RATED LIDS. LIDS SHALL BE MARKED/LABELLED AS "ELECTRIC". JUNCTION BOXES SHALL BE IN ACCORDANCE WITH CRJ STANDARD 119A.
- ④ SEE SHEET E13 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT / FEEDER SCHEDULE

TAG	DESCRIPTION
①	2EA 1 1/2" C POWER CONDUITS. SEE POWER ONE-LINE ON SHEET E13 FOR CIRCUIT DETAILS.
②	2" C CONDUIT. SEE POWER ONE-LINE ON SHEET E13 FOR CIRCUIT DETAILS.



1 CHANNEL VISTA ELECTRICAL - DEMOLITION SITE PLAN
E10



2 CHANNEL VISTA ELECTRICAL - NEW WORK SITE PLAN
E10

P:\Projects\0000\00000\Channel Lift Stations\Drawings\E10 - CHANNEL VISTA LIFT STATION ELECTRICAL SITE DEMOLITION AND NEW WORK PLAN.dwg SAVED DATE 2020-10-01 13:37 PLOT DATE 2020-10-14 4:47

SPECIAL PROVISIONS**1.0 GENERAL AND ADMINISTRATION**

- 1.1 The PERMITTEE shall have a copy of this permit at the work site at all times.
- 1.2 The permit, together with these Special Provisions shall take precedence over any additional plans, exhibits, attachments, and/or schedules should discrepancies appear.
- 1.3 All contact between the Department and the PERMITTEE's Contractor shall be through a representative of the PERMITTEE. If the PERMITTEE chooses to perform the work with other than its own forces, a representative of the utility shall be present at all times unless otherwise agreed to by the DEPARTMENT. Failure to comply with this provision is grounds for restricting any further work by the PERMITTEE in the DEPARTMENT's Right of Way.
- 1.4 Any rights granted by this permit may not be assigned or transferred to another entity without prior written approval from the DEPARTMENT. If the utility is sold to another utility or merges with another utility, the new utility shall inform the DEPARTMENT in writing within 30 days after the date of transaction.
- 1.5 Any request for waiver or exception of Special Provision(s), or any request for change in location, alignment, or construction method, shall be submitted in writing to the Regional Utilities Engineer.
- 1.6 The PERMITTEE agrees to furnish the DEPARTMENT with a set of as built plans within sixty (60) days from the completion of the work covered by this Permit.
- 1.7 The PERMITTEE agrees to provide design locates, at no cost to the DEPARTMENT, upon request. If a utility locate service is not available, reference markers shall be installed and maintained at both ends of underground highway crossings, and at angle points in the alignment of the underground Facility. Where utilities are attached to a bridge, the PERMITTEE will attach a plate on the conduit at each abutment describing the content of the pipe or conductor, and the name and phone number of the owning utility.
- 1.8 The Regional Utilities Engineer may assign an inspector or inspectors in order to insure compliance with the provisions of this utility permit. The inspector has the authority to suspend all work in the event of noncompliance.
- 1.9 The PERMITTEE agrees to reimburse the DEPARTMENT for actual costs of inspections during construction of the Facility. Inspection activities will include on-site review of traffic control, highway crossings, and restoration of the right of way. Inspection may also include any testing required to verify conformance to the DEPARTMENT's standards, and responding to questions and/or complaints from the public or agencies. Actual direct and indirect charges shall provide the basis for billings, which include wages, benefits, per diem, travel and vehicle expenses, and lodging.

1.10 This permit will expire if construction or installation of the Facility has not started within one year after the date of approval, unless the PERMITTEE obtains an extension of time in writing from the DEPARTMENT.

2.0 COORDINATION

2.1 The PERMITTEE shall notify the DEPARTMENT's Regional Utility Permit Officer ten (10) days prior to beginning work:

Southcoast Region
(907)465-4544

2.2 The PERMITTEE agrees to coordinate their work with other projects, both public and private that may occur within the project limits covered by this permit. The PERMITTEE agrees not to interfere or hinder the work being performed by other contractors.

2.3 The PERMITTEE shall coordinate and obtain the necessary temporary driveway permits for access to travel way from haul routes or staging areas where existing access does not exist. Contact the DEPARTMENT's Right-Of-Way Section at (907) 465-4499 for the driveway permit application or apply on line at www.dot.state.ak.us/permits

3.0 ENVIRONMENTAL

3.1 The PERMITTEE is responsible for obtaining authorization from the U.S. Army Corps of Engineers for any ground disturbing activities in areas designated as wetlands.

3.2 If the PERMITTEE, its Contractor, or Agent discovers environmental contamination in the right-of-way while constructing the Facility, they shall immediately stop work and notify the DEPARTMENT's Regional Utility Engineer.

3.3 The PERMITTEE is not responsible for the cost of investigation, cleanup, or disposal of any contaminated soils it discovers during work on the Facility within the DEPARTMENT's right-of-way, **unless:**

a. The PERMITTEE, its Contractor, or Agent fails to immediately notify the DEPARTMENT of the contamination, or;

b. The contamination is attributed to the PERMITTEE's Facility, or actions of the PERMITTEE, its Contractors, or its Agents.

3.4 If the PERMITTEE, its Contractor, or Agent discovers cultural, historic or archeological resources as a result of ground altering activities, all work that would disturb these resources shall be stopped and the State Historic Preservation Office shall be contacted immediately at (907) 269-8721.

3.5 The PERMITTEE shall not hold the DEPARTMENT responsible for any delay, redesign, rerouting, or additional cost due to encountering environmental contamination, or cultural, historic, or archeological resources.

3.6 The PERMITTEE shall provide an Alaska Certified Erosion and Sediment Control Lead (AK-CESCL) trained person, with the authority to direct activities required by the SWPPP, APDES permit or other permit conditions, during all construction and maintenance activities authorized by this permit that involve ground disturbing activities. Provide proof of current AK-CESCL certification upon request.

3.7 The PERMITTEE, on behalf of itself and its contractors, officers, officials, employees, and agents, shall indemnify, hold harmless, and defend at its sole cost and expense, the DEPARTMENT, its contractors, officers, officials, employees, and agents from any and all fines, costs, claims, damages, liquidated damages, judgments, or civil penalties assessed by the DEPARTMENT of Environmental Conservation pursuant to AS 46.03.760(E), arising wholly or in part from any action taken by the PERMITTEE in relation to the PERMITTEE's Facilities on DEPARTMENT rights of way or other permitted locations. This indemnification provision is in addition to and shall be construed as consistent with General Provision M.

4.0 NOTIFICATIONS

4.1 The PERMITTEE is responsible for notifying businesses and residents that front the project of scheduled road and driveway closures, or any work that may affect them. Property owners shall receive the notices a minimum of 48 hours prior to commencement of the work. Notices shall include a detailed description and map of the project, anticipated construction schedule and contact name and number of a representative of the PERMITTEE.

4.2 The PERMITTEE shall submit weekly public information notices that identify road closures, restrictions to traffic, and detours. Coordinate this effort with the State DOT/PF Navigator Information Program.

5.0 TRAFFIC CONTROL

5.1 The PERMITTEE shall submit a Traffic Control Plan (TCP) to the DEPARTMENT for approval a minimum of ten (10) days before beginning construction.

5.2 The PERMITTEE or the PERMITTEE's contractor shall designate a Traffic Safety Supervisor who shall be responsible for the maintenance of traffic operations on a 24-hour basis. This individual shall have received formal work zone traffic control training. The DEPARTMENT must be supplied with the name of this individual along with written verification of his/her credentials as well as a 24-hour telephone number where he/she can be reached.

5.3 The PERMITTEE shall insure that flagmen are certified by either the International Municipal Signal Association (IMSA) or the American Traffic Services Association (ATSSA). Documentation of certification shall be provided if requested.

5.4 The PERMITTEE shall provide traffic control devices, conforming to the latest addition of the Manual on Uniform Traffic Control Devices published by the U.S. DEPARTMENT of Transportation and Alaska Traffic Manual Supplement while constructing the Facility, or thereafter performing routine maintenance.

5.5 All traffic control devices required by the approved Traffic Control Plan, including signs, barricade, and flagmen, shall be in place prior to beginning work within the right of way.

5.6 The PERMITTEE shall remove or cover all temporary traffic control devices as soon as practical when they are no longer needed or when work on the Facility is suspended for short periods of time.

5.7 The PERMITTEE shall not park vehicles, equipment, or store materials on road or pathway surfaces at any time, unless specifically allowed by the traffic control plan.

5.8 At the close of each work day the construction site on non-detoured roadways shall be restored to a condition that allows two-way traffic to flow in conformance with the normal traffic patterns in that area, unless otherwise approved by the Regional Utilities Engineer.

5.9 The PERMITTEE shall conduct periodic inspections of temporary traffic control devices left in place during non-working hours. A 24 hour telephone contact number for the traffic control supervisor shall be provided to the local State Troopers or Police Departments.

5.10 All illumination and signalization shall remain operational during the construction of the Facility.

5.11 Reduced speed and two-way traffic shall be maintained on non-detoured roadways between the peak traffic hours of 7:30 a.m. to 9:00 a.m. and from 4:30 p.m. to 5:30 p.m.

6.0 EXCAVATION AND BACKFILL

6.1 The PERMITTEE shall backfill and compact all trenches within road prisms and pathways in 6-inch lifts or as accepted by the DEPARTMENT. 6-inch lifts are required if no inspector is present. The backfill shall be of suitable non-frost susceptible, non-organic material (0-6% passing No. 200 sieve). All excavated non-acceptable material shall be removed from the State right-of-way or property by the PERMITTEE.

6.2 The road prism is defined to include the finished roadway surface and underlying structural layers out to, and including, any unpaved shoulders, curbs, and attached pathways.

6.3 The PERMITTEE shall compact all trenches within or crossing road prisms and pathways at a minimum of 95% of the optimum density. All compaction tests shall be at the PERMITTEE's expense. A copy of each test will be submitted to the DEPARTMENT.

6.4 The PERMITTEE shall backfill all trenches, bore pits, and other excavations located outside road and pathway prisms with clean, non-organic, and compactable material meeting the requirements of Select Material, Type C, as defined in the DEPARTMENT's Standard Specifications for Highway Construction. Existing material is acceptable as backfill provided it meets the requirements of Select Material, Type C.

6.5 The PERMITTEE shall remove material not suitable for use as backfill from the site, t. The PERMITTEE shall replace unsuitable backfill material with imported material meeting the requirements of Select Material, Type C.

6.6 All backfill shall be compacted to existing undisturbed soil densities or better, and graded to blend with the existing ground surface. All costs associated with removal of unusable material and placement of import material is the responsibility of the PERMITTEE.

6.7 The top six (6) inches of the road surface or surface under pavement shall be crushed aggregate D-1

7.0 PAVEMENT REPLACEMENT AND TRAFFIC MARKINGS

7.1 Pavement cuts may be authorized from May 1st to September 30th and will only be permitted on an emergency basis from October 1st through April 30th unless the Regional Utilities Engineer approves a request for exception. Planned pavement cuts must be repaired by September 30th. No more than 2500 feet of pavement by project stationing can be disturbed without final repair

7.2 All asphalt cuts shall be permanently repaired with hot asphalt. Asphalt concrete pavement shall be Type II, Class B installed in conformance with Section 401 of the Alaska DOT&PF Southcoast Region Special Specifications dated 2017. The proposed job mix design shall be submitted for review and approval by the DEPARTMENT.

7.3 If the edge of the pavement is damaged during this construction the PERMITTEE shall have his contractor replace the pavement to the centerline of the roadway at least 10 feet each side of the damaged area. If the damage is intermittent and less than 50 feet between damaged areas the PERMITTEE shall make the repair continuous to cover the damage.

7.4 For service crossings, pre-saw the area to be excavated. After completion of the utility, saw back the existing pavement a minimum of 1-1/2' over undisturbed earth on each side of the trench. Install 6" of asphalt installation hot mix which shall be spread and compacted in layers. The top layer shall not exceed a 2" compacted depth. Paint the entire area of all top-lift longitudinal joints with a thick band of polymerized bituminous joint adhesive prior to placement the abutting lanes. The modified joint adhesive materials shall be Pavement Joint Adhesive that meets Table 702-2 of Alaska Standard Specifications for Highway Construction 2017 edition. The temperatures and application method of the joint adhesive shall be per manufacturer's recommendations.

7.5 For lane replacement, pre-saw the area of pavement effected by the utility installation. Cut the pavement so that the edges are vertical, the sides are parallel and the ends are perpendicular to the direction of traffic. The depth of pavement to be replaced will match the depth of the existing pavement unless otherwise specified. The pavement will be spread in layers not to exceed 2" to the seam nearest the centerline of the roadway. Paint the entire area of all top-lift longitudinal joints with a 1/8" thick band of polymerized bituminous joint adhesive prior to placement the abutting lanes. The modified joint adhesive materials shall be Crafcoc Pavement Joint Adhesive No. 34524, or an approved equal. The temperatures and application method of the joint adhesive shall be per manufacturer's recommendations.

7.6 If the contract quantity is less than 1500 tons, the asphalt concrete pavement will be accepted based upon the DEPARTMENT's material engineers approval of the job mix design and the placement and compaction of the asphalt concrete to the specified depth and finished surface requirements and tolerances. The material engineer's approval of the job mix design does not relieve the PERMITTEE or their contractor from the responsibility to produce the approved mix and is subject to field verification testing for oil content, density and gradation. The gradation, density and asphalt content shall be determined in accordance with section 410-4.02. If a calibrated nuclear content gauge is not available, asphalt content of the mix may be determined by extraction in accordance with AASHTO T-164. A minimum of two tests shall be taken for each approved mix design or as designated by the material engineer.

7.7 The finished pavement surface will be tested after final rolling at selected locations using a 16-foot straightedge. Variations of more than 3/16 inch from the testing edge between any two contacts will be corrected.

7.8 Temporary Patches

a. A Polymer modified cold mix asphalt or concrete patch may be used as a temporary patch subject to written approval of the Regional Utilities Engineer. The temporary patch will be replaced as soon as hot asphalt is available. For crossings, saw back existing pavement a minimum of 1' over undisturbed earth on each side of the trench. Paint edges with STE-1 tack coat and install 4" of polymer-modified cold asphalt. Damage to the pavement surface at locations other than crossings will be repaired by replacement of asphalt to the seam nearest centerline of the roadway with 4" of polymer-modified cold asphalt. All edges are to be saw cut and painted with STE-1 tack coat. The polymer-modified cold asphalt shall be spread and compacted in 2" lifts, each compacted to a minimum of 94% of maximum density. Asphalt patch density shall be field controlled utilizing a calibrated nuclear densometer at two locations per patch. Field testing results shall be certified by a registered engineer and forwarded to DOT&PF.

b. Temporary concrete patches shall be a minimum of 6" thick with heavy micro/macro synthetic fiber reinforcement additive or equal. Concrete shall be Class A, six sack mix, with a slump range of 2"- 4.8"

7.9 Asphalt concrete mixture that becomes contaminated with foreign material, is segregated or is in any way determined to be defective will be removed. Defective materials will be removed for the full thickness of the course.

7.10 The PERMITTEE shall replace all damaged or removed pavement markings in kind.

8.0 DRAINAGE

8.1 The PERMITTEE shall be responsible for assuring that all water entering the DEPARTMENT's storm drain facility meets the minimum criteria for water quality standards as set forth in the Alaska Administrative Code(18 AAC 70.010-.110).

8.2 The PERMITTEE shall maintain existing drainage patterns during construction of the Facility. Ditches will be restored to the originally designed flow lines unless otherwise agreed to by the DEPARTMENT.

8.3 The PERMITTEE shall be responsible for all erosion control prior to slopes becoming stabilized.

8.4 The PERMITTEE is responsible for installing and maintaining BMPs required by the NDPEs permit throughout the duration of the project.

8.5 The PERMITTEE shall notify the DEPARTMENT of Transportation of drainage problems caused by the work under this Permit and will remedy the problem as directed by the DEPARTMENT of Transportation.

8.6 The PERMITTEE shall replace all culverts damaged by work under this Permit with a culvert. of the same size, or 18-inch, whichever is greater.

9.0 RIGHT OF WAY PROTECTION, MAINTENANCE, AND RESTORATION

11.1 The PERMITTEE shall cleanup within one day behind installation of the facility. The PERMITTEE will not be allowed to trench or plow more than can be cleaned up the following day.

11.2 The PERMITTEE or their contractor shall immediately repair any damage of existing utilities, storm drainage or other highway structures caused as a result of construction authorized by this permit.

11.3 Heavy tracked equipment operation will not be permitted on a paved roadway or shoulder, unless approved in writing by the Regional Utilities Engineer. If approved, planking or rubber tires shall be utilized between the vehicle tracks and the pavement. The PERMITTEE shall repair damage to the pavement as a result equipment operation as directed by the DEPARTMENT.

11.4 The PERMITTEE or his contractor will be responsible for winter and spring maintenance of the road shoulders, ditch lines, backslopes, road surfaces, taxiways, and runways that have not been left in a neat and clean condition, satisfactory to the Maintenance Section of the DEPARTMENT.

11.5 The PERMITTEE shall dispose of trees, brush or other natural growth by mechanical chipping or hauling away. Stumps and grubbing piles shall be loaded and hauled to a disposal site outside the DEPARTMENT's right of way. Trees left for the public shall be limbed and stacked in a location where loading does not interfere with the safe operation of the travel way.

11.6 Guardrail that is removed or damaged during construction shall be replaced in accordance with Section 606 AKDOT&PF Standard Specifications dated 2017, and Standard Drawings Manual.

11.7 Any Survey monument or monument accessory that will be disturbed or destroyed during construction of the Facility shall be referenced prior to beginning work, and restored or replaced by a Registered Land Surveyor licensed in accordance with AS 34.65.040. All monument records shall be reviewed by the DEPARTMENT prior to filing with the District Recorder.

11.8 Highway signs that are in conflict with construction shall be relocated on a temporary basis and reinstalled at the original location as soon as possible. Signs that are damaged during construction shall be replaced in kind to the DEPARTMENT's standards, and at no cost to the DEPARTMENT.

11.9 The PERMITTEE shall replace all curbs and gutters to an existing undisturbed joint.

11.10 The PERMITTEE shall maintain all roadways, pedestrian and bicycle facilities affected by the pavement removal in a smooth and passable condition at all times.

11.11 The PERMITTEE shall provide street sweeping to keep free of loose material all paved portions of the roadway and haul routes open to the public, including sections of roadway off the project where your operations have deposited loose material. Use a street sweeper that can collect materials rather than eject them on the shoulder of the road.

11.12 The PERMITTEE shall furnish, haul, and place water for dust control and pavement flushing. Use water trucks that can provide a high-pressure water stream to flush the pavement and a light-water spray to control dust. If the flushing operations contaminate or fill adjacent catch basins, clean and restore them to their original condition. Pavement flushing and dust control is required in sections off the project where flushing is required.

11.13 Upon completion of the work within the State right-of-way or State property, the PERMITTEE shall remove all equipment, dispose of all waste material and shall leave the premises in a neat and clean condition satisfactory to the DEPARTMENT.

10.0 TOPSOIL AND SEEDING

10.1 The PERMITTEE shall replace and restore all vegetation disturbed. Unless otherwise required, re-vegetation shall consist of establishing seeded grassed slopes over the disturbed ground. The PERMITTEE shall use all means necessary to maintain and protect the disturbed slopes from erosion until such time as the vegetation is established.

10.2 The PERMITTEE shall replace any topsoil lost as a result of construction under this permit.

10.3 The PERMITTEE shall re-seed all areas within the DEPARTMENT's right-of-way disturbed by work under this permit with a seed mix approved by the DEPARTMENT.

10.4 The PERMITTEE shall re-grade all disturbed areas to blend with the existing ground surface and re-seed after completing backfill of pipe.

10.5 If re-seeding is not complete by August 15th, then re-shaping of all disturbed areas shall be completed by July 1st of the following year. The PERMITTEE is responsible for all erosion control measures and cleaning of ditches and culverts.

11.0 OVERHEAD FACILITIES

11.1 New and relocated aerial facilities shall maintain a minimum vertical clearance of twenty feet (20') in all locations within the right of way. (17 AAC 15.201)

11.2 The PERMITTEE shall install guy guards on all down guys installed within the right of way.

11.3 The PERMITTEE shall remove all overhead lines abandoned as the result of this Permit.

11.4 Guy/Anchor attachment shall not be located within clear zone.

.12.0 UNDERGROUND FACILITIES

12.1 The depth of burial for underground facilities constructed or installed under pavement, roadway or runway surfaces must be at least four feet measured from the surface of the pavement to the top of the cable, conduit, pipeline or encasement.

12.2 Underground facilities constructed under other surfaces, including unlined ditches must be buried at least three feet, measured in any direction from the surface to the top of the cable, conduit, pipeline or encasement.

12.3 The PERMITTEE shall place buried caution tape one foot directly above the FACILITY being installed.

12.4 The PERMITTEE shall obtain locates for any existing traffic signals, traffic interconnect cables, street light facilities, or FAA cables prior to construction. Damages shall be repaired and restored to working order within eight hours at the PERMITTEE's expense. Any splice must be located within a Type IA Junction Box or as directed by the DEPARTMENT.

13.0 WARRANTY

13.1 Warrant and Warranty, for the purposes of this Permit, shall mean the DEPARTMENT's concurrence block authority on any warranty release issued by the PERMITTEE.

13.2 The PERMITTEE shall warrant the materials and workmanship of the road, and road right-of-way, to ensure completion of the construction, including the restoration of surfacing, slopes, slope treatment, drainage facilities, pathways, and right-of-way cleanup for the warranty period.

13.3 The DEPARTMENT will notify the PERMITTEE of any surface deformity. The PERMITTEE shall prepare a corrective action plan for review and approval by the DEPARTMENT. The corrective action plan shall include:

- a) A methodology to determine if the pavement surface deformation is due to subsurface forces, such as subsidence or drainage, and;
- b) A proposal for correcting the surface variation.

13.4 The PERMITTEE shall remedy promptly, without cost to the DEPARTMENT, any and all defects in materials and workmanship resulting from defective materials and workmanship. If the defect, in the opinion of the DEPARTMENT, is of such a nature as to demand immediate repair, the DEPARTMENT shall have the right to take corrective action and the cost thereof shall be borne by the PERMITTEE.

13.5 The PERMITTEE or his designee and the DEPARTMENT shall perform construction inspection of the road. The PERMITTEE or his designee shall handle any coordination with respect to inspection activities involving both the DEPARTMENT and PERMITTEE.

13.6 The Warranty period shall mean a period of two (2) years from the acceptance of the road. The Warranty shall remain in effect until final inspection and acceptance by the DEPARTMENT.

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14.0 RELEASE OF WARRANTY

14.1 The PERMITTEE and the DEPARTMENT shall perform an inspection prior to the end of the warranty period. The PERMITTEE or his designee is responsible to schedule and coordinate with the DEPARTMENT the final warranty inspection. The PERMITTEE shall correct any defect in the work revealed by the warranty inspection.

14.2 Upon the PERMITTEE's satisfactory performance of all its obligations under this Permit, the DEPARTMENT shall execute a written statement acknowledging performance and release of the warranty obligations. Release of the warranty shall not release the PERMITTEE of all other provisions of the permit.

14.3 Any damage to the roadway prism, fill slopes, ditches, backslopes, structures or underground utilities determined to be a result of work authorized by this permit that becomes apparent within two (2) years after project completion and acceptance by the DEPARTMENT shall be repaired by the PERMITTEE.

15.0 MAINTENANCE AND OPERATIONS

15.1 The PERMITTEE shall perform routine maintenance on the utility FACILITY on a continuing basis. Routine maintenance may be performed without prior notification of the DEPARTMENT however closure of a highway, pedestrian facility, pathway, sidewalk or creating a detour to perform routine maintenance must be specifically authorized by permit. The PERMITTEE shall apply for an annual lane closure permit to cover routine maintenance operations. Prior authorization must be obtained from the DEPARTMENT before performing any maintenance that requires excavation, plowing, jacking or boring within the right of way.

15.2 The PERMITTEE may perform emergency maintenance without prior notice to the DEPARTMENT as long as appropriate traffic control is established and maintained. If the project requires major reconstruction and or placement of traffic control devices for an extended period a lane closure permit is required. If the road surface is affected by the emergency maintenance, contact the local maintenance foreman as soon as possible and place pavement break warning signs in advance of the site until such time as the pavement has been repaired.

15.3 The PERMITTEE is responsible for maintenance and adjustment of manhole frames, valve boxes, junction boxes or other structures located in the pavement or sidewalk.

15.4 The PERMITTEE shall apply for a new utility permit if the facility authorized by this permit is to be reconstructed or modified substantially. If the proposed modifications are not substantial, the PERMITTEE need only apply for an amended permit. A utility permit application is required for all new service connections.

SPECIAL PROVISIONS

The Standard Specifications for Civil Engineering Projects and Subdivision Improvements December 2003 Edition, with fourteen Errata Sheets, as published by the City and Borough of Juneau, is part of these Contract Documents and shall pertain to all phases of the contract. The Standard Specifications for Civil Engineering Projects and Subdivision Improvements December 2003 Edition is available for a fee from the City and Borough of Juneau Engineering Contracts Office, (907) 586-0873, or you may view them online at: <https://beta.juneau.org/engineering-public-works/standard-specifications>.

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SPECIAL PROVISIONS

Add the following Section:

SECTION 01010 SUMMARY OF WORK

PART 1 - GENERAL

1.1 GENERAL

- A. The WORK to be performed under this contract shall consist of furnishing all tools, equipment, materials, supplies, and manufactured articles and furnishing all labor, transportation, and services, including fuel, power, water, and essential communications, and performing all WORK, or other operations required for the fulfillment of the contract in strict accordance with the Contract Documents. The WORK shall be complete, and all work, materials, and services not expressly indicated or called for in the Contract Documents, including work stipulated in the permits attached to this contract, which may be necessary for the complete and proper construction of the WORK in good faith shall be provided by the CONTRACTOR as though originally so indicated, at no increase in cost to the OWNER.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. The WORK covered in the Contract Documents includes retrofit of two wastewater lift stations (pump stations) including demolition and replacement of wet well pumps, discharge piping and support brackets, pump rails, hardware, drain piping and valves, valve vault discharge piping and valves, force main connections, wet well and valve vault concrete lids and aluminum access hatches, on-grade concrete slabs surrounding pump stations, pump electrical gear, conduit and conductors, wet well level sensors and related equipment, demolition and replacement of the existing Channel Drive pump station control panel and installation of a pre-engineered fiberglass shelter on a slab-on-grade. Bypass pumping will be required to maintain wastewater service to the two associated sewer catchment areas, startup and testing of the two pump stations, and all ancillary work resulting in the functional performance of the pump stations.

1.3 CONTRACT METHOD

- A. The WORK, hereunder, will be constructed under a unit-price contract.

1.4 WORK BY OTHERS

- A. The CONTRACTOR's attention is directed to the fact that work may be conducted at the site by other contractors during the performance of the WORK under this contract. The CONTRACTOR shall conduct its operations so as to cause a minimum of interference with the WORK of such other contractors and shall cooperate fully with such contractors to provide continued safe access to their respective portions of the site, as required to perform work under their respective contracts.

- B. Interference With Work On Utilities: The CONTRACTOR shall cooperate fully with all utility forces of the OWNER or forces of other public or private agencies engaged in the relocation, altering, or otherwise rearranging of any facilities which interfere with the progress of the WORK, and shall schedule the WORK so as to minimize interference with

SPECIAL PROVISIONS

said relocation, altering, or other rearranging of facilities.

1.5 CONTRACTOR USE OF PROJECT SITE

- A. The CONTRACTOR's use of the Project site shall be limited to its construction operations, including on-site storage of materials, on-site fabrication facilities, and field offices.

1.6 OWNER USE OF THE PROJECT SITE

- A. The OWNER may utilize all or part of the existing site during the entire period of construction for the conduct of the OWNER's normal operations. The CONTRACTOR shall cooperate and coordinate with the ENGINEER to facilitate the OWNER's operations and to minimize interference with the CONTRACTOR's operations at the same time. In any event, the OWNER shall be allowed access to the project site during the period of construction.

1.7 PROJECT MEETINGS

A. Pre-Construction Conference

1. Prior to the commencement of WORK at the site, a Pre-Construction Conference will be held at a mutually agreed time and place which shall be attended by the CONTRACTOR's Project Manager, its superintendent, and its subcontractors as the CONTRACTOR deems appropriate. Other attendees will be:
 - a. ENGINEER and the Inspector.
 - b. Representatives of OWNER.
 - c. Governmental representatives as appropriate.
 - d. Others as requested by CONTRACTOR, OWNER, or ENGINEER.
2. Unless previously submitted to the ENGINEER, the CONTRACTOR shall bring to the Pre-Construction Conference one copy each of the following:
 - a. Plan of Operation.
 - b. Project Overview Bar Chart Schedule.
 - c. Procurement schedule of major equipment and materials and items requiring long lead time.
 - d. Shop Drawing/Sample/Substitute or "Or Equal" submittal schedule.
 - e. Name and telephone number of CONTRACTOR'S Project Supervisor.
3. The purpose of the Pre-Construction Conference is to designate responsible personnel and establish a working relationship. Matters requiring coordination will be discussed and procedures for handling such matters established. The complete agenda will be furnished to the CONTRACTOR prior to the meeting date.

The CONTRACTOR should be prepared to discuss all of the items listed below:

- a. Status of CONTRACTOR's insurance and bonds.
- b. CONTRACTOR's tentative schedules.

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- c. Transmittal, review, and distribution of CONTRACTOR's submittals.
 - d. Processing applications for payment.
 - e. Maintaining record documents.
 - f. Critical work sequencing.
 - g. Field decisions and Change Orders.
 - h. Use of project site, office and storage areas, security, housekeeping, and OWNER's needs.
 - i. Major equipment deliveries and priorities.
 - j. CONTRACTOR's assignments for safety and first aid.
 - k. Erosion Control Plan as required by the Alaska Dept. of Natural Resources.
 - l. Permit requirements of the Alaska Dept. of Transportation and Public Facilities.
4. The OWNER will preside at the Pre-construction Conference and will arrange for keeping and distributing the minutes to all persons in attendance.

B. Progress Meetings

1. The CONTRACTOR shall schedule and hold regular on-site progress meetings at least weekly and at other times as requested by the ENGINEER, or as required by progress of the WORK. The CONTRACTOR, ENGINEER, and all subcontractors active on the site must attend each meeting. CONTRACTOR may at its discretion request attendance by representatives of its suppliers, manufacturers, and other Subcontractors.
2. The ENGINEER shall preside at the meetings and will arrange for keeping and distributing the minutes. The purpose of the meetings will be to review the progress of the WORK, maintain coordination of efforts, discuss changes in scheduling, and resolve other problems which may develop. During each meeting, the CONTRACTOR is required to present issues which may impact his work, with a view to resolve these issues expeditiously.

1.8 DEFINITIONS APPLICABLE TO TECHNICAL SPECIFICATIONS

- A. The following words have the meaning defined in the Technical Portions of the WORK:

Furnish - means to supply and deliver to the site, to unload and unpack ready for assembly, installation, testing, and startup.

Indicated - is a word used to direct the CONTRACTOR to information contained on the drawings or in the Specifications. Terms such as "shown," "noted," "scheduled," and "specified" also may be used to assist in locating information but no limitation of location is implied or intended.

Install - defines operations at the site including assembly, erection, placing, anchoring, applying, shaping to dimension, finishing, curing, protecting, and cleaning, ready for the OWNER's use.

Installer - a person or firm engaged by the CONTRACTOR or its subcontract or any subcontractor for the performance of installation, erection, or application work at the site. Installers must be expert in the operations they are engaged to perform.

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Provide - is defined as furnish and install, ready for the intended use.

PART 2 PRODUCTS (Not Used)

PART 3 EXECUTION (Not Used)

END OF SECTION

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Add the following Section:

SECTION 01025 – MEASUREMENT AND PAYMENT

PART 1 - GENERAL

1.1 SCOPE

- a. Payment for the various items of the Bid Schedule, as further specified herein, shall include all compensation to be received by the CONTRACTOR for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals appurtenant to the items for WORK being described, as necessary to complete the various items of the WORK all in accordance with the requirements of the Contract Documents, including all appurtenances thereto, and including all costs of permits and cost of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of Occupational Safety and Health Administration of the U.S. Department of Labor (OSHA) and Occupational Safety and Health Standards of the Alaska Department of Labor, Division of Labor Standards and Safety.
- b. No separate payment will be made for any Pay Item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of WORK.
- c. In addition to the other incidental items of WORK listed elsewhere in the contract, the following items shall also be considered as incidental to other items of WORK under this contract:
 - i. Maintenance of all services through the Project area including power, water, storm and sanitary sewers, garbage pickup, mail delivery, and emergency vehicles.
 - ii. Traffic control, including flaggers, and installation and maintenance of traffic control devices in accordance with the Manual of Uniform Traffic Control Devices – Millennium Edition (MUTCD) and the current AKDOT&PF supplements.
 - iii. Lane shift, closure, or and other traffic control permits required by AKDOT&PF for work within AKDOT&PF Right-of-Way (ROW).
 - iv. Repair or replacement of existing adjacent facilities including piping, landscaping, steel, timber, concrete and asphalt items.
 - v. Final clean-up and site restoration.
 - vi. All WORK necessary for coordination of work to be accomplished by the private utility companies and property owners within the Project limits.
 - vii. Removal and replacement of survey monuments and markers disturbed during construction, whether shown on the Drawings or not.
 - viii. Watering of the roadway as necessary for dust control.
 - ix. All fittings (except CPP and CMP saddle tees) required for storm, water and sanitary sewer pipes.
 - x. All WORK required to notify utility users of pending utility shut-downs.

1.2 MOBILIZATION (Pay Item No. 1505.1) PRICE BASED ON LUMP SUM PAY UNIT

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- a. Measurement for payment for Mobilization will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Payment for Mobilization will be made at the amount shown on the Bid Schedule under Pay Item No. 1505.1, which payment will constitute full compensation for all WORK described in Section 01505 - Mobilization, as shown on the Drawings and as directed by the ENGINEER.
- c. Partial payments will be made as the WORK progresses as follows:
 - i. When 5% of the total original contract amount is earned from other Pay Items, 50% of the amount bid for Mobilization, or 5% of the original contract amount, whichever is lesser, will be paid.
 - ii. When 10% of the total original contract amount is earned from other Pay Items, 100% of the amount bid for Mobilization, or 10% of the original contract amount, whichever is lesser, will be paid.
 - iii. Upon completion of all WORK on the Project, payment of any amount bid for Mobilization in excess of 10% of the total contract amount will be paid.

1.3 EROSION AND SEDIMENT CONTROL (Pay Item No. 1570.1) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment for Erosion and Sediment Control will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Payment for Erosion and Sediment Control will be made at the amount shown on the Bid Schedule under Pay Item No. 1570.1, which payment will constitute full compensation for all WORK described in Section 01570 – Erosion and Sediment Control, as shown on the Drawings and as directed by the ENGINEER.

1.4 DEMOLITION OF EXISTING LIFT STATIONS (Pay Item No. 2050.1) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment for Demolition of Existing Lift Station will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Payment for Demolition of Existing Lift Station includes, but is not limited to, removal and disposal of the existing Channel Drive and Channel Vista Lift Station pumps, control panels, piping to and from the lift station, fittings, brackets, hardware, electrical conduit and conductors, electrical gear and equipment, , concrete top slabs, asphalt pavement, and miscellaneous ancillary items as indicated in the Drawings.
- c. Payment for Demolition of Existing Lift Station will be made at the amount shown on the Bid Schedule under Pay Item No. 2050.1, which payment will constitute full compensation for all WORK described in Section 02050 – DEMOLITION, as shown on the Drawings,

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and as directed by the ENGINEER.

- 1.5 CLEARING AND GRUBBING (Pay Item No. 2201.1) PRICE BASED ON LUMP SUM PAY UNIT
- a. Measurement for payment for Clearing and Grubbing will be based on upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
 - b. WORK under this Pay Item includes clearing the project site to the limits shown on the Drawings, all in accordance with the Contract Documents and as directed by the ENGINEER.
 - c. Payment for Clearing and Grubbing will be made at the amount shown on the Bid Schedule under Pay Item No. 2201.1, which payment will constitute full compensation for all WORK described in Section 02201 – Clearing and Grubbing, as shown on the Drawings and as directed by the ENGINEER.
- 1.6 CONSTRUCTION SURVEYING (Pay Item No. 2702.1) PRICE BASED ON LUMP SUM PAY UNIT
- a. Measurement for payment of Construction Surveying will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
 - b. Payment for Construction Surveying will be made at the amount named in the Bid Schedule under Pay Item No. 2702.1, which payment will constitute full compensation for all WORK described in Section 02702 - Construction Surveying, as shown on the Drawings and as directed by the ENGINEER.
- 1.7 STRUCTURAL CONCRETE (Pay Item No. 3301.1) PRICE BASED ON UNIT PRICE PAY UNIT
- a. Measurement for payment of Structural Concrete will be based upon the completion of the entire WORK as a Cubic Yard Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
 - b. Payment for Structural Concrete will be made at the amount named in the Bid Schedule under Pay Item No. 3301.1, which payment will constitute full compensation for all WORK described in Section 3301 - Structural Concrete, as shown on the Drawings and as directed by the ENGINEER.
- 1.8 CHANNEL DRIVE PUMP STATION (Pay Item No 11176.1) PRICE BASED ON LUMP SUM PAY UNIT
- a. Measurement for payment of Channel Drive Pump Station will be based upon the completion of the entire WORK as Lump Sum Pay Units, complete, all in accordance with the requirements of the Contract Documents.

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- b. Channel Drive Pump Station shall include but not be limited to all wet well and valve vault piping to the force main tie in points including the buried piping between the concrete vaults, required trenching, backfill and compaction, timber bollards, the wet well and valve vault top slab/lid and hatches, frames, water proofing ; all pipe, valves, fittings, pumps, control panels, rails, equipment, supports, vent pipe, drain pipe, concrete penetrations and seals, nuts, bolts, and other miscellaneous items necessary for a complete installation; pumping and bypass plan and all pumping of sewage to ensure continuous service from the existing Channel Drive Pump Stations; all testing, warranties, operation and technical data as required; dewatering, and any other material and WORK necessary for a complete, working and acceptable installation.
- c. Payment for Channel Drive Pump Station will be made at the amount shown in the Bid Schedule under Pay Item No. 11176.1, which payment will constitute full compensation for all WORK described in SECTION 11176 – SEWAGE PUMP STATION, as described in the Contract Documents and as directed by the ENGINEER.

1.9 CHANNEL DRIVE BYPASS PUMPING (Pay Item No. 11176.1(A))

- a. Measurement for payment of Channel Drive Bypass Pumping will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete all in accordance with the requirements of the Contract Documents.
- b. Bypass pumping shall include all materials, those detailed in the plans and specifications, and those incidental as required to complete the work in a safe manner to ensure continuous sewer service to the upstream sewer basins from the existing Channel Drive Pump Station for the duration of construction.
- c. Payment for Channel Drive Bypass Pumping will be made at the amount shown in the Bid Schedule under Pay Item No. 11176.1(A), which payment will constitute full compensation for all WORK described in SECTION 11176 – SEWAGE PUMP STATION, as described in the Contract Documents and as directed by the Engineer.

1.10 CHANNEL VISTA PUMP STATION (Pay Item No 11176.2) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment of Channel Vista Pump Station will be based upon the completion of the entire WORK as Lump Sum Pay Units, complete, all in accordance with the requirements of the Contract Documents.
- b. Channel Vista Pump Station shall include but not be limited to all wet well and valve vault piping to the force main tie in points including the buried piping between the concrete vaults, required trenching, backfill and compaction, the wet well and valve vault top slab/lid with integral hatches, frames, water proofing, and concrete pad around the wet well and valve vault; all pipe, valves, fittings, pumps, control panels, rails, equipment, supports,

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drain pipe, concrete penetrations and seals, nuts, bolts, and other miscellaneous items necessary for a complete installation;; all testing, warranties, operation and technical data as required; dewatering, and any other material and WORK necessary for a complete, working and acceptable installation.

- c. Payment for Channel Vista Pump Station will be made at the amount shown in the Bid Schedule under Pay Item No. 11176.1, which payment will constitute full compensation for all WORK described in SECTION 11176 – SEWAGE PUMP STATION, as described in the Contract Documents and as directed by the ENGINEER.

1.11 CHANNEL VISTA BYPASS PUMPING (Pay Item No. 11176.2(A))

- a. Measurement for payment of Channel Vista Bypass Pumping will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete all in accordance with the requirements of the Contract Documents.
- b. Bypass pumping shall include all materials, those detailed in the plans and specifications, and those incidental as required to complete the work in a safe manner to ensure continuous sewer service to the upstream sewer basins from the existing Channel Vista Pump Station for the duration of construction.
- c. Payment for Channel Vista Bypass Pumping will be made at the amount shown in the Bid Schedule under Pay Item No. 11176.2(A), which payment will constitute full compensation for all WORK described in SECTION 11176 – SEWAGE PUMP STATION, as described in the Contract Documents and as directed by the Engineer.

1.12 CHANNEL DRIVE PUMP STATION ELECTRICAL AND CONTROLS HUT (Pay Item No. 13122.1) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment of Channel Drive Pump Station Electrical and Controls Hut will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Channel Drive Pump Station Electrical and Controls Hut shall include, but not be limited to all site work, earthwork, furnishing and installation of, with all associated systems and accessories, and any other material and WORK necessary for a complete, working, and acceptable installation for the Channel Drive Pump Station as shown on the civil and electrical Drawings and included in DIVISION 260000 – ELECTRICAL. The installation of the pump control panel, electrical gear, pump and controls related wiring, and level sensor installation is NOT included in this item.
- c. Payment for Channel Drive Pump Station Electrical and Controls Hut will be made at the amount shown in the Bid Schedule under Pay Item No. 13122.1, which payment will constitute full compensation for all WORK described in DIVISION 13122.1 – Pre-

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Engineered FRP Enclosure , as described in the Contract Documents and as directed by the ENGINEER.

1.13 CHANNEL DRIVE PUMP STATION ELECTRICAL (Pay Item No. 260000.1) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment of Channel Drive Pump Station Electrical will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Channel Drive Pump Station Electrical shall include, but not be limited to all electrical work, earthwork, concrete, metal fabrication, conduit and wiring, electrical controls, switches, power connections, conduit, buried conduit, pull boxes, panel boards, transformers, standby generator with all associated systems and accessories, standby generator receptacle, alarms, testing, warranties, operations and technical data as required, and any other material and WORK necessary for a complete, working, and acceptable installation for the Channel Drive Pump Station as shown on the electrical Drawings and included in DIVISION 260000 – ELECTRICAL. The installation of the pump control panel, pump wiring, and level sensor installation is included in this Specification section.
- c. Payment for Channel Drive Pump Station Electrical will be made at the amount shown in the Bid Schedule under Pay Item No. 260000.1, which payment will constitute full compensation for all WORK described in DIVISION 260000 – ELECTRICAL, as described in the Contract Documents and as directed by the ENGINEER. The provision of the pumps, pump control panel and level sensor are included in the Sewer Pump Station specification section and paid for under CHANNEL DRIVE PUMP STATION (Pay Item No. 260000.1). The installation of the pump control panel, level sensor and wiring for the pumps is included in the electrical specification sections (Division 260000) and paid for under this pay item. All other electrical work on this project shall be considered incidental to this pay item and no other measurement for payment will be made.

1.14 CHANNEL DRIVE PUMP STATION AEL&P AND ACS SERVICE COORDINATION (Pay Item No. 260000.2) PRICE

- a. Measurement for payment of Channel Drive Pump Station AEL&P and ACS Service will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Channel Drive Pump Station AEL&P and ACS Service Coordination shall include coordination and scheduling with AEL&P and ACS to provide temporary and permanent service to the lift station. CBJ shall contract with AEL&P and ACS directly and make payments for work. The Contractor shall be responsible for availing the site and facilitating schedule for the AEL&P and ACS work.

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- c. Payment for Channel Drive Pump Station AEL&P and ACS Service will be made at the amount shown on the Bid Schedule under Pay Item No. 260000.2, which payment will constitute full compensation for all WORK described in DIVISION 260000 – ELECTRICAL, as described in the Contract Documents and as directed by the ENGINEER.

1.15 CHANNEL VISTA PUMP STATION ELECTRICAL (Pay Item No. 260000.3) PRICE BASED ON LUMP SUM PAY UNIT

- a. Measurement for payment of Channel Vista Pump Station Electrical will be based upon the completion of the entire WORK as a Lump Sum Pay Unit, complete, all in accordance with the requirements of the Contract Documents.
- b. Channel Vista Pump Station Electrical shall include, but not be limited to all electrical work, earthwork, concrete, metal fabrication, conduit and wiring, electrical controls, switches, power connections, conduit, buried conduit, pull boxes, panel boards, transformers, standby generator with all associated systems and accessories, standby generator receptacle, alarms, testing, warranties, operations and technical data as required, and any other material and WORK necessary for a complete, working, and acceptable installation for the Channel Vista Pump Station as shown on the electrical Drawings and included in DIVISION 260000 – ELECTRICAL. The installation of the pump control panel, pump wiring, and level sensor installation is included in this Specification section.
- c. Payment for Channel Vista Pump Station Electrical will be made at the amount shown in the Bid Schedule under Pay Item No. 260000.3, which payment will constitute full compensation for all WORK described in DIVISION 260000 – ELECTRICAL, as described in the Contract Documents and as directed by the ENGINEER. The provision of the pumps, pump control panel and level sensor are included in the Sewer Pump Station Specification section and paid for under CHANNEL VISTA PUMP STATION (Pay Item No. 260000.3). The installation of the pump control panel, level sensor and wiring for the pumps is included in the electrical specification sections (Division 26000) and paid for under this pay item. All other electrical work on this project shall be considered incidental to this pay item and no other measurement for payment will be made.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SECTION

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SECTION 01300 – CONTRACTOR SUBMITTALS

PART 1 – GENERAL

1.1 GENERAL

- A. Wherever submittals are required hereunder, all such submittals shall be submitted to the ENGINEER by the CONTRACTOR.
- B. Within 14 Days after the date of commencement as stated in the Notice To Proceed, the CONTRACTOR shall submit the following items to the ENGINEER for review:
 - 1. A preliminary schedule of Shop Drawings, sample, and proposed substitutes or “or-equal” submittals.
 - 2. A list of all permits and licenses the CONTRACTOR shall obtain indicating the agency required to grant the permit and the expected date of submittal for the permit and required date for receipt of the permit.
 - 3. A complete progress schedule for all phases of the Project.
 - 4. Material Safety Data Sheets on products used on the Project.
 - 5. A traffic maintenance plan, as required.
 - 6. A plan for temporary erosion control and pollution control, as required.
 - 7. A letter designating the CONTRACTOR’s Superintendent, defining that person’s responsibility and authority.
 - 8. A letter designating the CONTRACTOR’s safety representative and the Equal Employment Opportunity (EEO) Officer and that person’s responsibility and authority.
 - 9. Individual Mining Plan shall be submitted and approved, by CBJ Engineering, prior to any materials extraction from the CBJ/State Lemon Creek Gravel Pit.
- C. No payments shall be made to the CONTRACTOR until all of these items are submitted in their entirety, as determined by the ENGINEER.

1.2 SHOP DRAWING SUBMITTAL

- A. Wherever called for in the Contract Documents, or where required by the ENGINEER, the CONTRACTOR shall furnish to the ENGINEER, for review, eight (8) copies of each Shop Drawing submittal. The term “Shop Drawings” as used herein shall be understood to include detail design calculations, Shop Drawings, fabrication drawings, installation drawings, erection drawings, lists, graphs, operating instructions, catalog sheets, data sheets, and similar items.
- B. All Shop Drawing submittals shall be accompanied by the CONTRACTOR’s standard submittal transmittal form. Any submittal not accompanied by such a form, or where all applicable items on the form are not completed, will be returned for re-submittal.
- C. Normally, a separate transmittal form shall be used for each specific item or class of material or equipment for which a submittal is required. Transmittal of a submittal of various items using a single transmittal form will be permitted only when the items taken together constitute a manufacturer’s “package” or are so functionally related that expediency indicates review of the group or package as a whole. A multiple-page submittal

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shall be collated into sets, and each set shall be stapled or bound, as appropriate, prior to transmittal to the ENGINEER.

- D. Except as may otherwise be provided herein, the ENGINEER will return prints of each submittal to the CONTRACTOR with its comments noted thereon, within 30 calendar days following receipt of them by the ENGINEER. It is considered reasonable that the CONTRACTOR shall make a complete and acceptable submittal to the ENGINEER by the second submission of a submittal item. The OWNER reserves the right to withhold monies due to the CONTRACTOR to cover additional costs of the ENGINEER's review beyond the second submittal. The ENGINEER's maximum review period for each submittal including all re-submittals will be 30 days per submission. In other works, for a submittal that requires two re-submittals before it is complete, the maximum review period for that submittal could be 90 days.
- E. If three (3) copies of a submittal are returned to the CONTRACTOR marked "NO EXCEPTIONS TAKEN," formal revision and resubmission of said submittal will not be required.
- F. If three (3) copies of a submittal are returned to the CONTRACTOR marked "MAKE CORRECTIONS NOTED," formal revision and resubmission of said submittal is not required.
- G. If one (1) copy of the submittal is returned to the CONTRACTOR marked "AMEND-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- H. If one (1) copy of the submittal is returned to the CONTRACTOR marked "REJECTED-RESUBMIT," the CONTRACTOR shall revise said submittal and shall resubmit the required number of copies of said revised submittal to the ENGINEER.
- I. Fabrication of an item may be commenced only after the ENGINEER has reviewed the pertinent submittal and returned copies to the CONTRACTOR marked either "NO EXCEPTIONS TAKEN" or "MAKE CORRECTIONS NOTED." Corrections indicated on submittals shall be considered as changes necessary to meet the requirements of the Contract Documents and shall not be taken as the basis for changes to the Contract requirements only a Change Order can alter the Contract Price, Contract Time, or Specifications.
- J. All CONTRACTOR Shop Drawing submittals shall be carefully reviewed by an authorized representative of the CONTRACTOR, prior to submission to the ENGINEER. Each submittal shall be dated, signed, and certified by the CONTRACTOR, as being correct and in strict conformance with the Contract Documents. In the case of Shop Drawings, each sheet shall be dated, signed, and certified. No consideration for review by the ENGINEER of any CONTRACTOR submittal will be made for any items which have not been so certified by the CONTRACTOR. All non-certified submittals will be returned to the CONTRACTOR without action taken by the ENGINEER, and any delays caused by thereby shall be the total responsibility of the CONTRACTOR.
- K. The ENGINEER's review of CONTRACTOR Shop Drawing submittals shall not relieve the CONTRACTOR of the entire responsibility for the correctness of details and dimensions. The CONTRACTOR shall assume all responsibility and risk for any misfits

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due to any errors in CONTRACTOR submittals. The CONTRACTOR shall be responsible for the dimensions and the design of adequate connections and details.

1.3 SAMPLES SUBMITTAL

- A. Whenever in the Specifications samples are required, the CONTRACTOR shall submit not less than three (3) samples of each item or material to the ENGINEER for acceptance at not additional cost to the OWNER.
- B. Samples, as required herein, shall be submitted for acceptance a minimum of 21 days prior to ordering such material for delivery to the job site, and shall be submitted in an orderly sequence so that dependent materials or equipment can be assembled and reviewed without causing delays in the WORK.
- C. All samples shall be individually and indelibly labeled or tagged indicating thereon all specified physical characteristics and supplier's names for identification and submitted to the ENGINEER for acceptance. Upon receiving acceptance of the ENGINEER, one (1) set of the samples will be stamped and dated by the ENGINEER and returned to the CONTRACTOR, and one (1) set of samples will be retained by the ENGINEER, and one (1) set of samples shall remain at the job site until completion of the WORK.
- D. Unless clearly stated otherwise, it is assumed that all colors and textures of specified items presented in sample submittal are from the manufacturer's standard colors and standard materials, products, or equipment lines. If the samples represent non-standard colors, materials, products or equipment lines, and their selection will require an increase in Contract Time or Contract Price, the CONTRACTOR will clearly indicate this on the transmittal page of the submittal.

1.4 OPERATIONS AND MAINTENANCE MANUAL SUBMITTAL

- A. The CONTRACTOR shall include in the Operations and Maintenance Manuals for each item of mechanical, electrical, and instrumentation equipment, the following:
 - 1. Complete operating instructions, including location of controls, special tools or other equipment required, related instrumentation, and other equipment needed for operation.
 - 2. Lubrication schedules, including the lubricant SAE grade and type, temperature range of lubricants, and including frequency of required lubrication.
 - 3. Preventive maintenance procedures and schedules.
 - 4. Parts lists, by generic title and identification number, complete, with exploded views of each assembly.
 - 5. Disassembly and reassembly instructions.
 - 6. Name and location of nearest supplier and spare parts warehouse.
 - 7. Recommended troubleshooting and startup procedures.
 - 8. Reproducible prints of the record Drawings, including diagrams and schematics, as required under the electrical and instrumentation portions of these Specifications.
 - 9. Tabulation of proper settings for all pressure relief valves, (low/high) pressure switches and other related equipment protection devices.
 - 10. Detailed test procedures to determine performance efficiency of equipment.
 - 11. List of all electrical relay settings including alarm and contract settings.

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- B. The CONTRACTOR shall furnish to the ENGINEER five identical sets of technical manuals. Each set shall consist of one or more volumes, each of which shall be bound in a standard size, 3-ring, loose-leaf vinyl plastic hard cover binder suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches. A table of contents shall be provided which indicates all equipment in the technical manuals.
- C. All technical manuals shall be submitted complete and in final form to the ENGINEER prior to the requests for final payment.
- D. Incomplete or unacceptable Operations and Maintenance Manuals shall constitute sufficient justification to withhold payment for WORK completed.

1.5 SPARE PARTS LIST SUBMITTAL

- A. The CONTRACTOR shall furnish to the ENGINEER five (5) identical sets of spare parts information for all mechanical, electrical, and instrumentation equipment. The spare parts list shall include the current list price of each spare part. The spare parts list shall be limited to those spare parts which each manufacturer recommends be maintained by the OWNER in the inventory at the plant site. Each manufacturer or supplier shall indicate the name, address, and telephone number of its nearest outlet of spare parts to facilitate the OWNER in ordering. The CONTRACTOR shall cross-reference all spare parts lists to the equipment numbers designated in the Contract Documents. The spare parts lists shall be bound in standard size, 3-ring, loose leaf, vinyl plastic hard cover binders suitable for bookshelf storage. Binder ring size shall not exceed 2.5 inches.

1.6 RECORD DRAWINGS SUBMITTALS

- A. The CONTRACTOR shall keep and maintain, at the job site, one record set of Drawings. On these, it shall mark all project conditions, locations, configurations, and any other changes or deviations which may vary from the details represented on the original Contract Drawings, including buried or concealed construction and utility features which are revealed during the course of construction. Special attention shall be given to recording the horizontal and vertical location of all buried utilities that differ from the locations indicated, or which were not indicated on the Contract Drawings. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to indicate, fully, the WORK as actually constructed. These master record Drawings, of the CONTRACTOR's representation of as-built conditions, including all revisions made necessary by Addenda, Change Orders, and the like shall be maintained up-to-date during the progress of the WORK.
- B. In the case of those Drawings which depict the detail requirement for equipment to be assembled and wired in the factory, such as motor control centers and the like, the record drawings shall be updated by indicating those portions which are superseded by Change Order Drawings or final Shop Drawings, and by including appropriate reference information describing the Change Orders by number and the Shop Drawings by manufacturer, Drawing, and revision numbers.
- C. Record drawings shall be accessible to the ENGINEER at all times during the construction period and shall be delivered to the ENGINEER on the 20th working day of every third

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month after the month in which the Notice to Proceed is given as well as upon completion of the WORK.

- D. Final payment will not be acted upon until the CONTRACTOR-prepared Record Drawings have been delivered to the ENGINEER.

1.7 PROGRESS SCHEDULES

- A. The progress schedule shall be in Bar Chart or Critical Path Method (CPM) form as required by the ENGINEER.
- B. The progress schedule shall show the order in which the CONTRACTOR proposes to carry out the WORK and the contemplated date on which the CONTRACTOR and their Subcontractors will start and finish each of the salient features of the WORK, including any scheduled periods of shutdown. The schedule shall also indicate any anticipated periods of multiple-shift WORK.
- C. Upon substantial changes to the CONTRACTOR's progress schedule of work or upon request of the ENGINEER, the CONTRACTOR shall submit a revised progress schedule(s) in the form required. Such revised schedule(s) shall conform with the contract time and take into account delays which may have been encountered in the performance of the WORK. In submitting a revised schedule, the CONTRACTOR shall state specifically the reason for the revision and the adjustments made in his schedule or methods of operation to ensure the completion of all the WORK within the contract time.

1.8 PROPOSED SUBSTITUTES OR "OR-EQUAL" ITEM SUBMITTAL

- A. Whenever materials or equipment are specified or described in the Contract Documents by using the name of a proprietary item or the name of a particular supplier, the naming of the item is intended to establish the type, function, and equality required. If the name is followed by the words "or-equal" indicating that a substitution is permitted, materials or equipment of other suppliers may be accepted by the ENGINEER if sufficient information is submitted by the CONTRACTOR to allow the ENGINEER to determine that the material or equipment proposed is equivalent or equal to that named, subject to the following requirements:
 - 1. The burden of proof as to the type, function, and quality of any such substitute material or equipment shall be upon the CONTRACTOR.
 - 2. The ENGINEER will be the sole judge as to the type, function, and quality of any such substitute material or equipment and the ENGINEER's decision shall be final.
 - 3. The ENGINEER may require the CONTRACTOR, to furnish at the CONTRACTOR's expense, additional data about the proposed substitute.
 - 4. The OWNER may require the CONTRACTOR to furnish at the CONTRACTOR's expense a special performance guarantee or other surety with respect to any substitute.
 - 5. Acceptance by the ENGINEER of a substitute item proposed by the CONTRACTOR shall not relieve the CONTRACTOR of the responsibility for full compliance with the Contract Documents and for adequacy of the substitute item.
 - 6. The CONTRACTOR shall be responsible for resultant changes and all additional costs which the accepted substitution requires in the CONTRACTOR's WORK, the WORK of its Subcontractors and of other contractors, and shall effect such

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changes without cost to the OWNER. This shall include the cost for redesign and claims of other Contractor affected by the resulting change.

- B. The procedure for review by the ENGINEER will include the following:
1. If the CONTRACTOR proposes to furnish or use a substitute item of material or equipment, the CONTRACTOR shall make written application to the ENGINEER on the "Substitution Request Form" for acceptance thereof.
 2. Unless otherwise provided by law or authorized in writing by the ENGINEER, the "Substitution Request Form(s)" shall be submitted within the 21-day period after Notice To Proceed.
 3. Wherever a proposed substitute material or equipment has not been submitted within said 21-day period, or wherever the submission of a proposed substitute material or equipment has been judged to be unacceptable by the ENGINEER, the CONTRACTOR shall provide material or equipment named in the Contract Documents.
 4. The CONTRACTOR shall certify that the proposed substitute will perform adequately the functions and achieve the results called for by the general design, be similar and of equal substance to that specified, and be suited to the same use as that specified.
 5. The ENGINEER will be allowed a reasonable time within which to evaluate each proposed substitute. In no case will this reasonable time period be less than 30 days.
 6. As applicable, no Shop Drawing submittals will be made for a substitute item nor will any substitute item be ordered, installed, or utilized without the ENGINEER's prior written acceptance of the CONTRACTOR's "Substitution Request Form" which will be evidenced by a Change Order.
 7. The ENGINEER will record the time required by the ENGINEER in evaluating substitutions proposed by the CONTRACTOR and in making changes in the Contract Documents occasioned thereby. Whether or not the ENGINEER accepts a proposed substitute, the CONTRACTOR shall reimburse the OWNER for the charges of the ENGINEER for evaluating each proposed substitute.
- C. The CONTRACTOR's application using the "Substitution Request Form" shall contain the following statements and/or information which shall be considered by the ENGINEER in evaluating the proposed substitution:
1. The evaluation and acceptance of the proposed substitute will not prejudice the CONTRACTOR's achievement of Substantial Completion on time.
 2. Whether or not acceptance of the substitute for use in the WORK will require a change in any of the Contract Documents to adopt the design to the proposed substitute.
 3. Whether or not incorporation or use of the substitute in connection with the WORK is subject to payment of any license fee or royalty.
 4. All variations of the proposed substitute for that specified will be identified.
 5. Available maintenance, repair, and replacement service and its estimated cost will be indicated.
 6. Itemized estimate of all costs that will result directly or indirectly from acceptance of such substitute, including cost of redesign and claims of other contractors affected by the resulting change.

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1.9 MATERIAL CERTIFICATION SUBMITTAL

- A. The ENGINEER may permit the use, prior to sampling, inspection and testing, of certain materials or assemblies when accompanied by manufacturer's material certifications stating that such materials or assemblies fully comply with the requirements of the Contract. The certification shall be signed by the manufacturer, and will specifically reference the material's compliance with the AASHTO, ASTM and/or CBJ Standards specified in the applicable Contract Documents.
- B. Material certifications shall be submitted to the ENGINEER prior to incorporating the item into the WORK.
- C. Materials or assemblies used on the basis of material certifications may be sampled, inspected and/or tested at any time, and if found not in conformity with these specifications, will be subject to rejection whether in place or not.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

(SUBSTITUTION REQUEST FORM - next page)

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**CBJ Engineering Department
SUBSTITUTION REQUEST FORM**

TO: _____ Project: _____

Contract No.: _____

OWNER: _____

SPECIFIED ITEM:

Section	Page	Paragraph	Description
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The undersigned requests consideration of the following:

PROPOSED SUBSTITUTION: _____
Attached data includes product description, specifications, drawings, photographs, performance and test data adequate for evaluation of the request. Applicable portions of the data are clearly identified.

The undersigned states that the following paragraphs, unless modified on attachments are correct:

1. The proposed substitution does not affect dimensions shown on Drawings and will not require a change in any of the Contract Documents.
2. The undersigned will pay for changes to the design, including engineering design, detailing, and construction costs caused by the requested substitution which is estimated to be \$_____.
3. The proposed substitution will have no adverse effect on other contractors, the construction schedule (specifically the date of substantial completion), or specified warranty requirements.
4. Maintenance and service parts will be locally available for the proposed substitution.
5. The incorporation or use of the substitute in connection with the WORK is not subject to payment of any license fee or royalty.

The undersigned further states that the function, appearance, and quality of the Proposed Substitution are equivalent or superior to the Specified item.

Submitted by CONTRACTOR: _____	Reviewed by ENGINEER _____
Signature _____	<input type="checkbox"/> Accepted <input type="checkbox"/> Accepted as Noted
Firm: _____	<input type="checkbox"/> Not Accepted <input type="checkbox"/> Received Too Late
By: _____	Date: _____
Title: _____	Telephone: _____
Date: _____	
Attachments: _____	

END OF SECTION

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SECTION 01700 – PROJECT CLOSE-OUT, PART 1 – GENERAL, *Replace the* COMPLIANCE CERTIFICATE AND RELEASE FORM *with the following forms:*

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COMPLIANCE CERTIFICATE AND RELEASE FORM

PROJECT: Channel Drive & Channel Vista Pump Station Rehabilitation
CONTRACT NO: BE21-148

The **CONTRACTOR** must complete and submit this form to the Contract Administrator with respect to the entire contract and submit completed Subcontractor Compliance forms for each Subcontractor used on the Contract and listed on the Subcontractor report.

Completed forms shall be submitted upon completion of the Project. All requirements and submittals must be met before final payment will be made to the **CONTRACTOR**.

I certify that the following and any referenced attachments are true:

- All **WORK** has been performed, materials supplied, and requirements met in accordance with the applicable Drawings, Specifications, and Contract Documents.
- All payments to Subcontractors and Suppliers have been made in accordance with Alaska Statute 36.90.210. If not, please provide written explanation, for each case, why and the specific mutual payment agreement reached with the Supplier or Subcontractor.

- **CHECK ONE:**

- All Suppliers and Subcontractors have been paid in full with no claims for labor, materials or other services outstanding.
- The following Suppliers and Subcontractors are due final payment which will be made upon the release of the final payment by the CBJ. List the Suppliers and Subcontractors and the amount they are due below (attach separate sheet if necessary) :

	Supplier or Subcontractor	Amount Owed
1.		\$
2.		\$
3.		\$
4.		\$
5.		\$
6.		\$
7.		\$

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- All employees have been paid not less than the current prevailing wage rates set by the State of Alaska (or U.S. Department of Labor, as applicable).
- All equal employment opportunity, certified payroll and other reports have been filed in accordance with the prime contract.
- The attached list of Subcontractors is complete (required from CONTRACTOR). The City Engineer was advised and approved of all Subcontractors before WORK was performed and has approved any substitutions of Subcontractors.
- All DBE firms listed as a precondition of the prime contract award must have performed a commercially useful function in order for the WORK to count to a DBE goal. All DBE firms performed the WORK stated and have received at least the amount claimed for credit in the Contract Documents.
- All DBE Subcontractors must attach a signed statement of the payment amount received, the nature of WORK performed, whether any balance is outstanding, and indicate that no rebates are involved.
- If the amount paid is less than the amount originally claimed for DBE credit, the CONTRACTOR has attached approval from the City Engineer for underutilization.

I understand it is unlawful to misrepresent information in order to receive a payment which would otherwise be withheld if these conditions were not met. I am an authorized agent of this firm and sign this freely and voluntarily. The foregoing statements are true and apply to the following project contractor.

Firm Name Capacity: CONTRACTOR

Signature Printed Name and Title Date

Return completed form to: Engineering Contracts Division, City and Borough of Juneau, 155 South Seward Street, Juneau, AK 99801 or by email to: contracts@juneau.org

Call (907) 586-0873 if we can be of further assistance or if you have any questions.

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SUBCONTRACTOR COMPLIANCE CERTIFICATE AND RELEASE FORM

PROJECT: Channel Drive & Channel Vista Pump Station Rehabilitation
CONTRACT NO: BE21-148

Each **SUBCONTRACTOR** must complete and submit this form to the Contract Administrator, through the General Contractor, with respect to the entire contract.

Completed forms shall be submitted upon completion of the Project. All requirements and submittals must be met before final payment will be made to the CONTRACTOR.

I certify that the following and any referenced attachments are true:

- All WORK has been performed, materials supplied, and requirements met in accordance with the applicable Drawings, Specifications, and Contract Documents.

- _____(name of firm) has been paid by the Contractor in accordance with Alaska Statute 36.90.210. (If not, please provide written explanation on an attached sheet, for each case. Provide specific details why payment was not made and the specific mutual payment agreement reached with the Contractor if it is still unresolved.)

- CHECK ONE:
 - I / WE have been paid in full by the Contractor, with no claims for labor, materials or other services outstanding.

 - I / WE are due the following amount from the Contractor which is included in the Contractors Request for Final Payment. WE are due a total of \$ _____ for the following individual items that have yet to be paid (attach separate sheet if necessary).

	Outstanding Payment Item	Outstanding Amount Owed
1.		\$
2.		\$
3.		\$
4.		\$
5.		\$
6.		\$

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- All employees have been paid not less than the current prevailing wage rates set by the State of Alaska (or U.S. Department of Labor, as applicable).
- All equal employment opportunity, certified payroll and other reports have been filed in accordance with the prime contract.

I understand it is unlawful to misrepresent information in order to receive a payment which would otherwise be withheld if these conditions were not met. I am an authorized agent of this firm and sign this freely and voluntarily. The foregoing statements are true and apply to the following project contractor.

Firm Name Capacity: SUBCONTRACTOR

Signature Printed Name and Title Date

Prime Contractor shall return completed form to: Engineering Contracts Division, City and Borough of Juneau, 155 South Seward Street, Juneau, AK 99801 or email: greg.smith@juneau.org Call (907) 586-0873 if we can be of further assistance or if you have any questions.

END OF SECTION

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Add the following section:

SECTION 02050 – DEMOLITION

PART 1 – GENERAL

1.1 THE REQUIREMENT

- A. Prior to the start of the WORK, the CONTRACTOR shall coordinate with the OWNER regarding items from the existing lift station to be delivered to CBJ Wastewater by the CONTRACTOR. The CONTRACTOR shall dispose of all other items at the CONTRACTOR's expense.
- B. The CONTRACTOR shall furnish materials, equipment, and labor necessary to perform and complete demolition WORK called for in the Contract Documents.
- C. The existing Channel Drive and Channel Vista Lift Stations along with pumps, piping, electrical, Channel Drive electrical control panel shall be demolished as shown, in an orderly and careful manner.
- D. The WORK shall include, but not be limited to, removal and disposal of existing piping, pumps, pump housing, and mechanical.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 11176 Sewage Pump Station
- B. Division 26 Electrical

1.3 REFERENCE SPECIFICATIONS, CODES, AND STANDARDS

- A. All codes, as referenced herein, are specified in Section 01090, "Reference Standards."

1.4 CONTRACTOR SUBMITTALS

- A. Demolition Schedule: The CONTRACTOR shall submit a complete coordination schedule for demolition WORK including shut-off and continuation of utility services prior to start of the WORK. The schedule shall indicate proposed methods and operations of facility demolition and provide a detailed sequence of demolition and removal WORK to ensure uninterrupted operation of occupied areas.

1.5 JOB CONDITIONS

- A. Condition of Facilities: OWNER assumes no responsibility for actual condition of facilities to be demolished. The CONTRACTOR shall visit the site and inspect the existing facilities.

END OF SECTION

SPECIAL PROVISIONS

SECTION 02203 – TRENCHING, PART 2 - MATERIALS, Article 2.2 BEDDING, *replace paragraph A with the following:*

- A. Pea gravel, or similar product, shall not be used for bedding. Class A bedding material shall be used for all water and sanitary sewer pipes installed on this project. Class B bedding material shall be used for all other pipe installed on this project

END OF SECTION

SECTION 02401 – SANITARY SEWER PIPE, PART 2 – PRODUCTS, Article 2.4, HDPE PRESSURE PIPE, *replace paragraph A with the following, and delete paragraph C:*

- A. High-Density Polyethylene (HDPE) pipe and fittings are to be manufactured in accordance with AWWA C906 with the additional stipulation that HDPE is to be manufactured from PE4710 polyethylene compounds that meet or exceed ASTM D3350 Cell Classification 445574. HDPE pipe and fitting material compound is to contain color and ultraviolet (UV) stabilizer meeting or exceeding the requirements of Code C per ASTM D3355. All fittings are to have pressure class ratings not less than the pressure class rating of the pipe to which they are joined.
 - 1. All pipe 4” and greater shall be DR11, 200 psi, pressure rating or greater.
 - 2. All pipe, 4” and greater shall have standard iron pipe size (IPS) outside diameter.
 - 3. The individual who performs the joint fusion shall have written certification from an HDPE pipe manufacturer or supplier stating he/she has successfully completed a certification class on joint fusion techniques and procedures. In addition, this individual is to have fused a combined total of more than 5,000 feet of HDPE piping in diameters 4-inches and larger.

END OF SECTION

SECTION 02702 – CONSTRUCTION SURVEYING, PART 3 – EXECUTION, Article 3.1, CONSTRUCTION, *add the following to paragraph D:*

- 1. A closed level loop is required through TBMs listed in the Drawings. No side shots will be permitted. A copy of the surveyor’s notes shall be provided to the ENGINEER. No payment will be made for Pay item No. 2702.1 until the ENGINEER has received a copy of these surveyor’s notes.
- 2. Global Position System (GPS) survey methods shall not be used for grading control unless approved in writing by the ENGINEER.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 11176 – SEWAGE PUMP STATION

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The CONTRACTOR shall furnish and install heavy-duty submersible non-clog pumps as manufactured by “*ITT Flygt*” with submersible explosion proof electric motors, wet wells, valve vaults, site work, miscellaneous piping and fittings, pump control panels, level controls, guard posts and all appurtenant WORK, complete and operable, in accordance with the requirements of the Contract Documents and as shown on the Drawings.
- B. The pump manufacturer shall assume full responsibility for furnishing and the functional operation of the complete pump system including the control panel and level controls in accordance with this section and Division 260000. The pump manufacturer shall coordinate the assembly, fabrication and installation of the pumps, control panels, wet wells, valve vaults, hatch lids (location, size, etc.), piping etc. to ensure the completed assembly meets the requirements of the pump manufacturer.

1.2 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 01300 Contractor Submittals
- B. Section 02201 Clearing and Grubbing
- C. Section 02202 Excavation and Embankment
- D. Section 02203 Trenching
- E. Section 02204 Base Course
- F. Section 02401 Sanitary Sewer Pipe
- G. Section 02402 Sanitary Sewer Manholes and Cleanouts
- G. Section 03302 Concrete Structures
- H. Section 13122 Pre-Engineered Fiberglass Shelter
- I. Division 26 Electrical

1.3 CONTRACTOR SUBMITTALS

- A. Shop Drawings: Shop Drawings of all pumps shall be submitted to the ENGINEER in accordance with Section 01300, "Contractor Submittals." Shop Drawings shall contain the following information:
 - 1. Pump name, identification number and specification number.

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2. Performance curve and pump data.
 3. The CONTRACTOR shall require the manufacturer to indicate points on the H/Q curves, and the limits recommended for stable operation between which the pumps may be operated without surge, cavitation and vibration. The stable operating range shall be as wide as possible based on actual hydraulic and mechanical tests.
 4. Pump detailed description and specification.
 5. Electrical data shall be submitted in accordance with the requirements of Division 26. These submittals shall include catalog cut sheets of all equipment, control and wiring diagrams, an elevation of the proposed Local Control Panel showing panel mounted devices, details of enclosure type, single line diagram of power distribution and current draw of the panel. Provide a list of all terminals to receive inputs or to transmit outputs from the Local Control Panel.
 6. Assembly and installation Drawings including shaft size, seal, coupling, anchor bolt plan, part nomenclature, material list, outline dimensions and shipping weights.
 7. Bypass Pumping Plan as specified.
 8. List any exceptions taken or deviations to the Contract Documents.
- B. Technical Manuals: Prior to start-up the CONTRACTOR shall furnish to the OWNER complete technical manuals for each pump station in accordance with Section 01300, "Contractor Submittals."
- C. Tools: Special tools necessary for maintenance and repair of the pumps and one pressure grease gun for each type of grease required for pumps and motors shall be furnished as a part of the WORK hereunder; such tools shall be suitably stored in metal tool boxes, and identified with the pump station name by means of stainless steel or solid plastic name tags attached to the box.
- D. Spare Parts: The CONTRACTOR shall obtain from the pump manufacturer a list of suggested spare parts of all items of each pump, motor, and drive, subject to wear, such as seals, packing, gaskets, nuts, bolts, washers, wear rings and bearings.
- E. Maintenance: Printed instructions relating to proper maintenance, including lubrication, and parts lists indicating the various parts by name, number, and diagram where necessary, shall be furnished in duplicate with each unit or set of identical units in each pumping station.
- F. Field Procedures: Instructions for field procedures for erection, adjustments, inspection, and testing shall be provided prior to installation of the pumps.

1.4 GUARANTEES, WARRANTIES

- A. The CONTRACTOR shall furnish to the OWNER the manufacturer's written guarantees, that the pumping equipment will operate with the published efficiencies, heads, and flow ranges and meet these Specifications. The CONTRACTOR shall also furnish the manufacturer's warranties as published in its literature and as specified.
- B. The CONTRACTOR shall furnish a prorated manufacturer's warranty, in writing, in which the mechanical seals, impeller, pump housing, wear rings, ball bearings, and rotor and

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stator are guaranteed for 18 months against defects in materials and workmanship and guaranteed on a prorated basis against defects in materials and workmanship for at least 5 years or 10,000 operating hours as contained in the standard manufacturer's warranty provided by *ITT Flygt*.

1.5 SPARE PARTS

- A. Parts to be Furnished: The following set of spare parts shall be furnished for each station:
1. One complete manufacturer basic repair kit for the specified pump.
 2. One spare pump and cables meeting the requirements of this section.
 3. One spare MultiTrode level sensor meeting the requirements of this section.

The parts shall be labeled, and the label shall contain the name of the part and the pump station for which it was provided.

1.6 FACTORY TESTING AND SHIPMENT

- A. The following procedures shall be included with the factory test prior to shipment:
1. Verification of the pump characteristic curves by testing at 1/4, 1/2, 3/4, and full flow and recording the measured head and motor current for each flow.
 2. Verification of cavitation-free service and absence of motor overheating during conditions simulating the actual operating conditions after installation, whether submerged or semi-submerged.
 3. Verification of the water tightness of each pump seal at a minimum submergence of 65 feet for 30 minutes.
 4. All parts shall be properly lubricated and protected so that no damage or deterioration will occur even during a prolonged delay from the time of shipment until installation is completed and the pumps are ready for operation.
 5. Finished ferrous surfaces not painted shall be properly protected to prevent rust and corrosion.
 6. The finished surfaces of all exposed flanges shall be protected by strong wooden blind flanges.
 7. Each pump shall be properly crated to protect the units against damage during shipment.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Wherever it is specified that a single manufacturer shall be responsible for the compatible and successful operation of the various components of any pumping equipment, it shall be understood to mean that the CONTRACTOR shall furnish only such pumping equipment as the designated single manufacturer will certify is suitable for use with its equipment and with the further understanding that this in no way constitutes a waiver of any specified requirements.
- B. All manufactured items provided under this Section shall be new, of current manufacture, and shall be the products of reputable manufacturers specializing in the manufacture of

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such products; such manufacturers shall have had previous experience in such manufacture and shall, upon request of the ENGINEER, furnish the names of not less than 5 successful installations of its equipment of comparable nature to that offered under this contract.

- C. All combinations of manufactured equipment which are provided under these Specifications shall be entirely compatible, and the CONTRACTOR and the designated single manufacturer shall be responsible for the compatible and successful operation of the various components of the units conforming to specified requirements. Each unit of pumping equipment shall incorporate all basic mechanisms, coupling, electric motor or engine drive and unit mounting. All necessary mountings and appurtenances shall be included.
- D. Where 2 or more units of the same type and/or size of pumping equipment are required, such units shall all be produced by the same manufacturer.

2.2 PUMPS

A. General

- 1. The pumps shall be controlled by local control panel as shown on the electrical Drawings. The control panel shall comply with the requirements of Division 26.
- 2. Each pump shall be capable of continuous cyclical operation at full load with a water level of 12 inches above the invert of the wet well, without cavitation or overheating of the motor. The maximum expected ambient temperature inside the wet well is 70 degrees F.
- 3. Each pump, with its cable and appurtenances, shall be able to withstand continuous submergence to a minimum depth of 65 feet, when running or off, without leakage.
- 4. Each pump shall be able to operate for short periods at zero static suction head without causing any damage to any part of the unit.
- 5. Each pump shall be capable of handling a 3" diameter spherical solid.

B. Pump Construction. Pump shall be N-series pumps and shall conform to the following requirements:

- 1. Connections: Machined quick disconnect type, for withdrawal of unit from above, without disconnecting pipe. When lowered into place, the pump shall automatically connect and lock into the discharge pipe. The pump discharge shall be fitted with a standard ASA 125 lb. flange, faced and drilled. All external mating parts shall be machined and Buna N Rubber O-ring sealed on a beveled edge. All fasteners exposed to the pumped liquid shall be 300 series stainless steel.
- 2. Pump Design: Single stage, centrifugal type, close-coupled to sealed electric motor, for operation in a wet pit, without external cooling.
- 3. Impeller: The impeller shall be of gray iron Hard-Iron™ ASTM A-532 IIIA. Impellers shall be dynamically balanced
- 4. Bearings: Permanently lubricated, heavy-duty axial and radial ball or roller bearings, top and bottom, with a minimum L-10 life of 50,000 hours, at continuous,

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maximum load and speed, supported by detailed calculations, to be submitted with the shop drawings.

5. Seals: Independent tandem mechanical shaft seals, oil lubricated with moisture detector probes, alarm, and test circuits.
6. Oil Chamber: To supply oil for lubrication and cooling of the shaft seals.
7. Support: Cast duckfoot bend or discharge elbow with machined face, anchored to sump floor. The discharge elbow shall include a hydraulically sealed discharge flange.
8. Cables: Each pump shall be furnished with the necessary cables for power connection, moisture detection, and overload protection, sheathed, coded, and suitable for submersible pumps, and of sufficient length for direct connection to the terminal boxes in the generator building. All cables shall be connected to the pumps and tested at the factory.
9. Lifting Devices: Each pump shall be furnished with galvanized steel guide rails, brackets and stainless steel lifting chain for easy removal of pumps.

C. Materials

1. Pump, volute, oil casing, sliding - cast iron, ASTM 35B, Class 25 bracket, motor frame
2. Impeller - cast iron, Hard-Iron ASTM A-532 IIIA
3. Pump shaft - Type 303 stainless steel, AISI 431
4. Exposed bolts, nuts, washers - Type 316 or 304 stainless steel
5. Mechanical seals - Two mechanical seals mounted in tandem with an oil chamber between the seals. The rotating seal faces shall be carbon and the stationary seal faces shall be ceramic.
6. Wear rings - Alloy 230 brass ASTM B-43, held by 300 series stainless steel fasteners. The wear rings shall be easily replaceable in the field.

D. Channel Drive Lift Station

- | | |
|-------------------------------|----------------------------|
| 1. Capacity | 285 gpm |
| 2. Design Pump Head (TDH-ft) | 33' |
| 3. Static Head Range | 27.5' – 24.5' |
| 4. Liquid to be pumped | Untreated wastewater |
| 5. Specific gravity of liquid | 1.01 |
| 6. Liquid temperature | 40 -60 °F |
| 7. Power supply | 480 v, 3 ø, 60 hz |
| 8. Minimum horsepower | 5.0 hp |
| 9. Maximum Pump Speed | 1800 RPM |
| 10. Pump Model: | NP 3102 MT 3~ Adaptive 464 |

E. Channel Vista Lift Station

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1.	Capacity	300 gpm
2.	Design Pump Head (TDH-ft)	80'
3.	Static Head Range	45.5' – 41.0'
4.	Liquid to be pumped	Untreated wastewater
5.	Specific gravity of liquid	1.01
6.	Liquid temperature	40 -60 °F
7.	Power supply	480 v, 3 ø, 60 hz
8.	Minimum horsepower	10.0 hp
9.	Maximum Pump Speed	1800 RPM
10.	Pump Model:	NP 3127 HT 3~ Adaptive 487

2.3 MOTOR

- A. Approval: The pumping system, including the motor and wiring, shall be approved by a nationally approved testing agency for explosion-proof service. The system shall be rated Class I, Division 1, Group C and D service as determined by the National Electrical Code and approved by a nationally recognized testing agency (UL, FM or equal) at the time of bidding of the project. The CONTRACTOR shall include in his bid a copy of certificate of approval.
- B. Insulation: Pump motors shall be designed for cyclical duty in hazardous locations. Provide motors with a minimum Corona Inception Voltage (CIV) at room temperature (25 degrees Celsius) of 4000 for all phase connections. The stator windings and stator leads shall be moisture-resistant, triple varnished and insulated according to Class F or Class H, capable of withstanding temperature rise of up to 155°C. The allowable temperature rise of the motor at full load condition shall not exceed 80°C.
- C. Stator: The stator, rotor and bearings shall be mounted in a sealed submersible type housing. The stator windings shall have Class F insulation and a dielectric oil filled motor, NEMA B design. Stator shall be securely held in place with a removable end ring and threaded fasteners so they may be easily removed in the field without the use of heat or a press.
- D. Rating: The motor shall be non-overloading throughout the pump curve without employing the service factor. The combined service factor shall be 1.15 or greater.
- E. Junction Box: The motor shall have a junction box capable of being sealed completely from the stator casing to prevent leakage through the junction box into the stator housing should a motor cable be damaged.
- F. Cable Entry: The cable entry water seal design shall be such that it ensures a watertight and submersible seal.
- G. Cooling System: Each pump shall be provided with an adequately designed cooling system so that they may be operated partially or completely submerged in the liquid being pumped.

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- H. Motor Protection: Integral thermal sensors in the motors, one for each phase, shall be provided to monitor stator temperatures. These sensors shall be used in conjunction with and supplemented by external motor over-current protection fitted at the control panel. Leak detection shall also be provided for each motor.
- I. Electrical Power Cord: The electrical power cord shall be STW-A, water resistant 600V, 60°C, UL or CSA approved and applied dependent on amperage draw for size.

2.4 CONTROLS

- A. The CONTRACTOR shall provide a complete control system housed in an enclosure with hinged, gasketed door and all necessary components as shown on the electrical Drawings and in accordance with the requirements of the Division 26 Electrical specifications.
- B. Operation of the pumps shall be controlled by a duplex pump controller located as shown on the Drawings. Duplex pump controllers shall be ITT Flygt's multitrode indicating duplex pump controller, Model Multistart Pump Station Manager, or current version which shall be mounted in the pump control panel and integrated to provide a complete, reliable, fully functional submersible pump control system as indicated on the electrical Drawings and Division 26 of these Specifications.
- C. Wet Well liquid level sensors shall be a multi-sensor conductive liquid level probe specifically designed for use in monitoring liquid levels in untreated sewage pump station wet wells. Level probe shall be standard probes complete with 316 stainless steel mounting bracket, integral probe, cleaning device and multi-strand cable. Probe cable shall be of sufficient length to afford a continuous unspliced run between the sensor and the pump control panel. Provide a 2.5 meter probe (98"), with a total of 10 independent sensors spaced at 10 inches on center and a 30 meter cord. Sensors shall be fabricated from high-grade non-corroding stainless steel alloy. Probe casings shall be fabricated from PVC extruded tubing. Sensors shall have a nominal diameter of 1.25". The level probe shall be provided with intrinsically safe barriers. The liquid level sensors shall be ITT Flygt's Multitrode conductive liquid level sensor. Part No. 2.5/10-30. Provide a second cord (3 meter min.) to run between the pump panel inside building to the junction box on outside of building. The intrinsically safe barrier shall be ITT Flygt's Multitrode intrinsically safe barrier Model MTISB-10 or current model.
- D. When the pump HOA switch is placed in the "Hand" position the pump shall run. When the HOA switch is placed in the "Off" position, the pump shall not operate. When the pump is placed in the "Automatic" position, the pump shall start and stop in response to the liquid levels in the wet well and the order of pump start shall be determined by the Multistart Pump Station Manager pump controller. The electric pump alternator shall automatically alternate each pump between the lead and lag positions.
- E. Level indicators shall be provided to detect the liquid levels for the following functions:
 - 1. High Water Alarm
 - 2. Lag Pump On

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3. Lead Pump On
 4. Low Level Both Pumps Off
 5. Low Level Alarm / Both Pumps Off
- F. Each control panel shall be provided with all panel mounted devices indicated on the electrical Drawings.

2.5 WET WELLS, VALVE VAULTS AND APPURTENANCES

- A. Portland cement concrete cast in place shall conform to Sections 03301 - Structural Concrete and 03302 - Concrete Structures.
- B. All precast concrete sections, including flat slab tops for the wet well and valve vault for each pump station, shall comply with the requirements of Section 02402 and with the manhole details as shown on the Drawings.
- C. Horizontal Swing Check Valves shall be Clow Ken-flex model 506-SP (with position indicator) or approved equal.
- D. Check Valve for vault drain-pipe terminating in the wet well shall be Red Valve Tideflex TF-2 with 316 stainless steel compression clamps, or approved equal.
- D. Mechanical Joint Couplings for plain end by plain end ductile iron pipe shall be EBAA Iron Inc. Series 3800 Mega-Coupling or approved equal.
- E. Mechanical Joint restraints for ductile iron pipe shall be EBAA Iron Inc. Megalug Series 1100 or approved equal.
- F. Mechanical Joint Caps shall be Romac Alpha EC or approved equal.
- G. Eccentric Plug Valves shall be Clow F-5412 with handwheel operator or approved equal.
- H. Ball Valves shall be Nibco bronze two-piece body, full port, chrome plated brass ball, blowout proof stem, threaded, model T-585-70 or approved equal.
- I. Manhole Covers and Frames shall comply with the requirements of Section 02402 Sanitary Sewer Manholes and Cleanouts.
- J. Hatch for the wet well shall have a minimum clear opening of 36" x 60" (or larger if recommended by the pump manufacturer). Hatches for wet wells and valve vaults shall be equal to LW Products HD-1(B) or approved equal. Load rating shall be for H-20 loading. Hatches shall be designed to comply with OSHA Standard 1910-23 to provide personnel fall-through protection and OSHA Standard 1910-146 for controlling access to confined space entry. Hatches shall be fabricated from 6061 T6 aluminum and shall seal airtight in the closed position. Hatch hinges, hinge pin, and hardware shall be 316 stainless steel. Hatch doors shall be outfitted with a combined pneumatic and spring assisted lifting device; these devices shall be fabricated from stainless steel or other appropriate durable corrosion resistant material. Fall through protection shall be provided by 5" by 5" open aperture

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aluminum grating which shall be fabricated from 6061 T6 aluminum. Two hinged aluminum grate doors shall be provided. Grate doors shall be provided with a permanent hinge system that will lock the grating in the 90 degrees position once opened. Grating shall be painted with OSHA type safety orange paint. Grating doors shall feature a locking device to provide a second level of protection against unauthorized entry to the confined space. The grating system shall allow visual inspection of the pumps and adjustment and cleaning the liquid level sensor without need for personnel to enter the confined space.

2.6 MISCELLANEOUS

- A. Bentonite-Cement sealing plaster shall consist of two parts Bentonite, one part Type 3 cement, and one part sand, with sufficient water to obtain workable consistency.
- B. Mortar shall consist of one part Portland cement to two parts clean well graded sand which will pass a No. 4 screen. Admixtures may be used not exceeding the following percentages of weight of cement; hydrated lime, 10%; diatomaceous earth, or other inert material 5%. Consistency of mortar shall be such that it will readily adhere to the surface. Mortar mixed for longer than thirty minutes shall not be used. A non-shrink mortar may be submitted for approval as a substitute.
- C. Grout shall be a non-shrink type complying with ASTM C-1107 and approved by the ENGINEER.
- D. Concrete and reinforcing steel shall comply with the requirements of Sections 03301 - Structural Concrete and 03302 - Concrete Structures.
- E. Lifting chains shall be provided for each pump. Lifting chains shall be a minimum 5/16" chain size and shall be 316 stainless steel.
- F. Adjustable pipe saddle supports shall be Piping Technology & Products, Inc. Figure 64 (previously Grinnell 264) and shall include support base.
- G. Timber Bollards for use at the lift station site shall be installed to the dimensions shown on the plans. Timber shall be pressure treated, and installed plum as detailed. Select material shall be compacted to 90% maximum dry density.

2.7 PIPE AND FITTINGS

- A. A Materials for all piping in the wet well, valve vault and the force main piping between the valve vault and the exiting ductile iron force main pipe shall be HDPE as detailed on the plans and provided in accordance with Section 02401 except as noted herein.
- B. All couplings and Fittings shall be fused or flanged as shown in the Plans.
 - 1. Backup rings shall be polypropylene encapsulated, SDR 7 as shown in the Plans.
 - 2. Bolts, nuts and washers for all flanged joints shall be stainless steel unless otherwise noted in the Plans. Stainless steel bolts and nuts shall be stainless steel

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conforming to ASTM A193 and ASTM A194 Grade B8M CL 1 or higher as recommended by the manufacturer. Washers shall be SS316.

- C. Wide range restraint couplings shall be Romac Alpha or Engineer approved equivalent.
 - 1. Cast components shall be ductile iron meeting or exceeding the requirements of ASTM A 536, Grade 65-45-12.
 - 2. Pipe grippers shall be ductile iron, Xylan 1424 coated for corrosion resistance.
 - 3. Gaskets shall be SBR compound for sewer service in accordance with ASTM D2000.
 - 4. Fasteners and accessories shall be 316 stainless steel where option is available.
 - 5. Body coating shall be Romacoat fusion bonded epoxy, end rings shall be Romabond polyester.
- D. Pipe stiffeners shall be used with restrained HDPE pipe couplings providing restraint by pipe compression including; EBBA Megalug, Romac Alpha, Alpha FC, or other restraining couplings or dismantling joints. Stiffeners shall be 316 stainless steel and provide a smooth transition between carrier pipe and stiffener.

2.9 ELECTRICAL

- A. All electrical equipment shall comply with the requirements of Division 26

PART 3 - EXECUTION

3.1 GENERAL

- A. The pumps, piping and controls shall be installed in accordance with the manufacturer's instructions and recommendations at the locations shown. Installation shall include furnishing the required oil and grease for initial operation in accordance with the manufacturer's recommendations. Anchor bolts shall be set only after the discharge piping has been properly installed, to ensure exact fit with embedded piping components.
- B. Manholes, piping and appurtenances shall be installed consistent with methods and requirements of the Contract Documents as a whole.
- C. Piping to be installed in accordance with accepted industry standards. Run piping parallel to walls of wet wells and vaults as shown on the Drawings. Completed installation to present a neat and orderly appearance. Coordinate wall penetrations to ensure placement of piping can be accomplished as shown and specified.
- D. Support piping as shown on the Drawings. Allow adequate clearance for placement of flange nuts and bolts.

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- E. Flange bolts shall be tightened so the gasket is uniformly compressed and sealed. Bolt threads and nut-bearing surfaces shall be lubricated before tightening. Do not distort flanges.
- F. Holes for embedded bolts shall be installed with care so that multiple or oversized holes are not drilled. In the event that holes are not drilled properly in accordance with the manufacturer's recommendation, repairs shall be made with non-shrink grout in a manner that the full integrity of the structure is achieved as intended.

3.2 BYPASS PUMPING

A. Scope

- 1. The Contractor is required to furnish all materials, labor, equipment, power, maintenance, etc. to implement temporary uninterrupted diversion of wastewater flows around the lift station for the duration of time required to complete the WORK detailed.
- 2. The design, installation, and operation of the bypass pumping system shall be the Contractor's responsibility. Details for bypass assembly provided in the plans shall only dictate the method of connecting to the existing force main. Where other means and methods of bypass pumping are developed and submitted in the bypass plan which do not require connecting to the existing force main, the Contractor bypass plan may supersede the connection detailed in the plans.

B. Bypass Plan

- 1. The Contractor bypass plan to be submitted to the Engineer shall include at minimum the following items:
 - a. Detailed description of sequence of installation, operation, and decommissioning of bypass system.
 - b. Sewer plugging method and types of plugs
 - c. Number, size, material, location, and method of installing suction piping
 - d. Number, size, material, location, and method of installing discharge piping
 - e. Bypass pump sizes, capacities, number of each size on site, and power requirements
 - f. Standby power method, size, and location
 - g. Method of protecting discharge manholes or structures from erosion and damage
 - h. Thrust restraints
 - i. Calculations of static and dynamic head, system curve, pump performance curve, and anticipated system performance.
 - j. Plan drawing indicating location, length and size of bypass lines.
- 2. Bypass plan shall be submitted as a single packaged document for Engineer review as a complete plan.

C. Equipment

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1. Pumps shall be automatic self-priming units that do not require the Contractor to manually operate. Pumps may be electric, or diesel driven.
2. Contractor shall provide stop/start controls for the pumps.
3. One standby pump of equivalent size of the duty pump shall be provided at each location of bypass.

D. Installation and Removal

1. Contractor may make direct connection to the existing sewer force main only in the location indicated on the plans.
2. Plugging or blocking of sewage flow shall not cause damage to the existing collection system piping. Contractor shall be responsible for damage to the system as a result of bypass operations.
3. Upon completion of the bypass pumping operation, the Contractor shall restore all piping, manholes, force main, or other parts of the collection system to pre-construction condition and restore sewer flows in a manner so as to not cause surge or excessive sedimentation in the collection system.

3.3 MANHOLES

- A. Concrete used for pads around the inlet cover shall be as specified in Section 03302 – Concrete Structures. Dimensions of the concrete entrance pads shall be as shown on the Drawings.

3.4 FIELD TESTS OF PUMPS

- A. All pumping units shall be field tested after installation, in accordance with the Contract Documents, to demonstrate satisfactory operation, without causing excessive noise, vibration, cavitation, and overheating of the bearings. The field testing shall be performed in the presence of an experienced field representative of the manufacturer of each major item of equipment, who shall supervise the following tasks and shall certify in writing that the equipment and controls have been properly installed, aligned, lubricated, adjusted, and readied for operation:
 1. Start-up, check, and operate the equipment under normal operating conditions.
 2. Pump performance shall be documented by obtaining concurrent readings, showing motor voltage, amperage, pump suction head, pump discharge head and pump flow via timed fill and drawdown calculations. Each power lead to the motor shall be checked for proper current balance.
 3. Electrical and instrumentation testing shall conform to the requirements of Division 26 Electrical.
 4. The field testing shall be witnessed by the OWNER or its representative. In the event any of the pumping equipment fails to meet the above test requirements, it shall be modified and retested in accordance with the requirements of these Specifications. The CONTRACTOR shall then certify in writing that the

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equipment has been satisfactorily tested, and that all final adjustments thereto have been made. Certification shall include date of final acceptance test, as well as a listing of all persons present during tests, and resulting test data. The costs of all WORK performed in this Paragraph by factory-trained representatives shall be borne by the CONTRACTOR. The OWNER will pay for costs of power and water. When available, the OWNER's operating personnel will provide assistance in the field testing.

3.5 TESTING

- A. All testing of force main pipes shall conform to Section 02401 – Sanitary Sewer Pipe.

END OF SECTION

Add the following Section:

SECTION 13122 – PRE-ENGINEERED FIBERGLASS SHELTER

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Pre-engineered shelters.
- B. Electrical equipment, wiring and devices for pre-engineered structures.
- C. Heating equipment for pre-engineered structures.
- D. Ventilation equipment for pre-engineered structures.
- E. Air conditioning equipment for pre-engineered structures.

1.2 RELATED SECTIONS

- A. Section 03301 – Structural Concrete: Concrete pad.
- B. Division 26: Electrical

1.3 REFERENCES

- A. ASTM C 518 – Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- B. ASTM D 256 – Standard Test Method for Determining the Pendulum Impact Resistance of Notched Specimens of Plastics.
- C. ASTM D 618 – Standard Practice for Conditioning Plastics for Testing.
- D. ASTM D 638 – Standard Test Method for Tensile Properties of Plastics.
- E. ASTM D 732 – Standard Test Method for Shear Strength Plastics by Punch Tool.
- F. ASTM D 790 – Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials.
- G. ASTM D 792 – Standard Test Method for Specific Gravity (Relative Density) and Density of Plastics by Displacement.
- H. ASTM D 1622 – Standard Test Method for Apparent Density of Rigid Cellular Plastics.

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- I. ASTM D 2583 – Standard Test Method for Indentation Hardness of Rigid Plastics by Means of a Barcol Impressor.
- J. NFPA 70, National Electrical Code.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Certified independent test results of representative wall laminate.
- C. Shop Drawings: Show:
 - 1. Critical dimensions, jointing and connections, fasteners and anchors.
 - 2. Materials of construction.
 - 3. Sizes, spacing, and location of structural members, connections, attachments, openings, and fasteners.
 - 4. Color.
- D. Calculations: Structural design calculations, sealed by an independent licensed Professional Engineer.
- E. Samples: 8-inch square sample of representative wall construction, upon request.
- F. Manufacturer's installation instructions.

1.5 SYSTEM DESCRIPTION

- A. Size: provide one-piece molded construction FRP shelter of the following type:
 - 1. Size: Per Dimensions shown in the drawings.
 - i. Paneled construction shall not be acceptable.
- B. Design factory-fabricated, pre-engineered enclosure to withstand 135 miles per hour wind load, 70 PSF ground snow load, seismic conditions for site Class B located at the following coordinates:
Latitude: 58.32305556
Longitude: -134.45861111

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products indoors or in weather protected area until installation. Protect from construction traffic and damage.

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. The product shall be manufactured by TRACOM, Inc., or Engineer approved equal.
- B. Warranty: Shelters shall be warranted to be free of defects in workmanship and materials for a period of two years from date of shipment.

2.2 MATERIALS

- A. One-Piece Molded Composite Construction:
 - 1. General Construction: The shelter shall be provided with a smooth interior and exterior satin finish. The walls and roof shall be integral with smooth radii for all corners. No roof

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overhang shall be allowed. External section connection flanges shall only be allowed in those instances where the shelter is oversized.

2. Laminate: Isophthalic polyester resin with high performance, chopped, commercial grade glass strand fiber reinforcement with a suitable coupling agent.

- i. Minimum glass content: 30%.
- ii. Exterior surface: 15 mil (minimum) gel coat with U.V. inhibitors and a satin finish lightly textured and free from fiber pattern, roughness, or other irregularities.
- iii. Exterior laminate: 1/8 inch thick (minimum); chemically bonded to the surface gel coat and encapsulating the foam core.
- iv. Foam core (2.2.A.2)
- v. Interior laminate: 1/8 inch thick (minimum); chemically bonded to the interior gel coat and encapsulating the foam core.
- vi. Interior surface: 15 mil (minimum) gel coat with U.V. inhibitors and a textured finish, free from exposed glass or other irregularities.
- vii. Laminate properties:
 1. Tensile strength (ASTM D 638): 14,000 PSI.
 2. Flexural strength (ASTM D 790): 27,000 PSI.
 3. Flexural modulus (ASTM D790): 1,000,000 PSI.
 4. Shear strength (ASTM D 732): 12,000 PSI.
 5. Barcol hardness (ASTM D 2583): 40.
 6. Density / specific gravity (ASTM D 792): 93.6 PCF/1.5.

3. Core:

i. Rigid closed cell, self-extinguishing (Class 1), polyisocyanurate foam with a density of 2.5 pounds per cubic foot. Foam shall be P250 Elfoam without exception. Lower density foams shall not be acceptable.

1. 3-inch thick with an initial insulating value of R~21.

ii. Core properties:

1. Thermal conductivity (ASTM C 518): 0.145 BTU inch/hr./SF/°F.
2. Density / specific gravity (ASTM D 1622): 2.5 PCF.
3. Shear Strength (ASTM C 273): 25 lb/in²
4. Tensile Strength (ASTM D 1623): 45 lb/in²
5. Compressive Strength (7% deflection/yield) (ASTM D 1621): 35

4. Coupons prepared in accordance with ASTM D 618.

B. The manufacturer shall maintain a continuous quality control program and upon request shall furnish to the engineer certified test results of the physical properties.

2.3 COMPONENTS

A. Doors:

- a. Quantity:
 - i. One Single door.
- b. Construction:

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- i. One-piece molded fiberglass construction 78 inches high, 1-3/4 inches thick, and 36 inches wide.
 - ii. Mount door with two T-304 stainless steel laminated strap hinges, 5 inches long. Door must be readily replaceable – the use of continuous piano hinges or fastening methods other than bolting shall not be acceptable.
 - iii. Rubber bulb gasket with flexible lock to retain permanent grip.
 - iv. One-piece, purpose built, 3 inches deep fiberglass drip cap over doors; drip cap to extend 2 inches each side past door. Cut angle shall not be acceptable.
 - v. Full threshold, heavy duty black vinyl, 4-1/2 inches deep x 1/2 inch high.
 - vi. Schlage stainless steel single-point key locked classroom style ball knob. To facilitate entry and exit from the building, raised or integral door sills shall not be acceptable.
 - vii. Heavy duty stainless steel, dual compression spring cushioned overhead door stop, designed for BHMA L52231 and ANSI A156.16.
 - viii. Provide single-flap neoprene insert style door sweep.
- B. Lifting Eyes: Provide a minimum of two removable, 3/4 inch – 10 partially threaded, eye bolts with 6 inch shank lengths.
- i. Steel (5,200 lbs. work load limit).
- C. Mounting Flange: 3 inches wide x 1/4 inch thick (minimum) with closed cell neoprene sponge rubber gasket 1-1/4 inches wide x 3/8 inch thick to provide a weather tight seal around the building perimeter.
- i. Internal.

2.4 EQUIPMENT

- A. Electrical
- a. Circuit Breaker Panel: Provide electrical panelboards and equipment in accordance with the Contract electrical drawings and specifications.
 - b. Electrical Wiring: XHHW electrical wiring in rigid metallic conduit and fittings in accordance with the Contract electrical drawings and specifications
 - c. Receptacle: GFCI duplex receptacle in accordance with the Contract electrical drawings and specifications. 20 A, 125V feed-through, with 5mA +/- 1mA trip threshold.
 - d. Switch: Single pole switches in accordance with the Contract electrical drawings and specifications.
- B. HVAC
- a. Fan: Shutter-mounted exhaust fan with integral gravity shutter, aluminum fan blades, fiberglass canopy, and OSHA compliant polyester-coated wire guard. Exhaust fan to be wired to a line voltage reverse acting thermostat to operate the fan when temperature exceeds the thermostat setpoint.
 - i. Fan shall be propeller type with fractional horsepower 120V motor.
 - ii. Fan shall exhaust not less than 600 CFM at 1/8 inches water column static pressure.
 - b. Intake Shutter: Power operated fiberglass intake shutter, with heavy duty fiberglass frame, exterior removable T-316 stainless steel insect screen, and fiberglass hood.
 - i. 10 inches by 10 inches.
 - ii. Shutter motor, vertical mount, wired to exhaust fan.

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- c. Heater: Line powered wall heater. No separate electrical outlet shall be required. 1,500 watt, 5,120 BtuH, white powder coat finish with automatic re-set thermal overload protection with indicator light and built-in thermostat.
- C. Lighting
 - a. Interior Light: Provide LED, low profile, wet location, 48" fixture in accordance with the Contract electrical drawings and specifications.
 - b. Exterior Lamp:
 - i., LED wallpack exterior light with acrylic lens and integral photocell. in accordance with the Contract electrical drawings and specifications
- D. Mounting
 - 1. Equipment mounting strut: sections of 12-gauge T-304 stainless steel slotted mounted strut, 72" long x 1-5/8 inches deep.
- E.
 - 1. Warning Beacon: Flashing, heavy duty light with T-304 stainless steel base and polycarbonate dome in accordance with the Contract Electrical Drawings and Specifications.

2.5 FINISHES

- A. Exterior Color: #2445 Gray Cloud.
- B. Interior Color: #2445 Gray Cloud.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that the concrete slab is level, true to plane, and of the correct dimensions to receive the structure. Correct all deficiencies before proceeding.

3.2 INSTALLATION

- A. Install products in accordance with engineer's instructions, plans, blueprints, etc, local codes, and in a manner consistent with the installation instruction and recommendation of the manufacturer.
- B. Do not remove the door spacers until all anchor bolts have been completely set and door operation has been verified.
- C. Move and position the shelter using the lifting eyes provided. The neoprene gasket provided should be positioned between the concrete slab and the building mounting flange. If more than one lifting eye is provided, use a load spreader bar.
- D. After closing the shelter doors:
 - i. Layout the anchor bolt pattern. The anchor bolts should be installed in accordance with the engineer's instructions.
 - ii. Drill and set the anchor bolts starting with one on each side of the doors. The anchor bolts behind and in front of the doors should be flat head anchors if the mounting flange is external.
 - iii. Drill the anchor bolt holes to the depth and diameter required by the anchor bolt manufacturer. Stainless steel wedge style concrete anchors [1/2 inch diameter x 4-1/2 inches long – (minimum)] are recommended. Anchor bolts are to be supplied by others.

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- iv. Verify the operation of the doors before installing the remaining anchor bolts.
- v. Failure to verify the operation of the door before the remaining anchor bolts are set may result in the binding of the door against the door frame.
- vi. Install the threshold (if supplied) and re-verify the operation of the doors.
- vii. After all anchor bolts have been completely set, remove the door spacers.
- E. Seal the flange with sealant or grout to ensure watertightness.
- F. Install (as necessary) and test the shelter accessories in accordance with the manufacturers' instructions.
- G. For additional installation instructions refer to latest revision of document OPS-I.

3.3 ADJUST AND CLEAN

- A. Clean surfaces in accordance with the manufacturer's instructions.
- B. Remove trash and debris and leave the site in a clean condition.

END OF SECTION

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Add the following Section:

SECTION 26 05 00 GENERAL ELECTRICAL PROVISIONS

PART 1 - GENERAL

1.1 DESCRIPTION OF RELATED WORK

- A. This section applies to all Division 26 and Division 40 work.

1.2 SCOPE

- A. Provide all labor, products, services, equipment and test equipment required to furnish, install, test, and start-up all systems shown and specified.
- B. Where the work of several crafts is involved, coordinate all related work to provide each system in complete and in proper operating order.
- C. Cooperate with all others involved in the project, with due regard to their work, to promote rapid completion.
- D. **LOCAL CONDITIONS:** The CONTRACTOR shall thoroughly familiarize himself with the work as well as the local conditions under which the work is to be performed. Schedule work with regard to seasons, weather, climate conditions, and all other local conditions that may affect the progress and quality of work.

1.3 RELATED WORK - AREAS OF RESPONSIBILITY

- A. The Contractor shall schedule his work to coordinate through the General Contractor and with all other subcontractors, and power and telephone utilities in order to maintain job progress, and to avoid conflicts with equipment installation or work done by the various trades
- B. It shall be the responsibility of the contractor to provide electrical service to, connection and/or interconnection of various units of equipment supplied by others. The contractor shall not be required to set in place or align motors or devices supplied as an integral part of equipment provided by others. Areas in which the contractor shall coordinate include, but are not limited to, the following:
 - 1. Division 26 Equipment - The CONTRACTOR shall provide conduit, wire and necessary appurtenances to connect to the electrical system all electrically driven, controlled or monitored machinery and equipment installed by others.
 - 2. Division 40 Equipment - The CONTRACTOR shall provide all conduit, cable/wire, hardware, software, programming, integration and necessary equipment to make a fully function control system in accordance with the drawings and specifications.

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- C. The contractor shall be responsible for providing, installing and furnishing power to all instrumentation and control devices that are included in this project in accordance with Divisions 26 and 40.

1.4 CODES AND STANDARDS

- A. Codes: Perform all work in strict accordance with all applicable national, state, and local codes; including, but not limited to the latest legally enacted editions of the following specifically noted requirements:

- NFPA 70, National Electrical Code (NEC), Latest adopted edition
- NFPA 820, Standard for Fire Protection in Wastewater Treatment and Collection Systems, Latest edition
- ANSI-22, National Electrical Safety Code (NESC), Latest adopted edition
- International Building Code (IBC), Latest adopted edition
- City and Borough of Juneau (CBJ) Construction Standards, Latest editions

- B. If the Contractor observes that the Drawings and/or Specifications are at variance with such codes and regulations, he shall promptly notify the Engineer in writing. Should the Contractor perform any work in non-compliance with the above-mentioned codes and regulations without such notice to the Engineer, the Contractor shall bear all costs associated with correcting the non-complying work.

- C. Standards: Reference to the following standards infers that installation, equipment, and materials shall be within the limits for which it was designed, tested, and approved, in conformance with the current publications and standards of the following organizations:

- American National Standards Institute (ANSI);
- American Society for Testing and Materials (ASTM);
- Factory Mutual (FM);
- Institute of Electrical and Electronics Engineers (IEEE);
- National Electrical Contractors Association (NECA);
- National Electrical Manufacturers' Association (NEMA);
- National Fire Protection Association (NFPA), and
- Underwriters Laboratory (UL)

- D. The above codes and standards are referenced to establish minimum requirements. Wherever this Specification requires higher grades of material or workmanship than required by the codes, this Specification shall prevail.

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- E. All electrical work shall be performed by licensed Journeyman Electricians or licensed Apprentice Electricians under the direct supervision of a licensed Journeyman Electrician.
- F. Submit written proof of all Journeyman and Apprentice Electricians' current licenses.
- G. Submit certification for tests and inspections required by the electrical inspector having jurisdiction. Certificates of approval that are issued shall be transmitted to the Owner with a copy to the Engineer.

1.5 SPECIFIC TERMINOLOGY

- A. Streamlining: In many instances, the products, reference standards, and other itemized specifications have been listed without verbiage. In these cases, it is implied that the CONTRACTOR shall provide the products and perform in accordance with the references listed.
- B. "Furnish" means to purchase material as shown and specified, and cart the material to an approved location at the site or elsewhere as noted or agreed, to be installed by supporting crafts.
- C. "Install" means to set in place and connect, ready for use and in complete and properly operating finished condition, material that has been furnished.
- D. "Provide" means furnish all products, labor, sub-contracts, and appurtenances required and install to a complete and properly operating, finished condition.
- E. "Rough-in and Connect" means provide an appropriate system connection such as conduit with "J" boxes, wiring, switches, disconnects, etc., and all wiring connections. Equipment furnished is received, uncrated, assembled and set in place under the Division in which it is specified.
- F. "Accessible" means arranged so that an appropriately dressed man 6'-2" tall, weighing 250 pounds, may approach the area in question with the tools and products necessary for the work intended, and may then position himself to properly perform the task to be accomplished, without disassembly or damage to the surrounding installation.
- G. "Serviceable" means arranged so that the component or product in question may be properly removed and replaced without disassembly, destruction, or damage to the surrounding installation.
- H. "Product" is a generic term, which includes materials, equipment, fixtures, and any physical item used on the project.
- I. "ENGINEER" is the Owner's Representative as defined in the General Conditions of the Contract.
- J. "OWNER" is the City and Borough of Juneau (CBJ) as defined in the General Conditions of the Contract.

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1.6 DRAWINGS, SPECIFICATIONS & SYMBOLS

- A. The Drawings and Specifications are complementary; what is shown on one is as binding as if called for in both. Do not scale the Drawings. Locations of devices, fixtures, and equipment are approximate unless dimensioned.
- B. The Drawings are partly diagrammatic and do not show precise routing of conduits or exact location of all products, and may not show in minute detail all features of the installation. However, provide all systems complete and in proper operating order.
- C. The location of outlets and equipment are approximate unless dimensioned. The exact locations and routing of conduits shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. Equipment shall be located and installed so that it will be readily accessible for operation and maintenance.
- D. If conduit is placed incorrectly with respect to equipment connections or if equipment connections are relocated without appropriate changes in the electrical work, and the resulting work is not coordinated, the work affected shall be removed and re-installed at the Contractor's expense, even if removal and replacement of structural and/or mechanical parts of the work are necessary.
- E. Drawing symbols used for basic materials, equipment and methods are commonly used by the industry and should be universally understood. Special items are identified by a supplementary list of graphical illustrations, or called for on the Drawings or in the Specifications.

1.7 PRODUCT & SYSTEM SUBMITTALS

- A. Submit to the Engineer for review and approval, as soon as practical after the date of notice to proceed and before commencement of procurement, installation or fabrication of any materials or equipment, catalog cuts and manuals containing detailed drawings, diagrams and instructions for installing, operating and maintaining the material and equipment proposed for installation as part of the work. See Division 01 requirements.
- B. The manuals shall be supplied to the Engineer for review and approval in the quantities indicated in Division 01 before any electrical equipment is shipped to the job site. The required test results may be delayed but shall be provided at the time of substantial completion of the project. Record ("As Built") drawings of the work shall be provided upon completion of the work and shall be folded and punched for insertion into the manual after they are reviewed and approved by the Engineer.
- C. Manuals for the electrical system shall consist of 3-post, expandable metal hinge binders labeled with the job name and the Contractor's name with tab dividers for each major type of equipment.

SPECIAL PROVISIONS

- D. Any drawings required to be prepared by the contractor or his agent shall be of standard size no larger than 22" by 34" and with symbols similar to those used herein. Drawings shall be prepared using AutoCAD V.2018 or later.
- E. Provide manufacturer's installation, operation, maintenance, and service information, shop drawings, etc., for each panel, switchboard, motor control center, and equipment items furnished under the electrical work. Assemble and index each section listing the contents individually on the tab divider for that section. Compile a spare parts list and a suppliers index for each section and assemble in the section provided. Assemble records of all tests, measurements, and calibration settings made for each device.
- F. Submittals: Provide submittals for all products and systems described in Divisions 26 and 40 and shown on the Drawings to demonstrate compliance with the requirements of the project. Submit data not later than 60 days after Award of Contract. Furnish equipment submittals in the manner described in Division 01. In addition, include data for review, and organize data as noted below:
 - 1. Specific reference and/or Drawings reference for which literature is submitted for review with an index, following Specification format, and item-by-item identification.
 - 2. Manufacturer's name and address, and supplier's name, address, and phone number.
 - 3. Catalog designation or model number with rough-in data and dimensions.
 - 4. Operation characteristics.
 - 5. Complete customized listing of characteristics required. Indicate whether item is "As Specified" or "Proposed Substitution". Indicate any deviations on submittal. Mark out all non- applicable items. The terminology "As Specified" used without this customized listing is not acceptable.
 - 6. Wiring diagrams for the specific system.
 - 7. Working construction Drawings (Shop Drawings).
- G. Submittal Data
 - 1. Prior to the submission of the required Shop Drawings, hold a meeting with all the trades and check the Shop Drawings for discrepancies, dimensional errors, omissions, contradictions, and departures from the Contract requirements. The Shop Drawings shall then be corrected and submitted to the Engineer with appropriate notes
 - 2. With prior permission from the Engineer, partial submittals will be considered for review provided that they are complete sections, as listed below:
 - a. Individual Special Systems (Control Panels, etc.)

SPECIAL PROVISIONS

- b. Raceways, Fittings, and Supports
 - c. Wire and Cable
 - d. Wiring Devices
3. Mark submittal literature and Shop Drawings clearly and bind 8-1/2" X 11" literature in three-hole loose-leaf binders by individual sets.
4. Submittal review is for general design and arrangement only and does not relieve the Contractor from any of the requirements of the Contract Documents. Submittals will not be checked for quantity, dimension, fit or proper technical design of manufactured equipment. Where the Contractor has not specifically noted deviations of substitute product or system performance in the submittal, provision of a complete and satisfactory working installation of equal quality to system specified is the sole responsibility of the Contractor.

1.8 AS-BUILT DRAWINGS

- A. Reference requirements stated elsewhere in these Specifications.
- B. In addition to other requirements, mark up a clean set of Drawings as the Work progresses, to show the dimensioned location and routing of all electrical Work which will become permanently concealed. Show routing or work in permanently concealed blind spaces within the building. Show complete routing and sizing of any significant revisions to the systems shown.
- C. Maintain "As-Built" Drawings in an up-to-date fashion in conjunction with the actual progress of installation. "As-Built" progress mark-ups shall be available on-site for examination by the ENGINEER at all times. At the end of the project, forward to the Engineer a complete set of drawings marked in red pencil in a manner consistent with the Contract Drawings, indicating the changes made on the job.
- D. Prepare wiring diagrams on reproducible media using AutoCAD V.2008 for all individual special systems as installed. Identify all components and show all wire and terminal numbers and connections.
- E. Prior to substantial completion, deliver these Drawings and their files (.dwg) on CD to the ENGINEER and obtain a written receipt.
- F. Record voltage, current, and megohmmeter and ground ohmic resistance test measurements made on the electrical work, the trip units, fuses, and overload relay elements installed in the equipment and the setting of all control devices. When the project is operating, turn over these records to the Engineer.

1.9 OPERATION AND MAINTENANCE MANUALS

- A. Provide Operation and Maintenance Manuals in the manner described elsewhere in these specifications. In addition, organize manual and include data and narrative as noted below.

SPECIAL PROVISIONS

- B. Provide a separate chapter for each section of the electrical specifications with subchapters for each class of equipment or system. Provide a table of contents for each chapter, and each major item in each chapter, to indicate the page number of each. Label all pages to assure correct placement in manual. Identify each piece of equipment with its associated nameplate number, i.e.: pump P-1A, etc.
- C. Operating Sequence Narrative:
 - 1. In each chapter, describe the procedures necessary for personnel to operate the system and equipment covered in that chapter.
 - 2. Describe procedures for start-up, operation, emergency operation and shutdown of each system. If a particular sequence is required, give step-by-step instructions in that order.
 - 3. Describe all seasonal adjustments, which should be accomplished for each system.
 - 4. Provide the above descriptions in typewritten, simple outline, narrative form.
- D. Maintenance Instructions:
 - 1. Provide complete information for preventive maintenance for each product, including recommended frequency of performance for each preventive maintenance task.
 - 2. Provide all information of a maintenance nature covering warranty items, etc., which have not been discussed in the manufacturer's literature or the operating sequence narrative.
 - 3. Provide complete informational data for all the spare and replacement parts for each product and system. Properly identify each component by part number and manufacturer.
- E. Manufacturers' Brochures - Include manufacturers' descriptive literature covering all products used in each system, together with illustrations, exploded views and renewal parts lists. Highlight all applicable items and instructions, or mark-out non-applicable items. Brochure bearing submittal review stamp are not acceptable.
- F. Shop Drawings - Provide a copy of all corrected, approved shop drawings for the project either with the manufacturers' brochures or properly identified in a separate subsection.

1.10 PERMITS & INSPECTIONS

- A. CONTRACTOR shall schedule, obtain, and pay for all permit fees and/or services required by local authorities and by these Specifications.

1.11 ELECTRICAL SUPPLY

SPECIAL PROVISIONS

- A. The electrical power utility for this project is Alaska Electric Light and Power (AEL&P).
- B. The CONTRACTOR shall coordinate installation of all electrical service-related equipment and shall provide only service equipment that meets the Utility's requirements.
- C. The CONTRACTOR shall coordinate with the electric utility to ensure timely application and installation of service. All costs related to service application and installation, including one-time line extension and utility connection costs, shall be paid for by the CONTRACTOR.
- D. The CONTRACTOR shall coordinate with the telephone utility to ensure timely coordination of any site conflicts with existing infrastructure. All costs related relocation of infrastructure will be the responsibility of the CONTRACTOR.

1.12 TELECOMMUNICATIONS UTILITY

- A. The telecommunications provider for this project is Alaska Communications (ACS).
- B. The CONTRACTOR shall coordinate installation of all telecom service-related equipment and shall provide only service equipment that meets the Utility's requirements.
- C. The CONTRACTOR shall coordinate with the utility to ensure timely application and installation of service. All costs related to service application and installation, including one-time line extension and utility connection costs, shall be paid for by the CONTRACTOR.
- D. The CONTRACTOR shall coordinate with the utility to ensure timely coordination of any site conflicts with existing infrastructure. All costs related relocation of infrastructure will be the responsibility of the CONTRACTOR.

1.13 LOCATIONS

- A. Damp Locations – The Lift Station in general is to be considered a Damp Location. All wiring and equipment within the Lift Station performed under this Contract shall be minimum NEMA 4X stainless steel.
- B. Wet Locations - Wet locations shall include all areas underground (below grade) in concrete slab, in direct contact with the earth, areas subject to saturation with water or other liquids from splashing, surface water, wash-down of walls and floors. Components exposed to the process (i.e.: Equipment mounted on water or air piping such as instruments, solenoid valves etc.) or exposed to weather and unprotected. All wiring and equipment in these areas shall be NEMA 4X stainless steel unless otherwise indicated.

SPECIAL PROVISIONS

- C. Hazardous Locations – The wet well is a Class I, Division 1, Group C, D, electrically classified location. All wiring and equipment in these hazardous areas shall conform to NEC Article 501, 504, and any other applicable article.

PART 2 - PRODUCTS – NOT USED

PART 3 - EXECUTION

3.1 CONNECTIONS TO EQUIPMENT

- A. Provide electrical connections to equipment provided under various sections of these specifications. Equipment shall be wired complete in each detail, including interlocks, safety disconnects, control devices, starters, and disconnects.
- B. Drawings indicate equipment as anticipated to be furnished. If equipment differing from that indicated is furnished, the furnished equipment shall be wired completely as required at no additional cost to the OWNER.
- C. Connections and wiring diagrams shown on the drawings are for bidding purposes only. The CONTRACTOR shall obtain final wiring diagrams specifically for the equipment furnished from equipment suppliers.
- D. Motor sizes shown on the Drawings are for bidding purposes only. The CONTRACTOR shall verify all motor sizes prior to wiring and shall provide proper motor starters/controllers, overcurrent protection, feeders and conduit for the equipment furnished at no additional cost to the OWNER.
- E. Conduit and wire are shown on the drawings for bidding purposes only. The CONTRACTOR shall verify wire sizes and number of wires required and provide the proper conduit and wire to each item of equipment at no additional cost to the OWNER.

3.2 INSTRUCTION OF OPERATING PERSONNEL

- A. After the system is complete and prior to final acceptance, instruct designated personnel of the OWNER on the proper operation and maintenance of all electrical systems and equipment under this contract. This instruction shall be independent of other activities and shall not coincide with any start-up or testing procedures. In addition, a qualified representative of each system listed below shall instruct the designated personnel in the operation and maintenance of the associated system. Give these operating instructions after the operation and maintenance manuals have been furnished to the OWNER. Submit written certification, signed by the CONTRACTOR and an authorized representative of the OWNER, that this has been completed. This requirement shall be in addition to any others defined under this contract.
- B. Coordinate with the Owner a minimum of two weeks in advance to set a mutually agreeable time to provide instruction for the following systems for at least the number of hours indicated:

SYSTEM OR EQUIPMENT

HOURS OF INSTRUCTION

SPECIAL PROVISIONS

Control Panel

4

- C. Certify that local authorized service organization regularly carries complete stock of repair parts for listed equipment or systems, that organization is available and will furnish service within 48 hours after request. Include name, address, and telephone number.
- D. Have approved operating and maintenance data and parts lists for all equipment on hand at the time of instruction.

3.3 PROJECT COMPLETION AND DEMONSTRATION

- A. During final inspection, conduct operating tests for approval. Demonstrate to the OWNER that the electrical installation is working by operating all electrical systems and equipment. Simulate control, standby and alarm conditions, artificially where necessary, for complete system tests.
- B. Have instruments available for measuring voltage and current values and for demonstration of continuity, ground, or open circuit conditions. Furnish personnel for taking measurements and making tests.
- C. Demonstrate installation to operate satisfactorily in accordance with requirements of Contract Documents. Should a portion of installation fail to meet requirements of Contract Documents, repair or replace items failing to meet requirements until items can be demonstrated to comply. Correct all shorts, open circuits, and unintentional grounds. In the event that systems are not complete and fully operational at the time of Final Inspection, all costs of any subsequent inspections, rework or repair of equipment required during or as a result of the testing, shall be borne by the CONTRACTOR at no additional cost to the OWNER.
- D. Thirty days prior to testing, submit to the engineer a Coordinated Test Plan and detailed Test Procedures, for review and approval. All testing shall be conducted in accordance with the manufacturer's installation and testing instructions and the applicable electrical standards (i.e., NEMA, IEEE, ISA, ANSI, or other) for the class of equipment.
- E. The Coordinated Test Plan shall outline the tests planned for each item of equipment. The Test Procedures shall identify the test equipment to be utilized, the action of each test step and the expected result so that a test technician who has no knowledge of the details of the equipment design shall be able to successfully conduct the test.
- F. Request For Tests: Notify the ENGINEER a minimum of 48 hours in advance of tests. In the event the ENGINEER does not witness the test, certify in writing that all specified tests have been made in accordance with the Specifications.
- G. In the presence of the ENGINEER, test the equipment and electrical circuits for proper connection, continuity, and absence of undesirable shorts and grounds. Test wire and cable installation, when complete and 72 hours prior to energizing the system. Check for continuity, visual damage, marking, and proper phase sequence before performing insulation testing. Megger bus work, switches, breakers and circuits phase-to-phase and

SPECIAL PROVISIONS

phase-to-ground. Disconnect and re-connect equipment, which cannot be meggered otherwise. The minimum acceptable steady-state value is 50 megohms. Ambient temperature and humidity during testing shall be recorded.

- H. Perform a voltage test at the last outlet or load on each circuit with the design load, or its equivalent, in operation. If the drop in potential is excessive (>5%), locate the point of trouble and correct the condition.
- I. Test insulation resistances of all motor windings to ground with a Megger before applying line voltage to the motors. If test values are less than 5 megohms, repair or replace the motor.
- J. Measure line-to-line voltage and line current of all motors, with system energized. If the measured values are not acceptably close, in the opinion of the ENGINEER, to the nameplate rating of the motors, correct the condition causing the deficiency.
- K. Check voltage and phasing of service tie connections at switchboards. Phasing shall be maintained ABC top to bottom, left to right, and front to back.
- L. Check each component of the complete system for proper performance of its intended function.
- M. Verify operation, calibration, and settings of the meters, relays and indicating devices.
- N. Check all auxiliary equipment, i.e., heaters, thermostats, lights, and all illuminated indicating devices and lamps, and all audible alarm devices to verify that they function properly.
- O. Overload heaters shall be checked and the size on each phase shall be noted at this time on the test sheet.
- P. Report all test results in writing. Where tests disclose problem areas, retest after the defect has been corrected.
- Q. Operate the electrical systems until acceptance of the work. Instruct Owner's employees in the correct operation of all electrical and control systems under your jurisdiction.
- R. The Contractor shall furnish to the Owner at the time the project is accepted, any special tools, calibration equipment, and testing apparatus specified or furnished by the equipment manufacturer for the proper adjustment and maintenance of the electrical equipment provided.
- S. Testing for equipment under Division 26 must be completed prior to any pre-commissioning testing as required under Division 40 for controls for that equipment.

SPECIAL PROVISIONS

3.4 CERTIFICATE OF COMPLETION

A. Submit, at time of request for Final Inspection, a completed letter in the following format:

I, _____(Name), of _____(Firm), certify that the Electrical Work is complete in accordance with Contract Plans and Specifications, and authorized change orders (copies of which are attached hereto), and will be ready for Final Inspection as of _____(Date). I further certify that the following Specification requirements have been fulfilled:

1. Megger readings performed, ____ copies of log attached.
2. Operating manuals completed and instructions of operating personnel performed _____(Date)_____ (Signed)

ENGINEER

3. As-Built Drawings up-to-date and ready to deliver to ENGINEER.
4. Emergency systems tested and fully operational.
5. All other tests required by Specifications have been performed.
6. All systems are fully operational. Project is ready for Final Inspection.

SIGNED: _____ DATE: _____

TITLE: _____

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 01 BASIC MATERIALS & METHODS

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. All Division Specifications

1.2 DESCRIPTION

- A. This Section describes specific requirements, products, and methods of execution, which are typical throughout the Electrical Work of this Project. Additional requirements for the specific systems will be found in the Division specifying those systems.

1.3 COORDINATION

- A. Layout all the work in advance and avoid conflict with other Work in progress. Physical dimensions shall be determined from Architectural, Structural, Civil and Mechanical plans. Verify locations for junction boxes, disconnect switches, stub-ups, etc., for connection to equipment furnished by others, or in other Divisions of this Work.
- B. Coordinate chases, slots, inserts, sleeves, and openings with general construction work and arrange in building structure during progress of construction to facilitate the electrical installations that follow.
- C. Set inserts and sleeves in poured-in-place concrete, masonry work, and other structural components as they are constructed.
- D. Sequence, coordinate, and integrate installing electrical materials and equipment for efficient flow of the Work. Coordinate installing large equipment requiring positioning before closing in the building.
- E. Coordinate electrical service connections to components furnished by utility companies.
- F. Coordinate installation and connection of exterior underground and overhead utilities and services, including provision for electricity-metering components.
- G. Comply with requirements of authorities having jurisdiction and of utility company providing electrical power and other services.
- H. Coordinate location of access panels and doors for electrical items that are concealed by finished surfaces.

1.4 SERVICEABILITY

SPECIAL PROVISIONS

- A. Furnish all products to provide the proper orientation of serviceable components to access space provided.
- B. Coordinate installation of all products to allow proper service areas for any items requiring periodic maintenance inspection or replacement.
- C. Replace or relocate all products incorrectly ordered or installed.

1.5 ACCESSIBILITY OF PRODUCTS

- D. Arrange all work to provide access to all serviceable and/or operable products. Layout work to optimize net usable access space within confines of space available. Advise Engineer, in a timely manner, of areas where proper access or required clear space cannot be maintained. Furnish Layout Drawings to verify this claim, if requested.
- E. Provide access doors in ceilings, walls, floors, etc., for access to j-boxes, automatic devices, and all serviceable or operable equipment in concealed spaces.

PART 2 - MATERIALS AND EQUIPMENT

2.1 PRODUCTS FURNISHED IN DIVISION 26

- A. All products furnished and installed in permanent construction shall be new, full-weight, standard in every way, and in first class condition.
- B. All equipment furnished by the CONTRACTOR shall be listed by and shall bear the label of Underwriters' Laboratories, Incorporated, (UL), or a Nationally Recognized Testing Laboratory (NRTL) acceptable to the local Code enforcement agency having jurisdiction. Acceptable NRTL's may be found at the following OSHA web address: www.osha.gov/dts/otpc/nrtl/nrtllist.html.
- C. Products shall be identical with apparatus or equipment, produced by a manufacturer which has been in successful operation for at least five years. All products of similar class or service shall be of one manufacturer.
- D. Capacities, sizes, and dimensions given are minimum unless otherwise indicated. All systems and products proposed for use on this project shall be subject to review for adequacy and compliance with Contract Documents.

2.2 PRODUCTS FURNISHED IN OTHER DIVISIONS

- A. Controls, including conduit, wiring, and control devices required for the operation of systems furnished in other Divisions shall be installed in accordance with Division 01, 26, and 40 Specifications.
- B. All equipment furnished by the CONTRACTOR shall be listed by and shall bear the label of Underwriters' Laboratories, Incorporated, (UL), or a Nationally Recognized Testing Laboratory (NRTL) acceptable to the local Code enforcement agency having jurisdiction. Acceptable NRTL's may be found at the following OSHA web address: www.osha.gov/dts/otpc/nrtl/nrtllist.html.

SPECIAL PROVISIONS

- C. All work on the project that falls under the jurisdiction of the electrical trade shall be performed by or under the supervision of Licensed Electricians in possession of Alaska State Fitness Cards in conformance with Alaska State Statues and current amendments.
- D. Provide complete power connections to equipment including but not limited to panelboards, service and transfer equipment, disconnects and motor running overcurrent protection. Where starters are provided as part of a packaged product, overcurrent heaters shall be provided.

2.3 IDENTIFICATION

A. Equipment Labels and Nameplates:

- 1. Provide rigid, engraved labels and nameplates of laminated plastic 1/16-inch-thick with white letters on a black or gray background. Labels for emergency equipment shall be red with white letters.
 - a. Securely attach labels with two stainless steel screws or rivets, minimum, per label.
 - b. Temporary markings are not permitted on equipment. Repaint trims, housings, etc., where markings cannot be readily removed. Refinish defaced surfaces.
 - c. No labeling abbreviations will be permitted without prior approval.
- 2. Label and Nameplate Locations:
 - a. Provide 1/2" minimum height letters on the following equipment:
 - 1). Service disconnects (red background).
 - 2). Secondary feeder breakers in distribution equipment. Designation as required by load served.
 - 3). Special equipment housed in cabinets, as designated on plans, on outside of door.
 - 4). Panelboards, switchboards, motor control centers, control panels, as designated on plans, on outside of door.
 - b. Provide 1/4" minimum height letters on:
 - 1). Disconnects and starters for motors or fixed appliances - (Include item designation and branch feeder circuit number).
 - 2). Junction boxes housing terminations and pull points for both power and control/instrumentation wiring.
 - 3). Designated electrical equipment.

SPECIAL PROVISIONS

- B. Branch Circuit Panelboard Schedules: Provide typed schedule (odd numbered circuits on left side or top, even on right side or bottom) under plastic jacket or protective cover to protect the schedule from damage or dirt. Securely mount on inside face of panelboard door. Define briefly, but accurately, nature of connected load (i.e., lighting, interior; receptacles, work bench; etc.) as approved.
- C. Empty Conduits: Provide tags with typed description of purpose, and location of opposite end, wired to each end of conduits provided for future equipment. Empty conduits shall be provided with a full length pull string for future use.
- D. Conduits: Provide tags with typed description of purpose, and location of opposite end, to each end of conduits provided. Identify raceways and cables with color banding as follows:
 - 1. Bands: Pretensioned, snap-around, colored plastic sleeves or colored adhesive marking tape. Make each color band 2 inches (51 mm) wide, completely encircling conduit, and place adjacent bands of two-color markings in contact, side by side.
 - 2. Band Locations: At changes in direction, at penetrations of walls and floors, at 50-foot (15-m) maximum intervals in straight runs, and at 25-foot (8-m) maximum intervals in congested areas.
- E. Junction Boxes: Provide tags with typed description showing the circuit numbers of wiring in all junction boxes provided.
- F. Conductors
 - 1. Branch circuit conductors shall be color coded as indicated in Section 26 05 19.
 - 2. Control and instrumentation conductors shall be identified by a numbering system provided by the CONTRACTOR. The numbering system shall assign each conductor a unique identification.
- G. Terminal blocks: Provide identification strips for all terminal blocks, marked in compliance with the applicable drawings. Identify wiring at terminal blocks to match the associated terminal block.
- H. Underground Warning Tape: Permanent, bright-colored, continuous-printed, vinyl tape with the following features:
 - 1. Not less than 6 inches wide by 4 mils thick (150 mm wide by 0.102 mm thick).
 - 2. Compounded for permanent direct-burial service.
 - 3. Embedded continuous metallic strip or core.
 - 4. Printed legend that indicates type of underground line.
- I. Install continuous underground warning tape during trench backfilling, for exterior underground power, control, signal, and communication lines. Locate 6 to 8 inches (150 to

SPECIAL PROVISIONS

200 mm) below finished grade. If width of multiple lines installed in a common trench or concrete envelope does not exceed 16 inches (400 mm), overall, use a single line marker.

PART 3 - EXECUTION

3.1 STORAGE AND HANDLING

- J. All items shall be delivered and stored in original containers, which shall indicate manufacturer's name, the brand, and the identifying number. Items subject to moisture and/or thermal damage shall be stored in a dry, heated place. All items shall be covered and protected against dirt, water, chemical and/or mechanical damage.

3.2 PROTECTION OF PRODUCTS

- A. The Contractor shall be held responsible for products to be installed under this Contract. The Contractor will be required to make good, at his own cost, any injury or damage, which said products, may sustain before Final Acceptance.

3.3 INSTALLATION

- A. All products shall be installed by skilled craftsmen. The norms for execution of the work shall be in conformity with the NEC and the NECA "Standards of Installation," which herewith is made part of these Specifications.
- B. Working Space and Required Clearances About Electric Equipment (600 VOLTS, NOMINAL, OR LESS):
 - 1. Sufficient access and working space shall be provided and maintained about all electric equipment to permit ready and safe operation and maintenance of such equipment.
 - 2. Working Clearances: Except as elsewhere required or permitted in the NEC, the dimension of the working space in the direction of access to live parts operating at 600 volts, nominal, or less and likely to require examination, adjustment, servicing, or maintenance while energized shall not be less than indicated in NEC Sections 110.26 and 110.34.
 - 3. CLEAR SPACES: Working space required by this section shall not be used for storage. When normally enclosed live parts are exposed for inspection or servicing, the working space, if in a passageway or general open space, shall be suitably guarded.
- C. Repair all surfaces and furnish all required products and labor to maintain fireproof, airtight and waterproof characteristics of the construction.
- D. Installation of all equipment shall be in accordance with manufacturer's instructions.

3.4 MOUNTING HEIGHTS

- A. Mounting heights shall be above finished floor (AFF) as noted below, unless otherwise shown or indicated.

SPECIAL PROVISIONS

1. Panelboards, 72 inches to top
2. Power Meter Base, per Utility
3. Disconnect Switches, 66 inches to top
4. Receptacles, 48 inches to center
5. Snap Switches, 48 inches to center

B. Other mounting heights are indicated on the Drawings by detail. Specific dimensions AFF are shown adjacent to the symbol

3.5 CUTTING AND PATCHING

- A. Obtain written permission from the Engineer before cutting or piercing structural members.
- B. Sleeves through floors and walls to be PVC-coated galvanized steel pipe, flush with walls, ceilings or finished floors, sized to accommodate the raceway. Grout all penetrations through concrete walls or floors. Holes through existing concrete shall be core drilled.
- C. Repair and refinish disturbed finish materials and other surfaces to match adjacent undisturbed surfaces. Install new fireproofing where existing fire stopping has been disturbed. Repair and refinish materials and other surfaces by skilled mechanics of trades involved.

3.6 PROTECTIVE FINISHES

- A. Take care not to scratch or deface factory finish on electrical apparatus and devices. Repair and repaint all marred or scratched surfaces.
- B. As a minimum, provide stainless steel components for metallic materials exposed to the weather.

3.7 TESTING

- A. Prior to final test, all switches, panelboards, devices, and fixtures shall be in place.
- B. Test all electrical systems in accordance with the Specifications.
- C. Make all changes necessary to balance the connected electrical loads on the complete system. Arrange for balanced conditions of circuits under connected load demands, as contemplated by the normal working conditions. Final load and balance test shall be demonstrated in the presence of the Engineer.
- D. Furnish one copy of certified test results to the Engineer prior to Final Inspection.

3.8 CLEAN-UP AND COMMISSIONING

SPECIAL PROVISIONS

- A. Throughout the Work, the CONTRACTOR shall keep the work area reasonably neat and orderly by periodic clean-ups.
- B. As independent parts of the installation are completed, they may be commissioned and utilized during construction.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 19 WIRE AND CABLE

PART 1 - GENERAL

1.1 RELATED WORK ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. All Division Specifications

1.2 DESCRIPTION

- A. This Section describes specific requirements, products, and methods of execution relating to wire and cable, 600 Volts or less, approved for use on this project.

1.3 QUALITY ASSURANCE

- A. All conductors shall be sized according to American Wire Gauge (AWG). Stranding, insulation, rating and geometrical dimensions shall conform to Underwriters Laboratory Specifications.

PART 2 - MATERIALS AND EQUIPMENT

2.1 SERVICE WIRING

- A. All wiring shall be 600 Volt, type XHHW-2.

2.2 FEEDER AND BRANCH CIRCUIT WIRING

- A. Insulation shall be 600 Volt, type XHHW-2 (Exterior or interior). Wiring in fixture channels shall be rated 90 degrees C. or over, 600 Volt. Do not install thermoplastic insulated conductors when the temperature is below 0 degrees F.

2.3 FLEXIBLE CORD

- A. All flexible cord shall be type SO or ST or for larger size cable, type G.

2.4 TYPE TS CABLE

- A. Single pair and triad twisted-instrument cable shall be 300-volt, 90 C conductor temperature, 18-gauge stranded copper with heat- and moisture-resistant PVC insulation, drain wire and overall PVC jacket. Individual pairs or triads shall be provided with an aluminum-mylar shield.

2.5 MISCELLANEOUS

SPECIAL PROVISIONS

- A. Miscellaneous wire and cable for special purpose applications and not covered in the categories as indicated above, shall be as shown on the plans and/or as required by the manufacturer for intended use.

2.6 MINIMUM SIZE

- A. Unless specified otherwise, minimum wire sizes shall be as follows:

1. All 120V homeruns over 75 ft: #10 AWG
2. Branch circuit wiring: #12 AWG
3. Control circuit wiring: #14 AWG
4. Low voltage circuits if a part of an approved cable assembly; #18 AWG (#16 AWG otherwise)
5. Cable or conductors for other special systems shall be as described in other Sections of the Specifications, noted on the Drawings, or recommended by the equipment manufacturer.

2.7 CONDUCTORS

- A. All conductors used on this project shall be stranded copper.
- B. Conductors shall have compression terminations where terminated on screw terminals.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Conduit shall be completely installed, free from obstructions, and clean before installing conductors. Provide conductors from outlet to outlet and splice only at outlet or junction boxes using terminal strips identified for use; splices shall be avoided and shall not be utilized unless given written consent by the ENGINEER. Install all conductors in a single raceway at one time and leave sufficient cable at all fittings or boxes. Keep minimum bending radii. Lubricants for wire pulling, if used, shall conform to UL requirements for the insulation and raceway material involved.

3.2 CONDUCTOR SUPPORT

- A. Provide conductor supports as recommended by the National Electrical Code (NEC) or cable manufacturer in vertical conduits.

3.3 SPLICING

- A. No splicing or joints will be permitted in either feeder or branch circuits unless written authorization from the ENGINEER has been requested and provided.

3.4 CONDUCTOR TERMINATION

SPECIAL PROVISIONS

A. Stranded Conductors

1. Provide all power, control, communication and alarm conductors that terminate on equipment or terminal strips with compression type solderless lugs. T and B "Sta-Kon" terminals or approved equal.

3.5 CONDUCTOR PHASE COLOR CODING

- #### A. All service, feeder and branch circuit conductors throughout the project's secondary electrical system shall be color coded as follows:

1. Phase 240/120 VAC

A	Black
B	Red
Neutral	White
Ground	Green/Bare

2. Phase 480Y/277 VAC

A	Brown
B	Orange
C	Yellow
Neutral	Grey
Ground	Green/Bare

- #### B. Where color code conductors are not commercially available, colored non-aging plastic tape may be utilized in accordance with the NEC.
- #### C. Phases in panelboards and similar equipment shall be connected Phase A, B, C, from left to right, top to bottom, front to back.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 26 GROUNDING

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- A. All Division Specifications

1.2 DESCRIPTION

- A. This Section describes general requirements, products, and methods of execution relating to the furnishing and installation of a grounding system complete as required for this Project.

1.3 REQUIREMENTS

- A. The requirement for the Grounding Electrode System (GES) shall conform to Article 250 of the National Electrical Code (NEC).

1.4 SPECIAL REQUIREMENTS

- A. The lift station shall be provided with a Grounding Electrode System (GES) as described herein, as shown on the drawings, and to the Code as outlined in the NEC.
- B. Unless specified elsewhere, the ohmic values for grounds and grounding systems shall be as follows.
 - 1. For grounding metal enclosures and frames for electrical and electrically operated equipment: 5 ohms maximum.
 - 2. For grounding systems to which electrical utilization equipment and appliances are connected: 5 ohms maximum.
 - 3. For grounding secondary distribution systems, neutrals, noncurrent carrying metal parts associated with distribution systems, and enclosures of electrical equipment not normally within reach of other than authorized and qualified electrical operating and maintenance personnel: 10 ohms maximum.
 - 4. For equipment not covered in the above: 10 ohms maximum

PART 2 - MATERIALS AND EQUIPMENT

2.1 EQUIPMENT

- A. All ground rods and conductors for ground systems shall be as follows:
 - 1. Ground rods shall be 3/4" x 10' copper clad steel.

SPECIAL PROVISIONS

2. Grounding conductor for building service ground to be bare copper.
3. Conduit used for mechanical protection shall be Schedule 40-PVC. Metallic conduit shall not be used for single wire ground circuits unless both ends are securely bonded.

2.2 CONNECTIONS

- A. Joints in grounding conductors and mats below grade shall be made with solderless compression connections or with AMPACT TAP equipment. Terminations above grade shall be made with solderless lugs, securely bolted in place. Terminations below grade shall be made using an exothermic welding method.

PART 3 - EXECUTION

3.1 SERVICE GROUND

- A. Create an equipotential plane for the grounding system for this project at the service entrance equipment by connecting the following to a service entrance ground bar:
 1. The commercial system's grounded neutral conductor.
 2. All metallic water lines to the building including both well lines and the main distribution line.
 3. All "man-made" grounds specified to be installed.
 4. The service entrance board and/or main disconnect and all conduits entering and leaving the board/disconnect.
 5. Other items or equipment called for on the Drawings.
- B. Current carrying capacity of the grounding and bonding conductors shall be in accordance with Article 250 of the NEC.

3.2 EQUIPMENT GROUND

- A. The raceway system shall be bonded in conformity with NEC requirements to provide a continuous ground path. An additional equipment grounding conductor, of the wire type, sized in conformity with the NEC shall be installed in each raceway.
- B. Provide separate grounding conductor securely bonded and effectively grounded to both ends of all non-metallic raceways and all flexible conduit.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 29 SUPPORTING DEVICES

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Related Work Specified Elsewhere.
 - 1. Section 26 05 33: Conduit and Fittings.
 - 2. Section 26 05 34: Outlet Boxes.
- B. Description of System.
 - 1. Support and align raceways, cabinets, boxes, fixtures, etc., in an approved manner and as specified.

PART 2 - MATERIALS AND EQUIPMENT

2.1 MATERIAL

- A. Support raceways and enclosures on approved types of wall brackets, ceiling trapeze hangers, or malleable iron straps.
 - 1. "Kindorf", "Unistrut", or equal.
 - 2. Plumbers perforated strap is not permitted as means of support.
 - 3. Stainless steel supports and hardware in wet locations.
 - 4. Provide end caps on all exposed corners and edges of supports and fittings.
- B. Material: 300 Series Stainless Steel
- C. Slotted-Steel Channel Supports: Flange edges turned toward web, and 9/16-inch- (14-mm-) diameter slotted holes at a maximum of 2 inches (50 mm) o.c., in webs.
 - 1. Channel Thickness: Selected to suit structural loading.
 - 2. Fittings and Accessories: Products of the same manufacturer as channel supports.
- D. Raceway and Cable Supports: Manufactured clevis hangers, riser clamps, straps, threaded C-clamps with retainers, ceiling trapeze hangers and wall brackets.
- E. Expansion Anchors: Carbon-steel wedge or sleeve type.
- F. Toggle Bolts: All-steel springhead type.

SPECIAL PROVISIONS

- G. Powder-Driven Threaded Studs: Heat-treated steel.
- H. Earthquake Anchorages.
 - 1. Anchor equipment weighing more than 100 pounds to the building structure to resist lateral earthquake forces.
 - 2. Total lateral (earthquake) force shall be 1.00 times the equipment weight acting laterally in any direction through the equipment center of gravity. Provide adequate backing at structural attachment points to accept the forces involved.
 - 3. Provide equipment supported by flexible isolation mounts with earthquake restraining supports positioned as close to equipment as possible without contact in normal operation (earthquake bumpers). The maximum lateral displacement due to the computed earthquake force from above shall not exceed 1.5 inches. Floor mounted equipment weighing less than 2000 pounds may have one 6 x 6 x 3/8 x 18-inch steel angle bolted to the floor with four 5/8 inch diameter bolts placed on each of four sides of the equipment.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Pipe straps and hanger rods shall be fastened to concrete by means of inserts, expansion bolts, or powder-driven fasteners, and to hollow masonry by means of toggle bolts.
- B. Cable trays, multi-conduit runs, etc., shall be supported by double rods at each point of support and be supported independently of any other building system.
- C. Secure boxes, wall brackets, cabinets, and hangers by means of toggle bolts in gypboard and masonry CMU and wood screws in wood construction. Obtain permission before using any type of powder-powered studs.
- D. Support luminaires from structural members capable of supporting total weight, and independently from wiring system. Attach to gypsum board by approved toggle bolts (minimum of one bolt for each two (2) square feet of fixture or fraction thereof).

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 33 CONDUITS AND FITTINGS

PART 1 - GENERAL

1.1 WORK SPECIFIED ELSEWHERE

- A. 26 05 00 – General Electrical Provisions;
- A. All Division Specifications

1.2 DESCRIPTION

- A. This section describes specific requirements, products, and methods of execution relating to conduit and conduit fittings approved for use on this project. Type, size and installation methods shall be as shown on Drawings, required by Code and specified in these Specifications.

1.3 QUALITY ASSURANCE

- A. Conduit and conduit fittings shall be standard types and sizes as manufactured by a nationally recognized manufacturer of this type of materials and be in conformity with applicable standards and UL listings.

1.4 SUBMITTALS

- A. Shop drawings and product data: Submit shop drawings and product data for the products of this section in compliance with Section 26 05 00.

PART 2 - MATERIALS AND EQUIPMENT

2.1 GALVANIZED RIGID CONDUIT (GRC)

- A. Galvanized rigid conduit shall be mild steel with continuous welded seam, hot-dip galvanized complying with ANSI C80.1 and shall be UL listed.
- B. Elbows, bends, and fittings shall be made of full weight materials complying with the above requirements and shall be coated and threaded the same as conduit.
- C. Threads for conduit shall be tapered and clean cut. All factory threads shall be hot dip galvanized after cutting.

SPECIAL PROVISIONS

- D. Conduit shall be 1/2-inch trade size or larger and shall be manufactured by Allied Tube and Conduit Corp., Triangle PWC, Inc., or approved equal.

2.2 PLASTIC COATED RIGID STEEL CONDUIT

- A. Rigid Steel Conduit with bonded outer coating of Polyvinyl chloride (PVC), nominal 40 mils in thickness, applied by plastisol dip or fluidized bed fusion method. Prime conduit with adhesive primer to ensure permanent bond of PVC coating.
- B. Elbows, bends, and fittings shall be made of full weight materials complying with the above and shall be coated and threaded the same as conduit.
- C. Threads for conduit shall be tapered and clean cut. All threads shall be galvanized after cutting.
- D. Conduit shall be 1/2-inch trade size or larger and shall be manufactured by Republic Steel "Plastic Coated Galvite," Robroy Industries "Plasti-Bond," Perma-Cote or approved equal.

2.3 LIQUIDTIGHT FLEXIBLE METAL CONDUIT

- A. Liquidtight flexible conduit shall be manufactured from galvanized steel strip, sealed with a polyvinyl outer jacket and shall be UL listed.
- B. Fittings shall be designed for use with liquidtight flexible conduit and shall maintain electrical continuity throughout fittings and conduit.
- C. Liquidtight flexible metal conduit shall be 1/2-inch trade size or larger and shall be manufactured by O-Z/Gedney Co., Southwire Co., or approved equal.

2.4 FLEXIBLE EXPLOSION PROOF CONDUIT (COUPLINGS)

- A. Flexible explosion proof conduit shall be manufactured from braided steel or copper alloy with inner insulating liner.
- B. Fittings shall be threaded.
- C. Flexible explosion proof conduit shall be 1/2-inch trade size or larger and shall be manufactured by Crouse-Hinds "Series EC," Killark "Series EKJ," or equal.

2.5 FITTINGS

- A. Expansion fittings shall be O.Z. type AX, EX, EXDS, TX, or EXE; Crouse Hinds type XJ; or approved equal.

SPECIAL PROVISIONS

- B. Fittings utilized with rigid steel and aluminum shall be galvanized steel. Conduit bushings shall be of the insulated type. Where grounding bushings are required, insulated grounding bushings with pressure type lugs shall be provided. Lock rings on non-hub terminations shall be of the 'gland' type.
- C. Fittings for liquid-tight flexible conduit shall be steel or malleable iron, of a type incorporating a threaded grounding cone, nylon or plastic compression ring, and a tightening gland, providing a low resistance ground connection. All throats shall be insulated.

PART 3 - EXECUTION

3.1 CONDUIT USAGE

- A. Plastic coated rigid conduit shall be used for all below grade and exterior general wiring.
- B. Plastic coated rigid conduit shall be used for in-slab and in corrosive areas.
- C. Liquidtight flexible steel conduit shall be used in lengths 18 to 24 inches for connections to motors or equipment subject to vibration and transitions from below grade to above grade connections where lateral movement is possible. Longer lengths may be used for equipment connection if grounding conductor is installed through conduit.
- D. Flexible explosion-proof conduit shall be used in Class I Group D, hazardous areas for connections to motors or equipment subject to vibration where flexible conduit connection is required. Maximum length is 3 feet.
- E. Galvanized rigid conduit may be used in interior, electrically unclassified locations.

3.2 CONDUIT INSTALLATION, GENERAL

- A. Install conduit in buildings exposed, except specifically designed runs indicated on the drawings to be embedded in concrete slabs or walls.
- B. Conduit field joints shall be cut square and reamed smooth. Threads shall be cleanly cut and joints drawn up tight. After make-up, all exposed, non-galvanized surfaces of completed joint shall receive two coats of zinc-rich paint equal to "Zinc it", manufactured by CRC. No running threads will be permitted.
- C. Offsets and bends shall be made carefully, without reducing cross sectional area, and shall not be less than the radius of standard elbows.
- D. Devices located on walls shall be serviced from above, unless otherwise indicated.

SPECIAL PROVISIONS

- E. Install expansion fittings where conduits cross building expansion joints.
- F. Provide gastight and watertight seals at all underground building entries. Provide seals between wall and conduit and between conduit and conductors. Provide seal-off fittings at boundaries of electrically classified spaces in accordance with the NEC.
- G. Raceways penetrating vapor barriers, exterior building walls or traversing from warm to cold areas shall be sealed (at the penetration point) with a non-hardening duct sealing compound to prevent the accumulation of moisture. Concrete grout shall be used to seal all voids around raceway penetrations of concrete walls.
- H. All metal conduits shall have insulating bushings and shall have locknuts inside and outside of enclosure box, etc. Conduits smaller than 1-1/4-inch trade size shall be equipped with bushings and shall have locknuts inside and outside of enclosure.
- I. All conduit runs shall be grounded in an effective and approved manner at point of origin and shall maintain a continuous ground throughout all runs, cabinets, pull boxes, and fittings from point of service to all outlets.
- J. All conduit stubbed up out of the floor and terminated inside of an enclosure shall have insulating grounding bushings installed.
- K. Conduits concealed in concrete shall be secured in place during placing of concrete.
- L. Conduit Supports:
 - 1. Support conduits by wall brackets, pipe straps, or trapeze hangers spaced not more than eight (8) feet on center.
 - 2. Conduits shall be supported from the structural system, not from the ceiling ductwork, or piping suspension systems. Provide additional support as required for junction and pull boxes.
 - 3. Support single conduits 1-1/4-inch trade size and larger by means of rods and cast ring hangers. Support multiple runs in a similar manner or use a common trapeze hanger as required for span and loading. Provide end caps for trapeze type hangers in mechanical rooms. Conduit trapeze hangers may be fastened by means of approved heavy strap supports.
- M. All conduit runs shall be completed and cleaned free from foreign matter inside before conductors are drawn in. After installation conduit ends shall be plugged or capped to prevent the entrance of foreign materials.
- N. Install exposed raceways parallel or at right angles to nearby surfaces or structural members and follow surface contours as much as possible. Run parallel or banked raceways together on common supports. Make parallel bends in parallel or banked

SPECIAL PROVISIONS

runs. Use factory elbows only where elbows can be installed parallel; otherwise, provide field bends for parallel raceways.

- O. All conduits not used by this Contract shall have a pull wire installed and securely tied off at each end for future conductor installation.
- P. All conduit run underground shall be buried a minimum of 24" below grade.
- Q. All raceways passing from hazardous to non-hazardous areas shall have a seal-off fitting installed within 18" of either side of the hazardous location boundary. No other fitting is allowed between the seal-off fitting and the boundary.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 34 OUTLET BOXES

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Section 26 05 00: General Electrical Provisions

A. All Division Specifications

1.2 DESCRIPTION

A. This section describes general requirements, products and methods of execution relating to outlet boxes for use with wiring devices and lighting fixture outlets approved for use on this project. All boxes shall be sized per NEC - Article 314.

1.3 QUALITY ASSURANCE

A. UL approval for intended usage shall constitute proof of acceptable quality.

PART 2 - MATERIALS AND EQUIPMENT

2.1 CAST BOXES

A. Cast steel boxes equipped with mounting lugs, threaded hubs and gasketed covers shall be used in the following locations:

1. All exterior locations, except when noted otherwise on the drawings;
2. All wet or damp locations;
3. Where exposed to mechanical damage;
4. All exposed interior locations below 48" above floor;
5. Where shown on Drawings.

B. In electrically classified (hazardous) locations, boxes shall be UL listed for the Class, Division, and Group of the location.

SPECIAL PROVISIONS

2.2 ACCESSORIES

- A. Box covers, extension rings, bases, hanger bars, etc., for use in connection with the installation, shall be approved for use in the various applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Outlet Boxes shall be securely fastened in position and supported independently of the conduit system.
- B. Boxes shall be installed true to the building lines and at equal heights in conformity with mounting heights specified elsewhere in other Sections of the Specifications.
- C. Provide the best suitable box for each outlet requirement.
- D. Boxes shall have only the holes necessary to accommodate the conduits at point of installation. All boxes shall have lugs or ears to secure covers.
- E. All boxes shall be accessible.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 05 35 PULL AND JUNCTION BOXES

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. Section 26 05 01: Basic Materials and Methods
- C. Section 26 05 34: Outlet Boxes

1.2 DESCRIPTION

- A. This Section describes general provisions, products and methods of execution relating to pull and junction boxes approved for use on this project. Furnish all such boxes, whether shown or not, in order to conform to requirements for maximum pulling length and maximum number of bends allowed.

1.3 QUALITY ASSURANCE

- A. Pull and junction boxes 150 cubic inches and smaller shall conform to Section 26 05 35.
- B. Pull and junction boxes larger than 150 cubic inches shall conform to Underwriters Laboratory (UL) standard 50-1970, Cabinets and Boxes. The UL label shall constitute proof of acceptable quality.

PART 2 - MATERIALS AND EQUIPMENT

2.1 GENERAL

- A. All pull and junction boxes shall conform to Article 314 of the NEC and the following requirements:
 - 1. Boxes exposed to rain or installed in damp or wet locations shall be NEMA 4X, stainless steel.
 - 2. Boxes installed underground shall be either precast concrete or cast iron.

SPECIAL PROVISIONS

3. Special boxes, as noted on the Drawings, shall be installed in areas of specific service and/or hazards.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. All boxes shall be installed so that covers are readily accessible and adequate working clearance is maintained after completion of the installation.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 24 16 PANELBOARDS

PART 1 - GENERAL

1.1 DESCRIPTION

A. The work under this section includes furnishing and installing panelboards and related appurtenances, complete.

1.2 QUALITY ASSURANCE

A. Panelboards shall be UL listed and shall comply with the NEC.

1.3 SUBMITTALS

A. Shop Drawings and Product Data: Submit shop drawings and product data for the products of this section in compliance with Section 26 05 00.

B. Operation and Maintenance Manuals: Submit operation and maintenance manuals for the products of this section in compliance with Section 26 05 00.

1.4 MANUFACTURERS

A. Square D, or approved equal

PART 2 - MATERIALS AND EQUIPMENT

2.1 PANELBOARDS

A. A nameplate shall be provided listing panel type and ratings.

B. Bus bars for the mains shall be of copper, sized in accordance with UL standards. Unless otherwise noted, full size neutral bars shall be included. Bus bar taps for panels with single pole branches shall be arranged for sequence phasing of the branch circuit devices.

C. The short circuit rating of the assembled panelboard shall be as indicated on drawing and in accordance with UL standards and their test verification.

D. All panelboards shall be fitted with an equipment ground bar.

SPECIAL PROVISIONS

- E. Boxes shall be made from unpainted code gauge stainless steel having multiple knockouts except where noted. Boxes shall be of sufficient size to provide a minimum gutter space of 4" on all sides. Lighting panel boxes shall use three-piece construction wrapper sheet for back and two sides with removable top and bottom ends.
- F. Hinged doors covering all switching device handles shall be included in all panel trims, except that panelboards having individual metal clad externally operable dead-front units may be supplied without such doors.
- G. Doors in panelboard trims shall conform to the following:
 - 1. In making switching device handles accessible, doors shall not uncover any live parts.
 - 2. Doors shall have flush-type cylinder lock and catch. Door hinges shall be concealed. All locks shall be keyed alike. A directory frame and card having a transparent cover shall be furnished on each door. Directory shall be typed, not handwritten.
 - 3. The trims shall be fabricated from code gauge sheet stainless steel.
- H. All exterior and interior surfaces of the panelboard trims shall be properly cleaned.
- I. Breakers shall be rated as specified in Section 26 28 16 - Overcurrent and Protective Devices.
- J. Single pole 15 and 20-ampere circuit breakers shall be UL listed as "Switching Breakers" and carry SWD marking.
- K. Branch circuit devices shall be bolt-on type.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install panelboards so top breaker is not higher than 6 feet above the floor.
- B. Distribute and arrange conductors neatly in the wiring gutters. Contractor shall maintain the largest practical bending radius of conductors.
- C. Connect grounding electrode conductor to the equipment grounding terminal bar. Verify that the ground bar is securely bonded to the load center or panelboard cabinet and that it is not connected to the neutral bar except at "service equipment" as permitted in the latest revision of NEC Article 250.
- D. Inspect and remove any debris, scrap wire, etc. from the cabinet interior before installing fronts.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 27 26 WIRING DEVICES

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. Section 26 05 01: Basic Materials and Methods

1.2 DESCRIPTION

- A. This Section describes general provisions, products, and methods of execution relating to line voltage wiring devices approved for use on this project.

1.3 QUALITY ASSURANCE

- A. Manufacturers mentioned and catalog numbers specified are for establishment of type, configuration, and quality. Other manufacturers and types may be submitted for approval.

PART 2 - MATERIALS AND EQUIPMENT

2.1 LIGHTING SWITCHES

- A. Provide wiring devices indicated. Catalog numbers shown are Leviton unless noted otherwise. Equal devices manufactured by Pass and Seymour, Slater, Bryant, Hubbell and G.E. are acceptable. Provide all similar devices of same manufacturer. Provide devices and device plates of a color and finish specified unless noted otherwise on the Drawings.
- B. Provide 20 AMP, 277V rated switches with Underwriters Laboratory approved for tungsten lamp loads or inductive loads without derating. Switches shall be as follows:

Single Pole	CAT.NO. 1221-2
Three-way	CAT NO. 1223-2

SPECIAL PROVISIONS

2.2 RECEPTACLES

- A. Provide grounding type, weather-resistant receptacles as follows, or as required to match equipment furnished in this or other Divisions.
 - 1. Duplex, single phase, 3-wire devices
20A-125V CAT.NO. 5362 NEMA #5-20R
 - 2. Simplex, locking type, single phase, 3-wire devices
20A-125V CAT. NO. 2310 NEMA #L5-20
 - 3. Ground fault circuit interrupter (GFI)
20A-125V CAT. NO. 6899 NEMA #5-20R
- B. Outlets requiring ratings and configurations different from those listed above shall be provided as shown on the Plans and/or required by the equipment served.

2.3 PLATES

- A. All receptacles shall be furnished with cast, weatherproof and gasketed covers with the exception of the exterior receptacles. These receptacles shall be provided with raintight while-in-use covers equal to TayMac. #MX6200.
- B. Switches shall utilize remote 'lever-type' gasketed cast covers.

PART 3 - EXECUTION

- A. Install all wiring devices indicated complete with cover plates. Cover plates shall fit snugly on box and line up true with adjacent building lines.
- B. All switches shall be installed so their handles move in a vertical plane.
- C. Door swings shall be checked and, if necessary, switches shall be relocated to place them on the striker side of the door.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 28 16 OVERCURRENT PROTECTIVE DEVICES

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. All Division Specifications

1.2 DESCRIPTION

- A. This Section describes general requirements, products, and methods of execution relating to overcurrent protective devices approved for use on this project. Type, duty rating and characteristics, fault interrupting capability and coordination requirements shall be determined from the plans and the following Specifications.

1.3 QUALITY ASSURANCE

- A. Devices shall be the latest approved design as manufactured by a nationally recognized manufacturer and in conformity with applicable standards and UL listed.

PART 2 - MATERIALS AND EQUIPMENT

2.1 MOLDED CASE CIRCUIT BREAKERS

- A. Molded case circuit breakers shall be suitable for individual as well as panelboard mounting. Bolt-on type, unless "plug-on" type specifically allowed.
- B. The breakers shall meet NEMA and/or UL specifications as applicable to frame and size, standard rating and interrupting capability. Breakers installed in panelboards shall have short circuit interrupt ratings that match those of the panelboard.
- C. The breakers shall be one-, two-, or three-pole as scheduled, operate manually for normal ON-OFF switching and automatically under overload and short circuit conditions.
- D. Operating handle shall open and close all poles simultaneously on a multi-pole breaker. Operating mechanism shall be trip-free so that contacts cannot be held closed against abnormal overcurrent or short circuit condition.

SPECIAL PROVISIONS

2.2 FUSIBLE SWITCHES

- A. Fusible switches shall be designed for individual mounting or for panelboard mounting.
- B. Switches designed for panel mounting shall have the same properties as specified for the individually mounted switches.
- C. Switches shall conform to NEMA and UL 67 standard.
- D. Switches shall be used in conjunction with fuses as specified in the following in order to constitute a complete "Overcurrent Protective Device".

2.3 FUSES

- A. Fuses of the sizes and types specified on the Drawings shall be installed. Fuses shall be capable of interrupting the prospective symmetrical fault current. Furnish one complete set of spare fuses of each rating installed to the Owner. Provide fuse puller(s) for fuse sizes used.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Size devices as required by the load being served, or as shown on the drawings.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 29 13 MOTOR STARTERS

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

A. Section 26 05 00: General Electrical Provisions

A. All Division Specifications

1.2 DESCRIPTION

A. This Section describes general requirements, products, and methods of execution relating to manual and magnetic motor starters provided in this and other Divisions. Overloads shall be furnished and installed in accordance with Division 26.

1.3 QUALITY ASSURANCE

A. Equipment shall be of the latest approved designs manufactured by a nationally recognized manufacturer and in conformity with the governing NEMA standards.

1.4 SUBMITTALS

A. Submit motor starters in accordance with Section 26 05 00 requirements.

PART 2 - MATERIALS AND EQUIPMENT

2.1 AC FRACTIONAL HORSEPOWER MANUAL STARTERS

A. The manual starter shall consist of a manually operated toggle switch equipped with melting alloy-type thermal overload relay.

B. Thermal unit shall be one-piece construction and interchangeable. Starters shall be inoperative if thermal unit is removed.

2.2 AC MANUAL STARTERS - LINE VOLTAGE TYPE

A. Manual starters shall be constructed and tested in accordance with the latest published NEMA standards.

SPECIAL PROVISIONS

- B. The manual starters shall consist of a manually operated switch equipped with melting alloy type thermal overload relays in every phase conductor. The overload relays shall be trip-free and the starter shall be inoperative if any thermal unit is removed. Thermal units must be one-piece construction.
- C. Starters shall be furnished in a NEMA 4X enclosure unless otherwise indicated on the plans or required by the conditions of the area in which they are installed.

2.3 AC MAGNETIC STARTERS - LINE VOLTAGE TYPE

- A. Motor starters shall be across-the-line magnetic type rated in accordance with NEMA standards, sizes and horsepower ratings.
- B. Starters shall be mounted individually in their own NEMA 4X rated enclosures or as shown on the drawings.
- C. Starters shall be furnished with adjustable solid-state overload relay providing motor overcurrent protection, ground fault, jam/stall protection, phase loss and reversal.
- D. Starters through NEMA size three shall be equipped with double break silver alloy contacts. All contacts shall be replaceable without removing power wiring or removing starter from panel.
- E. Coils shall be of molded construction.
- F. Starters shall be suitable for the addition of at least four external electrical interlocks of any arrangement normally open or normally closed.
- G. All starters shall have as a minimum, an enclosure mounted, "running" pilot light.

2.4 AC COMBINATION STARTERS WITH CIRCUIT BREAKER

- A. Combination starters shall be manufactured in accordance with the latest published NEMA standards, sizes and horsepower ratings.
- B. The disconnect handle used on combination starters shall always be in control of the disconnect device with the door opened or closed. The disconnect handle shall be clearly marked as to whether the disconnect device is "on" or "off".
- C. Starters shall be in accordance with Paragraph 2.03 - AC MAGNETIC LINE STARTERS - LINE VOLTAGE TYPE.

2.5 ACCESSORIES

SPECIAL PROVISIONS

- A. Provide push buttons, selector switches, pilot lights, elapsed time meters, etc., as indicated on the drawings or as required herein and elsewhere in these specifications. Device shall be standard components normally supplied from the factory with the starters.

PART 3 - EXECUTION

3.1 COORDINATION

- A. Coordinate all details pertaining to the motor control equipment with the Division of these Specifications where the equipment is specified.

3.2 CONTROL WIRING

- A. Control wiring and control devices shall be provided under the Specification Section in which the controlled equipment is specified.

3.3 NAMEPLATES

- A. Provide nameplates for all starters. Coordinate names with mechanical equipment lists.

3.4 OVERLOAD PROTECTION

- A. Install overload protection. Verify that protection corresponds to motor full load current and that motors starts and operates properly.
- B. Provide Ambient Compensated or Ambient insensitive overload relays on all motor circuits that serve motors in remote locations.

3.5 CONTROL CIRCUITS

- A. Install control circuits and perform continuity tests. Check control and interlock wiring for proper operation.
- B. Where there are wires in the starter that are energized from an external source, a permanent warning sign shall be attached to the front and either a separate disconnect switch shall be installed in the starter or interlock contact(s) shall be provided on the starter disconnecting device to de-energize the externally supplied circuit inside the starter.

SPECIAL PROVISIONS

3.6 LABELS

- A. When starter interlocks with other starters or controls, provide a label on the inside of the cover stating nature of interlock system.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 29 14 SOLID-STATE REDUCED VOLTAGE STARTERS

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. General: The CONTRACTOR shall provide solid-state reduced voltage motor starters, complete and operable, in accordance with the Contract Documents.
- B. Single Manufacturer: Like products shall be the end product of one manufacturer in order to standardize appearance, operation, maintenance, spare parts, and manufacturer's services. However, the CONTRACTOR shall remain responsible to the OWNER for the WORK of the Contract.
- C. Coordination: Equipment provided under this Section shall operate the electric motor and the driven equipment indicated under other equipment specifications. The CONTRACTOR's attention is specifically directed to the need for proper coordination of the WORK under this Section with the WORK under the equipment section.

1.2 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Division 01 Requirements, except that Shop Drawing information for the drives shall be submitted as part of the information for the driven equipment.
- B. Shop Drawings
 - 1. Equipment information
 - a. Name of drive manufacturer
 - b. Type and model
 - c. Assembly drawing and nomenclature
 - d. Maximum heat dissipation capacity (kW)
 - 2. Written description of ladder diagram operation. Custom schematics shall be furnished. Diagrams shall include all remote devices.
 - 3. System block diagram and interconnection diagrams.
 - 4. Replacement parts list and operation and maintenance instructions.

SPECIAL PROVISIONS

PART 2 - PRODUCTS

2.1 GENERAL

- A. Solid-state reduced voltage soft starters (RVSS) shall be UL listed and consist of a SCR-based power section, logic board, and paralleling bypass contactor.
- B. Starters shall conform to the following:
 - 1. The SCR-based power section shall consist of 6 back-to-back SCRs, 2 SCRs per phase, and shall be rated for a minimum peak inverse voltage rating of 2.5 times line voltage, 1200 PIV for 480 volts. Units using triacs or SCR/diode combinations shall not be acceptable. Resistor/capacitor snubber networks shall be used to prevent false firing of SCRs due to dv/dt characteristics of the electrical system.
 - 2. Starters shall include the following logic and control functions:
 - a. Adjustable maximum starting current from 200 percent to 500 percent
 - b. Ramp time adjustment from 1 to 40 seconds
 - c. Adjustable linear voltage deceleration
 - d. Kick start
 - e. Phase loss protection
 - f. Under-voltage protection
 - g. Current unbalance protection
 - h. Phase rotation protection (prevents starting)
 - i. Class 20 electronic overload protection. Heat sink over-temperature protection shall be provided.
 - j. Dry contacts for remote indication of RUN and TRIP status
 - 3. The paralleling bypass contactor shall energize when the motor reaches full speed. The contactor shall be an integral part of the reduced voltage starter and be connected directly across the power SCRs.
 - 4. Stand alone starter(s) shall be housed in a NEMA 4X enclosure. Heaters and cooling fans shall be provided if required to maintain the equipment within the manufacturer's environmental guidelines; environmental compensation for starters shall be the responsibility of the CONTRACTOR.
 - 5. The starter shall be provided with a control power transformer sized to accommodate all controls indicated on the Contract Drawings. An input power circuit breaker shall be provided. Lug termination of the incoming power conductors shall not be permitted. The starter and circuit breaker shall be rated for 65 KAIC RMS at 480 volts.

SPECIAL PROVISIONS

6. The starter shall have door-mounted indication of motor run in the form of a 'green' LED lamp.
7. The starter shall be provided with the operator controls indicated. Operator interface controls shall be heavy duty, oil-tight, 30.5 mm.
8. Provide module: Allen Bradley 100-DNY42R or equal for distributed starters with (4) inputs and (2) outputs.

2.2 MANUFACTURERS, OR EQUAL

- A. Solid-state reduced voltage starters shall be **Allen-Bradley SMC-flex with pump control option**, or equal.

PART 3 - EXECUTION

3.1 GENERAL

- A. The CONTRACTOR shall install the solid-state reduced voltage starters in accordance with the manufacturer's published instructions.
- B. The CONTRACTOR shall
 1. Verify that the overload devices are properly adjusted for the equipment installed.
 2. After the equipment is installed, touch up scratches and verify that nameplate and other identification is accurate.
- C. Inspection, Startup, Field Adjustment: An authorized service representative of the manufacturer shall supervise the following and certify the equipment and controls have been properly installed, aligned, and readied for operation.
 1. Installation of the equipment
 2. Inspection, checking, and adjusting the equipment
 3. Startup and field testing for proper operation

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 26 50 00 LIGHTING FIXTURES

PART 1 - GENERAL

1.1 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 26 05 00: General Electrical Provisions
- B. All Division Specifications

1.2 DESCRIPTION:

- A. This Section describes general requirements, products, and methods of execution relating to lighting fixtures approved for use on this project.

1.3 QUALITY ASSURANCE:

- A. The fixture shall be a standard cataloged item as described on the Drawings and as made by a nationally recognized manufacturer and UL approved.

1.4 SUBMITTALS:

- A. In addition to the requirements of Section 26 05 00, the following information shall be provided:
 - 1. Luminaires: Submit complete photometric data for each substitution, prepared by independent laboratories, including candle power distribution curves in two or more planes, candle power chart 0 to 90 degrees, lumen output chart, average maximum brightness data, and coefficients of utilization for zonal cavity calculations, luminaire finish and metal gauge, heat exchange, and air handling data.
 - 2. Light Source: Manufacturer's Catalog Data - Technical data to include voltages, colors, approximate hours life, approximate initial lumens, lumen maintenance curve, lamp type, and base. Submit copy of light source purchase order for project. Copy to include individual quantities.
 - 3. Ballasts/Drivers: Manufacturer's Catalog Data - Technical data to include nominal watts, input voltage, starting current amps, input watts, sound rating, power factor, low temperature, environmental ratings, etc.

SPECIAL PROVISIONS

4. Photocells: Manufacturer's Catalog Data - Technical data to include voltage, capacity, contacts, operating levels, enclosure, temperature range, time delay, power consumption, and dimensions.
5. Substitution: Substitutions will be accepted only if judged equal or better in performance characteristics, construction quality, ease of maintenance, and aesthetic appearance. Only one such submittal will be permitted.

PART 2 - PRODUCTS

- A. Provide fixtures in conformance with Fixture Schedule, with all required flanges and supports.
- B. Fixture shall be suitable and rated for the environment installed. The above ground lift station is considered a damp, dirty environment.

PART 3 - EXECUTION

3.1 FIXTURE INSTALLATION:

- A. Install fixtures per the lighting plan, level, plumb and true. Coordinate exact locations with other trades. Align rows accurately in three dimensions. Adjust fixtures to minimize shadowing.

3.2 COORDINATION:

- A. Coordinate Work with other trades to ensure that fixtures installed in fire rated ceilings shall be either rated same as construction or tented in an approved manner to satisfactorily maintain the rating of the construction.

3.3 CLEANING:

- A. After construction of total project is completed, wash dirty luminaires inside and out with a non-abrasive mild soap or cleaner. Clean luminaire plastic lenses with antistatic cleaners only. Touch up all painted surfaces of luminaires with high-grade exterior enamel.

3.4 MOUNTING:

- A. Mount in accordance with the fixture schedule. Provide additional anti sway bracing for chain suspended luminaires.

SPECIAL PROVISIONS

3.5 EXTERIOR FIXTURES:

- A. Exterior fixtures and supports shall be capable of withstanding 150 mph wind forces.

END OF SECTION

SPECIAL PROVISIONS

Add the following Section:

SECTION 40 90 00 PROCESS CONTROL AND INSTRUMENTATION SYSTEMS

PART 1 - GENERAL

1.1 THE REQUIREMENT

- A. The CONTRACTOR shall provide all Process Control and Instrumentation Systems (PCIS) and programming, complete and operable, in accordance with the Contract Documents. All programming and configuration shall be done by the CONTRACTOR.
- B. The requirements of this Section apply to all components of the PCIS, unless indicated otherwise.
- C. Responsibilities:
 - 1. The CONTRACTOR, through the use of an Instrumentation Supplier, panel fabricator, and qualified electrical and mechanical installers, shall be responsible to the OWNER for the implementation of the PCIS and the integration of the PCIS with other required instrumentation and control devices.
 - 2. The CONTRACTOR is responsible for the integration of the PCIS with new or existing devices. The objective of providing a completely integrated control system free of signal incompatibilities.
 - 3. As a minimum, the CONTRACTOR shall perform the following WORK:
 - a. Implementation of the PCIS
 - 1) Prepare hardware submittals
 - 2) Prepare the test plan, the training plan, and the spare parts submittals
 - 3) Procure all hardware and software
 - 4) Oversee and certify hardware and software installation
 - 5) Oversee, document, and certify loop testing
 - 6) Oversee, document, and certify software, programming and integration
 - 7) Prepare Technical Manuals
 - 8) Prepare edited set of record drawings
- D. Control System Panel Designer and Fabricator

SPECIAL PROVISIONS

1. Control System Panel Designer and Fabricator (CSPDF): The control system panel, and all other panels that have PLC hardware or communication hardware within them, shall be fabricated by the CSPDF. The CSPDF shall perform the following work:
 - a. Edit contract control panel designs to show any and all changes to the design.
 - b. Test the panels at the factory.
 - c. Fabricate and ship the panel.

2. CSPDF Qualifications: The CSPDF shall have the resources, space, and personnel needed to design and fabricate the panels. The CSPDF shall meet the following minimum qualifications:
 - a. The CSPDF shall have been in the business of building panels and bonding the construction of these panels for at least 5 years. The bonding shall be under the name and ownership of the company fabricating the panels for this project.
 - b. The CSPDF shall build the panels to UL standard 508A, shall be certified to build panels to UL standard 508A, and shall attach a UL label on all new panels, or the panel builder shall build to an equal standard, shall be certified to an equal standard, and shall attach a label to all new panels with a label that is acceptable to the OWNER.
 - c. The CSPDF shall have at least 5 years experience programming and integrating similar projects.

1.2 CONTRACTOR SUBMITTALS

- A. Furnish submittals in accordance with Division 01 Requirements and Specification Section 26 05 00:
 1. All equipment tags used in the submittals, O&M manuals, and field identification shall be the complete tag and shall consist of the plant acronym prepended to the instrument tag shown on the drawings.
 2. The CONTRACTOR shall coordinate the instrumentation work so that the complete instrumentation and control system will be provided and will be supported by accurate shop drawings and record drawings.
 3. The CONTRACTOR shall submit a plan identifying coordination and installation milestones. Plan shall propose schedule; points of interim inspection; and other relevant milestones.
 4. Exchange of Technical Information: During the period of preparation of these submittals, the CONTRACTOR shall authorize a direct, informal liaison with the ENGINEER for exchange of technical information. As a result of this liaison,

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certain minor refinements and revisions in the systems as indicated may be authorized informally by the ENGINEER but will not alter the scope of work or cause increase or decrease in the Contract Price. During this informal exchange, no oral statement by the ENGINEER shall be construed to give approval of any component or method, nor shall any statement be construed to grant exception to or variation from these Contract Documents.

5. Symbology and Nomenclature: In these Contract Documents, all systems, all meters, all instruments, and all other elements are represented schematically, and are designated by symbology as derived from Instrument Society of America Standard ANSI/ISA S5.1 – Instrumentation Symbols and Identification. The nomenclature and numbers designated herein and, on the Drawings, shall be employed exclusively throughout Shop Drawings, and similar materials. No other symbols, designations, or nomenclature unique to the manufacturer's standard methods shall replace those prescribed above, used herein, or on the Drawings.

B. Shop Drawings

1. General

- a. Shop drawings shall include the letterhead or title block of the Instrumentation Supplier. The title block shall include, as a minimum, the Instrumentation Supplier's registered business name and address, project name, drawing name, revision level, and personnel responsible for the content of the drawing.
- b. Shop drawing information shall be bound in standard size, bound, loose-leaf, vinyl plastic, hard cover binders suitable for bookshelf storage. One set of drawings for each facility is to be hung inside the control panel. The drawings are to be enclosed in PVC pockets suitable for hanging from a binder, two drawings per pocket.
- c. Interfaces between instruments, motor starters, control valves, variable speed drives, flow meters, chemical feeders and other equipment related to the PCIS shall be included in the Shop Drawing submittal.

2. Hardware Submittal: The CONTRACTOR shall submit a hardware submittal as a complete bound package at one time within 60 calendar days after the commencement date stated in the Notice to Proceed, including:

- a. A complete index which lists each device by tag number, type, and manufacturer. A separate technical brochure or bulletin shall be included with each instrument data sheet (original documents only – photocopies are not acceptable and will be rejected). The data sheets shall be indexed in the submittal by systems or loops, as a separate group for each system or loop. If, within a single system or loop, a single instrument is employed more than once, one data sheet with one brochure or bulletin may cover all identical uses of that instrument in that system. Each

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brochure or bulletin shall include a list of tag numbers for which it applies. System groups shall be separated by labeled tags.

- b. Fully executed data sheets according to ISA-S20 – Specification Forms for Process Measurement and Control Instruments, Primary Elements and Control Valves, for each component, together with a technical product brochure or bulletin. The technical product brochures shall be complete enough to verify conformance to all Contract Document requirements. The data sheets, as a minimum, shall show:
 - 1) Component functional description used in the Contract Documents
 - 2) Manufacturer’s model number or other product designation
 - 3) Project tag number used in the Contract Documents
 - 4) Project system or loop of which the component is a part
 - 5) Project location or assembly at which the component is to be installed
 - 6) Input and output characteristics
 - 7) Scale, range, units, and multiplier (if any)
 - 8) Requirements for electric supply (if any)
 - 9) Materials of component parts to be in contact with or otherwise exposed to process media and corrosive ambient air
 - 10) Special requirements or features
- c. Priced list of all spare parts for all devices.
- d. Instrument installation, mounting, and anchoring details shall be submitted in an electronic hard copy format. Each instrument shall have a dedicated 8-1/2-inch by 11-inch detail which only pertains to the specific instrument by tag number. Each detail shall be certified by the instrument manufacturer that the proposed installation is in accordance with the instrument manufacturer’s recommendations and is fully warrantable. These certifications shall be embedded in the CAD files and also appear as a stamp on the hard copies. As a minimum, each detail shall have the following contents:
 - 1) Show all necessary sections and elevation views required to define instrument location by referencing tank, building or equipment names and numbers, and geographical qualities such as north, south, east, west, basement, first floor.

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- 2) Process line pipe or tank size, service and material.
 - 3) Process tap elevation and location.
 - 4) Upstream and downstream straight pipe lengths between instrument installation and pipe fittings and valves.
 - 5) Routing of tubing and identification of supports.
 - 6) Mounting brackets, stands, and anchoring devices.
 - 7) Conduit entry size, number, location, and delineation between power and signal.
 - 8) NEMA ratings of enclosures and all components.
 - 9) Clearances required for instrument servicing.
 - 10) List itemizing all manufacturer makes, model numbers, quantities, lengths required, and materials of each item required to support the implementation of the detail.
3. Test Procedure Submittals
- a. The CONTRACTOR shall submit the proposed procedures to be followed during tests of the PCIS and its components.
 - b. Preliminary Submittal: Outlines of the specific proposed tests and examples of proposed forms and checklists.
4. The CONTRACTOR shall provide a submittal of the CSPDF's certifications, P.E. licenses, and project history before submitting any Shop Drawings or commencing any work on the control panels.
5. The CONTRACTOR shall provide a submittal with full function description for PLC and HMI, approved by the ENGINEER prior to programming.

C. Technical Manual

1. General: Information in the Technical Manual shall be based upon the approved Shop Drawing submittals as modified for conditions encountered in the field during the WORK.
2. The Technical Manual shall have the following organization for each process:
 - a. Section A – Edited As Built Drawings
 - b. Section B – Instrument Summary
 - c. Section C – Instrument Data Sheets

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- d. Section D – Instrument Installation Details
 - e. Section E – Test Results
3. Initially, two sets of draft Technical Manuals shall be submitted for review after return of favorably reviewed Shop Drawings and data required herein. Following the ENGINEER's review, one set will be returned to the CONTRACTOR with comments. The Manuals shall be revised and amended as required and the final Manuals shall be submitted 15 days prior to start-up of systems.
 4. The CONTRACTOR shall provide Instrument Equipment Summary for all instruments, PLC hardware, devices, control hardware, and miscellaneous equipment. The data shall be provided in electronic format, **Microsoft Excel**, or approved equal.

D. Record Drawings

1. The CONTRACTOR shall keep current a set of complete loop and schematic diagrams which shall include all field and panel wiring, piping and tubing runs, routing, mounting details, point-to-point diagrams with cable, wire, tube and termination numbers. These drawings shall include all instruments and instrument elements. Two sets of drawings electronically formatted in AUTOCAD on CD-ROM and two hard copies shall be submitted after completion of all commissioning tasks. All such drawings shall be submitted for review prior to acceptance of the completed work by the OWNER.

1.3 WARRANTY

- A. The warranty shall start from the date of final acceptance of the completed project and shall extend for 1 year.

PART - 2 PRODUCTS

2.1 GENERAL

- A. Code and Regulatory Compliance: PCIS WORK shall conform to or exceed the applicable requirements of the National Electrical Code and local building codes.
- B. Current Technology: Meters, instruments, and other components shall be the most recent field-proven models marketed by their manufacturers at the time of submittal of the Shop Drawings, unless otherwise required to match existing equipment.
- C. Hardware Commonality: Instruments which utilize a common measurement principle (for example, d/p cells, pressure transmitters, level transmitters which monitor hydrostatic head) shall be furnished by a single manufacturer. Panel-mounted instruments shall have matching style and general appearance. Instruments performing similar functions shall be of the same type, model, or class, and shall be from a single manufacturer.
- D. Environmental Suitability: Indoor and outdoor control panels and instrument enclosures shall be suitable for operation in the ambient conditions associated with the locations designated in

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the Contract Documents. Heating, cooling, and dehumidifying devices shall be provided in order to maintain all instrumentation devices 20 percent within the minimums and maximums of their rated environmental operating ranges. The CONTRACTOR shall provide power wiring for these devices. Enclosures suitable for the environment shall be furnished. All instrumentation in hazardous areas shall be suitable for use in the particular hazardous or classified location in which it is to be installed.

- E. **Signal Levels:** Analog measurements and control signals shall be as indicated herein, and unless otherwise indicated, shall vary in direct linear proportion to the measured variable. Electrical signals outside control panels shall be 4 to 20 mA DC, except as indicated. Signals within enclosures may be 1-5 VDC. Electric signals shall be electrically or optically isolated from other signals
- F. **Alternative Equipment and Methods:** Equipment or methods requiring redesign of any project details are not acceptable without prior written approval of the ENGINEER through the "or equal" process of Division 01. Any proposal for approval of alternative equipment or methods shall include evidence of improved performance, operational advantage and maintenance enhancement over the equipment or method indicated or shall include evidence that an indicated component is not available. To match existing equipment and future equipment being installed under other contracts, equipment substitutions for equipment specified as no equal will not be accepted.
- G. **Instrument Brackets and Mounting Hardware:** All instrument brackets and mounting hardware shall be stainless steel.

2.2 OPERATING CONDITIONS

- A. The PCIS shall be designed and constructed for satisfactory operation and long, low maintenance service under the following conditions:
 - 1. Environment – wastewater facility
 - 2. Outdoor Temperature Range – 10 through 84 degrees F
 - 3. Relative Humidity – 20 through 90 percent, non-condensing
 - 4. Seismic Zone 4

2.3 DIVISION 40 EQUIPMENT

- A. **Indicating lights:** Provide oil tight/watertight/corrosion resistant NEMA 4X, 30 mm push-to-test indicating lights with an LED lamp. Provide the lens cover indicated on the Drawings. Mount the light in the panel door as shown. Provide Allen Bradley Bulletin 800 Series indicating lights.
- B. **Selector Switches:** Provide oil tight/watertight/corrosion resistant NEMA 4X, 30 mm selector switches with the number of positions shown on the Drawings. Provide the switches with gloved hand knobs. The switches shall have labeled position legend plates as shown on the Drawings. Mount the switches in the panel door as shown. Provide Allen Bradley Bulletin 800 Series selector switches.

SPECIAL PROVISIONS

- C. Relays: Provide industrial control relays for all relays. The relays shall have a minimum of two auxiliary contacts. Provide additional contacts as required and as shown. Provide normally open or closed contacts as required and as shown. Provide the relays with a 120V coil unless otherwise shown. Provide Allen Bradley Bulletin 700P relays with finger safe covers over all terminals to prevent accidental contact.
- D. Other devices shall be as shown on the Drawings.
- E. The following is a list of some equipment (or equal) that shall be furnished by the Pump Station Supplier, other equipment is shown and specified on the drawings and other specification sections:

Ref	Item	Manufacturer	Part No. (or Equal)
LT-100	Level Transmitter Probe	Xylem MultiTrode	2.5/10-30

F. Level Probe

- 1. 2.5 Meter Probe, 10 Sensor, 30 Meter Cable
- 2. Environmental Range: 0 to 40 degrees C (32-104 degrees F)
- 3. Supply Voltage: MultiSmart Power Supply
- 4. Sensor Material: Stainless Steel
- 5. Cable: PVC Multi-core
- 6. Manufacturer: Xylem/MultiTrode

G. Level Switches – Wet Well

- 1. Float type with mercury tilt switch.
- 2. Float: High impact, corrosion resistant, PVC
- 3. SPST, normally closed mercury switch hermetically sealed.
- 4. UL listed for use in non-potable water and sewage.
- 5. Cable: flexible, 18 gauge, 2 conductor (UL, CSA) SJOW, water-resistant (CPE) jacket
- 6. Manufacturer: As specified or approved equal.

2.4 SPARE PARTS AND SPECIAL TOOLS

- A. The CONTRACTOR shall provide the following:

SPECIAL PROVISIONS

1. Spare parts as listed in equipment specifications in Division 40.
- B. The CONTRACTOR shall furnish a priced list of all special tools required to calibrate and maintain the instrumentation provided under the Contract Documents. After approval, the CONTRACTOR shall furnish tools on that list.
- C. Special tools and spare parts shall be submitted before startup commences, suitably wrapped and identified.

2.5 SEISMIC ZONE

- A. Panels, instruments, conduits, and pipes shall be anchored to meet seismic restraint requirements of the International Building Code (IBC 2009).

PART - 3 EXECUTION

3.1 PRODUCT HANDLING

- A. Shipping Precautions: After completion of shop assembly, factory test, and approval, equipment, cabinets, panels, and consoles shall be packed in protective crates and enclosed in heavy-duty polyethylene envelopes or secured sheeting to provide complete protection from damage, dust, and moisture. Dehumidifiers shall be placed inside the polyethylene coverings. The equipment shall then be skid-mounted for final transport. Lifting rings shall be provided for moving without removing protective covering. Boxed weight shall be shown on shipping tags together with instructions for unloading, transporting, storing, and handling at the Site.
- B. Special Instructions: Special instructions for proper field handling, storage, and installation required by the manufacturer shall be securely attached to each piece of equipment prior to packaging and shipment.
- C. Tagging: Each component shall be tagged to identify its location, instrument tag number, and function in the system. A permanent stainless steel tag firmly attached and stamped with the instrument tag number, as given in the tabulation, shall be provided on each piece of equipment in the PCIS. Identification shall be prominently displayed on the outside of the package. The complete tag shall be the instrument drawing tag shown on the contract drawings prepended with the acronym for the plant (ENGINEER will specify).
- D. Storage: Equipment shall not be stored outdoors. Equipment shall be stored in dry, permanent shelters, including in-line equipment, and shall be adequately protected against mechanical injury. If any apparatus has been damaged, such damage shall be repaired by the CONTRACTOR. If any apparatus has been subject to possible injury by water, it shall be thoroughly dried out and put through tests as directed by the ENGINEER. If such tests reveal defects, the equipment shall be replaced.

3.2 INSTALLATION

- A. General
 1. Instrumentation, including instrumentation furnished under other Divisions, shall be installed under Division 40 and the manufacturers' instructions.

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2. Equipment Locations: The monitoring and control system configurations indicated are diagrammatic. The locations of equipment are approximate. The exact locations and routing of wiring and cables shall be governed by structural conditions and physical interferences and by the location of electrical terminations on equipment. Equipment shall be located and installed so that it will be readily accessible for operation and maintenance. Where job conditions require reasonable changes in approximated locations and arrangements, or when the OWNER exercises the right to require changes in location of equipment which do not impact material quantities or cause material rework, the CONTRACTOR shall make such changes without additional cost to the OWNER.

B. Conduit, Cables, and Field Wiring

1. Conduit shall be provided under Division 26.
2. Process equipment control wiring, signal wiring to field instruments, PLC input and output wiring and other field wiring and cables shall be provided under Division 26.
3. PLC equipment cables, data communication networks shall be provided under Division 40.
4. Terminations and wire identification at PCIS equipment furnished under this or any other Division shall be provided under Division 40.

C. Instrumentation Tie-Downs: Instruments, control panels, and equipment shall be anchored by methods that comply with seismic requirements applicable to the Site.

D. Ancillary Devices: The Contract Documents show all necessary conduit and instruments required to make a complete instrumentation system. The CONTRACTOR shall be responsible for providing any additional or different type connections as required by the instruments and specific installation requirements. Such additions and such changes, including the proposed method of installation, shall be submitted to the ENGINEER for approval prior to commencing the WORK. Such changes shall not be a basis of claims for extra work or delay.

E. Installation Criteria and Validation: Field-mounted components and assemblies shall be installed and connected according to the requirements below:

1. Installation personnel have been instructed on installation requirements of the Contract Documents.
2. Technical assistance is available to installation personnel at least by telephone.
3. Installation personnel have at least one copy of the approved Shop Drawings and data.
4. Power and signal wires shall be terminated with crimped type lugs.

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5. Connectors shall be, as a minimum, watertight.
6. Wires shall be mounted clearly with an identification tag that is of a permanent and reusable nature.
7. Wire and cable shall be arranged in a neat manner and securely supported in cable groups and connected from terminal to terminal without splices, unless specifically approved by the ENGINEER. Wiring shall be protected from sharp edges and corners.
8. Mounting stands and bracket materials and workmanship shall comply with requirements of the Contract Documents.
9. Verify the correctness of each installation, including polarity of electric power and signal connections, and make sure process connections are free of leaks. The CONTRACTOR shall certify in writing that discrepancies have been corrected for each loop or system checked out.
10. The OWNER will not be responsible for any additional cost of rework attributable to actions of the CONTRACTOR or the Instrumentation Supplier.

3.3 CALIBRATION

- A. General: Devices provided under Division 40 shall be calibrated according to the manufacturer's recommended procedures to verify operational readiness and ability to meet the indicated functional and tolerance requirements.
- B. Calibration Points: Each instrument shall be calibrated at 20, 60, and 100 percent of span using test instruments to simulate inputs. The test instruments shall have accuracies traceable to National Institute of Testing Standards.
- C. Bench Calibration: Instruments that have been bench-calibrated shall be examined in the field to determine whether any of the calibrations are in need of adjustment. Such adjustments, if required, shall be made only after consultation with the ENGINEER.
- D. Field Calibration: Instruments that were not bench-calibrated shall be calibrated in the field to insure proper operation in accordance with the instrument loop diagrams or specification data sheets.
- E. Calibration Tags: A calibration and testing tag shall be attached to each piece of equipment or system at a location determined by the ENGINEER. The CONTRACTOR shall have the Instrumentation Supplier sign the tag when calibration is complete. The ENGINEER will sign the tag when the calibration and testing has been accepted.

3.4 FIELD QUALITY CONTROL

- A. Test each piece of equipment. Test all functions and features of each piece of equipment.
- B. Replace damaged or malfunctioning controls and equipment.

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1. Start, test, and adjust control systems.
2. Demonstrate compliance with requirements, including calibration and testing, and control sequences.
3. Adjust, calibrate, and fine tune circuits and equipment to achieve sequence of operation specified.
4. Test all operating sequences shown on the Drawings and all display and control features specified and shown on the Drawings.
5. After all testing is complete and all systems are fully operational; notify the ENGINEER in writing seven days prior to requesting an inspection of the system for substantial completion. Demonstrate any and all functions and features of the Control Panels, and all other WORK covered by these Specifications and shown on the electrical Drawings to the ENGINEER. Correct all deficiencies or problems identified by the ENGINEER. Notify the ENGINEER in writing when all deficiencies and/or problems have been corrected at least 3 working days prior to a re-inspection. Continue this process until the ENGINEER has approved the WORK.

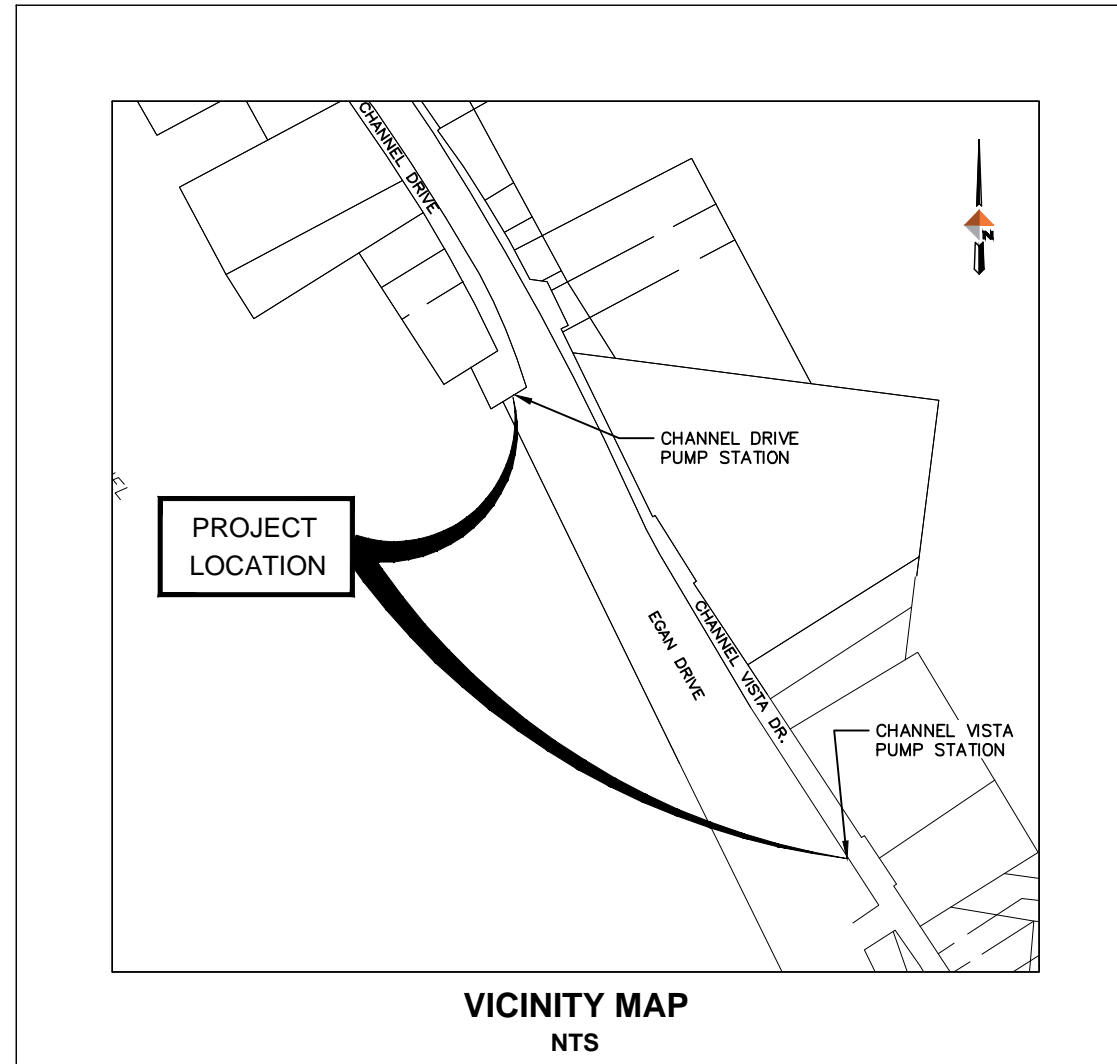
3.6 REQUIREMENTS FOR SUBSTANTIAL COMPLETION

A. For the purpose of this Section, the WORK is considered substantially complete:

1. Submittals have been completed and approved.
2. The PCIS has been installed, calibrated, and tested.
3. All programming and integration is complete and functioning properly.
4. Spare parts and expendable supplies and test equipment have been delivered to the OWNER.
5. The performance test has been successfully completed.
6. Punch-list items have been corrected.
7. Record drawings in both hard copy and electronic format have been submitted.
8. Revisions to the Technical Manuals that may have resulted from the field tests have been made and reviewed.
9. Debris associated with installation of instrumentation has been removed.
10. Probes, elements, sample lines, transmitters and enclosures have been cleaned and are in like-new condition.

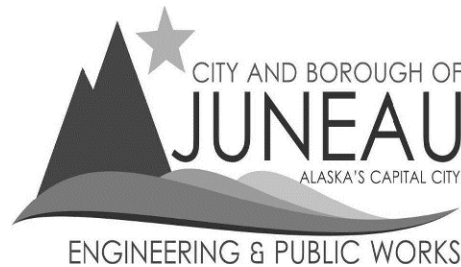
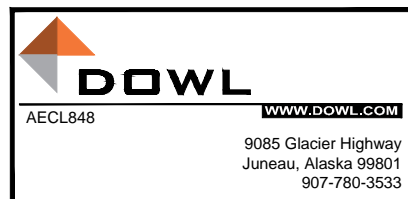
END OF SECTION

CHANNEL DRIVE & CHANNEL VISTA PUMP STATION REHABILITATION CONTRACT NO. BE21-148



PREPARED FOR:
CITY & BOROUGH OF JUNEAU
155 S. SEWARD ST.
JUNEAU, ALASKA

PREPARED BY:



BID DOCUMENTS

SHEET INDEX

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2	G2	GENERAL NOTES, LEGEND, & ABBREVIATIONS
CIVIL		
3	C1	DEMOLITION PLAN & CONSTRUCTION SEQUENCE
4	C2	CHANNEL DRIVE PUMP STATION SITE PLAN
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6	C4	CHANNEL DRIVE PUMP STATION DETAILS
7	C5	CHANNEL VISTA PUMP STATION DETAILS
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ELECTRICAL		
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10	E2	ELECTRICAL SITE DEMO AND NEW WORK PLAN
11	E3	WET WELL PLAN AND ELEVATION
12	E4	ELECTRICAL ENCLOSURE LAYOUT PLAN
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17	E9	ELECTRICAL DETAILS
<u>CHANNEL VISTA LIFT STATION</u>		
18	E10	ELECTRICAL SITE DEMO AND NEW WORK
19	E11	ELECTRICAL WET WELL ELEVATION PLAN
20	E12	ELEC BLDG DEMO AND NEW WORK PLAN
21	E13	POWER ONE-LINE AND PANEL SCHEDULES
22	E14	CONTROL PANEL LAYOUT
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24	E16	CONTROL PANEL SCHEMATIC (2 OF 2)
25	E17	ELECTRICAL DETAILS
26	E18	ELECTRICAL DETAILS

REV	DATE	DESCRIPTION	BY



DOWL
AECL848

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9085 Glacier Highway
Juneau, Alaska 99801
907-780-3533

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
COVER

PROJECT 1528.50166.01
DATE 11/06/2020

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GENERAL NOTES

- THE USE OF THE TERM "PUMP STATION" IN THE PROJECT NAME, PLANS, AND SPECIFICATIONS REFERS TO "SANITARY SEWER LIFT STATION" AND SHALL NOT BE CONSTRUED TO MEAN POTABLE WATER PUMP STATION.
- PROPOSED SITE PAD SHALL BE GRADED TO ELEVATIONS AND GRADES SHOWN.
- EXISTING PIPE LOCATIONS ARE DERIVED FROM EXISTING AS-BUILTS OR FROM FIELD LOCATES. ACTUAL LOCATIONS MAY VARY FROM THOSE SHOWN. THE CONTRACTOR SHALL ARRANGE FOR UTILITY LOCATES PRIOR TO ANY EXCAVATION. UNDERGROUND ELECTRICAL UTILITIES, IF SHOWN ON THE DRAWINGS, INDICATE THEIR EXISTENCE ONLY, AND MAY NOT DEPICT THE ACTUAL LOCATION. OTHER BURIED ELECTRICAL UTILITIES MAY EXIST THAT ARE NOT SHOWN ON THE DRAWING. CALL ALASKA DIG LINE (811) BEFORE YOU DIG:
CBJ: 907-586-1333
ACS: 811
GCI: 811
- ALL ITEMS DESIGNATED TO BE REMOVED SHALL BE DISPOSED OF AT A PERMITTED LOCATION OFF-SITE, EXCEPT AS NOTED IN THE CONTRACT DOCUMENTS.
- ALL ASPHALT PAVEMENT TO BE REMOVED AND DISPOSED OF SHALL BE DELIVERED TO A STOCKPILE AREA AT THE LEMON CREEK CITY PIT TO BE DESIGNATED BY THE ENGINEER. CONTACT THE ENGINEER FOR THE EXACT LOCATION OF THE STOCKPILE.
- THE PLAN DRAWINGS DO NOT SHOW ALL TREES, BUSHES, AND LANDSCAPING THAT WILL BE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHOULD VISIT THE SITE PRIOR TO BID..
- CBJ ENGINEERING STANDARD DETAILS 4TH EDITION - AUGUST 2011, IS MADE PART OF THIS CONTRACT, WITH CURRENT REVISIONS AS APPLICABLE. CBJ STANDARD DETAILS CAN BE FOUND AT THE FOLLOWING WEBSITE:
HTTPS://BETA.JUNEAU.ORG/ENGINEERING-PUBLIC-WORKS
- ONLY HORIZONTAL ELBOW FITTINGS (BENDS) ARE SHOWN ON DRAWINGS. ADDITIONAL FITTINGS MAY BE REQUIRED FOR VERTICAL DEFLECTIONS NEAR CONNECTIONS TO EXISTING PIPES, AND AT OTHER LOCATIONS REQUIRING GRADE CHANGES TO AVOID CONFLICTS.
- CONTRACTOR SHALL INSTALL TEMPORARY FILTRATION DEVICES CONSISTING OF, BUT NOT LIMITED, TO SILT FENCES, FILTER FABRIC FENCES, SETTLING PONDS, ETC., TO PROHIBIT SILTLADEN TRENCH OR PIT DEWATERING EFFLUENT AND OTHER CONSTRUCTION RUNOFF FROM ENTERING GASTINEAU CHANNEL, OR SURROUNDING WETLANDS.
- CONTRACTOR IS RESPONSIBLE FOR OBTAINING REQUIRED DEWATERING PERMITS AND FOR THE QUALITY OF THE DEWATERING EFFLUENT AND OTHER CONSTRUCTION RUNOFF THAT ENTERS GASTINEAU CHANNEL AND IS, THEREFORE, RESPONSIBLE FOR VIOLATIONS AND PENALTIES RESULTING FROM ITS OPERATIONS.
- CONTRACTOR SHALL SCHEDULE ITS OPERATION TO MAINTAIN CONTINUOUS SEWER SERVICE AT THE EXISTING CHANNEL DRIVE AND CHANNEL VISTA PUMP STATIONS. CONTRACTOR SHALL PROVIDE SUCH TEMPORARY PUMPING AS IS REQUIRED TO INSURE SEWAGE DOES NOT FLOOD LOCAL RESIDENCES, BUSINESSES OR OVER FLOW INTO GASTINEAU CHANNEL OR THE BORROW DITCH OF CHANNEL VISTA DR. PROVIDE PUMPING AND BYPASS PLAN AND SCHEDULE FOR REHABILITATION OF EXISTING CHANNEL DRIVE AND CHANNEL VISTA PUMP STATIONS. PUMPING AND BYPASS PLAN SHALL BE REVIEWED AND APPROVED BY THE ENGINEER. PLAN SHALL BE SUBJECT TO ENGINEER APPROVAL AND SHALL INCLUDE SPECIFICS OF HOW LEAKS WOULD BE DETECTED AND HOW SPILLS WOULD BE PREVENTED AND CLEANED UP.
- THE OWNER WILL PROVIDE A CBJ BUILDING PERMIT.

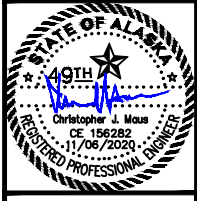
ABBREVIATIONS

- | | |
|-------|---|
| ACP | - ASPHALT CONCRETE PAVEMENT |
| ADEC | - ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION |
| AEL&P | - ALASKA ELECTRIC LIGHT & POWER |
| AVAP | - AS VERTICAL AS POSSIBLE |
| CB | - CATCH BASIN |
| CBJ | - CITY AND BOROUGH OF JUNEAU |
| CONC | - CONCRETE |
| CP | - CONTROL POINT |
| CPP | - CORRUGATED POLYETHYLENE PIPE |
| CTE | - CONNECT TO EXISTING |
| DIA | - DIAMETER |
| DIP | - DUCTILE IRON PIPE |
| DTL | - DETAIL |
| E | - EASTING |
| EG | - EXISTING GROUND |
| FF | - FINISH FLOOR |
| FG | - FINISH GRADE |
| FM | - FORCE MAIN |
| FT | - FEET |
| GB | - GRADE BREAK |
| GPM | - GALLONS PER MINUTE |
| HDPE | - HIGH-DENSITY POLYETHYLENE |
| IE | - INVERT ELEVATION |
| INV | - INVERT |
| LF | - LINEAR FEET |
| MAX | - MAXIMUM |
| ME | - MATCH EXISTING |
| MH | - MANHOLE |
| MIN | - MINIMUM |
| MTE | - MATCH TO EXISTING |
| N | - NORTHING |
| NEC | - NATIONAL ELECTRIC CODE |
| PSF | - POUNDS PER SQUARE FOOT |
| PSI | - POUNDS PER SQUARE INCH |
| PVC | - POLYVINYL CHLORIDE |
| RP | - RADIUS POINT |
| SS | - STAINLESS STEEL |
| SSMH | - SANITARY SEWER MANHOLE |
| STD | - STANDARD |
| TBM | - TEMPORARY BENCHMARK |
| TP | - TOP OF PAVEMENT |
| TYP | - TYPICAL |

LEGEND

DESCRIPTION	EXISTING	PROPOSED
ABANDONED SANITARY SEWER PIPE	AS	
BOLLARD	○	
CATCH BASIN	▨	
CONCRETE		
CONTROL POINT	MVST-1	
CONTOUR	-25-	25
CURB & GUTTER	≡≡≡≡≡	
EASEMENT	- - - - -	- - - - -
EDGE OF ACP	~ ~ ~ ~ ~	~ ~ ~ ~ ~
EDGE OF GRAVEL	- - - - -	- - - - -
FENCE LINE	X X X	
FILL LIMITS	
FIRE HYDRANT	⊙	
GRADE BREAK LINE		---GB---GB---
GUARDRAIL	o o o o o	
OVERHEAD ELECTRIC	OHE OHE	
POWER POLE		
PROPERTY LINE	- - - - -	- - - - -
SANITARY SEWER FORCE MAIN	FM FM FM	FM
SANITARY SEWER MANHOLE	⊙	⊙
SANITARY SEWER PIPE	S	S
SAWCUT LINE		- - - - -
SIGN	⊥	●
STORM DRAIN PIPE	SD SD SD	
TOP OF BANK	- - - - -	
TRANSFORMER		▲
WATER LINE	W	W
WATER/SEWER VALVE	⊗	⊗
UNDERGROUND COMM	C C C	
UNDERGROUND ELECTRIC	E E E	E
UNDERGROUND TELEPHONE	T T T	

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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA

**GENERAL NOTES, LEGEND,
& ABBREVIATIONS**

PROJECT 1528.50166.01
DATE 11/06/2020

G2

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SEQUENCE OF CONSTRUCTION

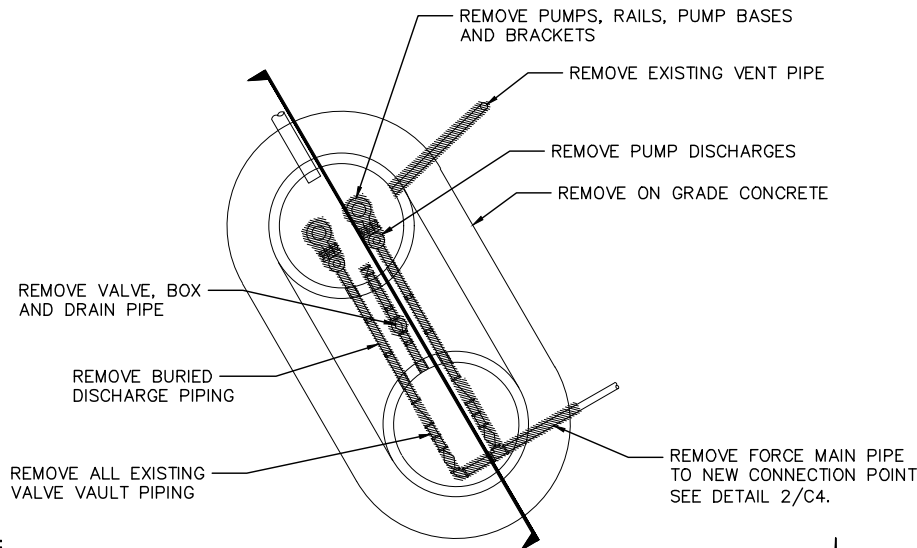
THE FOLLOWING CONSTRUCTION SEQUENCES OF SCHEDULING SHOULD BE FOLLOWED IN ORDER TO ENSURE THE OWNER CAN ADEQUATELY PROVIDE SEWER SERVICE TO THE CHANNEL DRIVE AND VISTA SEWERSHED. IT IS THE CONTRACTORS RESPONSIBILITY TO PREPARE A DETAILED WORK PLAN FOR ENGINEER REVIEW AND APPROVAL.

CHANNEL DRIVE PUMP STATION CONSTRUCTION SEQUENCE

- 1) CONTRACTOR SHALL PROVIDE CONTINUOUS TEMPORARY SANITARY SEWER SERVICE THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL PROVIDE A BYPASS PLAN TO THE ENGINEER 14 DAYS IN ADVANCE OF MODIFYING THE SANITARY SEWER FLOW. ENGINEER'S ACCEPTANCE OF THE PLAN DOES NOT WARRANT THE PLAN.
- 2) CONSTRUCT NEW CHANNEL DRIVE PUMP STATION CONTROLS HUT PAD, SLAB ON GRADE, HUT, EQUIPMENT AND ASSOCIATED CONDUIT AND CONDUCTORS AS DETAILED IN THE ELECTRICAL PLANS AND SPECIFICATIONS.
- 3) INSTALL TEMPORARY BYPASS ASSEMBLY ON EXISTING CHANNEL DRIVE FORCE MAIN AND COMMENCE BYPASS PUMPING. TEMPORARY SHUTDOWN OF ANY UPSTREAM LIFT STATION AND CHANNEL DRIVE STATION TO INSTALL BYPASS EQUIPMENT SHALL BE COORDINATED WITH CBJ AT LEAST 48 HOURS IN ADVANCE.
- 4) DEMOLISH EXISTING PUMP STATION PIPING, APPURTENANCES, ON-GRADE CONCRETE, CONCRETE LIDS, WET WELL VENT, AND ELECTRICAL WORK AS DETAILED IN THE DEMOLITION PLANS AND NOTES.
- 5) INSTALL NEW PIPING, PUMPS, ANCILLARY EQUIPMENT, VALVES, CONTROLS EQUIPMENT, VENT PIPING AND ELECTRICAL CONDUCTORS.
- 6) INSTALL WET WELL AND VALVE VAULT CONCRETE LIDS WITH INTEGRAL HATCHES.
- 7) PERFORM INITIAL TEST OF PUMPS AND CONTROLS IN PRESENCE OF OWNER PRIOR TO REMOVAL OF BYPASS PUMP EQUIPMENT AND FINAL CONNECTION TO EXISTING FORCE MAIN.
- 8) REMOVE BYPASS EQUIPMENT AND INSTALL FORCE MAIN CONNECTION, PERFORM PRESSURE TEST AND BACKFILL EXCAVATION. VERIFY OPERATIONS OF NEW LIFT STATION FOR A MINIMUM OF 24 HOURS.
- 9) CONSTRUCT ON-GRADE CONCRETE SLABS AND SITE GRADING.

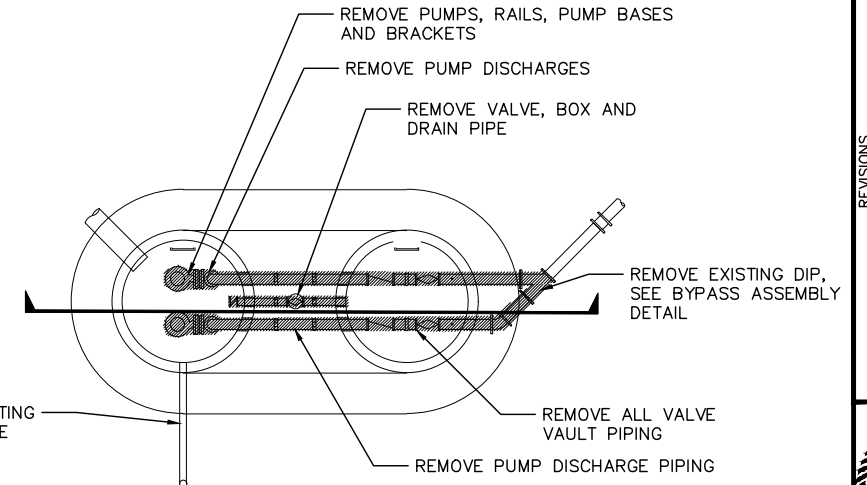
CHANNEL VISTA SEQUENCE OF CONSTRUCTION NOTES:

- 1) DEMOLISH ON-GRADE CONCRETE SLABS AROUND VALVE VAULT AND WET WELL.
- 2) INSTALL ELECTRICAL MODIFICATIONS INCLUDING CONDUIT AND CONTROLS AS DETAILED ON THE ELECTRICAL PLANS. COORDINATE ELECTRICAL WORK TO OCCUR SIMULTANEOUSLY WITH LIFT STATION MECHANICAL WORK AS ABLE.
- 3) EXCAVATE AND INSTALL TEMPORARY BYPASS ASSEMBLY ON EXISTING CHANNEL VISTA FORCE MAIN AND COMMENCE BYPASS PUMPING WHEN NECESSARY TO DECOMMISSION THE EXISTING VAULT PIPING. TEMPORARY SHUTDOWN OF ANY UPSTREAM LIFT STATION INCLUDING CHANNEL DRIVE TO INSTALL BYPASS EQUIPMENT SHALL BE COORDINATED WITH CBJ AT LEAST 48 HOURS IN ADVANCE.
- 4) DEMOLISH EXISTING PUMP STATION PIPING, APPURTENANCES, CONCRETE LIDS, AND ELECTRICAL WORK AS DETAILED IN THE DEMOLITION PLANS AND NOTES.
- 5) INSTALL NEW PIPING, PUMPS, ANCILLARY EQUIPMENT, VALVES, CONTROLS EQUIPMENT, VENT PIPING AND ELECTRICAL CONDUCTORS.
- 6) INSTALL WET WELL AND VALVE VAULT CONCRETE LIDS WITH INTEGRAL HATCHES.
- 7) PERFORM INITIAL TEST OF PUMPS AND CONTROLS IN PRESENCE OF OWNER PRIOR TO REMOVAL OF BYPASS PUMP EQUIPMENT AND FINAL CONNECTION TO EXISTING FORCE MAIN.
- 8) REMOVE BYPASS EQUIPMENT AND INSTALL FORCE MAIN CONNECTION, PERFORM PRESSURE TEST AND BACKFILL. VERIFY OPERATIONS OF NEW LIFT STATION FOR A MINIMUM OF 24 HOURS.
- 9) CONSTRUCT ON-GRADE CONCRETE SLABS AND SITE GRADING.



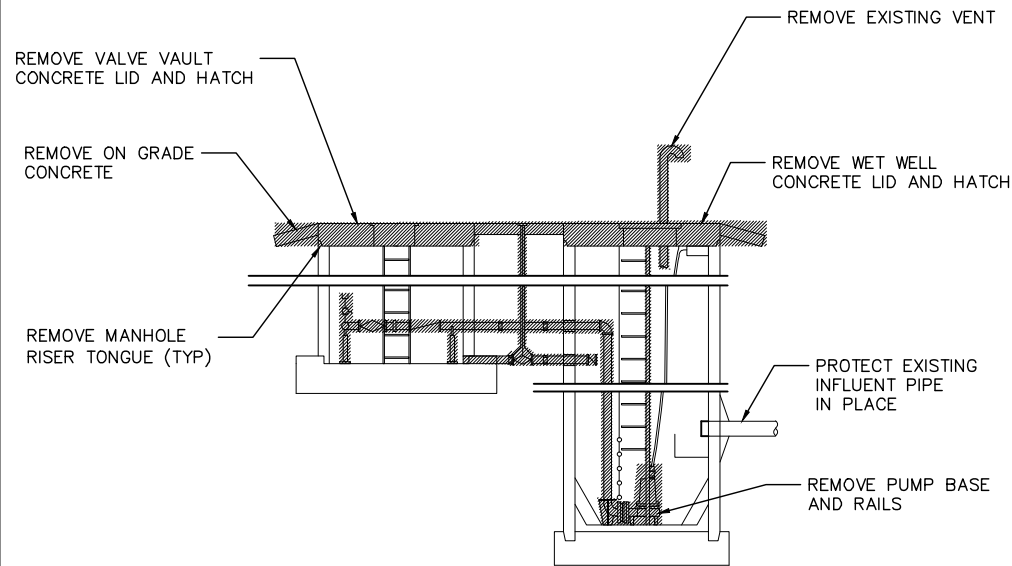
1
C1
CHANNEL DRIVE CIVIL DEMOLITION PLAN
NTS

- NOTES:**
- 1) SEE E2 FOR ELECTRICAL DEMOLITION PLAN.
 - 2) GROUT VAULT PENETRATION UPON REMOVING EXISTING VENT PIPE.



3
C1
CHANNEL VISTA CIVIL DEMOLITION PLAN
NTS

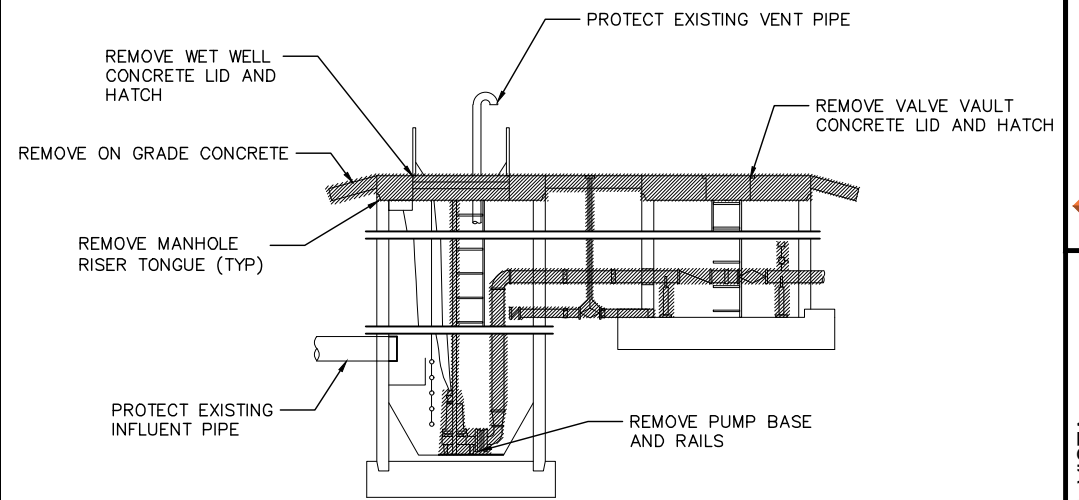
- NOTES:**
- 1) SEE E10 FOR ELECTRICAL DEMOLITION PLAN.



2
C1
CHANNEL DRIVE CIVIL DEMOLITION SECTION
NTS

CHANNEL DRIVE DEMOLITION NOTES:

- 1) EXISTING ON GRADE CONCRETE SLABS SURROUNDING PUMP STATION VAULTS SLOPE AWAY FROM VAULTS AND THE EXTENT OF THE CONCRETE MAY NOT BE ENTIRELY ABOVE GROUND.
- 2) CONTRACTOR SHOULD EXERCISE CAUTION TO NOT DAMAGE THE EXISTING CONCRETE WET WELL AND VALVE VAULT STRUCTURE WALLS IN THE PROCESS OF REMOVING THE EXISTING ON GRADE SLABS AND THE VAULT LIDS WITH INTEGRAL HATCHES. ANY DAMAGE CAUSED BY CONTRACTOR ERROR SHALL BE RESULT IN CONCRETE STRUCTURE REPAIR WORK SUBJECT TO CBJ STANDARDS AND THE SATISFACTION OF THE ENGINEER. CONCRETE SAWING OF RISER TONGUE WILL BE ACCEPTABLE IF REQUIRED.
- 3) REMOVE ALL DUCTILE IRON PIPING IN THE VAULT, DISPOSAL OF THE MATERIALS SHALL NOT RESULT IN SPILLAGE OF SEWAGE OUTSIDE OF THE WET WELL.
- 4) REMOVE CONCRETE SHAPING WITHIN THE WET WELL ONLY AS NECESSARY TO INSTALL NEW PUMP BASE ELBOW AND PUMPS.
- 5) REMOVAL OF THE PIPE THROUGH THE STRUCTURE WALLS SHOULD BE PERFORMED TO MINIMIZE DAMAGE TO THE EXISTING CONCRETE.
- 6) PROTECT EXISTING DOT GUARDRAIL IN PLACE.
- 7) ALL EQUIPMENT MAY BE DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS.



4
C1
CHANNEL VISTA CIVIL DEMOLITION SECTION
NTS

CHANNEL VISTA DEMOLITION NOTES:

- 1) EXISTING ON GRADE CONCRETE SLABS SURROUNDING PUMP STATION VAULTS SLOPE AWAY FROM VAULTS AND THE EXTENT OF THE CONCRETE MAY NOT BE ENTIRELY ABOVE GROUND.
- 2) CONTRACTOR SHOULD EXERCISE CAUTION TO NOT DAMAGE THE EXISTING CONCRETE WET WELL AND VALVE VAULT STRUCTURE WALLS IN THE PROCESS OF REMOVING THE EXISTING ON GRADE SLABS AND THE VAULT LIDS WITH INTEGRAL HATCHES. ANY DAMAGE CAUSED BY CONTRACTOR ERROR SHALL BE RESULT IN CONCRETE STRUCTURE REPAIR WORK SUBJECT TO CBJ STANDARDS AND THE SATISFACTION OF THE ENGINEER. CONCRETE SAWING OF RISER TONGUE WILL BE ACCEPTABLE IF REQUIRED.
- 3) REMOVE ALL DUCTILE IRON PIPING IN THE VAULT, DISPOSAL OF THE MATERIALS SHALL NOT RESULT IN SPILLAGE OF SEWAGE OUTSIDE OF THE WET WELL.
- 4) REMOVE CONCRETE SHAPING WITHIN THE WET WELL ONLY AS NECESSARY TO INSTALL NEW PUMP BASE ELBOW AND PUMPS.
- 5) REMOVAL OF THE PIPE THROUGH THE STRUCTURE WALLS SHOULD BE PERFORMED TO MINIMIZE DAMAGE TO THE EXISTING CONCRETE.
- 6) ALL EQUIPMENT MAY BE DISPOSED OF IN ACCORDANCE WITH THE SPECIFICATIONS.

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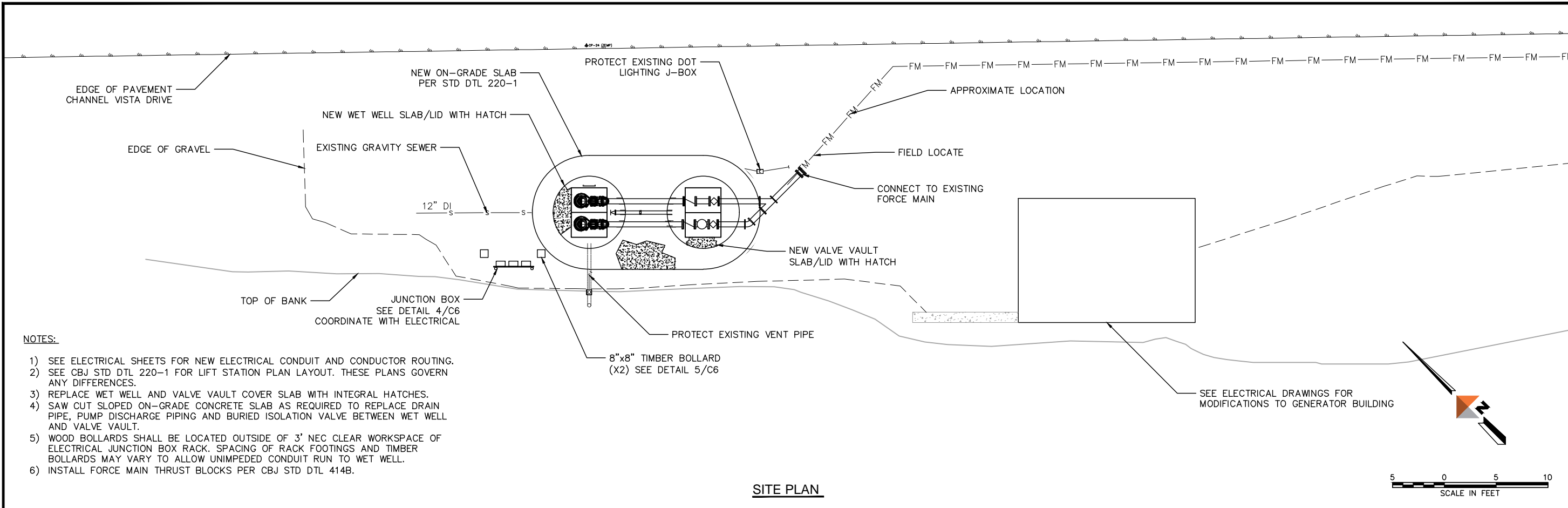
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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
**DEMOLITION PLAN &
CONSTRUCTION SEQUENCE**

PROJECT 1528.50166.01
DATE 11/06/2020

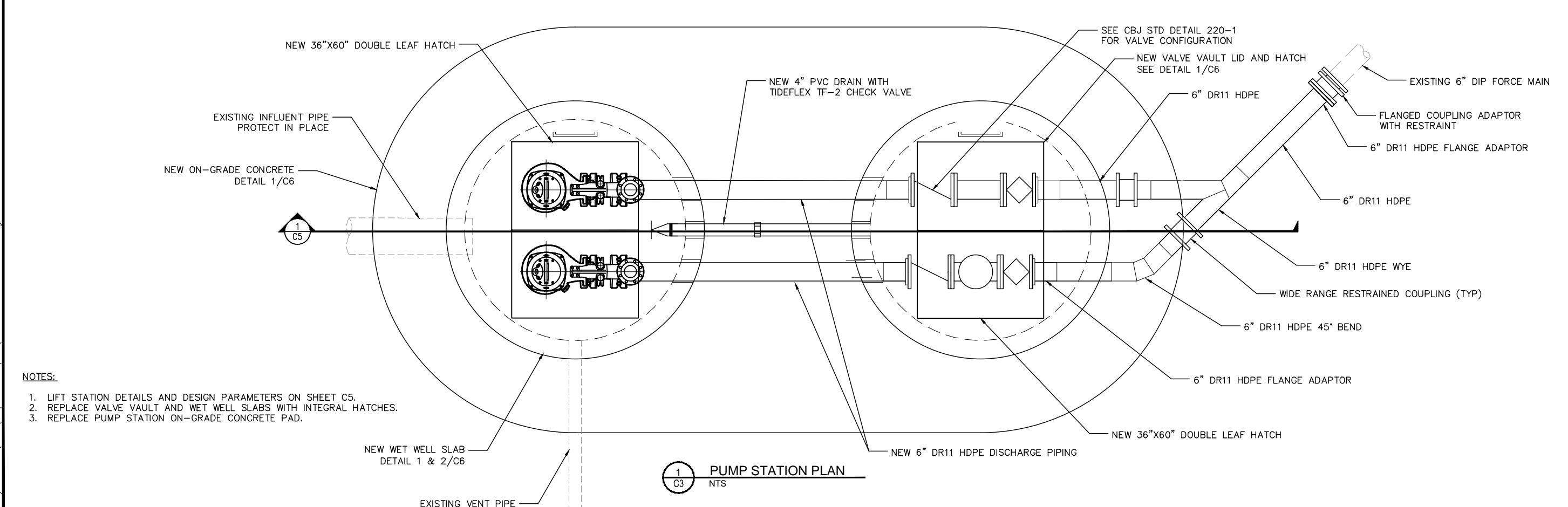
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- NOTES:**
- 1) SEE ELECTRICAL SHEETS FOR NEW ELECTRICAL CONDUIT AND CONDUCTOR ROUTING.
 - 2) SEE CBJ STD DTL 220-1 FOR LIFT STATION PLAN LAYOUT. THESE PLANS GOVERN ANY DIFFERENCES.
 - 3) REPLACE WET WELL AND VALVE VAULT COVER SLAB WITH INTEGRAL HATCHES.
 - 4) SAW CUT SLOPED ON-GRADE CONCRETE SLAB AS REQUIRED TO REPLACE DRAIN PIPE, PUMP DISCHARGE PIPING AND BURIED ISOLATION VALVE BETWEEN WET WELL AND VALVE VAULT.
 - 5) WOOD BOLLARDS SHALL BE LOCATED OUTSIDE OF 3' NEC CLEAR WORKSPACE OF ELECTRICAL JUNCTION BOX RACK. SPACING OF RACK FOOTINGS AND TIMBER BOLLARDS MAY VARY TO ALLOW UNIMPEDED CONDUIT RUN TO WET WELL.
 - 6) INSTALL FORCE MAIN THRUST BLOCKS PER CBJ STD DTL 414B.

SITE PLAN

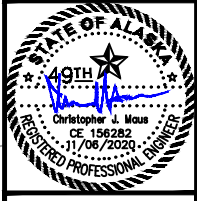


- NOTES:**
1. LIFT STATION DETAILS AND DESIGN PARAMETERS ON SHEET C5.
 2. REPLACE VALVE VAULT AND WET WELL SLABS WITH INTEGRAL HATCHES.
 3. REPLACE PUMP STATION ON-GRADE CONCRETE PAD.

1 C3 PUMP STATION PLAN
NTS

BID DOCUMENTS

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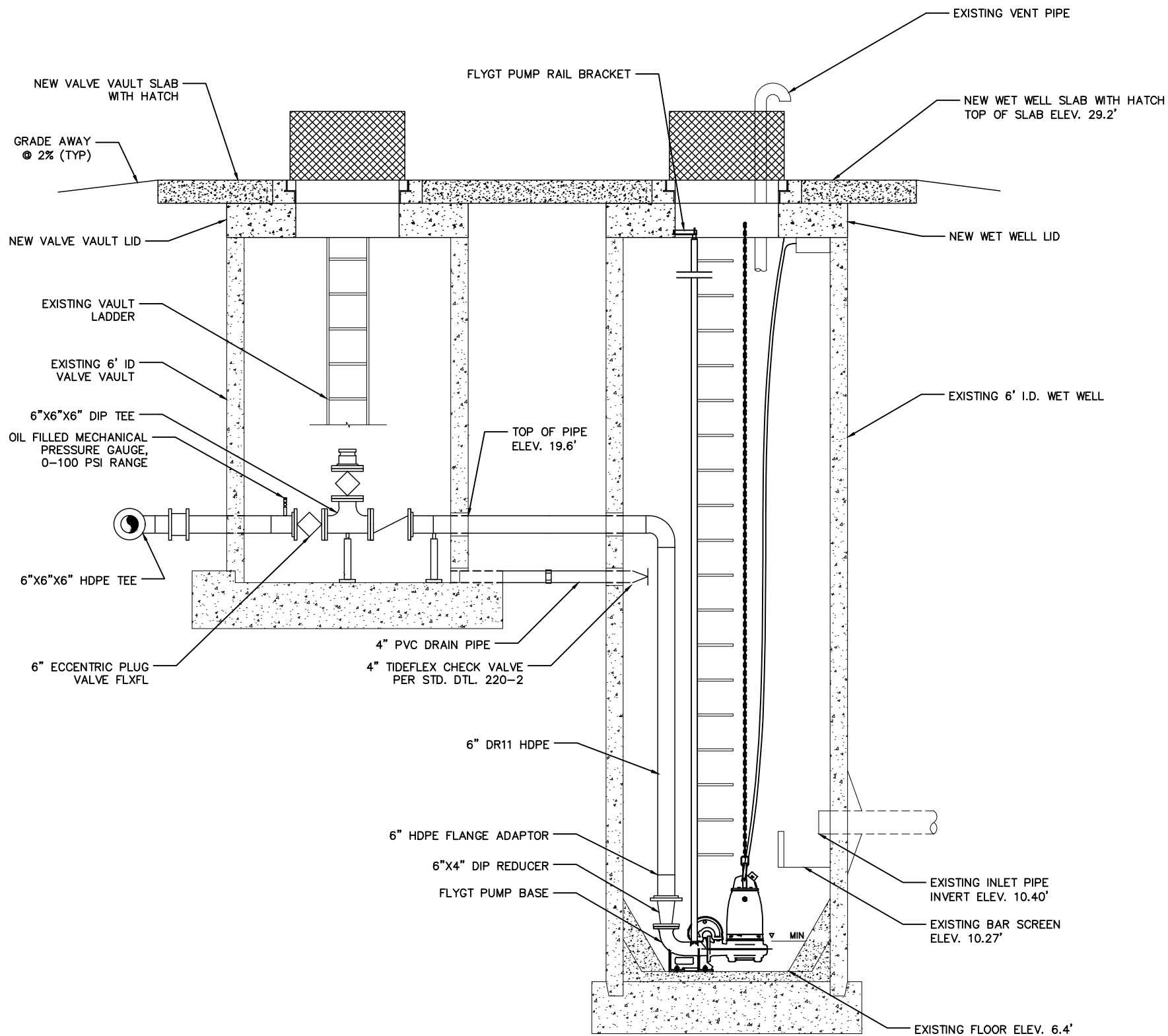
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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
**CHANNEL VISTA PUMP STATION
SITE PLAN**

PROJECT 1528.50166.01
DATE 11/06/2020

C3

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1 LIFT STATION SCHEMATIC PROFILE
C4 NTS

BID DOCUMENTS

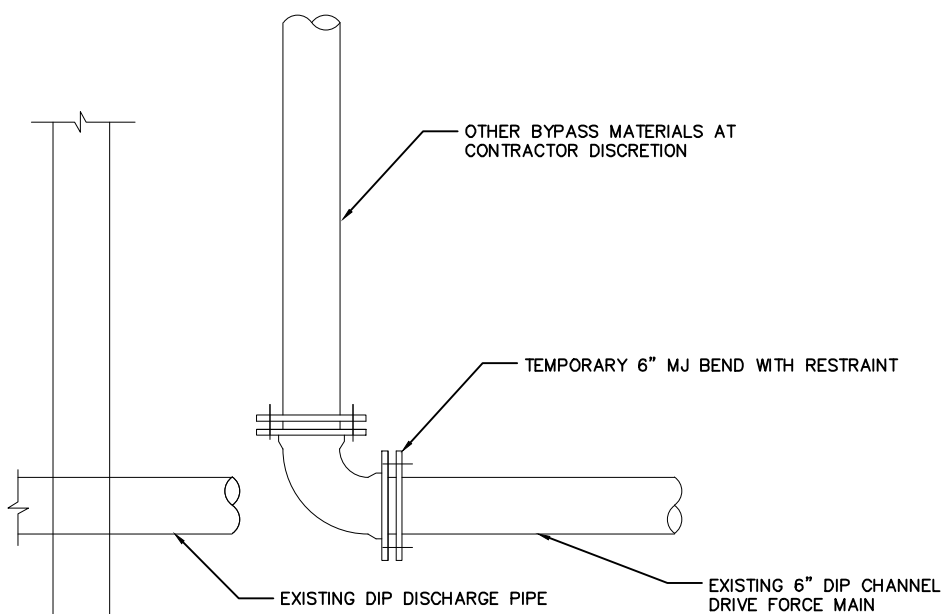
LIFT STATION OPERATIONS

PARAMETER	UNIT	VALUE
STATION PEAK FLOW RATE	GPM	420
STATION FIRM FLOW RATE	GPM	285
BASE ELEVATION OF WET WELL	FT	6.5
LOW LEVEL ALARM	FT	7.5
LOW LEVEL PUMPS OFF	FT	8
ELEVATION OF LOWEST INLET	FT	10.4
ACTIVE VOLUME	GALLONS	508
LEAD PUMP LEVEL ON	FT	9.5
LAG PUMP LEVEL ON	FT	10
HIGH LEVEL ALARM	FT	10.4

*THIS IS THE INITIAL OPERATIONAL SCHEME FOR THE LIFT STATION. CONTRACTOR IN THE PRESENCE OF ENGINEER, WILL MEASURE ACTUAL PUMP FLOW RATES UPON STARTUP AND ADJUST THE PARAMETERS AS NECESSARY TO OPTIMIZE PERFORMANCE. CONTRACTOR WILL COORDINATE WITH CBJ WASTEWATER WHEN OPTIMIZING OPERATIONS.

NOTES:

- 1) CONSTRUCT LIFT STATION IN ACCORDANCE WITH CBJ STD DETAIL 220-1, 2, 3, & 4, UNLESS OTHERWISE NOTED ON THE PLANS. THESE PLANS SHALL GOVERN ANY DIFFERENCES.
- 2) BACKUP HIGH LEVEL FLOAT SETTING TO BE DETERMINED UPON STARTUP OF LIFT STATION IN COORDINATION WITH CBJ OPERATIONS PERSONNEL AND THE PROJECT ENGINEER.
- 3) MODIFY EXISTING VAULT RISER TONGUE AS REQUIRED TO ACHIEVE FINISH TOP OF SLAB ELEVATION.



NOTES:

- 1) CONTRACTOR SHALL SUPPORT DIP FORCE MAIN WHILE INSTALLING BYPASS ASSEMBLY TO LIMIT VERTICAL MOVEMENT OF EXISTING PIPE.
- 2) SUPPORT AND RESTRAIN BYPASS ASSEMBLY FOR DURATION OF BYPASS. BYPASS ASSEMBLY SHALL NOT PLACE VERTICAL LOAD ON EXISTING DIP FORCE MAIN.
- 3) CONTRACTOR SHALL SUPPLY CHECK VALVE FOR BYPASS ASSEMBLY TO PREVENT BACKFLOW THROUGH FORCE MAIN.

2 TEMPORARY BYPASS ASSEMBLY
C4 NTS

REV	DATE	DESCRIPTION

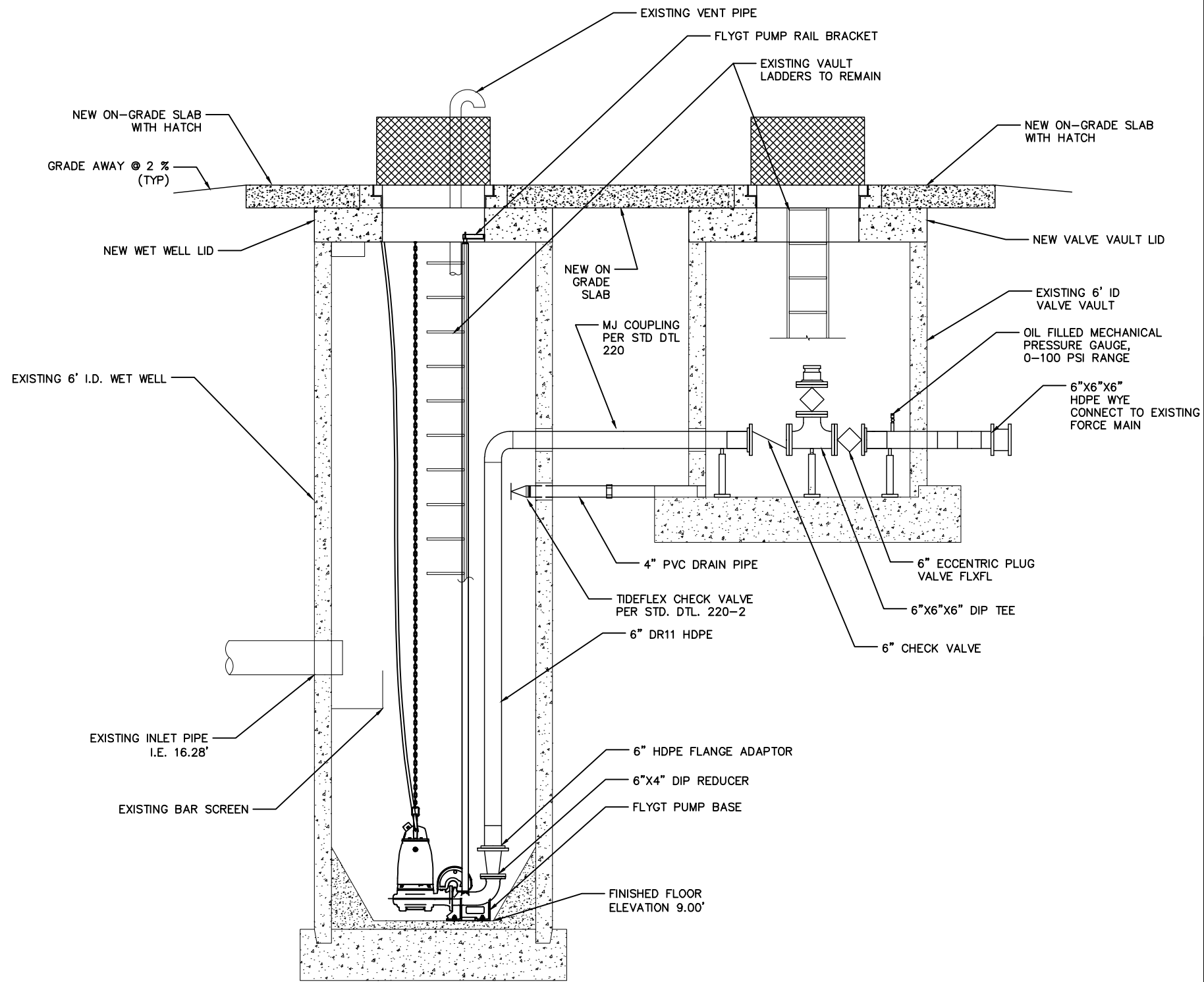


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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
**CHANNEL DRIVE PUMP STATION
DETAILS**

PROJECT 1528.50166.01
DATE 11/06/2020

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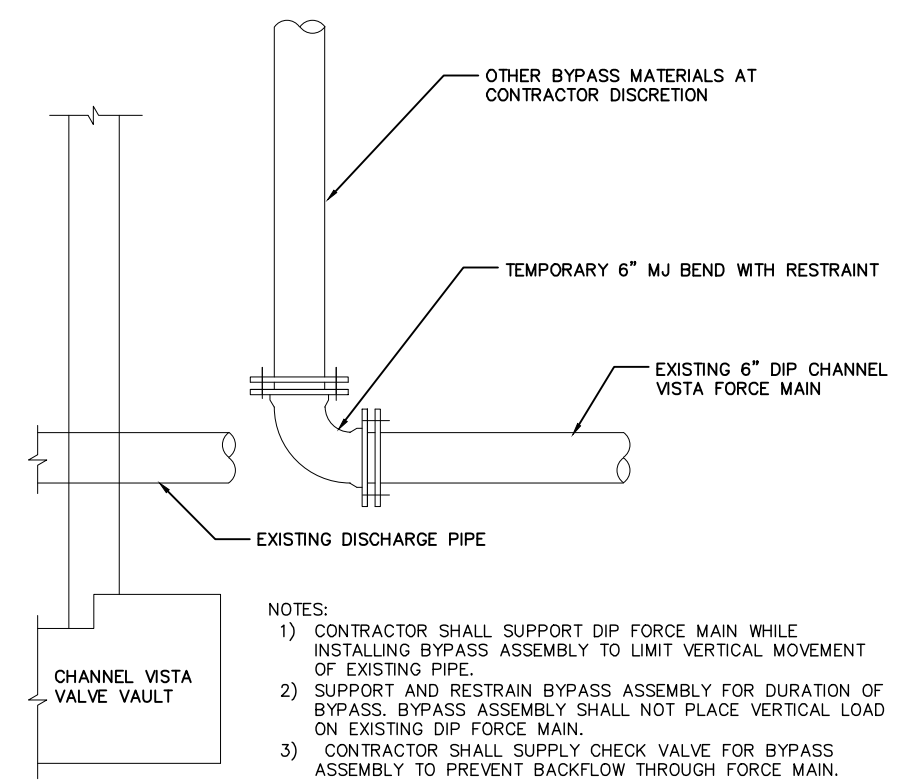
1 LIFT STATION SCHEMATIC PROFILE
C5 NTS

LIFT STATION OPERATIONS

PARAMETER	UNIT	VALUE
STATION PEAK FLOW RATE	GPM	330
STATION FIRM FLOW RATE	GPM	290
BASE ELEVATION OF WET WELL	FT	9.00
LOW LEVEL ALARM	FT	10.5
LOW LEVEL PUMPS OFF	FT	11.0
ELEVATION OF LOWEST INLET	FT	16.28
ACTIVE VOLUME	GALLONS	1268
LEAD PUMP LEVEL ON	FT	13.0
LAG PUMP LEVEL ON	FT	15.0
HIGH LEVEL ALARM	FT	16.5

*THIS IS THE INITIAL OPERATIONAL SCHEME FOR THE LIFT STATION. CONTRACTOR IN THE PRESENCE OF ENGINEER, WILL MEASURE ACTUAL PUMP FLOW RATES UPON STARTUP AND ADJUST THE PARAMETERS AS NECESSARY TO OPTIMIZE PERFORMANCE. CONTRACTOR WILL COORDINATE WITH CBJ WASTEWATER WHEN OPTIMIZING OPERATIONS.

- NOTES:
- 1) CONSTRUCT LIFT STATION IN ACCORDANCE WITH CBJ STD DETAIL 220-1, 2, 3, & 4, UNLESS OTHERWISE NOTED ON THE PLANS. THESE PLANS SHALL GOVERN ANY DIFFERENCES.
 - 2) BACKUP HIGH LEVEL FLOAT SETTING TO BE DETERMINED UPON STARTUP OF LIFT STATION IN COORDINATION WITH CBJ OPERATIONS PERSONNEL AND THE PROJECT ENGINEER.
 - 3) FINISH ELEVATION OF TOP OF SLAB WILL DEPEND ON EXTENT OF REQUIRED MODIFICATION OF EXISTING VAULT RISER TONGUE.



- NOTES:
- 1) CONTRACTOR SHALL SUPPORT DIP FORCE MAIN WHILE INSTALLING BYPASS ASSEMBLY TO LIMIT VERTICAL MOVEMENT OF EXISTING PIPE.
 - 2) SUPPORT AND RESTRAIN BYPASS ASSEMBLY FOR DURATION OF BYPASS. BYPASS ASSEMBLY SHALL NOT PLACE VERTICAL LOAD ON EXISTING DIP FORCE MAIN.
 - 3) CONTRACTOR SHALL SUPPLY CHECK VALVE FOR BYPASS ASSEMBLY TO PREVENT BACKFLOW THROUGH FORCE MAIN.

2 TEMPORARY BYPASS ASSEMBLY
C5 NTS

BID DOCUMENTS

REV	DATE	DESCRIPTION



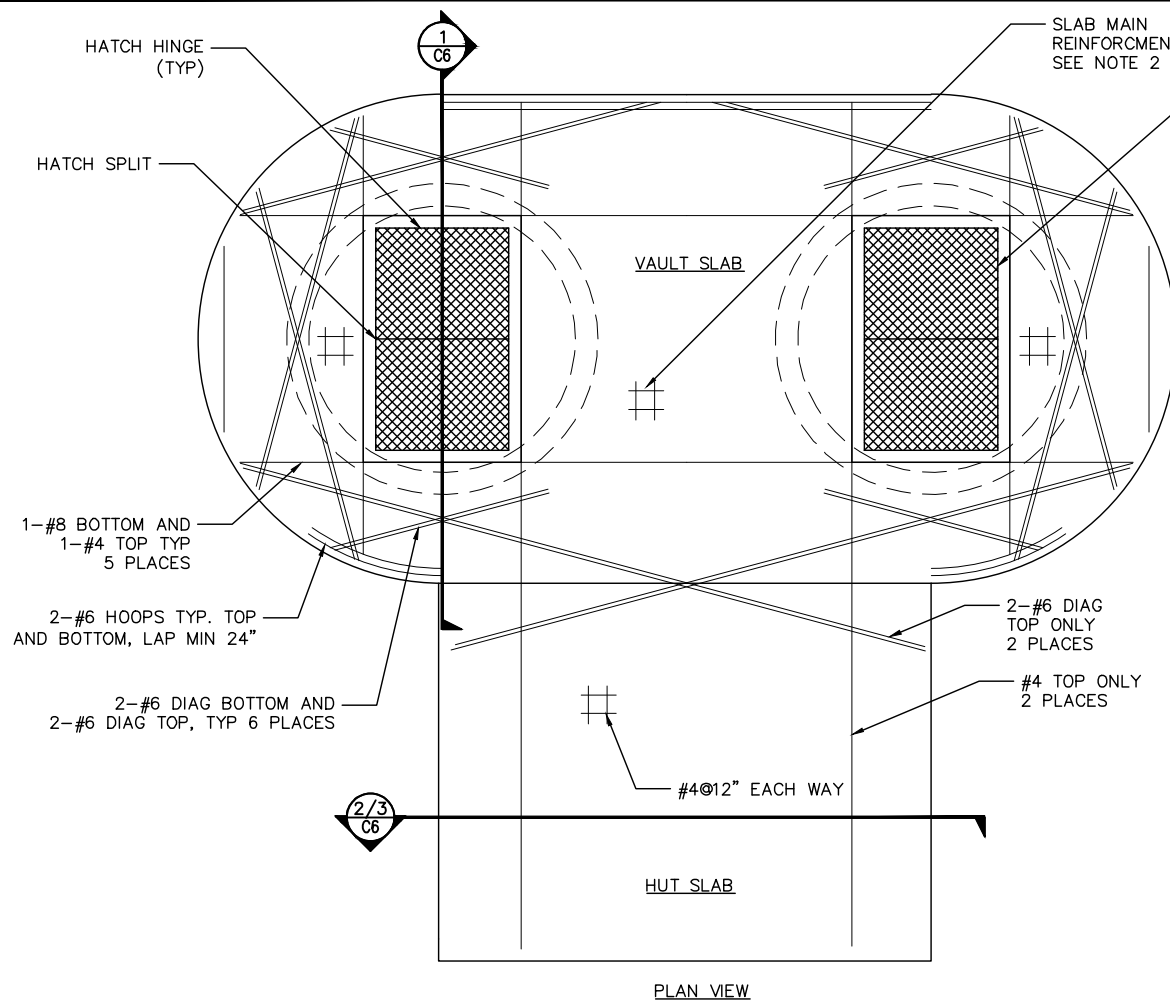
DOWL
AECL848

www.dowl.com
9085 Glacier Highway
Juneau, Alaska 99801
907-780-3533

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA

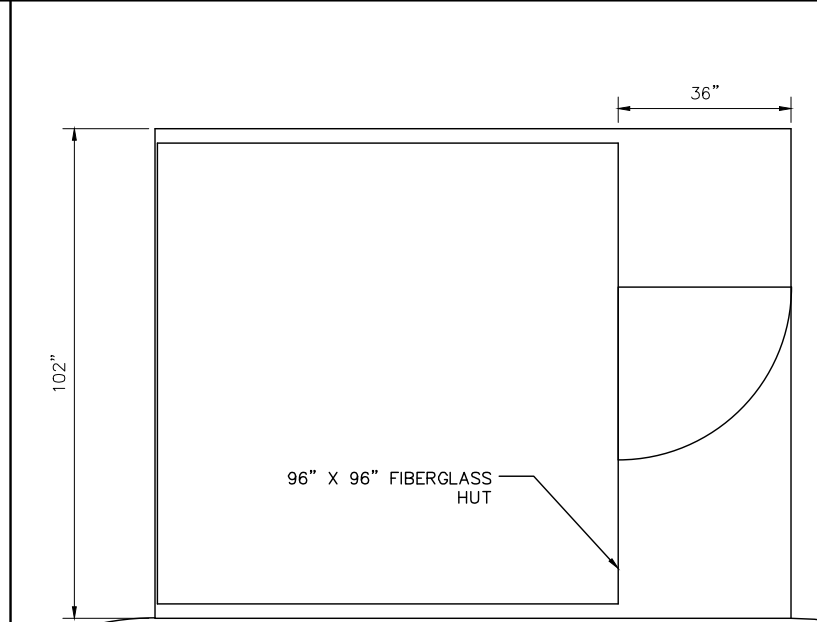
CHANNEL VISTA PUMP STATION
DETAILS

PROJECT 1528.50166.01
DATE 11/06/2020



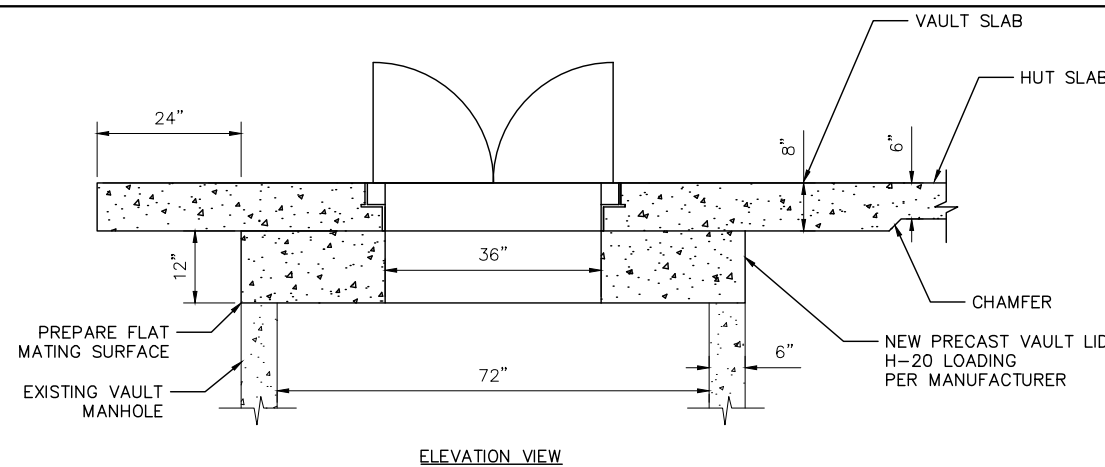
NOTES:

- 1) ALL CONCRETE TO BE INSTALLED IN ACCORDANCE WITH CBJ STANDARD SPECIFICATIONS 03300 SERIES.
- 2) CONCRETE SLAB TO BE 3000 PSI 28-DAY COMPRESSIVE STRENGTH, WITH ADDITIVES REQUIRED BY WEATHER CONDITIONS.
- 3) HUT SLAB SHALL BE 102" X 133" X 6" THICK WITH FINISH FLOOR ELEVATION 1 INCH ABOVE FINISHED GRADE.
- 4) HUT SLAB SHALL INCLUDE A SINGLE MAT OF #4 REBAR @ 12"X12" EACH WAY AND ADDITIONAL REBAR FROM VAULT SLAB AS SHOWN.
- 5) MINIMUM REBAR COVER SHALL BE 2 INCHES TO ALL FACES.
- 6) HUT SLAB SURFACE TO BE FLAT AND LEVEL WITHIN 1/8" ACROSS EACH SPAN TO ACCOMMODATE PRE-MANUFACTURED FIBERGLASS ENCLOSURE.
- 7) PROVIDE A MINIMUM OF 6 INCHES OF D-1 BASE COURSE COMPACTED TO 95% OF MAXIMUM DENSITY. D-1 MATERIAL AS DEFINED IN CBS STANDARD SPECIFICATION 02204.



NOTES:

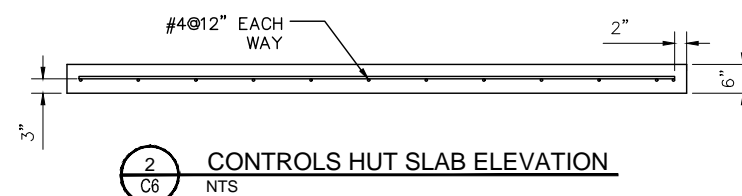
- 1) BASE OF FIBERGLASS ENCLOSURE SHALL INCLUDE 3" WIDE X 1/2" THICK MOUNTING FLANGE WITH CLOSED CELL NEOPRENE RUBBER GASKET PER SPECIFICATIONS.
- 2) INSTALL 1/2-INCH X 4-1/2 INCH SS DRIVE-IN CONCRETE ANCHOR BOLTS WITH 1-INCH DIAMETER SS WASHERS. INSTALL BOLTS IN PATTERN PER ENCLOSURE MANUFACTURER SPECIFICATIONS AND INSTRUCTIONS. BOLTS SHALL BE DRILLED TO MAINTAIN 2" CONCRETE COVER.
- 3) LOCATE REINFORCING BAR SO AS TO NOT INTERFERE WITH ANCHOR BOLT PATTERN.
- 4) ENCLOSURE DOOR TO OPEN AWAY FROM LIFT STATION VAULTS AS DETAILED.
- 5) INSTALL HUT IN ACCORDANCE WITH MANUFACTURER INSTALLATION INSTRUCTIONS AND THE PROJECT SPECIFICATIONS.
- 6) EXTERIOR EQUIPMENT RACKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CBJ STANDARD DETAIL 220-6A AND 220-6B. ELECTRICAL PLAN SHEETS INCLUDED IN THIS PLAN SET SHALL CONTROL WHERE ADDITIONAL DETAIL IS PROVIDED.



NOTES:

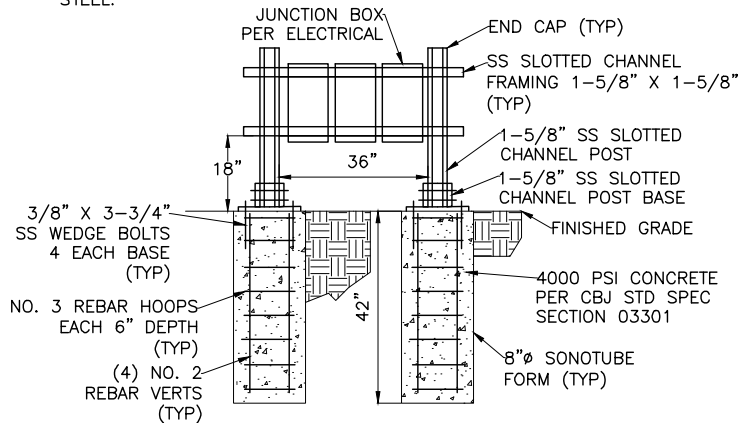
- 1) CONTRACTOR SHALL COORDINATE WITH PUMP SUPPLIER TO CONFIRM HATCH DIMENSIONS REQUIRED FOR PUMP MODEL PRIOR TO PURCHASING HATCH.
- 2) VAULT SLAB SHALL BE REINFORCED WITH #6 @5" BOTTOM AND #4 @7" TOP. PROVIDE A MINIMUM OF #4 @12" TOP AND BOTTOM PERPENDICULAR TO MAIN REINFORCEMENT.
- 3) REINFORCING COVER SHALL BE 2-INCHES CLEAR AT TOP, BOTTOM, AND SIDE SURFACES.
- 4) PRECAST LID TO BE H-20 LOADING. ALTERNATE REINFORCING DESIGN SHALL BE DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF ALASKA.
- 5) PRECAST LID SHALL HAVE FLAT BOTTOM SURFACE, OR GROOVED FOR 6" ID MANHOLE. CONTRACTOR TO REMOVE EXISTING MANHOLE RISER TONGUE TO CREATE FLAT MATING SURFACE WITH NEW LID.
- 6) GRADE PERIMETER OF SLAB WITH 4" D1 TO EXTENT OF EXCAVATION. INCIDENTAL TO LIFT STATION WORK.

1 C6 VAULT LID AND SLAB ELEVATION NTS

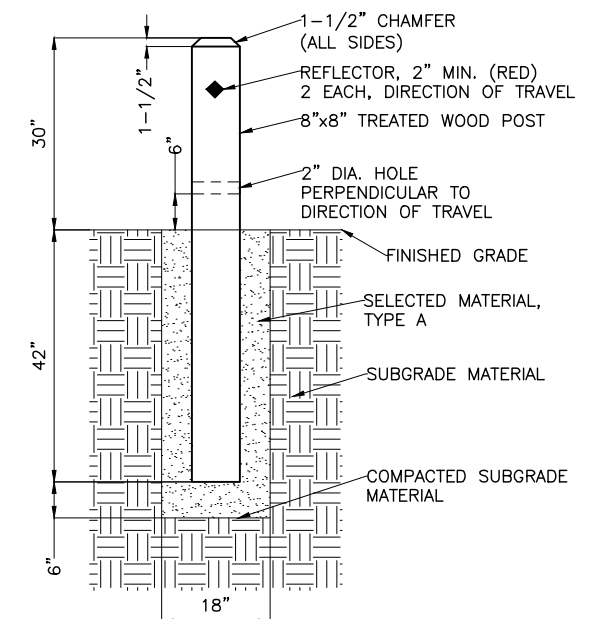


NOTES:

- 1) EXTERIOR EQUIPMENT RACKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CBJ STANDARD DETAIL 220-6A AND 220-6B. ELECTRICAL PLAN SHEETS AND THIS DETAIL SHALL CONTROL WHERE ADDITIONAL DIVERGING SPECIFICATION IS PROVIDED. SLOTTED CHANNEL FRAMING AND HARDWARE SHALL BE STAINLESS STEEL.



3 C6 CONTROLS HUT DETAIL NTS



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9085 Glacier Highway
Juneau, Alaska 99801
907-780-3533

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA

GENERAL PUMP STATION DETAILS

PROJECT 1528.50166.01
DATE 11/06/2020

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D:\Projects\DOWN\juneau_channel_lift_stations\Draws\Elec\1 - LEGEND, ABBREVIATIONS AND SCHEDULES.dwg SAVED DATE 2020-10-28 11:52 PLOT DATE 2020-11-6 10:19

ELECTRICAL LEGEND

SYMBOL	DESCRIPTION
	EXPOSED CONDUIT
	UNDERGROUND CONDUIT
	3/4" X 10' COPPER CLAD STEEL GROUND ROD
	CONDUIT RUN - CHANGE IN ELEVATION
	LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT
	HOME RUN
	KILOWATT-HOUR METER
	MOLDED CASE CIRCUIT BREAKER, X = AMPERE RATING, Y = NO. OF POLES
	MOTOR, 3-PHASE
	MOTOR, SINGLE PHASE
	DISCONNECT - NON-FUSED
	GROUND FAULT INTERRUPTING (GFI) RECEPTACLE
	120V DUPLEX RECEPTACLE NEMA 5-20R
	SINGLE POLE SWITCH
	THERMOSTAT
	JUNCTION BOX OR FITTING
	MOTORIZED VALVE OPERATOR
	MOTORIZED DAMPER
	LEVEL FLOAT SWITCH
	LEVEL TRANSDUCER
OTHER SYMBOLS ARE AS DEFINED BY NOTE.	

ABBREVIATIONS

A	AMPERE, ANALOG SIGNAL
ACS	ALASKA COMMUNICATIONS
AEL&P	ALASKA ELECTRIC LIGHT AND POWER CO.
AFF	ABOVE FINISH FLOOR
AFG	ABOVE FINISH GRADE
AI	ANALOG INPUT
AO	ANALOG OUTPUT
BCU	BARE COPPER
C	CONDUIT
CB	CIRCUIT BREAKER
CBJ	CITY AND BOROUGH OF JUNEAU
CT	CURRENT TRANSFORMER
CU	COPPER
D	DIGITAL SIGNAL
DEG	DEGREES
DI	DIGITAL INPUT
DO	DIGITAL OUTPUT
E	EMERGENCY
(E)	EXISTING
FLA	FULL LOAD AMPERES
FLC	FULL LOAD CURRENT
FS	FLOW SWITCH
G	GROUND CONDUCTOR
GFI	GROUND FAULT INTERRUPTING
GRC	GALVANIZED RIGID (STEEL) CONDUIT
GRD	GROUND
HDPE	HIGH DENSITY POLYETHYLENE CONDUIT
HL	HIGH LEVEL
HP	HORSEPOWER
HWW	HIGH WETWELL (LEVEL)
KVA	KILO-VOLT-AMPERES
LTF	LIQUID TIGHT FLEXIBLE CONDUIT (METALLIC)
MTS	MANUAL TRANSFER SWITCH
MLO	MAIN LUG ONLY
MOV	MOTOR OPERATED VALVE
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN, NUMBER
PH	PHASE
PLC	PROGRAMMABLE LOGIC CONTROLLER
PM	POWER MONITOR
POE	POWER OVER ETHERNET
PR	PAIR
RMC	GALVANIZED RIGID METTALLIC CONDUIT
RVSS	REDUCED VOLTAGE SOFT START
CP	CONTROL PANEL
SIG	SIGNAL
SS	STAINLESS STEEL
TWSH	TWISTED WIRE SHIELDED
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VOLTS
VM	VOLTAGE MONITOR
W	WATTS
WP	WEATHERPROOF
XFMR	TRANSFORMER
XP	EXPLOSION PROOF (HAZARDOUS AREA)

GENERAL NOTES

- ALL ELECTRICAL WORK SHALL BE INSTALLED IN ACCORDANCE WITH ALL REQUIREMENTS OF THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, LOCAL CODES AND CITY AND BOROUGH OF JUNEAU'S REQUIREMENTS GOVERNING THE PROJECT. ALL WORK SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED JOURNEYMAN ELECTRICIAN.
- ALL ELECTRICAL EQUIPMENT SHALL INCLUDE A U.L. LISTING OR THE SEAL OF A NATIONALLY RECOGNIZED TESTING LABORATORY FOR THE PURPOSE FOR WHICH IT IS INSTALLED. THE LISTING SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION.
- DIMENSIONS OF EQUIPMENT ARE APPROXIMATE. INSTALLATION SHALL BE VERIFIED BASED ON FIELD MEASUREMENTS AND ACTUAL MANUFACTURER'S DATA AND SHOP DRAWINGS.
- ALL SITE WORK AND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS. VERIFY ALL INSTALLATIONS PRIOR TO COMMENCEMENT OF WORK. COORDINATE ALL WORK WITH UTILITIES AS REQUIRED.
- ALL SINGLE PHASE BRANCH CIRCUITS SHALL BE 3/4"C, 3#12, AND ALL THREE PHASE BRANCH CIRCUITS SHALL BE 3/4"C, 4#12, UNLESS OTHERWISE NOTED. ALL CIRCUITS SHALL INCLUDE A EQUIPMENT GROUNDING CONDUCTOR.
- PROVIDE SEISMIC SUPPORT AND DESIGN PER IBC REQUIREMENTS.
- WHERE EXISTING UNDERGROUND UTILITIES ARE SHOWN ON THE PLANS, MULTIPLE PARALLEL LINES MAY BE ENCOUNTERED IN THE SAME TRENCH OR GENERAL AREA. SINGLE LINES WERE SHOWN FOR CLARITY.
- CALL 586-1333 (AND 811) - CALL BEFORE YOU DIG. ALL UTILITIES MAY NOT BE SHOWN IN THE PLANS. THE CONTRACTOR SHALL FIELD LOCATE ALL UTILITIES WITHIN THE WORK AREA PRIOR TO COMMENCEMENT OF WORK. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY UTILITY CONFLICTS BETWEEN PROPOSED STRUCTURES AND UTILITIES. ADJUSTMENTS OF STRUCTURES MAY BE NECESSARY TO AVOID UTILITY CONFLICTS. ADJUSTMENTS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. HAND DIG WITHIN 36" OF ALL UTILITIES NOT SCHEDULED FOR DEMOLITION.
- COORDINATE WITH CITY AND BOROUGH OF JUNEAU (CBJ) PUBLIC WORKS BEFORE ANY DISCONNECTION OF EQUIPMENT. DO NOT DISCONNECT EQUIPMENT UNTIL NOTIFICATION TO CBJ HAS BEEN MADE AND APPROVED.
- PROVIDE ARC-FLASH HAZARD WARNING LABELS ON ALL PANELBOARDS AND SIMILAR EQUIPMENT PER NEC ARTICLE 110.16 AND NFPA 70E.

CBJ WASTEWATER STANDARDS

- CONTRACTOR SHALL ADHERE TO ALL CBJ STANDARDS FOR NEW CONSTRUCTION. THESE INCLUDE BUT ARE NOT LIMITED TO THE FOLLOWING:
 - DS 220-2_000
 - DS 220-5_000
 - DS 220-6A_000
 - DS 220-7_000
 - DS 220-8_000
 - DS 220-9_000
 - DS 220-10_000
 - DS 119A

INSTRUMENT IDENTIFIER	
XX = FUNCTION / YY = LOOP	
BS	SMOKE DETECTOR
DPT	DIFFERENTIAL PRESSURE TRANSMITTER
EACA	CONTROL POWER FAILURE
ECA	EMERGENCY POWER AVAILABLE/UPS FAULT
EDCA	BATTERY CHARGER ALARM
EDCC	BATTERY SYSTEM TEST
EDCT	DC SYSTEM VOLTAGE
FI	FLOW INDICATOR
FT	FLOW TRANSMITTER
FY	FLOW TOTALIZATION
HOA	HAND-OFF-AUTO
HS	HAND SWITCH
LAH	HIGH LEVEL ALARM (FLOOD, WET WELL)
NCA	NORMAL POWER AVAILABLE
PCV	MOTORIZED PILOT CONTROL VALVE
PI	PRESSURE INDICATION
PIT	PRESSURE INDICATING TRANSMITTER
PT	PRESSURE TRANSMITTER
RL	RUN LIGHT
SC	SPEED CONTROL
SI	SPEED INDICATION
TE	TEMPERATURE ELEMENT
TT	TEMPERATURE TRANSMITTER
YA	FAULT INDICATION
YAL	PILOT LAMP
YC	RUN REQUEST
YCC	VALVE CLOSE REQUEST
YCO	VALVE OPEN REQUEST
YL	RUN STATUS
YS	HOA SWITCH POSITION
YYC	VALVE OPEN/CLOSE REQUEST
ZC	VALVE POSITION CONTROL
ZS	INTRUSION/POSITION SWITCH
ZSC	VALVE FULLY CLOSED
ZSO	VALVE FULLY OPEN
ZSE	TRANSFER SWITCH EMERGENCY POSITION
ZSN	TRANSFER SWITCH NORMAL POSITION
ZSO	VALVE FULLY OPEN
ZT	POSITION TRANSMITTER

FIXTURE SCHEDULE				
SYMBOL	TYPE	LAMP SIZE	MOUNTING	DESCRIPTION
	L1	20W LED	CEILING MOUNT	LOW-PROFILE ENCLOSED AND GASKETED INDUSTRIAL. LITHONIA #FEM-L24-3000LM-LPACL-MD-MVOLT-3000K-80CRI
	S1	9W LED	WALL MOUNTED	LED WALLPACK WITH PHOTOELECTRIC SENSOR. LITHONIA #TWR1-ALO-40K-MVOLT-PE
NOTES:				

CIRCUIT LEGEND

- H-1,a GROUP OR EQUIPMENT IDENTIFICATION.
 "A" DENOTES PANEL NAME
 "1" DENOTES CIRCUIT NUMBER
 "a" DENOTES SWITCH LEG AS INDICATED.
- \$3,a SWITCH IDENTIFICATION.
 "3" DENOTES SWITCH CONFIGURATION
 "a" DENOTES SWITCH LEG AS INDICATED.

REV	DATE	DESCRIPTION



EDC, INC.
 213 W. FIREWEED LANE
 ANCHORAGE, AK 98503
 (907) 276-7933
 LICENSE NO. AEC00705

CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
ELECTRICAL LEGEND AND ABBREVIATIONS

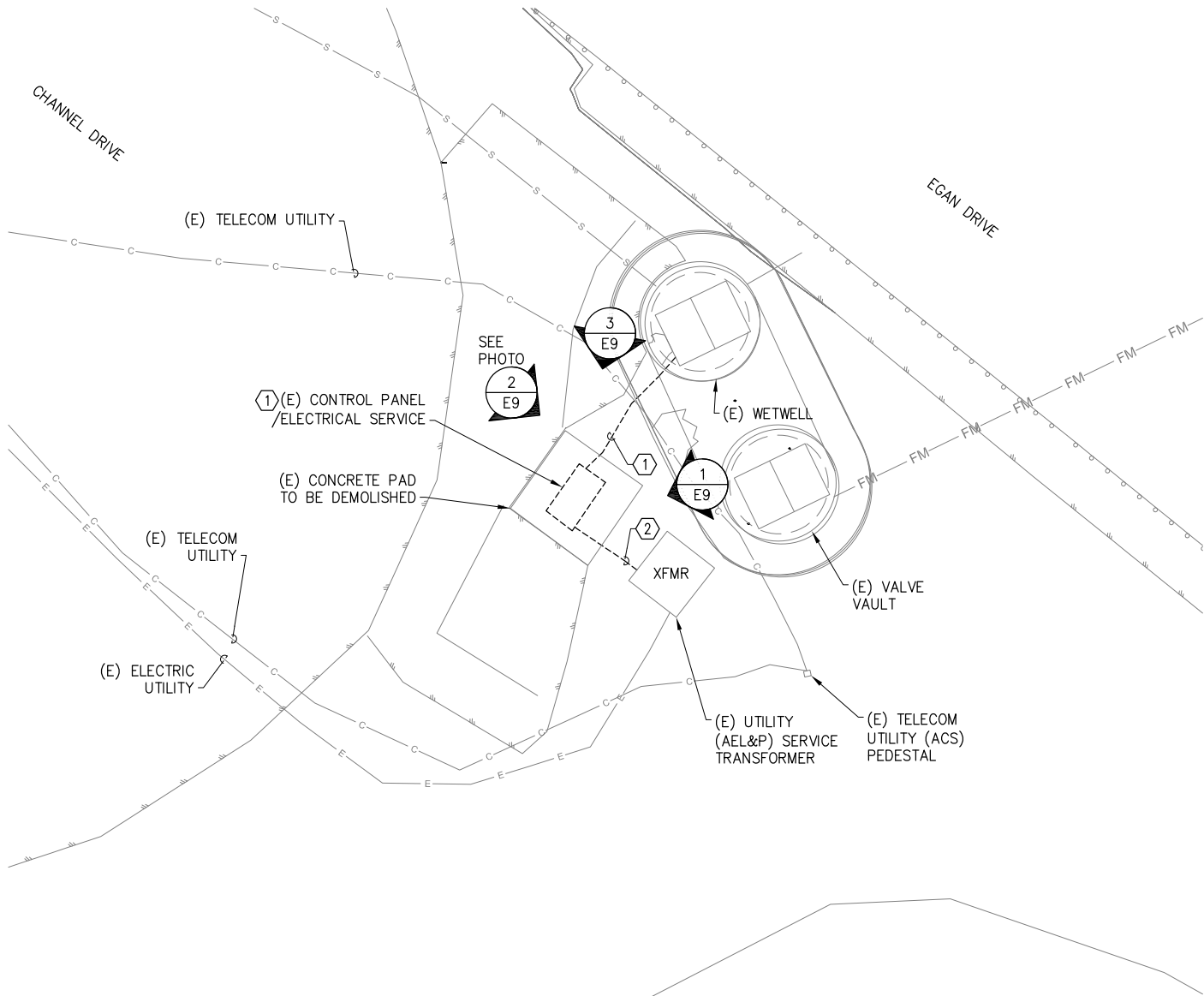
PROJECT 1528.50166.01
 DATE 11/06/2020

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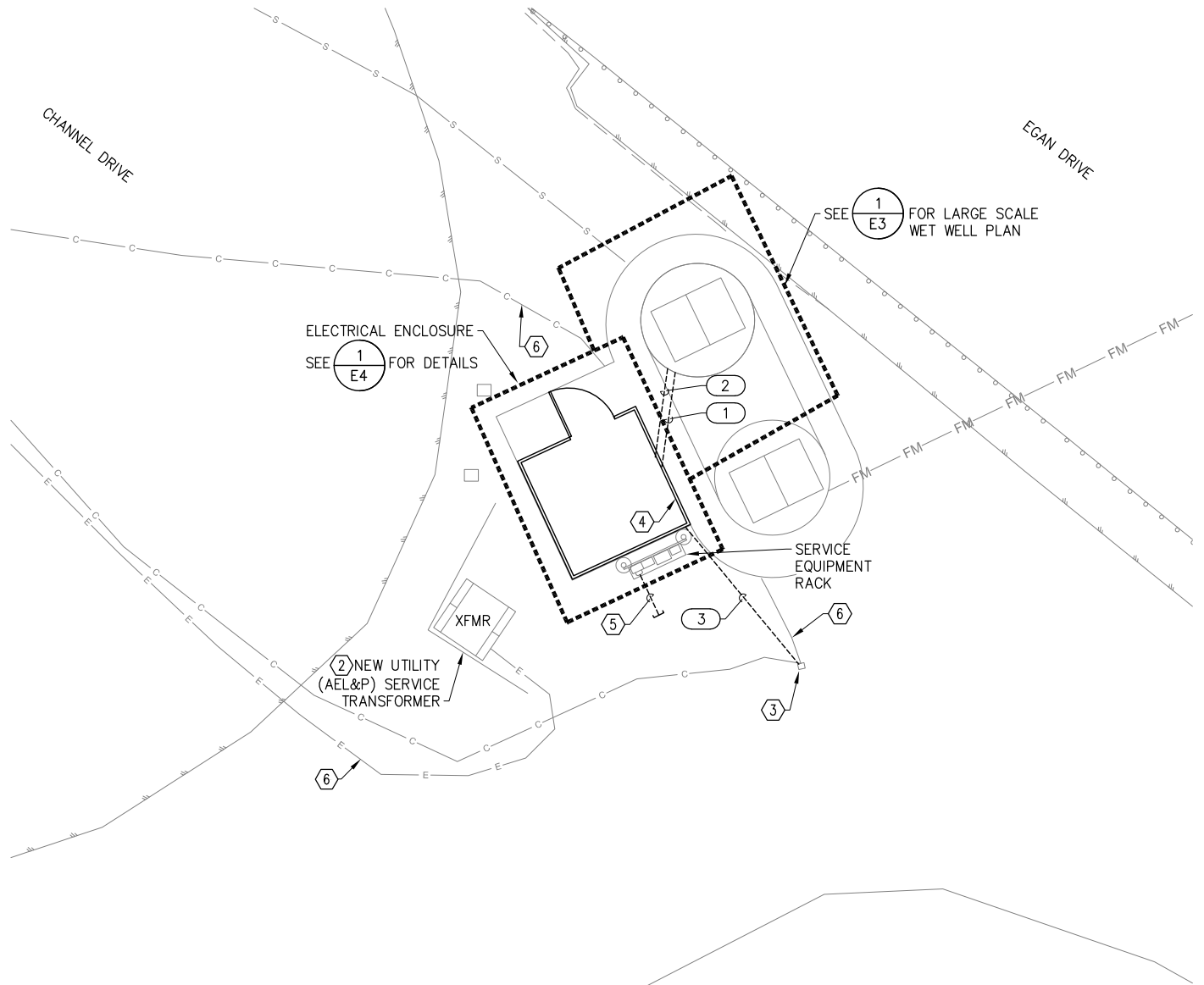
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CIRCUIT / FEEDER SCHEDULE	
TAG	DESCRIPTION
①	2EA: 2" C, POWER CONDUITS. SEE POWER ONE-LINE ON SHEET E5 FOR CIRCUITS DETAILS.
②	2" C, CONTROL CONDUIT. SEE POWER ONE-LINE ON SHEET E5 FOR CIRCUIT DETAILS.
③	TELECOM SERVICE: 2" PVC WITH PULL STRING. COORDINATE ALL REQUIREMENTS WITH UTILITY (ACS).

- SHEET NOTES**
- ① DEMOLISH (E) CONTROL PANEL, SUPPORT STRUCTURE AND ALL ASSOCIATED EQUIPMENT, CONDUITS AND CABLES. CUT-OFF AND ABANDON CONDUITS BELOW GRADE. PROVIDE GROUTED WATERPROOF SEALING OF CONDUIT PENETRATIONS INTO WET WELL. SEALING METHOD SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER.
 - ② COORDINATE WITH LOCAL UTILITY (AEL&P) FOR DEMOLITION OF (E) SERVICE TRANSFORMER/LATERAL AND CONNECTION OF NEW SERVICE TRANSFORMER/LATERAL AT NEW ELECTRICAL ENCLOSURE SERVICE.
 - ③ PROVIDE RMC ELL TRANSITION INTO (E) TELECOM UTILITY PEDESTAL. COORDINATE ALL WORK WITH TELECOM UTILITY (ACS).
 - ④ PROVIDE RMC ELL TRANSITION INSIDE ELECTRICAL ENCLOSURE BELOW ACS TERMINATION BOX. COORDINATE ALL WORK WITH UTILITY (ACS). SEE SHEET E4, DETAIL 4 FOR LOCATION. THE SERVICE CONDUIT INSTALLATION SHALL BE IN ACCORDANCE WITH ACS STANDARDS.
 - ⑤ NEW AEL&P SERVICE. PROVIDE 2" RMC ELL AND CONDUIT STUB-OUT IN ACCORDANCE WITH UTILITY'S STANDARDS.
 - ⑥ PROVIDE UTILITY LOCATES AND REQUIRED SEPARATION FROM NEW ELECTRICAL ENCLOSURE.

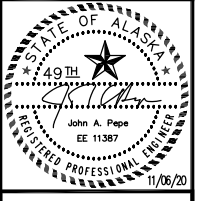


① CHANNEL DRIVE ELECTRICAL - DEMOLITION SITE PLAN



② CHANNEL DRIVE ELECTRICAL - NEW WORK SITE PLAN

REV	DATE	DESCRIPTION	BY



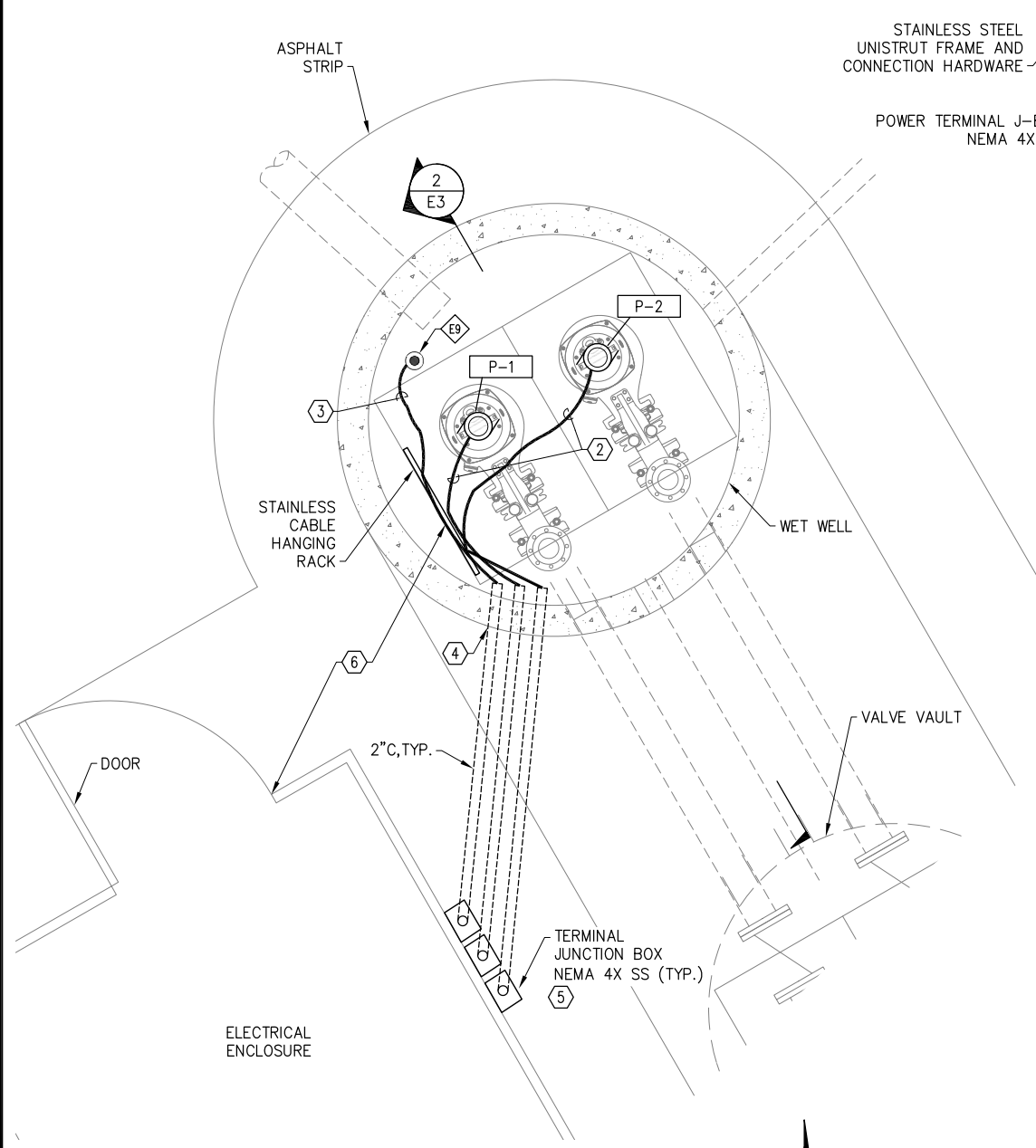
EDC, INC.
 213 W. FIREWEED LANE
 ANCHORAGE, AK 99503
 (907) 276-7933
 LICENSE NO. AEC0705

CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
 CHANNEL DRIVE PUMP STATION
 ELEC. SITE DEMO. AND NEW WORK PLAN

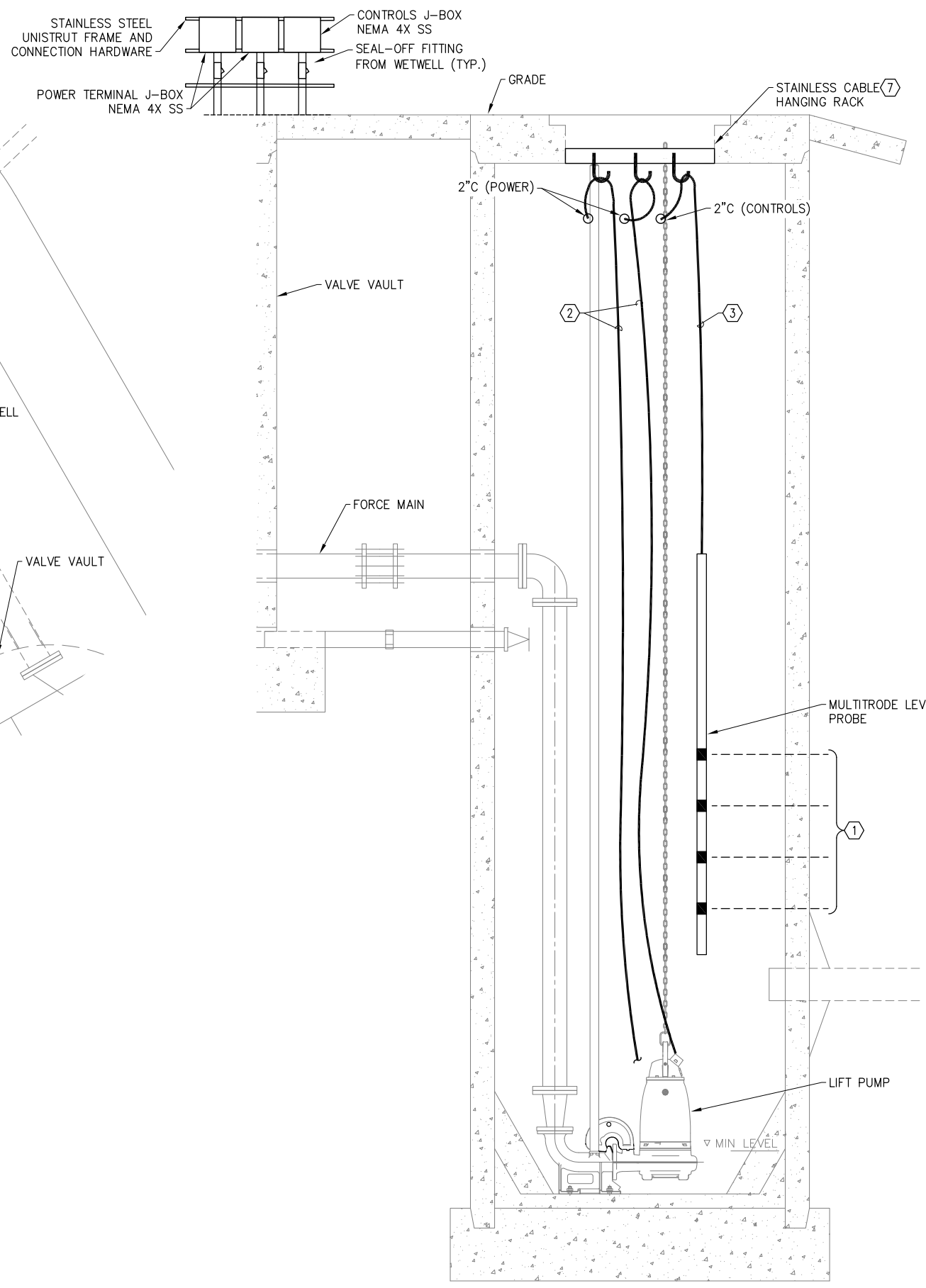
PROJECT 1528.50166.01
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1
E3 CHANNEL DRIVE ELECTRICAL - NEW WORK WET WELL PLAN



2
E3 CHANNEL DRIVE ELECTRICAL - NEW WORK WET WELL ELEVATION PLAN

SHEET NOTES

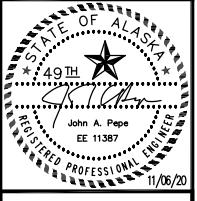
- ① SEE CIVIL FOR WET WELL CONTROL LEVELS.
- ② PROVIDE NEW POWER AND SENSOR CABLES PER THE MANUFACTURER'S RECOMMENDATIONS.
- ③ PROVIDE NEW CONTROLS/INSTRUMENTATION CABLE PER THE MANUFACTURER'S RECOMMENDATIONS.
- ④ GROUT NEW CONDUIT PENETRATIONS WATERTIGHT IN ACCORDANCE WITH CIVIL REQUIREMENTS. GROUTING METHOD SHALL BE APPROVED BY ENGINEER PRIOR TO AND FOLLOWING INSTALLATION, TYPICAL.
- ⑤ POWER AND CONTROL TERMINAL J-BOXES, SEE SHEETS E9 AND E18 FOR DETAILS.
- ⑥ MAINTAIN HAZARDOUS LOCATION SEPARATION (48" MIN.) FROM WETWELL HATCH OPENING.
- ⑦ FOR CONTROL EQUIPMENT MOUNTING DETAILS, SEE SHEET E18.

- Ⓢ SEE SHEET E5 FOR ELECTRICAL EQUIPMENT SCHEDULE.
- P-X SEE SHEET E5 FOR EQUIPMENT CONNECTION SCHEDULE.

GENERAL SHEET NOTES

- 1. THE ENTIRE BELOW GRADE WET WELL IS A CLASS 1, DIVISION 1, GROUP D HAZARDOUS LOCATION. ALL EQUIPMENT INSTALLED IN THE WET WELL SHALL BE LISTED FOR THE ENVIRONMENT AND IN ACCORDANCE WITH NEC 500, 501 AND 504 AS APPLICABLE.

REV	DATE	DESCRIPTION



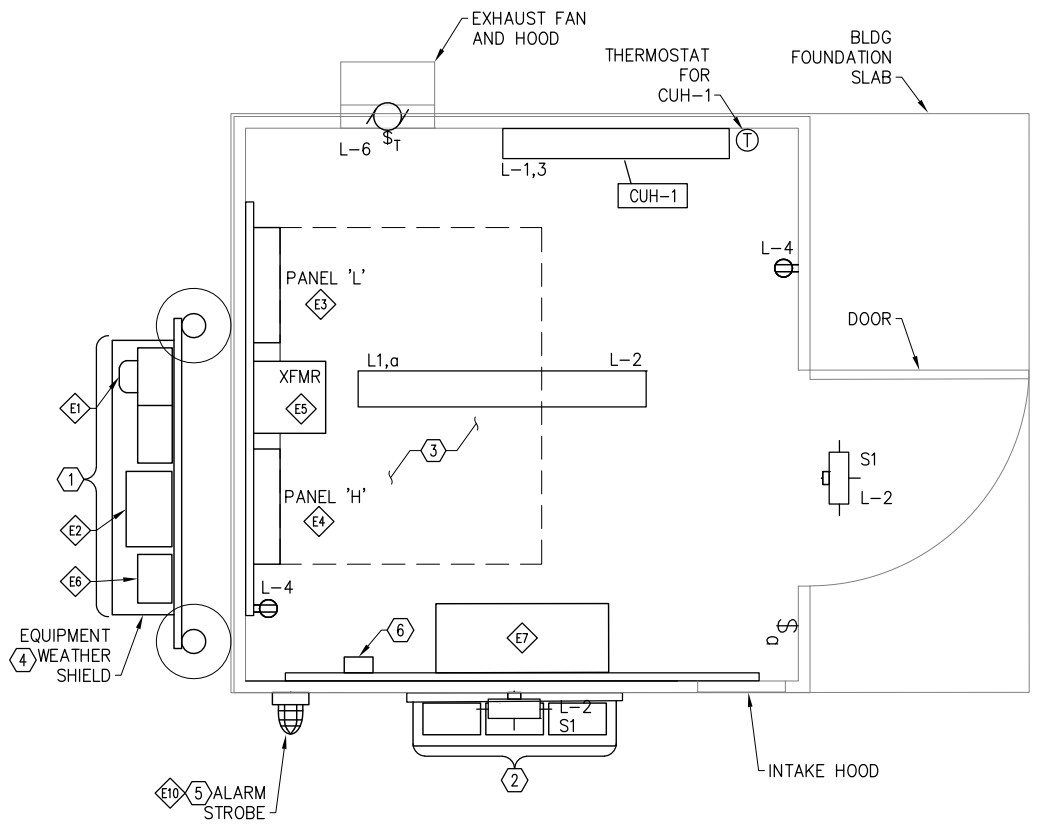
EDC, INC.
 213 W. FIREWEED LANE
 ANCHORAGE, AK 99503
 (907) 276-7933
 LICENSE NO. AEC0705

CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
**CHANNEL DRIVE PUMP STATION
 WET WELL PLAN AND ELEVATION**

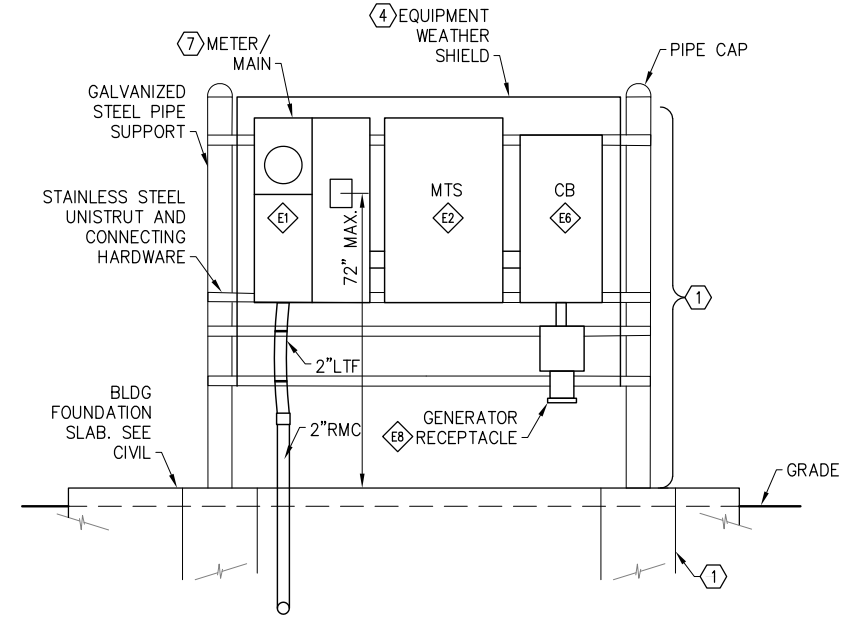
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 SAVD DATE 2020-11-05 13:30 PLOT DATE 2020-11-06 10:19



1 ELECTRICAL ENCLOSURE - FLOOR PLAN



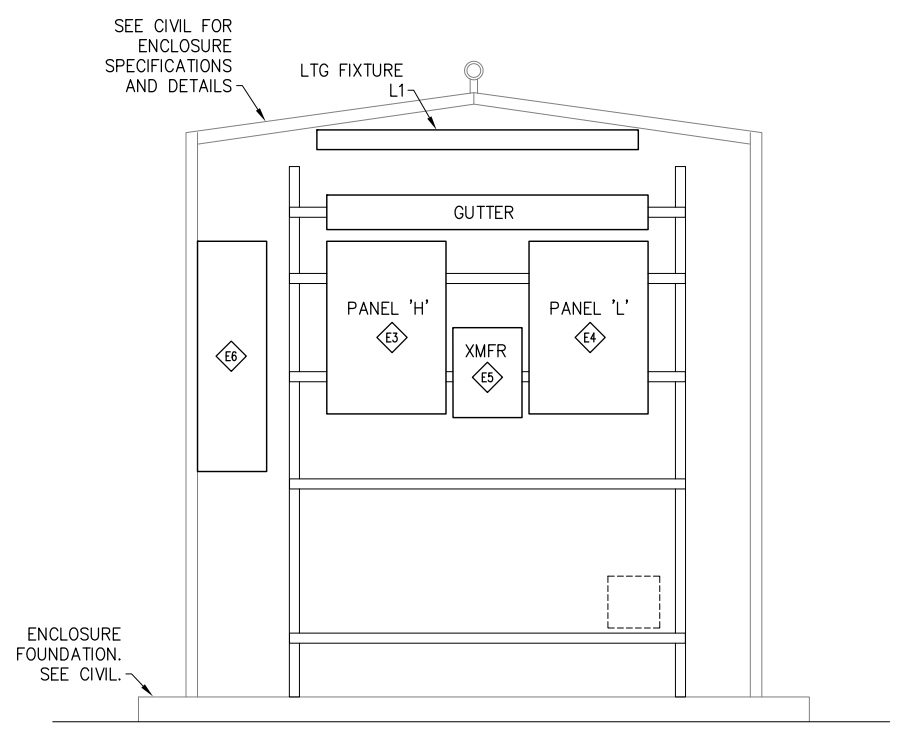
2 EXTERIOR SERVICE RACK ELEVATION DETAIL

SHEET NOTES

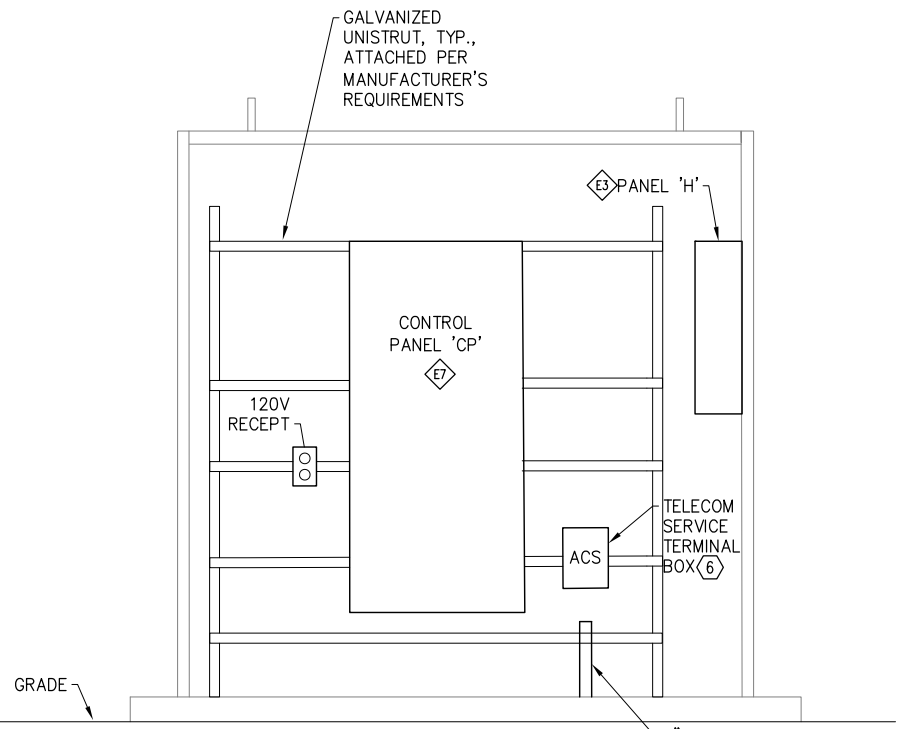
- ① SERVICE EQUIPMENT RACK. SEE RACK ELEVATION DETAIL ON THIS SHEET. PROVIDE EQUIPMENT IN ACCORDANCE WITH CBJ STANDARD DETAIL 220-6A.
 - ② PROVIDE POWER AND CONTROL/INSTRUMENTATION TERMINAL BOXES. NEMA 4X STAINLESS STEEL. SEE DETAILS ON SHEET E9.
 - ③ MAINTAIN ELECTRICAL CLEAR SPACE ABOUT EQUIPMENT IN ACCORDANCE WITH NEC 110.26.
 - ④ PROVIDE WEATHER SHIELDS FOR ALL EXTERIOR EQUIPMENT PER CBJ STANDARD DETAIL 220-5.
 - ⑤ PROVIDE ALARM STROBE WITH SIGNAGE. SEE SHEET E18, DETAIL 3.
 - ⑥ TELECOM UTILITY SERVICE BOX. COORDINATE WITH TELECOM UTILITY (ACS) TO RECONNECT TELEPHONE SERVICE TO NEW LIFT STATION PANEL. SEE SITE PLAN ON SHEET E2 FOR SERVICE CONDUIT DETAILS. ALL WORK SHALL BE IN ACCORDANCE WITH ACS'S REQUIREMENTS.
 - ⑦ PROVIDE ELECTRICAL SERVICE EQUIPMENT AND CONDUIT IN ACCORDANCE WITH (AEL&P) REQUIREMENTS.
- ⬡ SEE SHEET E5 FOR ELECTRICAL EQUIPMENT SCHEDULE.

TAG ID	LOAD					CIRCUIT SIZE	NOTES
	KVA	HP	FLC	V	PH		
CUH-1	2			240	1	1/2" C, 2#12(H,N), 1#12 EGC	1
EF-1		F		120	1	1/2" C, 2#12(H,N), 1#12 EGC	1

NOTES:
 1. SIZING IS APPROXIMATE. CONTRACTOR SHALL PROVIDE ADEQUATE HEATING AND VENTILATION BASED ON ENCLOSURE SPECIFICATION REQUIREMENTS.



3 ELECTRICAL ENCLOSURE - SOUTH WALL INTERIOR ELEVATION PLAN



4 ELECTRICAL ENCLOSURE - EAST WALL INTERIOR ELEVATION PLAN

REV	DATE	DESCRIPTION



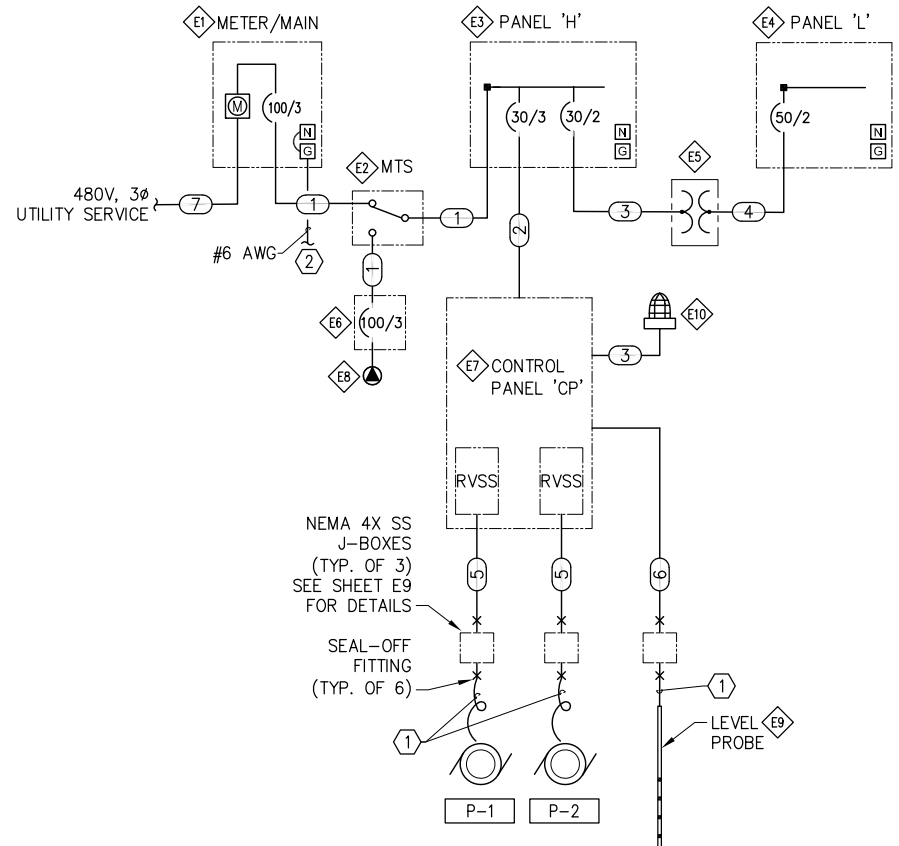
EDC, INC.
 213 W. FIREWEED LANE
 ANCHORAGE, AK 98503
 (907) 276-7933
 LICENSE NO. AEC0705

CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
 CHANNEL DRIVE PUMP STATION
 ELECTRICAL ENCLOSURE LAYOUT PLAN

PROJECT 1528.50166.01
 DATE 11/06/2020

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D:\Projects\DOWN\juneau_channel_lift_stations\channel_lift_station\power_one_line_and_panel_schedules.dwg - CHANNEL DRIVE LIFT STATION POWER ONE-LINE AND PANEL SCHEDULES.dwg SAVED DATE: 2020-10-28 12:08 PLOT DATE: 2020-11-6 10:19



ELECTRICAL EQUIPMENT SCHEDULE		
ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL
E1	100A, 480V, 3φ, 3-WIRE METER/MAIN, NEMA 4X STAINLESS STEEL	SQUARE D. EQUIPMENT IN ACCORDANCE WITH UTILITY'S (AEL&P) SERVICE REQUIREMENTS
E2	100A MANUAL TRANSFER SWITCH WITH 3-WIRE, 3-POLE RECEPTACLE, NEMA 4X STAINLESS STEEL.	SQUARE D.
E3	100A, 480V, 3φ, 3-WIRE PANEL 'H', 18 SPACE NEMA 1	SQUARE D
E4	100A, 240/120V, 1φ, 3-WIRE PANEL 'L', 24 SPACE NEMA 1	SQUARE D
E5	10KVA, 480:240/120V, 1φ DRY-TYPE TRANSFORMER	SQUARE D
E6	100A, 480V, 3φ, ENCLOSED CIRCUIT BREAKER, NEMA 4X STAINLESS STEEL	SQUARE D
E7	LIFT PUMP CONTROL PANEL 'CP'	FLYGT/STA-CON. SEE SHEETS E6-E8 AND SPECIFICATIONS
E8	100A, 480V, 3φ PIN-AND-SLEEVE GENERATOR RECEPTACLE WITH METTALIC BACK BOX	COOPER/CROUSE-HINDS AR SERIES RECEPTACLE IN ACCORDANCE WITH CBJ STANDARD 220-6A
E9	LEVEL PROBE	MULTITRODE. SEE SPECIFICATIONS
E10	ALARM STROBE, 120V, WEATHERPROOF, RED LENSE WITH SIGNAGE. SEE SHEET E18, DETAIL 3 FOR SIGNAGE.	FEDERAL SIGNAL

- SHEET NOTES**
- NEW PUMP POWER AND INSTRUMENT CABLES IN 2" C. PROVIDE AS INDICATED ON SHEET E3 ELEVATIONS AND AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.
 - PROVIDE SYSTEM GROUNDING PER NEC ARTICLE 250.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
1	2" C, 4#2(3H, N), 1#6 EGC
2	3/4" C, 3#10(3H, N), 1#10 EGC
3	3/4" C, 2#10(2H), 1#10 EGC
4	1" C, 3#6(2H, N), 1#8 EGC
5	1-1/2" C, 4#10(3H, EGC), 4#12(4SIG)
6	2" C, 11#14 (11SIG), 1#14 EGC
7	2" C, UTILITY SERVICE, PER AEL&P STANDARDS

EQUIPMENT CONNECTION SCHEDULE						
TAG ID	LOAD					CIRCUIT SIZE
	KVA	HP	FLC	V	PH	
P-1		5	7.6	480	3	SEE CIRCUIT SCHEDULE
P-2		5	7.6	480	3	SEE CIRCUIT SCHEDULE

1 CHANNEL DRIVE ELECTRICAL - POWER ONE-LINE

PANEL 'H' SCHEDULE													
VOLTAGE: 480/277 BUS: 100A MAIN: MLO			LOCATION: ELECTRICAL ENCLOSURE				MIN. A.I.C. RATING: 10,000 ENCLOSURE: NEMA 1 MOUNTING: SURFACE						
CKT	AMP	LOAD DESCRIPTION	KVA	LOAD	A	B	C	LOAD	KVA	LOAD DESCRIPTION	AMP	CKT	
1			4.5	LM	6.1			F	1.6	PANEL 'L' FEEDER	30/2	2	
3	30/3	CONTROL PANEL 'CP'	4.5	LM		5.7		F	1.2			4	
5			4.5	LM			4.5					6	
7					0.0							8	
9						0.0						10	
11							0.0					12	
13												14	
15						0.0						16	
17							0.0					18	
					6.1	5.7	4.5						
TOTAL KVA: 16.3 AMPS: 19.6													
SUMMARY BY LOAD TYPE		CONNECTED KVA			TOTAL	NEC%	NEC TOTAL	NOTES:					
		PH A	PH B	PH C	FEED	KVA							
L	LIGHTING	0.0	0.0	0.0		0.0	1.25	0.0					
R	RECEPTACLES	0.0	0.0	0.0		0.0	10K+50%	0.0					
M	MOTORS	0.0	0.0	0.0		0.0	1.00	0.0					
LM	LARGEST MOTOR	4.5	4.5	4.5		13.5	1.25	16.9					
C	CONTINUOUS	0.0	0.0	0.0		0.0	1.25	0.0					
N	NON-CONTINUOUS	0.0	0.0	0.0		0.0	1.00	0.0					
S	SPARE	0.0	0.0	0.0		0.0	1.00	0.0					
X	NON-COINCIDENT	0.0	0.0	0.0		0.0	0.00	0.0					
O	OTHER	0.0	0.0	0.0		0.0	1.00	0.0					
F	FEEDER	1.6	1.2	0.0		2.8	1.00	2.8					
TOTAL KVA (PHASE)		6.1	5.7	4.5		16.3		16.9					
TOTAL AMPERES		22.0	20.6	16.2		19.6		20.3					
PHASE BALANCE, ABC		A-B	B-C	C-A									
PERCENT													

PANEL 'L' SCHEDULE												
VOLT: 120/240V BUS: 100A MAIN: 50A CB			LOCATION: ELECTRICAL ENCLOSURE				A.I.C. RATING: 10,000 ENCLOSURE: NEMA 1 MOUNTING: SURFACE					
CKT	AMP	LOAD DESCRIPTION	KVA	LOAD	A	B	LOAD	KVA	LOAD DESCRIPTION	AMP	CKT	
1			0.8	C	1.2		L	0.4	LIGHTING	20/1	2	
3			0.8	C		1.2	R	0.4	RECEPTACLES	20/1	4	
5					0.4		LM	0.4	EXHAUST FAN (EF-1)	20/1	6	
7						0.0					8	
9						0.0					10	
11							0.0				12	
13							0.0				14	
15							0.0				16	
17							0.0				18	
19							0.0				20	
21							0.0				22	
23							0.0				24	
					1.6	1.2						
TOTAL KVA: 2.8 AMPS: 11.7												
SUMMARY BY LOAD TYPE		CONNECTED KVA			TOTAL	NEC%	NEC TOTAL	NOTES:				
		PH A	PH B	FEED	KVA							
L	LIGHTING	0.4	0.0		0.4	1.25	0.5					
R	RECEPTACLES	0.0	0.4		0.4	10K+50%	0.4					
M	MOTORS	0.0	0.0		0.0	1.00	0.0					
LM	LARGEST MOTOR	0.4	0.0		0.4	1.25	0.5					
C	CONTINUOUS	0.8	0.8		1.6	1.25	2.0					
N	NON-CONTINUOUS	0.0	0.0		0.0	1.00	0.0					
S	SPARE	0.0	0.0		0.0	1.00	0.0					
X	NON-COINCIDENT	0.0	0.0		0.0	0.00	0.0					
O	OTHER	0.0	0.0		0.0	1.00	0.0					
F	FEEDER	0.0	0.0		0.0	1.00	0.0					
TOTAL KVA (PHASE)		1.6	1.2		2.8		3.4					
TOTAL AMPERES		13.3	10.0		11.7		14.2					
PHASE BALANCE, AB		A-B	B-A									
PERCENT		57	43									

REV	DATE	DESCRIPTION

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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA

CHANNEL DRIVE PUMP STATION
POWER ONE-LINE AND PANEL SCHEDULES

PROJECT	1528.50166.01
DATE	11/06/2020

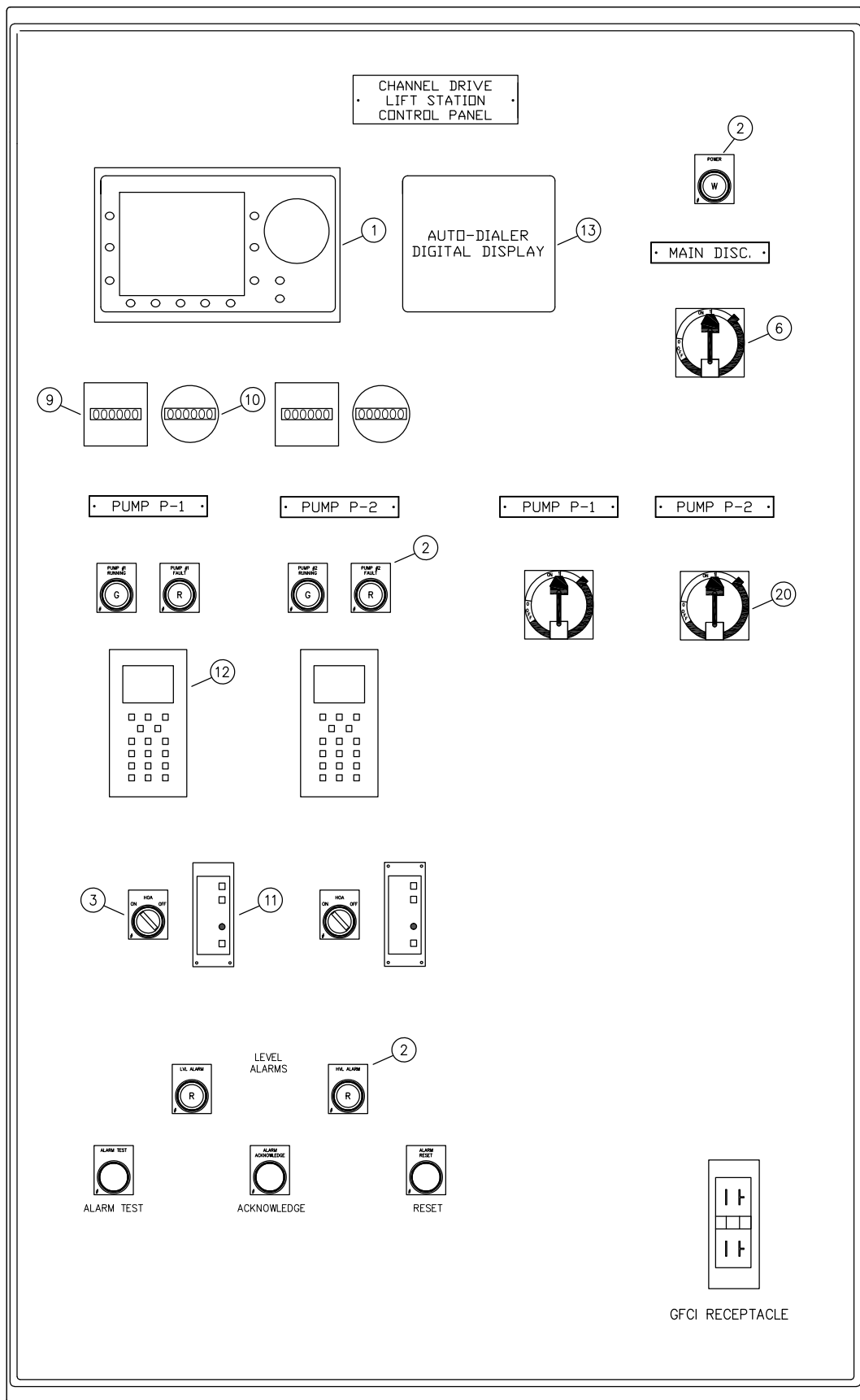
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E5

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FRONT PANEL VIEW



CONTROL PANEL FUNCTIONAL DESCRIPTION

CONTROL PANEL FEATURES (PANEL SHALL BE IN ACCORDANCE TO CBJ STANDARDS):

THE PANEL IS A DUPLEX SUBMERSIBLE PUMP CONTROL PANEL CONTROLLING 3ø SUBMERSIBLE PUMPS. THE CONTROLS INCLUDE 'COMMON ALARM' AND 'CONTROL POWER' PILOT LIGHTS. EACH PUMP HAS A HOA SWITCH; 'RUNNING', FAULT PILOT LIGHTS, RUN-TIME METER, CYCLE COUNTER AND A 'PUMP RESET' PUSHBUTTON.

THE DUPLEX PUMP CONTROLLER HAS THE FOLLOWING FEATURES:

1. LCD DISPLAY OF WET WELL LEVEL, LEAD AND LAG PUMP SETPOINTS, AND HIGH AND LOW LEVEL ALARM SETPOINTS.
2. SIMPLE PUSHBUTTON ADJUSTMENT OF PUMP ON/OFF AND LEVEL ALARM SETPOINTS.
3. SIMPLE PUSHBUTTON LEVEL SIMULATION ADJUSTMENT FOR TESTING AND TROUBLESHOOTING.
4. AUTO-ALTERNATION OR LEAD PUMP SELECT OPTIONS.

THE PANEL CONTROLS OPERATION OF BOTH PUMPS IN ALL MODES. EACH PUMP HAS A SOLID STATE MOTOR STARTER WITH OVERLOAD, PHASE LOSS, PHASE REVERSAL AND PHASE IMBALANCE PROTECTION. IF ANY OF THESE CONDITIONS OCCURS THE PUMP WILL BE DISABLED. THE FAULT MUST BE MANUALLY CLEARED BY PRESSING THE 'PUMP RESET' PUSHBUTTON.

OPERATING MODES:

- HAND - IN HAND MODE THE PUMP WILL RUN CONTINUOUSLY UNLESS AN OVERLOAD, OVERTEMPERATURE OR VOLTAGE MONITOR FAULT OCCURS.
- OFF - IN THE OFF MODE THE PUMP WILL BE DISABLED.
- AUTO - IN THE AUTO MODE THE NORMAL PUMPING OPERATION WILL BE IN A LEAD/LAG CONFIGURATION WITH BOTH PUMP SELECTOR SWITCHES IN 'AUTO' AND THE CONTROL SET TO AUTO-ALTERNATE SO THAT THE LEAD AND LAG PUMPS ALTERNATE AUTOMATICALLY ON EACH PUMPING CYCLE. WHEN A PUMP IS CALLED TO RUN IT WILL RUN UNLESS AN OVERLOAD, OVERTEMPERATURE OR VOLTAGE MONITOR FAULT OCCURS.

THE LEAD PUMP IS ENERGIZED WHEN WASTEWATER IN THE WET WELL RISES TO AN ELEVATION ABOVE THE 'CALL FOR LEAD PUMP' LEVEL.

IF THE LEAD PUMP DOES NOT ENERGIZE OR IF THE WASTEWATER RISES IN THE WET WELL FASTER THAN THE LEAD PUMP CAN REMOVE IT, THE LAG PUMP IS ENERGIZED WHEN THE WASTEWATER RISES ABOVE THE ELEVATION OF THE 'CALL FOR LAG PUMP' SETPOINT.

IF NEITHER THE LEAD PUMP NOR THE LAG PUMP IS ENERGIZED OR IF THE WASTEWATER RISES IN THE PUMP STATION FASTER THAN THE LEAD AND LAG PUMPS CAN REMOVE IT, THE 'HIGH LEVEL' ALARM IS ACTIVATED AND THE EXTERNAL VISUAL ALARM IS ENERGIZED WHEN THE INFLUENT REACHES A LEVEL ABOVE THE 'CRITICAL HIGH LEVEL' SETPOINT. THE EXTERNAL VISIBLE (STROBE) ALARM CAN BE DE-ENERGIZED BY PRESSING THE SILENCE BUTTON. THE INTERNAL (PANEL MOUNTED) ALARM LIGHTS WILL REMAIN ON AS LONG AS THE ALARM CONDITION EXISTS. ONCE SILENCED, THE EXTERNAL ALARMS WILL RESPOND TO SUBSEQUENT ALARMS EVEN IF EXISTING ALARMS ARE STILL ACTIVE.

BOTH PUMPS ARE DE-ENERGIZED WHEN WASTEWATER IN THE WET WELL FALLS BELOW THE ELEVATION OF THE 'PUMPS OFF' SETPOINT. IF THE LEVEL IN THE WET WELL CONTINUES TO FALL BELOW THE ELEVATION OF THE 'LOW LEVEL' SETPOINT, THE 'LOW LEVEL' ALARM IS ACTIVATED AND THE VISUAL ALARMS ARE ENERGIZED.

SEE CIVIL DRAWINGS FOR APPROXIMATE WET WELL LEVEL SET POINTS.

COMPONENT SCHEDULES

ITEMS	PROVIDE MATERIALS SPECIFIED (EQUAL SUBSTITUTIONS ALLOWED)
①	DUPLEX PUMP CONTROLLER. MULTITRODE/MULTISMART MT2PC.
②	PILOT LIGHT, PUSH TO TEST, 120V, LED, NEMA 4X, ALLEN BRADLEY CAT #800HC-QRTH2*, WHERE * = LENS TINT AS SHOWN.
③	3-POSITION SELECTOR SWITCH, 120V, NEMA 4X, ALLEN BRADLEY 800T-J17-KD7-B. PROVIDE CAM AND CONTACT BLOCKS AS REQUIRED.
④	3-POLE 600V, NEMA SIZE 3, ISOLATION CONTACTOR WITH 120V COIL. PROVIDE WITH ADDITIONAL AUXILIARY AND OVERLOAD CONTACTS AND REMOTE OVERLOAD RESET. SQUARE D 8502-SEO2V02S.
⑤	SURGE SUPPRESSOR, ALLEN-BRADLEY 199-MSMA1
⑥	DOOR MOUNTED DISCONNECT SWITCH, 480V, 50A, 3-POLE WITH PADLOCK PROVISION, ALLEN BRADLEY.
⑦	NEMA 4X STAINLESS ENCLOSURE WITH REMOVABLE STEEL BACK PANEL, INNER DEAD-FRONT HINGED DOOR AND OUTER DOOR. SIZE AS REQUIRED. HOFFMAN.
⑧	MINIATURE CIRCUIT BREAKER, 240V, AMPERE RATING AND NUMBER OF POLES AS SHOWN, DIN RAIL MOUNTED WITH BOX LUGS, ALLEN BRADLEY 1489-M.
⑨	ELAPSED TIME HOURMETER, 0-99999.9 HR, 120VAC, VEEDER-ROOT #779516-201.
⑩	CYCLE COUNTER, PANEL MOUNTED, RESETTABLE, 120V, VEEDER-ROOT #743885-211
⑪	LEAK DETECTION AND OVERTEMPERATURE RELAY. FLYGT MINI-CAS 14-40 71 29
⑫	HMI MODULE, DOOR MOUNTED, NEMA 4X. ALLEN-BRADLEY 20-HIM-C3S
⑬	AUTO-DIALER (COMMUNICATOR) WITH BATTERY AND POWER SUPPLY. DIGITAL SECURITY CONTROLS 16120NT, 1640PS
⑭	PUMP MONITOR RELAY. MPE PMR2.
⑮	INTRINSICALLY SAFE MODULE. MULTITRODE ISB-10.
⑯	SOLID-STATE SOFT STARTER WITH OVERLOAD RELAY. ALLEN-BRADLEY SMC FLEX.
⑰	LED PANEL LIGHT AND SWITCH. PENTAIR/HOFFMAN.
⑱	100W ENCLOSURE HEATER. 120VAC. PENTAIR/HOFFMAN HEATER WITH THERMOSTAT.
⑲	RELAY, INDUSTRIAL TYPE (4-CONTACTS, 120V).ALLEN-BRADLEY 700-P400A1.
⑳	DOOR MOUNTED CIRCUIT BREAKER DISCONNECT SWITCH. 480V, 3-POLE WITH PADLOCK PROVISIONS. SQUARE D.

1 CHANNEL DRIVE ELECTRICAL - CONTROL PANEL LAYOUT
E6

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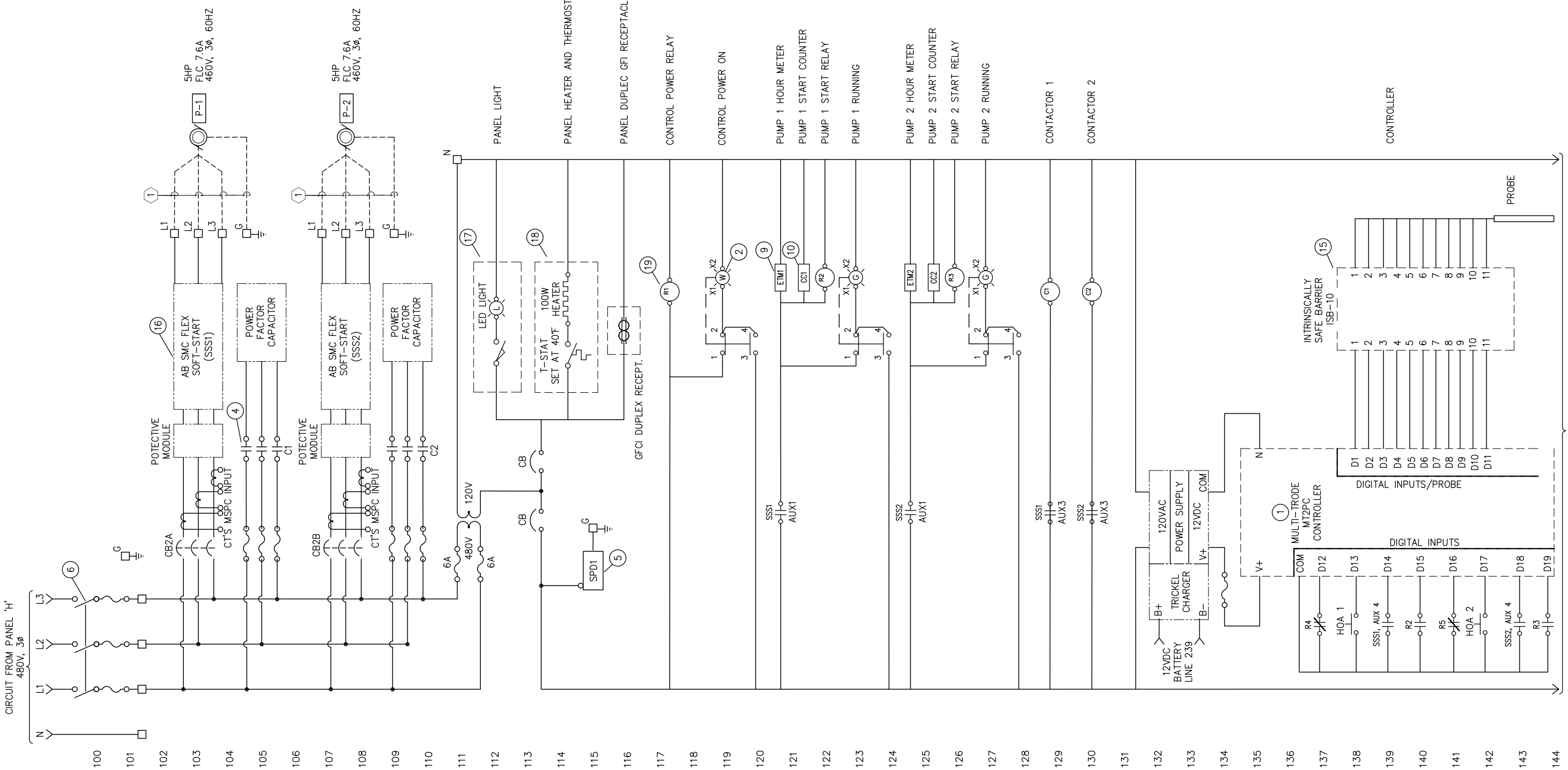
CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL DRIVE PUMP STATION
CONTROL PANEL LAYOUT

PROJECT 1528.50166.01
DATE 11/06/2020

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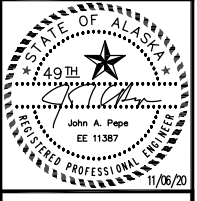
1 CHANNEL DRIVE ELECTRICAL - CONTROL PANEL SCHEMATIC (1 OF 2)
E7

SHEET NOTES

- 1 NEW PUMP POWER CABLES. PROVIDE AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.

CONTROL CIRCUIT CONTINUED ON NEXT SHEET

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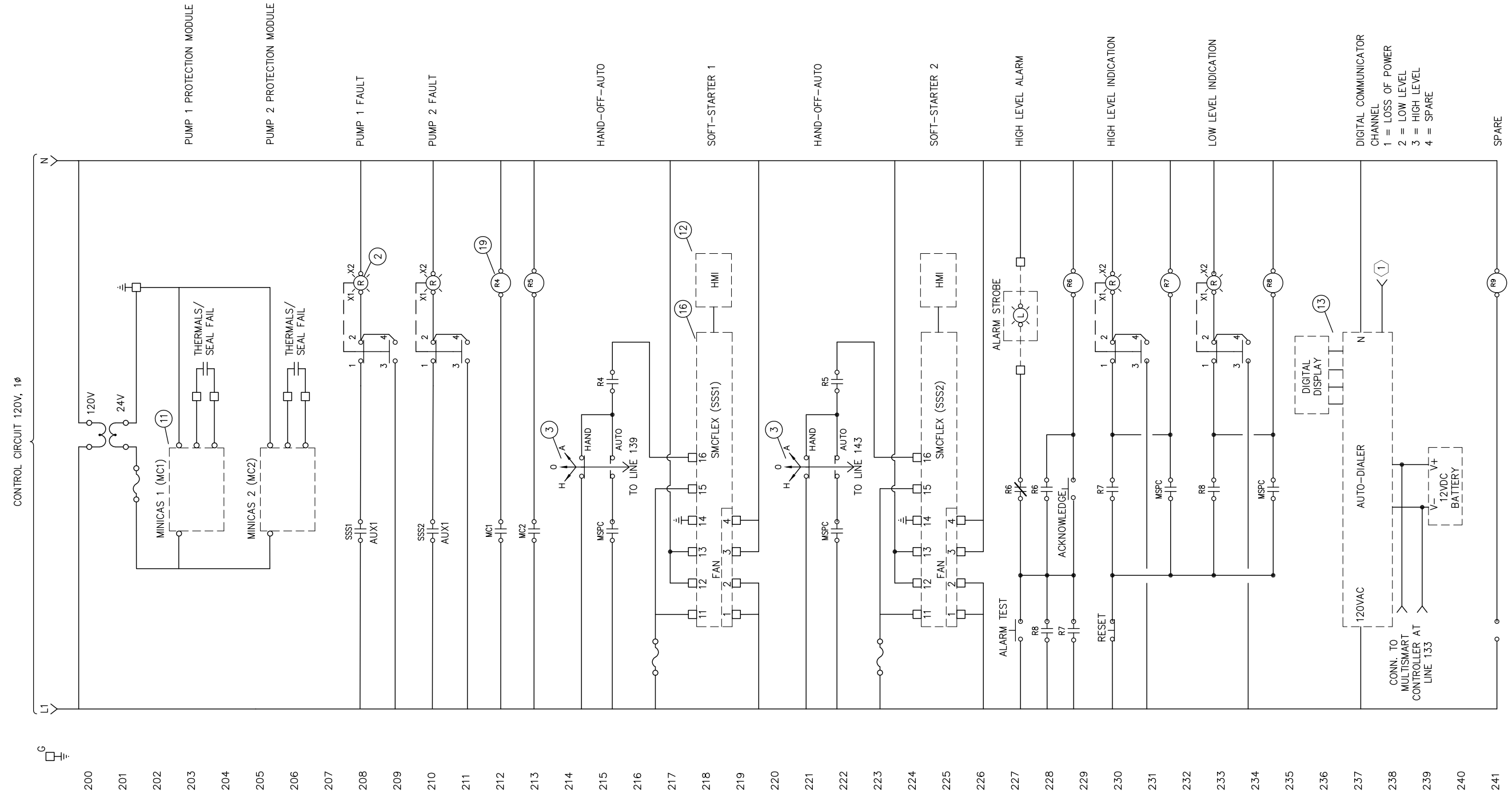
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CHANNEL DRIVE PUMP STATION
CONTROL PANEL SCHEMATIC (1 OF 2)

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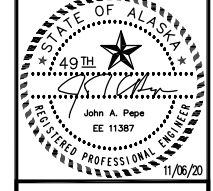
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E8 CHANNEL DRIVE ELECTRICAL - CONTROL PANEL SCHEMATIC (2 OF 2)



SHEET NOTES

- ① ACS TELEPHONE SERVICE SHALL BE RECONNECTED TO THE NEW CBJ AUTO-DIALER. COORDINATE ALL WORK WITH THE TELECOM UTILITY (ALASKA COMMUNICATIONS) AND CBJ.

REV	DATE	DESCRIPTION	BY



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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL DRIVE PUMP STATION
CONTROL PANEL SCHEMATIC (2 OF 2)

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DATE 11/06/2020

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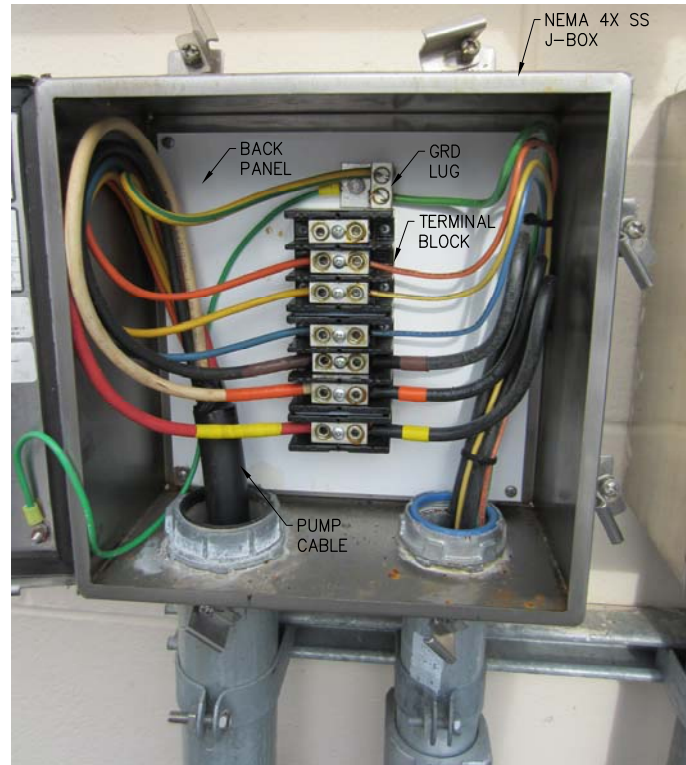
1 CHANNEL DRIVE - (E) POWER DEMOLITION
E9



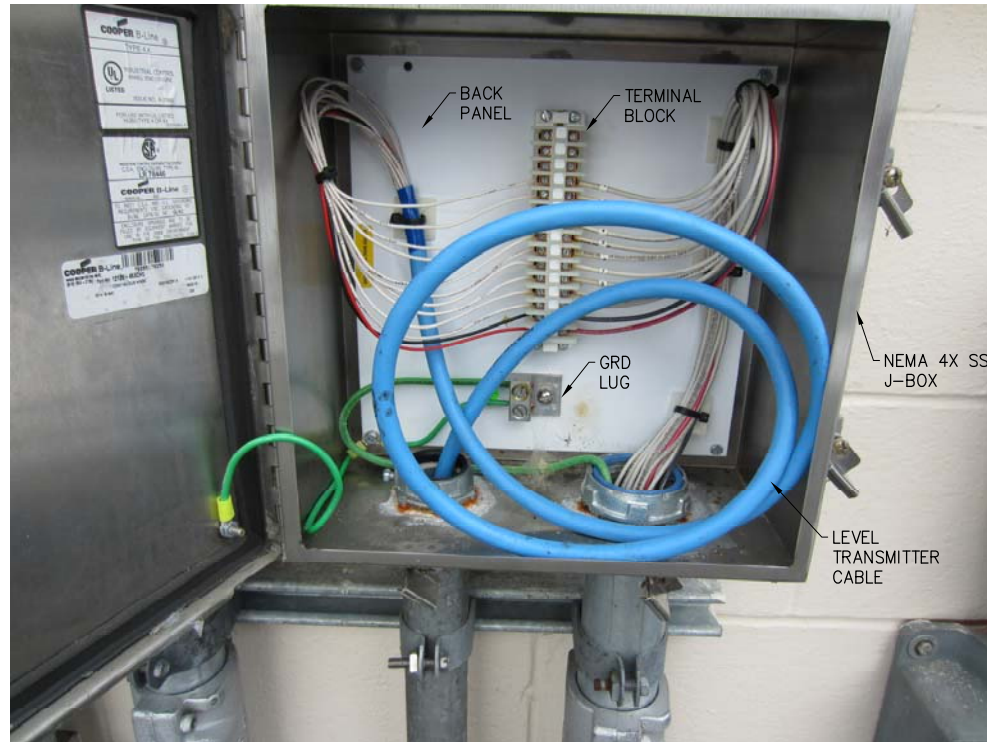
2 CHANNEL DRIVE - (E) CONTROL PANEL DEMOLITION
E9



3 CHANNEL DRIVE - SITE ELECTRICAL DEMOLITION
E9



4 POWER JUNCTION BOX DETAIL
E9



5 CONTROL / INSTRUMENTATION JUNCTION BOX DETAIL
E9

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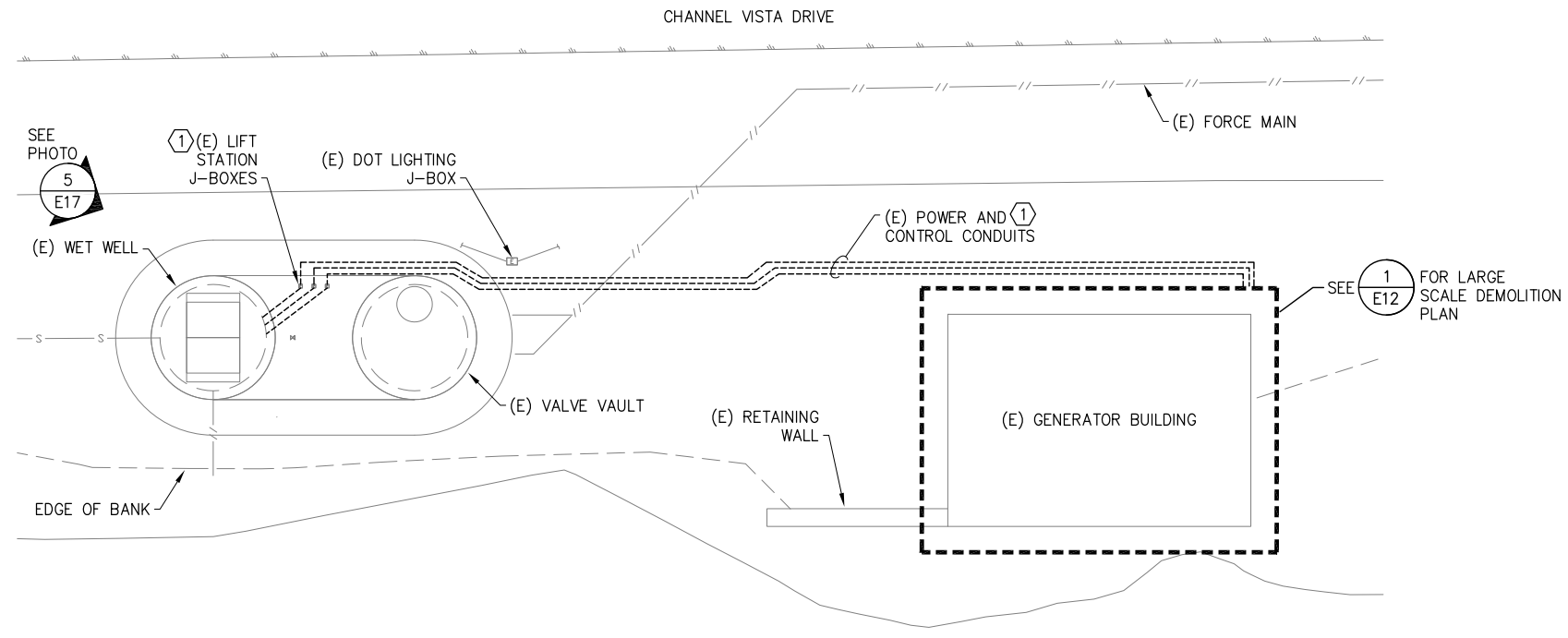
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CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
 CHANNEL DRIVE PUMP STATION
 ELECTRICAL DETAILS

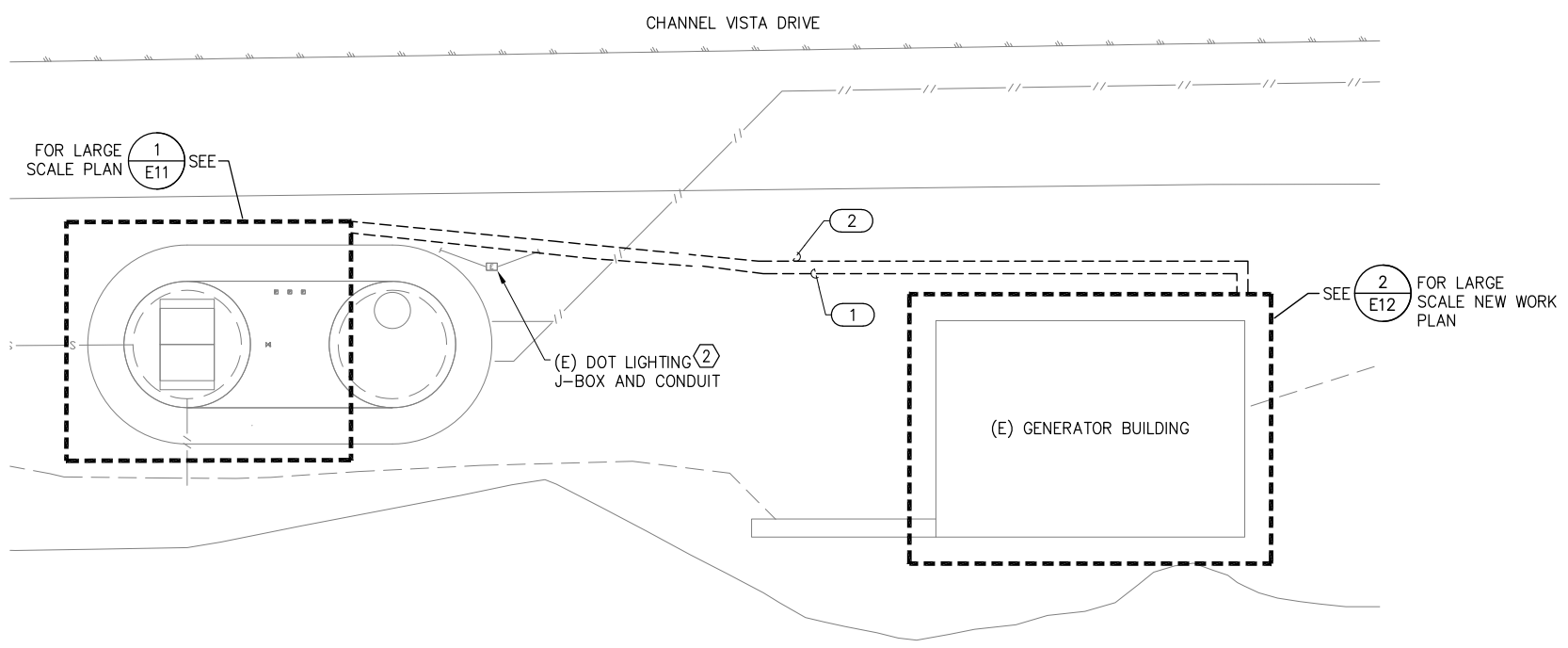
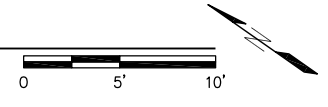
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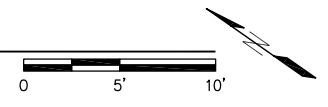
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1
E10 CHANNEL VISTA ELECTRICAL - DEMOLITION SITE PLAN



2
E10 CHANNEL VISTA ELECTRICAL - NEW WORK SITE PLAN

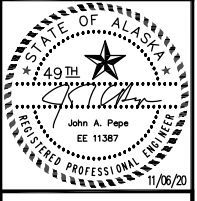


SHEET NOTES

- ① DEMOLISH (E) CONDUIT, CABLING AND IN-GRADE J-BOXES. CUT-OFF AND ABANDON CONDUITS BELOW GRADE. PROVIDE GROUTED WATERPROOF SEALING OF CONDUIT PENETRATIONS INTO WET WELL. SEALING METHOD SHALL BE SUBMITTED AND APPROVED BY THE ENGINEER.
- ② ADOT ROADWAY LIGHTING CIRCUIT. PROVIDE LOCATES OF (E) CONDUIT AND CAREFULLY ROUTE NEW CIRCUITS AROUND (E) SYSTEM.
- ◆ SEE SHEET E13 FOR ELECTRICAL EQUIPMENT SCHEDULE.

CIRCUIT / FEEDER SCHEDULE	
TAG	DESCRIPTION
①	2EA: 1-1/2" C POWER CONDUITS, SEE POWER ONE-LINE ON SHEET E13 FOR CIRCUIT DETAILS.
②	2" C CONTROL CONDUIT, SEE POWER ONE-LINE ON SHEET E13 FOR CIRCUIT DETAILS.

REV	DATE	DESCRIPTION



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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
ELECTRICAL SITE DEMO. AND NEW WORK

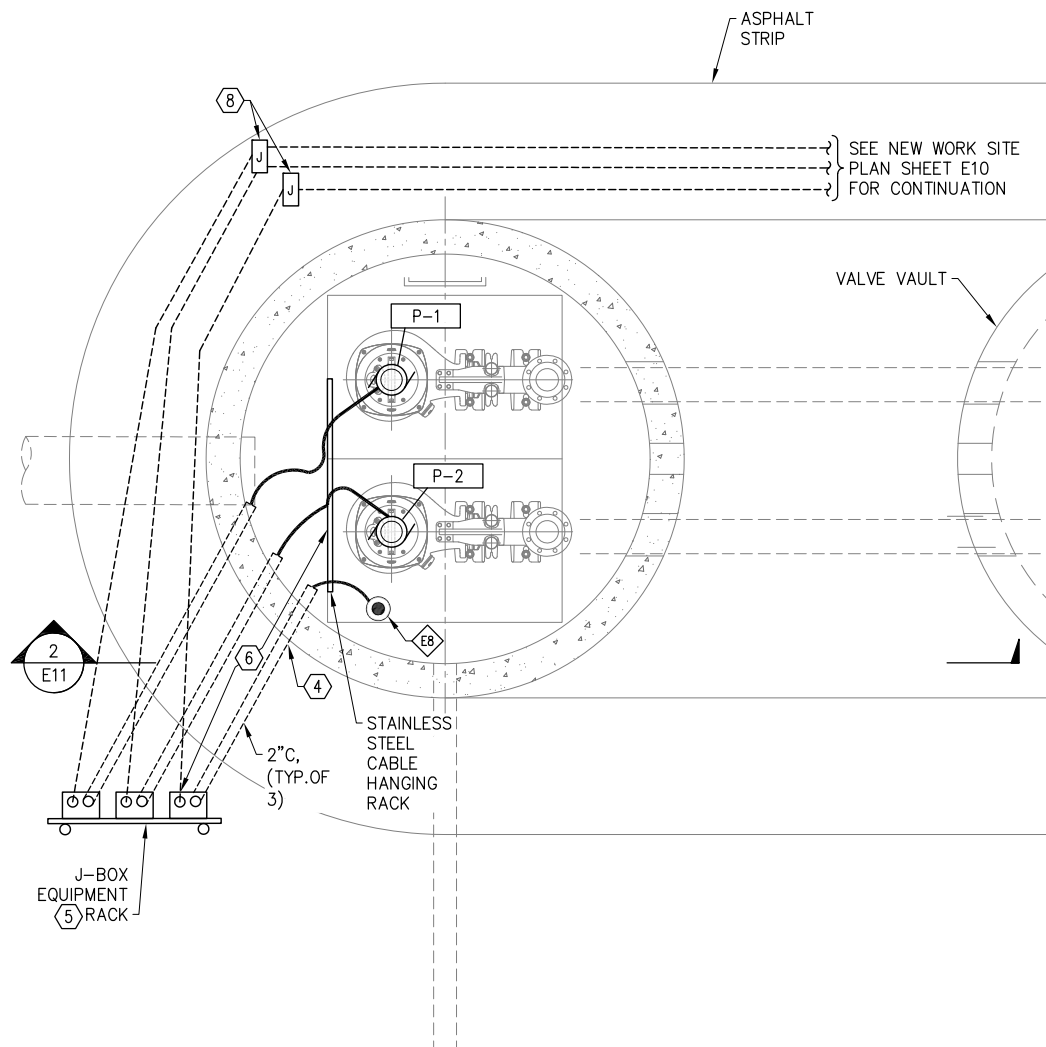
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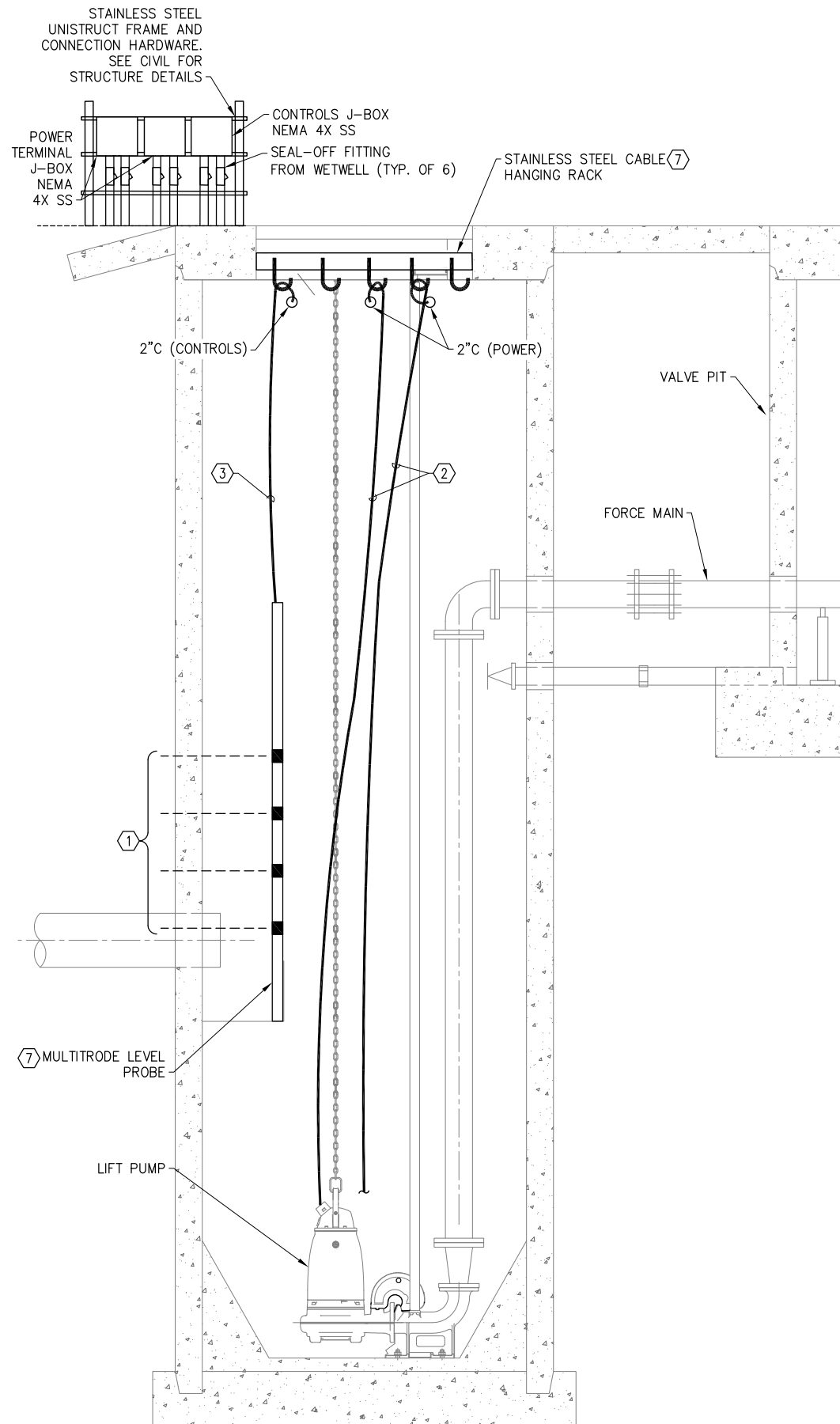
E10

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1
E11 CHANNEL VISTA ELECTRICAL - NEW WORK WET WELL PLAN



2
E11 CHANNEL VISTA ELECTRICAL - NEW WORK WET WELL ELEVATION PLAN

SHEET NOTES

- ① SEE CIVIL FOR WET WELL CONTROL LEVELS.
 - ② PROVIDE NEW POWER CABLES PER THE MANUFACTURER'S RECOMMENDATIONS.
 - ③ PROVIDE NEW CONTROL/INSTRUMENTATION CABLE PER THE MANUFACTURER'S RECOMMENDATIONS.
 - ④ GROUT NEW CONDUIT PENETRATIONS WATERTIGHT IN ACCORDANCE WITH CIVIL REQUIREMENTS. GROUTING METHOD SHALL BE APPROVED BY ENGINEER PRIOR TO INSTALLATION, TYPICAL.
 - ⑤ POWER AND CONTROL TERMINAL J-BOX RACK, SEE SHEETS E17 AND CIVIL FOR DETAILS. LOCATE J-BOXES OUTSIDE OF THE HAZARDOUS LOCATION BOUNDARY WITH THE WET WELL LID OPEN.
 - ⑥ MAINTAIN HAZARDOUS LOCATION SEPARATION (48" MIN.) FROM WETWELL HATCH OPENING.
 - ⑦ FOR CONTROL EQUIPMENT MOUNTING DETAILS, SEE SHEET E18.
 - ⑧ PROVIDE IN-GRADE CONCRETE TYPE 1A JUNCTION/PULL BOXES WITH TRAFFIC RATED LIDS. LIDS SHALL BE MARKED/LABELED AS "ELECTRIC". JUNCTION BOXES SHALL BE IN ACCORDANCE WITH CBJ STANDARD 119A.
- ⚡ SEE SHEET E13 FOR ELECTRICAL EQUIPMENT SCHEDULE.
- P-X SEE SHEET E13 FOR EQUIPMENT CONNECTION SCHEDULE.

GENERAL SHEET NOTES

- 1. THE ENTIRE BELOW GRADE WET WELL IS A CLASS 1, DIVISION 1, GROUP D HAZARDOUS LOCATION. ALL EQUIPMENT INSTALLED IN THE WET WELL SHALL BE LISTED FOR THE ENVIRONMENT AND IN ACCORDANCE WITH NEC 500, 501 AND 504 AS APPLICABLE.

REV	DATE	DESCRIPTION	BY



EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AEC0705

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
ELECTRICAL WET WELL ELEVATION PLAN

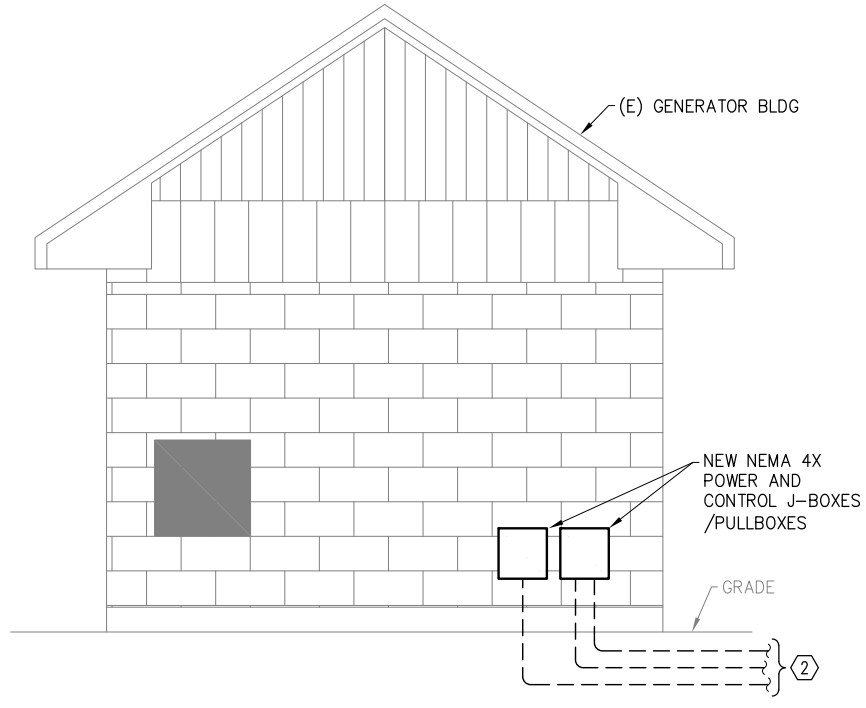
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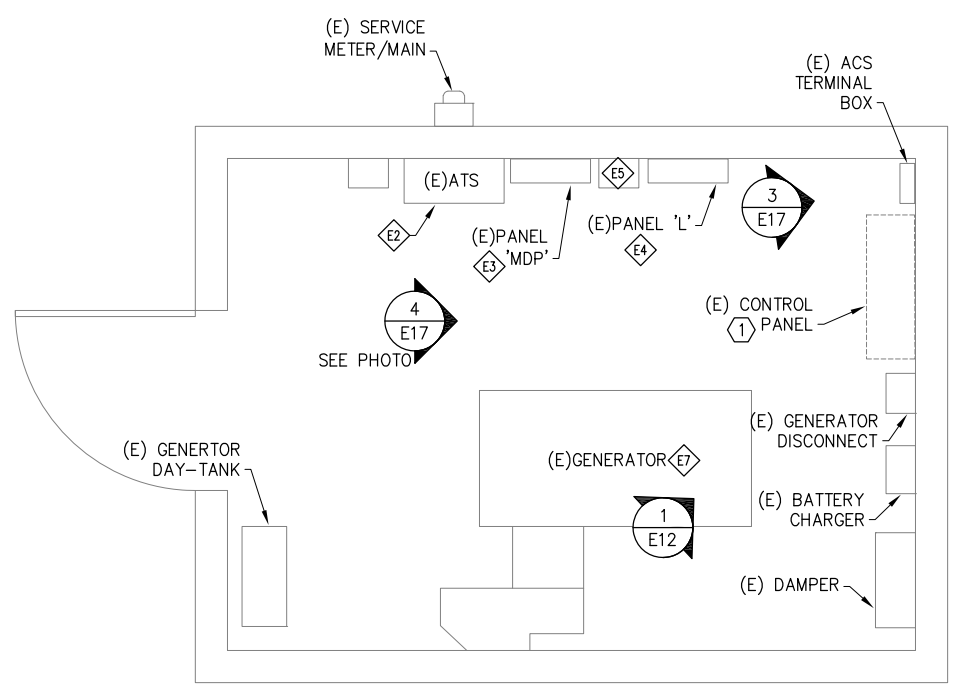
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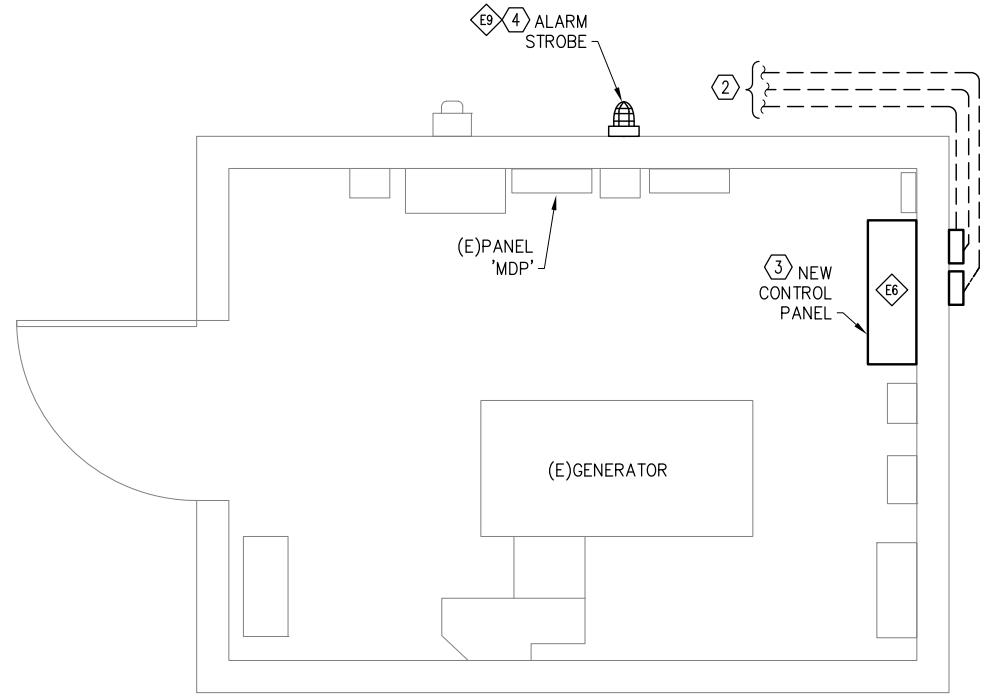
1 CHANNEL VISTA GENERATOR BUILDING - DEMOLITION PHOTO
E12



2 CHANNEL VISTA GENERATOR BUILDING - NEW WORK EAST ELEVATION
E12



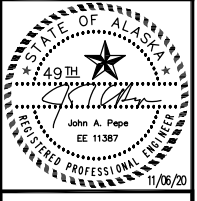
3 CHANNEL VISTA GENERATOR BUILDING - DEMOLITION PLAN
E12



4 CHANNEL VISTA GENERATOR BUILDING - NEW WORK PLAN
E12

- SHEET NOTES**
- ① DEMOLISH (E) LIFT PUMP CONTROL PANEL AND ASSOCIATED CONDUITS AND CABLING. (E) PANEL SPACE IS APPROX. 60"H X 36"W X 16"D. CONTRACTOR SHALL FIELD VERIFY EXACT DIMENSIONS AND CLEARANCES AND PROVIDE THE OWNER VERIFICATION THAT THE NEW CONTROL PANEL ENCLOSURE SIZE IS COMPATIBLE WITH THE (E) SPACE PRIOR TO ORDERING EQUIPMENT. IF ADDITIONAL SPACE IS REQUIRED, THE CONTRACTOR SHALL RELOCATE ADJACENT EQUIPMENT TO ACCOMMODATE THE REQUIRED SPACE.
 - ② SEE SITE PLAN, SHEET E10, FOR CONTINUATION OF PUMP POWER AND CONTROL CONDUITS.
 - ③ NEW CONTROL PANEL BASED ON THE REQUIREMENTS OF SHEETS E14-E16 AND THE SPECIFICATIONS.
 - ④ PROVIDE ALARM STROBE WITH SIGNAGE. SEE SHEET E18, DETAIL 3.
- ⚡ SEE SHEET E13 FOR ELECTRICAL EQUIPMENT SCHEDULE.

REV	DATE	DESCRIPTION	BY



EDC, INC.
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LICENSE NO. AEC00705

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
ELEC. BLDG DEMO. AND NEW WORK PLAN

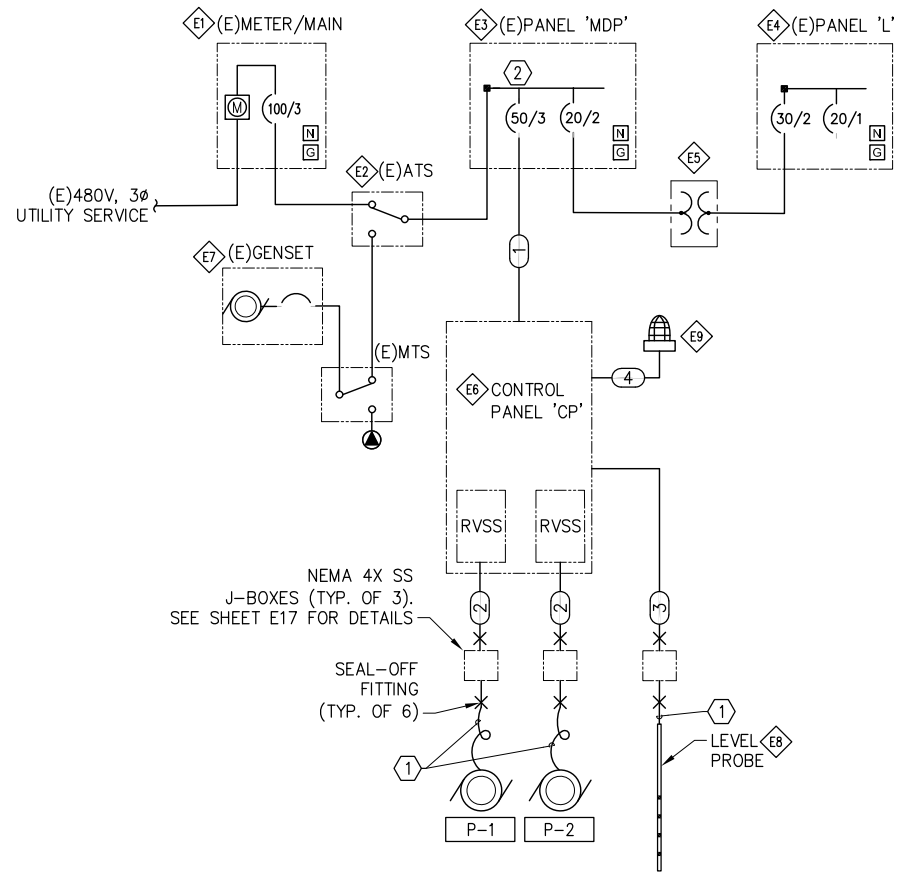
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1
E13 **CHANNEL VISTA ELECTRICAL - POWER ONE-LINE**



VOLTAGE: 480/277 BUS: 100A MAIN: MLO												(E) PANEL 'MDP' SCHEDULE												MIN. A.I.C. RATING: 10,000 ENCLOSURE: NEMA 1 MOUNTING: SURFACE											
LOCATION: GENERATOR BUILDING																																			
CKT	AMP	LOAD DESCRIPTION	KVA	LOAD	A	B	C	LOAD	KVA	LOAD DESCRIPTION	AMP	CKT																							
1			9.2	LM	13.0				F	3.8		2	PANEL 'L'																						
3	50/3	② LIFT STATION CONTROL PANEL	9.2	LM		13.0			F	3.8		4																							
5			9.2	LM				9.2				6																							
7					0.0							8																							
9						0.0						10																							
11								0.0				12																							
13					0.0							14																							
15						0.0						16																							
17								0.0				18																							
19					0.0							20																							
21						0.0						22																							
23								0.0				24																							
25					0.0							26																							
27						0.0						28																							
29								0.0				30																							
31					0.0							32																							
33						0.0						34																							
35								0.0				36																							
37					0.0							38																							
39						0.0						40																							
41								0.0				42																							
												TOTAL KVA: 35.2 AMPS: 42.3																							
SUMMARY BY LOAD TYPE		CONNECTED KVA			TOTAL	NEC%	NEC TOTAL	NOTES:																											
L	LIGHTING	0.0	0.0	0.0	0.0	1.25	0.0																												
R	RECEPTACLES	0.0	0.0	0.0	0.0	10K+50%	0.0																												
M	MOTORS	0.0	0.0	0.0	0.0	1.00	0.0																												
LM	LARGEST MOTOR	9.2	9.2	9.2	27.6	1.25	34.5																												
C	CONTINUOUS	0.0	0.0	0.0	0.0	1.25	0.0																												
N	NON-CONTINUOUS	0.0	0.0	0.0	0.0	1.00	0.0																												
S	SPARE	0.0	0.0	0.0	0.0	1.00	0.0																												
X	NON-COINCIDENT	0.0	0.0	0.0	0.0	0.00	0.0																												
O	OTHER	0.0	0.0	0.0	0.0	1.00	0.0																												
F	FEEDER	3.8	3.8	0.0	7.6	1.00	7.6																												
TOTAL KVA (PHASE)		13.0	13.0	9.2	35.2		34.5																												
TOTAL AMPERES		46.9	46.9	33.2	42.3		41.5																												
PHASE BALANCE, ABC		A-B	B-C	C-A																															
PERCENT																																			

SHEET NOTES

- ① NEW PUMP POWER OR INSTRUMENT CABLES IN 2" C. PROVIDE AS INDICATED ON SHEET E11 ELEVATIONS AND AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.
- ② PROVIDE A NEW CIRCUIT BREAKER AND FEEDER FOR THE LIFT STATION CONTROL PANEL.

CIRCUIT SCHEDULE

TAG	DESCRIPTION
①	1" C, 4#8(3H,N), 1#10 EGC
②	1-1/2" C, 3#10(3H), 1#12 EGC
③	2" C, 11#14 (11SIG), 1#14 EGC
④	3/4" C, 2#10(2H), 1#10 EGC

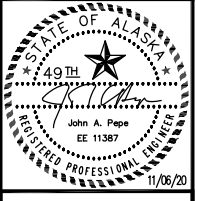
EQUIPMENT CONNECTION SCHEDULE

TAG ID	LOAD					CIRCUIT SIZE
	KVA	HP	FLC	V	PH	
P-1	10	14	480	3		SEE CIRCUIT SCHEDULE
P-2	10	14	480	3		SEE CIRCUIT SCHEDULE

ELECTRICAL EQUIPMENT SCHEDULE

ITEM NO.	DESCRIPTION	MANUFACTURER OR EQUAL
E1	(E) 100A, 480/277V, 3φ, 4-WIRE METER/MAIN, NEMA 3R	
E2	(E) 100A, AUTOMATIC TRANSFER SWITCH (ATS) WITH LOAD-BANK RECEPTACLE	
E3	(E) 100A, 480/277V, 3φ, 4-WIRE, PANEL 'MDP', NEMA 1	
E4	(E) 100A, 240/120V, 1φ, 3-WIRE PANEL 'L', NEMA 1	
E5	(E) 7.5KVA, 480:240/120V, 1φ DRY-TYPE TRANSFORMER	
E6	NEW CONTROL PANEL 'CP'	FLYGT/STA-CON. SEE SHEETS E14-E16 AND SPECIFICATIONS
E7	(E) 35KW/43KVA, 480Y/277VAC, 3φ DIESEL-FIRED GENERATOR	SIM-POWER GENERATOR SYSTEMS
E8	NEW LEVEL PROBE	MULTITRODE. SEE SPECIFICATIONS
E9	ALARM STROBE, 120V, WEATHERPROOF, RED LENSE WITH SIGNAGE. SEE SHEET E18, DETAIL 3 FOR SIGNAGE.	FEDERAL SIGNAL

REV	DATE	DESCRIPTION



EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
LICENSE NO. AEC0705

CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
POWER ONE-LINE AND PANEL SCHEDULES

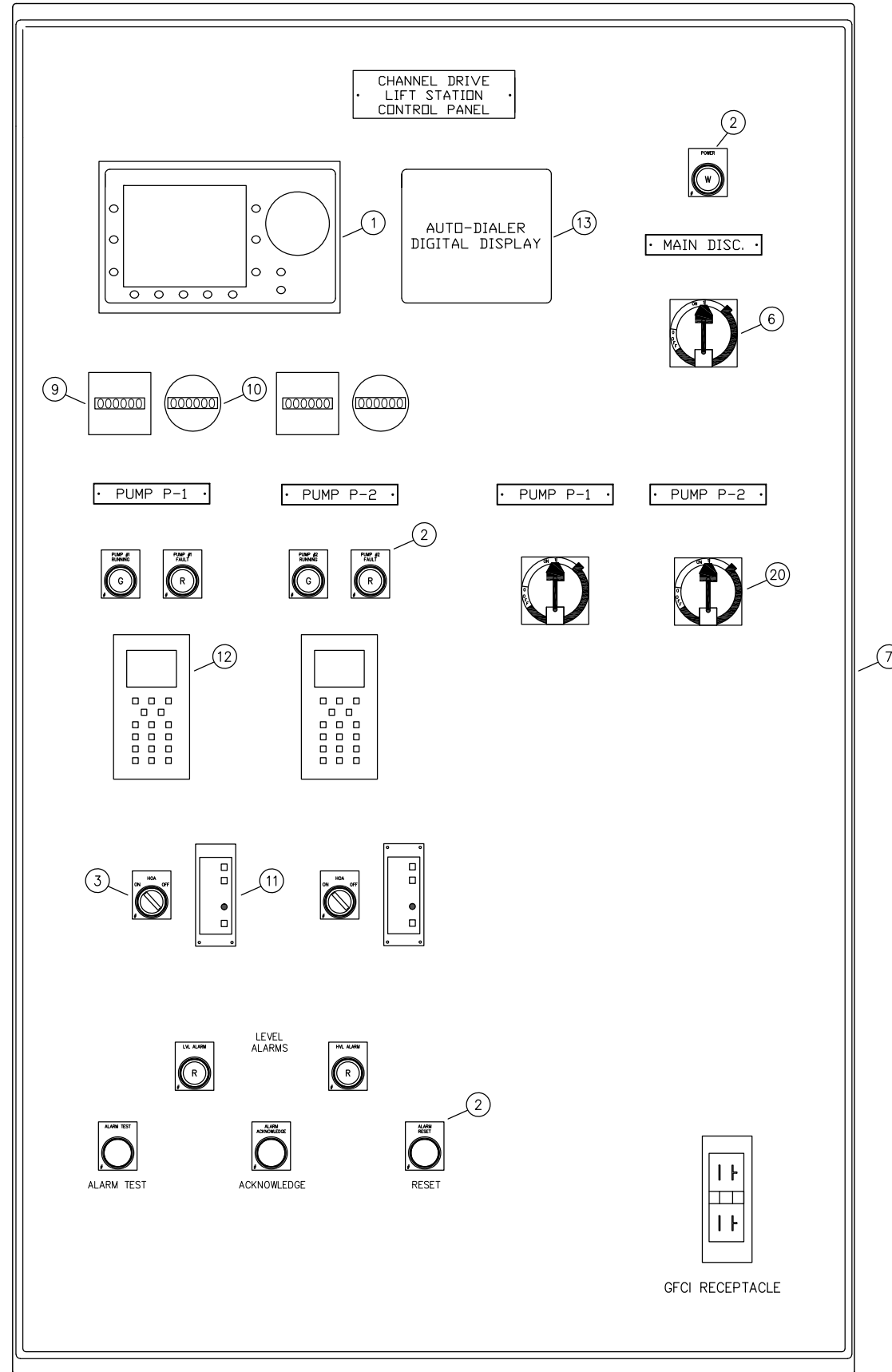
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E13

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FRONT PANEL VIEW



CONTROL PANEL FUNCTIONAL DESCRIPTION

CONTROL PANEL FEATURES (PANEL SHALL BE IN ACCORDANCE TO CBJ STANDARDS):

THE PANEL IS A DUPLEX SUBMERSIBLE PUMP CONTROL PANEL CONTROLLING 3ø SUBMERSIBLE PUMPS. THE CONTROLS INCLUDE 'COMMON ALARM' AND 'CONTROL POWER' PILOT LIGHTS. EACH PUMP HAS A HOA SWITCH; 'RUNNING', FAULT PILOT LIGHTS, RUN-TIME METER, CYCLE COUNTER AND A 'PUMP RESET' PUSHBUTTON.

THE DUPLEX PUMP CONTROLLER HAS THE FOLLOWING FEATURES:

1. LCD DISPLAY OF WET WELL LEVEL, LEAD AND LAG PUMP SETPOINTS, AND HIGH AND LOW LEVEL ALARM SETPOINTS.
2. SIMPLE PUSHBUTTON ADJUSTMENT OF PUMP ON/OFF AND LEVEL ALARM SETPOINTS.
3. SIMPLE PUSHBUTTON LEVEL SIMULATION ADJUSTMENT FOR TESTING AND TROUBLESHOOTING.
4. AUTO-ALTERNATION OR LEAD PUMP SELECT OPTIONS.

THE PANEL CONTROLS OPERATION OF BOTH PUMPS IN ALL MODES. IF THIS OCCURS, EACH PUMP HAS A SOLID STATE MOTOR STARTER WITH OVERLOAD, PHASE LOSS, PHASE REVERSAL AND PHASE IMBALANCE PROTECTION. IF ANY OF THESE CONDITIONS OCCURS THE PUMP WILL BE DISABLED. THE FAULT MUST BE MANUALLY CLEARED BY PRESSING THE 'PUMP RESET' PUSHBUTTON.

OPERATING MODES:

- HAND – IN HAND MODE THE PUMP WILL RUN CONTINUOUSLY UNLESS AN OVERLOAD, OVERTEMPERATURE OR VOLTAGE MONITOR FAULT OCCURS.
- OFF – IN THE OFF MODE THE PUMP WILL BE DISABLED.
- AUTO – IN THE AUTO MODE THE NORMAL PUMPING OPERATION WILL BE IN A LEAD/LAG CONFIGURATION WITH BOTH PUMP SELECTOR SWITCHES IN 'AUTO' AND THE CONTROL SET TO AUTO-ALTERNATE SO THAT THE LEAD AND LAG PUMPS ALTERNATE AUTOMATICALLY ON EACH PUMPING CYCLE. WHEN A PUMP IS CALLED TO RUN IT WILL RUN UNLESS AN OVERLOAD, OVERTEMPERATURE OR VOLTAGE MONITOR FAULT OCCURS.

THE LEAD PUMP IS ENERGIZED WHEN WASTEWATER IN THE WET WELL RISES TO AN ELEVATION ABOVE THE 'CALL FOR LEAD PUMP' LEVEL.

IF THE LEAD PUMP DOES NOT ENERGIZE OR IF THE WASTEWATER RISES IN THE WET WELL FASTER THAN THE LEAD PUMP CAN REMOVE IT, THE LAG PUMP IS ENERGIZED WHEN THE WASTEWATER RISES ABOVE THE ELEVATION OF THE 'CALL FOR LAG PUMP' SETPOINT.

IF NEITHER THE LEAD PUMP NOR THE LAG PUMP IS ENERGIZED OR IF THE WASTEWATER RISES IN THE PUMP STATION FASTER THAN THE LEAD AND LAG PUMPS CAN REMOVE IT, THE 'HIGH LEVEL' ALARM IS ACTIVATED AND THE EXTERNAL VISUAL ALARM IS ENERGIZED WHEN THE INFLUENT REACHES A LEVEL ABOVE THE 'CRITICAL HIGH LEVEL' SETPOINT. THE EXTERNAL VISIBLE (STROBE) ALARM CAN BE DE-ENERGIZED BY PRESSING THE SILENCE BUTTON. THE INTERNAL (PANEL MOUNTED) ALARM LIGHTS WILL REMAIN ON AS LONG AS THE ALARM CONDITION EXISTS. ONCE SILENCED, THE EXTERNAL ALARMS WILL RESPOND TO SUBSEQUENT ALARMS EVEN IF EXISTING ALARMS ARE STILL ACTIVE.

BOTH PUMPS ARE DE-ENERGIZED WHEN WASTEWATER IN THE WET WELL FALLS BELOW THE ELEVATION OF THE 'PUMPS OFF' SETPOINT. IF THE LEVEL IN THE WET WELL CONTINUES TO FALL BELOW THE ELEVATION OF THE 'LOW LEVEL' SETPOINT, THE 'LOW LEVEL' ALARM IS ACTIVATED AND THE VISUAL ALARMS ARE ENERGIZED.

SEE CIVIL DRAWINGS FOR APPROXIMATE WET WELL LEVEL SET POINTS.

COMPONENT SCHEDULES

ITEMS	PROVIDE MATERIALS SPECIFIED (EQUAL SUBSTITUTIONS ALLOWED)
①	DUPLEX PUMP CONTROLLER. MULTITRODE/MULTISMART MT2PC.
②	PILOT LIGHT, PUSH TO TEST, 120V, LED, NEMA 4X, ALLEN BRADLEY CAT #800HC-QRTH2*, WHERE * = LENS TINT AS SHOWN.
③	3-POSITION SELECTOR SWITCH, 120V, NEMA 4X, ALLEN BRADLEY 800T-J17-KD7-B. PROVIDE CAM AND CONTACT BLOCKS AS REQUIRED.
④	3-POLE 600V, NEMA SIZE 3, ISOLATION CONTACTOR WITH 120V COIL. PROVIDE WITH ADDITIONAL AUXILIARY AND OVERLOAD CONTACTS AND REMOTE OVERLOAD RESET. SQUARE D 8502-SE02V02S.
⑤	SURGE SUPPRESSOR, ALLEN-BRADLEY 199-MSMA1
⑥	DOOR MOUNTED DISCONNECT SWITCH, 480V, 50A, 3-POLE WITH PADLOCK PROVISION, ALLEN BRADLEY.
⑦	NEMA 4X STAINLESS ENCLOSURE WITH REMOVABLE STEEL BACK PANEL, INNER DEAD-FRONT HINGED DOOR AND OUTER DOOR. SIZE AS REQUIRED. HOFFMAN.
⑧	MINIATURE CIRCUIT BREAKER, 240V, AMPERE RATING AND NUMBER OF POLES AS SHOWN, DIN RAIL MOUNTED WITH BOX LUGS, ALLEN BRADLEY 1489-M.
⑨	ELAPSED TIME HOURMETER, 0-99999.9 HR, 120VAC, VEEDER-ROOT #779516-201.
⑩	CYCLE COUNTER, PANEL MOUNTED, RESETTABLE, 120V, VEEDER-ROOT #743885-211
⑪	LEAK DETECTION AND OVERTEMPERATURE RELAY. FLYGT MINI-CAS 14-40 71 29
⑫	HMI MODULE, DOOR MOUNTED, NEMA 4X. ALLEN-BRADLEY 20-HIM-C3S
⑬	AUTO-DIALER (COMMUNICATOR) WITH BATTERY AND POWER SUPPLY. DIGITAL SECURITY CONTROLS 16120NT, 1640PS
⑭	PUMP MONITOR RELAY. MPE PMR2.
⑮	INTRINSICALLY SAFE MODULE. MUTLITRODE ISB-10.
⑯	SOLID-STATE SOFT STARTER WITH OVERLOAD RELAY. ALLEN-BRADLEY SMC FLEX.
⑰	LED PANEL LIGHT AND SWITCH. PENTAIR/HOFFMAN.
⑱	100W ENCLOSURE HEATER. 120VAC. PENTAIR/HOFFMAN HEATER WITH THERMOSTAT.
⑲	RELAY, INDUSTRIAL TYPE (4-CONTACTS, 120V).ALLEN-BRADLEY 700-P400A1.
⑳	DOOR MOUNTED CIRCUIT BREAKER DISCONNECT SWITCH. 480V, 3-POLE WITH PADLOCK PROVISIONS. SQUARE D

1 CHANNEL VISTA ELECTRICAL - CONTROL PANEL LAYOUT

E14

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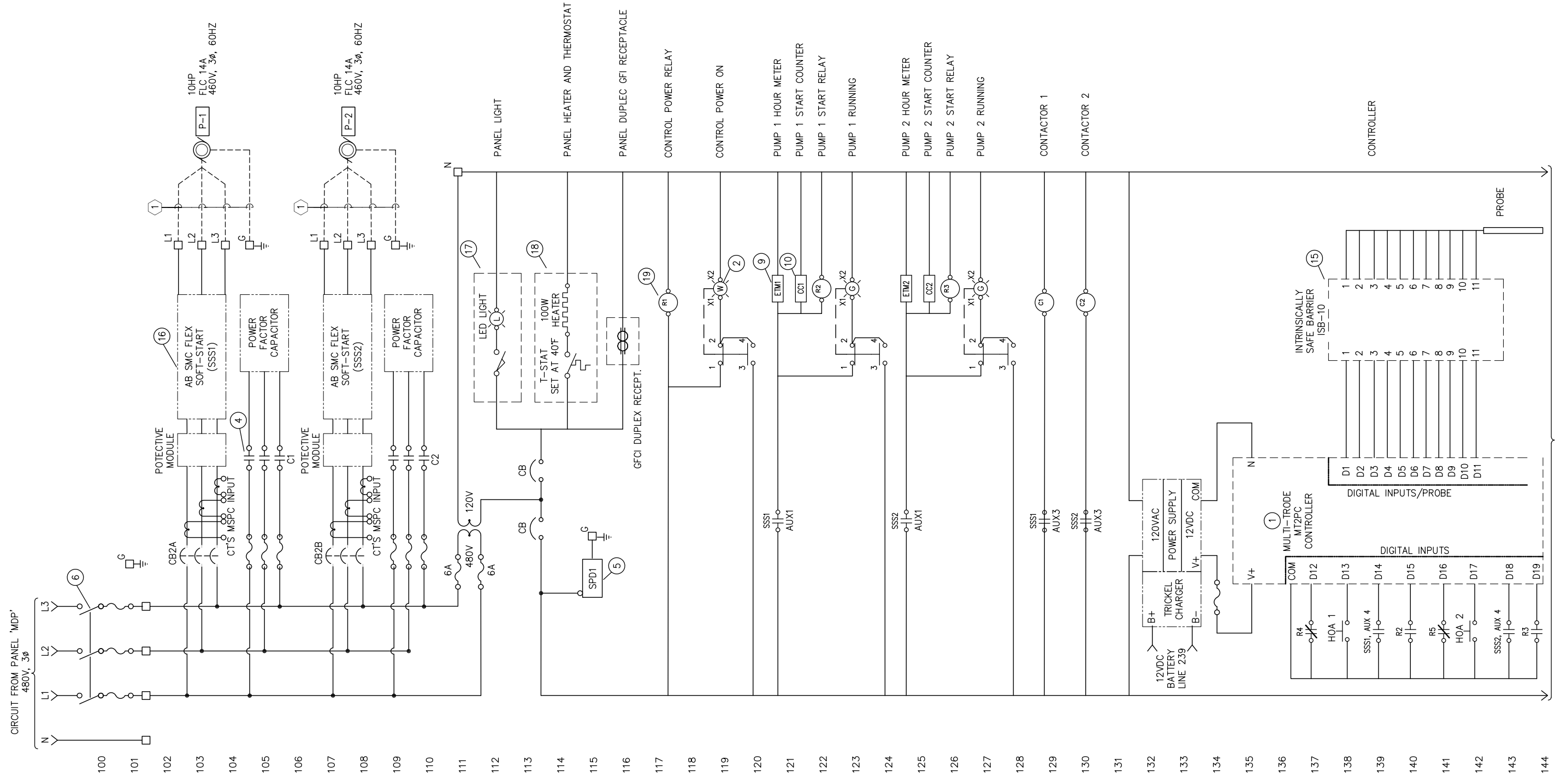
CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
 CHANNEL VISTA PUMP STATION
 CONTROL PANEL LAYOUT

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E14

D:\Projects\DOWN\juneau_channel_lift_stations\channel_lift_stations\channel_lift_stations\Elec\E15 - CHANNEL VISTA LIFT STATION CONTROL PANEL SCHEMATIC (1 OF 2).dwg SAVED DATE 2020-10-01 13:04 PLOT DATE 2020-11-6 10:21



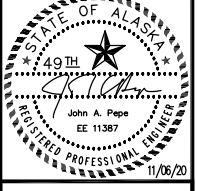
1 CHANNEL VISTA ELECTRICAL - CONTROL PANEL SCHEMATIC (1 OF 2)
E15

SHEET NOTES

① NEW PUMP POWER CABLES. PROVIDE AS REQUIRED PER MANUFACTURER'S RECOMMENDATIONS.

CONTROL CIRCUIT CONTINUED ON NEXT SHEET

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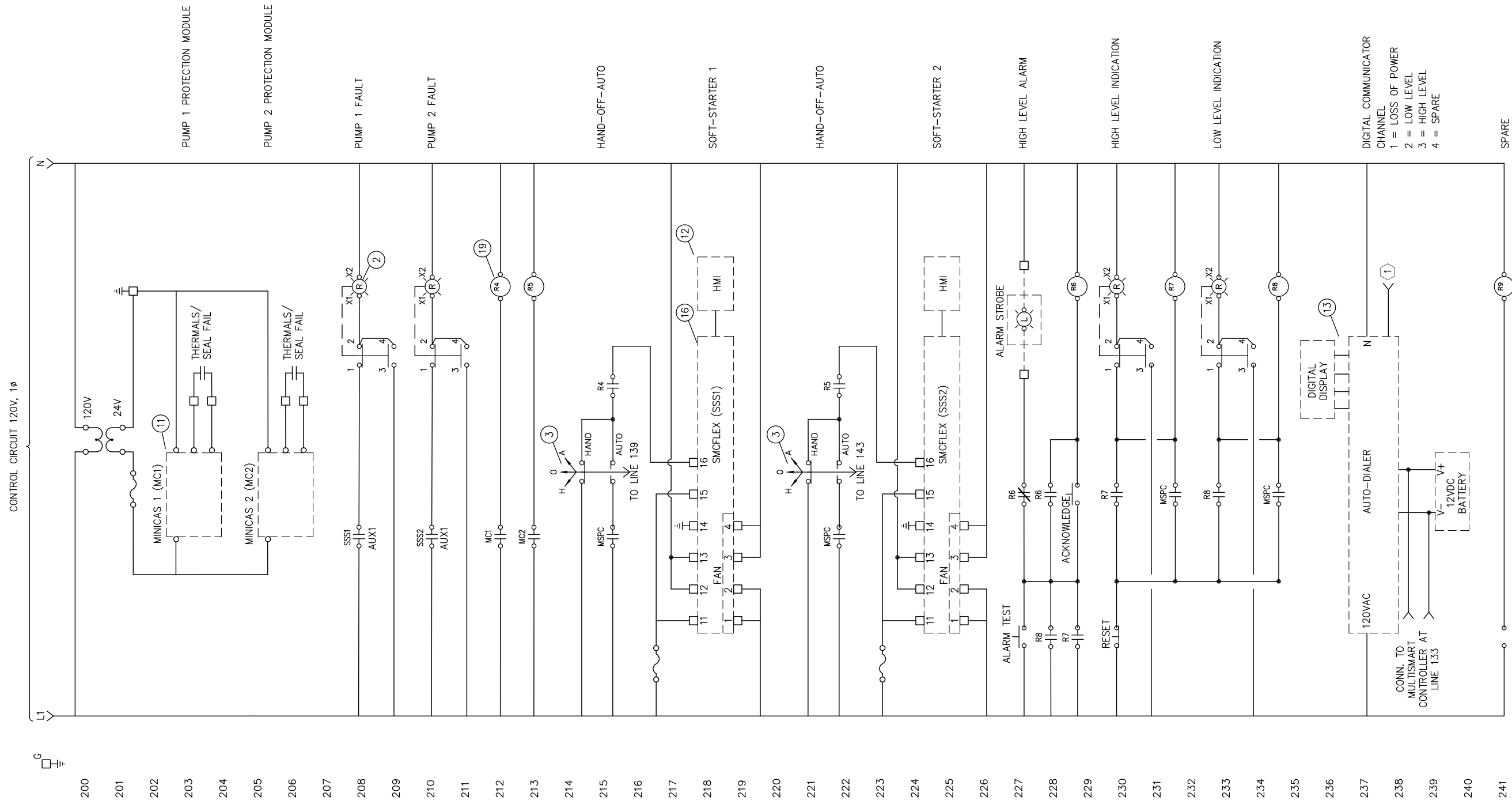


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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
CONTROL PANEL SCHEMATIC (1 OF 2)

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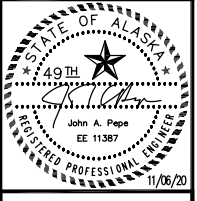


SHEET NOTES

- ① ACS TELEPHONE SERVICE SHALL BE RECONNECTED TO THE NEW CBJ AUTO-DIALER. COORDINATE ALL WORK WITH THE TELECOM UTILITY (ALASKA COMMUNICATIONS) AND CBJ.

1 CHANNEL VISTA ELECTRICAL - CONTROL PANEL SCHEMATIC (2 OF 2)
E16

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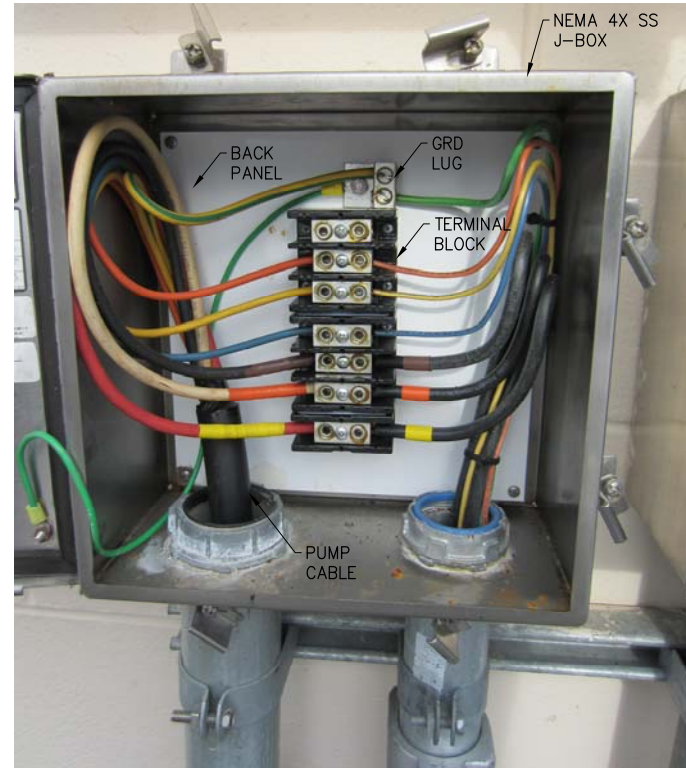
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CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
CONTROL PANEL SCHEMATIC (2 OF 2)

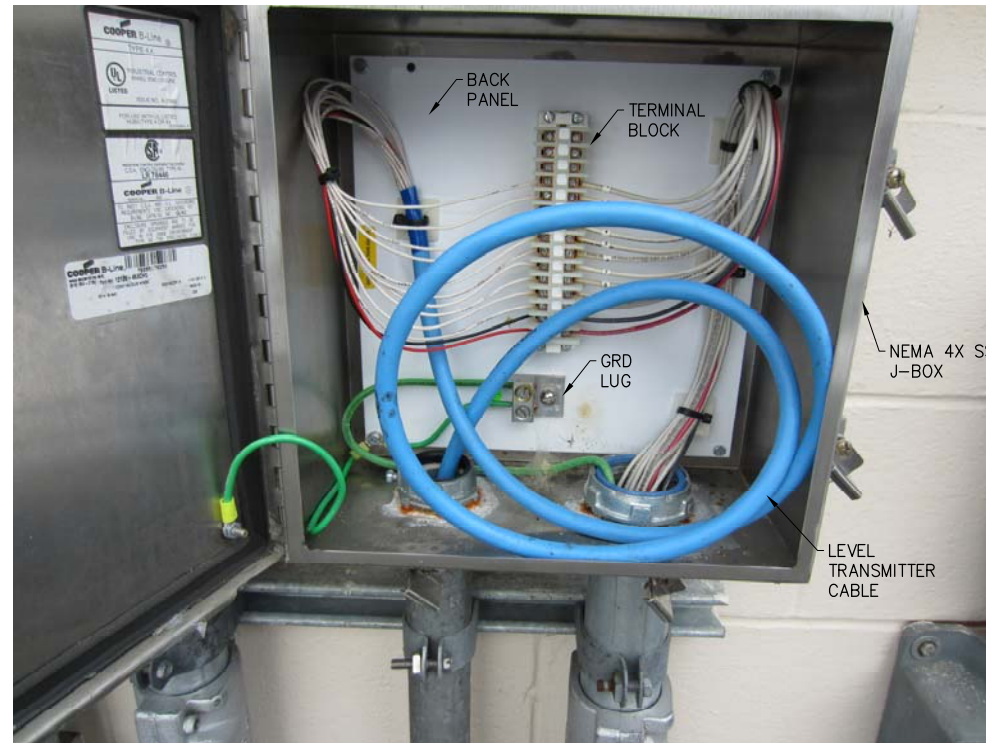
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1 NEW POWER JUNCTION BOX DETAIL
E17



2 NEW CONTROLS / INSTRUMENTATION JUNCTION BOX DETAIL
E17



3 (E) ACS SERVICE ENTRANCE
E17



4 (E) CONTROL PANEL LAYOUT
E17



5 (E) WET WELL / VALVE VAULT LAYOUT
E17

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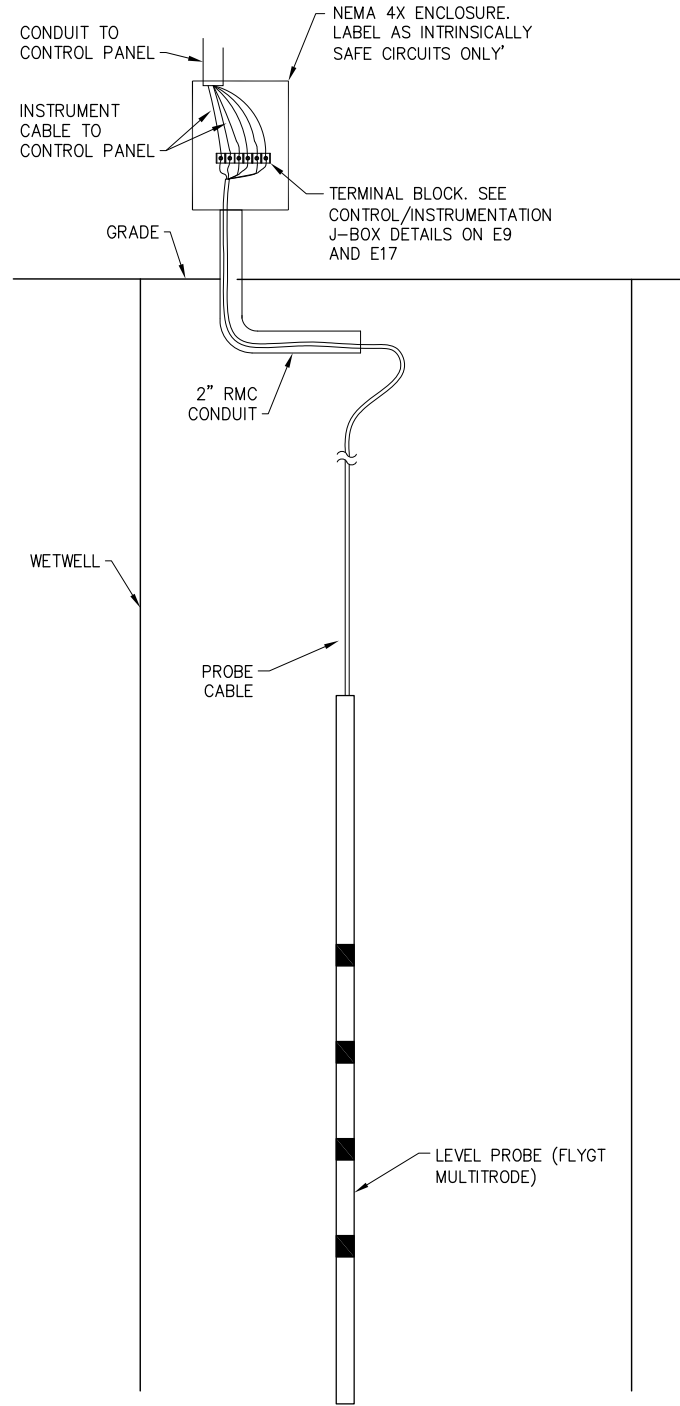


CHANNEL DRIVE & CHANNEL VISTA
PUMP STATION REHABILITATION
JUNEAU, ALASKA
CHANNEL VISTA PUMP STATION
ELECTRICAL DETAILS

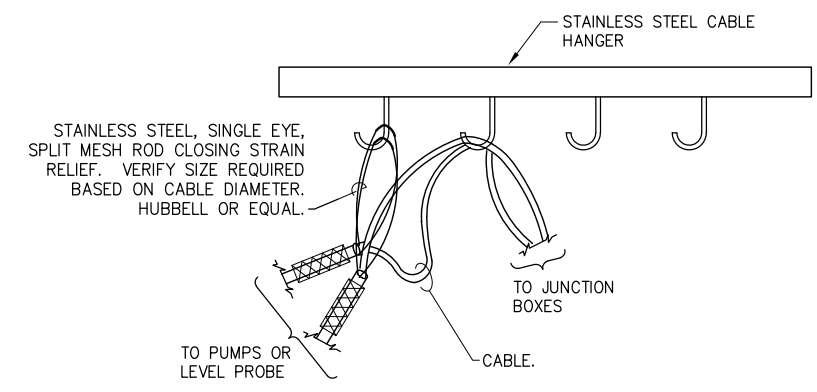
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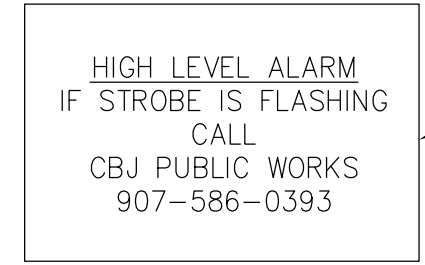
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1 LEVEL PROBE DETAIL
E18

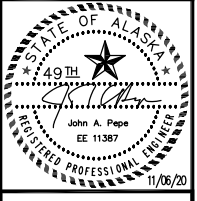


2 CABLE SUPPORT DETAIL
E18



3 ALARM STROBE SIGNAGE DETAIL
E18

REV	DATE	DESCRIPTION



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CHANNEL DRIVE & CHANNEL VISTA
 PUMP STATION REHABILITATION
 JUNEAU, ALASKA
**CHANNEL VISTA PUMP STATION
 ELECTRICAL DETAILS**

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E18

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