



**CONTRACT DOCUMENTS
FOR THE CONSTRUCTION OF**

PIPE AND ACTUATOR VALVE INSTALLATION PROJECT

FOR THE

CITY OF LA CENTER

2023

LA CENTER JOB NUMBER: PW 2023-03

Prepared By:

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CITY OF LA CENTER, WASHINGTON

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INVITATION TO BID
2023 PIPE AND ACTUATOR VALVE INSTALLATION PROJECT
PW 2023-03

Sealed proposals for furnishing all materials, labor and equipment for the following described work will be received by the City of La Center Community Development Office by **September 20th 2023 at 3 PM**. **Bids may be emailed or delivered City Hall at 210 E. 4th Street in La Center. The bids will only be accepted 8AM and 3PM up to the day the bids.** For any questions about submittal of the bids call Tony Cooper at 360 263-2889 or by email at acooper@ci.lacenter.wa.us. The proposal shall be enclosed in envelope addressed to the City of La Center at 210 East 4th Street, City Hall, La Center, WA. 98629. Electronic Bids will be accepted. No public bid opening will occur. The bids will be delivered to City Hall at 210 East 4th Street in La Center);

A contract will be awarded or all bids rejected after the bid opening.

PROJECT NAME: 2023 PIPE AND ACTUATOR VALVE INSTALLATION PROJECT

PROJECT DESCRIPTION:

This project is to replace the existing actuator valve in the concrete vault about 1,200 feet west of the La Center Bridge at the Lewis River. The city will order the valve, and the contractor will place the valve in the existing vault. The project also consists of coring a drain line at side of the vault to allow groundwater or rainwater from flooding the vault. A new vault lid, with a spring assist hatch, will need to be installed by the contractor.

There will be a bid walkthrough on **Monday September 13th at 10 AM**. In order to bid this project, the contractor must attend this meeting. The meeting will be held at the actuator vault at the project location.

The issuing office for Contract Documents is City of La Center Community Development, 210 East 4th Street,
La Center, WA 98629, (360) 263-7665.

Technical inquiries regarding the project should be directed to Tony Cooper, City Engineer, at City of La Center Community Development for the paving project, and La Center, WA 98629, (360) 263-2889. All proposals must be submitted on the regular form furnished with the specifications, and each must be accompanied by a certified or bank check or bidder's bond, by a bonding company licensed to do business in the State of Washington, made payable to the City of La Center in an amount not less than five percent (5%) of the total bid. Work shall be completed within **30** working days after receipt of Notice to Proceed. The anticipated construction start date will be October 16th 2023.

The bid document and plans will be posted on the city website. The bidder will be responsible to check this website for any addendums or any additional information for this project.

SMALL WORKS ROSTER: Bidders must be on the MRSC Small Works Roster. The contractor will need to obtain a City of La Center business license prior to bid award.

State of Washington Prevailing Wage is applicable to this work.

The Project will collect from the agency sales tax in for the full contract price as described below. State Sales Taxes -- the provisions of Section 1-07.2(2)-Rule 171

All construction and material, unless otherwise specified, shall be in accordance with the 2022 Standard Specifications and Standard Plans for Road, Bridge and Municipal Construction as prepared by the Washington State Department of Transportation and as amended under Amendments to the Standard Specifications, and the American Public Works Association, and the City of La Center Engineering Standards for Construction.

The CITY OF LA CENTER reserves the right to cancel this request or reject any and all bids received or to waive any minor formalities of this call if in the judgment of the City Council the best interest of the City would be served.

PART I- BIDDING DOCUMENTS

INSTRUCTIONS TO BIDDERS

1. Intent of Plans and Specifications

It is the intention of these specifications to provide for careful, thorough and workmanlike construction procedures in the installation of materials and equipment and in the manufacture and delivery of such materials and equipment. The bidder to whom the contract is awarded shall furnish all the material and labor necessary to complete said contract in accordance with all of its terms and conditions.

The plans and specifications shall be considered and used together. Anything appearing as a requirement of either shall be accepted as applicable to both even though not so stated therein or shown. The Engineer may furnish supplemental plans and specifications to define more clearly any requirement of the original documents; these shall be accepted by the Contractor as of the same force and effect as though they had been included among the listed drawings and in case of any conflict between the listed and the supplemental drawings, the latter shall govern. The Contractor shall not be entitled to extra payment because of his compliance with the requirements of such supplemental drawings unless they contain new requirements involving costs which clearly could not have been anticipated by an experienced contractor in his examination of the original listed drawings or could not reasonably be inferred there from the requirements of the contract.

All specifications and notes appearing on the plans shall have the same force and effect as though they were repeated herein and by this reference are incorporated herein and made a part hereof.

2. Examination of the Contract Documents

Each bidder shall thoroughly examine and be familiar with legal and procedural documents, general conditions, special provisions, specifications, drawings and addenda (if any). The submission of a proposal shall constitute an acknowledgment that the bidder has thoroughly examined and is familiar with the contract documents. The failure or neglect of a bidder to receive or examine any of the contract documents shall in no way relieve him from any obligations with respect to his proposal or to the contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract document, and the Owner will in no case be responsible for any loss or for unanticipated costs that may be suffered by the Contractor as a result of conditions pertaining to the work.

3. Examination of Site and Conditions

Before making a proposal, the bidder shall examine the site of the work and ascertain for himself all the physical conditions in relation thereto. Failure to take this precaution shall not release him from his obligation as implied by the proposal he submits nor excuse him from performing the work in strict accordance with the requirements of the contract documents.

No statement made by any officer, agent, or employee of the Owner pertaining to the site of the work or the conditions under which the work must be performed will be binding on the Owner.

4. Inclement Weather

The City of La Center is subject to inclement weather through the winter and spring months. Severe rain and wind storms may occur in addition to snow and ice. The Contractor should be aware of the potential for inclement weather and plan the project accordingly.

5. Addenda and Interpretations of Documents

No interpretation of meaning of the plans, specifications or other pre-bid documents will be made to any bidder orally. Every request for such interpretation shall be submitted in writing, addressed to City of La Center, and to be given consideration, shall be received at least five working days prior to date fixed for opening bids. Any and all such interpretations and any supplemental instructions will be in the form of written addenda to the specifications which, if issued, will be mailed, faxed or otherwise delivered to each prospective bidder. Failure of any bidder to receive any such addendum shall not relieve such bidder from any obligation under his bid as submitted. All addenda so issued shall become a part of the contract documents. Where changes to plans, specifications or both or supplemental information of significant importance, additional bid time will be provided.

6. Preparation of Proposal

Bids must be submitted by filling in with ink (or typing), on the Form headed "Bid Proposal," each and every blank on each schedule for which the bidder has submitted a proposal. If the bidder is required to provide a special form appropriate to the nature of his bid, then such form shall be complete in all respects as required by the specifications if it is to merit consideration by the Owner.

All bid prices must be equal to the Bidders estimated cost to perform the work. Prices which are weighted and disproportionate to the actual cost, as may be compared to other Bidders and evaluation by the Engineer, may be considered non-responsive and their bid rejected. If the proposal is made by a partnership, it should contain the name of each partner and should be signed in the firm name, followed by the signature of partner or that of a person duly authorized to act for and on behalf of such partnership. If made by a corporation, the proposal should be signed with the name of the corporation and the state in which incorporated, followed by the written signature of the qualified officer and the designation of the office he holds in the corporation. The address of the person, firm or corporation in whose behalf the proposal is submitted shall be given. The bidder shall comply with all other specific requirements of the proposal form.

7. Alteration of Documents Prohibit

Except as may be provided otherwise herein, proposals which are incomplete, are conditioned in any way which the plans or specifications do not authorize, contain unverified erasures or alterations, include items which are not named in the proposal form or which are unlawful, may be rejected as non-responsive.

8. Submission of Proposal

Each proposal shall be completely sealed in a package addressed as required by the Invitation to Bid, marked with the name of the bidder and the title of the project, and must be delivered to La Center City Hall Office at 210 East 4th Street, La Center, WA. 98629 at the City Hall, **September 20th 2023 before 3 P.M.**

9. Modification of Proposal

Change in a proposal already delivered will be permitted only if a request for the privilege of making such modification is made in writing signed by the bidder and the specific modification itself is stated prior to the scheduled closing time for the receipt of proposals. To be effective, every modification must be made in writing over the signature of the bidder; no other form of procedure will be accepted.

10. Substitutions

Approval of materials to be used on the project and possible substitutions thereof shall not be addressed during the bidding process. Materials shall meet the specifications and the bids shall be based on specified items.

11. Bid Security

Each bid must be accompanied by cash, certified check of the bidder, or a bid bond duly executed by the bidder as principal and having as surety thereon a surety company authorized to issue bonds in Washington in the amount of 5% of the bid. Such cash, checks or bid bonds will be returned promptly after the Owner and the accepted bidders have executed the contract, or, if no award has been made within five (5) days after the date of the opening of bids, upon demand of the bidder at any time thereafter, so long as he has not been notified of the acceptance of his bid. The successful bidder, upon his failure or refusal to execute and deliver the contract, bonds and certificates of insurance required within ten (10) calendar days after he has received notice of the acceptance of his bid, shall forfeit to the Owner, as liquidated damages for such failure or refusal, the security deposited with his bid. Attorney-in-fact who signs bid bonds or contract bonds must file with each bond a certified and effectively dated copy of their power of attorney.

12. Withdrawal of Proposal

A proposal may be withdrawn at any time prior to the scheduled closing time for filing bids. This may be done by the bidder in person or upon his telegraphic or written request. A telephone request for withdrawal of a proposal will not be recognized for this purpose. If withdrawal is made personal, a written acknowledgment thereof will be required. After the scheduled closing time for filing bids, no bidder will be permitted to withdraw his proposal unless no award of contract has been made prior to the expiration of five (5) days immediately following the time when bids are submitted. Bids received after the scheduled closing time will be returned to the bidder unopened.

13. Opening Bids

All bid proposals received prior to the scheduled closing time and which are not withdrawn as above provided, will not be publicly opened and informalities therein, except that any form

required as part of the proposal (see Bidder's Checklist below) which is not signed, said proposal consequently, will be rejected without consideration.

14. Award of Contract

Within forty-five (45) calendar days after the opening of the proposals, the Owner will accept one or more of the proposals or reject one or more bids for good cause. Performance and Payment Bonds in the amount of one-hundred percent of the contract price, with a Corporate Surety approved by the Owner, will be required for the faithful performance of the contract. The bond forms contained in the contract documents must be utilized. In addition, all contractual forms contained in the Contract Documents will be required for the faithful performance of the contract.

15. Basis of Award

If the owner awards the contract, the award will be given to the lowest responsive, responsible, qualified Bidder submitting the lowest Bid Proposal acceptable to the Owner. The city reserves the right to select one or both of the alternatives in the bid proposal.

16. Rejection of Bids

The Owner reserves the right before or after opening to reject any or all bids or to waive any informality therein if it is believed that the best interest of the Owner will be served thereby.

17. Soils Investigations

No Geotechnical Report was completed for the City of La Center portion of work. The bidder is responsible for conducting his own subsurface investigations, if he deems it prudent or necessary.

18. Bidder's Risk

The submission of bid shall constitute an acknowledgment that the bidder has thoroughly examined and is familiar with the contract documents, and has reviewed and inspected all applicable statutes, regulations, ordinances and resolutions dealing with or related to the service to be provided herein. The failure or neglect of a bidder to examine such documents, statutes, regulations, ordinances or resolutions shall in no way relieve the bidder from any obligations with respect to the bidder's bid or to the contract. No claim for additional compensation will be allowed which is based upon a lack of knowledge of any contract documents, statutes, regulations, ordinances or resolutions.

19. Bidder's Checklist

Bidder shall complete the following forms and shall submit them with the Bid Proposal:

- Bid Instruction Pages Form
- Bid Proposal Form
- Non-Collusion Affidavit
- Bid Bond
- Bidder Qualifications



BID INSTRUCTION PAGES FORM

Before beginning work you will need to obtain a city business license. The license can be obtained on the DOR website at www.dor.wa.gov and apply for the business license for La Center.

Wage Law Intents and Affidavits

If awarded the project, the contractor and each subcontractor shall complete or have on file a current "Statement of Intent to Pay Prevailing Wages" (Form L&I Number F700-029-000) before payment will be made for work performed. An "Affidavit of Wages Paid" (Form L&I Number F700-007-000) shall be required upon final acceptance of the public works project by the City. These forms are available from Washington State Department of Labor & Industries and can be filed electronically at:

<http://www.lni.wa.gov/TradesLicensing/PrevWage/IntentAffidavits/File/default.asp>

The undersigned declares that before preparing their bid, they read carefully the specifications and requirements for bidders and that their bid is made with the full knowledge of the kind, quality and quantity of services and equipment to be furnished, and their said bid is as stated on these pages.

Authorized Official (Signature)

Date

Print Name of Authorized Official

Title of Authorized Official

Company Name

Telephone Number

Address

City, State, Zip

The bidder shall attest by signing this statement in accordance with chapter [5.50](#) RCW verifying under penalty of perjury that the bidder is in compliance with the responsible bidder criteria requirements below:

Within the three-year period immediately preceding the date of the bid solicitation, not have been determined by a final and binding citation and notice of assessment issued by the department of labor and industries or through a civil judgment entered by a court of limited or general jurisdiction to have willfully violated, as defined in RCW [49.48.082](#), any provision of chapter [49.46](#), 49.48, or [49.52](#) RCW.

Authorized Official (Signature)

Date

Print Name of Authorized Official

Title of Authorized Official

BID PROPOSAL FORM

TO: City of La Center
210 East 4th Street
La Center, Washington 98629

FROM: Bidder _____
Address _____
Telephone _____

The undersigned, as bidder, declares that we have examined all of the contract documents and that we will contract with the City of La Center to do everything necessary to complete the work as outlined on the plans and specifications for the installation of an actuator valve and drain pipe connecting to the existing actuator vault.

We acknowledge that addenda numbers _____ to _____ have been delivered to us and have been examined as part of the contract documents. We agree that the Qualification of Bidder, shall form a part of this proposal.

If our BID is accepted, we agree to sign the contract form and to furnish the contract bond and the required evidences of insurance within ten (10) calendar days after receiving written notice of the award of contract.

We further agree, if our BID is accepted and a contract for performance of work is entered into with the City of La Center, to so plan the work and to prosecute it with such diligence that all of the work shall be completed within the time period stated in the contract. We understand that the City of La Center reserves the right to reject any or all bids and to determine which proposal is, in the judgment of the City of La Center, the lowest responsible bid, and which proposal, if any, should be accepted in the best interests of the City of La Center and that the City of La Center also reserves the right to waive any informalities in any proposal or bid.

We further state that we have not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with such contract.

Bidder agrees that the work will be completed within Thirty (30) working days after the date when the notice to proceed is received from the City of La Center.

We propose to perform the work at the prices listed in the following bid schedule(s):

Notes:

- (1) See Special Provisions and the Standard Specifications for State sales tax requirements.
- (2) The City reserves the right to adjust the scope of this work to match available funds.
- (3) The City reserves the right to reject any or all bids.
- (4) The table below provides a list of items required to complete the project. It is the contractor's responsibility to complete the project scope to all required standards and specifications.
- (5) The low bid will be the lowest bid alternative that is in the owner's best interest.

BASE BID PROPOSAL:

Item No.	Std. Spec	Description	Est. Quantity	Unit	Unit Price	Total Price
1.	1-09	Mobilization	1	L.S.		
2.	1-10	Traffic Control and construction signage	1	LS		
3.	2-03	Excavation and haul	1	L.S.		
4.	2-01	Roadside Cleanup	1	L.S.		
5.	4-04	Crushed Surfacing Base Course	12	Ton		
6.	7-17	PVC sanitary sewer 6-inch diameter schedule 80 drain pipe	20	LF		

7.	7-05	Connection to existing vault	1	L.S.		
8.	Special 1	Installation of Actuator Valve	1	L.S.		
9.	Special 1	Electrical Connection and Actuator Valve	1	L.S.		
10.	1101.3(3)	Replace vault lid with hatch	1	L.S.		
11.	8-01	Erosion Control and Water Pollution and seeding and fertilizing	1	LS		
		Subtotal bid		\$		
		Sales Tax		\$		
		Total Bid		\$		

BIDDER acknowledges receipt of the following ADDENDUM:

<u>Addendum No.</u>	<u>Addendum Receipt Date</u>	<u>Signed Acknowledgment</u>
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<u>1</u>	_____	_____
<u>2</u>	_____	_____
<u>3</u>	_____	_____
<u>4</u>	_____	_____

WASHINGTON STATE AND LOCAL SALES TAX. Sales Tax (8.5%) shall not be included in the unit bid prices per the requirements of the Special Provisions.

BIDDER'S ADDRESS. Notice of Acceptance of this bid or requests for additional information should be addressed to the undersigned at the address stated below.

NON-COLLUSION DECLARATION. I, by signing the proposal, hereby declare, under penalty of perjury under the laws of the United States that the following statements are true and correct:

1. That the undersigned person(s), firm, association or corporation has (have) not, either directly or indirectly, entered into any agreement, participated in any collusion, or otherwise taken any action in restraint of free competitive bidding in connection with the project or which this proposal is submitted.
2. That by signing the signature page of this proposal, I am deemed to have signed and have agreed to the provisions of this declaration.

NOTES:

1. This proposal form is not transferable and any alteration of the firm's name entered hereon without prior permission from the City of La Center will be cause for considering the proposal irregular and subsequent rejection of the bid.

SIGNATURE

Date: _____

Proper Name of Bidder

Contractor's License No.: _____

By: _____



CITY OF LA CENTER SPECIAL PROVISIONS

CITY OF LA CENTER SPECIAL PROVISIONS

STANDARD SPECIFICATIONS

The Standard Specifications for this project shall be the "2022 Standard Specifications for Road, Bridge, and Municipal Construction as prepared by the Washington State Department of Transportation and the Washington State Chapter of the American Public Works Association, and as amended under Amendments to the Standard Specifications.

All modifications made in these Special Provisions shall take precedence over the Standard Specifications and the Amendments to the Standard Specifications. The reference made herein shall only mean the inclusion of the specific technical section referenced, and shall include any amendments made, if applicable.

All number references in these Special Provisions shall be understood to refer to the section or subsection of the Standard Specifications bearing like numbers.

It should be understood that all references to state officers in the Standard Specifications shall mean the corresponding City of La Center officers for the purpose of this contract. For example, all references to the Highway Commission shall mean the City of La Center Council and all references to the Director of Highway shall mean the City of La Center.

A copy of the Standard Specifications is available for review at the office of the Engineer.

1-01 DEFINITIONS AND TERMS

1-01.3 Definitions

Amend as follows:

Engineer. La Center City Engineer, or his designated representatives.

Owner. Council of the City of La Center as represented by its authorized officers, employees, or agents.

All references to "State Materials Laboratory" shall be revised to read "Contracting Agency designated location".

1-03 AWARD AND EXECUTION OF CONTRACT

1-03.2 Award of Contract

Add the following paragraph:

“The award of the contract shall be made only to responsible contractors that possess the potential ability to perform successfully under the terms and conditions of the Agreement. Consideration shall be given to contractor integrity, compliance with public policy, record of past performance, and financial and technical resources. Any and all bids may be rejected when there are sound documented reasons for doing so. The Owner reserves the right to make these judgments. The Owner will award the contract within sixty (60) days after the Bid Opening.

The “lowest responsible Bidder” shall be determined from the Contract Unit Bid Prices and Bid Proposal if selected by the Owner.”

1-04 SCOPE OF WORK

Add the following paragraph:

Project consists of installing an actuator valve and schedule 80 PVC of sufficient length to connect to the existing Actuator vault and daylight to the existing ground to drain the vault. Replacing the existing vault lid with a new lid, with spring assisted hatch.

1-05 CONTROL OF WORK

1-05.10(1) Guarantees

Add the following paragraph:

"The Contractor shall guarantee all work for a period of one year from and after the date of acceptance of the work by the Owner."

1-05.12 Final Acceptance

Add the following paragraphs:

The acceptance by the Contractor of final payment shall be and shall operate as a release to the City of all claims and all liability to the Contract other than claims in stated amounts as may be specifically excepted by the Contractor in writing prior to the request for final payment for all things done or furnished in connection with this work and for every act and neglect of the City and it's agents and others relating to or arising out of this work. However, any payment, final or otherwise, or any acceptance, shall not release the Contractor or it's sureties from any obligations under the Contract Documents or the

1-07 LEGAL RELATIONS AND RESPONSIBILITIES TO THE PUBLIC

1-07.2(2) State Sales Tax — Rule 170

WAC 458-20-170, and its related rules, apply to the constructing and repairing of new or existing buildings, or other structures, upon real property. This includes, but is not limited to, the construction of streets, roads, highways, etc., owned by the state of Washington; water mains and their appurtenances; sanitary sewers and sewage disposal systems unless such sewers and disposal systems are within, and a part of, a street or road drainage system; telephone, telegraph, electrical power distribution lines, or other conduits or lines in or above streets or roads, unless such power lines become a part of a street or road lighting system; and installing or attaching of any article of tangible personal property in or to real property, whether or not such personal property becomes a part of the realty by virtue of installation.

For work performed in such cases, the Contractor shall collect from the Contracting Agency, retail sales tax on the full contract price. The Contracting Agency will automatically add this sales tax to each payment to the Contractor. For this reason, the Contractor shall not include the retail sales tax in the unit bid item prices, or in any other contract amount subject to Rule 170, with the following exception.

Exception: The Contracting Agency will not add in sales tax for a payment the Contractor or a subcontractor makes on the purchase or rental of tools, machinery, equipment, or consumable supplies not integrated into the project. Such sales taxes shall be included in the unit bid item prices or in any other contract amount.

1-07.9 Wages

Add the following paragraph:

“It shall be the Contractor's responsibility to determine current Labor and Industries Wage Rates as necessary for the completion of the project.”

1-07.17(2) Utility Construction, Removal or Relocation by Others

Add the following paragraphs:

The Contractor shall be responsible for coordinating with the utility company for conflicting utilities to facilitate work as described in these specifications and plans. for conflicting utilities. The contractor shall coordinate with the schedule of the utility company as necessary to relocate existing facilities to coordinate construction.

1-07.18 Public Liability and Property Damage Insurance

Delete this section in its entirety, and replace it with the following:

1-07.18 Insurance
(May 10, 2006 APWA GSP)

1-07.18(1) General Requirements

- A. The Contractor shall obtain the insurance described in this section from insurers approved by the State Insurance Commissioner pursuant to RCW Title 48. The insurance must be provided by an insurer with a rating of A-: VII or higher in the A.M. Best's Key Rating Guide, which is licensed to do business in the state of Washington (or issued as a surplus line by a Washington Surplus lines broker). The Contracting Agency reserves the right to approve or reject the insurance provided, based on the insurer (including financial condition), terms and coverage, the Certificate of Insurance, and/or endorsements.
- B. The Contractor shall keep this insurance in force during the term of the contract and for thirty (30) days after the Physical Completion date, unless otherwise indicated (see C. below).
- C. If any insurance policy is written "on a claims" made form, its retroactive date, and that of all subsequent renewals, shall be no later than the effective date of this Contract. The policy shall state that coverage is claims made, and state the retroactive date. Claims-made form coverage shall be maintained by the Contractor for a minimum of 36 months following the Final Completion or earlier termination of this contract, and the Contractor shall annually provide the Contracting Agency with proof of renewal. If renewal of the claims made form of coverage becomes unavailable, or economically prohibitive, the Contractor shall purchase an extended reporting period ("tail") or execute another form of guarantee acceptable to the Contracting Agency to assure financial responsibility for liability for services performed.
- D. The insurance policies shall contain a "cross liability" provision.
- E. The Contractor's and all subcontractors' insurance coverage shall be primary and non-contributory insurance as respects the Contracting Agency's insurance, self-insurance, or insurance pool coverage.
- F. All insurance policies and Certificates of Insurance shall include a requirement providing for a minimum of 30 days prior written notice to the Contracting Agency of any cancellation in any insurance policy.
- G. Upon request, the Contractor shall forward to the Contracting Agency a full and certified copy of the insurance policy(s).
- H. The Contractor shall not begin work under the contract until the required insurance has been obtained and approved by the Contracting Agency.
- I. Failure on the part of the Contractor to maintain the insurance as required shall constitute a material breach of contract, upon which the Contracting Agency may, after giving five

business days notice to the Contractor to correct the breach, immediately terminate the contract or, at its discretion, procure or renew such insurance and pay any and all premiums in connection therewith, with any sums so expended to be repaid to the Contracting Agency on demand, or at the sole discretion of the Contracting Agency, offset against funds due the Contractor from the Contracting Agency.

- J. All costs for insurance shall be incidental to and included in the unit or lump sum prices of the contract and no additional payment will be made.

1-07.18(2) Additional Insured

All insurance policies, with the exception of Professional Liability and Workers Compensation, shall name the following listed entities as additional insured(s):

- the City of La Center and its officers, elected officials, employees, agents, and volunteers

The above-listed entities shall be additional insured(s) for the full available limits of liability maintained by the Contractor, whether primary, excess, contingent or otherwise, irrespective of whether such limits maintained by the Contractor are greater than those required by this Contract, and irrespective of whether the Certificate of Insurance provided by the Contractor pursuant to 1-07.18(3) describes limits lower than those maintained by the Contractor.

1-07.18(3) Subcontractors

Contractor shall ensure that each subcontractor of every tier obtains and maintains at a minimum the insurance coverages listed in 1-07.18(5) A and 1-07.18(5)B. Upon request of the Contracting Agency, the Contractor shall provide evidence of such insurance.

1-07.18(4) Evidence of Insurance

The Contractor shall deliver to the Contracting Agency a Certificate(s) of Insurance and endorsements for each policy of insurance meeting the requirements set forth herein when the Contractor delivers the signed Contract for the work. The certificate and endorsements must conform to the following requirements:

1. An ACORD certificate or a form determined by the Contracting Agency to be equivalent.
2. Copies of all endorsements naming Contracting Agency and all other entities listed in 1-07.18(2) as Additional Insured(s), showing the policy number. The Contractor may submit a copy of any blanket additional insured clause from its policies instead of a separate endorsement. A statement of additional insured status on an ACORD Certificate of Insurance shall not satisfy this requirement.
3. Any other amendatory endorsements to show the coverage required herein.

1-07.18(5) Coverages and Limits

The insurance shall provide the minimum coverages and limits set forth below. Providing coverage in these stated minimum limits shall not be construed to relieve the Contractor from liability in excess of such limits. All deductibles and self-insured retentions must be disclosed

and are subject to approval by the Contracting Agency. The cost of any claim payments falling within the deductible shall be the responsibility of the Contractor.

1-07.18(5)A Commercial General Liability

A policy of Commercial General Liability Insurance, including:

Per project aggregate
Premises/Operations Liability
Products/Completed Operations – for a period of one year following final acceptance of the work.
Personal/Advertising Injury
Contractual Liability
Independent Contractors Liability
Stop Gap / Employers’ Liability
Explosion, Collapse, or Underground Property Damage (XCU)
Blasting (only required when the Contractor’s work under this Contract includes exposures to which this specified coverage responds)

Such policy must provide the following minimum limits:

\$1,000,000 Each Occurrence
\$2,000,000 General Aggregate
\$1,000,000 Products & Completed Operations Aggregate
\$1,000,000 Personal & Advertising Injury, each offence

Stop Gap / Employers’ Liability

\$1,000,000 Each Accident
\$1,000,000 Disease - Policy Limit
\$1,000,000 Disease - Each Employee

1-07.18(5)B Automobile Liability

Automobile Liability for owned, non-owned, hired, and leased vehicles, with an MCS 90 endorsement and a CA 9948 endorsement attached if “pollutants” are to be transported. Such policy (ies) must provide the following minimum limit:

\$1,000,000 combined single limit

1-07.18(5)C Workers’ Compensation

The Contractor shall comply with Workers’ Compensation coverage as required by the Industrial Insurance laws of the state of Washington.

1-07.23 Traffic Control

Add the following paragraphs:

"It shall be the Contractor's responsibility to prepare a detailed traffic control plan in accordance with Section 1-07.23 of the Standard Specifications.

The contractor shall submit a plan to the City for review if lane closures are necessary on La Center Road. The cost for traffic control and signage and will be paid as lump sum.

2-03 ROADWAY EXCAVATION AND EMBANKMENT

Add the following note

Excavation shall consist of trench section removal and shall be hauled away to a disposal site per city and state regulations. This item shall include clearing and grubbing of existing vegetation as necessary to allow excavation for the pipe trench. Seeding and mulching of the existing soil shall be paid under the Erosion Control and Water Pollution bid item

Shoring shall be required as necessary per WSDOT section 2-09.3(3) D and shall be included in the Excavation and Haul bid item.

2-03.4 Measurement

Add the following:

Measurement for Earthwork-Excavation and Embankment shall be measured by lump sum and shall include all work as described in the approved plans and section 2-03 of WSDOT Standard Specifications. This lump sum payment shall include clearing and grubbing of existing vegetation.

Shoring shall be included as payment for the lump sum bid item for Excavation and Haul.

7-17 SANITARY SEWERS

7-17.2 MATERIALS

The section shall be modified as follows:

Pipe used for sanitary sewers shall be schedule 80 Polyvinyl Chloride (PVC) meeting the requirements of LCMC 13.10.150.

7-17.3 Construction Requirements

The first paragraph of this section shall be replaced with the following:

The sanitary sewer shall be constructed according to Section 4 Sanitary Sewer System per the City of La Center Engineering Standards for Construction.

Pipe zone bedding shall be in accordance with the City of La Center Standard Plans or as described in the plans and these specifications.

The plans will be followed for line and grade of the gravity construction and any variation with grade shall be approved by the engineer.

Payment shall be per lineal foot, and shall include pipe bedding and backfill and all materials and labor to install the pipe per the plans.

8-01 Erosion Control and Water Pollution Control

The following shall be added:

The contractor will be responsible to provide erosion control measures, per the City of La Center and WSDOT specifications, as necessary to protect the exposed soils due to the contractor's work. The exposed soils and removed vegetation will be seeded and fertilized.

8-01.3(8) Street Cleaning

This section is revised to read:

Self-propelled street sweepers shall be used to remove and collect sediment and other debris from the Roadway, whenever required by the Engineer. The street sweeper shall effectively collect these materials and prevent them from being washed or blown off the Roadway or into waters of the State. Street sweepers shall not generate fugitive dust and shall be designed and operated in compliance with applicable air quality standards.

Material collected by the street sweeper shall be disposed of in accordance with Section 2-03.3(7)C.

Street washing with water will require the concurrence of the Engineer.

Street sweeping and cleanup will be paid under roadside cleanup and will be paid lump sum.

Measurement and Payment

Section 8-01.4 is supplemented with the following:

Erosion Control and Water Pollution will be paid as Lump Sum. Erosion control and Water Pollution Control shall consist of silt fence, biobags and other methods of stabilization of disturbed soil per the City of La Center Erosion Control Standards. Seeding and Fertilizing will be required of all disturbed soil and shall be paid per lump sum along the bid item for Erosion Control and Water Pollution Control and Seeding and Fertilizing.

Add the following:

Seed shall be applied in all disturbed areas outside of the roadway and shall be applied to established ground cover to match the existing ground cover.

9-04.13 Manhole Boots

Manhole boots shall be NPC Kor-N-Seal 106 Series pipe-to-manhole connector, Press-Seal Gasket Corporation PSX Direct Drive Flexible Pipe-to-Structure Connectors, or approved equal.

Manhole boots shall be meet the requirements of ASTM C923 consisting of a flexible rubber seal and stainless steel compression and expander bands with take-up assemblies.

9-04.14 Penetration Seals

Penetrations seals shall be modular, mechanical seals, consisting of rubber links. The links shall be shaped to continuously fill the annular space between the pipe and the wall opening. Penetration seals shall be PSI-Thunderline/ Link-Seal® Modular Seal as manufactured by Pipeline Seal & Insulator, Inc, Houston, TX, or approved equal.

The cost of the boot or seal shall be included in the cost for lineal feet of sewer pipe.

9-05.12 Polyvinyl Chloride (PVC) Pipe

9-05.12(1) Solid Wall PVC Culvert Pipe, Solid Wall PVC Storm Sewer Pipe, and Solid Wall PVC Sanitary Sewer Pipe

9-05.12(1) is supplemented with the following:

Schedule 80 PVC shall be used for connection to the actuator vault for drainage. Submittal of manufacturer material shall be approved by the City of Ia Center.

11-01.3(3) Valve Vault Lid Modified

The vault has already been installed on six (6) inches of crushed surfacing base course.

The joints of the valve vault lid shall be sealed on the outside with Manhole external seal or approved equal. Grouting shall be done between the lid and the existing vault to prevent leaking.

All valves and fittings shall be installed as shown on the plans and in accordance with the Construction Specifications Section 9-30.3 Valves. Valves, fittings, and pipe within the valve vault shall be painted light gray in accordance with Section 6-07. Hand wheels and levers shall be red. Stencil "SEWAGE" in black enamel on the pipe at a visible location.

The Contractor shall determine prior to installation if the valve vault lid that will accommodate the new lid and hatch. In addition, the valve vault shall include a working space of eighteen (18) inches around the inside perimeter of the valve vault from any fittings. The Contractor shall submit a working drawing of the Contractor's proposed valve vault layout to the Contracting Agency for written approval prior to installation. The Plans have a typical plan view for a valve vault, illustrating the detail required on the Contractor's plans.

Measurement and Payment:

Removal and installation of the valve vault lid shall be paid as lump sum, and hatch includes materials and labor install the lid and hatch as shown on the plans.

SPECIAL 1
SECTION 26 00 00
ELECTRICAL GENERAL REQUIREMENTS

PART 1 GENERAL

1.01 SCOPE

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. Furnish all labor, equipment, appliances, materials, transportation, facilities, services, and skilled supervision necessary for the construction, erection, installation, connection, testing, and adjustment of all circuits and electrical equipment specified herein, shown, or noted on the drawings; specified or required in other portions of this specification; and its delivery to the City complete in all respects and ready for use. **The city shall provide the actuator valve for installation by contractor to install per the plans.**
- C. Measurement and payment:

Installation of the actuator valve shall be paid as lump sum, and will include all labor to install the valve supplied by the city as specified on the plans and these specifications. The lump sum cost includes labor for testing the valve and pressure transmitter to the satisfaction of the city to ensure it is operating.

1.02 INTENT OF DRAWINGS

- A. Electrical drawings show only general locations of equipment, devices, and raceway, unless specifically dimensioned. The Contractor shall be responsible for the proper routing of raceway, subject to the approval of the Engineer.
- B. Riser and other diagrams are schematic only and shall not be used for obtaining quantities. **The original electrical drawings that were used to install the electrical circuitry of the actuator valve and transmitter valve are shown on the drawings, and shall be used for information to install the new actuator valve. The contractor shall verify all electrical wiring from the valve to the splice box and control panel as necessary for the actuator valve installation.**
- D. The electrical drawings do not show complete details of the site conditions. The Contractor shall check actual conditions.

- E. **Installation of the actuator valve will be paid per lump sum, and shall include all labor to install the valve per the plans. The cost shall include testing of actuator valve and setting and testing of the pressure transmitter for approval by the City.**

1.03 DEPARTURES FROM CONTRACT DOCUMENTS

- A. Submit to the Engineer, in writing, details of any proposed departures from these Contract Documents, and the reasons the departures are necessary. Submit such requests as soon as practicable and within 30 days after award of the Contract. Make no such departures without written approval of the Engineer.

1.04 COORDINATION OF WORK

- A. The Contractor shall plan his work in coordination with the power utility authorities, and City Operations, as required.
- B. The Contractor shall field verify all dimensions of equipment to be installed or provided by others or by this contract so that correct clearances and connections may be made between the work installed by the Contractor and equipment installed or provided by others.
- C. The Contractor shall arrange all conduit runs so that they do not interfere with duct work, structural members, etc.
- D. All working measurements shall be taken from the sites, checked with those shown on the drawings, and if they conflict, reported to the Engineer at once, and before proceeding with the work. Should the Contractor fail to comply with this procedure, he shall alter his work at his own expense as directed by the Engineer.
- E. No extra payments will be allowed where obstructions in the work of other trades, or work under this contract requires offsets to conduit runs.
- F. The Contractor is responsible for all alterations in the work to accommodate equipment differing in dimensions or other characteristics from that shown or specified.

1.05 SUPERVISION

- A. The Contractor shall maintain adequate supervision of the work and shall have a responsible person in charge at the site during all times that work under this contract is in progress, or when necessary for coordination with other work.

1.06 CODES AND STANDARDS

- A. All work and materials shall conform to the applicable current standards (standard rules, regulations, and specifications) of the National Electrical Code (NEC), National Electrical Safety Code (NESC), Institute of Electrical and Electronic Engineers (IEEE), National Electrical Manufacturers' Association (NEMA), American National Standards Institute (ANSI), Insulated Cable Engineers Association (ICEA), Occupational Safety and Health Administration Standards (OSHA), State and local electrical codes, and other specifically cited standards, as applicable. All materials unless otherwise approved by local government authorities shall bear the label of, or be listed by, a Nationally Recognized Testing Laboratory (NRTL); the Underwriters' Laboratory, Inc. (UL) is one such NRTL. Where conflicts exist between any of the above standards, the standard which is most stringent shall take precedence. Where the contract documents exceed minimum requirements, the contract documents take precedence.
- B. Observe where applicable the prevailing rules and requirements of the National Fire Protection Association (NFPA), the State and local fire marshals' regulations, and standards pertaining to adequate protection and/or guarding of any moving parts or otherwise hazardous conditions.
- C. Resolve at the Contractor's expense all conflicts with applicable standards and provide a complete installation of Electrical Work, approved in all respects. Certain methods and materials for the project may require special approval and it is the Contractor's responsibility to prepare and submit to all approving authorities additional clarifying details, test data, methods and materials as needed to secure the required approval and resolve conflicts.

1.07 WORKMANSHIP

- A. All work shall be performed by personnel skilled in the particular trade. Workmanship shall conform to the standards of the NEC and the installation standards of NECA.
- B. The Engineer and City Waste Water Department shall be the sole judge as to whether or not the finished work is satisfactory; and if in his judgment any material or equipment has not been properly installed or finished, the Contractor shall replace the material or equipment whenever required, and reinstall it in a manner entirely satisfactory to the Engineer without any increase in cost to the Owner.

1.08 PERMITS, FEES, AND SERVICE CHARGES

- A. The Contractor shall obtain all permits and pay all fees.

1.09 SUBSTITUTION OF MATERIALS AND EQUIPMENT

- A. In accordance with provisions elsewhere in these Contract Documents, manufacturers' names and catalog numbers stated herein are intended to indicate the type and quality of equipment or materials desired.
- B. Make requests for approval of alternates in writing to the Engineer. Provide sufficient material or data to allow evaluation of the proposed alternatives and determination of compliance with these Contract Documents. List any proposed deviations from these Contract Documents.

1.10 SUBMITTALS AFTER AWARD OF CONTRACT

- A. The Contractor shall provide complete manufacturer's descriptive information and shop drawings for all equipment, material, and devices furnished under this Division, including certified outline drawings, arrangement drawings, elementary (schematic) diagrams, interconnection diagrams, and connection diagrams, in accordance with provisions in Division 1 of these Contract Documents. Provide the number of copies specified therein for the Engineer, Contractor, and Operation and Maintenance Manuals.
- B. Submittals shall be made in accordance with the schedule listed hereinafter. Provide certified shop drawings, literature, and requested samples showing items proposed for use, size, dimensions, capacity, special features required, schematic (elementary) control diagrams, equipment schedules, rough-in, etc., as required by the Engineer for complete review and for installation. Use NEMA device designations and symbols for all electric circuit diagrams submitted. Make content of schematic (elementary) connection of interconnection diagrams in accordance with the latest edition of NEMA ICS.
- C. Contractor shall check submittals for proper number of copies, adequate identification, correctness and compliance with Drawings and Specifications, and initial all copies indicating this has been done. Revise, change, and/or resubmit all submittal information until acceptable to the Engineer. Obtain Engineer's acceptance before commencing fabrication or installation of any materials or equipment.
- D. Review of submittal information by the Engineer shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications, unless he has requested and received written approval from the Engineer for specific deviations at time of submission. Review of submittal information shall not

relieve the Contractor from responsibility for errors and omissions in shop drawings or literature.

- E. Manufacturer's standardized elementary diagrams shall not be acceptable unless applicable portions of the diagram have been clearly identified and nonapplicable portions deleted or crossed out.
- F. Submittals shall be made on, but not limited to, the following items:
 - 1. Circuit breakers and enclosures
 - 4. Motor Controls
 - 5. Modifications to the control panels - schematic drawings, descriptive information, component schedules
 - 6. Wiring Devices, including Receptacles (120v duplex outlets), switches, boxes, etc.
 - 7. All conduit types used in project
 - 8. Special pull boxes and junction boxes as necessary to operate the actuator valve.
 - 9. All conductor/wire types used in project

PART 2 PRODUCTS

2.01 MATERIALS AND EQUIPMENT, COMMON REQUIREMENTS

- A. Unless otherwise indicated, provide all first-quality, new materials and equipment, free from any defects, in first-class condition, and suitable for the space provided. Provide materials and equipment listed by UL wherever standards have been established by that agency.
- B. Where two or more units of the same class of material or equipment are required, provide products of a single manufacturer. Component parts of materials or equipment need not be products of the same manufacturer.
- C. Unless otherwise indicated, provide materials and equipment which are the standard products of manufacturers regularly engaged in the production of such materials and equipment. Provide the manufacturers' latest standard design that conforms to these Specifications.

2.03 PORTABLE OR DETACHABLE PARTS

- A. The Contractor shall retain in his possession and shall be responsible for all portable and detachable parts or portions of installations such as fuses, key locks, adapters, blocking chips, and inserts, the actuator valve until completion of his work.
- B. These parts shall be delivered to the Engineer and an itemized receipt obtained. This receipt, together with 2 copies of the final inspection certificate, shall be attached to the Contractor's request for final payment.
- C. All equipment shall be demonstrated to operate in accordance with the requirements of this specification and the manufacturer's recommendations.

PART 3 EXECUTION

3.01 INSTALLATION, COMMON REQUIREMENTS

- A. Install materials and equipment in a workmanlike manner utilizing craftsmen skilled in the particular trade. Provide work which has a neat and finished appearance.
- B. Coordinate electrical work with work of other trades to avoid conflicts, errors, delays, and unnecessary interference with City operations during construction.
- C. Provide any necessary backing required to properly support all fixtures and equipment installed under this contract.

3.02 PROTECTION DURING CONSTRUCTION

- A. Throughout this Contract, provide protection for materials and equipment against loss or damage in accordance with provisions elsewhere in these Contract Documents. Protect everything from the effects of weather.
- B. Prior to installation, store items in clean, dry, indoor locations. Store in clean, dry, indoor, heated locations items subject to corrosion under damp conditions, and items containing electrical insulation, such as transformers, conductors, motors, and controls. Energize all space heaters furnished with equipment.
- C. Following installation protect materials and equipment from corrosion, physical damage, and the effects of moisture on insulation. Cap conduit runs during construction with manufactured seals. Keep openings in boxes or equipment closed during construction. Energize all space heaters furnished with equipment.

3.03 LOAD BALANCE

- A. The Drawings and Specifications for the initial installation, indicate connection of electrical loads and distribution equipment; however, after installation, if necessary, certain electrical loads may require re-connection to achieve a more equal current balance.

3.04 MOTOR ROTATION

- A. After final service connections are made, check and correct if necessary the rotation of all motors. Coordinate rotation with the Engineer and the Contractor responsible for the driven equipment. Submit a written report to the Engineer for each motor, verifying that rotation has been checked and corrected.

3.05 CLEANING AND TOUCHUP PAINTING

- A. Keep the premises free from accumulation of waste material or rubbish. Upon completion of work, remove materials, scraps, and debris from premises and from interior and exterior of all devices and equipment. Touch up scratches, scrapes, or chips in interior and exterior surfaces of devices and equipment with finishes matching as nearly as possible the type, color, consistency, and type of surface of the original finish.

3.06 CUTTING, PATCHING, AND FRAMING

- A. The Contractor shall determine in advance the locations and sizes of all sleeves, chases, and openings necessary for the proper installation of his work.
- B. Whenever practical, inserts or sleeves shall be installed prior to covering work. Cutting and patching shall be held to a minimum. All required holes in concrete construction shall be made with a core drill and patched with non-shrink grout.
- C. Cutting, fitting, repairing, and finishing of carpentry work, metal work, or concrete work, and the like, which may be required for this work shall be done by craftsmen skilled in their respective trades. When cutting is required, it shall be done in such a manner as not to weaken walls, partitions, or floors; and holes required to be cut in floors must be drilled without breaking out around the holes.

3.07 INSPECTION

- A. All materials, equipment, and workmanship shall be subject to inspection at any time by the Engineer, the Waste Water Treatment Department or his

representatives. Correct work, materials, or equipment not in accordance with these Contract Documents or found to be deficient or defective in a manner satisfactory to the Engineer.

3.08 OPERATIONS AND MAINTENANCE MANUALS

- A. Provide operations and maintenance manuals in accordance with provisions of Division 1, in these Contract Documents.

3.09 RECORD DRAWINGS

- A. The Contractor shall maintain a neatly marked set of record drawings. Contract Drawings shall be marked with red indelible pencil to show all departures from original Drawings, underground cable, conduit, or duct runs dimensioned from established building lines, and all electrical work revisions. In addition, field mounted instruments and panels, terminal boxes, junction boxes and any other materials included in this contract shall be shown. As built drawings shall be kept current with the work as it progresses and shall be subject to inspection by the Engineer at any time.

3.10 TESTS

- A. Carry out tests specified hereinafter and as indicated under individual items of materials and equipment specified in other sections.

3.11 OPERATIONS

- A. After the electrical system installation is completed and at such time as the Engineer may indicate, conduct an operating test for approval. Demonstrate that the equipment operates in accordance with the requirements of these Specifications and Drawings.
- B. Perform the test in the presence of the Engineer or his authorized representative. Furnish all instruments and personnel required for the tests. The Owner will furnish the necessary electric power. System performance shall conform to the following criteria. Deviations, if any, shall be noted on the test reports with indication of corrective action taken or proposed.

1. Plus or minus 2 percent maximum variation between nominal system voltage and average system voltage.
2. Plus or minus 5 percent maximum variation from nominal system voltage for all load conditions.
3. Actual motor current on each ungrounded conductor at prevailing conditions shall be equal to or less than nameplate rated full load motor current at a service factor of 1.0.
4. One percent maximum voltage unbalance at full load defined as 100 times the maximum deviation from average voltage divided by the average voltage. (Balance system loads and cooperate with the serving utility company to achieve a balanced condition which is within the indicated limits.)
5. Plus or minus 10 percent maximum variation between average phase current and individual phase current. Balance system loads to achieve a balanced condition which is within the indicated limits.
6. Insulation resistance shall be tested under normal climatic conditions and shall conform to the following:
 - a. Circuits of 600 volts or less shall have conductor insulation resistance as installed of not less than 10,000,000 ohms to ground.

3.12 TEST REPORTS

- A. Submit dated "Electrical System Test Reports" indicating all tests performed and demonstrating conformance with the required system performance criteria. This test report shall include all voltage, current and verification that the actuator is working and pressure transmitter.

3.13 FINAL CORRECTION

- A. Promptly correct any failures or defects revealed by these tests as determined by the engineer. Re-conduct tests on these corrected items as directed by the engineer.

3.14 GUARANTEE

- A. Materials, equipment, and workmanship shall be guaranteed in accordance with provisions of Division 1, in these Contract Documents.

** END OF SECTION **

SPECIAL 1
SECTION 26 24 00
SERVICE AND DISTRIBUTION

PART 1 GENERAL

1.01 SCOPE

- A. The following supplements all sections of this specification and applies to all work specified, shown on the drawings, or required to provide a complete installation of approved electrical systems.
- B. This section covers the work necessary to furnish and install electrical service wiring and breakers as necessary to install the actuator valve and distribution system.
- C. **The Electrical connection to the actuator valve shall include all materials and labor to install the electrical portion of the actuator valve at the control panel and in the vault. The electrical connection will be paid as lump sum.**

1.02 GENERAL

- A. See CONDITIONS OF THE CONTRACT and Division 1, GENERAL REQUIREMENTS, and Section 26 00 00, ELECTRICAL - GENERAL PROVISIONS, which contain information and requirements that apply to the work specified herein and are necessary for this project.

1.03 SUBMITTALS AFTER AWARD OF CONTRACT

- A. Submittals after award of Contract shall be made in accordance with Division 1, GENERAL REQUIREMENTS, and Section 26 00 00 ELECTRICAL - GENERAL REQUIREMENTS.

1.04 ELECTRICAL SERVICE

- A. The utility company rendering electrical service to this project is Clark Public Utilities (CPU). Furnish all labor and install all material not furnished by the utility company.
- B. Provide ground services as required to satisfy utility company and code requirements.
- C. Provide trenching and backfill at locations shown on the plans and as required by the utility company for service cable to the project site.
- D. For utility service conduit, provide sweeps per utility company standards.
- E. Verify all wiring with the utility company and L&I as necessary and observe utility company standards throughout.

1.05 SYSTEM VOLTAGE CHARACTERISTICS

- A. Provide electrical system nominal utilization voltage characteristics as follows:

<u>Typical Voltage</u> <u>Description Herein</u>	<u>Nominal Utilization</u> <u>Voltage</u>
120/240	115/230

PART 2 PRODUCTS

2.02 SAFETY SWITCHES AND DISCONNECTING MEANS

- A. Furnish safety switches as shown or required. All equipment shall conform to NEMA standards latest revision as applicable.
- B. Switches shall be heavy-duty class, quick-make, quick-break, safety-type, externally operable, with bypassable interlock to prevent opening of cover in "ON" position. Switch shall have positive indication of "OFF" and "ON" position. Devices shall have visible blades unless molded-case breaker mechanism is used. Switches shall be so constructed as to preclude single phasing of switch blades due to mechanical failure. Switches shall be pad lockable in the "OFF" position.
- C. Switches shall be of the proper horsepower, ampere, and voltage rating with number of poles required to open all ungrounded conductors and with solid

neutral bar where required. Provide auxiliary switch contacts in all disconnect switches.

- D. Unless otherwise indicated, individually-mounted switches shall be in NEMA type 1 enclosure except in wet locations or where indicated as weatherproof, in which case a NEMA type 4 stainless steel enclosure shall be provided.

- D. Circuit breakers: Provide circuit breakers meeting requirements of NEMA AB-1.
 - 1. Provide molded case bolt-on circuit breakers with thermal magnetic trip units, and a common trip bar for two or three-pole breakers, connected internally to each pole so that the tripping on one pole will automatically trip all poles of each breaker. Handle bales or clips will not be acceptable. Provide single, two, or three pole breaker interchangeability.
 - 2. Provide breakers of the trip-free and trip-indicating type, with quick-make, quick-break contacts. Breakers shall have terminals rated for 75 degrees C (minimum).
 - 3. Provide circuit breaker with handle padlocking provisions where indicated or required.
 - 4. Where ground fault circuit interrupter (GFCI) circuit breakers are indicated or required by the NEC, provide a unit containing a conventional thermal magnetic trip and a ground fault sensor rated to trip the circuit breaker in approximately 0.025 seconds for a 5-milliampere ground fault (UL Class A sensitivity). Utilize a ground fault sensor having the same rating as the circuit breaker and having a push-to-test button.
 - 5. Where arc fault circuit interrupter (AFCI) circuit breakers are indicated or required by the NEC, provide a unit containing a conventional thermal magnetic trip and an arc fault sensor to trip the circuit breaker. Utilize an arc fault sensor having the same rating as the circuit breaker and having a push-to-test button.
 - 6. Tandem, duplex, or half-sized circuit breakers: Do not use this type of equipment unless specifically noted.

2.05 FUSES, 600-VOLT AND LESS

Supplied if required for actuator or pressure regulator:

- A. Provide fuses as manufactured by Bussmann Manufacturing Company, Chase-Shawmut Company, or equal.
 - 1. Fuses protecting control circuits shall be Bussman "Fusetron", Chase-Shawmut "Trionic," or equal, dual-element type having an interrupting rating of at least 100,000 Amps RMS unless otherwise noted.

2. The following general requirements shall apply to all fuses:
 - a. Fuses shall be coordinated with each other and with circuit breakers in the circuit.
 - b. Make adjustments in the specified fuse sizes and provide substitute fuses as required to achieve reliable trouble-free operation of all fused circuits.
 - c. Provide a fuse in each fuse holder.
 - d. Provide a label inside each cover or adjacent to each fuse holder indicating specific type of fuse required for replacement.
 - e. Provide six spare fuses for each low-voltage current rating used on the project, except no spare fuses will be required for integral current-limiting fuse circuit breaker units.

PART 3 EXECUTION

3.03 DAMP AND WET LOCATION

- A. Provide 1/4-inch air space behind all electrical equipment mounted in damp and wet locations and on concrete walls below grade. Use corrosion-resistant washers, bolts and anchors.
- B. Unless otherwise specified, all electrical enclosures in damp and wet locations shall be NEMA 4, stainless steel.

** END OF SECTION **

phase

- b. UL 1449 Suppression Voltage Ratings at 277Y/480 Volt shall be 800V L-G, L-N, and N-G.