Peninsula Housing Authority
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PENINSULA HOUSING AUTHORITY
INVITATION TO BID

Owner: Peninsula Housing Authority
2603 S. Francis St.
Port Angeles, WA 98362

Project Name: Administration Office Tenant Improvement
Project Number: PHA-2024-004
Project Location:727 E 8th St
Port Angeles, WA 98362

Peninsula Housing Authority will receive sealed bids from Qualified General Contractors for the renovation of their new administrative offices located at 727 E 8th Street in Port Angeles, WA.

Sealed bids will be accepted at the office of the Owner, 2603 S Francis Street Port Angeles, until 2:00pm, Wednesday July 10, 2024, at which time they will be opened and read aloud. Sealed bids must be submitted on the forms provided. **Bids received after the day and hour stated above will not be accepted.**

Availability of Bidding Documents: Bid documents for the project will be available on the Owner's website (www.peninsulapha.org) after 12:00 pm on Monday, June 17, 2024.

Contracting Officer:
Sarah Martinez
Email: smartinez@peninsulapha.org
Phone: 360-452-7631 ext 101

Project Coordinator:
Annie O'Rourke
Email: aorourke@peninsulapha.org
Phone: 360-452-7631 ext 301

Special Considerations:

- There will be a pre-bid briefing followed by a site walk at 2:00 pm on Friday, June 21, 2024, on site located at 727 E 8th St., Port Angeles, WA 98362.

- All interested General Contractors are strongly encouraged to notify Annie O'Rourke via email of their intent to bid the project by 3:00 pm Tuesday June 25, 2024.

- All questions must be submitted ***in writing via email*** to Annie O'Rourke by 3:00 pm Thursday, June 27, 2024.

- An addendum in response to General Contractor questions will be issued by 5:00 pm Monday July 1, 2024, via the Owner's website.

- Bidders may also view bid documents including addenda at the offices of the Owner, 2603 S. Francis St., Port Angeles, WA. No copies of the documents will be sold or reproduced by the Owner.

Funding Source: The funding source requires the project comply with Washington State Prevailing wage rate laws and Washington State Public Works statues. The Peninsula Housing Authority is a public body and is exempt from sales taxes.

Bid Bond. A Bid Deposit is required for this Bid Submittal: All bid proposals must be on the form provided and must be accompanied by a bid proposal deposit in cash, certified check, cashier's check or surety bond in an amount equal to five percent (5%) of the amount of the bid proposal. Should the successful bidder fail to enter into such contract and furnish satisfactory performance bond within the time stated in the specifications, the bid proposal deposit shall be forfeited.

BID FORM

THE PROJECT AND THE PARTIES

1.01 TO:

Peninsula Housing Authority
2603 S Francis Street
Port Angeles, WA 98362

1.02 FOR:

PHA Admin Office Tenant Improvement
727 E 8th Street
Port Angeles, WA 98362

1.03 DATE: _____

1.04 SUBMITTED BY: (BIDDER TO ENTER NAME AND ADDRESS)

Bidder's Full Name _____
Address _____
City, State, Zip _____

1.05 OFFER

A. Having examined the Place of The Work and all matters referred to in the Instructions to Bidders and the Contract Documents prepared by *Rice Fergus Miller* for the above mentioned project, we, the undersigned, hereby offer to enter a Contract to perform the Work for the lump sum listed in this bid form of:

B. Total Offer: _____ dollars

($_____) in lawful money of the United States of America.

C. We have included the Bid Bond as required by the Instruction to Bidders.

1.06 ACCEPTANCE

A. This offer shall be open to acceptance and is irrevocable for sixty (60) days from the bid closing date.

B. If this bid is accepted by Owner within the time period stated above, we shall:
   - Execute the Agreement within fourteen days of receipt of Notice of Award.
   - Furnish the required bonds within fourteen days of receipt of Notice of Award.
   - Commence work no later than August 19, 2024.

C. If this bid is accepted within the time stated, and we fail to commence the Work or we fail to provide the required Bond(s), the security deposit shall be forfeited as damages to Owner by reason of our failure, limited in amount to the lesser of the face value of the security deposit or the difference between this bid and the bid upon which a Contract is signed.

1.07 CONTRACT TIME

A. If this Bid is accepted, we will:

- Complete the Work for the building no later than November 15, 2024.

1.08 ADDENDA

A. The following Addenda have been received. The modifications to the Bid Documents noted below have been considered and all costs are included in the Bid Sum.

Addendum # _____ Dated _____
Addendum # _____ Dated _____
Addendum # _____ Dated _____
Addendum # _____ Dated _____
Addendum # _____ Dated _____

1.09 BID FORM SUPPLEMENTS

A. Provide the bid form supplements as outlined in the cover sheet.

B. The bid form supplements shall accompany this Bid Form.

C. We agree to submit the following Supplements to Bid Forms within 48 hours after submission of this bid. _____

1.10 BID FORM SIGNATURE(S)

The Corporate Seal of

_____

(Bidder - print the full name of your firm)

was hereunto affixed in the presence of:

_____

(Authorized signing officer, Title)

(Seal)

_____

(Signature of Authorized signing officer)

BID FORM SUPPLEMENTS COVER SHEET

PARTICULARS

1.01 TO:

Peninsula Housing Authority
2603 S Francis Street
Port Angeles, WA 98362

1.02 PROJECT:

PHA Admin Office Tenant Improvement
727 E 8th Street
Port Angeles, WA 98362

1.03 DATE: _____

1.04 SUBMITTED BY:

A. Name:_____
B. Address:_____
C. City/State/Zip:_____
D. Phone:_____
E. We included all elements of the Supplements To Bid Form listed below. The information provided shall be considered an integral part of the Bid Form. Failure to submit all supplemental forms will result in a non-responsive bid.

1.05 SUPPLEMENTS TO BID FORM

1. Bid Bond
2. Non-Collusion Affidavit
3. Payment & Performance Bond
4. Representations, Certifications and other Statements
5. Tax & Bid Price
6. Contractor Statement
7. Section 3 Requirements

1.01 SIGNATURES

A. **Company:**

_____
(Bidder please print the full name of your Proprietorship, Partnership, or Corporation)

B. **Title of Authorized signing officer:**

_____
(Title of Authorized signing officer)

C. **Signature:**

_____
(Signature of Authorized signing officer)

FORM OF BID BOND

KNOW ALL MEN BY THESE PRESENTS, That we the undersigned, _____ _____ as PRINCIPAL, and _____ _____, as SURETY are held and firmly bound unto the Peninsula Housing Authority hereinafter call the PHA, in the penal sum of _____ Dollars ($_____), 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, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has submitted for accompanying Bid, dated _____, 20_____, for _____ _____ _____.

NOW, THEREFORE, if the Principal shall not withdraw said Bid within the period specified therein after the opening of the same, or, if no period be specified, within sixty (60) days after the said opening, and shall within the period specified therefore, or, if no period be specified within ten (10) days after the prescribed forms are presented to him for signature, enter into a written contract with the PHA in accordance with the Bid as accepted, and give bond with good and sufficient surety or sureties, as may be required, for the faithful performance and proper fulfillment of such Contract; or in the event of the withdrawal of said Bid within the period specified, or the failure to enter into such Contract and give such bond within the time specified, if the Principal shall pay the PHA the difference between the amount specified in said Bid and the amount for which the PHA may procure the required work or supplies or bond, if the latter amount be in excess of the former, then the above obligation shall be void and of no effect, otherwise to remain in full force and virtue.

IN WITNESS WHEREOF, the above-bounden parties have executed this instrument under their several seals this _____ day of _____, 20_____, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In presences of:

_____ _____ (Seal)
Corporate Principal

_____ _____
Business Address

_____ _____ (Seal)
Corporate Principal

_____ _____
Business Address

Attest:

_____ _____

Corporate Principal

_____

Business Address

By_____ Affix Corporate Seal

_____ _____

Attest:

_____ _____

Corporate Surety

_____

Business Address

By_____ Affix Corporate Seal

_____ _____

(Power-of-attorney for person signing for surety company must be attached to bond.)

CERTIFICATE AS TO CORPORATE PRINCIPAL

I, _____, certify that I am the _____ _____ Secretary of the corporation named as Principal in the within bond; that _____, who signed the said bond on behalf of the Principal was then _____ of said corporation; that I know his signature, and his signature thereto is genuine; and that said bond was duly signed, sealed, and attested to for and in behalf of said corporation by authority of its governing body.

_____ (Corporate Seal)

NON-COLLUSION AFFIDAVIT

STATE OF WASHINGTON)
)
COUNTY OF CLALLAM)

_____, being first duly sworn, on his/her oath says that the bid herewith submitted is a genuine and not a sham or collusive bid, or made in the interest or on behalf of any person not therein named: and he/she further says that the said bidder has not directly or indirectly induced or solicited any bidder on the above work or supplies to be put in a sham bid, or any other person or corporation to refrain from bidding; and that said bidder has not in any manner sought by collusion to secure to his/her self any advantage over any other bidder or bidders.

Name and Title of Bidder's Representative:_____

_____

Signature of Contractor's Representative: _____

Subscribed and sworn to before me this ___day of _____, 2024

Notary in and for the State of _____

Residing at _____
City

_____

Notary Public Signature

PERFORMANCE AND PAYMENT BOND

[_____]	[_____]
Contractor	Bond Numbers

KNOW ALL BY THESE PRESENTS: That we, _____[Contractor], as Principal, and _____[Surety], as Surety, all corporations legally doing business in the State of Washington, are hereby held and firmly bound and obligated unto the **PENINSULA HOUSING AUTHORITY** jointly and severally, as well as each of our heirs, executors and administrators, successors and assigns, firmly by these presents in the full sum of the Contract Price of _____[Add Price], including any and all adjustments to the Contract Price, for (1) the faithful performance of the Agreement referenced below, and (2) for the payment of all laborers, mechanics, and subcontractors and material suppliers, and all persons who supply such person or persons, or subcontractors, with provisions and supplies for the carrying on of such work under and related to the Agreement.

WHEREAS, THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT the Principal entered into a certain Agreement with the PENINSULA HOUSING AUTHORITY for the PHA Admin Office Tenant Improvement, incorporating herein by this reference all of said Construction Documents of the Agreement, as now and as hereinafter amended and modified.

NOW, THEREFORE, if the Principal shall faithfully perform all provisions of such Agreement and pay all laborers, mechanics, subcontractors, and material suppliers, of every tier, including all persons who shall supply such person or persons, or subcontractors, with provisions and supplies for the carrying on of such work, then this obligation is void, but is otherwise to remain in full force and effect.

Provided, however, that the conditions of this obligation shall not apply to any money loaned or advanced to the Principal or to any subcontractor or other person in the performance of any such work.

IT IS FURTHER DECLARED AND AGREED that whenever Contractor shall be, and declared by Owner to be in default under the Contract, the Owner having performed Owner's obligations thereunder, the Surety, at the request of the Owner, shall promptly remedy the default in a manner acceptable to the Owner.

SIGNED this __ day of _____,20_

Principal:	_____	Principal:	_____
By:	_____	By:	_____
Title:	_____	Title:	_____
Address:	_____	Address:	_____
City/Zip:	_____	City/Zip:	_____
Telephone:	_____	Telephone:	_____

Note: A power of attorney must be provided which appoints the Surety's true and lawful attorney-in-fact to make, execute, seal and deliver this Performance and Payment Bond.

FORM OF CONTRACT

THIS AGREEMENT made this ____ day of _____ in the year 2024 between _____ a corporation organized and existing under the laws of the State of Washington, hereinafter called the **"Contractor"**, and the **Peninsula Housing Authority** hereinafter called **"PHA"**.

WITNESSETH, that the Contractor and the PHA for the consideration stated herein mutually agree as follows:

ARTICLE 1. STATEMENT OF WORK **Project Name: PHA Admin Office Tenant Improvement.** The Contractor shall furnish all labor, equipment and services, and perform all work required for the completion of said project, complying with the Washington State Prevailing Wage requirements. **Project No.#: PHA-2024-004** which said plans and specifications are incorporated herein by reference and made a part hereof.

ARTICLE 2. THE CONTRACT PRICE

The PHA will pay the Contractor for the performance of the Contract, in the current funds, sum of:
_____**($_____)**
Price written out completely in words Price in numbers

ARTICLE 3. CONTRACT DOCUMENTS

The Contract shall consist of the following component parts:

A. Contract
B. Non-Collusion Affidavit
C. Payment & Performance Bond
D. General Conditions for Construction Contracts
E. Administrative Requirements
F. Wage Rate Requirements
G. Wage Rate Decision
H. Representations, Certification and other Statements
I. Insurance Special Conditions
J. Instruction on submitting Evidence of Insurance
K. Insurance Exhibit I-A
L. Tax & Bid Price Statement
M. Contractor Statement
N. Section 3 Requirements

This instrument, together with the other documents enumerated in this Article 3, which said other documents are as fully a part of the Contract as if hereto attached or herein repeated, from the Contract. In the event that any provision in any component part of this Contract conflicts with any provision of any other component part, the provision of the component part first enumerated in this Article 3 shall govern, except as otherwise specifically stated. The various provisions in Addenda shall be construed in order of preference of the component part of the Contract which each modifies.

FORM OF CONTRACT

IN WITNESS WHEREOF, the parties hereto have caused This Instrument to be executed as of the day and year first above written.

X _____

By:
Title:
Phone:
Business Address:

X_____
Sarah T Martinez

By: Sarah T Martinez
Title: Executive Director
Phone: 360-452-7631ext 101
Business Address:
2603 South Francis Street
Port Angeles, WA. 98362

CERTIFICATIONS

I, _____, Certify that I am the _____ of the corporation named as the **Contractor** herein, who signed for and in behalf of said corporation by authority of its governing body, and is within the scope of its corporate powers.

_____ _____
(Signature) *Andy Pittman*

Contractor License # _____ **UBI#** _____

General Conditions for Construction Contracts

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1. Definitions

(a) "Architect" means the person or other entity engaged by the PHA to perform architectural, engineering, design, and other services related to the work as provided for in the contract. When a PHA uses an engineer to act in this capacity, the terms "architect" and "engineer" shall be synonymous. The Architect shall serve as a technical representative of the Contracting Officer. The Architect's authority is as set forth elsewhere in this contract.

(b) "Contract" means the contract entered into between the PHA and the Contractor. It includes the forms of Bid, the Bid Bond, the Performance and Payment Bond or Bonds or other assurance of completion, the Certifications, Representations, and Other Statements of Bidders, these General Conditions of the Contract for Construction, the applicable wage rate determinations from the Washington State Department of Labor and Industries, any special conditions included elsewhere in the contract, the specifications, and drawings. It includes all formal changes to any of those documents by addendum, change order, or other modification.

(c) "Contracting Officer" means the person delegated the authority by the PHA to enter into, administer, and/or terminate this contract and designated as such in writing to the Contractor. The term includes any successor Contracting Officer and any duly authorized representative of the Contracting Officer also designated in writing. The Contracting Officer shall be deemed the authorized agent of the PHA in all dealings with the Contractor.

(d) "Contractor" means the person or other entity entering into the contract with the PHA to perform all of the work required under the contract.

(e) "Drawings" means the drawings enumerated in the schedule of drawings contained in the Specifications and as described in the contract clause entitled Specifications and Drawings for Construction herein.

(f) "Project" means the entire project, whether construction or rehabilitation, the work for which is provided for in whole or in part under this contract.

(g) "PHA" means the Peninsula Housing Authority organized under applicable state laws which is a party to this contract.

(h) "Specifications" means the written description of the technical requirements for construction and includes the criteria and tests for determining whether the requirements are met.

(i) "Work" means materials, workmanship, and manufacture and fabrication of components.

2. Contractor's Responsibility for Work

(a) The Contractor shall furnish all necessary labor, materials, tools, equipment, and transportation necessary for performance of the work. The Contractor shall also furnish all necessary water, heat, light, and power not made available to the Contractor by the PHA pursuant to the clause entitled Availability and Use of Utility Services herein.

(b) The Contractor shall perform on the site, and with its own organization, work equivalent to at least 10% of the total amount of work to be performed under the order. This percentage may be reduced by a supplemental agreement to this order if, during performing the work, the Contractor requests a reduction and the Contracting Officer determines that the reduction would be to the advantage of the PHA.

(c) At all times during performance of this contract and until the work is completed and accepted, the Contractor shall directly superintend the work or assign and have on the work site a competent superintendent who is satisfactory to the Contracting Officer and has authority to act for the Contractor.

(d) The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence, and shall take proper safety and health precautions to protect the work, the workers, the public, and the property of others. The Contractor shall hold and save the PHA, its officers and agents, free and harmless from liability of any nature occasioned by the Contractor's performance. The Contractor shall also be responsible for all materials delivered and work performed until completion and acceptance of the entire work, except for any completed unit of work which may have been accepted under the contract.

(e) The Contractor shall lay out the work from base lines and benchmarks indicated on the drawings and be responsible for all lines, levels, and measurements of all work executed under the contract. The Contractor shall verify the figures before laying out the work and will be held responsible for any error resulting from its failure to do so.

(f) The Contractor shall confine all operations (including storage of materials) on PHA premises to areas authorized or approved by the Contracting Officer.

(g) The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. After completing the work and before final inspection, the Contractor shall:

(1) remove from the premises all scaffolding, equipment, tools, and materials (including rejected materials) that are not the property of the PHA and all rubbish caused by its work;

(2) leave the work area in a clean, neat, and orderly condition satisfactory to the Contracting Officer;

(3) perform all specified tests; and,

(4) deliver the installation in complete and operating condition.

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(h) The Contractor's responsibility will terminate when all work has been completed, the final inspection made, and the work accepted by the Contracting Officer. The Contractor will then be released from further obligation except as required by the warranties specified elsewhere in the contract.

3. Architect's Duties, Responsibilities, and Authority

(a) The Architect for this contract, and any successor, shall be designated in writing by the Contracting Officer.

(b) The Architect shall serve as the Contracting Officer's technical representative with respect to architectural, engineering, and design matters related to the work performed under the contract. The Architect may provide direction on contract performance. Contact with the Architect shall be through the Contracting Officer. Such direction shall be within the scope of the contract and may not be of a nature which:

(1) institutes additional work outside the scope of the contract;
(2) constitutes a change as defined in the Changes clause herein;
(3) causes an increase or decrease in the cost of the contract;
(4) alters the Construction Progress Schedule; or
(5) changes any of the other express terms or conditions of the contract.

(c) The Architect's duties and responsibilities may include but shall not be limited to:

(1) Making periodic visits to the work site, and on the basis of his/her on-site inspections, issuing written reports to the PHA which shall include all observed deficiencies. The Architect shall file a copy of the report with the Contractor's designated representative at the site;
(2) Making modifications in drawings and technical specifications and assisting the Contracting Officer in the preparation of change orders and other contract modifications for issuance by the Contracting Officer;
(3) Reviewing and making recommendations with respect to –
(i) the Contractor's construction progress schedules;
(ii) the Contractor's shop and detailed drawings;
(iii) the machinery, mechanical and other equipment and materials or other articles proposed for use by the Contractor; and,
(iv) the Contractor's price breakdown and progress payment estimates; and,
(4) Assisting in inspections, signing Certificates of Completion, and making recommendations with respect to acceptance of work completed under the contract.

4. Other Contracts

The PHA may undertake or award other contracts for additional work at or near the site of the work under this contract. The Contractor shall fully cooperate with the other contractors and with PHA employees and shall carefully adapt scheduling and performing the work under this contract to accommodate the additional work, heeding any direction that may be provided by the Contracting Officer. The Contractor shall not commit or permit any act that will interfere with the performance of work by any other contractor or by PHA employees

Construction Requirements

5. Pre-construction Conference and Notice to Proceed

(a) Within ten calendar days of contract execution, and prior to the commencement of work, the Contractor shall attend a preconstruction conference with representatives of the PHA, its Architect, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract. The PHA will provide the Contractor with the date, time, and place of the conference.

(b) The contractor shall begin work upon receipt of a written Notice to Proceed from the Contracting Officer or designee. The Contractor shall not begin work prior to receiving such notice.

6. Construction Progress Schedule

(a) The Contractor shall, within five days after the work commences on the contract or another period of time determined by the Contracting Officer, prepare and submit to the Contracting Officer for approval a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the several salient features of the work (including acquiring labor, materials, and equipment). The schedule shall be in the form of a progress chart of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. If the Contractor fails to submit a schedule within the time prescribed, the Contracting Officer may withhold approval of progress payments or take other remedies under the contract until the Contractor submits the required schedule.

(b) The Contractor shall enter the actual progress on the chart as required by the Contracting Officer, and immediately deliver the schedule to the Contracting Officer. If the Contracting Officer determines, upon the basis of inspection

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conducted pursuant to the clause entitled Inspection and Acceptance of Construction, herein that the Contractor is not meeting the approved schedule, the Contractor shall take steps necessary to improve its progress, including those that may be required by the Contracting Officer, without additional cost to the PHA. In this circumstance, the Contracting Officer may require the Contractor to increase the number of shifts, overtime operations, days of work, and/or the amount of construction plant, and to submit for approval any supplementary schedule or schedules in chart form as the Contracting Officer deems necessary to demonstrate how the approved rate of progress will be regained.

(c) Failure of the Contractor to comply with the requirements of the Contracting Officer under this clause shall be grounds for a determination by the Contracting Officer that the Contractor is not prosecuting the work with sufficient diligence to ensure completion within the time specified in the Contract. Upon making this determination, the Contracting Officer may terminate the Contractor's right to proceed with the work, or any separable part of it, in accordance with the Default clause of this contract.

7. Site Investigation and Conditions Affecting the Work

(a) The Contractor acknowledges that it has taken steps reasonably necessary to ascertain the nature and location of the work, and that it has investigated and satisfied itself as to the general and local conditions which can affect the work or its cost, including but not limited to,

(1) conditions bearing upon transportation, disposal, handling, and storage of materials;

(2) the availability of labor, water, electric power, and roads;

(3) uncertainties of weather, river stages, tides, or similar physical conditions at the site;

(4) the conformation and conditions of the ground; and

(5) the character of equipment and facilities needed preliminary to and during work performance.

The Contractor also acknowledges that it has satisfied itself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including all exploratory work done by the PHA, as well as from the drawings and specifications made a part of this contract. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating properly the difficulty and cost of successfully performing the work, or for proceeding to successfully perform the work without additional expense to the PHA.

(b) The PHA assumes no responsibility for any conclusions or interpretations made by the Contractor based on the information made available by the PHA. Nor does the PHA assume responsibility for any understanding reached or representation made concerning conditions which can affect the work by any of its officers or agents before the execution of this contract, unless that understanding or representation is expressly stated in this contract.

8. Differing Site Conditions

(a) The Contractor shall promptly, and before the conditions are disturbed, give a written notice to the Contracting Officer if:

(1) subsurface or latent physical conditions at the site which differ materially from those indicated in this contract, or

(2) unknown physical conditions at the site(s), of an unusual nature, which differ materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract.

(b) The Contracting Officer shall investigate the site conditions promptly after receiving the notice. Work shall not proceed at the affected site, except at the Contractor's risk, until the Contracting Officer has provided written instructions to the Contractor. If the conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performing any part of the work under this contract, whether or not changed as a result of the conditions, the Contractor shall file a claim in writing to the PHA within ten days after receipt of such instructions and, in any event, before proceeding with the work. An equitable adjustment in the contract price, the delivery schedule, or both shall be made under this clause and the contract modified in writing accordingly.

(c) No request by the Contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the Contractor has given the written notice required; provided, that the time prescribed in (a) above for giving written notice may be extended by the Contracting Officer.

(d) No request by the Contractor for an equitable adjustment to the contract for differing site conditions shall be allowed if made after final payment under this contract.

9. Specifications and Drawings for Construction

(a) The Contractor shall keep on the work site an approved copy of the drawings and specifications and shall at all times give the Contracting Officer access thereto. Anything mentioned in the specifications and not shown on the drawings, or shown on the drawings and not mentioned in the specifications, shall be of like effect as if shown or mentioned in both. In case of difference between drawings and specifications, the specifications shall govern. In case of discrepancy in the figures, in the drawings, or in the specifications, the matter shall be promptly submitted to the Contracting Officer, who shall promptly make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk

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and expense. The Contracting Officer shall furnish from time to time such detailed drawings and other information as considered necessary, unless otherwise provided.
(b) Wherever in the specifications or upon the drawings the words “directed”, “required”, “ordered”, “designated”, “prescribed”, or words of like import are used, it shall be understood that the “direction”, “requirement”, “order”, “designation”, or “prescription”, of the Contracting Officer is intended and similarly the words “approved”, “acceptable”, “satisfactory”, or words of like import shall mean “approved by”, or “acceptable to”, or “satisfactory to” the Contracting Officer, unless otherwise expressly stated.
(c) Where “as shown”, “as indicated”, “as detailed”, or words of similar import are used, it shall be understood that the reference is made to the drawings accompanying this contract unless stated otherwise. The word “provided” as used herein shall be understood to mean “provide complete in place” that is “furnished and installed”.
(d) “Shop drawings” means drawings, submitted to the PHA by the Contractor, subcontractor, or any lower tier subcontractor, showing in detail:

(1) the proposed fabrication and assembly of structural elements and
(2) the installation (i.e., form, fit, and attachment details) of materials of equipment.

It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the work required by the contract. The PHA may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this contract.
(e) If this contract requires shop drawings, the Contractor shall coordinate all such drawings, and review them for accuracy, completeness, and compliance with other contract requirements and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the Contracting Officer without evidence of the Contractor’s approval may be returned for resubmission. The Contracting Officer will indicate an approval or disapproval of the shop drawings and if not approved as submitted shall indicate the PHA’s reasons therefore. Any work done before such approval shall be at the Contractor’s risk. Approval by the Contracting Officer shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this contract, except with respect to variations described and approved in accordance with (f) below.
(f) If shop drawings show variations from the contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation and the Contracting Officer concurs, the Contracting Officer shall issue an appropriate modification to the contract, except that, if the variation is minor or does not involve a change in price or in time of performance, a modification need not be issued.
(g) It shall be the responsibility of the Contractor to make timely requests of the PHA for such large scale and full size drawings, color schemes, and other additional information, not already in his possession, which shall be required in the planning and production of the work. Such requests may be submitted as the need arises, but each such request shall be filed in ample time to permit appropriate action to be taken by all parties involved so as to avoid delay.
(h) The Contractor shall submit to the Contracting Officer for approval four copies (unless otherwise indicated) of all shop drawings as called for under the various headings of these specifications. Three sets (unless otherwise indicated) of all shop drawings, will be retained by the PHA and one set will be returned to the Contractor. As required by the Contracting Officer, the Contractor, upon completing the work under this contract, shall furnish a complete set of all shop drawings as finally approved. These drawings shall show all changes and revisions made up to the time the work is completed and accepted.
(i) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all shop drawings prepared by subcontractors are submitted to the Contracting Officer.

10. As-Built Drawings

(a) “As-built drawings,” as used in this clause, means drawings submitted by the Contractor or subcontractor at any tier to show the construction of a particular structure or work as actually completed under the contract. “As-built drawings” shall be synonymous with “Record drawings.”
(b) As required by the Contracting Officer, the Contractor shall provide the Contracting Officer accurate information to be used in the preparation of permanent as-built drawings. For this purpose, the Contractor shall record on one set of contract drawings all changes from the installations originally indicated, and record final locations of underground lines by depth from finish grade and by accurate horizontal offset distances to permanent surface improvements such as buildings, curbs, or edges of walks.
(c) This clause shall be included in all subcontracts at any tier. It shall be the responsibility of the Contractor to ensure that all as-built drawings prepared by subcontractors are submitted to the Contracting Officer.

11. Material and Workmanship

(a) All equipment, material, and articles furnished under this contract shall be new and of the most suitable grade for the purpose intended, unless otherwise specifically provided in this contract. References in the contract to equipment, material, articles, or patented processes by trade name, make, or catalog number, shall be regarded as establishing a standard of

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quality and shall not be construed as limiting competition. The Contractor may, at its option, use any equipment, material, article, or process that, in the judgment of, and as approved by the Contracting Officer, is equal to that named in the specifications, unless otherwise specifically provided in this contract.

(b) Approval of equipment and materials.

(1) The Contractor shall obtain the Contracting Officer's approval of the machinery and mechanical and other equipment to be incorporated into the work. When requesting approval, the Contractor shall furnish to the Contracting Officer the name of the manufacturer, the model number, and other information concerning the performance, capacity, nature, and rating of the machinery and mechanical and other equipment. When required by this contract or by the Contracting Officer, the Contractor shall also obtain the Contracting Officer's approval of the material or articles which the Contractor contemplates incorporating into the work. When requesting approval, the Contractor shall provide full information concerning the material or articles. Machinery, equipment, material, and articles that do not have the required approval shall be installed or used at the risk of subsequent rejection.

(2) When required by the specifications or the Contracting Officer, the Contractor shall submit appropriately marked samples (and certificates related to them) for approval at the Contractor's expense, with all shipping charges prepaid. The Contractor shall label, or otherwise properly mark on the container, the material or product represented, its place of origin, the name of the producer, the Contractor's name, and the identification of the construction project for which the material or product is intended to be used.

(3) Certificates shall be submitted in triplicate, describing each sample submitted for approval and certifying that the material, equipment or accessory complies with contract requirements. The certificates shall include the name and brand of the product, name of manufacturer, and the location where produced.

(4) Approval of a sample shall not constitute a waiver of the PHA right to demand full compliance with contract requirements. Materials, equipment and accessories may be rejected for cause even though samples have been approved.

(5) Wherever materials are required to comply with recognized standards or specifications, such specifications shall be accepted as establishing the technical qualities and testing methods, but shall not govern the number of tests required to be made nor modify other contract requirements. The Contracting Officer may require laboratory test reports on items submitted for approval or may approve materials on the basis of data submitted in certificates with samples. Check tests will be made on materials delivered for use only as frequently as the Contracting Officer determines necessary to insure compliance of materials with the specifications. The Contractor will assume all costs of retesting materials which fail to meet contract requirements and/or testing materials offered in substitution for those found deficient.

(6) After approval, samples will be kept in the Project office until completion of work. They may be built into the work after a substantial quantity of the materials they represent has been built in and accepted.

(c) Requirements concerning lead-based paint. The Contractor shall comply with the requirements concerning lead-based paint contained in the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846) as implemented by 24 CFR Part 35.

12. Permits and Codes

(a) The Contractor shall give all notices and comply with all applicable laws, ordinances, codes, rules and regulations. Notwithstanding the requirement of the Contractor to comply with the drawings and specifications in the contract, all work installed shall comply with all applicable codes and regulations as amended by any waivers. Before installing the work, the Contractor shall examine the drawings and the specifications for compliance with applicable codes and regulations bearing on the work and shall immediately report any discrepancy it may discover to the Contracting Officer. Where the requirements of the drawings and specifications fail to comply with the applicable code or regulation, the Contracting Officer shall modify the contract by change order pursuant to the clause entitled Changes herein to conform to the code or regulation.

(b) The Contractor shall secure and pay for all permits, fees, and licenses necessary for the proper execution and completion of the work. Where the PHA can arrange for the issuance of all or part of these permits, fees and licenses, without cost to the Contractor, the contract amount shall be reduced accordingly.

13. Health, Safety, and Accident Prevention

(a) In performing this contract, the Contractor shall:

(1) Ensure that no laborer or mechanic shall be required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous to his/her health and/or safety as determined under construction safety and health standards promulgated by the Secretary of Labor by regulation;

(2) Protect the lives, health, and safety of other persons;

(3) Prevent damage to property, materials, supplies, and equipment; and

(4) Avoid work interruptions.

(b) For these purposes, the Contractor shall:

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(1) Comply with regulations and standards issued by the Secretary of Labor at 29 CFR Part 1926. Failure to comply may result in imposition of sanctions pursuant to the Contract Work Hours and Safety Standards Act (Public Law 91-54, 83 Stat. 96), 40 U.S.C. 3701 et seq.; and

(2) include the terms of this clause in every subcontract so that such terms will be binding on each subcontractor.

(c) The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment, and shall report this data in the manner prescribed by 29 CFR Part 1904 and pursuant to Washington State law.

(d) The Contracting Officer shall notify the Contractor of any noncompliance with these requirements and of the corrective action required. This notice, when delivered to the Contractor or the Contractor's representative at the site of the work, shall be deemed sufficient notice of the noncompliance and corrective action required. After receiving the notice, the Contractor shall immediately take corrective action. If the Contractor fails or refuses to take corrective action promptly, the Contracting Officer may issue an order stopping all or part of the work until satisfactory corrective action has been taken. The Contractor shall not base any claim or request for equitable adjustment for additional time or money on any stop order issued under these circumstances.

(e) The Contractor shall be responsible for its subcontractors' compliance with the provisions of this clause. The Contractor shall take such action with respect to any subcontract as the PHA, the Secretary of Labor, or the Washington State Department of Labor and Industries shall direct as a means of enforcing such provisions.

14. Temporary Heating

The Contractor shall provide and pay for temporary heating, covering, and enclosures necessary to properly protect all work and materials against damage by dampness and cold, to dry out the work, and to facilitate the completion of the work. Any permanent heating equipment used shall be turned over to the PHA in the condition and at the time required by the specifications.

15. Availability and Use of Utility Services

(a) The PHA shall make all reasonably required amounts of utilities available to the Contractor from existing outlets and supplies, as specified in the contract. Unless otherwise provided in the contract, the amount of each utility service consumed shall be charged to or paid for by the Contractor at prevailing rates charged to the PHA or, where the utility is produced by the PHA, at reasonable rates determined by the Contracting Officer. The Contractor shall carefully conserve any utilities furnished without charge.

(b) The Contractor, at its expense and in a manner satisfactory to the Contracting Officer, shall install and maintain all necessary temporary connections and distribution lines, and all meters required to measure the amount of each utility used for the purpose of determining charges. Before final acceptance of the work by the PHA, the Contractor shall remove all the temporary connections, distribution lines, meters, and associated paraphernalia.

16. Protection of Existing Vegetation, Structures, Equipment, Utilities, and Improvements

(a) The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the work site, which are not to be removed under this contract, and which do not unreasonably interfere with the work required under this contract.

(b) The Contractor shall only remove trees when specifically authorized to do so, and shall avoid damaging vegetation that will remain in place. If any limbs or branches of trees are broken during performance of this contract, or by the careless operation of equipment, or by workmen, the Contractor shall trim those limbs or branches with a clean cut and paint the cut with a tree-pruning compound as directed by the Contracting Officer.

(c) The Contractor shall protect from damage all existing improvements and utilities

(1) at or near the work site and

(2) on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. Prior to disturbing the ground at the construction site, the Contractor shall ensure that all underground utility lines are clearly marked.

(d) The Contractor shall shore up, brace, underpin, secure, and protect as necessary all foundations and other parts of existing structures adjacent to, adjoining, and in the vicinity of the site, which may be affected by the excavations or other operations connected with the construction of the project.

(e) Any equipment temporarily removed as a result of work under this contract shall be protected, cleaned, and replaced in the same condition as at the time of award of this contract.

(f) New work which connects to existing work shall correspond in all respects with that to which it connects and/or be similar to existing work unless otherwise required by the specifications.

(g) No structural members shall be altered or in any way weakened without the written authorization of the Contracting Officer, unless such work is clearly specified in the plans or specifications.

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(h) If the removal of the existing work exposes discolored or unfinished surfaces, or work out of alignment, such surfaces shall be refinished, or the material replaced as necessary to make the continuous work uniform and harmonious. This, however, shall not be construed to require the refinishing or reconstruction of dissimilar finishes previously exposed, or finished surfaces in good condition, but in different planes or on different levels when brought together by the removal of intervening work, unless such refinishing or reconstruction is specified in the plans or specifications.
(i) The Contractor shall give all required notices to any adjoining or adjacent property owner or other party before the commencement of any work.
(j) The Contractor shall indemnify and save harmless the PHA from any damages on account of settlement or the loss of lateral support of adjoining property, any damages from changes in topography affecting drainage, and from all loss or expense and all damages for which the PHA may become liable in consequence of such injury or damage to adjoining and adjacent structures and their premises.
(k) The Contractor shall repair any damage to vegetation, structures, equipment, utilities, or improvements, including those that are the property of a third party, resulting from failure to comply with the requirements of this contract or failure to exercise reasonable care in performing the work. If the Contractor fails or refuses to repair the damage promptly, the Contracting Officer may have the necessary work performed and charge the cost to the Contractor.

17. Temporary Buildings and Transportation of Materials

(a) Temporary buildings (e.g., storage sheds, shops, offices, sanitary facilities) and utilities may be erected by the Contractor only with the approval of the Contracting Officer and shall be built with labor and materials furnished by the Contractor without expense to the PHA. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at its expense upon completion of the work. With the written consent of the Contracting Officer, the buildings and utilities may be abandoned and need not be removed.
(b) The Contractor shall, as directed by the Contracting Officer, use only established roadways, or use temporary roadways constructed by the Contractor when and as authorized by the Contracting Officer. When materials are transported in prosecuting the work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any federal, state, or local law or regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair or pay for the repair of any damaged curbs, sidewalks, or roads.

18. Clean Air and Water

The contactor shall comply with the Clean Air Act, as amended, 42 USC 7401 et seq., the Federal Water Pollution Control Water Act, as amended, 33 U.S.C. 1251 et seq., and standards issued pursuant thereto in the facilities in which this contract is to be performed.

19. Energy Efficiency

The Contractor shall comply with mandatory standards and policies relating to energy efficiency which are contained in the energy conservation plan issued in compliance with the Energy Policy and Conservation Act (Pub. L. 94-163) for the State in which the work under the contract is performed.

20. Inspection and Acceptance of Construction

(a) Definitions. As used in this clause -

(1) “Acceptance” means the act of an authorized representative of the PHA by which the PHA approves and assumes ownership of the work performed under this contract. Acceptance may be partial or complete.

(2) “Inspection” means examining and testing the work performed under the contract (including, when appropriate, raw materials, equipment, components, and intermediate assemblies) to determine whether it conforms to contract requirements.

(3) “Testing” means that element of inspection that determines the properties or elements, including functional operation of materials, equipment, or their components, by the application of established scientific principles and procedures.

(b) The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work performed under the contract conforms to contract requirements. All work is subject to PHA inspection and test at all places and at all reasonable times before acceptance to ensure strict compliance with the terms of the contract.
(c) PHA inspections and tests are for the sole benefit of the PHA and do not:

(1) relieve the Contractor of responsibility for providing adequate quality control measures;

(2) relieve the Contractor of responsibility for loss or damage of the material before acceptance;

(3) constitute or imply acceptance; or,

(4) affect the continuing rights of the PHA after acceptance of the completed work under paragraph (j) below.

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(d) The presence or absence of the PHA inspector does not relieve the Contractor from any contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the Contracting Officer's written authorization. All instructions and approvals with respect to the work shall be given to the Contractor by the Contracting Officer.
(e) The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the Contracting Officer. The PHA may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. The PHA shall perform all inspections and tests in a manner that will not unnecessarily delay the work. Special, full size, and performance tests shall be performed as described in the
(f) The PHA may conduct routine inspections of the construction site on a daily basis.
(g) The Contractor shall, without charge, replace or correct work found by the PHA not to conform to contract requirements, unless the PHA decides that it is in its interest to accept the work with an appropriate adjustment in contract price. The Contractor shall promptly segregate and remove rejected material from the premises.
(h) If the Contractor does not promptly replace or correct rejected work, the PHA may
(1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor, or
(2) terminate for default the Contractor's right to proceed.
(i) If any work requiring inspection is covered up without approval of the PHA, it must, if requested by the Contracting Officer, be uncovered at the expense of the Contractor. If at any time before final acceptance of the entire work, the PHA considers it necessary or advisable, to examine work already completed by removing or tearing it out, the Contractor, shall on request, promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray all the expenses of the examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the contract, the Contracting Officer shall make an equitable adjustment to cover the cost of the examination and reconstruction, including, if completion of the work was thereby delayed, an extension of time.
(j) The Contractor shall notify the Contracting Officer, in writing, as to the date when in its opinion all or a designated portion of the work will be substantially completed and ready for inspection. If the Architect determines that the state of preparedness is as represented, the PHA will promptly arrange for the inspection. Unless otherwise specified in the contract, the PHA shall accept, as soon as practicable after completion and inspection, all work required by the contract or that portion of the work the Contracting Officer determines and designates can be accepted separately. Acceptance shall be final and conclusive except for latent defects, fraud, gross mistakes amounting to fraud, or the PHA's right under any warranty or guarantee.

21. Use and Possession Prior to Completion

(a) The PHA shall have the right to take possession of or use any completed or partially completed part of the work. Before taking possession of or using any work, the Contracting Officer shall furnish the Contractor a list of items of work remaining to be performed or corrected on those portions of the work that the PHA intends to take possession of or use. However, failure of the Contracting Officer to list any item of work shall not relieve the Contractor of responsibility for complying with the terms of the contract. The PHA's possession or use shall not be deemed an acceptance of any work under the contract.
(b) While the PHA has such possession or use, the Contractor shall be relieved of the responsibility for
(1) the loss of or damage to the work resulting from the PHA's possession or use, notwithstanding the terms of the clause entitled Permits and Codes herein;
(2) all maintenance costs on the areas occupied; and
(3) furnishing heat, light, power, and water used in the areas occupied without proper remuneration therefore. If prior possession or use by the PHA delays the progress of the work or causes additional expense to the Contractor, an equitable adjustment shall be made in the contract price or the time of completion, and the contract shall be modified in writing accordingly.

22. Warranty of Title

The Contractor warrants good title to all materials, supplies, and equipment incorporated in the work and agrees to deliver the premises together with all improvements thereon free from any claims, liens or charges, and agrees further that neither it nor any other person, firm or corporation shall have any right to a lien upon the premises or anything appurtenant thereto.

23. Warranty of Construction

(a) In addition to any other warranties in this contract, the Contractor warrants, except as provided in paragraph (j) of this clause, that work performed under this contract conforms to the contract requirements and is free of any defect in equipment, material, or workmanship performed by the Contractor or any subcontractor or supplier at any tier. This

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warranty shall continue for a period of one year from the date of final acceptance of the work. If the PHA takes possession of any part of the work before final acceptance, this warranty shall continue for a period of one year from the date that the PHA takes possession.

(b) The Contractor shall remedy, at the Contractor's expense, any failure to conform, or any defect. In addition, the Contractor shall remedy, at the Contractor's expense, any damage to PHA-owned or controlled real or personal property when the damage is the result of—

(1) The Contractor's failure to conform to contract requirements; or

(2) Any defects of equipment, material, workmanship or design furnished by the Contractor.

(c) The Contractor shall restore any work damaged in fulfilling the terms and conditions of this clause. The Contractor's warranty with respect to work repaired or replaced will run for one year from the date of repair or replacement.

(d) The Contracting Officer shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect or damage.

(e) If the Contractor fails to remedy any failure, defect, or damage within a reasonable time after receipt of notice, the PHA shall have the right to replace, repair or otherwise remedy the failure, defect, or damage at the Contractor's expense.

(f) With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this contract, the Contractor shall:

(1) Obtain all warranties that would be given in normal commercial practice;

(2) Require all warranties to be executed in writing, for the benefit of the PHA; and,

(3) Enforce all warranties for the benefit of the PHA.

(g) In the event the Contractor's warranty under paragraph (a) of this clause has expired, the PHA may bring suit at its own expense to enforce a subcontractor's, manufacturer's or supplier's warranty.

(h) Unless a defect is caused by the negligence of the Contractor or subcontractor or supplier at any tier, the Contractor shall not be liable for the repair of any defect of material or design furnished by the PHA nor for the repair of any damage that results from any defect in PHA furnished material or design.

(i) Notwithstanding any provisions herein to the contrary, the establishment of the time periods in paragraphs (a) and (c) above relate only to the specific obligation of the Contractor to correct the work, and have no relationship to the time within which its obligation to comply with the contract may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to its obligation other than specifically to correct the work.

(j) This warranty shall not limit the PHA's rights under the Inspection and Acceptance of Construction clause of this contract with respect to latent defects, gross mistakes or fraud.

24. Prohibition Against Liens

The Contractor is prohibited from placing a lien on the PHA's property. This prohibition shall apply to all subcontractors at any tier and all materials suppliers.

Administrative Requirements

25. Contract Period

The Contractor shall complete all work required under this contract within 90 calendar days of the effective date of the contract, or within the time schedule established in the notice to proceed issued by the Contracting Officer.

26. Order of Precedence

In the event of a conflict between these General Conditions and the Specifications, the General Conditions shall prevail. In the event of a conflict between the contract and any applicable state or local law or regulation, the state or local law or regulation shall prevail; provided that such state or local law or regulation does not conflict with, or is less restrictive than applicable federal law, regulation, or Executive Order. In the event of such a conflict, applicable federal law, regulation, and Executive Order shall prevail.

27. Payments

(a) The PHA shall pay the Contractor the price as provided in this contract.

(b) The PHA shall make progress payments approximately every 30 days as the work proceeds, on estimates of work accomplished which meets the standards of quality established under the contract, as approved by the Contracting Officer. The PHA may, subject to written determination and approval of the Contracting Officer, make more frequent payments to contractors which are qualified small businesses.

(c) Before the first progress payment under this contract, the Contractor shall furnish, in such detail as requested by the Contracting Officer, a breakdown of the total contract price showing the amount included therein for each principal category of the work, which shall substantiate the payment amount requested in order to provide a basis for determining

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progress payments. The breakdown shall be approved by the Contracting Officer and must be acceptable to payment funder. If the contract covers more than one project, the Contractor shall furnish a separate breakdown for each. The values and quantities employed in making up this breakdown are for determining the amount of progress payments and shall not be construed as a basis for additions to or deductions from the contract price. The Contractor shall prorate its overhead and profit over the construction period of the contract.

(d) The Contractor shall submit, on forms provided by the PHA, periodic estimates showing the value of the work performed during each period based upon the approved breakdown of the contract price. Such estimates shall be submitted not later than 30 days in advance of the date set for payment and are subject to correction and revision as required. The estimates must be approved by the Contracting Officer with the concurrence of the Architect prior to payment. If the contract covers more than one project, the Contractor shall furnish a separate progress payment estimate for each.

(e) Along with each request for progress payments and the required estimates, the Contractor shall furnish the following certification, or payment shall not be made:

I hereby certify, to the best of my knowledge and belief, that:

(1) The amounts requested are only for performance in accordance with the specifications, terms, and conditions of the contract;

(2) Payments to subcontractors and suppliers have been made from previous payments received under the contract, and timely payments will be made from the proceeds of the payment covered by this certification, in accordance with subcontract agreements; and,

(3) This request for progress payments does not include any amounts which the prime contractor intends to withhold or retain from a subcontractor or supplier in accordance with the terms and conditions of the subcontract.

_____

Name:

_____

Title:

_____

Date:

(f) Except as otherwise provided in State law, the PHA shall retain ten (10) percent of the amount of progress payments until completion and acceptance of all work under the contract; except, that if upon completion of 50 percent of the work, the Contracting Officer, after consulting with the Architect, determines that the Contractor's performance and progress are satisfactory, the PHA may make the remaining payments in full for the work subsequently completed. If the Contracting Officer subsequently determines that the Contractor's performance and progress are unsatisfactory, the PHA shall reinstate the ten (10) percent (or other percentage as provided in State law) retainage until such time as the Contracting Officer determines that performance and progress are satisfactory.

(g) The Contracting Officer may authorize material delivered on the site and preparatory work done to be taken into consideration when computing progress payments. Material delivered to the Contractor at locations other than the site may also be taken into consideration if the Contractor furnishes satisfactory evidence that

(1) it has acquired title to such material;

(2) the material is properly stored in a bonded warehouse, storage yard, or similar suitable place as may be approved by the Contracting Officer;

(3) the material is insured to cover its full value; and

(4) the material will be used to perform this contract. Before any progress payment which includes delivered material is made, the Contractor shall furnish such documentation as the Contracting Officer may require to assure the protection of the PHA's interest in such materials. The Contractor shall remain responsible for such stored material notwithstanding the transfer of title to the PHA.

(h) All material and work covered by progress payments made shall, at the time of payment become the sole property of the PHA, but this shall not be construed as

(1) relieving the Contractor from the sole responsibility for all material and work upon which payments have been made or the restoration of any damaged work; or

(2) waiving the right of the PHA to require the fulfillment of all of the terms of the contract. In the event the work of the Contractor has been damaged by other contractors or persons other than employees of the PHA in the course of their employment, the Contractor shall restore such damaged work without cost to the PHA and to seek redress for its damage only from those who directly caused it.

(i) The PHA shall make the final payment due the Contractor under this contract after

(1) completion and final acceptance of all work; and

(2) presentation of release of all claims against the PHA arising by virtue of this contract, other than claims, in stated amounts, that the Contractor has specifically excepted from the operation of the release. Each such exception shall embrace no more than one claim, the basis and scope of which shall be clearly defined. The amounts for such

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excepted claims shall not be included in the request for final payment. A release may also be required of the assignee if the Contractor's claim to amounts payable under this contract has been assigned.

(j) Prior to making any payment, the Contracting Officer may require the Contractor to furnish receipts or other evidence of payment from all persons performing work and supplying material to the Contractor, if the Contracting Officer determines such evidence is necessary to substantiate claimed costs.

(k) The PHA shall not;

(1) determine or adjust any claims for payment or disputes arising thereunder between the Contractor and its subcontractors or material suppliers; or

(2) withhold any moneys for the protection of the subcontractors or material suppliers. The failure or refusal of the PHA to withhold moneys from the Contractor shall in nowise impair the obligations of any surety or sureties under any bonds furnished under this contract.

28. Contract Modifications

(a) Only the Contracting Officer has authority to modify any term or condition of this contract. Any contract modification shall be authorized in writing.

(b) The Contracting Officer may modify the contract unilaterally

(1) pursuant to a specific authorization stated in a contract clause (e.g., Changes); or

(2) for administrative matters which do not change the rights or responsibilities of the parties (e.g., change in the PHA address). All other contract modifications shall be in the form of supplemental agreements signed by the Contractor and the Contracting Officer.

(c) When a proposed modification requires the approval of the funder prior to its issuance (e.g., a change order that exceeds the PHA's approved threshold), such modification shall not be effective until the required approval is received by the PHA.

29. Changes

(a) The Contracting Officer may, at any time, without notice to the sureties, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract including changes:

(1) In the specifications (including drawings and designs);

(2) In the method or manner of performance of the work;

(3) PHA-furnished facilities, equipment, materials, services, or site; or,

(4) Directing the acceleration in the performance of the work.

(b) Any other written order or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; provided, that the Contractor gives the Contracting Officer written notice stating

(1) the date, circumstances and source of the order and

(2) that the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no proposal for any change under paragraph (b) above shall be allowed for any costs incurred more than 20 days (5 days for oral orders) before the Contractor gives written notice as required. In the case of defective specifications for which the PHA is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after

(1) receipt of a written change order under paragraph (a) of this clause, or

(2) the furnishing of a written notice under paragraph (b) of this clause, by submitting a written statement describing the general nature and the amount of the proposal.

If the facts justify it, the Contracting Officer may extend the period for submission. The proposal may be included in the notice required under paragraph (b) above. No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(f) The Contractor's written proposal for equitable adjustment shall be submitted in the form of a lump sum proposal supported with an itemized breakdown of all increases and decreases in the contract in at least the following details:

(1) Direct Costs. Materials (list individual items, the quantity and unit cost of each, and the aggregate cost); Transportation and delivery costs associated with materials; Labor breakdowns by hours or unit costs (identified with specific work to be performed); Construction equipment exclusively necessary for the change; Costs of preparation

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and/ or revision to shop drawings resulting from the change; Worker's Compensation and Public Liability Insurance; Employment taxes under FICA and FUTA; and, Bond Costs when size of change warrants revision.

(2) Indirect Costs. Indirect costs may include overhead, general and administrative expenses, and fringe benefits not normally treated as direct costs.

(3) Profit. The amount of profit shall be negotiated and may vary according to the nature, extent, and complexity of the work required by the change.

The allowability of the direct and indirect costs shall be determined in accordance with the Contract Cost Principles and Procedures for Commercial Firms in Part 31 of the Federal Acquisition Regulation (48 CFR 1-31), as implemented by HUD Handbook 2210.18, in effect on the date of this contract. The Contractor shall not be allowed a profit on the profit received by any subcontractor. Equitable adjustments for deleted work shall include a credit for profit and may include a credit for indirect costs. On proposals covering both increases and decreases in the amount of the contract, the application of indirect costs and profit shall be on the net-change in direct costs for the Contractor or subcontractor performing the work.

(g) The Contractor shall include in the proposal its request for time extension (if any), and shall include sufficient information and dates to demonstrate whether and to what extent the change will delay the completion of the contract in its entirety.

(h) The Contracting Officer shall act on proposals within 30 days after their receipt, or notify the Contractor of the date when such action will be taken.

(i) Failure to reach an agreement on any proposal shall be a dispute under the clause entitled Disputes herein. Nothing in this clause, however, shall excuse the Contractor from proceeding with the contract as changed.

(j) Except in an emergency endangering life or property, no change shall be made by the Contractor without a prior order from the Contracting Officer.

30. Suspension of Work

(a) The Contracting Officer may order the Contractor in writing to suspend, delay, or interrupt all or any part of the work of this contract for the period of time that the Contracting Officer determines appropriate for the convenience of the PHA.

(b) If the performance of all or any part of the work is, for an unreasonable period of time, suspended, delayed, or interrupted

(1) by an act of the Contracting Officer in the administration of this contract, or

(2) by the Contracting Officer's failure to act within the time specified (or within a reasonable time if not specified) in this contract an adjustment shall be made for any increase in the cost of performance of the contract (excluding profit) necessarily caused by such unreasonable suspension, delay, or interruption and the contract modified in writing accordingly. However, no adjustment shall be made under this clause for any suspension, delay, or interruption to the extent that performance would have been so suspended, delayed, or interrupted by any other cause, including the fault or negligence of the Contractor or for which any equitable adjustment is provided for or excluded under any other provision of this contract.

(c) A claim under this clause shall not be allowed

(1) for any costs incurred more than 20 days before the Contractor shall have notified the Contracting Officer in writing of the act or failure to act involved (but this requirement shall not apply as to a claim resulting from a suspension order); and

(2) unless the claim, in an amount stated, is asserted in writing as soon as practicable after the termination of the suspension, delay, or interruption, but not later than the date of final payment under the contract.

31. Disputes

(a) "Claim," as used in this clause, means a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to the contract. A claim arising under the contract, unlike a claim relating to the contract, is a claim that can be resolved under a contract clause that provides for the relief sought by the claimant. A voucher, invoice, or other routine request for payment that is not in dispute when submitted is not a claim. The submission may be converted to a claim by complying with the requirements of this clause, if it is disputed either as to liability or amount or is not acted upon in a reasonable time.

(b) Except for disputes arising under the clauses entitled Labor Standards - Davis Bacon and Related Acts, herein, all disputes arising under or relating to this contract, including any claims for damages for the alleged breach thereof which are not disposed of by agreement, shall be resolved under this clause.

(c) All claims by the Contractor shall be made in writing and submitted to the Contracting Officer for a written decision. A claim by the PHA against the Contractor shall be subject to a written decision by the Contracting Officer.

(d) The Contracting Officer shall, within 60 (unless otherwise indicated) days after receipt of the request, decide the claim or notify the Contractor of the date by which the decision will be made.

(e) The Contracting Officer's decision shall be final unless the Contractor

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(1) appeals in writing to a higher level in the PHA in accordance with the PHA's policy and procedures,
(2) refers the appeal to an independent mediator or arbitrator, or
(3) files suit in a court of competent jurisdiction. Such appeal must be made within (30 unless otherwise indicated) days after receipt of the Contracting Officer's decision.

(f) The Contractor shall proceed diligently with performance of this contract, pending final resolution of any request for relief, claim, appeal, or action arising under or relating to the contract, and comply with any decision of the Contracting Officer.

32. Default

(a) If the Contractor refuses or fails to prosecute the work, or any separable part thereof, with the diligence that will insure its completion within the time specified in this contract, or any extension thereof, or fails to complete said work within this time, the Contracting Officer may, by written notice to the Contractor, terminate the right to proceed with the work (or separable part of the work) that has been delayed. In this event, the PHA may take over the work and complete it, by contract or otherwise, and may take possession of and use any materials, equipment, and plant on the work site necessary for completing the work. The Contractor and its sureties shall be liable for any damage to the PHA resulting from the Contractor's refusal or failure to complete the work within the specified time, whether or not the Contractor's right to proceed with the work is terminated. This liability includes any increased costs incurred by the PHA in completing the work.

(b) The Contractor's right to proceed shall not be terminated or the Contractor charged with damages under this clause if—

(1) The delay in completing the work arises from unforeseeable causes beyond the control and without the fault or negligence of the Contractor. Examples of such causes include (i) acts of God, or of the public enemy, (ii) acts of the PHA or other governmental entity in either its sovereign or contractual capacity, (iii) acts of another contractor in the performance of a contract with the PHA, (iv) fires, (v) floods, (vi) epidemics, (vii) quarantine restrictions, (viii) strikes, (ix) freight embargoes, (x) unusually severe weather, or (xi) delays of subcontractors or suppliers at any tier arising from unforeseeable causes beyond the control and without the fault or negligence of both the Contractor and the subcontractors or suppliers; and

(2) The Contractor, within days (10 days unless otherwise indicated) from the beginning of such delay (unless extended by the Contracting Officer) notifies the Contracting Officer in writing of the causes of delay. The Contracting Officer shall ascertain the facts and the extent of the delay. If, in the judgment of the Contracting Officer, the findings of fact warrant such action, time for completing the work shall be extended by written modification to the contract. The findings of the Contracting Officer shall be reduced to a written decision which shall be subject to the provisions of the Disputes clause of this contract.

(c) If, after termination of the Contractor's right to proceed, it is determined that the Contractor was not in default, or that the delay was excusable, the rights and obligations of the parties will be the same as if the termination had been for convenience of the PHA.

33. Liquidated Damages

(a) If the Contractor fails to complete the work within the time specified in the contract, or any extension, as specified in the clause entitled Default of this contract, the Contractor shall pay to the PHA as liquidated damages, the sum of $200.00 for each day of delay. If different completion dates are specified in the contract for separate parts or stages of the work, the amount of liquidated damages shall be assessed on those parts or stages which are delayed. To the extent that the Contractor's delay or nonperformance is excused under another clause in this contract, liquidated damages shall not be due the PHA. The Contractor remains liable for damages caused other than by delay.

(b) If the PHA terminates the Contractor's right to proceed, the resulting damage will consist of liquidated damages until such reasonable time as may be required for final completion of the work together with any increased costs occasioned the PHA in completing the work.

(c) If the PHA does not terminate the Contractor's right to proceed, the resulting damage will consist of liquidated damages until the work is completed or accepted.

34. Termination of Convenience

(a) The Contracting Officer may terminate this contract in whole, or in part, whenever the Contracting Officer determines that such termination is in the best interest of the PHA. Any such termination shall be effected by delivery to the Contractor of a Notice of Termination specifying the extent to which the performance of the work under the contract is terminated, and the date upon which such termination becomes effective.

(b) If the performance of the work is terminated, either in whole or in part, the PHA shall be liable to the Contractor for reasonable and proper costs resulting from such termination upon the receipt by the PHA of a properly presented claim setting out in detail:

(1) the total cost of the work performed to date of termination less the total amount of contract payments made to the Contractor;

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(2) the cost (including reasonable profit) of settling and paying claims under subcontracts and material orders for work performed and materials and supplies delivered to the site, payment for which has not been made by the PHA to the Contractor or by the Contractor to the subcontractor or supplier;

(3) the cost of preserving and protecting the work already performed until the PHA or assignee takes possession thereof or assumes responsibility therefore;

(4) the actual or estimated cost of legal and accounting services reasonably necessary to prepare and present the termination claim to the PHA; and

(5) an amount constituting a reasonable profit on the value of the work performed by the Contractor.

(c) The Contracting Officer will act on the Contractor's claim within _____days (60 days unless otherwise indicated) of receipt of the Contractor's claim.

(d) Any disputes with regard to this clause are expressly made subject to the provisions of the Disputes clause of this contract.

35. Assignment of Contract

The Contractor shall not assign or transfer any interest in this contract; except that claims for monies due or to become due from the PHA under the contract may be assigned to a bank, trust company, or other financial institution. Such assignments of claims shall only be made with the written concurrence of the Contracting Officer. If the Contractor is a partnership, this contract shall inure to the benefit of the surviving or remaining member(s) of such partnership as approved by the Contracting Officer.

36. Insurance

(a) Before commencing work, the Contractor and each subcontractor shall furnish the PHA with certificates of insurance showing the following insurance is in force and will insure all operations under the Contract:

(1) Workers' Compensation, in accordance with state or Territorial Workers' Compensation laws.

(2) Commercial General Liability with a combined single limit for bodily injury and property damage of not less than $1,000,000 per occurrence to protect the Contractor and each subcontractor against claims for bodily injury or death and damage to the property of others. This shall cover the use of all equipment, hoists, and vehicles on the site(s) not covered by Automobile Liability under (3) below. If the Contractor has a "claims-made" policy, then the following additional requirements apply: the policy must provide a "retroactive date" which must be on or before the execution date of the Contract; and the extended reporting period may not be less than five years following the completion date of the Contract.

(3) Automobile Liability on owned and non -owned motor vehicles used on the site(s) or in connection therewith for a combined single limit for bodily injury and property damage of not less than $1,000,000 per occurrence.

(b) Before commencing work, the Contractor shall furnish the PHA with a certificate of insurance evidencing that Builder's Risk (fire and extended coverage) Insurance on all work in place and/or materials stored at the building site(s), including foundations and building equipment, is in force. The Builder's Risk Insurance shall be for the benefit of the Contractor and the PHA as their interests may appear and each shall be named in the policy or policies as an insured. The Contractor in installing equipment supplied by the PHA shall carry insurance on such equipment from the time the Contractor takes possession thereof until the Contract work is accepted by the PHA. The Builder's Risk Insurance need not be carried on excavations, piers, footings, or foundations until such time as work on the superstructure is started. It need not be carried on landscape work. Policies shall furnish coverage at all times for the full cash value of all completed construction, as well as materials in place and/or stored at the site(s), whether or not partial payment has been made by the PHA. The Contractor may terminate this insurance on buildings as of the date taken over for occupancy by the PHA. The Contractor is not required to carry Builder's Risk Insurance for modernization work which does not involve structural alterations or additions and where the PHA's existing fire and extended coverage policy can be endorsed to include such work.

(c) All insurance shall be carried with companies which are financially responsible and admitted to do business in the State in which the project is located. If any such insurance is due to expire during the construction period, the Contractor (including subcontractors, as applicable) shall not permit the coverage to lapse and shall furnish evidence of coverage to the Contracting Officer. All certificates of insurance, as evidence of coverage, shall provide that no coverage may be canceled or non-renewed by the insurance company until at least 30 days prior written notice has been given to the Contracting Officer.

37. Subcontracts

(a) Definitions. As used in this contract –

(1) "Subcontract" means any contract, purchase order, or other purchase agreement, including modifications and change orders to the foregoing, entered into by a subcontractor to furnish supplies, materials, equipment, and services for the performance of the prime contractor a subcontract.

(2) "Subcontractor" means any supplier, vendor, or firm that furnishes supplies, materials, equipment, or services to or for the Contractor or another subcontractor.

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(b) The Contractor shall not enter into any subcontract with any subcontractor who has been temporarily denied participation in or who has been suspended or debarred from participating in contracting programs by any agency of the United States Government or of the state in which the work under this contract is to be performed.
(c) The Contractor shall be as fully responsible for the acts or omissions of its subcontractors, and of persons either directly or indirectly employed by them as for the acts or omissions of persons directly employed by the Contractor.
(d) The Contractor shall insert appropriate clauses in all subcontracts to bind subcontractors to the terms and conditions of this contract insofar as they are applicable to the work of subcontractors.
(e) Nothing contained in this contract shall create any contractual relationship between any subcontractor and the PHA or between the subcontractor and the PHA's funding source.

38. Subcontracting with Small and Minority Firms, Women's Business Enterprise, and Labor Surplus Area Firms

The Contractor shall take the following steps to ensure that, whenever possible, subcontracts are awarded to small business firms, minority firms, women's business enterprises, and labor surplus area firms:
(a) Placing qualified small and minority businesses and women's business enterprises on solicitation lists;
(b) Ensuring that small and minority businesses and women's business enterprises are solicited whenever they are potential sources;
(c) Dividing total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small and minority businesses and women's business enterprises;
(d) Establishing delivery schedules, where the requirements of the contract permit, which encourage participation by small and minority businesses and women's business enterprises; and
(e) Using the services and assistance of the U.S. Small Business Administration, the Minority Business Development Agency of the U.S. Department of Commerce, and State and local governmental small business agencies.

39. Equal Employment Opportunity

During the performance of this contract, the Contractor agrees as follows:
(a) The Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, or handicap.
(b) The Contractor shall take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, national origin, or handicap. Such action shall include, but not be limited to, (1) employment, (2) upgrading, (3) demotion, (4) transfer, (5) recruitment or recruitment advertising, (6) layoff or termination, (7) rates of pay or other forms of compensation, and (8) selection for training, including apprenticeship.
(c) The Contractor shall post in conspicuous places available to employees and applicants for employment the notices to be provided by the Contracting Officer that explain this clause.
(d) The Contractor shall, in all solicitations or advertisements for employees placed by or on behalf of the Contractor; state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, or handicap.
(e) The Contractor shall send, to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, the notice to be provided by the Contracting Officer advising the labor union or workers' representative of the Contractor's commitments under this clause, and post copies of the notice in conspicuous places available to employees and applicants for employment.
(f) The Contractor shall comply with Executive Order 11246, as amended, and the rules, regulations, and orders of the Secretary of Labor.
(g) The Contractor shall furnish all information and reports required by Executive Order 11246, as amended, Section 503 of the Rehabilitation Act of 1973, as amended, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto. The Contractor shall permit access to its books, records, and accounts by the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
(h) In the event of a determination that the Contractor is not in compliance with this clause or any rule, regulation, or order of the Secretary of Labor, this contract may be canceled, terminated, or suspended in whole or in part, and the Contractor may be declared ineligible for further Government contracts, or Federally assisted construction contracts under the procedures authorized in Executive Order 11246, as amended. In addition, sanctions may be imposed and remedies invoked against the Contractor as provided in Executive Order 11246, as amended, the rules, regulations, and orders of the Secretary of Labor, or as otherwise provided by law.
(i) The Contractor shall include the terms and conditions of this clause in every subcontract or purchase order unless exempted by the rules, regulations, or orders of the Secretary of Labor issued under Executive Order 11246, as amended, so that these terms and conditions will be binding upon each subcontractor or vendor. The Contractor shall take such action with respect to any subcontract or purchase order as the Secretary of Labor or Washington State Department of Labor and Industries may direct as a means of enforcing such provisions, including sanctions for noncompliance; provided that if the

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Contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction, the Contractor may request the United States to enter into the litigation to protect the interests of the United States.

40. Interest of Members of Congress

No member of or delegate to the Congress of the United States of America shall be admitted to any share or part of this contract or to any benefit that may arise therefrom.

41. Interest of Members, Officers, or Employees and Former Members, Officers, or Employees

No member, officer, or employee of the PHA, no member of the governing body of the locality in which the project is situated, no member of the governing body of the locality in which the PHA was activated, and no other public official of such locality or localities who exercises any functions or responsibilities with respect to the project, shall, during his or her tenure, or for one year thereafter, have any interest, direct or indirect, in this contract or the proceeds thereof.

42. Limitations on Payments made to Influence Certain Federal Financial Transactions

(a) The Contractor agrees to comply with Section 1352 of Title 31, United States Code which prohibits the use of Federal appropriated funds to pay any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, and officer or employee of Congress, or an employee of a Member of Congress in connection with any of the following covered Federal actions: the awarding of any Federal contract; the making of any Federal grant; the making of any Federal loan; the entering into of any cooperative agreement; or the modification of any Federal contract, grant, loan, or cooperative agreement.

(b) The Contractor further agrees to comply with the requirement of the Act to furnish a disclosure (OMB Standard Form LLL, Disclosure of Lobbying Activities) if any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid, to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with a Federal contract, grant, loan, or cooperative agreement.

43. Royalties and Patents

The Contractor shall pay all royalties and license fees. It shall defend all suits or claims for infringement of any patent rights and shall save the PHA harmless from loss on account thereof; except that the PHA shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified and the Contractor has no reason to believe that the specified design, process, or product is an infringement. If, however, the Contractor has reason to believe that any design, process or product specified is an infringement of a patent, the Contractor shall promptly notify the Contracting Officer. Failure to give such notice shall make the Contractor responsible for resultant loss.

44. Examination and Retention of Contractor's Records

(a) The PHA or Comptroller General of the United States, or any of their duly authorized representatives shall, until 3 years after final payment under this contract, have access to and the right to examine any of the Contractor's directly pertinent books, documents, papers, or other records involving transactions related to this contract for the purpose of making audit, examination, excerpts, and transcriptions.

(b) The Contractor agrees to include in first-tier subcontracts under this contract a clause substantially the same as paragraph (a) above. "Subcontract," as used in this clause, excludes purchase orders not exceeding $10,000.

(c) The periods of access and examination in paragraphs (a) and (b) above for records relating to

(1) appeals under the Disputes clause of this contract,

(2) litigation or settlement of claims arising from the performance of this contract, or

(3) costs and expenses of this contract to which the PHA, the PHA's funder, or Comptroller General or any of their duly authorized representatives has taken exception shall continue until disposition of such appeals, litigation, claims, or exceptions.

45. Labor Standards - Davis-Bacon, Washington State Public Works Prevailing Wage and Related Acts

The Federal and State labor standards set forth in the clause below shall apply to the development or construction work to be performed under the contract.

(a) Minimum Wages.

(1) All laborers and mechanics employed under this contract in the development or construction of the project(s) involved will be paid unconditionally and without subsequent deduction or rebate on any account (except such payroll deductions as are permitted by regulations issued by the Secretary of Labor under the Copeland Act (29 CFR Part 3)), the full amount of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment

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computed at rates not less than those contained in the wage determination of the Secretary of Labor and Washington State Prevailing Wage Laws which are attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the Contractor and such laborers and mechanics. Contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of 29 CFR 5.5(a)(1)(iv); also, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs which cover the regular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits in the wage determination for the classification of work actually performed, without regard to skill, except as provided in 29 CFR 5.5(a)(4). Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein; provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed. The wage determinations (including any additional classification and wage rates conformed under 29 CFR 5.5(a)(1)(ii), the Davis-Bacon poster (WH-1321) and the Washington State Prevailing Wage poster shall be posted at all times by the Contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers.

(2) (i) Any class of laborers or mechanics, including helpers, which is not listed in the wage determination and which is to be employed under the contract shall be classified in conformance with the wage determination. DOL shall approve an additional classification and wage rate and fringe benefits therefor only when all the following criteria have been met: (A) The work to be performed by the classification requested is not performed by a classification in the wage determination; and (B) The classification is utilized in the area by the construction industry; and (C) The proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination. (ii) If the Contractor and the laborers and mechanics to be employed in the classification (if known), or their representatives, and DOL or its designee agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by DOL or its designee to the Administrator of the Wage and Hour Division, Employee Standards Administration, U.S. Department of Labor, Washington, DC 20210. The Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise DOL or its designee or will notify DOL or its designee within the 30-day period that additional time is necessary. (iii) In the event the Contractor, the laborers or mechanics to be employed in the classification or their representatives, and DOL or its designee do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), DOL or its designee shall refer the questions, including the views of all interested parties and the recommendation of DOL or its designee, to the Administrator of the Wage and Hour Division for determination. The Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise DOL or its designee or will notify DOL or its designee within the 30-day period that additional time is necessary. (iv) The wage rate (including fringe benefits where appropriate) determined pursuant to subparagraphs (a)(2)(ii) or (iii) of this clause shall be paid to all workers performing work in the classification under this contract from the first day on which work is performed in classification.

(3) Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the Contractor shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly cash equivalent thereof.

(4) If the Contractor does not make payments to a trustee or other third person, the Contractor may consider as part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program; provided, that the Secretary of Labor has found, upon the written request of the Contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the Contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

(b) Withholding of funds. DOL or its designee shall, upon its own action or upon written request of an authorized representative of the Department of Labor, withhold or cause to be withheld from the Contractor under this contract or any other Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements, which is held by the same prime Contractor, so much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the Contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working in the construction or development of the project, all or part of the wages required by the contract, federal or state wage and labor divisions or their designees may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased. The federal or state wage and labor divisions or their designees may, after written notice to the Contractor, disburse such amounts withheld for and on account of the Contractor or subcontractor to the respective employees to whom they are due.

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(c) Payrolls and basic records.

(1) Payrolls and basic records relating thereto shall be maintained by the Contractor during the course of the work and preserved for a period of three years thereafter for all laborers and mechanics working in the construction or development of the project. Such records shall contain the name, address, and social security number of each such worker, his or her correct classification, hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalents thereof of the types described in section 1(b)(2)(B) of the Davis-Bacon Act), daily and weekly number of hours worked, deductions made, and actual wages paid. Whenever the Secretary of Labor has found, under 29 CFR 5.5(a)(1)(iv), that the wages of any laborer or mechanic include the amount of costs reasonably anticipated in providing benefits under a plan or program described in section 1(b)(2)(B) of the Davis-Bacon Act, the Contractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, and that the plan or program has been communicated in writing to the laborers or mechanics affected, and records which show the costs anticipated or the actual cost incurred in providing such benefits. Contractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprenticeship programs and certification of trainee programs, the registration of the apprentices and trainees, and the ratios and wage rates prescribed in the applicable programs.

(2) (i) The Contractor shall submit weekly a copy of all payrolls to the Contracting Officer. The payrolls submitted shall set out accurately and completely all of the information required to be maintained under subparagraph (c)(1) of this clause. The Contractor is responsible for the submission of copies of payrolls by all subcontractors. (ii) Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the Contractor or subcontractor or his or her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following: (A) That the payroll for the payroll period contains the information required to be maintained under paragraph (c) (1) of this clause and that such information is correct and complete; (B) That each laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in 29 CFR Part 3; and (C) That each laborer or mechanic has been paid not less than the applicable wage rates and fringe benefits or cash equivalents for the classification of work performed, as specified in the applicable wage determination incorporated into the contract. (iii) The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirements for submission of the "Statement of Compliance" required by subparagraph (c)(2)(ii) of this clause. (iv)The falsification of any of the above certifications may subject the Contractor or subcontractor to civil or criminal prosecution under Section 1001 of Title 18 and Section 3729 of Title 31 of the United States Code.

(3) The Contractor or subcontractor shall make the records required under subparagraph (c)(1) available for inspection, copying, or transcription by the Contracting Officer, the Department of Labor or the Washington State Department of Labor and Industries and shall permit such representatives to interview employees during working hours on the job. If the Contractor or subcontractor fails to submit the required records or to make them available, the PHA or its designee may, after written notice to the Contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

(d) (1) Apprentices. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the U.S. Department of Labor, Employment and Training Administration, Office of Apprenticeship and Training, Employer and Labor Services (OATELS), or with a State Apprenticeship Agency recognized by OATELS, or if a person is employed in his or her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by OATELS or a State Apprenticeship Agency (where appropriate) to be eligible for probationary employment as an apprentice. The allowable ratio of apprentices to journeymen on the job site in any craft classification shall not be greater than the ratio permitted to the Contractor as to the entire work force under the registered program. Any worker listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated in this paragraph, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman's hourly rate) specified in the Contractor's or subcontractor's registered program shall be observed. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a

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percentage of the journeyman hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator of the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination. In the event OATELS, or a State Apprenticeship Agency recognized by OATELS, withdraws approval of an apprenticeship program, the Contractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(2) Trainees. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the U.S. Department of Labor, Employment and Training Administration. The ratio of trainees to journeymen on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Every trainee must be paid at not less than the rate specified in the approved program for the trainee's level of progress, expressed as a percentage of the journeyman hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed in the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman wage rate in the wage determination which provides for less than full fringe benefits for apprentices. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate in the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate in the wage determination for the work actually performed. In the event the Employment and Training Administration withdraws approval of a training program, the Contractor will no longer be permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

(3) Equal employment opportunity. The utilization of apprentices, trainees, and journeymen under this clause shall be in conformity with the equal employment opportunity requirements of Executive Order 11246, as amended, and 29 CFR Part 30.

(e) Compliance with Copeland Act requirements. The Contractor shall comply with the requirements of 29 CFR Part 3, which are hereby incorporated by reference in this contract.

(f) Contract termination; debarment. A breach of this contract clause may be grounds for termination of the contract and for debarment as a Contractor and a subcontractor as provided in 29 CFR 5.12.

(g) Compliance with Washington State Public Works Prevailing Wage, Davis-Bacon and related Act requirements. All rulings and interpretations of the Washington State Public Works Prevailing Wage, Davis-Bacon and related Acts contained in 29 CFR Parts 1, 3, and 5 are herein incorporated by reference in this contract.

(h) Disputes concerning labor standards. Disputes arising out of the labor standards provisions of this clause shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the Department of Labor set forth in 29 CFR Parts 5, 6, and 7 or the Washington State Department of Labor and Industries. Disputes within the meaning of this clause include disputes between the Contractor (or any of its subcontractors) and the PHA, the U.S. Department of Labor, the Washington State Department of Labor and Industries or the employees or their representatives.

(i) Certification of eligibility.

(1) By entering into this contract, the Contractor certifies that neither it (nor he or she) nor any person or firm who has an interest in the Contractor's firm is a person or firm ineligible to be awarded contracts by the United States Government by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or the Washington State Department of Labor and Industries.

(2) No part of this contract shall be subcontracted to any person or firm ineligible for award of a United States Government contract by virtue of section 3(a) of the Davis-Bacon Act or 29 CFR 5.12(a)(1) or the Washington State Department of Labor and Industries

(3) The penalty for making false statements is prescribed in the U. S. Criminal Code, 18 U.S.C. 1001 and Washington State law.

(j) Contract Work Hours and Safety Standards Act. As used in this paragraph, the terms "laborers" and "mechanics" include watchmen and guards.

(1) Overtime requirements. No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers or mechanics, including watchmen and guards, shall require or permit any such laborer or mechanic in any workweek in which the individual is employed on such work to work in excess of

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40 hours in such workweek unless such laborer or mechanic receives compensation at a rate not less than one and one-half times the basic rate of pay for all hours worked in excess of 40 hours in such workweek.

(2) Violation; liability for unpaid wages; liquidated damages. In the event of any violation of the provisions set forth in subparagraph (j)(1) of this clause, the Contractor and any subcontractor responsible therefor shall be liable for the unpaid wages. In addition, such Contractor and subcontractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer or mechanic (including watchmen and guards) employed in violation of the provisions set forth in subparagraph (j)(1) of this clause, in the sum of $10 for each calendar day on which such individual was required or permitted to work in excess of the standard workweek of 40 hours without payment of the overtime wages required by provisions set forth in subparagraph (j)(1) of this clause.

(3) Withholding for unpaid wages and liquidated damages. PHA or its designee shall upon its own action or upon written request of an authorized representative of the Department of Labor or Washington State Department of Labor and Industries withhold or cause to be withheld, from any moneys payable on account of work performed by the Contractor or subcontractor under any such contract or any Federal contract with the same prime Contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime Contractor, such sums as may be determined to be necessary to satisfy any liabilities of such Contractor or subcontractor for unpaid wages and liquidated damages as provided in the provisions set forth in subparagraph (j)(2) of this clause.

(k) Subcontracts. The Contractor or subcontractor shall insert in any subcontracts all the provisions contained in this clause, and such other clauses as PHA or its designee may by appropriate instructions require, and also a clause requiring the subcontractors to include these provisions in any lower tier subcontracts. The prime Contractor shall be responsible for the compliance by any subcontractor or lower tier subcontractor with all these provisions.

46. Procurement of Recovered Materials.

(a) In accordance with Section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, the Contractor shall procure items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR Part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition. The Contractor shall procure items designated in the EPA guidelines that contain the highest percentage of recovered materials practicable unless the Contractor determines that such items:

(1) are not reasonably available in a reasonable period of time;

(2) fail to meet reasonable performance standards, which shall be determined on the basis of the guidelines of the National Institute of Standards and Technology, if applicable to the item; or

(3) are only available at an unreasonable price.

(b) Paragraph (a) of this clause shall apply to items purchased under this contract where:

(1) the Contractor purchases in excess of $10,000 of the item under this contract; or

(2) during the preceding Federal fiscal year, the Contractor:

(i) purchased any amount of the items for use under a contract that was funded with Federal appropriations and was with a Federal agency or a State agency or agency of a political subdivision of a State; and

(ii) purchased a total of in excess of $10,000 of the item both under and outside that contract.

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ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Preconstruction meeting.
B. Progress meetings.
C. Construction progress schedule.
D. Submittals for review, information, and project closeout.
E. Number of copies of submittals.
F. Submittal procedures.

1.02 RELATED REQUIREMENTS

A. General Conditions: Dates for applications for payment.
B. Execution and Closeout Requirements: Additional coordination requirements.
C. Closeout Submittals: Project record documents.

1.03 PROJECT COORDINATION

A. Contracting Officer: Sarah Martinez Peninsula Housing Authority
B. Project Coordinator: Annie O'Rourke Peninsula Housing Authority
C. During construction, coordinate use of site and facilities through the Owner.
D. Comply with Project Coordinator's procedures for intra-project communications; submittals, reports and records, schedules, coordination drawings, and recommendations; and resolution of ambiguities and conflicts.
E. Coordinate field engineering and layout work under instructions of the Project Coordinator.
F. Make the following types of submittals to Owner through the Project Coordinator:
    1. Requests for interpretation/information.
    2. Requests for substitution.
    3. Shop drawings, product data, and samples.
    4. Test and inspection reports.
    5. Design data.
    6. Manufacturer's instructions and field reports.
    7. Applications for payment and change order requests.
    8. Progress schedules.
    9. Coordination drawings.
    10. Correction Punch List and Final Correction Punch List for Substantial Completion.
    11. Closeout submittals.

PART 2 PRODUCTS - NOT USED

PART 3 EXECUTION

3.01 PRECONSTRUCTION MEETING

A. Project Coordinator will schedule a meeting after Notice to Proceed.
B. Attendance Required:
    1. Owner.
    2. Contractor's Project Manager.
    3. Contractor's Superintendent.
    4. Architect.

C. Agenda:
   1. Execution of Owner- Contractor Agreement.
   2. Submission of executed bonds and insurance certificates.
   3. Distribution of Contract Documents.
   4. Submission of list of Subcontractors, list of Products, schedule of values, and progress schedule.
   5. Designation of personnel representing the parties to Contract, Contractor, Owner and Architect.
   6. Procedures and processing of field decisions, submittals, substitutions, applications for payments, proposal request, Change Orders, and Contract closeout procedures.
   7. Scheduling.
   8. Section 3 requirements.
   9. Certified Payroll requirements.
   10. Security and housekeeping procedures.
   11. Application for payment procedures.
   12. Procedures for maintaining record documents.
   13. Poor weather contingency plans.

D. Project Coordinator to record minutes and distribute via email within two days after meeting to participants.

3.02 PROGRESS MEETINGS

A. Contractor will schedule and administer meetings throughout progress of the Work at maximum bi-weekly intervals.

B. Attendance Required: Job superintendent, major Subcontractors and suppliers, Owner, as appropriate to agenda topics for each meeting.
   1. Architect will attend via conference call as needed.

C. Agenda:
   1. Review minutes of previous meetings.
   2. Review of Work progress.
   3. Field observations, problems, and decisions.
   4. Identification of problems that impede, or will impede, planned progress.
   5. Review of submittals schedule and status of submittals.
   6. Maintenance of progress schedule.
   7. Corrective measures to regain projected schedules.
   8. Planned progress during succeeding work period.
   9. Maintenance of quality and work standards.
   10. Effect of proposed changes on progress schedule and coordination.
   11. Other business relating to Work.

D. The Project Coordinator shall record minutes and distribute via email within five days after meeting to participants.

3.03 REQUEST FOR INTERPRETATION/INFORMATION (RFI)

A. When requesting interpretation or information from Architect, submit question on RFI transmittal form to Project Coordinator that includes:
   1. Date.
   2. Sequential Number on all Forms.
   3. Project Name/Number.
   4. Name of Sender.
   5. Date response requested by.
   6. Subject of RFI.
   7. Reference to original Drawing Number or Specification section.
   8. Description of question.
   9. Proposed solution.
   10. Space for Architect's response.
   11. Place for Architect's Signature and Date.

3.04 SUBMITTALS FOR REVIEW

A. When the following are specified in individual sections, submit them to the Project Coordinator for review:
   1. Product data.
   2. Shop drawings.
      a. Present information required on Shop Drawings in a clear and thorough manner, drawn accurately to scale. Identify details by reference to drawing and detail, schedule, or room numbers shown and specified. Do not base Shop Drawings on reproductions of Contract Documents or standard printed data. Shop Drawings using Contract Documents Electronic Media must clearly use the media as background information for the use of preparing Shop Drawings. Reproductions of Contract Documents will be returned for resubmittal.
      b. Include the following information, as applicable:
         1) Dimensions.
         2) Identification of products.
         3) Fabrication and installation of drawings.
         4) Roughing-in and settling diagrams.
         5) Wiring diagrams for field-installed wiring, including power, signal, and control wiring.
         6) Shopwork manufacturing instructions.
         7) Templates and patterns.
         8) Schedules.
         9) Notation of coordination requirements.
         10) Notation of dimensions established by field measurement.
      c. Samples for selection.
      d. Samples for verification.
   3. Submit to Project Coordinator for review for the limited purpose of checking for conformance with information given and the design concept expressed in the contract documents.
   4. Samples will be reviewed only for aesthetic, color, or finish selection.
   5. After review, provide copies and distribute in accordance with SUBMITTAL PROCEDURES article below and for record documents purposes described in Section 01 78 00 -CLOSEOUT SUBMITTALS.

3.05 SUBMITTALS FOR INFORMATION

A. When the following are specified in individual sections, submit them for information:
   1. Design data.
   2. Certificates.
   3. Test reports.
   4. Inspection reports.
   5. Manufacturer's instructions.
   6. Manufacturer's field reports.
   7. Other types indicated.

3.06 SUBMITTALS FOR PROJECT CLOSEOUT

A. When the following are specified in individual sections, submit them at project closeout:
   1. Project record documents.
   2. Operation and maintenance data.
   3. Warranties.
   4. Bonds.
   5. Other types as indicated.
   6. Submit for Owner's benefit during and after project completion.

3.07 NUMBER OF COPIES OF SUBMITTALS

A. Documents for Review:
   1. Submittals in PDF format (with no paper copy) are encouraged. Submittals will be processed via email.

2. Samples: Submit the number specified in individual specification sections; one of which will be retained by the Project Coordinator.
    a. After review, produce duplicates.
    b. Retained samples will not be returned to Contractor unless specifically so stated.

3.08 SUBMITTAL PROCEDURES

A. Transmit each submittal on Contractor's Transmittal Form

B. Sequentially number the transmittal form. Revise submittals with original number and a sequential alphabetic suffix.

C. Identify Project, Contractor, Subcontractor or supplier; pertinent drawing and detail number, and specification section number, as appropriate on each copy.

D. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of Products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with the requirements of the Work and Contract Documents.

E. Deliver submittals to Project Coordinator at business address or by email as discussed in Pre-Construction Meeting.

F. Schedule submittals to expedite the Project, and coordinate submission of related items.

G. For each submittal for review, allow 15 days excluding delivery time to and from the Project Coordinator.

H. Identify variations from Contract Documents and Product or system limitations that may be detrimental to successful performance of the completed Work.

I. Provide space for Contractor and Owner review initials.

J. When revised for resubmission, identify all changes made since previous submission.

K. Distribute reviewed submittals as appropriate. Instruct parties to promptly report any inability to comply with requirements.

L. Submittals not requested will not be recognized or processed.

WAGE RATE REQUIREMENTS

A. The work covered by this Contract is subject to the minimum wage requirements of RCW 39.12 and to RCW 49.28 (as amended or supplemented).

B. The Contractor, any subcontractor, and all individuals or firms required by RCW 39.12 and WAC 296-127 to pay minimum prevailing wages, shall not pay any worker less than the minimum hourly wage rates and fringe benefits required by RCW 39.12. Higher wages and benefits may be paid.

C. By referencing the hourly minimum rates for wages and fringe benefits in the contract documents, the Owner does not imply that the Contractor will find labor available at those rates. The Contractor shall be responsible for any amounts above the minimums that will actually have to be paid. The Contractor shall bear the cost of paying wages above those shown in the contract documents.

D. If employing labor in a class not listed in the contract documents, the Contractor shall request a determination of the correct wage and benefits rate for that class and locality from the industrial statistician, Washington State Department of Labor and Industries (State L&I) and provide a copy of those determinations to the Owner.

E. The Contractor shall be responsible for ensuring that any firm (supplier, manufacturer, or fabricator) that falls under the provisions of RCW 39.12 because of the definition "Contractor" in WAC 296 127-010, complies with all the requirements of RCW 39.12.

F. The Contractor shall be responsible for compliance with the requirements of RCW 39.12 by all firms (subcontractors, lower tier subcontractors, suppliers, manufacturers, or fabricators) engaged in any part of the work necessary to complete this contract. Therefore, should a violation of these requirements occur by any firm that is providing work or materials for completion of this contract whether directly or indirectly responsible to the Contractor, the Owner will take action against the Contractor, as provided by the provisions of the contract, to achieve compliance, including but not limited to, withholding payment on the contract until compliance is achieved.

G. In the event the Owner has an error (omissions are not errors) in the listing of the hourly minimum rates for wages and fringe benefits in the contract documents, the Contractor, any subcontractor, any lower tier subcontractor, or any other firm that is required to pay prevailing wages, shall be required to pay the rates as determined to be correct by state L&I. A change order will be prepared to ensure that this occurs. The Owner will reimburse the Contractor for the actual cost to pay the difference between the correct rates and the rates included in the contract provisions.

H. In as much as the Contractor will be held responsible for paying the prevailing wages, it is imperative that all Contractors familiarize themselves with the current wage rates before submitting bids based on these specifications and requirements. The website for the hourly minimum rates for wages and fringe benefits is: *https://www.lni.wa.gov/licensing-permits/public-works-projects/prevailing-wage-rates/*

State of Washington
Department of Labor & Industries
Prevailing Wage Section - Telephone 360-902-5335
PO Box 44540, Olympia, WA 98504-4540

Washington State Prevailing Wage

The PREVAILING WAGES listed here include both the hourly wage rate and the hourly rate of fringe benefits. On public works projects, worker's wage and benefit rates must add to not less than this total. A brief description of overtime calculation requirements are provided on the Benefit Code Key.

Journey Level Prevailing Wage Rates for the Effective Date: 6/10/2024

County	Trade	Job Classification	Wage	Holiday	Overtime	Note	*Risk Class
Clallam	Asbestos Abatement Workers	Journey Level	$59.07	5D	1H		View
Clallam	Carpenters	Acoustical Worker	$74.96	15J	4C		View
Clallam	Carpenters	Bridge, Dock And Wharf Carpenters	$74.96	15J	4C		View
Clallam	Carpenters	Floor Layer & Floor Finisher	$74.96	15J	4C		View
Clallam	Carpenters	Journey Level	$74.96	15J	4C		View
Clallam	Carpenters	Scaffold Erector	$74.96	15J	4C		View
Clallam	Drywall Applicator	Journey Level	$75.73	15O	11S		View
Clallam	Drywall Tapers	Journey Level	$75.73	15O	11S		View
Clallam	Electricians - Inside	Cable Splicer	$109.35	7C	4E		View
Clallam	Electricians - Inside	Cable Splicer (tunnel)	$117.52	7C	4E		View
Clallam	Electricians - Inside	Certified Welder	$105.63	7C	4E		View
Clallam	Electricians - Inside	Certified Welder (tunnel)	$113.43	7C	4E		View
Clallam	Electricians - Inside	Construction Stock Person	$51.53	7C	4E		View
Clallam	Electricians - Inside	Journey Level	$101.92	7C	4E		View
Clallam	Electricians - Inside	Journey Level (tunnel)	$109.35	7C	4E		View
Clallam	Electronic Technicians	Journey Level	$65.66	7E	1E		View
Clallam	Fence Erectors	Fence Erector	$50.07	15J	11P	8Y	View
Clallam	Fence Erectors	Fence Laborer	$50.07	15J	11P	8Y	View
Clallam	Glaziers	Journey Level	$79.16	7L	1Y		View
Clallam	Heat & Frost Insulators And Asbestos Workers	Journey Level	$87.15	15H	11C		View
Clallam	Heating Equipment Mechanics	Journey Level	$96.42	7F	1E		View
Clallam	Insulation Applicators	Journey Level	$74.96	15J	4C		View
Clallam	Laborers	Air, Gas Or Electric Vibrating Screed	$59.07	15J	11P	8Y	View
Clallam	Laborers	Airtrac Drill Operator	$60.90	15J	11P	8Y	View
Clallam	Laborers	Ballast Regular Machine	$59.07	15J	11P	8Y	View
Clallam	Laborers	Batch Weighman	$50.07	15J	11P	8Y	View
Clallam	Laborers	Brick Pavers	$59.07	15J	11P	8Y	View
Clallam	Laborers	Brush Cutter	$59.07	15J	11P	8Y	View

Clallam	Laborers	Brush Hog Feeder	$59.07	15J	11P	8Y	View
Clallam	Laborers	Burner	$59.07	15J	11P	8Y	View
Clallam	Laborers	Caisson Worker	$60.90	15J	11P	8Y	View
Clallam	Laborers	Carpenter Tender	$59.07	15J	11P	8Y	View
Clallam	Laborers	Cement Dumper-paving	$60.15	15J	11P	8Y	View
Clallam	Laborers	Cement Finisher Tender	$59.07	15J	11P	8Y	View
Clallam	Laborers	Change House Or Dry Shack	$59.07	15J	11P	8Y	View
Clallam	Laborers	Chipping Gun (30 Lbs. And Over)	$60.15	15J	11P	8Y	View
Clallam	Laborers	Chipping Gun (Under 30 Lbs.)	$59.07	15J	11P	8Y	View
Clallam	Laborers	Choker Setter	$59.07	15J	11P	8Y	View
Clallam	Laborers	Chuck Tender	$59.07	15J	11P	8Y	View
Clallam	Laborers	Clary Power Spreader	$60.15	15J	11P	8Y	View
Clallam	Laborers	Clean-up Laborer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Concrete Dumper/Chute Operator	$60.15	15J	11P	8Y	View
Clallam	Laborers	Concrete Form Stripper	$59.07	15J	11P	8Y	View
Clallam	Laborers	Concrete Placement Crew	$60.15	15J	11P	8Y	View
Clallam	Laborers	Concrete Saw Operator/Core Driller	$60.15	15J	11P	8Y	View
Clallam	Laborers	Crusher Feeder	$50.07	15J	11P	8Y	View
Clallam	Laborers	Curing Laborer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Demolition: Wrecking & Moving (Incl. Charred Material)	$59.07	15J	11P	8Y	View
Clallam	Laborers	Ditch Digger	$59.07	15J	11P	8Y	View
Clallam	Laborers	Diver	$60.90	15J	11P	8Y	View
Clallam	Laborers	Drill Operator (Hydraulic, Diamond)	$60.15	15J	11P	8Y	View
Clallam	Laborers	Dry Stack Walls	$59.07	15J	11P	8Y	View
Clallam	Laborers	Dump Person	$59.07	15J	11P	8Y	View
Clallam	Laborers	Epoxy Technician	$59.07	15J	11P	8Y	View
Clallam	Laborers	Erosion Control Worker	$59.07	15J	11P	8Y	View
Clallam	Laborers	Faller & Bucker Chain Saw	$60.15	15J	11P	8Y	View
Clallam	Laborers	Fine Graders	$59.07	15J	11P	8Y	View
Clallam	Laborers	Firewatch	$50.07	15J	11P	8Y	View
Clallam	Laborers	Form Setter	$60.15	15J	11P	8Y	View
Clallam	Laborers	Gabian Basket Builders	$59.07	15J	11P	8Y	View
Clallam	Laborers	General Laborer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Grade Checker & Transit Person	$62.49	15J	11P	8Y	View
Clallam	Laborers	Grinders	$59.07	15J	11P	8Y	View
Clallam	Laborers	Grout Machine Tender	$59.07	15J	11P	8Y	View
Clallam	Laborers	Groutmen (Pressure) Including Post Tension Beams	$60.15	15J	11P	8Y	View
Clallam	Laborers	Guardrail Erector	$59.07	15J	11P	8Y	View
Clallam	Laborers	Hazardous Waste Worker (Level A)	$60.90	15J	11P	8Y	View
Clallam	Laborers	Hazardous Waste Worker (Level B)	$60.15	15J	11P	8Y	View

Clallam	Laborers	Hazardous Waste Worker (Level C)	$59.07	15J	11P	8Y	View
Clallam	Laborers	High Scaler	$60.90	15J	11P	8Y	View
Clallam	Laborers	Jackhammer	$60.15	15J	11P	8Y	View
Clallam	Laborers	Laserbeam Operator	$60.15	15J	11P	8Y	View
Clallam	Laborers	Maintenance Person	$59.07	15J	11P	8Y	View
Clallam	Laborers	Manhole Builder-Mudman	$60.15	15J	11P	8Y	View
Clallam	Laborers	Material Yard Person	$59.07	15J	11P	8Y	View
Clallam	Laborers	Mold Abatement Worker	$59.07	15J	11P	8Y	View
Clallam	Laborers	Motorman-Dinky Locomotive	$62.59	15J	11P	8Y	View
Clallam	Laborers	nozzleman (concrete pump, green cutter when using combination of high pressure air & water on concrete & rock, sandblast, gunite, shotcrete, water blaster, vacuum blaster)	$62.49	15J	11P	8Y	View
Clallam	Laborers	Pavement Breaker	$60.15	15J	11P	8Y	View
Clallam	Laborers	Pilot Car	$50.07	15J	11P	8Y	View
Clallam	Laborers	Pipe Layer (Lead)	$62.49	15J	11P	8Y	View
Clallam	Laborers	Pipe Layer/Tailor	$60.15	15J	11P	8Y	View
Clallam	Laborers	Pipe Pot Tender	$60.15	15J	11P	8Y	View
Clallam	Laborers	Pipe Reliner	$60.15	15J	11P	8Y	View
Clallam	Laborers	Pipe Wrapper	$60.15	15J	11P	8Y	View
Clallam	Laborers	Pot Tender	$59.07	15J	11P	8Y	View
Clallam	Laborers	Powderman	$60.90	15J	11P	8Y	View
Clallam	Laborers	Powderman's Helper	$59.07	15J	11P	8Y	View
Clallam	Laborers	Power Jacks	$60.15	15J	11P	8Y	View
Clallam	Laborers	Railroad Spike Puller - Power	$60.15	15J	11P	8Y	View
Clallam	Laborers	Raker - Asphalt	$62.49	15J	11P	8Y	View
Clallam	Laborers	Re-timberman	$60.90	15J	11P	8Y	View
Clallam	Laborers	Remote Equipment Operator	$60.15	15J	11P	8Y	View
Clallam	Laborers	Rigger/Signal Person	$60.15	15J	11P	8Y	View
Clallam	Laborers	Rip Rap Person	$59.07	15J	11P	8Y	View
Clallam	Laborers	Rivet Buster	$60.15	15J	11P	8Y	View
Clallam	Laborers	Rodder	$60.15	15J	11P	8Y	View
Clallam	Laborers	Scaffold Erector	$59.07	15J	11P	8Y	View
Clallam	Laborers	Scale Person	$59.07	15J	11P	8Y	View
Clallam	Laborers	Sloper (Over 20")	$60.15	15J	11P	8Y	View
Clallam	Laborers	Sloper Sprayer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Spreader (Concrete)	$60.15	15J	11P	8Y	View
Clallam	Laborers	Stake Hopper	$59.07	15J	11P	8Y	View
Clallam	Laborers	Stock Piler	$59.07	15J	11P	8Y	View
Clallam	Laborers	Swinging Stage/Boatswain Chair	$50.07	15J	11P	8Y	View
Clallam	Laborers	Tamper & Similar Electric, Air & Gas Operated Tools	$60.15	15J	11P	8Y	View
Clallam	Laborers	Tamper (Multiple & Self-propelled)	$60.15	15J	11P	8Y	View

Clallam	Laborers	Timber Person - Sewer (Lagger, Shorer & Cribber)	$60.15	15J	11P	8Y	View
Clallam	Laborers	Toolroom Person (at Jobsite)	$59.07	15J	11P	8Y	View
Clallam	Laborers	Topper	$59.07	15J	11P	8Y	View
Clallam	Laborers	Track Laborer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Track Liner (Power)	$60.15	15J	11P	8Y	View
Clallam	Laborers	Traffic Control Laborer	$53.54	15J	11P	9C	View
Clallam	Laborers	Traffic Control Supervisor	$56.73	15J	11P	9C	View
Clallam	Laborers	Truck Spotter	$59.07	15J	11P	8Y	View
Clallam	Laborers	Tugger Operator	$60.15	15J	11P	8Y	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 0-30 psi	$175.79	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 30.01-44.00 psi	$180.82	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 44.01-54.00 psi	$184.50	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 54.01-60.00 psi	$190.20	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 60.01-64.00 psi	$192.32	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 64.01-68.00 psi	$197.42	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 68.01-70.00 psi	$199.32	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 70.01-72.00 psi	$201.32	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Compressed Air Worker 72.01-74.00 psi	$203.32	15J	11P	9B	View
Clallam	Laborers	Tunnel Work-Guage and Lock Tender	$62.59	15J	11P	8Y	View
Clallam	Laborers	Tunnel Work-Miner	$62.59	15J	11P	8Y	View
Clallam	Laborers	Vibrator	$60.15	15J	11P	8Y	View
Clallam	Laborers	Vinyl Seamer	$59.07	15J	11P	8Y	View
Clallam	Laborers	Watchman	$45.51	15J	11P	8Y	View
Clallam	Laborers	Welder	$60.15	15J	11P	8Y	View
Clallam	Laborers	Well Point Laborer	$60.15	15J	11P	8Y	View
Clallam	Laborers	Window Washer/Cleaner	$45.51	15J	11P	8Y	View
Clallam	Laborers - Underground Sewer & Water	General Laborer & Topman	$59.07	15J	11P	8Y	View
Clallam	Laborers - Underground Sewer & Water	Pipe Layer	$60.15	15J	11P	8Y	View
Clallam	Lathers	Journey Level	$75.73	15O	11S		View
Clallam	Painters	Journey Level	$51.71	6Z	11J		View
Clallam	Plasterers	Journey Level	$70.91	7Q	1R		View
Clallam	Plasterers	Nozzleman	$74.91	7Q	1R		View
Clallam	Plumbers & Pipefitters	Journey Level	$103.19	6Z	1G		View
Clallam	Power Equipment Operators	Asphalt Plant Operators	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Assistant Engineer	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Barrier Machine (zipper)	$79.31	15J	11G	8X	View

Clallam	Power Equipment Operators	Batch Plant Operator: concrete	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Boat Operator	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators	Bobcat	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Brokk - Remote Demolition Equipment	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Brooms	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Bump Cutter	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Cableways	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Chipper	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Compressor	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Concrete Finish Machine - Laser Screed	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Conveyors	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Cranes Friction: 200 tons and over	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes, A-frame: 10 tons and under	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: 20 tons through 44 tons with attachments	$79.35	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: 300 tons and over or 300' of boom including jib with attachments	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: Friction cranes through 199 tons	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators	Cranes: through 19 tons with attachments, a-frame over 10 tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators	Crusher	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Deck Engineer/Deck Winches (power)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Derricks, On Building Work	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Dozers D-9 & Under	$78.71	15J	11G	8X	View

Clallam	Power Equipment Operators	Drill Oilers: Auger Type, Truck Or Crane Mount	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Drilling Machine	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators	Elevator and man-lift: permanent and shaft type	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Forklift: 3000 lbs and over with attachments	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Forklifts: under 3000 lbs. with attachments	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Gradechecker/Stakeman	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Guardrail Punch	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Horizontal/Directional Drill Locator	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Horizontal/Directional Drill Operator	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Hydralifts/Boom Trucks Over 10 Tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators	Hydralifts/boom trucks: 10 tons and under	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators	Leverman	$81.65	15J	11G	8X	View
Clallam	Power Equipment Operators	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Loaders, Overhead Under 6 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Loaders, Plant Feed	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Loaders: Elevating Type Belt	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Locomotives, All	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Material Transfer Device	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators	Motor Patrol Graders	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Overhead, bridge type Crane: 20 tons through 44 tons	$79.35	7A	11H	8X	View

Clallam	Power Equipment Operators	Overhead, bridge type: 100 tons and over	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators	Overhead, bridge type: 45 tons through 99 tons	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators	Pavement Breaker	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Pile Driver (other Than Crane Mount)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Plant Oiler - Asphalt, Crusher	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Posthole Digger, Mechanical	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Power Plant	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Pumps - Water	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Quad 9, Hd 41, D10 And Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Quick Tower: no cab, under 100 feet in height base to boom	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Remote Control Operator On Rubber Tired Earth Moving Equipment	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Rigger and Bellman	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators	Rigger/Signal Person, Bellman(Certified)	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators	Rollagon	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Roller, Other Than Plant Mix	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Roller, Plant Mix Or Multi-lift Materials	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Roto-mill, Roto-grinder	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Saws - Concrete	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Scraper, Self Propelled Under 45 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Scrapers - Concrete & Carry All	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Scrapers, Self-propelled: 45 Yards And Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Service Engineers: Equipment	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Shotcrete/Gunite Equipment	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$81.65	15J	11G	8X	View
Clallam	Power Equipment Operators	Slipform Pavers	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Spreader, Topsider & Screedman	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Subgrader Trimmer	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Tower Bucket Elevators	$78.71	15J	11G	8X	View

Clallam	Power Equipment Operators	Tower Crane: over 175' through 250' in height, base to boom	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators	Tower crane: up to 175' in height base to boom	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators	Tower Cranes: over 250' in height from base to boom	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators	Transporters, All Track Or Truck Type	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Trenching Machines	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators	Truck Crane Oiler/Driver: 100 tons and over	$79.35	7A	11H	8X	View
Clallam	Power Equipment Operators	Truck crane oiler/driver: under 100 tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators	Truck Mount Portable Conveyor	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Vac Truck (Vactor Guzzler, Hydro Excavator)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators	Welder	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators	Wheel Tractors, Farmall Type	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators	Yo Yo Pay Dozer	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Asphalt Plant Operators	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Assistant Engineer	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Barrier Machine (zipper)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Batch Plant Operator, Concrete	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Boat Operator	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Bobcat	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Brokk - Remote Demolition Equipment	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Brooms	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Bump Cutter	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cableways	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Chipper	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Compressor	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Concrete Finish Machine - Laser Screed	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Concrete Pump - Mounted Or Trailer High Pressure Line Pump, Pump High Pressure	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Over 42 M	$80.02	15J	11G	8X	View

Clallam	Power Equipment Operators-Underground Sewer & Water	Concrete Pump: Truck Mount With Boom Attachment Up To 42m	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Conveyors	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes Friction: 200 tons and over	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes, A-frame: 10 tons and under	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: 100 tons through 199 tons, or 150' of boom (including jib with attachments)	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: 20 tons through 44 tons with attachments	$79.35	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: 200 tons- 299 tons, or 250' of boom including jib with attachments	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: 300 tons and over or 300' of boom including jib with attachments	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: 45 tons through 99 tons, under 150' of boom(including jib with attachments)	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: Friction cranes through 199 tons	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Cranes: through 19 tons with attachments, a-frame over 10 tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Crusher	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Deck Engineer/Deck Winches (power)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Derricks, On Building Work	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Dozers D-9 & Under	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Drill Oilers: Auger Type, Truck Or Crane Mount	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Drilling Machine	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Elevator and man-lift: permanent and shaft type	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Finishing Machine, Bidwell And Gamaco & Similar Equipment	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Forklift: 3000 lbs and over with attachments	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Forklifts: under 3000 lbs. with attachments	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Grade Engineer: Using Blue Prints, Cut Sheets, Etc	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Gradechecker/Stakeman	$75.26	15J	11G	8X	View

Clallam	Power Equipment Operators-Underground Sewer & Water	Guardrail Punch	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off- Road Equipment 45 Yards. & Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Hard Tail End Dump Articulating Off-road Equipment Under 45 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Locator	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Horizontal/Directional Drill Operator	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: 10 tons and under	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Hydralifts/boom trucks: over 10 tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Leverman	$81.65	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Loader, Overhead, 6 Yards. But Not Including 8 Yards	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Loaders, Overhead Under 6 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Loaders, Plant Feed	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Loaders: Elevating Type Belt	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Locomotives, All	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Material Transfer Device	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Mechanics: All (Leadmen - $0.50 per hour over mechanic)	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Motor Patrol Graders	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Mucking Machine, Mole, Tunnel Drill, Boring, Road Header And/or Shield	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Oil Distributors, Blower Distribution & Mulch Seeding Operator	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Outside Hoists (Elevators and Manlifts), Air Tuggers, Strato	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type Crane: 20 tons through 44 tons	$79.35	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 100 tons and over	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Overhead, bridge type: 45 tons through 99 tons	$80.05	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Pavement Breaker	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Pile Driver (other Than Crane Mount)	$79.31	15J	11G	8X	View

Clallam	Power Equipment Operators-Underground Sewer & Water	Plant Oiler - Asphalt, Crusher	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Posthole Digger, Mechanical	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Power Plant	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Pumps - Water	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Quad 9, Hd 41, D10 And Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Quick Tower: no cab, under 100 feet in height base to boom	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Remote Control Operator On Rubber Tired Earth Moving Equipment	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Rigger and Bellman	$75.29	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Rigger/Signal Person, Bellman(Certified)	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Rollagon	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Roller, Other Than Plant Mix	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Roller, Plant Mix Or Multi-lift Materials	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Roto-mill, Roto-grinder	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Saws - Concrete	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Scraper, Self Propelled Under 45 Yards	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Scrapers - Concrete & Carry All	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Scrapers, Self-propelled: 45 Yards And Over	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shotcrete/Gunite Equipment	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe, Tractors Under 15 Metric Tons	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoe: Over 30 Metric Tons To 50 Metric Tons	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes, Tractors: 15 To 30 Metric Tons	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 50 Metric Tons To 90 Metric Tons	$80.82	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Shovel, Excavator, Backhoes: Over 90 Metric Tons	$81.65	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Slipform Pavers	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Spreader, Topsider & Screedman	$80.02	15J	11G	8X	View

Clallam	Power Equipment Operators-Underground Sewer & Water	Subgrader Trimmer	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Tower Bucket Elevators	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Tower Crane: over 175' through 250' in height, base to boom	$81.69	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Tower crane: up to 175' in height base to boom	$80.86	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Tower Cranes: over 250' in height from base to boom	$82.49	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Transporters, All Track Or Truck Type	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Trenching Machines	$78.71	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Truck Crane Oiler/Driver: 100 tons and over	$79.35	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Truck crane oiler/driver: under 100 tons	$78.74	7A	11H	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Truck Mount Portable Conveyor	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Vac Truck (Vactor Guzzler, Hydro Excavator)	$79.31	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Welder	$80.02	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Wheel Tractors, Farmall Type	$75.26	15J	11G	8X	View
Clallam	Power Equipment Operators-Underground Sewer & Water	Yo Yo Pay Dozer	$79.31	15J	11G	8X	View
Clallam	Refrigeration & Air Conditioning Mechanics	Journey Level	$95.89	6Z	1G		View
Clallam	Roofers	Journey Level	$64.45	5A	3H		View
Clallam	Roofers	Using Irritable Bituminous Materials	$67.39	5A	3H		View
Clallam	Sheet Metal Workers	Journey Level (Field or Shop)	$96.42	7F	1E		View
Clallam	Soft Floor Layers	Journey Level	$66.32	15J	4C		View
Clallam	Telecommunication Technicians	Journey Level	$65.66	7E	1E		View

Representations, Certifications and Other Statements of Bidders

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1. Certificate of Independent Price Determination

(a) The bidder certifies that--

(1) The prices in this bid have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other bidder or competitor relating to

(i) those prices,

(ii) the intention to submit a bid, or

(iii) the methods or factors used to calculate the prices offered;

(2) The prices in this bid have not been and will not be knowingly disclosed by the bidder, directly or indirectly, to any other bidder or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a competitive proposal solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the bidder to induce any other concern to submit or not to submit a bid for the purpose of restricting competition.

(b) Each signature on the bid is considered to be a certification by the signatory that the signatory--

(1) Is the person in the bidder's organization responsible for determining the prices being offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(l) through (a)(3) above.

_____

[insert full name of person(s) in the bidder's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the bidder's organization];

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) above.

(c) If the bidder deletes or modifies subparagraph (a)2 above, the bidder must furnish with its bid a signed statement setting forth in detail the circumstances of the disclosure.

[**X**] [Contracting Officer [check if following paragraph is applicable]

(d) Non-collusive affidavit

(1) Each bidder shall execute, on the form provided by the PHA, an affidavit to the effect that he/she has not colluded with any other person, firm or corporation in regard to any bid submitted in response to this solicitation. If the successful bidder did not submit the affidavit with his/her bid, he/she must submit it within three (3) working days of bid opening. Failure to submit the affidavit by that date may render the bid nonresponsive. No contract award will be made without a properly executed affidavit.

(2) A fully executed "Non-collusive Affidavit" [ ] is, [ ] is not included with the bid.

2. Contingent Fee Representation and Agreement

(a) Definitions. As used in this provision:

"**Bona fide employee**" means a person, employed by a bidder and subject to the bidder's supervision and control as to time, place, and manner of performance, who neither exerts, nor proposes to exert improper influence to solicit or obtain contracts nor holds out as being able to obtain any contract(s) through improper influence.
"**Improper influence**" means any influence that induces or tends to induce a PHA employee or officer to give consideration or to act regarding a PHA contract on any basis other than the merits of the matter.

(b) The bidder represents and certifies as part of its bid that, except for full-time bona fide employees working solely for the bidder, the bidder:

(1) [ ] has, [ ] has not employed or retained any person or company to solicit or obtain this contract; and
(2) [ ] has, [ ] has not paid or agreed to pay to any person or company employed or retained to solicit or obtain this contract any commission, percentage, brokerage, or other fee contingent upon or resulting from the award of this contract.

(c) If the answer to either (a)(1) or (a)(2) above is affirmative, the bidder shall make an immediate and full written disclosure to the PHA Contracting Officer.

(d) Any misrepresentation by the bidder shall give the PHA the right to (1) terminate the contract; (2) at its discretion, deduct from contract payments the amount of any commission, percentage, brokerage, or other contingent fee; or (3) take other remedy pursuant to the contract.

3. Certification and Disclosure Regarding Payments to Influence Certain Federal Transactions (applicable to contracts exceeding $100,000)
(a) The definitions and prohibitions contained in Section 1352 of title 31, United States Code, are hereby incorporated by reference in paragraph (b) of this certification.

4. Organizational Conflicts of Interest Certification
The bidder certifies that to the best of its knowledge and belief, and except as otherwise disclosed, he or she does not have any organizational conflict of interest which is defined as a situation in which the nature of work to be performed under this proposed contract and the bidder's organizational, financial, contractual, or other interests may, without some restriction on future activities:
(a) Result in an unfair competitive advantage to the bidder; or,

(b) Impair the bidder's objectivity in performing the contract work.
[ ] In the absence of any actual or apparent conflict, I hereby certify that to the best of my knowledge and belief, no actual or apparent conflict of interest exists with regard to my possible performance of this procurement.

5. Bidder's Certification of Eligibility
(a) By the submission of this bid, the bidder certifies that to the best of its knowledge and belief, neither it, nor any person or firm which has an interest in the bidder's firm, nor any of the bidder's subcontractors, is ineligible to:
(1) Be awarded contracts by any agency of the United States Government or the State in which this contract is to be performed; or,

(b) The certification in paragraph (a) above is a material representation of fact upon which reliance was placed when making award. If it is later determined that the bidder knowingly rendered an erroneous certification, the contract may be terminated for default, and the bidder may be debarred or suspended from participation in Federal contract programs.

6. Minimum Bid Acceptance Period
(a) "Acceptance period," as used in this provision, means the number of calendar days available to the PHA for awarding a contract from the date specified in this solicitation for receipt of bids.

(b) This provision supersedes any language pertaining to the acceptance period that may appear elsewhere in this solicitation.

(c) The PHA requires a minimum acceptance period of 30 calendar days.

(d) In the space provided immediately below, bidders may specify a longer acceptance period than the PHA's minimum requirement. The bidder allows the following acceptance period: [ ] calendar days.

(e) A bid allowing less than the PHA's minimum acceptance period will be rejected.

(f) The bidder agrees to execute all that it has undertaken to do, in compliance with its bid, if that bid is accepted in writing within
(1) the acceptance period stated in paragraph (c) above or
(2) any longer acceptance period stated in paragraph (d) above.

7. Small, Minority, Women-Owned Business Concern Representation
The bidder represents and certifies as part of its bid/ offer that it --
(a) [ ] is, [ ] is not a small business concern. "Small business concern," as used in this provision, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding, and qualified as a small business under the criteria and size standards in 13 CFR 121.

(b) [ ] is, [ ] is not a women-owned business enterprise. "Women owned business enterprise," as used in this provision, means a business that is at least 51 percent owned by a woman or women who are U.S. citizens and who also control and operate the business.

(c) [ ] is, [ ] is not a minority business enterprise. "Minority business enterprise," as used in this provision, means a business which is at least 51 percent owned or controlled by one or more minority group members or, in the case of a publicly owned business, at least 51 percent of its voting stock is owned by one or more minority group members, and whose management and daily operations are controlled by one or more such individuals. For the purpose of this definition, minority group members are:
(Check the block applicable to you)
[ ] Black Americans
[ ] Asian Pacific Americans
[ ] Hispanic Americans
[ ] Asian Indian Americans
[ ] Native Americans
[ ] Hasidic Jewish Americans

8. Certification of Nonsegregated Facilities (applicable to contracts exceeding $10,000)
(a) The bidder's attention is called to the clause entitled **Equal Employment Opportunity** of the General Conditions of the Contract for Construction.

(b) "Segregated facilities," as used in this provision, means any waiting rooms, work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees, that are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, or national origin because of habit, local custom, or otherwise.

(c) By the submission of this bid, the bidder certifies that it does not and will not maintain or provide for its employees any segregated facilities at any of its establishments, and that it does not and will not permit its employees to perform their services at any location under its control where segregated facilities are maintained. The bidder agrees that a breach of this certification is a violation of the Equal Employment Opportunity clause in the contract.

(d) The bidder further agrees that (except where it has obtained identical certifications from proposed subcontractors for specific time periods) prior to entering into subcontracts which exceed $10,000 and are not exempt from the requirements of the Equal Employment Opportunity clause, it will:

(1) Obtain identical certifications from the proposed subcontractors;
(2) Retain the certifications in its files; and
(3) Forward the following notice to the proposed subcontractors (except if the proposed subcontractors have submitted identical certifications for specific time periods):

Notice to Prospective Subcontractors of Requirement for Certifications of Nonsegregated Facilities
A Certification of Nonsegregated Facilities must be submitted before the award of a subcontract exceeding $10,000 which is not exempt from the provisions of the Equal Employment Opportunity clause of the prime contract. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semiannually, or annually).
Note: The penalty for making false statements in bids is prescribed in 18 U.S.C. 1001.

9. Clean Air and Water Certification (applicable to contracts exceeding $100,000)
The bidder certifies that:
(a) Any facility to be used in the performance of this contract [ ]is, [ ] is not listed on the Environmental Protection Agency List of Violating Facilities:

(b) The bidder will immediately notify the PHA Contracting Officer, before award, of the receipt of any communication from the Administrator, or a designee, of the Environmental Protection Agency, indicating that any facility that the bidder proposes to use for the performance of the contract is under consideration to be listed on the EPA List of Violating Facilities; and,

(c) The bidder will include a certification substantially the same as this certification, including this paragraph (c), in every nonexempt subcontract.

10. Bidder's Signature
The bidder hereby certifies that the information contained in these certifications and representations is accurate, complete, and current.

_____
(Signature and Date)

_____
(Typed or Printed Name)

_____
(Title)

_____
(Company Name)

_____
(Company Address)

Instructions to Bidders for Contracts

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1. Bid Preparation and Submission

(a) Bidders are expected to examine the specifications, drawings, all instructions, and, if applicable, the construction site (see also the contract clause entitled Site Investigation and Conditions Affecting the Work of the General Conditions of the Contract for Construction). Failure to do so will be at the bidders' risk.

(b) All bids must be submitted on the forms provided by the Peninsula Housing Authority (PHA). Bidders shall furnish all the information required by the solicitation. Bids must be signed and the bidder's name typed or printed on the bid sheet and each continuation sheet which requires the entry of information by the bidder. Erasures or other changes must be initialed by the person signing the bid. Bids signed by an agent shall be accompanied by evidence of that agent's authority. (Bidders should retain a copy of their bid for their records.)

(c) Bidders must submit as part of their bid a completed form, "Representations, Certifications, and Other Statements of Bidders."

(d) All bid documents shall be sealed in an envelope which shall be clearly marked with the words "Bid Documents," the project name and number, the bidder's name, and the date and time for receipt of bids.

(e) If this solicitation requires bidding on all items, failure to do so will disqualify the bid. If bidding on all items is not required, bidders should insert the words "No Bid" in the space provided for any item on which no price is submitted.

(f) Unless expressly authorized elsewhere in this solicitation, alternate bids will not be considered.

(g) Unless expressly authorized elsewhere in this solicitation, bids submitted by telegraph or facsimile (fax) machines will not be considered.

2. Explanations and Interpretations to Prospective Bidders

(a) Any prospective bidder desiring an explanation or interpretation of the solicitation, specifications, drawings, etc., must request it by 3:00pm on June 27, 2024 via email to Project Coordinator. Any information given a prospective bidder concerning this solicitation

will be furnished promptly to all other prospective bidders as a written amendment to the solicitation, if that information is necessary in submitting bids, or if the lack of it would be prejudicial to other prospective bidders.
(b) Any information obtained by, or provided to, a bidder other than by formal amendment to the solicitation shall not constitute a change to the solicitation.

3. Amendments to Invitations for Bids
(a) If this solicitation is amended, then all terms and conditions which are not modified remain unchanged.
(b) Bidders shall acknowledge receipt of any amendment to this solicitation
(1) by signing and returning the amendment,
(2) by identifying the amendment number and date on the bid form, or
(3) by letter, telegram, or facsimile, if those methods are authorized in the solicitation.
The PHA must receive acknowledgement by the time and at the place specified for receipt of bids. Bids which fail to acknowledge the bidder's receipt of any amendment will result in the rejection of the bid if the amendment(s) contained information which substantively changed the PHA's requirements.
(c) Amendments will be on file in the offices of the PHA at least 7 days before bid opening.

4. Responsibility of Prospective Contractor
(a) The PHA will award contracts only to responsible prospective contractors who have the ability to perform successfully under the terms and conditions of the proposed contract. In determining the responsibility of a bidder, the PHA will consider such matters as the bidder's:
(1) Integrity;
(2) Compliance with public policy;
(3) Record of past performance; and
(4) Financial and technical resources (including construction and technical equipment).
(b) Before a bid is considered for award, the bidder may be requested by the PHA to submit a statement or other documentation regarding any of the items in paragraph (a) above. Failure by the bidder to provide such additional information shall render the bidder non-responsible and ineligible for award.

5. Late Submissions, Modifications, and Withdrawal of Bids
(a) Any bid received at the place designated in the solicitation after the exact time specified for receipt will not be considered.
(b) Any modification or withdrawal of a bid is subject to the same conditions as in paragraph (a) of this provision.
(c) The only acceptable evidence to establish the time of receipt at the PHA is the time/date stamp of PHA on the proposal wrapper or other documentary evidence of receipt maintained by the PHA.
(d) Notwithstanding paragraph (a) of this provision, a late modification of an otherwise successful bid that makes its terms more favorable to the PHA will be considered at any time it is received and may be accepted.
(e) Bids may be withdrawn by written notice, or if authorized by this solicitation, by telegram (including mailgram) or facsimile machine transmission received at any time before the exact time set for opening of bids; provided that written confirmation of telegraphic or facsimile withdrawals over the signature of the bidder is mailed and postmarked prior to the

specified bid opening time. A bid may be withdrawn in person by a bidder or its authorized representative if, before the exact time set for opening of bids, the identity of the person requesting withdrawal is established and the person signs a receipt for the bid.

6. Bid Opening
All bids received by the date and time of receipt specified in the solicitation will be publicly opened and read. The time and place of opening will be as specified in the solicitation. Bidders and other interested persons may be present.

7. Service of Protest
(a) Definitions. As used in this provision:
"Interested party" means an actual or prospective bidder whose direct economic interest would be affected by the award of the contract.
"Protest" means a written objection by an interested party to this solicitation or to a proposed or actual award of a contract pursuant to this solicitation.
(b) Protests shall be served on the Contracting Officer by obtaining written and dated acknowledgement from —
Peninsula Housing Authority, 2603 S. Francis St., Port Angeles, WA 98362
(c) All protests shall be resolved in accordance with the PHA's protest policy and procedures, copies of which are maintained at the PHA.

8. Contract Award
(a) The PHA will evaluate bids in response to this solicitation without discussions and will award a contract to the responsible bidder whose bid, conforming to the solicitation, will be most advantageous to the PHA considering only price and any price-related factors specified in the solicitation.
(b) If the apparent low bid received in response to this solicitation exceeds the PHA's available funding for the proposed contract work, the PHA may either accept separately priced items (see 8(e) below) or use the following procedure to determine contract award. The PHA shall apply in turn to each bid (proceeding in order from the apparent low bid to the high bid) each of the separately priced bid deductible items, if any, in their priority order set forth in this solicitation. If upon the application of the first deductible item to all initial bids, a new low bid is within the PHA's available funding, then award shall be made to that bidder. If no bid is within the available funding amount, then the PHA shall apply the second deductible item. The PHA shall continue this process until an evaluated low bid, if any, is within the PHA's available funding. If upon the application of all deductibles, no bid is within the PHA's available funding, or if the solicitation does not request separately priced deductibles, the PHA shall follow its written policy and procedures in making any award under this solicitation.
(c) In the case of tie low bids, award shall be made in accordance with the PHA's written policy and procedures.
(d) The PHA may reject any and all bids, accept other than the lowest bid (e.g., the apparent low bid is unreasonably low), and waive informalities or minor irregularities in bids received, in accordance with the PHA's written policy and procedures.
(e) Unless precluded elsewhere in the solicitation, the PHA may accept any item or combination of items in bid.
(f) The PHA may reject any bid as nonresponsive if it is materially unbalanced as to the prices for the various items of work to be performed. A bid is materially unbalanced when it is based on prices significantly less than cost for some work and prices which are significantly overstated for other work.

(g) A written award shall be furnished to the successful bidder by July 24, 2024 and shall result in a binding contract without further action by either party.

9. Bid Guarantee (applicable to construction and equipment contracts exceeding $25,000)

All bids must be accompanied by a negotiable bid guarantee which shall not be less than five percent (5%) of the amount of the bid. The bid guarantee may be a certified check, bank draft, U.S. Government Bonds at par value, or a bid bond secured by a surety company acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Certified checks and bank drafts must be made payable to the order of the PHA. The bid guarantee shall insure the execution of the contract and the furnishing of a method of assurance of completion by the successful bidder as required by the solicitation. Failure to submit a bid guarantee with the bid shall result in the rejection of the bid. Bid guarantees submitted by unsuccessful bidders will be returned as soon as practicable after bid opening.

10. Assurance of Completion

(a) Unless otherwise provided in State law, the successful bidder shall furnish an assurance of completion prior to the execution of any contract under this solicitation in the form of a performance and a payment bond in a penal sum of 100 percent of the contract price.
(b) Bonds must be obtained from guarantee or surety companies acceptable to the U.S. Government and authorized to do business in the state where the work is to be performed. Individual sureties will not be considered. U.S. Treasury Circular Number 570, published annually in the Federal Register, lists companies approved to act as sureties on bonds securing Government contracts, the maximum underwriting limits on each contract bonded, and the States in which the company is licensed to do business. Use of companies listed in this circular is mandatory. Copies of the circular may be downloaded on the U.S. Department of Treasury website http:// www.fms.treas.gov/c570/index.html, or ordered for a minimum fee by contacting the Government Printing Office at (202) 512-2168.
(c) Each bond shall clearly state the rate of premium and the total amount of premium charged. The current power of attorney for the person who signs for the surety company must be attached to the bond. The effective date of the power of attorney shall not precede the date of the bond. The effective date of the bond shall be on or after the execution date of the contract.
(d) Failure by the successful bidder to obtain the required assurance of completion within the time specified, or within such extended period as the PHA may grant based upon reasons determined adequate by the PHA, shall render the bidder ineligible for award. The PHA may then either award the contract to the next lowest responsible bidder or solicit new bids. The PHA may retain the ineligible bidder's bid guarantee.

11. Preconstruction Conference (applicable to construction contracts)

After award of a contract under this solicitation and prior to the start of work, the successful bidder will be required to attend a preconstruction conference with representatives of the PHA and its architect/engineer, and other interested parties convened by the PHA. The conference will serve to acquaint the participants with the general plan of the construction operation and all other requirements of the contract (e.g., Equal Employment Opportunity, Labor Standards). The PHA will provide the successful bidder with the date, time, and place of the conference.

Insurance Special Conditions
To the Peninsula Housing Authority Contract of Construction

In order for the Peninsula Housing Authority (PHA) to be adequately protected, the following Special Conditions shall apply to the successful proposal.

Insurance Endorsements:

Prior to the beginning of any work under this contract, an authorized representative of each successful bidder's insurers shall submit Insurance Endorsements naming the PHA as Additional Insured.

If the duties under this contract require Professional Liability Insurance, the Additional Insured requirement of these Special Conditions shall be waived. However, all other provisions herein shall remain in effect.

Insurance offered to indemnify the PHA shall be provided by insurers rated by the A.M. Best Company with a rating of not less than B+.

If the coverages offered are on a claims-made form, the insurer shall provide an extended five-year reporting period to the Additional Insured.

All such insurance shall be primary, and not contributing with any other insurance or self-insured maintained by the PHA notwithstanding any inconsistent provisions in any such policies maintained by the PHA and shall not require contribution by any insurance or self-insurance maintained by the PHA on any basis, pro rata, or otherwise.

The policy to which the Additional Insured endorsement is attached shall not be subject to cancellation, change in coverage, reduction of limits or non-renewal except after written notice of not less than thirty (30) days given to the designated PHA official by certified mail, return receipt requested prior to the effective date thereof.

The PHA has provided its Instructions to Bidders, General Conditions and standard insurance endorsements, which contain other insurance clauses, required under this contract. ISO Endorsements or others will also be acceptable provided they contain the same clauses and protection contained in the endorsements provided with these Special Conditions.

Instructions to Bidders for Completing, Executing & Submitting Evidence of Insurance to the Peninsula Housing Authority

Insured _____ Date _____
(Contractor)

Agreement/Reference No. _____

A. Insured (Contractor, Vendor or Tenant)

1. In order to reduce problems and time delays in providing evidence of insurance to The Housing Authority you are requested to give your insurance agent or broker a copy of the Insurance Requirements Sheet (*Form Gen. 146*) along with these instructions/endorsement forms for completing, executing, and submitting evidence of insurance.
2. If the agreement requires Workers Compensation coverage and you have been authorized by the State to self-insure Workers Compensation shall meet the requirements for Workers Compensation insurance covering activities within the State.
3. All questions relating to insurance should be directed to the department or office responsible for your contract, lease, permit, or other agreement.

B. Insurance Agent or Broker

1. The appropriate Endorsement Form shall be used. No changes in the terms of the attached Endorsement Forms will be permitted. Certificates of Insurance alone will not be accepted by the Housing Authority.
2. More than one insurance policy may be required to comply with the insurance requirements. Endorsement forms appropriate to your insured's agreement, contract, lease or permit are included.
3. You shall have an authorized representative of the insurance company sign the completed endorsement forms and note his/her phone number at the bottom of page 2 and have said representative transmit the forms to the Housing Authority. Signatures must be originals as we will not accept facsimile (*rubber stamp, photocopy, etc.*) or initial signatures.
4. The name of the Insurance Company underwriting the coverage and its address shall be noted on page 2 of the endorsement form.
5. The "General description of agreement(s) and/or activity(s) insured" shall include reference to the activity and/or to either the specific Housing Authority contract number, lease number, permit number or construction approval number.
6. The Coverages and limits for each type of insurance are specified on the insurance requirements sheet. When coverage is on a scheduled basis, then a separate sheet is to be attached to the endorsement listing such scheduled locations, vehicles, etc. so covered.
7. Endorsements to excess policies will be required when primary insurance is insufficient in complying with the Housing Authority requirements.
8. If there is insufficient space on the form to note pertinent information, such as inclusions, exclusions or specific provisions, etc., a separate sheet may be attached.
9. When additional sheets are attached, change the number of pages at the bottom of the form to so indicate.
10. Completed Endorsement(s) including cancellation notices and questions relating to the required insurance are to be directed to:

Address Cancellation Notice and Issue Endorsement to:

Peninsula Housing Authority
Name of Housing Authority
Sarah T. Martinez, Executive Director
Name of Individual
2603 South Francis Street
Street
Port Angeles, WA 98362
City, State, Zip

11. Improperly completed endorsements will be returned to your insured for correction by an authorized representative of the insurance company.
12. Delay in submitting properly completed endorsement forms may delay your insured's intended occupancy or operation under agreement with the Housing Authority.
13. For extensions or renewals on insurance policies which have Housing Authority Endorsement Form(s) attached, the Housing Authority will accept a copy of the endorsement (*with the original signature*) to extend the period of coverage as evidence of continued coverage.

Exhibit I-A

COMMERCIAL LIABILITY **2ND REPRINT**
CGL –ENDORSEMENTS **APRIL 1994**

POLICY NUMBER: **COMMERCIAL GENERAL LIABILITY**

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED—OWNERS, LESSEES OR CONTRACTORS (FORM B)

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person or Organization: Peninsula Housing Authority
2603 South Francis Street
Port Angeles, WA. 98362

(If no entry appears above, information required to complete this endorsement will be shown in the Declarations as applicable to the endorsement.)

WHO IS AN INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule, but only with respect to liability arising out of your ongoing operations performed for that insured.

Modifications to ISO form CB 20 10 10 93:

1. **The insured scheduled above includes the Insured's officers, officials, employees and volunteers.**

2. **This insurance shall be primary as respects the insured shown in the schedule above, or if excess, shall stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the Insured scheduled above shall be in excess of this insurance and shall not be called upon to contribute with it.**

3. **The insurance afforded by this policy shall not be cancelled or materially changed except after 30 (thirty) days prior written notice by certified mail return receipt requested has been give to the Authority.**

_____
Insurer

_____
Signature-Authorized Representative

_____
Address

_____

TAX AND BID PRICE

Taxes:

1. **CONTRACTOR** shall pay all sales, use, business & occupation and other similar taxes required to be paid by **CONTRACTOR** in accordance with the Laws and Regulations of the State of Washington, which are applicable during the performance of the work. In addition, the Housing Authority will not release the final retained amount (5%) due on this contract until confirmation from the State Departments of Revenue, Employment Security Division and Labor & Industries indicate that the **CONTRACTOR** has paid all taxes due for this project.

Bid Price:

2. **CONTRACTOR** shall submit a bid price that is the complete cost to furnish all labor, materials, equipment, services, taxes, fees and drawings required to construct and complete the project. **No** additional costs will be accepted above the bid price or the costs shown in alternates.

The **CONTRACTOR** shall not show a tax line item, use or otherwise, on payment requests.

Contractor: _____ Date: _____

CONTRACTOR STATEMENT

Per agreement between _____ (*Contractor*) and the Peninsula Housing Authority (*Company*) property for an agreed fee or rate, Contractor acknowledges that Company uses and/or produces various substances which may be classified as hazardous substances under OSHA's Hazard communication Standard. Contractor recognizes this with a description of such substances which may be present in the areas of Company's facility to which Contractor and its employees may have access during the performance of the job as agreed. Contractor further acknowledges that Company has also provided suggestions for appropriate protective measures, which should be observed when Contractor's employees are in the area of hazardous substances.

It is Contractor's sole responsibility to inform its employees of the described hazardous substances and protective measures suggested by Company. It is Contractor's further sole responsibility to ensure that the Contractor's employees observe protective measures during the performance of their duties, which are at least as stringent as the protective measures suggested by the Company.

Contractor agrees that, in the event that it shall be required to bring any hazardous substances onto Company's property during the performance if its job, it shall notify Company in advance and suggest to Company appropriate protective measures to be observed by Company's employees.

Company specifically reserves the right to interrupt or terminate Contractor's work if Contractor shall fail in whole or in part to comply with these terms and Contractor shall be prohibited from renewing such work in progress until all applicable safety and health procedures are implemented.

Agreed this _____ day of _____, 2024.

CONTRACTOR:

_____

_____

(Signature)

COMPANY:

_____

_____

(Signature)

CONTRACTOR SECTION 3 PLAN
(Affirmative Action)

_____(Contractor) agrees to implement the following specific affirmative actions directed at increasing the utilization of lower income residents and businesses within the City of Port Angeles:

A. To attempt to recruit from within the county the necessary number of lower income residents through: Local advertising media, signs placed at the proposed site for the project, and community organization and public or private institutions operating within or serving the project area such as the U.S. Employment Service.

B. To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons if otherwise eligible and if a vacancy exists.

C. To insert this Section 3 plan in all bid documents, and to require all bidders on subcontracts to submit a Section 3 affirmative action plan, including utilization goals and the specific steps planned to accomplish these goals.

D. To ensure that subcontracts, which are typically let on negotiated rather than a bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, whenever feasible, when let in a Section 3 covered project area.

E. To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.

F. To insure that all appropriate project area business concerns are notified of pending sub-contractual opportunities.

G. To maintain records, including copies of correspondence, memoranda, etc., which document that all of the above affirmative action steps have been taken.

H. To appoint or recruit an executive official of the company or agency as Equal Opportunity Officer to coordinate the implement-action of this Section 3 plan.

I. To list on Table A information related to subcontracts to be awarded.

J. To list on Table B all projected workforce needs for all phases of this project by occupation, trade, skill level and number of positions.

NOTE: If a prime or subcontract is under $100,000, this form is not required.

As officers and representatives of _____

We the undersigned have read and fully agree to this Affirmative Action Plan and become a part of the full implementation of this program.

_____

Signature

_____

Title

_____

Date

_____

Signature

_____

Title

_____

Date

PROPOSED SUBCONTRACTS BREAKDOWN *TABLE A*

FOR THE PERIOD COVERING _____, 20___through _____, 20 ___

Column 1	Column 2	Column 3	Column 4	Column 5
Type of Contract (Business or Profession)	**Total Number of Contracts**	**Total Approximate Dollar Amount**	**Estimated Number of Contracts to Project Area Businesses***	**Estimated Dollar Amount to Project Area Businesses***

***The Project Area is coextensive with the _____boundaries.**

_____
Company

_____ _____
Project Name **Project Number**

_____ _____
Equal Employment Opportunity Officer (Signature) **Date**

ESTIMATED PROJECT WORKFORCE BREAKDOWN ***TABLE B***

Column 1	Column 2	Column 3	Column 4	Column 5
Job Category	**Total Estimated Positions**	**No. of Positions Currently Occupied by Permanent Employee**	**No. of Positions Not Currently Occupied**	**No. of Positions to be Filled with L.I.P.A.R***
Officers/Supervisors				
Professionals				
Technicians				
Housing Sales/Rental Management				
Office Clerical				
Service Workers				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum # Trainees				
Others				
TRADE:				
Journeymen				
Helpers				
Apprentices				
Maximum # Trainees				
Others				
TOTAL				

*Lower Income Project Area Residents. Individuals residing within the city limits of Port Angeles whose family income does not exceed 90% of the median income in the Metropolitan Statistical Area (MSA).

_____

Company

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY

PERMIT

PROJECT INFORMATION

PROJECT DESCRIPTION
EXISTING 7,537 SF 2-STORY AND BASEMENT COMMERCIAL OFFICE BUILDING ORIGINALLY CONSTRUCTED IN 1946
INTERIOR REMODEL INCLUDING:
RECEPTION DESK WITH GLASS SCREEN, CONTROLLED ACCESS TO 2ND FLOOR STAIR, CONFERENCE ROOM, REMODEL KITCHEN AND BREAK ROOM, NEW KITCHENETTE AND ACCESSIBLE RESTROOM.
NO EXTERIOR CONSTRUCTION UNDER THIS PERMIT.

SITE ADDRESS
727 EAST EIGHTH ST
PORT ANGELES, WA 98362

SITE ZONING
CN (COMMERCIAL NEIGHBORHOOD)

LEGAL DESCRIPTION
LOTS 16-18 BL 225 TPA SURVEY V60 P61

PARCEL NUMBER(S)
063 0000 22590

AUTHORITY HAVING JURISDICTION
DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
321 E. 5TH ST
PORT ANGELES, WA 98362
(360) 417 - 4817

BUILDING INFORMATION
CONSTRUCTION TYPE: V-B
OCCUPANCY GROUP(S): B
GROSS AREA: 8,953 SF EXISTING -- NO CHANGE
HEIGHT ABOVE GRADE PLANE: 26'-1" EXISTING -- NO CHANGE

SEE CODE SUMMARY FOR ADDITIONAL INFORMATION.

VICINITY MAP

PROJECT DESIGN TEAM

OWNER
PENINSULA HOUSING AUTHORITY
2603 S FRANCIS ST
PORT ANGELES, WA 98362
SARAH MARTINEZ
360.452.7631 EXT 101
smartinez@peninsulapha.org

CIVIL ENGINEER
COUGHLIN PORTER LUNDEEN
801 SECOND AVE, STE 900
SEATTLE, WA 98104
BART BALKO
206.399.6857
BartB@cplinc.com

LANDSCAPE ARCHITECT
LYON LANDSCAPE ARCHITECTS
2111 S C ST
TACOMA, WA 98402
MOGHAN LYON
253.209.4053
moghan@lyonla.com

ARCHITECT
RICE FERGUS MILLER
275 5TH ST, SUITE 100
BREMERTON, WA 98337
LORIE LIMSON COOK, PROJECT MANAGER
253.988.3702
LLimsonCook@rfmarch.com
DANIEL STEWART, PROJECT ARCHITECT
360.377.8773
dstewart@rfmarch.com

STRUCTURAL ENGINEER
ATLAS DESIGN GROUP
35314 SE CENTER ST
SNOQUALMIE, WA 98065
CHRIS PADIN
425.400.9239
chris.padin@adg-inc.com

MECHANICAL ENGINEER
RUSHING
1725 WESTLAKE AVE N, STE 300
SEATTLE, WA 98109
DIANA FISHER
206.535.8709
dianaf@rushingco.com

PLUMBING ENGINEER
RUSHING
1725 WESTLAKE AVE N, STE 300
SEATTLE, WA 98109
BRANDON HUNTER
206.788.4572
brandonh@rushingco.com

ELECTRICAL ENGINEER
RUSHING
1725 WESTLAKE AVE N, STE 300
SEATTLE, WA 98109
MARWAN SALIH
(NUMBER)
MarwanS@rushingco.com

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600 REGISTERED ARCHITECT
DEAN E. KELLY
STATE OF WASHINGTON

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

PROJECT INFORMATION, VICINITY MAP, PROJECT DESIGN TEAM

SHEET #
A00.01

ABBREVIATIONS

-- A --	
A	AMP
AA	ART & ACCESSORIES
AB	ANCHOR BOLT
AC	AIR CONDITIONING
ACST	ACOUSTIC(AL)
ACT	ACOUSTIC CEILING TILE
AD	AREA DRAIN
ADJ	ADJACENT, ADJUST(ABLE)
AFF	ABOVE FLOOR FINISH
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
ALT	ALTERNATE
ALUM	ALUMINUM
AP	ACCESS PANEL
APPROX	APPROXIMATELY
ARCH	ARCHITECT(URAL)
ASPH	ASPHALT
AUTO	AUTOMATIC
AUX	AUXILIARY
AV	AUDIO VISUAL
-- B --	
BATH	BATHROOM
BD	BOARD
BED	BEDROOM
BLDG	BUILDING
BLKG	BLOCKING
BM	BEAM
BO	BOTTOM OF
BOB	BOTTOM OF BEAM
BOD	BOTTOM OF DECK
BOF	BOTTOM OF FRAMING
BOJ	BOTTOM OF JOIST
BTW	BETWEEN
BUR	BUILT UP ROOF(ING)
-- C --	
CAB	CABINET
CALC	CALCULATION
CB	CATCH BASIN, CORNER BEAD
CEM	CEMENT
CFOI	CONTRACTOR FURNISHED & OWNER INSTALLED
CIP	CAST IN PLACE
CJ	CONTROL JOINT, CONSTRUCTION JOINT
CL	CENTERLINE
CLG	CEILING
CLO	CLOSET
CLR	CLEAR
CMU	CONCRETE MASONRY UNIT
CO	CLEAN OUT
COL	COLUMN
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECT(ION)
CONSTR	CONSTRUCTION
CONT	CONTINUE, CONTINUOUS
COORD	COORDINATE
CORR	CORRIDOR
CP	CEMENT PLASTER
CPT	CARPET
CS	CONCRETE SEALER
CSMT	CASEMENT
CTR	CENTER
CW	COLD WATER
-- D --	
D	DEEP, DRYER
DBL	DOUBLE
DEMO	DEMOLISH(ED), DEMOLITION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIM	DIMENSION
DISP	DISPOSAL
DL	DEAD LOAD
DN	DOWN
DP	DECORATIVE PANEL
DR	DOOR, DINING ROOM, DRAIN
DS	DOWNSPOUT
DW	DISHWASHER
DWG	DRAWING(S)
DWR	DRAWER
-- E --	
(E)	EXISTING
E	EAST
EA	EACH
EC	EDGE OF CURB
EE	EACH END
EIFS	EXTERIOR INSULATION & FINISH SYSTEM
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMER	EMERGENCY
ENCL	ENCLOSE(D), ENCLOSURE
EP	ELECTRICAL PANELBOARD
EQ	EQUAL
EQP	EQUIPMENT
EST	ESTIMATE(D)
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EXH	EXHAUST
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR
-- F --	
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FD	FLOOR DRAIN
FDC	FIRE DEPARTMENT CONNECTION
FDN	FOUNDATION
FDV	FIRE DEPARTMENT VALVE
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
FF	FACTORY FINISH, FINISH FACE
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FHR	FIRE HOSE RACK, FIRE HOSE REEL

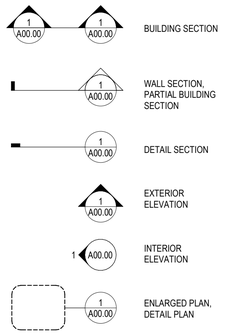
-- F CONTINUED --	
FIN	FINISH(ED)
FIXT	FIXTURE
FLASH	FLASHING
FLR	FLOOR
FMF	FLEXIBLE MEMBRANE FLASHING
FOB	FACE OF BRICK
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUD
FP	FIREPLACE
FRP	FIBER REINFORCED PANELS
FRTW	FIRE RETARDANT TREATED WOOD
FRZ	FREEZER
FS	FULL SIZE
FCG	FURNITURE-CASEGOODS
FSG	FURNITURE-SOFTGOODS
FT	FOOT, FEET
FTG	FOOTING
FURR	FURRING
-- G --	
G	GROUND
GA	GAUGE
GALV	GALVANIZED
GAR	GARAGE
GB	GRAB BAR
GC	GENERAL CONTRACTOR
GEN	GENERAL
GFRG	GLASS FIBER REINFORCED GYPSUM
GI	GALVANIZED IRON
GL	GLASS, GLAZING
GLF	GLAZING FILM
GLULAM	GLUE LAMINATED
GR	GROSS
GT	GROUT
GWB	GYPSUM WALL BOARD
GYP	GYPSUM SHEATHING
-- H --	
H	HEIGHT, HIGH
HB	HOSE BIB
HC	HOLLOW CORE
HDR	HEADER
HDW	HARDWARE
HDWD	HARDWOOD
HGR	HANGER
HM	HOLLOW METAL
HRL	HANDRAIL
HORIZ	HORIZONTAL
HR	HOUR(S)
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HW	HOT WATER
HWT	HOT WATER TANK
-- I --	
IIC	IMPACT INSULATION CLASS
IN	INCH(ES)
INC	INCREASE
INCL	INCLUDE(D), INCLUDING
INFO	INFORMATION
INSTL	INSTALL(ATION)
INSUL	INSULATION
INT	INTERIOR
-- J --	
JAN	JANITOR
JBOX	JUNCTION BOX
JST	JOIST
JT	JOINT
-- K --	
KD	KILN DRIED
KIT	KITCHEN
KP	KICK PLATE
KW	KILOWATT
-- L --	
L	LEFT, LENGTH, LINEN, LONG
LAB	LABORATORY
LAM	LAMINATE(D)
LAU	LAUNDRY
LAV	LAVATORY
LB(S)	POUND(S)
LD	LIGHTING-DECORATIVE
LDG	LANDING
LF	LINEAL FOOT
LL	LIVE LOAD
LOC	LOCATION
LP	LIGHTING-PORTABLE
LPT	LOW POINT
LR	LIVING ROOM
LRG	LARGE
LT	LIGHT(ING)
LVR	LOUVER
-- M --	
MACH	MACHINE
MAINT	MAINTENANCE
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MBR	MASTER BEDROOM
MC	MEDICINE CABINET
MDO	MEDIUM DENSITY OVERLAY
MECH	MECHANIC(AL)
MED	MEDIUM
MEDS	MEDICINE, MEDICAL
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MFRREC	MANUFACTURER'S RECOMMENDATION(S)
MGR	MANAGER
MH	MANHOLE
MIN	MINIMUM
MIR	MIRROR
MISC	MISCELLANEOUS
MO	MASONRY OPENING, MONITOR
M/S	MIRROR & SHELF
MTD	MOUNTED

-- M CONTINUED --	
MTL	METAL
MUL	MULLION
MULT	MULTIPLE
MW	MICROWAVE OVEN
-- N --	
N	NORTH
NA	NOT APPLICABLE
NE	NORTHEAST
NC	NOISE CRITERIA, NURSE CALL
NCAP	NURSE CALL ANNUNCIATOR PANEL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
NW	NORTHWEST
-- O --	
O/	OVER
OA	OVERALL
OC	ON CENTER
OCC	OCCUPANTS, OCCUPANT LOAD, OCCUPANCY
OD	OUTSIDE DIAMETER
OFCI	OWNER FURNISHED & CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED & OWNER INSTALLED
OFD	OVERFLOW DRAIN
OFF	OFFICE
OGL	OBSCURE GLASS
OH	OVERHEAD
OPH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORD	OVERFLOW ROOF DRAIN
-- P --	
P	PAINT(ED), PANTRY
PC	PORTLAND CEMENT
PCC	PRECAST CONCRETE
PCF	POUNDS PER CUBIC FOOT
PED	PEDESTAL
PERF	PERFORATED
PERM	PERMANENT
PERP	PERPENDICULAR
PF	PLUMBING FIXTURE
PFP	PREPARED FOR PAINT
PIV	POST INDICATOR VALVE
PL	PLATE, PROPERTY LINE
PLAS	PLASTER
PLBG	PLUMBING
PLY	PLYWOOD
PMTL	PAINTED METAL
PNT	POINT
PP	POWER POLE
PR	PAIR
PREFAB	PREFABRICATE
PRELIM	PRELIMINARY
PRKG	PARKING
PROP	PROPERTY
PS	PROJECTOR SCREEN
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	PRESERVATIVE TREATED, PRESSURE TREATED, POST TENSIONED
PTN	PARTITION
PVC	POLYVINYL CHLORIDE, POLYVINYL CHLORIDE PIPE
PVD	PROVIDE
PVG	PAVING
PVMT	PAVEMENT
PVR	PAVERS
PWR	POWER
-- Q --	
QTY	QUANTITY
QTZ	QUARTZ
-- R --	
R	RISER, RADIUS
RA	RESTROOM ACCESSORY
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
REBAR	REINFORCING BAR
REC	RECESSED
REF	REFERENCE, REFRIGERATOR
REINF	REINFORCE(D), REINFORCING
RES	RESILIENT
REQD	REQUIRED
RET	RETAINING
REV	REVISED, REVISION
RF	RAISED FLOOR(ING)
RM	ROOM
RO	ROUGH OPENING
ROW	RIGTH OF WAY
RP	RADIUS POINT
RR	RESTROOM
R/S	ROD & SHELF
RS	ROUGH SAWN
RT	RIGHT
RVL	REVEAL
-- S --	
S	SOUTH, SINK
SAN	SANITARY
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCHED	SCHEDULE
SD	STORM DRAIN
SE	SOUTHEAST
SEAL	SEALER, SEALANT
SECT	SECTION
SEP	SEPARATION
SF	SQUARE FEET
SG	SAFETY GLASS, SAFETY GLAZING
SHR	SHOWER
SHTG	SHEATHING, SHEETING
SHLV	SHELVING
SIM	SIMILAR
SM	SHEET METAL
SOG	SLAB ON GRADE

-- S CONTINUED --	
SOL	SOLID SURFACE
STO	STONE
SPEC	SPECIFICATION(S)
SPKLR	SPRINKLER
SPKR	SPEAKER
SQ	SQUARE
SQIN	SQUARE INCH
SS	SERVICE SINK, SANITARY SEWER
SST	STAINLESS STEEL
ST	STREET, STAIN
STC	SOUND TRANSMISSION CLASS
STD	STANDARD
STL	STEEL
STOR	STORAGE
STRUCT	STRUCTURAL
SU	SOILED UTILITY
SUBFL	SUBFLOOR
SUSP	SUSPENDED
SW	SOUTHWEST, SWITCH
SYM	SYMMETRICAL
-- T --	
T	TREAD, TILE
T&B	TOP AND BOTTOM
TEL	TELEPHONE
TEMP	TEMPORARY, TEMPERATURE
TER	TERRAZZO
THK	THICK(NESS)
THRU	THROUGH
TI	TENANT IMPROVEMENT
TL	TOTAL LOAD
TMPD	TEMPERED
T&G	TONGUE AND GROOVE
TO	TOP OF
TOB	TOP OF BEAM
TOC	TOP OF CURB, TOP OF CONCRETE
TOF	TOP OF FOOTING, TOP OF FLOOR, TOP OF FRAME
TOS	TOP OF SLAB, TOP OF STEEL
TOW	TOP OF WALL
TR	TRANSITION STRIP
TS	TUBE STEEL
TV	TELEVISION
TX	TEXTILES
TYP	TYPICAL
-- U --	
UC	UNDERCOUNTER, UNDERCABINET, UNDERCUT
UGND	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
UP	UTILITY POLE
UTIL	UTILITY
-- V --	
V	VOLT(AGE)
VENT	VENTILATE, VENTILATION
VERT	VERTICAL
VEST	VESTIBULE
VIF	VERIFY IN FIELD
VTO	VENT TO OUTSIDE
VTR	VENT THROUGH ROOF
-- W --	
W	WASHING MACHINE, WEST, WIDE, WIDTH
W/	WITH
W/D	WASHER & DRYER
W/O	WITHOUT
WB	WALL BASE
WC	WATER CLOSET, WALL COVERING
WCO	WINDOW COVERING
WD	WOOD
WDP	WALL/ DOOR PROTECTION
WF	WIDE FLANGE
WH	WATER HEATER
WIC	WALK-IN CLOSET
WIN	WINDOW
WM	WIRE MOLD, WATER METER, WIRE MESH
WO	WALK-OFF FLOORING
WP	WORK POINT, WATERPROOFING, WEATHERPROOF
WPM	WATERPROOF MEMBRANE
WR	WATER REPELLENT, WATER RESISTANT
WRB	WATER RESISTANT BARRIER
WSCT	WAINSCOT
WT	WEIGHT
WWF	WELDED WIRE FABRIC
-- Y --	
YD	YARD, YARD DRAIN

SYMBOL LEGEND

--VIEW REFERENCE--



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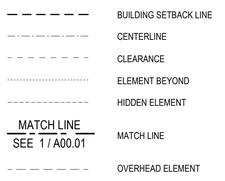

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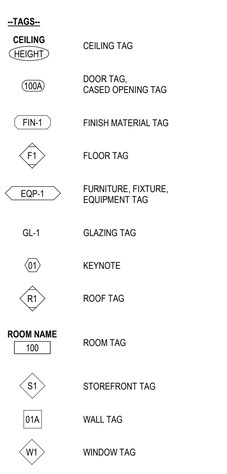
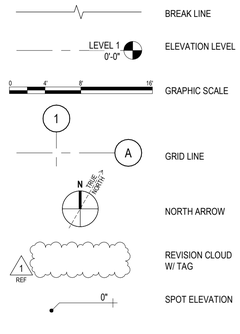


--ANNOTATIONS--



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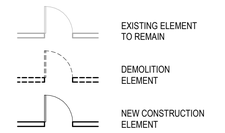
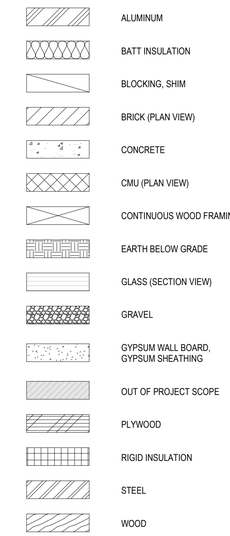


--MATERIAL SYMBOLS & PATTERNS--



1. DRAWINGS HAVE BEEN PREPARED ON AN ORIGINAL SHEET SIZE OF 24" X 36".
2. COMPLY WITH CODES, LAWS, ORDINANCES, RULES, AND REGULATIONS OF PUBLIC AUTHORITIES GOVERNING THE WORK.
3. OBTAIN AND PAY FOR PERMITS AND INSPECTIONS REQUIRED BY PUBLIC AUTHORITIES GOVERNING THE WORK.
4. REVIEW DOCUMENTS, VERIFY DIMENSIONS AND FIELD CONDITIONS AND CONFIRM THAT WORK IS BUILDABLE AS SHOWN. REPORT ANY CONFLICTS OR OMISSIONS TO THE ARCHITECT AND OWNER FOR CLARIFICATION PRIOR TO BIDDING OR PERFORMING ANY WORK IN QUESTION.
5. SUBMIT REQUESTS FOR SUBSTITUTIONS, REVISIONS, OR CHANGES TO ARCHITECT AND OWNER FOR REVIEW PRIOR TO PURCHASE, FABRICATION OR INSTALLATION. SEE PROJECT SPECIFICATIONS.
6. OWNER WILL PROVIDE WORK NOTED "BY OTHERS" OR "NIC" UNDER SEPARATE CONTRACT. INCLUDE SCHEDULE REQUIREMENTS IN CONSTRUCTION PROGRESS SCHEDULE AND COORDINATE TO ASSURE ORDERLY SEQUENCE OF INSTALLATION.
7. GC TO COORDINATE FURNITURE, SIGNAGE, GRAPHICS, TELECOMMUNICATIONS, DATA AND SECURITY SYSTEM INSTALLATIONS WITH ARCHITECT, OWNER, AND OWNER'S VENDORS TYPICAL. NOTIFY OWNER AND ARCHITECT OF COORDINATION ISSUES PRIOR TO FABRICATION AND INSTALLATION.
8. MAINTAIN WORK AREAS SECURE AND LOCKABLE DURING CONSTRUCTION. COORDINATE WITH TENANT AND LANDLORD TO ENSURE SECURITY.
9. DO NOT SCALE DRAWINGS. THE WRITTEN DIMENSIONS GOVERN. IN THE CASE OF A CONFLICT, NOTIFY THE ARCHITECT FOR CLARIFICATION.
10. DIMENSIONS ARE TO ROUGH FRAMING OR TO FACE OF EXISTING FINISHES, TYP UNO.
11. COORDINATE AND PROVIDE BACKING FOR MILLWORK AND EQUIPMENT ITEMS AS ATTACHED, MOUNTED OR BRACED TO WALLS OR CEILINGS.
12. DOORS SHALL BE TRIMMED AT THRESHOLD TO PROVIDE 1/4" MIN., 3/4" MAX, CLEARANCE (U.O.N.) ABOVE FLOOR FINISH MATERIAL TO ALLOW FOR FULL DOOR SWING.
13. OPENING FORCE FOR INTERIOR MANUALLY OPERATED NON-FIRE-RATED EGRESS SWINGING DOORS WITHOUT CLOSERS SHALL NOT EXCEED A 5 POUND FORCE. FOR OTHER SWINGING, SLIDING, FOLDING AND FIRE-RATED DOORS, THEY SHALL FULLY OPEN WHEN SUBJECTED TO A 15 POUND FORCE APPLIED TO THE LATCH SIDE.
14. DRAWINGS ARE THE PROPERTY OF RICE FERGUS MILLER AND HAVE BEEN PREPARED FOR THE USE IN THE EXECUTION OF THE ENCLOSED PROJECT. USE OR REPRODUCTION FOR ANOTHER PURPOSE WITHOUT THE WRITTEN PERMISSION OF RICE FERGUS MILLER IS PROHIBITED.

DRAWING INDEX

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600 REGISTERED ARCHITECT
DEAN E. KELLY
STATE OF WASHINGTON

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE

1	REVISION 1	05/07/2024

AHJ APPROVAL STAMP

DRAWING INDEX, GENERAL INFORMATION

SHEET #

A00.02

TYPICAL CODE REQUIRED SIGNAGE

TYPICAL CODE REQUIRED SIGNAGE INCLUDES THE FOLLOWING:

1. BUILDING ADDRESS NUMBERS (REFERENCE IFC 505.1 AND PER LOCAL FIRE CODE).
2. NO PARKING – FIRE LANE SIGNAGE (PER IFC 503.3 AND LOCAL FIRE CODE).
3. INTERIOR AND EXTERIOR ACCESS TO SHAFTWAYS UNLESS "READILY DISCERNIBLE" (IFC 316.2).
4. ACCESSIBLE LOADING, PARKING SPACES, AUTOMOBILE AND VAN ACCESSIBLE (REFERENCE IBC 1112.1).
5. IDENTIFY TOILET ROOMS AND BATHING ROOMS WITH VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE COMPLYING WITH ICC A117.1. WHERE PICTOGRAMS ARE PROVIDED, THEY SHALL HAVE VISUAL CHARACTERS, RAISED CHARACTERS AND BRAILLE COMPLYING WITH ICC A117.1 (PER IBC 1112.2)
6. ACCESSIBLE AND NON-ACCESSIBLE DIRECTIONAL, ROOM, SPACE, ELEMENT IDENTIFICATION SIGNS (REFERENCE IBC 1112.3)
7. ASSEMBLY AREA ASSISTED LISTENING DEVICES (REFERENCE IBC 1112.4).
8. OCCUPANCY LOAD FOR ASSEMBLY SPACES (REFERENCE IBC 1004.5 AND 1004.6).
9. NON-ACCESSIBLE EXIT AND ELEVATOR IDENTIFICATION (REFERENCE IBC 1009.10).
10. TACTILE EXIT SIGNS (REFERENCE IBC 1013.4).
11. FLOOR IDENTIFICATION SIGNS (REFERENCE IBC 1023.11)
12. AREA OF REFUGE COMMUNICATIONS SYSTEM INSTRUCTIONS (REFERENCE IBC 1009.8.2).
13. AREA OF REFUGE IDENTIFICATION (REFERENCE IBC 1009.9, AND 1009.11).
14. DOORS LOCKABLE FROM EGRESS SIDE (REFERENCE IBC 1010.2.4.3/3.2)
15. DELAYED EGRESS DOORS (REFERENCE IBC 1010.2.13).
16. DOOR IDENTIFICATION FOR SPRINKLER RISER ROOMS, FIRE ALARM EQUIPMENT, AND AIR CONDITIONING EQUIPMENT ROOMS (IBC 914.2, IFC 509.1 AND PER LOCAL FIRE CODE).
17. FIRE EXTINGUISHERS, IF NOT READABLY VISIBLE (REFERENCE IFC 906.6).
18. FLOOR LOADING (REFERENCE IBC 106.1).
19. ELEVATOR MACHINE ROOM SIGNAGE (REFERENCE ASME A17.1).
20. AREAS SUBJECT TO VIDEO OR AUDIO MONITORING. COORDINATE WITH SECURITY SYSTEM.
21. FIRE ALARM ANNUNCIATOR PANEL SIGNAGE: CLEAR POCKET FOR 11 BY 17 INCH PAPER INSERT SHOWING BUILDING PLAN. LOCATE ADJACENT TO REMOTE FIRE ALARM ANNOUNCIATOR PANEL AT FRONT ENTRY. VERIFY WITH LOCAL FIRE MARSHAL.
22. FIRE RATED CONSTRUCTION IDENTIFICATION (REFERENCE IBC 703.5).
23. ELEVATOR EMERGENCY SIGNS (REFERENCE IBC 3002.3).
24. ACCESSIBLE SIGNAGE FOR ALL PERMANENT ROOMS AND SPACES (REFERENCE ADA ACCESSIBILITY GUIDELINES 216.1 AND IBC 703.1, 703.2, 703.5)

APPLICABLE CODES

WASHINGTON STATE AMENDMENTS
2021 INTERNATIONAL BUILDING CODE (IBC)
2021 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
2021 INTERNATIONAL MECHANICAL CODE (IMC)
2021 INTERNATIONAL FIRE CODE (IFC)
2021 UNIFORM PLUMBING CODE (UPC)
2020 NATIONAL ELECTRICAL CODE (NEC)
2017 ICC A117.1 ACCESSIBILITY STANDARD
CITY OF PORT ANGELES MUNICIPAL CODE

DEFERRED SUBMITTALS

ELECTRICAL

FIRE DISTRICT

PORT ANGELES FIRE DEPARTMENT
102 EAST 5TH STREET
PORT ANGELES, WA 98362

ZONING CODE SUMMARY

ZONE
CN, COMMERCIAL NEIGHBORHOOD
PROFESSIONAL, BUSINESS, AND MEDIA OFFICES -- PERMITTED

SITE AREA
20,963 SF OR 0.48 ACRES

BUILDING SETBACK REQUIREMENTS
FRONT - 0' MINIMUM
SIDE - 0' MINIMUM
REAR - 0' MINIMUM

EXISTING BUILDING SETBACK
FRONT - 3'-2"
SIDE - 56'-2"
REAR - 7'-0"
SEE SITE PLAN FOR MORE INFO

ALLOWABLE BUILDING HEIGHT
40'-0" MAXIMUM

EXISTING BUILDING HEIGHT
26'-1"

PARKING REQUIREMENT
PER 14.40-110 EXISTING USES MAY CONTINUE UNTIL THERE IS AN EXPANSION. NO EXPANSION IS PROPOSED.

EXISTING PARKING COUNT
SEE SITE PLAN FOR MORE INFO

MAXIMUM SITE COVERAGE (PERCENT)
80% MAXIMUM
7,537 SF / 20,963 SF = 36% EXISTING -- NO CHANGE

EXISTING BUILDING CODE SUMMARY

PROJECT WILL COMPLY WITH ALTERATION LEVEL 2.
- NO CHANGE IN USE OR OCCUPANCY.
- NO ADDITIONS.
- NO CHANGE IN LIVE LOADS OR SNOW LOADS.
- EXISTING BUILDING HAS ONE EXISTING ACCESSIBLE ENTRANCE/EGRESS. PER 306.7.2 ADDITION OF ACCESSIBLE MEANS OF EGRESS ARE NOT REQUIRED IN EXISTING FACILITIES.
- ACCESSIBLE ROUTES AND ACCESSIBLE RESTROOMS ARE EXISTING TO REMAIN AS IS.
- WORK AREA IS LESS THAN 50% OF THE BUILDING AREA
  TOTAL EXISTING BUILDING AREA = 7,537 SF
  ALTERATION WORK AREA = 450 SF = 6%
- EXISTING BUILDING IS NOT SPRINKLERED. EXISTING SMOKE DETECTORS TO REMAIN AS IS.
- NO WINDOWS ARE BEING REPLACED. SOME INTERIOR DOORS ARE BEING MODIFIED OR ADDED.
- THERE ARE NO FIRE RATED WALLS OR DOORS IN THIS BUILDING AND ARE NOT REQUIRED UNDER CURRENT CODE.
- EXISTING NON-FIRE RATED VERTICAL OPENING BETWEEN LEVELS 1 & 2 IS ALLOWED PER 2021 **IBC** 712.1.9. THIS IS ACCEPTABLE PER 2021 **IEBC** 802.2.1, EXCEPTION 1.
- EXISTING ROOF TO REMAIN AS IS.

BUILDING CODE SUMMARY

BUILDING USE
PROFESSIONAL OFFICE BUILDING (EXISTING & PROPOSED)

OCCUPANCY CLASSIFICATION AND USE (CHAPTER 3)
BUSINESS GROUP B (EXISTING & PROPOSED)

ALLOWABLE BUILDING HEIGHT (TABLE 504.3)
GROUP B, TYPE VB WITHOUT SPRINKLER SYSTEM: 40 FT
EXISTING BUILDING HEIGHT: 26 FT -- NO CHANGE

ALLOWABLE NUMBER OF STORIES (TABLE 504.4)
GROUP B, TYPE VB WITHOUT SPRINKLER SYSTEM: 2 STORIES
EXISTING NUMBER OF STORIES: 2 - NO CHANGE

ALLOWABLE BUILDING AREA (TABLE 506.2)
GROUP B, TYPE VB WITHOUT SPRINKLER SYSTEM: 9,000 SF
EXISTING BUILDING AREA: 8,953 FT - NO CHANGE
SEE SITE PLAN FOR MORE INFO

CONSTRUCTION TYPE (CHAPTER 6)
TYPE VB
THERE ARE NO FIRE RATED ASSEMBLIES EXISTING NOR PROPOSED IN THIS PROJECT. NONE ARE REQUIRED.

INTERIOR WALL AND CEILING FINISH REQUIREMENTS BY OCCUPANCY (TABLE 803.13)
GROUP B WITHOUT SPRINKLER SYSTEM: CLASS C

OCCUPANT LOAD (SECTION 1004)
SEE LIFE SAFETY PLAN AND OCCUPANT LOAD CHART

MEANS OF EGRESS SIZING (SECTION 1005)
SEE LIFE SAFETY PLAN AND DOOR INFORMATION

NUMBER OF EXITS AND EXIT ACCESS DOORWAYS (SECTION 1006)
2 EXITS REQUIRED
MAXIMUM COMMON PATH OF EGRESS WITH ONE EXIT WITHOUT SPRINKLER SYSTEM: 75 FT

EXIT ACCESS TRAVEL DISTANCE (SECTION 1017)
GROUP B WITHOUT SPRINKLER SYSTEM: 200 FT

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600 REGISTERED ARCHITECT
DEAN E. KELLY
STATE OF WASHINGTON

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

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REVISION SCHEDULE		

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CODE SUMMARY

SHEET #
A00.03

OCCUPANT LOAD CHART BY ROOM

ROOM INFORMATION			OCCUPANCY CLASSIFICATION	IBC 2018 TABLE 1004.5 MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT			OCCUPANT LOAD
NUMBER	NAME	AREA		FUNCTION OF SPACE	LOAD FACTOR	GROSS/ NET	
101	ENTRY	349 SF	B	BUSINESS AREAS	150 SF	GROSS	3
102	OFFICE	149 SF	B	BUSINESS AREAS	150 SF	GROSS	1
103	OFFICE	193 SF	B	BUSINESS AREAS	150 SF	GROSS	2
104	OFFICE	145 SF	B	BUSINESS AREAS	150 SF	GROSS	1
105	LIBRARY	206 SF	B	BUSINESS AREAS	150 SF	GROSS	2
106	CONFERENCE	214 SF	B	ASSEMBLY WITHOUT FIXED SEATS: UNCONCENTRATED	15 SF	NET	15
107	MECH	97 SF	B	BUSINESS AREAS	150 SF	GROSS	1
108	SERVER	43 SF	B	BUSINESS AREAS	150 SF	GROSS	1
109	KITCHEN	142 SF	B	BUSINESS AREAS	150 SF	GROSS	1
110	BREAK	223 SF	B	BUSINESS AREAS	150 SF	GROSS	2
111	OFFICE	154 SF	B	BUSINESS AREAS	150 SF	GROSS	2
112	OFFICE	134 SF	B	BUSINESS AREAS	150 SF	GROSS	1
113	OFFICE	154 SF	B	BUSINESS AREAS	150 SF	GROSS	2
114	OFFICE	127 SF	B	BUSINESS AREAS	150 SF	GROSS	1
115	TOILET	67 SF	B	BUSINESS AREAS	150 SF	GROSS	1
116	VESTIBULE	376 SF	B	BUSINESS AREAS	150 SF	GROSS	3
117	OFFICE	187 SF	B	BUSINESS AREAS	150 SF	GROSS	2
118	TOILET	53 SF	B	BUSINESS AREAS	150 SF	GROSS	1
119	OFFICE	206 SF	B	BUSINESS AREAS	150 SF	GROSS	2
120	OFFICE	125 SF	B	BUSINESS AREAS	150 SF	GROSS	1
121	OFFICE	116 SF	B	BUSINESS AREAS	150 SF	GROSS	1
122	COMMON	327 SF	B	BUSINESS AREAS	150 SF	GROSS	3
123	OFFICE	148 SF	B	BUSINESS AREAS	150 SF	GROSS	1
124	OFFICE	120 SF	B	BUSINESS AREAS	150 SF	GROSS	1
125	OFFICE	118 SF	B	BUSINESS AREAS	150 SF	GROSS	1
126	OFFICE	118 SF	B	BUSINESS AREAS	150 SF	GROSS	1
127	OFFICE	168 SF	B	BUSINESS AREAS	150 SF	GROSS	2
128	OFFICE	124 SF	B	BUSINESS AREAS	150 SF	GROSS	1
129	OFFICE	116 SF	B	BUSINESS AREAS	150 SF	GROSS	1
130	OFFICE	189 SF	B	BUSINESS AREAS	150 SF	GROSS	2
131	COMMON	345 SF	B	BUSINESS AREAS	150 SF	GROSS	3
132	KITCHENETTE	98 SF	B	BUSINESS AREAS	150 SF	GROSS	1
133	TOILET	59 SF	B	BUSINESS AREAS	150 SF	GROSS	1
134	CONFERENCE	440 SF	B	ASSEMBLY WITHOUT FIXED SEATS: UNCONCENTRATED	15 SF	NET	30
135	MEN	57 SF	B	BUSINESS AREAS	150 SF	GROSS	1
136	WOMEN	56 SF	B	BUSINESS AREAS	150 SF	GROSS	1
137	HALL	127 SF	B	BUSINESS AREAS	150 SF	GROSS	1
138	STAIRS	145 SF	B	BUSINESS AREAS	150 SF	GROSS	1
139	HALL	61 SF	B	BUSINESS AREAS	150 SF	GROSS	1
LEVEL 1		6276 SF					99
LEVEL 2		1331 SF					9
TOTAL BUILDING							108

GROSS BUILDING AREA

LEVEL 1 --	5,633 SF
	573 SF
	6,206 SF TOTAL LEVEL 1
LEVEL 2 --	1,331 SF
	7,537 SF TOTAL BUILDING

NOTES & LEGEND - LIFE SAFETY PLAN

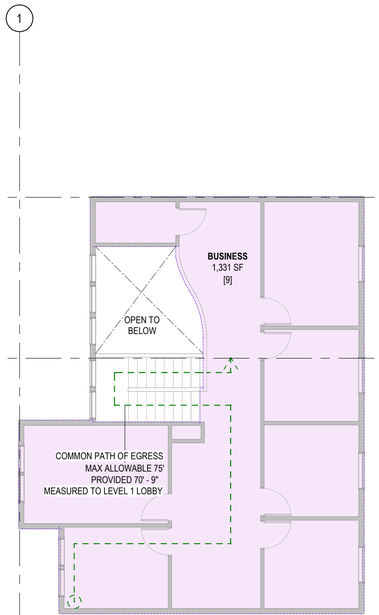
1. PROVIDE EXIT SIGNAGE PER 2021 IBC 1009.9, 1009.10, 1009.11, AND 1013.
2. PROVIDE MEANS OF EGRESS ILLUMINATION PER 2021 IBC 1008.

123 EXIT ACCESS OCCUPANT LOAD

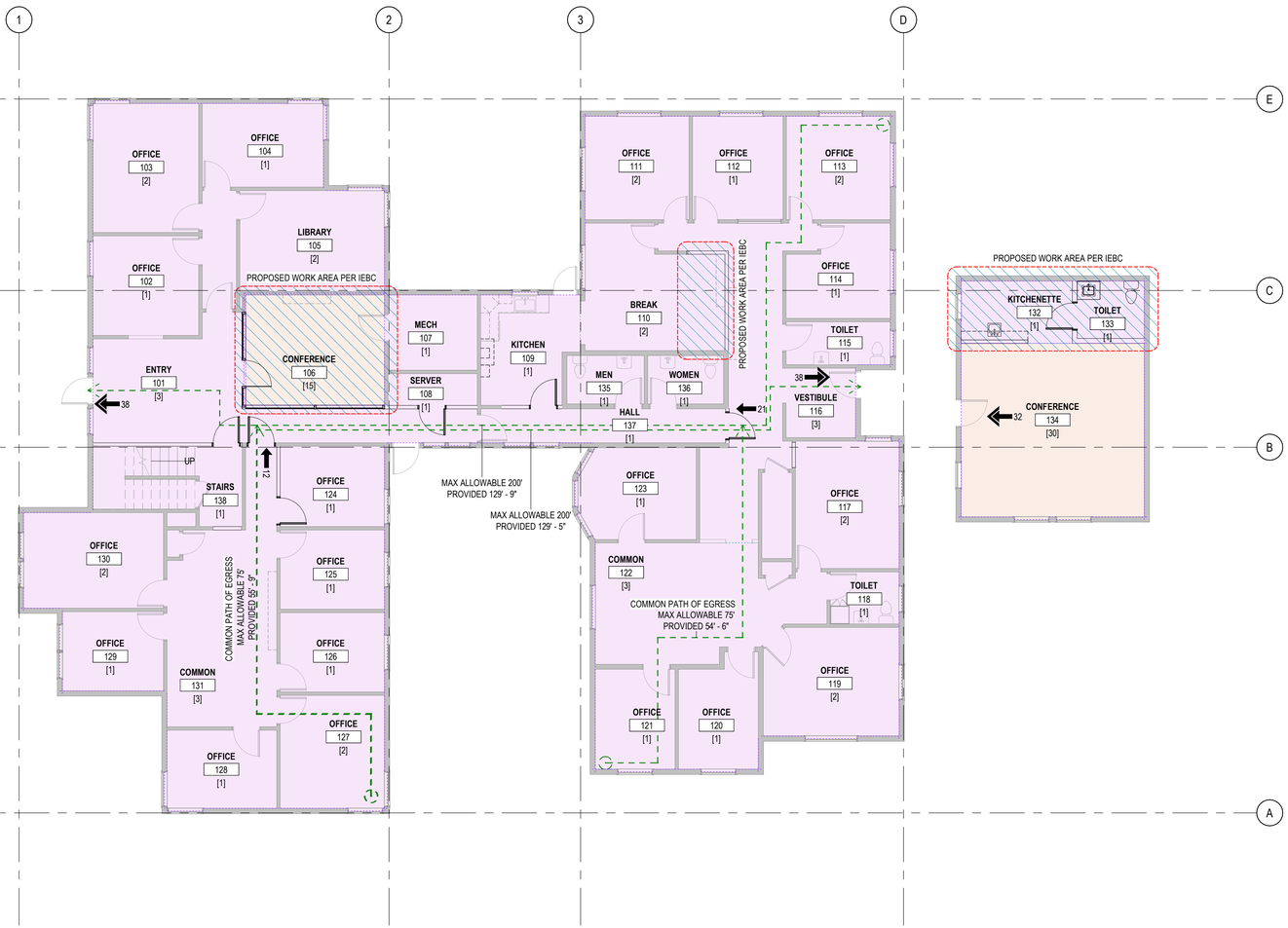
123 EXIT DISCHARGE OCCUPANT LOAD

ROOM NAME 100 [1] ROOM TAG W/ OCCUPANT LOAD COUNT

EGRESS PATH



2 LIFE SAFETY PLAN - LEVEL 2
1/8" = 1'-0"



1 LEVEL 1 - LIFE SAFETY PLAN
1/8" = 1'-0"

TRUE NORTH N

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600 REGISTERED ARCHITECT
DEAN E. KELLY
STATE OF WASHINGTON

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

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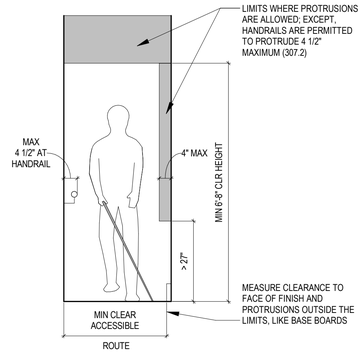
LIFE SAFETY PLAN

SHEET #
A01.01

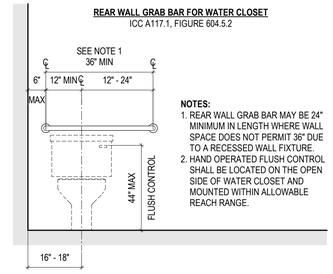
NOTES - ACCESSIBILITY DETAILS

1. ACCESSIBILITY REQUIREMENTS ARE BASED ON THE FOLLOWING CODE EDITIONS:
   - 2017 ICC A117.1
   - 2021 IBC (WAC 51-50)
2. INFORMATION ON THIS SHEET ARE GENERIC REQUIREMENTS. REFER TO PROJECT FLOOR PLANS AND INTERIOR ELEVATIONS FOR ACTUAL LAYOUT AND DIMENSIONS.
3. DIMENSIONS ARE CLEAR FROM FINISH TO FINISH, UNLESS NOTED OTHERWISE.
4. REFER TO CIVIL DRAWINGS FOR SITE AND PARKING RELATED ACCESSIBILITY REQUIREMENTS.

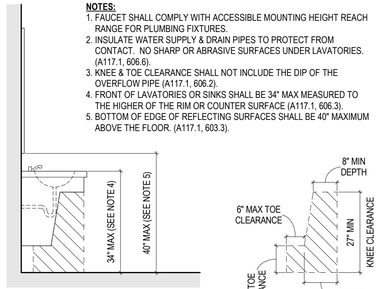


7 LIMITS OF PROTRUDING OBJECTS

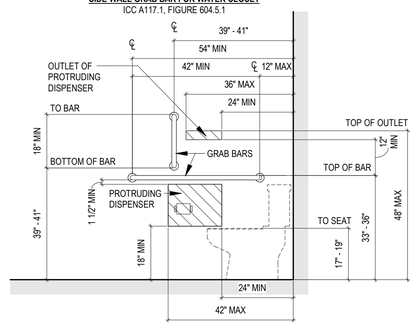
1/2" = 1'-0"



3 WATER CLOSET REAR WALL



6 MOUNTING HEIGHTS & OPERABLE PARTS

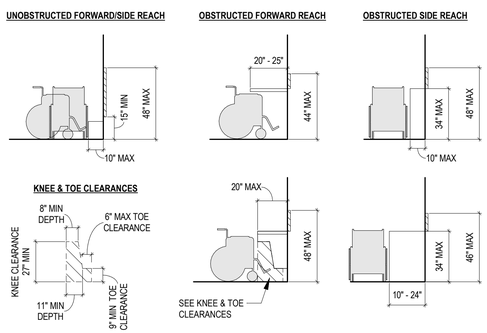


2 WATER CLOSET SIDE WALL

NOTES:
THE FOLLOWING SHALL BE MOUNTED WITHIN AN ACCESSIBLE REACH RANGE PER ICC A117.1, 308:

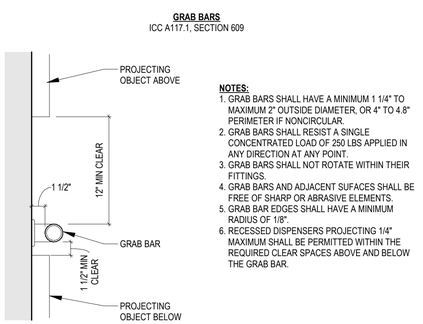
ACCESSIBLE SPACES WITHIN 'TYPE A' DWELLING UNITS:
1. LIGHTING CONTROLS
2. ELECTRICAL PANELBOARDS, SWITCHES AND ELECTRICAL OUTLET
3. ENVIRONMENTAL CONTROLS
4. *APPLIANCE CONTROLS
5. *OPERABLE WINDOW HARDWARE (WITH EXCEPTIONS PER 1103.13)
6. *PLUMBING FIXTURES
7. USER CONTROLS FOR SECURITY OR INTERCOM SYSTEMS

* ITEMS WITH ASTERISK ARE NOT REQUIRED WITHIN 'TYPE B' DWELLING UNITS. SEE 1104.9 FOR EXCEPTIONS.

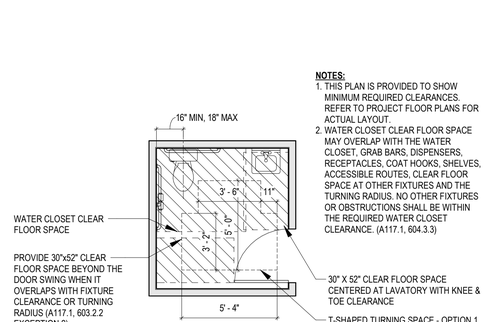


9 MOUNTING HEIGHTS & OPERABLE PARTS

1/4" = 1'-0"



5 GRAB BAR CROSS SECTION



1 RESTROOM CLEARANCES

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

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ACCESSIBILITY GUIDELINES - BUILDING ELEMENTS 2017

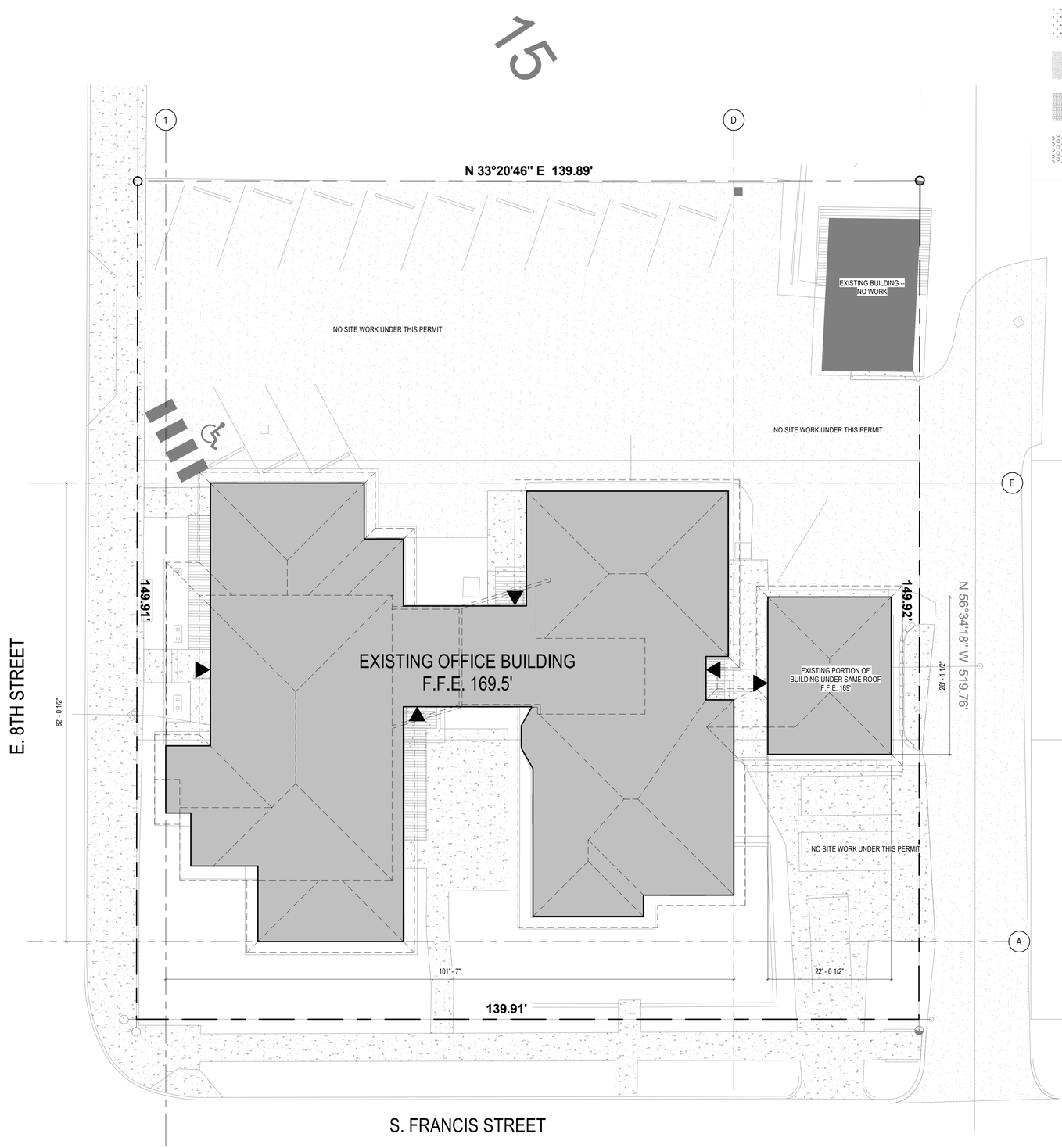
SHEET #
A04.01

PARKING STALLS		
STALL TYPE	QTY	COMMENTS

KEY NOTES - SITE PLAN	
#	NOTE DESCRIPTION

NOTES & LEGEND - SITE PLAN

- LANDSCAPING
- DRIVEWAY/ SIDEWALK, CONTROL JOINTS PER PLAN
- PAVERS
- DETECTABLE WARNING SURFACE
- EXTERIOR DOOR
- X—X—X FENCING
- PROPERTY LINE
- BUILDING SETBACK
- BUILDING OUTLINE
- ROOF OVERHANG



FOR REFERENCE ONLY.
EXISTING CONDITIONS SHOWN.
NO SITE WORK UNDER THIS PERMIT.

1 SITE PLAN

SCALE 1" = 10' - 0" 0 5' - 0" 10' - 0" 20' - 0"

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
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SITE PLAN

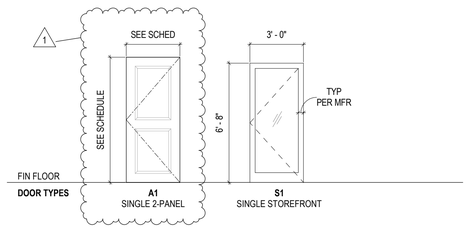
SHEET #
A11.01

KEY NOTES - FLOOR PLAN

#	NOTE DESCRIPTION
1	PATCH & PAINT TO MATCH EXISTING @ FLOOR, WALLS, & CEILING
2	RELOCATE EXISTING CASEWORK
2A	NEW LOCATION FOR EXIST CASEWORK
3	RELOCATE EXISTING CASEWORK
3A	NEW LOCATION FOR EXIST CASEWORK
4	RELOCATE EXISTING CASEWORK
4A	NEW LOCATION FOR EXIST CASEWORK
5	RELOCATE EXISTING CASEWORK
5A	NEW LOCATION FOR EXIST CASEWORK
6	RELOCATE EXISTING CASEWORK
6A	NEW LOCATION FOR EXIST CASEWORK
7	NEW FLOORING
8	MAINTAIN CLEAR TURNING SPACE
9	DEMO EXIST. DOOR AND PORTION OF WALL AS SHOWN
10	DEMO PORTION OF EXIST WALL PER ELEVATION FOR PASS-THRU WINDOW
11	DEMO EXIST. WALL, PATCH AND REPAIR ADJACENT REMAINING CEILING, WALLS, AND FLOOR
12	DEMO EXIST. WALL UP TO CEILING. PATCH & REPAIR ADJACENT REMAINING FLOOR, WALLS, AND CEILING.
13	FINISH NEW WALL TO MATCH EXISTING
14	EXTEND COUNTERTOP 12" BEYOND BACKING WALL @ BASE CABINET

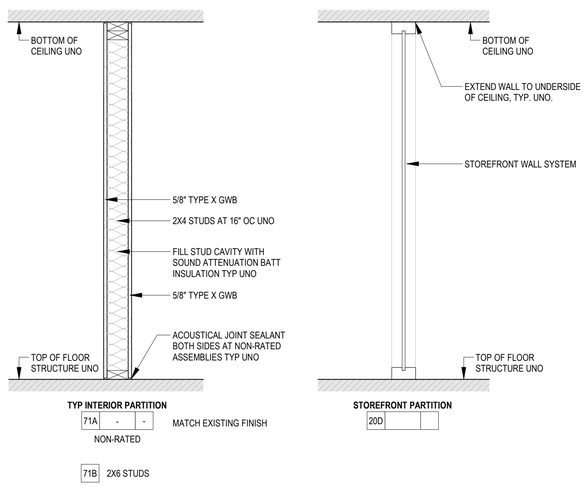
DOOR SCHEDULE

DOOR #	ROOM NAME	DOOR INFORMATION TYPE	MATERIAL	FINISH	HEIGHT	WIDTH	THICKNESS	FIRE RATING	COMMENTS
101B	ENTRY	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
106A	CONFERENCE	S1	ALUMINUM		6' - 8"	3' - 0"	1 3/4"		
108A	ENTRY	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
109A	KITCHEN	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
122A	VESTIBULE	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
133A	TOILET	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
150	OFFICE	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		
152	ENTRY	A1	WD	<By Category>	6' - 8"	3' - 0"	1 3/4"		



DOOR & FRAME TYPES

1/4" = 1'-0"



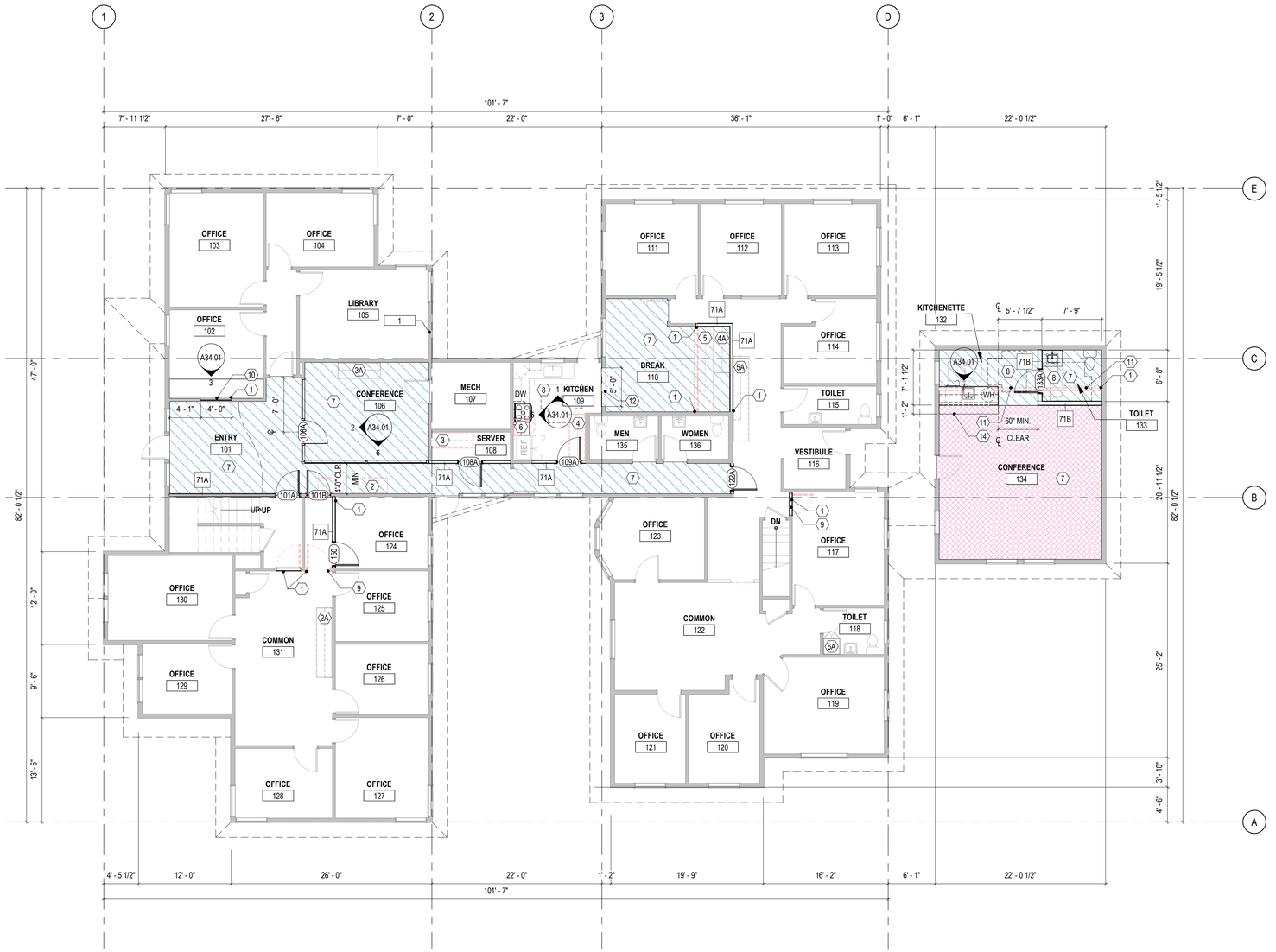
INTERIOR PARTITION TYPES

2 — 1" = 1'-0"

NOTES & LEGEND - FLOOR PLAN

1. DIMENSIONS ARE TO ROUGH FRAMING OR TO FACE OF EXISTING FINISHES, TYP UNO.
2. DIMENSIONS INDICATED AS "MIN" OR "CLR" ARE FROM NEAREST FINISH SURFACE, INCLUDING TRIM.
3. ROUGH DOOR OPENINGS ARE LOCATED 4" FROM NEAREST INTERSECTING WALL FRAMING, TYP UNO.

ROOF OVERHANG
NEW LVT FLOORING
NEW CARPET
5'-7" DIAMETER TURNING SPACE
CLEAR FLOOR SPACE 30" X 52" UNO
T-SHAPED TURNING SPACE



FLOOR PLAN - LEVEL 1

1 — 1/8" = 1'-0"

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600 REGISTERED ARCHITECT
DEAN E. KELLY
STATE OF WASHINGTON

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01
PERMIT
ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE

1	REVISION 1	05/07/2024

AHJ APPROVAL STAMP

FLOOR PLAN - LEVEL 1

SHEET # A22.01

KEY NOTES - FLOOR PLAN

#	NOTE DESCRIPTION
1	PATCH & PAINT TO MATCH EXISTING @ FLOOR, WALLS, & CEILING
2	RELOCATE EXISTING CASEWORK
2A	NEW LOCATION FOR EXIST CASEWORK
3	RELOCATE EXISTING CASEWORK
3A	NEW LOCATION FOR EXIST CASEWORK
4	RELOCATE EXISTING CASEWORK
4A	NEW LOCATION FOR EXIST CASEWORK
5	RELOCATE EXISTING CASEWORK
5A	NEW LOCATION FOR EXIST CASEWORK
6	RELOCATE EXISTING CASEWORK
6A	NEW LOCATION FOR EXIST CASEWORK
7	NEW FLOORING
8	MAINTAIN CLEAR TURNING SPACE
9	DEMO EXIST. DOOR AND PORTION OF WALL AS SHOWN
10	DEMO PORTION OF EXIST WALL PER ELEVATION FOR PASS-THRU WINDOW
11	DEMO EXIST. WALL, PATCH AND REPAIR ADJACENT REMAINING CEILING, WALLS, AND FLOOR
12	DEMO EXIST. WALL UP TO CEILING. PATCH & REPAIR ADJACENT REMAINING FLOOR, WALLS, AND CEILING.
13	FINISH NEW WALL TO MATCH EXISTING
14	EXTEND COUNTERTOP 12" BEYOND BACKING WALL @ BASE CABINET

NOTES & LEGEND - FLOOR PLAN

1. DIMENSIONS ARE TO ROUGH FRAMING OR TO FACE OF EXISTING FINISHES, TYP UNO.
2. DIMENSIONS INDICATED AS "MIN" OR "CLR" ARE FROM NEAREST FINISH SURFACE, INCLUDING TRIM.
3. ROUGH DOOR OPENINGS ARE LOCATED 4" FROM NEAREST INTERSECTING WALL FRAMING, TYP UNO.

ROOF OVERHANG

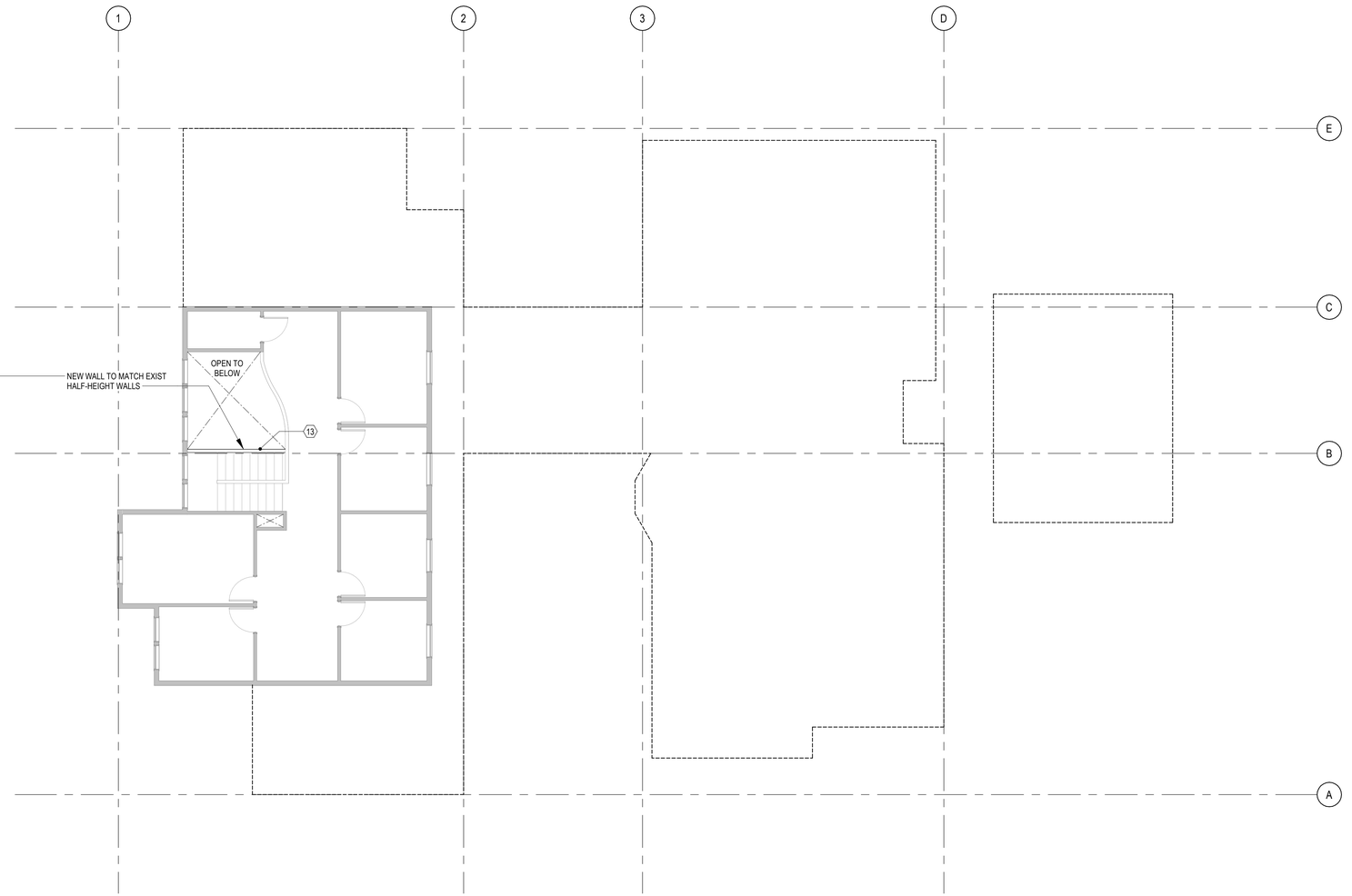
NEW LVT FLOORING

NEW CARPET

5'-7" DIAMETER TURNING SPACE

CLEAR FLOOR SPACE
30" X 52" UNO

T-SHAPED TURNING SPACE



1 LEVEL 2
1/8" = 1'-0"

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

20104600
REGISTERED ARCHITECT
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STATE OF WASHINGTON

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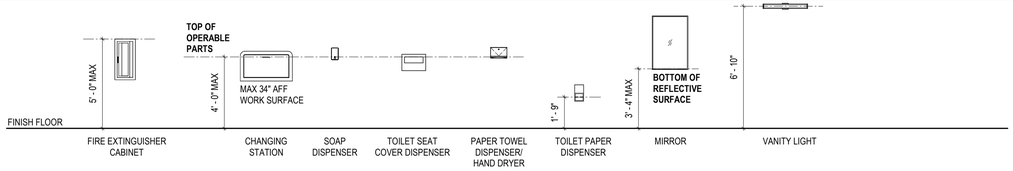
REVISION SCHEDULE		

AHJ APPROVAL STAMP

FLOOR PLAN - LEVEL2

SHEET #
A22.02

TYPICAL MOUNTING HEIGHTS



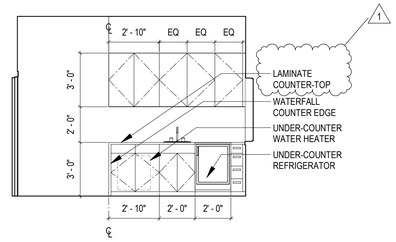
KEY NOTES - INTERIOR ELEVATIONS

#	NOTE DESCRIPTION

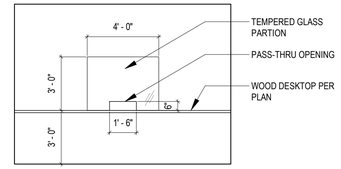
NOTES & LEGEND - INTERIOR ELEVATIONS

1. REFERENCE TYPICAL MOUNTING HEIGHTS UNLESS MOUNTING HEIGHT IS NOTED OTHERWISE.
2. GRAPHIC REPRESENTATION OF MATERIALS AND/OR FIXTURES MAY NOT BE TO SCALE.

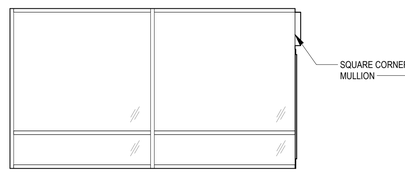
T-1 TILE SELECTION AND EXTENTS TO BE CONFIRMED WITH OWNER



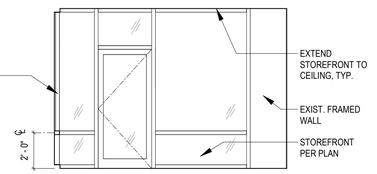
7 KITCHENETTE - EAST
1/4" = 1'-0"



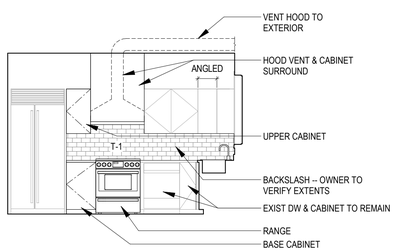
3 RECEPTION DESK - EAST
1/4" = 1'-0"



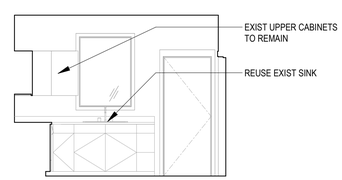
6 CONFERENCE ROOM - EAST
1/4" = 1'-0"



2 CONFERENCE ROOM - SOUTH
1/4" = 1'-0"



5 KITCHEN - SOUTH
1/4" = 1'-0"



1 KITCHEN - WEST
1/4" = 1'-0"

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
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AHJ APPROVAL STAMP

INTERIOR ELEVATIONS

SHEET #
A34.01

ABBREVIATIONS

A	AMPERE
AC	ABOVE COUNTER, ALTERNATING CURRENT
AF	AMP FUSE; AMP FRAME
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITIES HAVING JURISDICTION
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
AS	AMP SWITCH
AT	AMP TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
C	CONDUIT; DEGREES CELSIUS
CAT	CATEGORY
CCTV	CLOSED CIRCUIT TELEVISION
CU	COPPER
DWG	DRAWING
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR, END CAP
EF	EXHAUST FAN
ELEC	ELECTRICAL
EPO	EMERGENCY POWER OFF
EQ,EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OWNER
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER
FSD	FIRE SMOKE DAMPER
FT	FOOT; FEET
G, GND	GROUND
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
HP	HORSE POWER
IBC	INTERNATIONAL BUILDING CODE
JB	JUNCTION BOX
kVA	KILOVOLT AMPERE
KW	KILOWATT
KCMIL	THOUSAND CIRCULAR MILS
LCP	LIGHTING CONTROL PANEL
LTG	LIGHTING
LF	LINEAL FOOT
MAX	MAXIMUM
MCB	MAIN CIRCUIT BREAKER
MDP	MAIN DISTRIBUTION PANEL
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
N	NEUTRAL
(N)	NEW
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NL	NIGHT LIGHT
NTS	NOT TO SCALE
OC	ON CENTER
OH	OVERHEAD LINE
OS	OCCUPANCY SENSOR
PIV	POST INDICATOR VALVE
QTY	QUANTITY
REV	REVISION
SCL	SEATTLE CITY LIGHT
SF	SQUARE FOOT, SUPPLY FAN
SMR	SURFACE METAL RACEWAY
SPD	SURGE PROTECTOR DEVICE
(TVSS)	(TRANSIENT VOLTAGE SURGE SUPPRESSOR)
SPEC	SPECIFICATION
TBB	TELECOMMUNICATIONS BACKBOARD
TBD	TO BE DETERMINED
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VOLTS
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W	WATT; WIRE
WP	WEATHERPROOF
XFMR	TRANSFORMER
Y	WYE

ANNOTATION

XXX-XX-XX — EQUIPMENT TAG

1 — FLAG NOTE

X / X.X — DETAIL / PLAN IDENTIFIER

— REVISION CALLOUT

XXX — FEEDER TAG

FEEDER DESIGNATIONS

( ) 2"C. 3"1/0, 1#2 GND

- GROUND CONDUCTOR QTY & SIZE
- PHASE CONDUCTOR QTY & SIZE
- CONDUIT SIZE
- QTY RUNS

EXISTING CONSTRUCTION

EXISTING	DEMO	NEW	DESCRIPTION
			DUPLEX RECEPTACLE

SCHEMATIC / ONE LINE

480V P / 208Y/120V S — SIZED PER CODE — TRANSFORMER: VOLTAGES AS NOTED

M — CURRENT TRANSFORMER W/METER ENCLOSURE (METER PROVIDED BY UTILITY UNO)

DM — EMBEDDED DIGITAL METER PROVIDED BY CONTRACTOR

400AF / 400AT — CIRCUIT BREAKER (3 POLE UON); FRAME SIZE; TRIP SIZE

400AF 400AT — ENCLOSED CIRCUIT BREAKER (3 POLE UON)

EXOTHERMIC WELD

GROUND CONNECTION

50A — FUSE, SIZE AS INDICATED

60A — SWITCH, SIZE AS INDICATED

GF — GROUND FAULT

ST — SHUNT TRIP

TRANSFER SWITCH

GROUND ROD

GROUNDING

GROUND PIGTAIL

WELDED GROUND CONNECTION

GROUND ROD

WIRING

CONDUIT, EXPOSED OR CONCEALED

CONDUIT (UNDERGROUND)

CONDUIT OR CABLE DOWN

CONDUIT OR CABLE UP

CABLE CAPPED

CONDUIT CONTINUATION/ BREAK

HOME RUN

- INDICATES PHASE CONDUCTORS
- INDICATES NEUTRAL
- INDICATES GROUND
- INDICATES ISOLATED GROUND

POWER (P&LV)

RECEPTACLE OUTLET:
SUBSCRIPT NUMBER INDICATES PANEL CIRCUIT NUMBER
SUBSCRIPT LETTER INDICATES:
WP-WEATHER PROOF

DUPLEX RECEPTACLE

GFCI DUPLEX RECEPTACLE

FOURPLEX RECEPTACLE

GFCI FOURPLEX RECEPTACLE

DUPLEX RECEPTACLE - HALF SWITCH

CEILING DUPLEX RECEPTACLE

ABOVE COUNTER DUPLEX RECEPTACLE

ABOVE COUNTER FOURPLEX RECEPTACLE

DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT

QUADPLEX RECEPTACLE ON EMERGENCY CIRCUIT

F — POKE-THRU, DEVICES AS INDICATED
F - FLUSH MOUNTED

FB — FLOOR BOX, DEVICES AS INDICATED

PP 2 — POWER POLE

EQUIPMENT CONNECTION

30A — SPECIAL PURPOSE RECEPTACLE, DEVICE RATING AS SHOWN

J — J-BOX

30A — NON-FUSED DISCONNECT SIZE AS INDICATED

40/60 — FUSED DISCONNECT
AMP FUSE SIZE (40 AF)
AMP SWITCH SIZE (60 AS)

MOTOR STARTER

COMBINATION MOTOR STARTER - DISCONNECT SWITCH

SHUNT TRIP CIRCUIT BREAKER

MOTOR CONNECTION

MOTOR CONNECTION - 3 PHASE

480Y/277V ELECTRICAL PANEL

208Y/120V ELECTRICAL PANEL

RESIDENTIAL PANEL

ECP — PANEL, TYPE AS NOTED
ECP - ELEVATOR CONTROL PANEL
LCP - LIGHTING CONTROL PANEL

SURFACE MOUNTED RACEWAY WITH DEVICE AS SHOWN, OR WITH SPACING INDICATED

DOOR CONTACT

OUTLET MOUNTING HEIGHTS

SPECIAL OUTLET HEIGHTS ARE SHOWN ON THE ELECTRICAL DRAWINGS OR ON THE ARCHITECTURAL DRAWINGS. IF SPECIAL OUTLET HEIGHTS ARE NOT SHOWN OR REQUIRED, LOCATE OUTLETS AS NOTED BELOW. OUTLET HEIGHTS ARE MEASURED FROM THE CENTERLINE OF THE OUTLET TO THE FINISHED FLOOR, UNO.

RECEPTACLES	+18 INCHES VERTICAL
LIGHT SWITCHES	+48 INCHES VERTICAL
PANEL BOARDS	+4 FEET TO THE HIGHEST CIRCUIT BREAKER OR PANEL
ADA PANEL BOARDS	+4 FEET TO THE HIGHEST CIRCUIT BREAKER OR PANEL
TELECOM OUTLET-DESK	+18 INCHES VERTICAL
TELECOM OUTLET-WALL	+18 INCHES VERTICAL
MANUAL STATION	+40 INCHES VERTICAL
FIRE ALARM CONTROL PANEL	+6 FEET TO TOP
FIRE ALARM VISUAL ALARM LIGHT	+80 INCHES OR 6 INCHES BELOW CEILING, WHICHEVER IS LOWER
FIRE ALARM SPEAKER HORN, CHIME	+80 INCHES OR 6 INCHES BELOW CEILING, WHICHEVER IS LOWER

PROJECT ADDRESS

727 EAST 8TH ST
PORT ANGELES, WA 98362

PARCEL# 063000022590

VICINITY MAP

NOT TO SCALE

SHEET INDEX - ELECTRICAL

SHEET NUMBER	SHEET NAME
E0.01	ELECTRICAL LEGEND & ABBREVIATIONS
E0.10	ONE-LINE DIAGRAM
E0.11	PANEL SCHEDULES
E0.20	LIGHTING SCHEDULES
E0.21	LIGHTING ENERGY CODE
E1.01	SITE ELECTRICAL PLAN
E2.01	LEVEL 1 DEMO ELECTRICAL FLOOR PLAN
E3.01	LEVEL 1 ELECTRICAL FLOOR PLAN
E4.01	LEVEL 1 LIGHTING PLAN
E4.02	LEVEL 2 LIGHTING PLAN

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

SEAL

NICHOLAS P. RICH — STATE OF WASHINGTON — 27894 — REGISTERED PROFESSIONAL ENGINEER

PROJECT:

PHA OFFICE TI

727 EAST 8TH ST
PORT ANGELES, WA 98362

REVISIONS:

#	DATE	DESCRIPTION
1	05/07/2024	Revision 1

PERMIT SET

DRAWN BY:	IE
ENGINEERED BY:	MS
DATE:	2024-04-12
PROJECT NUMBER:	23BG-00

ELECTRICAL LEGEND & ABBREVIATIONS

SHEET NUMBER

E0.01

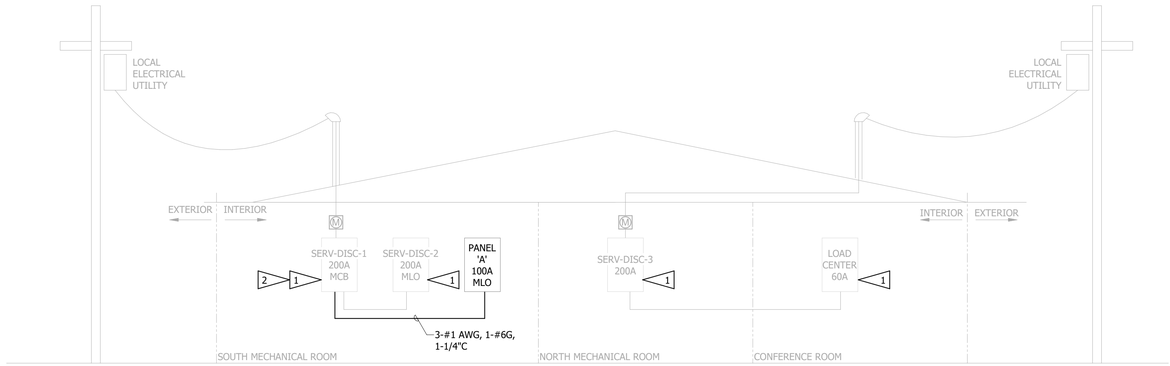
SHEET KEYNOTES

1 EXISTING SERVICE PANEL/PANELBOARD TO REMAIN.
2 UTILIZE 2P SPACE TO MOUNT 100A/2P CIRCUIT BREAKER TO FEED NEW PANEL 'A'.

Electrical Service Load Calculation

Service Loads	Load (VA)	Amps @ 240/1PH	
Existing Max Demand Load (1)	14,100	58.75	1
New Loads Added	24,700	102.92	
Loads Removed			
Net New Load	24,700	102.92	1
New Demand Load (2)	42,325	176.35	
Existing Service Size: Main Disconnect #1		200	

Notes:
(1) Per Info Provided By Port Angeles Public Works and Utilites
(2) Per NEC 220.97 (2): 125% Existing Max Demand + New Load



1 ELECTRICAL ONE-LINE DIAGRAM
NTS

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

SEAL

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DRAWN BY:	IE
ENGINEERED BY:	MS
DATE:	2024-04-12
PROJECT NUMBER:	23BG-00

ONE-LINE DIAGRAM

SHEET NUMBER

E0.10

PANEL SCHEDULE

PANEL: DISCO #1 **LOCATION:** S MECH ROOM **VOLTS:** 240 / 120 **P** 1 **W:** 3
AMP: 200 **MLO** [ ] **MCB** [X] **AIC RATING:** **MOUNT:** [X] SURFACE [ ] FLUSH
TYPE: **EXISTING** [X] **NEW** [ ] **STYLE:** **NEUTRAL:** 100% **FED FROM:**

CIRCUIT DESCRIPTION	LOAD TYPE	LOAD KVA	CKT BKR	P	CIR #	PH	CIR #	P	CKT BKR	LOAD KVA	LOAD TYPE	CIRCUIT DESCRIPTION
PANEL 'A'	**COMB**	**9.90**	**100**	**2**	1	**A**	2	1	20			SPACE
	COMB	**7.69**			3	**B**	4	1	20			SPACE
RANGE	**MISC**	**3.50**	**40**	**2**	5	**A**	6	1	20			UP # 4 LITES & OUTLETS
-	**MISC**	**3.50**	-	-	7	**B**	8	1	20			WEST UPPER HALL
DESK COMPUTER OUTLET			20	1	9	**A**	10	1	20			UP # 6 LITES & OUTLETS
#10 & #11 COMPUTER OUTLETS			20	1	11	**B**	12	1	20			#7 & #8 COMPUTER OUTLETS
DESK OUTLETS			20	1	13	**A**	14	1	20			ELECTRONIC FILTER
#8 & #9 COMPUTER OUTLETS			20	1	15	**B**	16	1	20			COPY MACHINE
#11 LITES & OUTLETS			20	1	17	**A**	18	1	20			UP # 3 & #4 COMPUTER OUTLETS
ENTRY HALL & OUTSIDE LITES			20	1	19	**B**	20	1	20			UP # LITES & OUTLETS
#9 LITES & OUTLETS			20	1	21	**A**	22	1	20			UP #3 LITES & OUTLETS
#10 LITES & OUTLETS			20	1	23	**B**	24	1	20			UP #1 & #2 COMPUTER OUTLETS
#8 LITES & OUTLETS			20	1	25	**A**	26	1	20			UP #2 LITES & OUTLETS
SIGN OUTLET			20	1	27	**B**	28	1	20			MECH RM
SPACE			20	1	29	**A**	30	1	20			SPACE

ESTIMATED MAXIMUM DEMAND (EMD) CALCULATIONS

LOAD SUMMARY:	LOAD TYPE:	CONNECTED	NEC DEMAND
LIGHTING	LTG	0.46 KVA	0.57 KVA (125%)
RESIDENT LTG/RECPT	RES	0.00 KVA	0.00 KVA (100/35/25 %)
SMALL APPLIANCE	RES	0.11 KVA	0.11 KVA (100/35/25 %)
LARGEST MOTOR		0.00 KVA	0.00 KVA (125%)
REMAINING MOTORS	MTR	0.00 KVA	0.00 KVA (100%)
GEN PURPOSE RECPT	REC	1.80 KVA	1.80 KVA (50% > 10KVA)
COMPUTER RECPT	MISC	2.88 KVA	2.88 KVA (100%)
EQUIP/OTHER	MISC	19.33 KVA	19.33 KVA (100%)
HEATING	MISC	0.00 KVA	0.00 KVA (100%)
ELEVATOR	ELEV	0.00 KVA	0.00 KVA @
KITCHEN EQPT	KITCH	0.00 KVA	0.00 KVA @
TOTALS		24.59 KVA	24.70 KVA
		102.44 AMPS	102.92 AMPS

LOAD TYPE NOTES:
"COMB" = COMBINATION LOAD TYPES ON INDICATED CIRCUIT
"RES" = RESIDENTIAL LTG/RECPT OR SMALL APPLIANCE LOAD TAKEN AT INDICATED DEMAND
"MISC" = EQUIP, COMPUTER REC OR HTG LOAD ON INDICATED CIRCUIT AT 100%

CONNECTED PHASE LOADING
PHASE A: 13.40 KVA
PHASE B: 11.19 KVA

NOTES:
1 NEW CONSTRUCTION SHOWN IN BOLD.

PANEL SCHEDULE

PANEL: A **LOCATION:** S. MECH ROOM **VOLTS:** 240 / 120 **P** 1 **W:** 3
AMP: 100 **MLO** [X] **MCB** [ ] **AIC RATING:** 10,000 **MOUNT:** [X] SURFACE [ ] FLUSH
TYPE: **EXISTING** [ ] **NEW** [X] **STYLE:** **NEUTRAL:** 100% **FED FROM:** SERVICE DISCONNECT #1

CIRCUIT DESCRIPTION	LOAD TYPE	LOAD KVA	CKT BKR	P	CIR #	PH	CIR #	P	CKT BKR	LOAD KVA	LOAD TYPE	CIRCUIT DESCRIPTION
CU-1-1 VIA HPFC-1-1	**MISC**	**1.98**	**25**	**2**	1	**A**	2	**2**	**25**	**1.98**	**MISC**	**CU-1-2 VIA HPFC-1-2**
-	**MISC**	**1.98**	**-**	**-**	3	**B**	4	**-**	**-**	**1.98**	**MISC**	**-**
REC - OFFICE MANAGER/ SO. OFFICE	**REC**	**0.72**	**20**	**1**	5	**A**	6	**1**	**20**	**0.19**	**COMB**	**EF-1-1, GFI REC RESTROOM**
REC - NORTH OFFICE	**REC**	**0.18**	**20**	**1**	7	**B**	8	**2**	**20**	**1.50**	**MISC**	**EWH-1-1**
HEAT TRACE PPC-1-1	**MISC**	**1.20**	**20**	**1**	9	**A**	10	**-**	**-**	**1.50**	**MISC**	**-**
REC - SERVER ROOM	**REC**	**0.36**	**20**	**1**	11	**B**	12	**1**	**20**	**0.10**	**RES**	**CP-1-1**
SERVER	**MISC**	**1.44**	**20**	**1**	13	**A**	14	**1**	**20**	**0.36**	**REC**	**REC - GFI KITCHENETTE**
SERVER	**MISC**	**1.44**	**20**	**1**	15	**B**	16	**1**	**20**	**0.08**	**MISC**	**ACCESS CONTROL SYSTEM**
HOOD	**MISC**	**0.15**	**20**	**1**	17	**A**	18	**1**	**20**	**0.38**	**LTG**	**LTG - OFFICE MGR, OFFICE, MECH RM, SERVER RM, CORR.**
SPACE			**20**	**1**	19	**B**	20	**1**	**20**	**0.08**	**LTG**	**LTG - CONF RM**
SPACE			**20**	**1**	21	**A**	22	**1**	**20**			**SPACE**
SPACE			**20**	**1**	23	**B**	24	**1**	**20**			**SPACE**
SPACE			**20**	**1**	25	**A**	26	**1**	**20**			**SPACE**
SPACE			**20**	**1**	27	**B**	28	**1**	**20**			**SPACE**
SPACE			**20**	**1**	29	**A**	30	**1**	**20**			**SPACE**

ESTIMATED MAXIMUM DEMAND (EMD) CALCULATIONS

LOAD SUMMARY:	LOAD TYPE:	CONNECTED	NEC DEMAND
LIGHTING	LTG	0.46 KVA	0.57 KVA (125%)
RESIDENT LTG/RECPT	RES	0.00 KVA	0.00 KVA (100/35/25 %)
SMALL APPLIANCE	RES	0.11 KVA	0.11 KVA (100/35/25 %)
LARGEST MOTOR		0.00 KVA	0.00 KVA (125%)
REMAINING MOTORS	MTR	0.00 KVA	0.00 KVA (100%)
GEN PURPOSE RECPT	REC	1.80 KVA	1.80 KVA (50% > 10KVA)
COMPUTER RECPT	MISC	2.88 KVA	2.88 KVA (100%)
EQUIP/OTHER	MISC	12.33 KVA	12.33 KVA (100%)
HEATING	MISC	0.00 KVA	0.00 KVA (100%)
ELEVATOR	ELEV	0.00 KVA	0.00 KVA @
KITCHEN EQPT	KITCH	0.00 KVA	0.00 KVA @
TOTALS		17.59 KVA	17.70 KVA
		73.27 AMPS	73.75 AMPS

LOAD TYPE NOTES:
"COMB" = COMBINATION LOAD TYPES ON INDICATED CIRCUIT
"RES" = RESIDENTIAL LTG/RECPT OR SMALL APPLIANCE LOAD TAKEN AT INDICATED DEMAND
"MISC" = EQUIP, COMPUTER REC OR HTG LOAD ON INDICATED CIRCUIT AT 100%

CONNECTED PHASE LOADING
PHASE A: 9.90 KVA
PHASE B: 7.69 KVA

NOTES:
1 NEW CONSTRUCTION SHOWN IN BOLD.

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1725 Westlake Ave N, Suite 300
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P: (206) 285-7100 | F: (206) 285-7111
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PROJECT:

PHA OFFICE TI

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REVISIONS:

#	DATE	DESCRIPTION
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PANEL SCHEDULES

SHEET NUMBER

E0.11

LUMINAIRE SCHEDULE

GENERAL NOTES:
1. EMERGENCY EGRESS LIGHTING TO BE WIRED TO INVERTER UNLESS OTHERWISE NOTED. PROVIDE UL924 BYPASS RELAYS AS REQUIRED TO ALLOW NORMAL AND EMERGENCY POWER LIGHTING TO BE CONTROLLED UNDER SINGLE ZONE AND EMERGENCY LIGHTING TO AUTOMATICALLY RAISE TO 100% POWER DURING POWER LOSS.
2. ALL LUMINAIRE FINISHES TO BE VERIRIED BY OWNER/ARCHITECT/INTERIOR DESIGNER.
3. CONTRACTOR TO SIZE REMOTE POWER SUPPLIES/WIRE GAUGE AS REQUIRED.
4. CONTRACTOR TO LOCATE REMOTE POWER SUPPLIES PER MANUFACTURER RECOMMENDED DISTANCES TO MINIMIZE VOLTAGE DROP.
5. CCT = CORRELATED COLOR TEMPERATURE (MASURED IN KELVIN, K)
6. CRI = COLOR RENDERING INDEX (HIGHER NUMBER IS BETTER RENDERING)

TYPE	DESCRIPTION	LOCATION	FINISH	MANUFACTURER	PRODUCT NO.	LAMP, CCT, CRI	LUMENS	WATTS	VOLTAGE	DRIVER	DIMMING	OPTIC	NOTES
COMMON AREA ARCHITECTURAL LIGHTING													
L1	2X2 LED TROFFER	OFFICES	WHITE	LITHONIA	STAKS-2X2 AL03-SWW7	LED, 3500K, 80+ CRI	3,000	27	120-277V	INTEGRAL	0-10V	DIFFUSE ACRYLIC	1. SET INTEGRAL LUMEN SWITCH TO 3000LM AND INTEGRAL CCT SWITCH TO 3500K.
L2X	4FT STRIPLIGHT W/INTEGRAL BATTERY BACKUP	MECH, SERVER ROOM	WHITE	LITHONIA	CSS-L48-4000LM-MVOLT-35K-80CRI-IE10WCPHE	LED, 3500K, 80+ CRI	4,000	36	120-277V	INTEGRAL	0-10V	DIFFUSE ACRYLIC	1.PROVIDE INTEGRAL 10W EMERGENCY BATTERY BACKUP.
L3	4IN RECESSED IC-RATED DOWNLIGHT	CIRCULATION, CONFERENCE	WHITE	LITHONIA	LDN4-AL02-SWW1-L04-WR-TRW-LD-WD-MVOLT-UGZ-AT	LED, 3500K, 80 CRI	1,500	19	120-277V	INTEGRAL	0-10V	WIDE	1. PROVIDE IC-RATED ENCLOSURE.
L3X	4IN RECESSED IC-RATED DOWNLIGHT W/INTEGRAL BATTERY BACKUP	CIRCULATION	WHITE	LITHONIA	LDN4-AL02-SWW1-L04-WR-TRW-LD-WD-MVOLT-UGZ-ELR-AT	LED, 3500K, 80 CRI	1,500	19	120-277V	INTEGRAL	0-10V	WIDE	1. PROVIDE IC-RATED ENCLOSURE.
L4	24IN VANITY LIGHT	RESTROOM	BRUSHED NICKEL	LITHONIA	FMVCSL-24IN-MVOLT-30K-90CRI-BN	LED, 3000K, 90+ CRI	1,300	18	120-277V	INTEGRAL	NON-DIMMING	DIFFUSE ACRYLIC	

LIGHTING CONTROL SEQUENCE OF OPERATIONS

GENERAL NOTES

1. LUMINAIRES IN PRIMARY AND SECONDARY DAYLIGHT ZONES TO AUTOMATICALLY DIM FROM 100% POWER TO 15% POWER (MAXIMUM DIMMING THRESHOLD) WHEN PHOTOCELL DETECTS ADEQUATE DAYLIGHT AS DESCRIBED BELOW. BASELINE DESIGNED LIGHT LEVELS SHALL BE DETERMINED BY RECORDING ILLUMINANCE LEVELS WITH ALL LIGHTS ON AT 100% POWER, IN A NON-DAYLIGHT SETTING. AUTOMATIC DAYLIGHT DIMMING SHALL OCCUR WHEN LIGHT LEVELS SHALL MEET OR EXCEED BASELINE DESIGN LEVELS.

2. ELECTRICAL CONTRACTOR AND SELECTED LIGHTING CONTROL MANUFACTURER TO PROVIDE SHOP DRAWINGS AND WIRING DIAGRAMS BASED ON LIGHTING CONTROL SEQUENCE OF OPERATIONS (SOO). SHOP DRAWINGS SHALL INCLUDE RECOMMENDED QUANTITIES AND LOCATIONS FOR SENSORS, RELAYS, PANELS, SWITCHES, AND OTHER EQUIPMENT REQUIRED TO ACHIEVE CONTROL FUNCTIONS DESCRIBED IN SEQUENCE SCHEDULE. MANUFACTURER RECOMMENDATIONS SHALL SUPERSEDE SENSOR QUANTITIES AND LOCATIONS ILLUSTRATED ON LIGHTING PLANS.

3. ALL INTELLIGENT CONTROLS SHALL BE DIGITAL AND MAY BE TIED TO A NETWORK BACKBONE HEAD END AS NOTED IN SEQUENCE SCHEDULE. STANDALONE LIGHTING CONTROLS MAY BE LOW VOLTAGE OR LINE VOLTAGE (AS REQUIRED PER FUNCTIONS IN SCHEDULE) AND ARE NOT TIED TO A NETWORK BACKBONE HEAD END.

4. ALL LIGHTING CONTROL DEVICES SHALL BE COMPATIBLE WITH TYPES OF DIMMING NOTED IN APPROVED LIGHTING PRODUCT SUBMITTAL PACKAGE. LIGHTING PRODUCT SUBMITTAL SHALL BE APPROVED BY LIGHTING DESIGNER AND ARCHITECT /INTERIOR DESIGNER.

5. PROVIDE UL924 BYPASS RELAY DEVICES FOR ALL DESIGNATED EMERGENCY EGRESS LIGHTING TO ALLOW ILLUMINATION TO RAISE TO FULL OUTPUT DURING AN EVENT OF POWER LOSS.

6. LIGHTING CONTROL PROGRAMMING AND OWNER TRAINING FOR CONTROL SYSTEM SHOULD BE INCLUDED IN CONTRACTOR BASE BID AND NOT BE INCLUDED AS A CHANGE ORDER.

7. DIGITAL PLUG LOAD CONTROLLERS TO BE PROVIDED IN SPACES BELOW WHEN CONTROLLED RECEPTACLES ARE INDICATED ON ELECTRICAL PLANS.

SPACE TYPE	CONTROL TYPE	NETWORK (TOPOLOGY)	USER INTERFACE	LIGHTING CONTROL ZONES	FUNCTION
SERVER ROOM	VACANCY SENSOR	STANDALONE CONTROL, NON-NETWORKED.	ON/OFF	PROVIDE SINGLE ZONE MANUAL CONTROL OF ALL LUMINAIRES WITHIN ROOM /SPACE.	PROVIDE VACANCY SENSOR CONTROL WITH MANUAL ON AND AUTO OFF AFTER 15 MINUTES OF VACANCY, OR MANUAL OFF. PROVIDE MANUAL SWITCH ADJACENT TO ROOM ENTRY.
MECHANICAL ROOM	N/A	STANDALONE CONTROL, NON-NETWORKED.	ON/OFF	PROVIDE SINGLE ZONE MANUAL CONTROL OF ALL LUMINAIRES WITHIN ROOM /SPACE.	PROVIDE MANUAL ON/OFF OVERRIDE SWITCH ADJACENT TO ROOM ENTRY. NO AUTOMATIC CONTROLS WILL BE PROVIDED IN UTILITY SPACES FOR OCCUPANT SAFETY.
SINGLE-OCCUPANT RESTROOMS	OCCUPANCY SENSOR	STANDALONE CONTROL, NON-NETWORKED.	ON/OFF	PROVIDE SINGLE ZONE MANUAL CONTROL OF ALL FIXTURES WITHIN ROOM /SPACE.	OCCUPANCY SENSOR CONTROL WITH AUTO ON AND AUTO OFF AFTER 15 MINUTES OF VACANCY, OR MANUAL OFF. LOCATE MANUAL ON/OFF SWITCH ADJACENT TO ROOM ENTRY.
MEETING / CONFERENCE ROOMS	VACANCY SENSOR AND/OR DAYLIGHT SENSOR	INTELLIGENT CONTROL. NETWORKED WITHIN ROOM	ON /OFF & DIMMING	PROVIDE SINGLE ZONE MANUAL DIMMING CONTROL FOR EACH LUMINAIRE TAG TYPE WITHIN ROOM /SPACE.	PROVIDE MANUAL ON/OFF DIMMING SWITCH WITH INTEGRAL VACANCY SENSOR CONTROL FOR TYPICAL MEETING ROOMS. LARGER ROOMS MAY REQUIRE LOW VOLTAGE WALL OR CEILING MOUNTED SENSORS TO PROVIDE OPTIMAL SENSOR COVERAGE. SELECTED LIGHTING CONTROL MANUFACTUER TO VERIFY SENSOR COVERAGE PATTERNS. VACANCY SENSOR CONTROL CONFIGURED TO MANUAL ON, AND AUTO OFF AFTER 15 MINUTES OF VACANCY, OR MANUAL OFF. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT. (REFER TO GENERAL NOTE #2 ABOVE) PROVIDE DIMMING SWITCH ADJACENT TO EACH ROOM ENTRY FOR MANUAL LIGHTING CONTROL.
CIRCULATION AREAS / CORRIDORS	DAYLIGHT SENSOR AND/OR OCCUPANCY SENSOR	INTELLIGENT CONTROL. NETWORKED WITHIN ROOM	ON /OFF & DIMMING	PROVIDE SINGLE ZONE MANUAL DIMMING CONTROL FOR EACH LUMINAIRE TAG TYPE WITHIN ROOM /SPACE.	PROVIDE TIMELOCK CONTROL FOR ALL OPEN OFFICE / CIRCULATION AREAS. LUMINAIRES TO BE ON BETWEEN THE HOURS OF 5AM AND 12MIDNIGHT. LUMINAIRES TO BE ON OCCUPANCY SENSOR CONTROL BETWEEN THE HOURS OF 12:01AM AND 4:59AM. LUMINAIRES TO AUTOMATICALLY RAISE TO 50% OUTPUT UPON MOTION ACTIVATION, WITH MANUAL ON TO 100% POWER. SELECT LUMINAIRES MAY REMAIN ON 24 HOURS A DAY FOR SAFETY AND SECURITY, PER WSEC EXCEPTION C105.2.5 EXCEPTION 7. DAYLIGHT SENSOR CONTROLS AUTOMATICALLY DIM LUMINAIRES IN RESPONSE TO AVAILABLE DAYLIGHT. (REFER TO GENERAL NOTE #2 ABOVE)

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1725 Westlake Ave N, Suite 300
Seattle, WA 98109
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LIGHTING SCHEDULES

1

SHEET NUMBER

E0.20

LIGHTING COMPLIANCE SUMMARY

2021 WSEC Compliance Forms for Commercial Buildings including Group R2, R3 & R4 over 3 stories and all R1

Project & Applicant Information	**Project Title**	PHA Office TI - 2021 WSEC	For Building Department Use: **Date: May 06, 2024**
	Project Address	727 East 8th St Port Angeles, WA 98362	
	Applicant Name	IMEG	
	Applicant Phone	206-285-7100	
	Applicant Email	lighting@rushingco.com	

For questions about this report, contact WSEC Commercial Technical Support at 360-539-5300 or via email at com.techsupport@waenergycodes.com

General Occupancy	All Commercial	**General Building Use Type**		Office, Government/Municipal		**Building Cond. Floor Area**	906
General Project Types	Alteration	**New Building or Addition**		**Alteration**	Interior Lighting	**Project Cond. Floor Area**	906
		Lighting Scope		**Lighting Scope**		**Floors Above Grade**	2
						Compliance Method	General Prescriptive
Lighting Project Description	Office Tenant Improvement affecting only a handful of spaces within the office.						

Lighting Compliance Scope and Method	**Project Type**	**Interior / Exterior (Interior includes both interior & parking)**	**Luminaire Replacement Scope**	**Compliance Method**	**LPA Calculation Adjustment**	**Compliance Verification**
	Alteration	Interior Lighting	20% or more replaced	Space by space	No Calculation Adjustments allowed	**COMPLIES**
Additional Energy Efficiency (AEC) Measures Included	No lighting or electrical additional energy efficiency measures included in project		**Load Management (LDM) Measures Included**		No lighting or electrical load management measures included in project	

Project Title	**PHA Office TI - 2021 WSEC**	**Date**	**May 06, 2024**
Lighting Power Calculation	**ALTERATION - INTERIOR LIGHTING (20% or more replaced)**	**Compliance Verification**	**COMPLIES**
Compliance Method	**Space by space**	**LPA Calculation Adjustment**	**none**

Interior Lighting Power Allowance - Space by Space

General Space Type	Specific Space Type	Gross Interior Area (SF)	LPA (Watts/SF)	Total Watts Allowed (SF x LPA x 1)	Total Proposed Watts (LPD + Display LPD)	Compliance Status
Conference/meeting/multipurpose		86	0.97	83		
Corridors	General	195	0.41	80		
Emergency vehicle garage	General	96	0.52	50		
Office	Enclosed ≤ 250 sf	432	0.74	320		
Restroom	General	54	0.63	34		
Storage room	Less than 50 sf	43	0.51	22		
			Proposed Total LPD		**458**	
	Totals			**589**	**458**	**COMPLIES**

Proposed Lighting Power Density

Fixture Type	Fixture ID	Quantity of Fixtures (#F)	Watts or Wattage Limit per Fixture (WpF)	Total Linear Feet (LF)	Watts per Linear Foot (WpLF)	Total Watts Proposed (#F x WpF) or (LF x WpLF)
Individual Fixtures						
Horizontal surface-mount	L2	2	36			72
Troffer	L1	2	27			54
Troffer	L1	6	27			162
Recessed downlight	L3	3	19			57
Recessed downlight	L3	2	19			38
Recessed downlight	L3	3	19			57
Wall-mounted	L4	1	18			18
					Proposed Total LPD	**458**

Project Title	**PHA Office TI - 2021 WSEC**	**Date**	**May 06, 2024**
Proposed Fixtures Details	**ALTERATION - INTERIOR LIGHTING (20% or more replaced)**		

Fixture Type/Application	Fixture ID	Location in Documents	Lamp Type	New or Existing-to-Remain
Individual Fixtures				
Horizontal surface-mount	L2	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: Exit access & egress lighting per IBC Section 1006.1			
Troffer	L1	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: Yes, controls provided
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required
Troffer	L1	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Recessed downlight	L3	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: Yes, controls provided
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: Exit access & egress lighting per IBC Section 1006.1
Recessed downlight	L3	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: Yes, controls provided
	Daylight zone location(s): Sidelit daylight zones (primary and/or secondary)			Do these fixtures require specific application lighting controls?: None required
Recessed downlight	L3	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			
Wall-mounted	L4	E4.01	LED	New
	Fixture Description:			Are these fixtures located within a daylight zone?: No
	Do these fixtures require specific application lighting controls?: None required			

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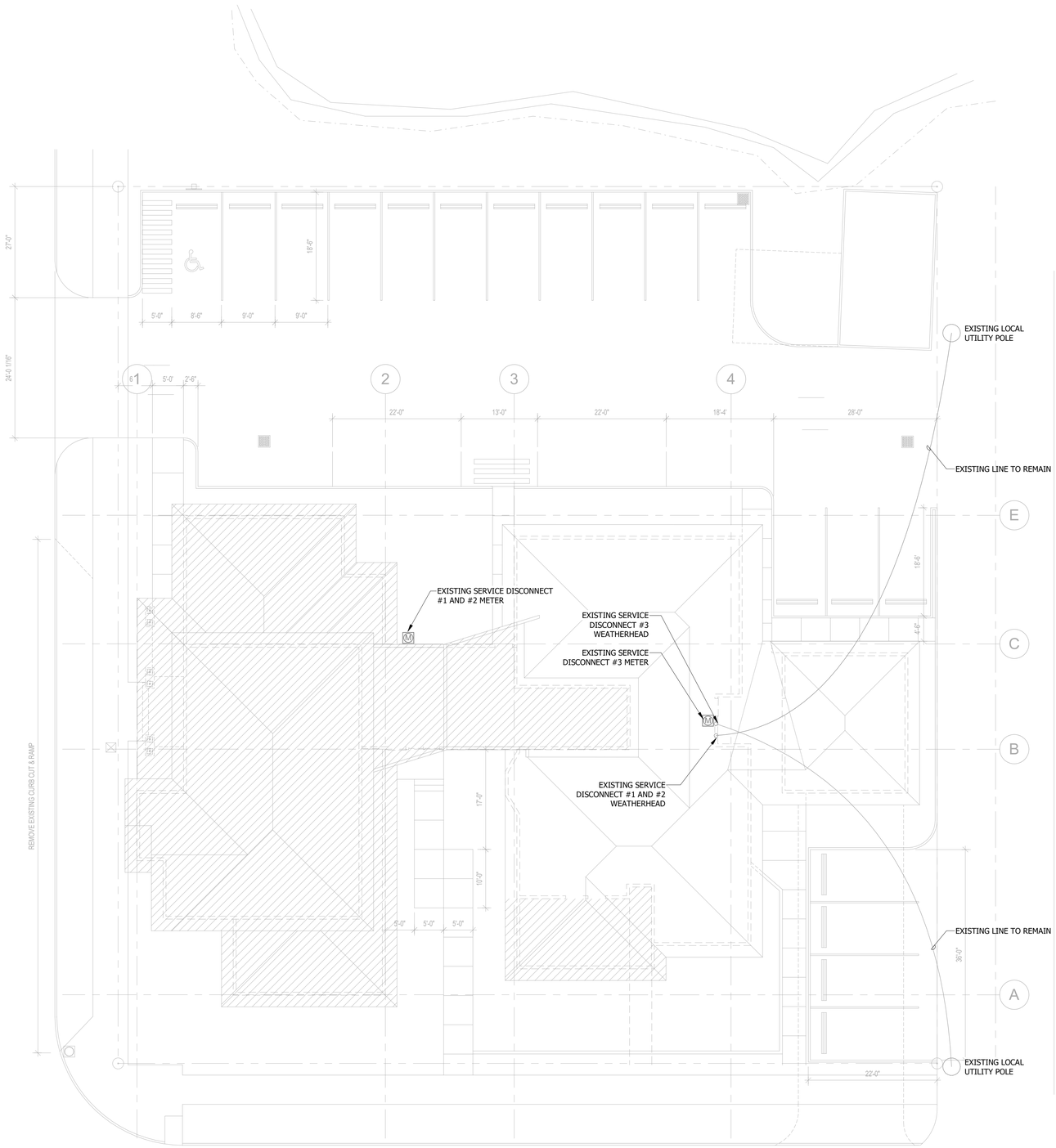
LIGHTING ENERGY CODE

1

SHEET NUMBER

E0.21



1 ELECTRICAL SITE PLAN
1" = 10'-0"

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NICHOLAS P. RICH
STATE OF WASHINGTON
27894
REGISTERED
PROFESSIONAL ENGINEER

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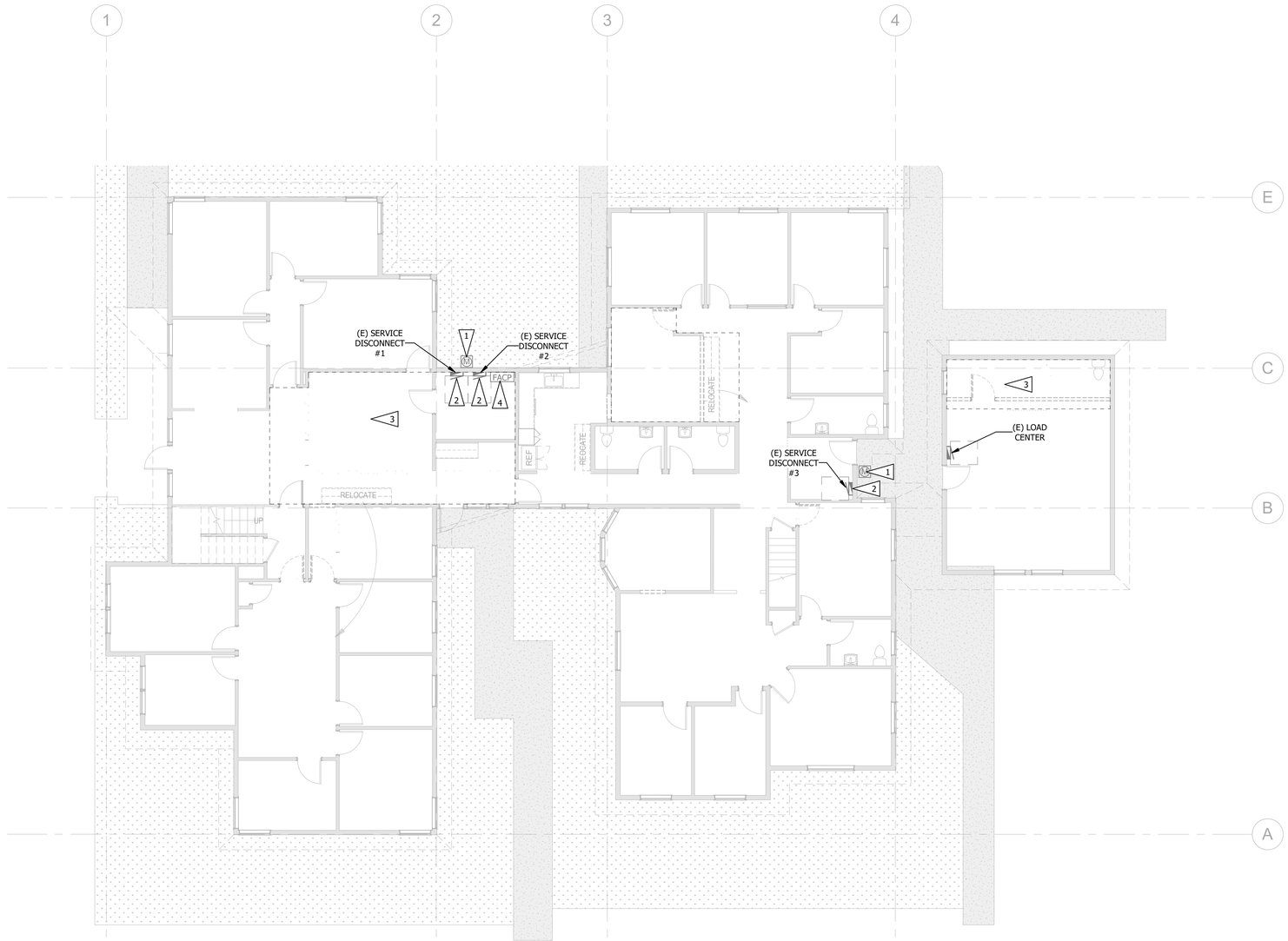
SITE ELECTRICAL PLAN

SHEET NUMBER

E1.01

SHEET KEYNOTES

1 EXISTING METER TO REMAIN.
2 EXISTING SERVICE PANEL TO REMAIN.
3 ALL EXISTING LUMINAIRES IN AREA OF SCOPE TO BE REMOVED INCLUDING ALL BRANCH CIRCUITING AND CONTROL WIRING SERVICING LUMINAIRES BEING DEMOLISHED BACK TO NEAREST J-BOX. IF ANY UNCERTAINTY ARISES REGARDING EQUIPMENT, CONFIRM SCOPE OF WORK TO BE REMOVED WITH OWNER AND DESIGN TEAM PRIOR TO DISCONNECTING. LUMINAIRES ALONG WITH ASSOCIATED POWER AND CONTROLS OUTSIDE OF THIS AREA ARE TO REMAIN. 1
4 FIRE ALARM SYSTEM TO REMAIN. HONEYWELL ADEMCO VISTA-12PB COMMISSIONED ON NOV. 2008.



1 LEVEL 1 DEMO ELECTRICAL FLOOR PLAN
1/8" = 1'-0"

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LEVEL 1 DEMO ELECTRICAL FLOOR PLAN

SHEET NUMBER

E2.01

 # SHEET KEYNOTES

1 ACCESS CONTROL SYSTEM HEAD-END PANEL. LV CONTRACTOR TO CONFIRM LOCATION WITH OWNER OR OWNER'S REPRESENTATIVE PRIOR TO ANY ROUGH-IN.

1 LEVEL 1 ELECTRICAL FLOOR PLAN
1/8" = 1'-0"

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LEVEL 1 ELECTRICAL FLOOR PLAN

SHEET NUMBER

E3.01

GENERAL SHEET NOTES

A. LIGHTING DRAWINGS AND SCHEDULES TO BE REVIEWED IN CONJUNCTION WITH LUMINAIRE CUT SHEET PACKAGE ADDENDUM / DIVISION 26 SPECIFICATIONS.
B. REFER TO SHEET E0.20 FOR LUMINAIRE SCHEDULE.
C. REFER TO SHEET E0.20 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.
D. EGRESS LIGHTING, INDICATED BY "X" DESIGNATION, TO HAVE INTEGRAL BATTERY BACKUP. PROVIDE UL924 BYPASS RELAYS TO ALLOW NORMAL AND EMERGENCY POWER LIGHTING TO BE CONTROLLED TOGETHER AND RAISE TO FULL OUTPUT DURING POWER LOSS EVENT.
E. REFER TO ARCHITECTURAL AND INTERIOR DRAWINGS FOR LUMINAIRE MOUNTING DETAILS. INQUIRIES REGARDING LUMINAIRE LOCATIONS AND MOUNTING DETAILS SHALL BE SUBMITTED TO THE LIGHTING DESIGNER AND ARCHITECT PRIOR TO PROCUREMENT.
F. MOUNTING HEIGHTS ARE GIVEN TO BOTTOM OF LUMINAIRE, U.O.N.

= NOT IN CONTRACT

SHEET KEYNOTES

1 PRIMARY DAYLIGHT ZONE
2 SECONDARY DAYLIGHT ZONE

1 LEVEL 1 LIGHTING PLAN
1/8" = 1'-0"

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LEVEL 1 LIGHTING PLAN

SHEET NUMBER
E4.01

GENERAL SHEET NOTES

A. LIGHTING DRAWINGS AND SCHEDULES TO BE REVIEWED IN CONJUNCTION WITH LUMINAIRE CUT SHEET PACKAGE ADDENDUM / DIVISION 26 SPECIFICATIONS.
B. REFER TO SHEET E0.20 FOR LUMINAIRE SCHEDULE.
C. REFER TO SHEET E0.20 FOR LIGHTING CONTROL SEQUENCE OF OPERATIONS.
D. EGRESS LIGHTING, INDICATED BY "X" DESIGNATION, TO HAVE INTEGRAL BATTERY BACKUP. PROVIDE UL924 BYPASS RELAYS TO ALLOW NORMAL AND EMERGENCY POWER LIGHTING TO BE CONTROLLED TOGETHER AND RAISE TO FULL OUTPUT DURING POWER LOSS EVENT.
E. REFER TO ARCHITECTURAL AND INTERIOR DRAWINGS FOR LUMINAIRE MOUNTING DETAILS. INQUIRIES REGARDING LUMINAIRE LOCATIONS AND MOUNTING DETAILS SHALL BE SUBMITTED TO THE LIGHTING DESIGNER AND ARCHITECT PRIOR TO PROCUREMENT.
F. MOUNTING HEIGHTS ARE GIVEN TO BOTTOM OF LUMINAIRE, U.O.N.

= NOT IN CONTRACT

1 LEVEL 2 LIGHTING PLAN
1/8" = 1'-0"

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LEVEL 2 LIGHTING PLAN

SHEET NUMBER

E4.02

GENERAL

ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMP	AMPERE
ARCH	ARCHITECT; ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BHP	BRAKE HORSE POWER
BOD	BASIS OF DESIGN
BS	BIRD SCREEN
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
CD	CONDENSATE DRAIN
CHW	CHILLED WATER
CHWR	CHILLED WATER RETURN
CHWS	CHILLED WATER SUPPLY
COD	CABLE OPERATED BALANCING DAMPER
COND	CONDENSATE
C/L	CENTERLINE
CLG	CEILING
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
DCW	DOMESTIC COLD WATER
DET	DETAIL
DHW	DOMESTIC HOT WATER
DHWC	DOMESTIC HOT WATER RECIRCULATION
DIA	DIAMETER
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
DWV	DRAIN, WASTE, VENT
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR; END CAP
EFF	EFFICIENCY
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION
EOD	ELECTRONICALLY OPERATED BALANCING DAMPER
EWT	ENTERING WATER TEMPERATURE
EXIST	EXISTING
EXH	EXHAUST
F	FAHRENHEIT
(F)	FUTURE
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FS	FIRE SERVICE (MAIN)
FT	FOOT; FEET
FURN	FURNISH
G	NATURAL GAS (LOW PRESSURE)
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALL BOARD
HL	HIGH LOOP
HP	HORSE POWER
HPDCW	HIGH PRESSURE DOMESTIC COLD WATER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
ID	INSIDE DIAMETER/DIMENSION
IE	INVERT ELEVATION
IRR	IRRIGATION
IW	INDIRECT WASTE
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FOOT
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MED	MEDIUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
M/N	MODEL NUMBER
MPG	NATURAL GAS (MEDIUM PRESSURE)
MTD	MOUNTED
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN; NUMBER
NOM	NOMINAL
NPCW	NON POTABLE COLD WATER
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRELIM	PRELIMINARY
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RAT	RETURN AIR TEMPERATURE
RET	RETURN
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
RWT	RETURN WATER TEMPERATURE
SAT	SUPPLY AIR TEMPERATURE
SD	STORM DRAIN
SF	SQUARE FOOT
SPEC	SPECIFICATION
SQ	SQUARE
SUPP	SUPPLY
SWT	SUPPLY WATER TEMPERATURE

GENERAL

TBD	TO BE DETERMINED
TI	TENANT IMPROVEMENTS
TOC	TOP OF CONCRETE
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE
W/	WITH
WC	WATER COLUMN
WG	WATER GAUGE
W/O	WITHOUT

HVAC

AC	AIR CONDITIONING
AHU	AIR HANDLING UNIT
BDD	BACKDRAFT DAMPER
BOD	BOTTOM OF DUCT
CC	COOLING COIL
CFM	CUBIC FEET PER MINUTE
CU	CONDENSING UNIT
CV	CONSTANT VOLUME
DB	DRY BULB
DIFF	DIFFUSER
DMPR	DAMPER
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ESP	EXTERNAL STATIC PRESSURE
FC	FLEXIBLE CONNECTION
GRD	GRILLE, REGISTER, DIFFUSER
HC	HEATING COIL
HRC	HEAT RECOVERY COIL
MAT	MIXED AIR TEMPERATURE
MC	MECHANICAL CONTRACTOR
MD	MOTORIZED DAMPER
MECH	MECHANICAL
MOD	MOTOR OPERATED DAMPER; MODULATING
MUA	MAKE UP AIR
OA	OUTDOOR AIR
OBD	OPPOSED BLADE DAMPER
RA	RETURN AIR
RCP	REFLECTED CEILING PLAN
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SUPPLY FAN
SL	SOUND LINED
SLSM	SOUND LINED SHEET METAL
SM	SHEET METAL
SP	STATIC PRESSURE
STD	STANDARD
UH	UNIT HEATER
VAV	VARIABLE AIR VOLUME
VD	VOLUME DAMPER
W	WASTE
WB	WET BULB

PIPING

AAV	AUTOMATIC AIR VENT
AGA	AMERICAN GAS ASSOCIATION
AS	AIR SEPARATOR
BP	BACKFLOW PREVENTER
CDWR	CONDENSER WATER RETURN
CDWS	CONDENSER WATER SUPPLY
CT	CONICAL TEE
FHV	FIRE HOSE VALVE
FO	FUEL OIL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HWR	HOT WATER RETURN
HWS	HOT WATER SUPPLY
MAV	MANUAL AIR VENT
RLL	REFRIGERANT LIQUID LINE
RSL	REFRIGERANT SUCTION LINE

LINETYPE LEGEND

- NEW
- DEMO (E)
- EXISTING (E)
- FUTURE (F)
- XXXS — SUPPLY (EX. CHWS)
- XXXR — RETURN (EX. CHWR)

NOTE:

THE SUPPLY SIDE OF THE SYSTEM IS LEAVING THE HEAT EXCHANGE EQUIPMENT. FOR EXAMPLE:

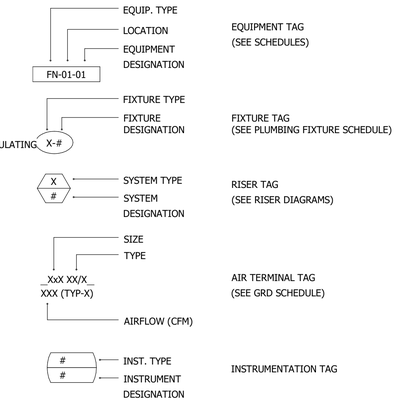
- CHWS - PIPING LEAVING CHILLER
- CDWS - PIPING LEAVING COOLING TOWER
- HWS - PIPING LEAVING BOILER

SCHEDULE LEGEND

SCHEDULE LINEWEIGHT LEGEND

TAG #	TAG-X-X	TAG-X-X	**TAG-X-X**
PROJECT	EXISTING PROJECT	FUTURE	**NEW PROJECT**
SAMPLE			
SAMPLE	EXISTING EQUIPMENT	FUTURE EQUIPMENT	**NEW EQUIPMENT**
-	-	-	-

TAGS LEGEND



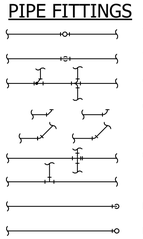
NOTES LEGEND

X — KEYED/FLAG NOTE
REFER TO SHEET NOTES

PIPING SYSTEMS

- RLL — REFRIGERANT LIQUID LINE
- RSL — REFRIGERANT SUCTION LINE

PIPE FITTINGS

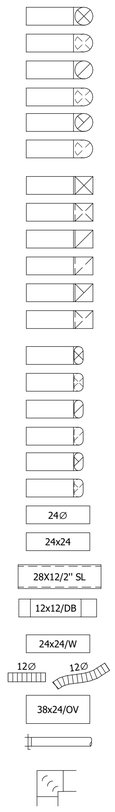


- TEE UP
- TEE DOWN
- WYE / DOUBLE WYE (SAN TEE/WYE)
- 90° ELBOW
- 45° ELBOW
- CROSS
- TEE
- ELBOW DOWN
- ELBOW UP

CONTROLS INSTRUMENTATION LEGEND

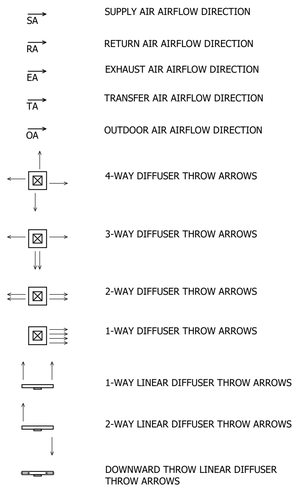
- T — THERMOSTAT
- S — TEMP SENSOR (BMS)
- H — HUMIDITY SENSOR
- NO2 — NITROGEN DIOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- CO — CARBON MONOXIDE SENSOR
- TH — TEMP/HUMIDITY SENSOR
- THCO2 — TEMP/HUMIDITY/CARBON DIOXIDE SENSOR
- L — VISUAL ALARM LIGHT
- $ — SWITCH
- SPD — SPEED CONTROLLER
- EMERGENCY SHUTDOWN SWITCH

DUCTWORK SYMBOLS AND FITTINGS



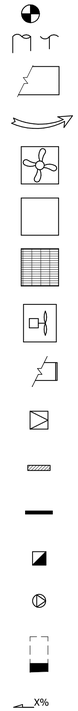
- ROUND SUPPLY DUCT UP
- ROUND SUPPLY DUCT DN
- ROUND RETURN DUCT UP
- ROUND RETURN DUCT DN
- ROUND EXHAUST DUCT UP
- ROUND EXHAUST DUCT DN
- RECTANGULAR SUPPLY DUCT UP
- RECTANGULAR SUPPLY DUCT DN
- RECTANGULAR RETURN DUCT UP
- RECTANGULAR RETURN DUCT DN
- RECTANGULAR EXHAUST DUCT UP
- RECTANGULAR EXHAUST DUCT DN
- FLAT OVAL SUPPLY DUCT UP
- FLAT OVAL SUPPLY DUCT DN
- FLAT OVAL RETURN DUCT UP
- FLAT OVAL RETURN DUCT DN
- FLAT OVAL EXHAUST DUCT UP
- FLAT OVAL EXHAUST DUCT DN
- 24Ø — 24" ROUND ID SHEET METAL DUCT
- 24x24 — 24"x24" ID RECTANGULAR SHEET METAL DUCT
- 28X12/2" SL — 28"x12" ID RECTANGULAR SHEET METAL DUCT WITH 2" SOUND LINING (OD OF DUCT IS 32"X16")
- 12x12/DB — INDICATES 12" x 12" I.D. DUCTBOARD
- 24x24/W — 24"x24" ID RECTANGULAR SHEET METAL DUCT WITH 1" WRAP (OD OF DUCT WITH WRAP IS 26"x26")
- 12Ø 12Ø — FLEXIBLE ROUND DUCT
- 38x24/OV — FLAT OVAL DUCT: MAJOR AXIS=38" & MINOR AXIS=24"
- SPIN-IN TAKE-OFF & VOLUME DAMPER WITH RIGID ROUND FIBERGLASS DUCT
- TURNING VANES

HVAC AND DUCTWORK ACCESSORIES



- SA — SUPPLY AIR AIRFLOW DIRECTION
- RA — RETURN AIR AIRFLOW DIRECTION
- EA — EXHAUST AIR AIRFLOW DIRECTION
- TA — TRANSFER AIR AIRFLOW DIRECTION
- OA — OUTDOOR AIR AIRFLOW DIRECTION
- 4-WAY DIFFUSER THROW ARROWS
- 3-WAY DIFFUSER THROW ARROWS
- 2-WAY DIFFUSER THROW ARROWS
- 1-WAY DIFFUSER THROW ARROWS
- 1-WAY LINEAR DIFFUSER THROW ARROWS
- 2-WAY LINEAR DIFFUSER THROW ARROWS
- DOWNWARD THROW LINEAR DIFFUSER THROW ARROWS

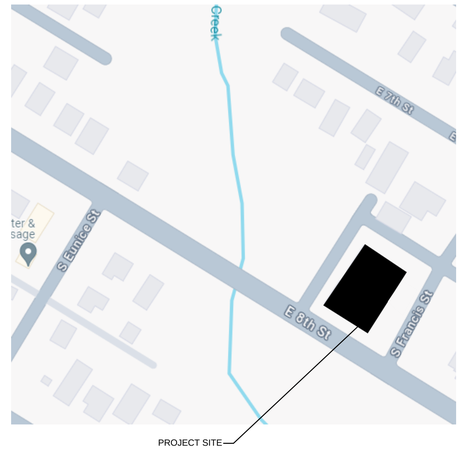
MISCELLANEOUS HVAC SYMBOLS



- POINT OF CONNECTION
- PIPE BREAK MARK
- DUCT BREAK MARK
- INDICATES AIRFLOW DIRECTION
- SUSPENDED CEILING FAN (SEE FAN SCHEDULE)
- SLAB OPENING SEE ARCHITECTURAL DRAWINGS FOR SIZE/LOCATION.
- METAL GRATE SEE ARCHITECTURAL DRAWINGS FOR SIZE/LOCATION.
- INLINE FAN (SEE FAN SCHEDULE)
- END CAP
- ACCESS PANEL 24"x24" UNLESS OTHERWISE NOTED ON DRAWINGS.
- INTAKE/EXHAUST LOUVER (SEE ARCHITECTURAL DRAWINGS)
- ELECTRIC HEATER (SEE ELECTRIC HEATER SCHEDULE)
- CEILING EXHAUST FAN (SEE FAN SCHEDULE)
- PUMP (SEE PUMP SCHEDULE)
- EQUIPMENT CLEARANCE (NOTED BY DASHED LINE)
- X% — SLOPE SYMBOL

PROJECT ADDRESS

727 EAST 8TH ST
PORT ANGELES, WA 98362
PARCEL #: 063000022590



VICINITY MAP

NOT TO SCALE

MECHANICAL DRAWING INDEX

SHEET NUMBER	SHEET TITLE	SHEET SCALE	PERMIT SET 4/12/2024
M0.00	**MECHANICAL LEGENDS AND ABBREVIATIONS**	**NTS**	**X**
M0.01	**GRD AND DUCTWORK ACCESSORIES**	**NTS**	**X**
M0.02	**DUCT AND PIPING MATERIALS**	**NTS**	**X**
M0.03	**MECHANICAL CALCULATIONS & ISOLATION & TIEDOWN MATRIX**	**NTS**	**X**
M0.04	**MECHANICAL BASIS OF DESIGN MATRIX**	**NTS**	**X**
M0.05	**MECHANICAL SCHEDULES**	**NTS**	**X**
M2.01	**FLOOR PLAN - LEVEL 1**	**1/8" = 1'-0"**	**X**
M2.02	**FLOOR PLAN - LEVEL 2**	**1/8" = 1'-0"**	**X**
M5.00	**MECHANICAL DETAILS**	**NTS**	**X**

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT SET

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

MECHANICAL LEGENDS AND ABBREVIATIONS

SHEET #

M0.00

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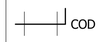
HVAC AND DUCTWORK ACCESSORIES

HVAC SCHEDULE

SYMBOL	TAG	DESCRIPTION	MANUFACTURER (REMARK)	MODEL	REMARKS
		**DUCT FLEX CONNECTION**			
			DURO DYNE	DDFDC NEOPRENE	GENERAL PURPOSE - MC TO SELECT CONNECTOR
			DURO DYNE	DDFDC DUROLON WITH HYPALON COATING	OUTDOOR EXTERIOR USE - MC TO SELECT CONNECTORS AND UNITS W/ INTERNAL UV LIGHTS - MC TO SELECT CONNECTORS
			ELGEN	NOTCH LOCK-SUPER HIGH TEMP	GREASE EXHAUST FOR OUTDOOR INSTALLATION: PROVIDE WITH SHEETMETAL SUN PROTECTOR ATTACHED TO DUCTWORK SIDE OF FLEX
		**ROUND MANUAL VOLUME DAMPER BEHIND RECTANGULAR SUPPLY GRILLE**			
			SHOEMAKER	91 SERIES BOWTIE DAMPERS	MINIMUM ROUND TO RECTANGULAR TRANSITION LENGTH TO BE 10". AVAILABLE IN EVEN SIZES ONLY. PROVIDE TRANSITION TO ONE SIZE SMALLER FOR ODD SIZE RUNOUTS
		**MANUAL VOLUME DAMPER**			
		LINED DUCTWORK	ROSSI	TWIST KNOB FLAT	USE ONLY ROSSI BEARINGS; REMARK 3
		WRAPPED DUCTWORK	ROSSI	TWIST KNOB 1.5" HIGH TEMP	USE ONLY ROSSI BEARINGS; REMARK 3
	**COD**	**REMOTELY OPERATED VOLUME DAMPER**			
		LOW VELOCITY ROUND DAMPER	YOUNG REGULATOR	270-301	WITH ROUND DAMPER 5020-CC AND BOWDEN CONTROL MECHANISM (50' MAX CABLE LENGTH); REMARK 2
		LOW VELOCITY ROUND DAMPER	MAT	RT-150 SERIES III	WITH REMOTE CABLE OPERATOR (12' MAX CABLE LENGTH); REMARK 2
		LOW VELOCITY RECTANGULAR DAMPER	YOUNG REGULATOR	270-301	WITH RECTANGULAR DAMPER 830A-CC AND BOWDEN CONTROL MECHANISM (50' MAX CABLE LENGTH); REMARK 2
		LOW VELOCITY RECTANGULAR DAMPER	MAT	RT-100 SERIES III	WITH REMOTE CABLE OPERATOR (12' MAX CABLE LENGTH); REMARK 2
	**MD-**	**MOTORIZED DAMPER**			
		NON-AIRFOIL, VELOCITY < 1500 FPM	GREENHECK	VCD-23	SEE EQUIPMENT SCHEDULES, AT BLDG ENV CLASS 1 REQ'D
		NON-AIRFOIL, VELOCITY < 1500 FPM	RUSKIN	CD36	SEE EQUIPMENT SCHEDULES, AT BLDG ENV CLASS 1 REQ'D
		AIRFOIL, VELOCITY > 1500 FPM	GREENHECK	VCD-33	SEE EQUIPMENT SCHEDULES, AT BLDG ENV CLASS 1 REQ'D
		AIRFOIL, VELOCITY > 1500 FPM	RUSKIN	CD60	SEE EQUIPMENT SCHEDULES, AT BLDG ENV CLASS 1 REO'D
	**L-**	**LOUVER**			
			GREENHECK	ESD-202	12x12 AND SMALLER SHALL BE THIS MAKE/MODEL UNLESS NOTED OTHERWISE ON PLANVIEW DRAWINGS; SEE REMARKS 5,6,7,8
			RUSKIN	ELF2115D	
			GREENHECK	ESD-403	LARGER THAN 12x12 AND SMALLER SHALL BE THIS MAKE/MODEL UNLESS NOTED OTHERWISE ON PLANVIEW DRAWINGS; SEE REMARKS 5,6,7,8
			RUSKIN	ELF375DX	

REMARKS:

1. MANUFACTURERS AND MODELS LISTED ARE THE BASIS OF DESIGN AND USED UNLESS SPECIFIED OTHERWISE IN THE EQUIPMENT SCHEDULE.
2. CONCEALED REGULATOR LOCATION TO BE COORDINATED WITH ARCHITECT. REFER TO PLANS FOR LOCATIONS.
3. HAND-HOLE OR CEILING ACCESS PANELS TO BE COORDINATED WITH ARCHITECT IN HARDLID CEILING APPLICATIONS.
4. CEILING ACCESS PANELS TO BE COORDINATED WITH ARCHITECT IN HARDLID CEILING APPLICATIONS.
5. SEE ARCHITECTURAL DRAWINGS FOR SIZES.
6. ALL LOUVERS PROVIDED BY MC. BOTH INTAKE AN EXHAUST LOUVERS TO HAVE BIRDSCREEN PER IMC/SMC TABLE 401.5 AND SECTION 501.3.2.
7. ALL UNUSED PORTIONS OF LOUVERS BLANKED OFF BY MC AND INSULATED BY OTHERS. SEE ARCHITECTURAL DRAWINGS FOR DETAILS.
8. ALL LOUVERS TO BE FACTORY FINISHED AND PAINTED PER ARCHITECTURAL DRAWINGS/SPECIFICATIONS.
9. PROVIDE LOW PRESSURE RANGE UNLESS NOTED OTHERWISE.
10. PROVIDE WITH MANUFACTURED OR FABRICATED SQUARE DUCT MOUNTING PLATE.

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
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PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

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GRD AND DUCTWORK ACCESSORIES

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HVAC PIPING MATERIALS SPECIFICATION MATRIX

SERVICE ID	SERVICE DESCRIPTION	OPERATING PRESSURE RANGE (PSIG)	DESIGN PRESSURE (PSIG)	SIZE	MATERIAL	JOINT TYPE	LOCATION FOR USE	INSULATION (SEE PIPING INSULATION MATRIX)	REMARKS
REFRIGERATION PIPING									
RS	REFRIGERATION SUCTION LINE	-	-	ALL	ACR COPPER TUBE - HARD DRAWN (RIGID) OR ANNEALED PER ASTM B280 AND B281	BRAZED	-	REFER TO HVAC PIPING INSULATION SCHEDULE, PVC JACKET OUTDOOR	1
RL	REFRIGERATION LIQUID LINE	-	-	ALL	ACR COPPER TUBE - HARD DRAWN (RIGID) OR ANNEALED PER ASTM B280 AND B281	BRAZED	-	REFER TO HVAC PIPING INSULATION SCHEDULE, PVC JACKET OUTDOOR	1
CONDENSATE									
COND	CONDENSATE	-	-	ALL	COPPER TUBE ,TYPE L	SOLDERED, MECHANICAL PRESS JOINT	NO RESTRICTION	REQUIRED INSIDE BUILDING	
		-	-		PEX TUBING	PIPE INSERT & EXPANSION COLLAR ASTM F1807, ASTM F1960	PEX TUBING - VERTICAL RISERS CONCEALED IN WALLS NOT IN PLENUM AREAS UNLESS RATED FOR USE	NOT REQUIRED	
		-	-		SOLID WALL PVC SCH 40 ASTM D2666	SOLVENT WELD	NOT ALLOWED IN PLENUMS	NOT REQUIRED	

REMARKS:
1. THERMAL EXPANSION DESIGN AND SIZING FOR PIPING BY M.C.

HVAC DUCT MATERIALS SPECIFICATION MATRIX

DUCT SYSTEM OR SECTION	SMACNA PRESSURE CLASS	MATERIALS	FITTINGS	INSULATION	REMARKS
COMMON AREA TOILET EXHAUST SYSTEMS					
TOILET EXHAUST SYSTEMS (IF NOT EXHAUSTED VIA ERV)	SMACNA 1/2" PRESSURE SEAL ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS, BRANCH CONNECTIONS OVAL AND SPIRAL LOCK SEAMS DO NOT REQUIRE SEALING	UNLINED GALVANIZED DUCT FLEX: 4' MAX LENGTH, THERMAFLEX S-TL CLASS I AIR DUCT	MITERED 90S WITH VANES, SPIN-IN BRANCHES OK.	NA	

REMARKS
1: ALL DUCT WORK TO BE CONSTRUCTED TO SMACNA SEAL CLASS A STANDARDS: ALL TRANSVERSE JOINTS, LONGITUDINAL SEAMS AND DUCT WALL PENETRATIONS TO BE SEALED.
2: ALL DIMENSIONS SHOWN ON PLANS ARE INSIDE CLEAR DIMENSIONS.

HVAC PIPING INSULATION SCHEDULE

PIPING SYSTEM	TEMP RANGE	THERMAL CONDUCTIVITY	MEAN RATING TEMPERATURE	INSULATION MATERIAL	INSULATION THICKNESS BY PIPE SIZE			REMARKS
					1" AND LESS	1" TO <1-1/2"	1-1/2" TO <4"	
HVAC PIPING SYSTEM INSULATION								
REFRIGERANT PIPING - INDOOR	ALL	0.21-0.26	75	EPDM OR CLOSED CELL	0.5	0.5	1.0	1, 3, 4
REFRIGERANT PIPING - OUTDOOR	ALL	0.21-0.26	75	EPDM OR CLOSED CELL	1.0	1.0	1.0	1, 3, 4
COOLING COIL CONDENSATE - METAL	<40	0.20-0.26	75	CLOSED CELL	0.5	1.0	1.0	1, 3
COOLING COIL CONDENSATE - NON-METAL	ALL	-	-	-	-	-	-	1, 3
INSULATED SUPPORTS								
RIGID INSERT THERMAL SUPPORTS	ALL				TRYMER 2000 OR SNAPITZ	CAL-SIL OR SNAPITZ	CAL-SIL OR SNAPITZ	2, 3

REMARKS:
1: INSULATION PER WSMC TABLE C403.10.3.
2: PIPES 2" AND SMALLER: RIGID INSERTS. INSULATION CONTINUOUS THROUGH THE HANGER. SHEETMETAL SHIELD.
3: JACKETTING: METAL JACKET (SEALED WEATHER TIGHT) WILL BE USED AT ALL EXTERIOR INSULATION EXPOSED TO WEATHER (I.E.ROOFTOP PIPING). PVC JACKET WITH RIGID INSERT. INSULATION WILL BE USED ON ALL HORIZONTAL PIPING AT OR NEAR THE FLOOR SUBJECT TO POTENTIAL FOOT TRAFFIC. PVC JACKET WILL BE UTILIZED ON ALL EXPOSED INSULATION WITHIN 6 FEET OF THE FLOOR ELEVATION (I.E. MECHANICAL ROOMS AND HOSE BIBBS). PVC IS RECOMMENDED INSTEAD OF METAL IN EXPOSED AREAS DUE TO RESILIENCY (METAL JACKETS DENT).
4: REFRIGERANT PIPING SHALL USE PRE-INSULATED LINE SETS COATED ELASTOMERIC INSULATION WITH UV RESISTANT JACKET. MUELLER STREAMLINE DURAGUARD UV OR APPROVED EQUAL.

MINIMUM FILTER EFFICIENCY MATRIX

APPLICABLE EQUIPMENT AND SYSTEMS	FILTER SYSTEM TYPE	CODE MINIMUM FILTER EFFICIENCY (REMARK 1)	REMARKS
UNDUCTED SYSTEMS AND FAN COILS	UNDUCTED SA	MERV 4	1, 2

REMARKS:
1: MINIMUM FILTER EFFICIENCY REPORTING VALUES AS REQUIRED PER WSMC SECTION 605.4
2: PROVIDE ACCESS FOR FILTER MAINTENANCE AND REPLACEMENT

1

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

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PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

REVISION 1

ISSUE DATE MAY 7, 2024

REVISION SCHEDULE

1	REVISION 1	5/7/2024

AHJ APPROVAL STAMP

DUCT AND PIPING MATERIALS

SHEET #
M0.02

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CONSTANT VOLUME SYSTEM VENT CALCULATIONS

					VENTILATION RATE CALCULATION														EXHAUST RATES PER 2021 WSMC					
FLOOR	ROOM NAME	SQUARE FOOTAGE	SUPPLY SYSTEM	RETURN/ EXHAUST SYSTEM	OCCUPANCY CLASSIFICATION	LOOKUP OA (CFM / SF)	LOOKUP OA (CFM / PERSON)	ALTERNATE OA (CFM)	LOOKUP OCC. DENSITY (#/1000 SF)	DEFAULT OCC. QTY	ACTUAL OCC. QTY	USE MAX OCC.	OCC. QTY USED	USE MAX OA CFM	ZONE AIR DISTRIBUTION EFFECTIVENESS (Ez)	Ra*Az (CFM)	Rp*Pz (CFM)	CALC OA MIN (CFM)	RETURN AIRFLOW (CFM)	LOOKUP EXH (CFM / SF OR CFM / QTY)	ITEM QUANTITY COUNT	EXHAUST (CFM)	ALT EXHAUST (CFM)	USE ALT CFM	TOTAL EXHAUST (CFM)
1	RESTROOM	46	-	FN-1-1	Public-ToiletRoomRushingPerSF							-		-	1.0					1		50			50

1

ISOLATION & TIEDOWN SCHEDULE - EQUIPMENT, PIPING, & DUCTWORK

TAG#	*EQUIPMENT TYPE*	*GENERIC EQUIPMENT TYPE DESCRIPTION*	*ATTACHMENT TYPE (REMARK 4)*	*INTERNAL ISOLATION TYPE (REMARK 9)*	*EXTERNAL ISOLATION DESCRIPTION (REMARK 5)*	*MOUNTING LOCATION*	*SUPPORT TYPE (REMARK 6)*	*DRAWING SUPPORT DETAIL CALLOUT*	*DUCT FLEX CONNECTION REQUIRED (REMARK 7)*	*PIPING FLEX CONNECTION TYPE (REMARK 8)*	*ASCE 7 SEISMIC TIEDOWN CALCULATIONS BY (REMARKS 1,2,3,4)*
CU-X-X	CONDENSING UNIT	SPLIT SYSTEM CONDENSING UNIT - FLOOR	BY MC	NA	0.3" DEF NEOPRENE WAFFLE PAD	FLOOR	PIPE STANCHION	BY MC	NA	NA	BY MC
-	-	-	-	-	-	-	-	-	-	-	-
HPFC-X-X	FAN COIL - DX	UNDUCTED - WALL MOUNTED	BY MC	NA	NONE	WALL	WALL	-	NA	NA	BY MC
-	-	-	-	-	-	-	-	-	-	-	-
FN-X-X	FAN - HUNG	MOTOR = 0.75 HP OR SMALLER	BY MC	NA	0.3" DEF. SPRING	HUNG	HUNG	BY MC	YES	NA	BY MC
DUCTWORK	DUCTWORK - HUNG	ALL SIZES	BY MC	NA	NA	HUNG	HUNG	BY MC	NA	NA	BY MC
DUCTWORK	DUCTWORK - ROOF	ALL SIZES	BY MC	NA	NA	ROOF	PIPE STANCHION	BY MC	NA	NA	BY MC
-	-	-	-	-	-	-	-	-	-	-	-
PIPING	HUNG	3" & SMALLER	BY MC	NA	NA	HUNG	NA	BY MC	NA	NA	BY MC
PIPING	FLOOR	3" & SMALLER	BY MC	NA	NA	FLOOR	PIPE STANCHION	BY MC	NA	NA	BY MC
PIPING	ROOF	3" & SMALLER	BY MC	NA	NA	ROOF	PIPE STANCHION	BY MC	NA	NA	BY MC
-	-	-	-	-	-	-	-	-	-	-	-

REMARKS (SEE COLUMN HEADERS AND SPECIFIC CELL CALLOUTS FOR REMARK CALLOUTS):

1: SEE INDIVIDUAL EQUIPMENT SCHEDULES FOR UNIT SIZE AND WEIGHT. SEE MECHANICAL PLANVIEW DRAWINGS FOR EQUIPMENT LOCATIONS.

2: PROVIDE WASHINGTON STATE STAMPED SEISMIC TIEDOWN CALCULATIONS PER INTERNATIONAL BUILDING AND MECHANICAL CODES WITH WA STATE AMENDMENTS. SEE PROJECT SPECIFICATIONS FOR APPLICABLE EDITION OF IBC.
ALL EQUIPMENT, PIPING, & DUCTWORK TO BE ATTACHED PER ASCE 7 AS REFERENCED BY IBC.

3: NOT USED

4: MC TO VERIFY INSTALLATION DETAIL (ATTACHMENT TYPE TO STRUCTURE) PRIOR TO ISOLATION VENDOR PERFORMING SEISMIC TIEDOWN CALCULATIONS AND PRIOR TO SEISMIC TIEDOWN PACKAGE BEING SUBMITTED FOR TEAM REVIEW (RUSHING, STRUCTURAL, AND ACOUSTICAL).
ALL SEISMIC TIEDOWN LOCATIONS AND DETAILS TO BE SUBMITTED TO AND APPROVED BY THE PROJECT STRUCTURAL ENGINEER. MC SHALL CONTRACT WITH THE PROJECT STRUCTURAL ENGINEER FOR THIS SUPPORT AS REQUIRED.

5: EXTERNAL ISOLATOR TYPE SELECTED BY MC/PC BASED ON EQUIPMENT TYPE PER DESCRIPTION ABOVE.. DESCRIPTIONS BELOW PROVIDE A SINGLE BASIS OF DESIGN FOR ISOLATOR MANUFACTURER FOR BASIS OF DESIGN
(MC MAY PROPOSE ON ALTERNATE MANUFACTURERS FOR TEAM REVIEW).
ALL ISOLATORS TO BE SEISMICALLY RESTRAINED:
A: FLOOR MOUNT: WAFFLE PAD - MASON M/N SUPER W WITH MINIMUM 0.15" OR 0.30" STATIC DEFLECTION (NOTE: ALL EQUIPMENT MOUNTED ON WAFFLE PAD TO HAVE NEOPRENE WASHER GROMMETS AT TIEDOWN BOLTS)
B: FLOOR MOUNT: CAPTIVE NEOPRENE MOUNT: MINIMUM 0.15" DEF NEOPRENE - MASON M/N BR
C: FLOOR MOUNT: 1", 2" OR 3" DEF SPRING - MASON M/N SLR
D: HUNG: MIMINUM 0.15" DEF NEOPRENE - MASON HD
E: HUNG: 1" OR 2" DEF SPRING - MASON M/N 30N
F: PUMP INERTIA BASE WITH 2" SPRING - MASON M/N BMK (INERTIA BASE WEIGHT TO BE APPROXIMATELY TWO TIME THE EQUIPMENT WEIGHT, CONCRETE FOR INERTIA BASE BY MC)
G: SPRING CURB: 2" DEF SPRING CURB - MICROMETL M/N 0403
H: HUNG MECHANICAL PIPING: SEE ACOUSTICAL SPECIFICATION FOR DETAILS.

6: ALL EQUIPMENT SUPPORT STRUCTURE (LEVELING PADS, SLEEPERS AND CURBS) TO BE STRUCTURALLY ATTACHED TO BUILDING STRUCTURE. DESIGN OF ATTACHMENT TO CONCRETE SLAB BY MC. MC TO COORDINATE FINAL SIZE AND LOCATION OF EQUIPMENT SUPPORTS IN FIELD SHOP DRAWINGS.
A: CONCRETE LEVELING PAD BY OTHERS. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILS. CONCRETE PAD ATTACHMENT TO BUILDING STRUCTURE BY OTHERS.
B: CONCRETE LEVELING CURB BY OTHERS. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILS. SEE ARCHITECTURAL DRAWINGS FOR FLASHING REQUIREMENTS. CONCRETE CURB ATTACHMENT TO BUILDING STRUCTURE BY OTHERS.
C: CONCRETE LEVELING CURB OR SLEEPERS BY OTHERS. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILS. CONCRETE CURB OR SLEEPER ATTACHMENT TO BUILDING STRUCTURE BY OTHERS.
D: WOOD LEVELING CURB OR SLEEPERS BY OTHERS. SEE ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR DETAILS. WOOD CURB OR SLEEPER ATTACHMENT TO BUILDING STRUCTURE BY OTHERS.
E: STANCHION SUPPORT BY MC. MC TO COORDINATE STANCHION LOCATIONS IN FIELD SHOP DRAWINGS.
F: HUNG FROM STRUCTURE ABOVE WITH ALL-THREAD AND SEISMIC SLAB CABLING.

7: DUCT FLEX CONNECTION BY MC.
SEE HVAC AND DUCTWORKS ACCESSORY SCHEDULE
OTHER FANS: PROVIDE FLEX CONNECTION PER HVAC MATERIALS MATRIX AND HVAC DUCT & MATERIALS SCHEDULE.

8: PIPING FLEX CONNECTION BY MC SELECTED BY MC BASED ON PIPE SIZE AND CONNECTION TYPE. BASIS OF DESIGN FOR ONE MANUFACTURER LISTED BELOW (MC MAY PROPOSE ON ALTERNATE MANUFACTURERS FOR TEAM REVIEW).
SEE PIPING HOOKUP DETAILS FOR ADDITIONAL INFORMATION:
A: NEOPRENE PIPE FLEXIBLE CONNECTIONS - DOULBE BELLOW - MASON M/N SFDEJ (2" AND LARGER) OR MASON M/N SFU (AT 3/4" TO 2")
B: GROOVED CONNECTIONS: VICTAULIC TYPE 77 - INTALL 3 FLEXIBLE COUPLING ARRANGMENT PER MANUFACTURER RECOMMENDATIONS
C: BRAIDED STAINLESS STEEL HOSE - MASON M/N MN - MINIMUM 12" LENGTH
D: BRAIDED BRONZE HOSE - MASON M/N CPSB-NSF - MINIMUM 12" LENGTH

9: INTERNAL ISOLATION BY EQUIPMENT MANUFACTURER

10: MC IS RESPONSIBLE FOR SUPPORT AND FINAL DETAILING OF THERMAL EXPANSION COMPENSATION (EXPANSION JOINTS OR THERMAL COUPLING) FOR MECHANICAL PIPING. RUSHING TO REVIEW SHOP DRAWING SUBMITTALS FOR PIPING SUPPORT AND THERMAL EXPANSION COMPENSATION AS PART OF THE MECHANICAL PIPING SHOP DRAWING PROCESS.

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

AUSTIN BONNER — STATE OF WASHINGTON — 21017423 — REGISTERED PROFESSIONAL ENGINEER
05/07/2024

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

REVISION 1

ISSUE DATE MAY 7, 2024

REVISION SCHEDULE

1	REVISION 1	5/7/2024

AHU APPROVAL STAMP

MECHANICAL CALCULATIONS & ISOLATION & TIEDOWN MATRIX

SHEET #
M0.03

CODES & STANDARDS BASIS OF DESIGN — PHA OFFICE

CODE	CODE DETAILED DESCRIPTION	SOURCE	ADDITIONAL SOURCE INFO (DATE, MEETING, E-MAIL, ETC)
GENERAL CODE INFORMATION			
BUILDING PERMIT INFO	SUBMITTED BY OWNER		
MECHANICAL PERMIT INFO	SUBMITTED BY OWNER		
ELECTRICAL PERMIT INFO	SUBMITTED BY OWNER		
PLUMBING PERMIT INFO	SUBMITTED BY OWNER		
APPLICABLE WASHINGTON STATE BUILDING CODES			
ENERGY CODE	2021 WASHINGTON STATE ENERGY CODE (SEC) FOR COMMERCIAL BUILDINGS	WAC 51-11C	EFFECTIVE MARCH 15, 2021
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-50	EFFECTIVE MARCH 15, 2021
ACCESSIBILITY CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS CHAPTER 11 AND ICC A117.1-2009	WAC 51-50	EFFECTIVE MARCH 15, 2021
SEISMIC CODE	ASCE 7-2016 AS REFERENCED BY 2018 INTERNATIONAL BUILDING CODE	WAC 51-50	EFFECTIVE MARCH 15, 2021
FIRE CODE	2021 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-54A	EFFECTIVE MARCH 15, 2021
MECHANICAL CODE	2021 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-52	EFFECTIVE MARCH 15, 2021
PLUMBING CODE	2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-56	EFFECTIVE MARCH 15, 2021
BOILER CODE	WASHINGTON STATE BOILER CODE	WAC 296-104	
ELECTRICAL CODE	2020 NATIONAL ELECTRICAL CODE WITH 2020 WASHINGTON AMENDMENTS (NFPA 70)	WAC 296-46B	EFFECTIVE NOVEMBER 1, 2020
ELECTRICAL	ELECTRICIANS AND ELECTRICAL INSTALLATIONS	RCW CHAPTER 19.28	
NFPA STANDARDS	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AS REFERENCED BY THE CODES ABOVE OR AS SPECIFICALLY LISTED BELOW		
ENERGY CODE ENVELOPE			
ENVELOPE	ANY IMPACTS TO ENVELOPE DUE TO MEP UPDATES TO BE IN COMPLIANCE WITH ENERGY CODE SECTION 503		

MECHANICAL BASIS OF DESIGN — PHA OFFICE

1

BOD CRITERIA	BOD INPUT	SOURCE	ADDITIONAL SOURCE INFO (DATE, MEETING, E-MAIL, ETC)
RUSHING PROJECT CONTACTS			
MECHANICAL EOR	RUSHING		
MECHANICAL LEAD ENGINEER	AUSTIN BONNES (STAMPING), DIANA FISHER		
ENERGY CODE NOTES FOR MECHANICAL SYSTEMS			
	ANY ENVELOPE IMPACTS DUE TO MECHANICAL UPDATES WILL BE IN COMPLIANCE WITH 2021 ENERGY CODE SECTION 503 FOR ALTERATIONS	WSEC SECTION 503	
DEFERRED PERMIT SUBMITTALS			
	SEISMIC TIEDOWN CALCULATIONS, BY MC		
HVAC SYSTEM SELECTION OWNER CRITERIA NOTES			
CONDITIONING	BOTH HEATING AND COOLING ARE DESIRED IN THE NEW CONFERENCE ROOM - PREFERENCE IS FOR WALL-MOUNTED SPLIT SYSTEM HEAT PUMP		CONFIRMED IN 3.26.24 COORDINATION MEETING
HVAC LOAD DESIGN CRITERIA			
PROJECT LOCATION:	PORT ANGELES, WA		
CLOSEST ASHRAE WEATHER STATION:	WHIDBEY ISLAND NAVAL STATION		
SUMMER OA DESIGN TEMP =	75°F DB, 62°F WB	2021 WSEC	SECTION C302.2, APPENDIX C
SUMMER OA DESIGN TEMP =	72°F DB, 61°F WB	ASHRAE	FUNDAMENTALS
CODE INDOOR COOLING DESIGN TEMPERATURE MINIMUM =	75°F	2021 WSEC	SECTION C302.1
PROJECT INDOOR COOLING DESIGN TEMPERATURE =	75°F	PROJECT CRITERIA	LOWEST TEMPERATURE PER 2018 WSEC
WINTER OA DESIGN TEMP =	28°F DB	2021 WSEC	SECTION C302.2, APPENDIX C
CODE INDOOR HEATING DESIGN	72°F	2018 WSEC/SEC	SECTION C302.1
TEMPERATURE MAXIMUM =	AVG 68°F AT 3' AFF	2018 IBC	SECTION 1204.1
PROJECT INDOOR HEATING DESIGN TEMPERATURE =	70°F	PROJECT CRITERIA	
FREEZE PROTECTION DESIGN TEMPERATURE =	50°F	PROJECT CRITERIA	
INDOOR RELATIVE HUMIDITY CONTROL	NOT CONTROLLED	PROJECT CRITERIA	
HVAC LOAD SELECTION BASIS	ASHRAE STANDARD 183	2021 WSEC	SECTION C403.2.1
HVAC EQUIPMENT SIZING BASIS	HVAC EQUIPMENT OVERSIZING TO BE SIZED FOR NEXT AVAILABLE SIZE PER 2018 WSEC	2021 WSEC	SECTION C403.2.2 WASHINGTON SBCC INTERPRETATION 13-09
BUILDING ENVELOPE THERMAL DESIGN CRITERIA FOR HEATING/COOLING LOADS			
WINDOW	GLAZING TYPE/DESCRIPTION: GLAZING U-VALUE: 0.4 BTU/(HR)(FT²)(°F) GLAZING SHGC: 0.4		ASSUMED BASED ON HISTORICAL ENERGY CODES
OPAQUAE WALL	WALL TYPE/DESCRIPTION: WALL U-VALUE: 0.062 BTU/(HR)(FT²)(°F)		ASSUMED BASED ON HISTORICAL ENERGY CODES
ROOF	ROOF TYPE/DESCRIPTION: ROOF U-VALUE: 0.034 BTU/(HR)(FT²)(°F)		ASSUMED BASED ON HISTORICAL ENERGY CODES
HVAC SYSTEM SPACE DESIGN CRITERIA - NEW CONFERENCE ROOM			
EXHAUST BOD	RESTROOM TO BE EXHAUSTED AT 50 CFM/FIXTURE		
HEATING/COOLING	PROVIDED VIA WALL-MOUNTED SPLIT SYSTEM HEAT PUMP		
HVAC SYSTEM SPACE DESIGN CRITERIA - NEW STAFF LOUNGE			
EXHAUST BOD	NEW ELECTRIC RANGE IS ADDED - ASSOCIATED RESIDENTIAL EXHAUST HOOD REQUIRED PER MECHANICAL CODE. MINIMUM 160 CFM EXHAUST FOR ELECTRIC RANGE IS REQUIRED PER MECHANICAL CODE.	WSMC TABLE 507.1.2 WSMC TABLE 403.4.7 WSMC TABLE 403.4.7.3	

RICE*fergus*MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
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PROJECT # 2023093.01

REVISION 1

ISSUE DATE MAY 7, 2024

REVISION SCHEDULE		
1	REVISION 1	5/7/2024

AHJ APPROVAL STAMP

MECHANICAL BASIS OF DESIGN MATRIX

SHEET #
M0.04

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FAN SCHEDULE

TAG #	EF-1-1
BASIS OF DESIGN	
MANUFACTURER	PANASONIC
MODEL	FV-0511VKS2
DESIGN DATA	
AREA SERVED	RESTROOM
EXHAUST / SUPPLY / RELIEF	EXHAUST
QUANTITY OF FANS	1
FAN PROVIDED BY	MC
FAN TYPE / SIZE DETAILS	
FAN TYPE	CEILING
DESIGN CFM / SELECTED CFM (NOTE 3)	50 CFM
DESIGN E.S.P. / SELECTED ESP (NOTE 3)	0.375"
DESIGN FAN RPM / SELECTED FAN RPM (NOTE 3)	NA
FAN EFFICACY REQUIRED (CFM/W)	NA
DESIGN BHP / SELECTED BHP (NOTE 3)	-
MOTOR HP	-
OR MOTOR WATTS	13.4
VOLTAGE/PHASE	120/1
MOTOR EFFICIENCY	CODE MIN
MOTOR RPM	1770 RPM
AIR TEMPERATURE - NORMAL OPERATION	70 °F
SMOKE CONTROL CFM	NA
AIR TEMPERATURE - SMOKE CONTROL OPERATION	NA
MOTOR VFD RATED (INVERTER DUTY)	NO
MOTOR TYPE (ODP/TEFC/EXPLOSION PROOF/OTHER)	-
ELECTRICAL DATA	
DISCONNECT	EC
MANUAL STARTER (PROVIDED & INSTALLED BY EC)	NO
MAGNETIC STARTER (PROVIDED & INSTALLED BY EC)	BY EC
VFD (PROVIDED BY M.C. & INSTALLED BY EC)	NO
VFD MANUFACTURER	-
VFD MODEL	NA
VFD FUSED DISCONNECT BY (E.C. / FACTORY)	NA
VFD MOUNTED AND WIRED BY TO MOTORS	NA
VFD BYPASS	NA
VFD INPUT LINE REACTOR	NA
VFD OUTPUT L.C. FILTER	NA
VFD BMS INTERFACE CARD	NA
120/1 SERVICE OUTLET WITHIN 25 FEET	BY EC
EMERGENCY POWER	NO
STANDBY POWER	NO
SMOKE DETECTOR (REMARK 1)	NO
CONTROL DATA	
TYPE OF CONTROL (BMS, TIMECLOCK,...)	WALL SWITCH
MOTORIZED DAMPER CONTROL	NO
PART OF SMOKE CONTROL SYSTEM	NO
LINE VOLTAGE T-STAT (EC PROVIDE, EC INSTALL)	NA
LINE VOLTAGE T-STAT (MC PROVIDE, EC INSTALL)	YES
FAN SPEED CONTROLLER (MC PROVIDE INSTALL ON FAN)	YES
VARIGREEN FACTORY MOTOR CONTROL TYPE	NA
BACKDRAFT DAMPER IN FAN	NA
BACKDRAFT DAMPER/MOTORIZED DAMPER	BDD
CO/NO2 SENSOR	NA
EC TO INSTALL 120V PRESSURE SWITCH (BY MC)	NA
SPECIFICATION DATA	
DIRECT DRIVE/BELT DRIVE	DIRECT DRIVE
FACTORY CURB	NA
FACTORY CURB (WITH ACCESS PANEL)	NA
SITE BUILT CURB OR SLEEPERS BY OTHERS	NA
BASE	NA
WALL HOUSING	NA
FAN MOUNTING LOCATION (INDOOR, OUTDOOR, ETC.)	INDOOR
VERTICAL OR HORIZONTAL DISCHARGE ORIENTATION	HORIZ
MOUTING CONFIGURATION (HUNG, CURB, FLOOR, ETC.)	CEILING
FLEX CONNECTOR	YES
THRUST RESTRAINT	NO
GREASE EXH. UL 705/762	NO
SPECIAL TEMPERATURE RATING	NO
MOTOR SERVICE FACTOR	1.5
SPECIAL COATINGS	NO
OSHA APPROVED MOTOR COVER	NA
SPARK RESISTANT	NO
BELT GUARD / MOTOR COVER / INSPECTION DOOR	NA
PHYSICAL DATA	
OVERALL HEIGHT	8"
OVERALL WIDTH	13"
OVERALL LENGTH	13"
TOTAL WEIGHT (LESS SITE BUILT CURB)	25 LBS
MISC. DETAILS	
PARTS AND LABOR WARRANTY FROM PROJECT SUBSTANTIAL COMPLETION DATE	YES
REMARKS	
	1

REMARKS:
1. DESIGN OF SMOKE DETECTION SYSTEM IS BY E.C. ALL SMOKE DETECTORS PROVIDED BY E.C. INSTALLATION OF DUCT DETECTORS IS BY E.C. UNDER THE SUPERVISION OF M.C. ALL WIRING AND FIRE LIFE SAFETY INTERLOCKS ARE BY E.C. FOR FURTHER INFORMATION SEE THE FOLLOWING IBC AND IMC CODE SECTIONS: IBC 716, IMC 607.

SPLIT SYSTEM HEAT PUMP SCHEDULE

INDOOR UNIT TAG #	HPFC-1-1	HPFC-1-2
OUTDOOR UNIT TAG #	CU-1-1	CU-1-2
BASIS OF DESIGN		
MANUFACTURER	MITSUBISHI	MITSUBISHI
INDOOR UNIT MODEL	PKA-A30KA8	PKA-A30KA8
INDOOR UNIT TYPE	DUCTLESS WALL MOUNT	DUCTLESS WALL MOUNT
OUTDOOR UNIT MODEL	PUZ-A30NHA7	PUZ-A30NHA7
OUTDOOR NOMINAL TONNAGE	2.5	2.5
AREA SERVED	SERVER ROOM	NEW CONFERENCE ROOM
QUANTITY OF INDOOR UNITS		
DESIGN PARAMETERS		
CFM	705 CFM	705 CFM
AMBIENT CONDENSER DB TEMPERATURE	95°F	95°F
COOLING ENTERING AIR (DB)	80°F	80°F
COOLING INDOOR AIR TEMPERATURE (DB)	80°F	80°F
OUTDOOR AIR (DB)	82°F	82°F
CALCULATED TOTAL COOLING LOAD (MBH)	20	27.6
CALCULATED SENSIBLE COOLING LOAD (MBH)	20	21.7
EQUIPMENT TOTAL MBH COOLING CAPACITY (MBH)	30	30.0
EQUIPMENT SENSIBLE COOLING CAPACITY (MBH)	21	21.0
HEATING INDOOR AIR TEMPERATURE (DB)	70°F	70°F
HEATING OUTDOOR AIR TEMPERATURE (DB)	24°F	24°F
CALCULATED TOTAL HEATING LOAD (MBH)	-	13.5
EQUIPMENT TOTAL MBH HEATING CAPACITY (@17°F/@47°F)	18.3/32	18.3/32
ELECTRICAL DATA - INDOOR UNIT		
MCA	POWERED BY OUTDOOR CONDENSING UNIT	POWERED BY OUTDOOR CONDENSING UNIT
MAX. FUSE SIZE		
VOLTAGE/PHASE		
AUXILIARY HEAT KW	NA	NA
DISCONNECT	BY EC	BY EC
120/1 SERVICE OUTLET WITHIN 25 FEET	BY EC	BY EC
RETURN AIR SMOKE DETECTOR	NA	NA
ELECTRICAL DATA - OUTDOOR UNIT		
MCA	19 MCA AT 208/1	19 MCA AT 208/1
MAX. FUSE SIZE	26 MOP AT 208/1	26 MOP AT 208/1
VOLTAGE/PHASE	230/1	230/1
DISCONNECT	BY EC	BY EC
UNIT SHORT CIRCUIT CAPACITY RATING (AIC, REMARK 3)	5000 AIC	5000 AIC
120/1 SERVICE OUTLET WITHIN 25 FEET	BY EC	BY EC
CONTROLS		
CONTROL	PROG. T-STAT	PROG. T-STAT
LOCAL USER ADJUSTABILITY	YES	YES
BMS MONITORING	NO	NO
EMERGENCY POWER	NO	NO
STANDBY POWER	NO	NO
SPECIFICATIONS		
LISTED IN CERTIFICATION PROGRAM	YES - AHRI	YES - AHRI
AHRI CERTIFIED VS. RATED IN ACCORDANCE	CERTIFIED	CERTIFIED
CODE MIN COOLING EFFICIENCY	14 SEER	14 SEER
OSA ECONOMIZER	NO - REMARK 2	NO - REMARK 2
CODE MIN COOLING EFFICIENCY (W/ NO ECONOMIZER)	14.3 SEER2	14.3 SEER2
UNIT COOLING EFFICIENCY	20.0 SEER2	20.0 SEER2
CODE MIN HEATING EFFICIENCY	7.5 HSPF2	7.5 HSPF2
UNIT HEATING EFFICIENCY	8.8 HPSF2	8.8 HPSF2
LOW AMBIENT CONTROL	YES	YES
EXTERNAL CONDENSATE PUMP	YES (REMARK 1)	YES (REMARK 1)
ISOLATION	SEE ISOLATION SCHEDULE	SEE ISOLATION SCHEDULE
PHYSICAL DATA - INDOOR UNIT		
EQUIPMENT WEIGHT (LBS)	60	60
LENGTH x WIDTH x HEIGHT (INCHES)	47x12x14	47x12x14
PHYSICAL DATA - OUTDOOR UNIT		
EQUIPMENT WEIGHT (LBS)	180	180
LENGTH x WIDTH x HEIGHT (INCHES)	38x15x38	38x15x38
PHYSICAL DATA - REFRIGERATION PIPING		
MAX ALLOWABLE IDU TO ODU PIPING LENGTH (FT)	165	165
MAX ALLOWABLE HEIGHT BETWEEN IDU AND ODU (FT)	100	100
MISC DATA		
PARTS AND LABOR WARRANTY FROM PROJECT SUBSTANTIAL COMPLETION DATE	YES	YES
FREIGHT	FOR JOB SITE	FOR JOB SITE
SHIPPING INSTRUCTIONS - SHRINK WRAP & COVER ALL OPENINGS	YES	YES
ELECTRONIC SUBMITTAL	YES	YES
ELECTRONIC INSTALL/O&M MANUAL	YES	YES
REMARKS:	1, 2, 3, 5	1, 3, 4, 5

REMARKS:
1. FAN COIL UNIT DOES NOT COME WITH FACTORY MOUNTED CONDENSATE PUMP. PROVIDE ASPEN MINI AQUA CONDENSATE PUMP WITH SECONDARY CONDENSATE SENSOR. CONDENSATE PUMP IS POWERED DIRECTLY FROM THE FAN COIL AND DOES NOT REQUIRE A SEPARATE POWER CONNECTION. CONDENSATE OVERFLOW SENSOR OR CONDENSATE PUMP STATUS TO BE WIRED TO SHUTDOWN UNIT ON CONDENSATE OVERFLOW OR CONDENSATE PUMP FAILURE PER WSMC.
2. AIRSIDE ECONOMIZER IS NOT REQUIRED PER EXCEPTION 10 OF WSEC 403.5 FOR ROOMS THAT HAVE 15% HIGHER EQUIPMENT COOLING EFFICIENCY PER EXCEPTION 11 TABLE.
3: UNIT TO BE FACTORY LISTED AND LABELED WITH SCCR NAMEPLATE. UNIT MAXIMUM FACTORY AVAILABLE SCCR FAULT CURRENT RATING IS 5000 AIC. PER 2020 NEC UNIT NAMEPLATE SCCR TO MEET OR EXCEED AIC RATING OF PANEL SERVED. ELECTRICAL DISTRIBUTION SYSTEM TO BE DESIGNED BY ELECTRICAL ENGINEER AND INSTALLED BY EC TO HAVE A LOWER FAULT CURRENT RATING AT THE EQUIPMENT THAN THE EQUIPMENT SCCR NAMEPLATE. SEE MECHANICAL EQUIPMENT COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS TO CONFIRM PRELIMINARY FAULT CURRENT RATING. FINAL RATING IS PER EC COORDINATION STUDY.
4. AIRSIDE ECONOMIZER IS NOT REQUIRED PER EXCEPTION 1 OF 2021 WSEC 403.5.9 FOR COOLING SYSTEM FAN COILS NOT INSTALLED IN A MECHANICAL ROOM OR OUTDOORS INSTALLED WITH DOAS PER SECTION C403.3.5.
5. PROVIDE 7-DAY WALL MOUNTED PROGRAMMABLE THERMOSTAT

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

AUSTIN BONNER — STATE OF WASHINGTON — 24017423 — REGISTERED PROFESSIONAL ENGINEER
05/07/2024

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT SET

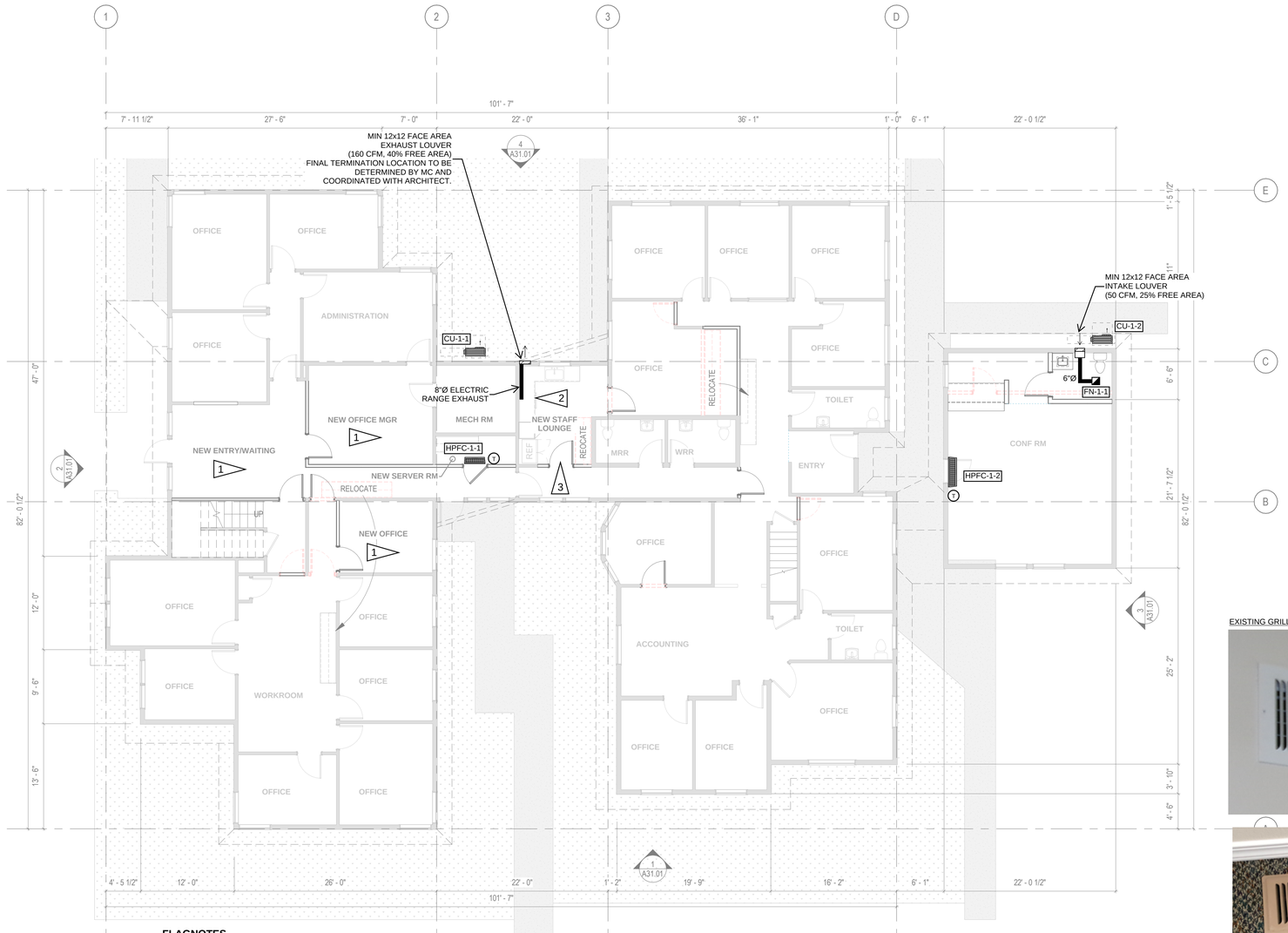
ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

MECHANICAL SCHEDULES

SHEET #
M0.05



FLAGNOTES

1. RELOCATE EXISTING GRDS OR PROVIDE NEW GRDS FOR SPACE RECONFIGURATION. GRD STYLES TO MATCH EXISTING STYLES. REFER TO CLIPS BELOW. COORDINATE FINAL FINISHES, COLORS, AND LOCATIONS WITH ARCHITECT.
2. PROVIDE RESIDENTIAL HOOD FOR WARMING OF PRECOOKED FOODS PER WSMC TABLE 507.1.2. ONE COOKING APPLIANCE ALLOWED BELOW HOOD. HOOD SIZING TO COMPLY WITH WSMC TABLE 403.4.7 AND SECTION 403.4.7.3. ROUTE TERMINATION TO EXTERIOR LOCATION IN COMPLIANCE WITH WSMC SECTION 501.3.1. TERMINATION INSTALLATION TO COMPLY WITH WSEC SECTION 503 FOR ALTERATIONS.
3. PROVIDE MIN 6x6 LOUVERED OPENING AT BOTTOM OF DOOR.

EXISTING GRILLE TYPES

1 FLOOR PLAN - LEVEL 1

1/8" = 1'-0"

0 4" 8" 16"

N

DATE/ TIME PRINTED: 3/20/2024 1:36:21 PM
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PROJECT # 2023093.01

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REVISION SCHEDULE		

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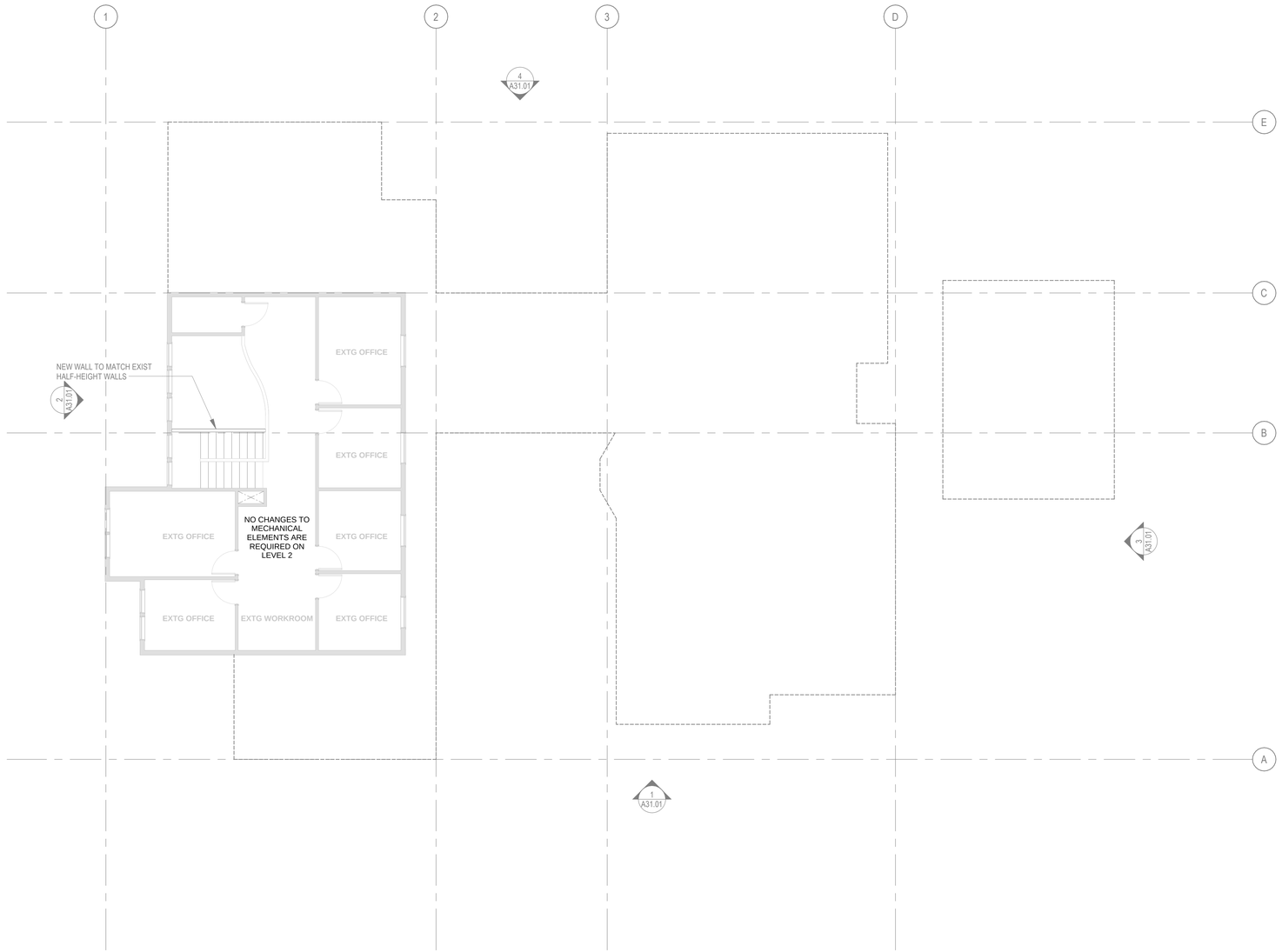
FLOOR PLAN - LEVEL 1

SHEET #

M2.01



1 LEVEL 2

1/8" = 1'-0"

N

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PROJECT # 2023093.01

PERMIT SET

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

FLOOR PLAN - LEVEL2

SHEET #

M2.02

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ARCHITECTURE INTERIORS PLANNING VIZLAB
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RFMARCH.COM

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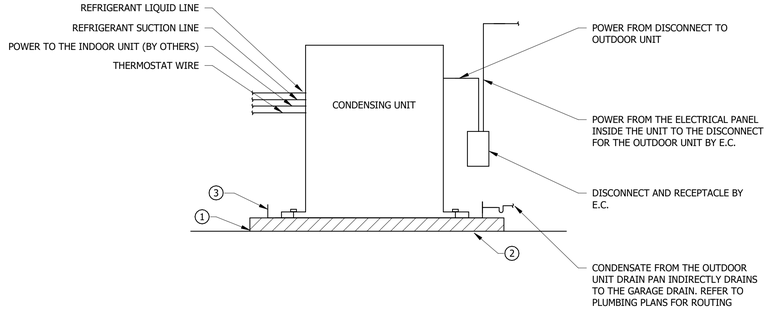

NOTES:

1. STAINLESS STEEL SLEEPERS OR CONCRETE HOUSEKEEPING PAD BY ARCHITECTURAL TRADES.
2. 16 GAUGE STAINLESS STEEL UNIT SUPPORTS. TWO PER UNIT, BY MECHANICAL CONTRACTOR. ACCOUNT FOR ROOF SLOPE IN MANUFACTURING. SECURE TO SLEEPERS PER STRUCTURAL ENGINEER RECOMMENDATIONS.
3. MINIMUM CLEARANCES PER MANUFACTURER'S RECOMMENDATIONS.

1 EQUIPMENT INSTALLATION DETAIL WITH PAN

SCALE: NOT TO SCALE

PROJECT #	2023093.01
PERMIT SET	
ISSUE DATE	APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

MECHANICAL DETAILS

SHEET #

M5.00

DATE/ TIME PRINTED: 3/20/2024 1:36:21 PM
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GENERAL

ACT	ACOUSTICAL CEILING TILE
AD	ACCESS DOOR
ADJ	ADJUSTABLE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AMP	AMPERE
ARCH	ARCHITECT; ARCHITECTURAL
AUTO	AUTOMATIC
AUX	AUXILIARY
BG	BELOW GRADE
BHP	BRAKE HORSE POWER
BOD	BASIS OF DESIGN
BS	BIRD SCREEN
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
COND	CONDENSATE
C/L	CENTERLINE
CLG	CEILING
CO	CARBON MONOXIDE
CO2	CARBON DIOXIDE
DET	DETAIL
DIA	DIAMETER
DISCH	DISCHARGE
DN	DOWN
DWG	DRAWING
(E)	EXISTING
EA	EACH
EC	ELECTRICAL CONTRACTOR; END CAP
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATION
EFF	EFFICIENCY
EWT	ENTERING WATER TEMPERATURE
EXIST	EXISTING
EXH	EXHAUST
F	FAHRENHEIT
(F)	FUTURE
FLEX	FLEXIBLE
FLG	FLANGE
FLR	FLOOR
FOIC	FURNISHED BY OWNER, INSTALLED BY CONTRACTOR
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FS	FIRE SERVICE (MAIN)
FT	FOOT; FEET
FURN	FURNISH
G	NATURAL GAS (LOW PRESSURE)
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALL BOARD
HL	HIGH LOOP
HP	HORSE POWER
HPDCW	HIGH PRESSURE DOMESTIC COLD WATER
HVAC	HEATING, VENTILATION, AND AIR CONDITIONING
ID	INSIDE DIAMETER/DIMENSION
IE	INVERT ELEVATION
IRR	IRRIGATION
IW	INDIRECT WASTE
LAT	LEAVING AIR TEMPERATURE
LF	LINEAR FOOT
LWT	LEAVING WATER TEMPERATURE
MAX	MAXIMUM
MBH	1000 BRITISH THERMAL UNITS PER HOUR
MC	MECHANICAL CONTRACTOR
MED	MEDIUM
MFR	MANUFACTURER
MIN	MINIMUM
MISC	MISCELLANEOUS
M/N	MODEL NUMBER
MPG	NATURAL GAS (MEDIUM PRESSURE)
MTD	MOUNTED
NA, N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NEG	NEGATIVE
NIC	NOT IN CONTRACT
NO	NORMALLY OPEN; NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
OA	OVERALL
OC	ON CENTER
OD	OUTSIDE DIAMETER
PC	PLUMBING CONTRACTOR
PD	PRESSURE DROP
PLBG	PLUMBING
POC	POINT OF CONNECTION
PRELIM	PRELIMINARY
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
QTY	QUANTITY
RAT	RETURN AIR TEMPERATURE
RET	RETURN
REQD	REQUIRED
RPM	REVOLUTIONS PER MINUTE
RWT	RETURN WATER TEMPERATURE
SAT	SUPPLY AIR TEMPERATURE
SD	STORM DRAIN
SF	SQUARE FOOT
SPEC	SPECIFICATION
SQ	SQUARE
SUPP	SUPPLY
SWT	SUPPLY WATER TEMPERATURE
TBD	TO BE DETERMINED
TI	TENANT IMPROVEMENTS
TOC	TOP OF CONCRETE
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
VFD	VARIABLE FREQUENCY DRIVE

CODE CYCLES USED FOR PROJECT

UPC	2021 UNIFORM PLUMBING CODE AND WASHINGTON STATE AMENDMENTS
IFGC	2021 INTERNATIONAL FUEL GAS CODE AND WASHINGTON STATE AMENDMENTS
WSEC	2021 WASHINGTON STATE ENERGY CODE
IBC	2021 INTERNATIONAL BUILDING CODE AND WASHINGTON STATE AMENDMENTS

PROJECT DESCRIPTION

OFFICE TI INCLUDING THE ADDITION OF A RESTROOM AND A KITCHENETTE.

NARRATIVE OF PLUMBING SCOPE

ADDITION OF 3/4" DCW PIPING FROM MAIN BUILDING TO PROVIDE DOMESTIC WATER TO A NEWLY RENOVATED OFFICE BUILDING CONSISTING OF (1) KITCHEN SINK, (1) PUBLIC LAVATORY, AND (1) WATER CLOSET.

INSPECTIONS

RECORDS OF INSPECTIONS PERFORMED BY ALL PARTIES, REPRESENTATIVES, ENGINEERS. MANUFACTURERS. CONTRACTORS. ETC. TO BE KEPT ON SITE.

PLUMBING

BOP	BOTTOM OF PIPE
CD	CONDENSATE DRAIN
CFF	CAPPED FOR FUTURE
CO	CLEANOUT
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DF	DRINKING FOUNTAIN
DS	DOWNSPOUT
DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRCULATION
DWV	DRAIN, WASTE, VENT
EWC	ELECTRICAL WATER COOLER
EWH	ELECTRICAL WATER HEATER
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
GD	GARAGE DRAIN; GARAGE DRAINAGE
GI	GREASE INTERCEPTOR
GRW	GREY WATER COLLECTION
GW	GREASE WASTE
HB	HOSE BIBB
IE	INVERT ELEVATION
IN HC	INCHES WATER COLUMN
KS	KITCHEN SINK
LV, LAV	LAVATORY
MS	MOP SINK
NFHB	NON-FREEZE HOSE BIBB
NPW	NON-POTABLE WATER
ORD	OVERFLOW ROOF DRAIN
ORL	OVERFLOW RAINWATER LEADER
PD	PLANTER DRAIN; PRESSURE DROP
PERF	PERFORATED
PRV	PRESSURE REDUCING VALVE
RD	ROOF DRAIN
RH	ROOF HYDRANT
RL	RAIN WATER LEADER
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
SK	SINK
SD	STORM DRAIN
SS	SANITARY SEWER
ST	STORAGE TANK
TMV	THERMOSTATIC MIXING VALVE
V	VENT
VTR	VENT THROUGH ROOF
UR	URINAL
W	WASTE
WC	WATER CLOSET
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WSP	WET STANDPIPE

PIPING

AAV	AIR ADMITTENCE VALVE
AGA	AMERICAN GAS ASSOCIATION
AS	AIR SEPARATOR
BP	BACKFLOW PREVENTER
CD	CONDENSATE DRAIN
CDWR	CONDENSER WATER RETURN
CDWS	CONDENSER WATER SUPPLY
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CHW	CHILLED WATER
CT	CONICAL TEE
FHV	FIRE HOSE VALVE
FO	FUEL OIL
FOR	FUEL OIL RETURN
FOS	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
HRR	HEAT RECOVERY RETURN
HRS	HEAT RECOVERY SUPPLY
HWR	HOT WATER RETURN (HYDRONIC)
HWS	HOT WATER SUPPLY (HYDRONIC)
MAV	MANUAL AIR VENT
RLL	REFRIGERANT LIQUID LINE
RSL	REFRIGERANT SUCTION LINE

FIRE PROTECTION

BP	BACKFLOW PREVENTER
CV	CHECK VALVE
DCVA	DOUBLE CHECK VALVE ASSEMBLY
DDCA	DOUBLE DETECTOR CHECK VALVE ASSEMBLY
EWC	ELECTRICAL WATER COOLER
FA	FIRE ALARM
FDC	FIRE DEPARTMENT CONNECTION
FHV	FIRE HOSE VALVE
FP	FIRE PROTECTION
FSP	FIRE STANDPIPE
PIV	POST INDICATING VALVE
PRV	PRESSURE REDUCING VALVE
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
WSP	WET STANDPIPE

LINETYPE LEGEND

NEW

DEMO (E)

EXISTING (E)

XXXS — SUPPLY (EX. CHWS)

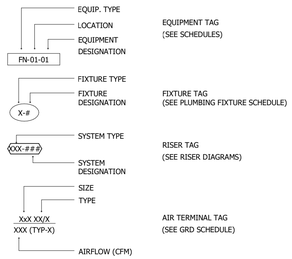
XXXR — RETURN (EX. CHWR)

SCHEDULE LEGEND

SCHEDULE LINEWEIGHT LEGEND

TAG #	*TAG-X-X*	*TAG-X-X*	**TAG-X-X**
PROJECT	*EXISTING PROJECT*	*FUTURE*	**NEW PROJECT**
SAMPLE			
SAMPLE	*EXISTING EQUIPMENT*	*FUTURE EQUIPMENT*	**NEW EQUIPMENT**
-	-	-	-

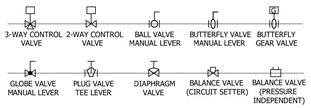
TAGS LEGEND



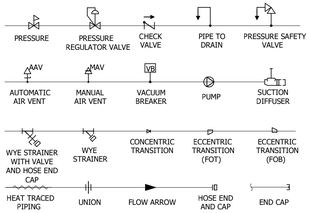
NOTES LEGEND

SHEET KEYNOTE INDICATOR SYMBOL

GENERAL VALVES

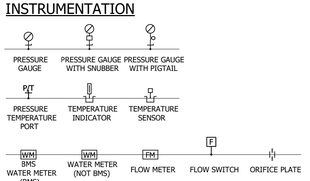


GENERAL PLUMBING

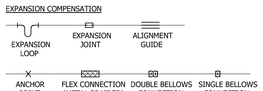


NATURAL GAS

INSTRUMENTATION



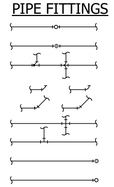
EXPANSION COMPENSATION



PIPING SYSTEMS

DCW	DOMESTIC COLD WATER
DHW	DOMESTIC HOT WATER
DHWR	DOMESTIC HOT WATER RECIRC
CD	CONDENSATE DRAIN
FD	FOUNDATION DRAINAGE
GD	GARAGE DRAIN
GW	GREASE WASTE
GRW	GREY WATER
IRR	IRRIGATION
LPG	LOW PRESSURE GAS
MPG	MEDIUM PRESSURE GAS
NG	NATURAL GAS
NPW	NON-POTABLE WATER
ORL	OVERFLOW RAIN LEADER
PS	PUMPED STORM
PW	PUMPED WASTE
RL	RAIN LEADER
W	SANITARY WASTE
V	VENT
O	OTHER
FP	FIRE PROTECTION
FPD	FIRE PROTECTION DRY
FPO	FIRE PROTECTION OTHER
FPP	FIRE PROTECTION PRE-ACTION
FPW	FIRE PROTECTION WET

PIPE FITTINGS



TEE UP

TEE DOWN

WYE / DOUBLE WYE (SAN TEE/WYE)

90° ELBOW

45° ELBOW

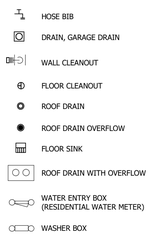
CROSS

TEE

ELBOW DOWN

ELBOW UP

PLUMBING FIXTURES



HOSE BIB

DRAIN, GARAGE DRAIN

WALL CLEANOUT

FLOOR CLEANOUT

ROOF DRAIN

ROOF DRAIN OVERFLOW

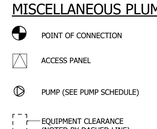
FLOOR SINK

ROOF DRAIN WITH OVERFLOW

WATER ENTRY BOX (RESIDENTIAL WATER METER)

WASHER BOX

MISCELLANEOUS PLUMBING SYMBOLS



POINT OF CONNECTION

ACCESS PANEL

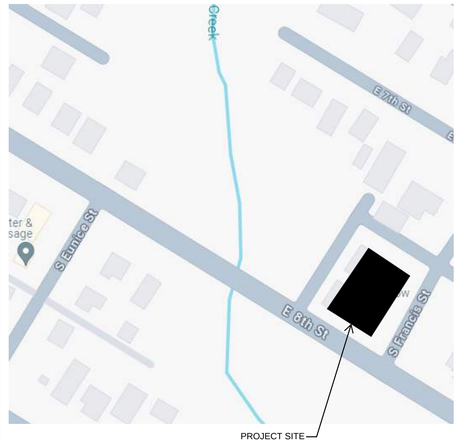
PUMP (SEE PUMP SCHEDULE)

EQUIPMENT CLEARANCE (NOTED BY DASHED LINE)

PROJECT ADDRESS

727 E 8TH ST
PORT ANGELES, WA 98362

PARCEL# 063000022590



VICINITY MAP

NOT TO SCALE

PLUMBING DRAWING INDEX

SHEET NUMBER	SHEET TITLE	SHEET SCALE	PERMIT SET
			4/12/2024
		Discipline Sheet Count ->	10
P0.00	PLUMBING LEGENDS & ABBREVIATIONS	NTS	X
P0.01	PLUMBING NOTES AND MATRICES	NTS	X
P0.02	PLUMBING SCHEDULES	NTS	X
P1.01	PLUMBING SITE PLAN	1"=10'-0"	X
P2.00	FLOOR PLAN - BELOW GRADE	1/8" = 1'-0"	X
P2.01	FLOOR PLAN - LEVEL 1	1/8" = 1'-0"	X
P2.02	FLOOR PLAN - LEVEL 2	1/8" = 1'-0"	X
P5.00	PLUMBING DOMESTIC WATER RISER DIAGRAM	NTS	X
P5.01	PLUMBING WASTE AND VENT RISER DIAGRAM	NTS	X
P6.00	PLUMBING DETAILS	NTS	X

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04/11/2024

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727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT SET

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

PLUMBING LEGEND AND ABBREVIATIONS

SHEET #

P0.00

PLUMBING FIXTURE SCHEDULE

	DESCRIPTION	MODEL	CONNECTION (SEE NOTE 6)									BASIS OF DESIGN (SEE LEGEND BELOW)	FIXTURE FLOW RATES	
			DCW (RUNOUT)	DCW (TXT CONN)	DHW (RUNOUT)	DHW (TXT CONN)	TEMP	W	V	RL	ORL		CODE FLOW	FIXTURE FLOW
WC-1	FLOOR MOUNTED WATER CLOSET - PUBLIC AMENITY											1		
	FIXTURE: SEAT: FLUSH VALVE: CARRIER: ACCESSORIES: NOTES:	KOHLER K-3609 CIMARRON COMFORT HT ELONGATED, WHITE KOHLER K-4664 BRIDVA ELONGATED TOILET SEAT, WHITE FLUSH TANK N/A FLOWTITE 4ALL SUPPLY STOP VALVE N/A	3/8	3/8	-		-	4	2	-	-		1.28 GPF	1.28 GPF
L-1	COUNTER TOP LAVATORY - PUBLIC AMENITY											1		
	FIXTURE: FAUCET: TRAP: SUPPLIES: NOTES:	AMERICAN STANDARD 404742 OVAL SELF RIMMING 17"x20" KOHLER K-15182-F CORALAIS SINGLE CONTROL CENTERSET, POLISHED CHROME DEARBORN BRASS P9704AB FLOWTITE 4ALL SUPPLY STOP VALVE CONTRACTOR TO VERIFY FINAL FIXTURE WATER SUPPLY CONNECTION SIZES. INCLUDE POINT OF USE MIXING VALVE, LEONARD MODEL 270-LF OR EQUAL.	3/8	3/8	3/8	3/8	-	1 1/2	1 1/2	-	-		- 0.5 GPM	- 0.5 GPM
S-1	KITCHEN SINK (SINGLE COMPARTMENT)											1		
	FIXTURE: FAUCET: DRAIN: TRAP: SUPPLIES: NOTES:	ELKAY SIGNATURE PLUS STAINLESS STEEL UNDERMOUNT SINGLE BOWL KOHLER K-596-CP, SINGLE HOLE PULL-DOWN FAUCET, POLISHED CHROME DRAIN WITH STRAINER AND P-TRAP DEARBORN BRASS P9704AB FLOWTITE 4ALL SUPPLY STOP VALVE CONTRACTOR TO VERIFY FINAL FIXTURE WATER SUPPLY CONNECTION SIZES. INCLUDE POINT OF USE MIXING VALVE, LEONARD MODEL 270-LF OR EQUAL.	1/2	1/2	1/2	1/2	-	1 1/2	1 1/2	-	-		- 2.2 GPM	- 1.8 GPM
MISCELLANEOUS PLUMBING FIXTURES														
FS-1	FLOOR SINK - FINISHED AREA											2		
	FIXTURE: NOTES:	ZONES STEPHENS MODEL 559043 - 3" x 4" PVC FLOOR SINK WITH 1/2 GRATE PROVIDE TRAP PRIMER WATER CONNECTION.	-	-	-	-	-	2		-	-		N-A	-
TP-1	TRAP PRIMER - FLOW ACTIVED WITH MULTIPORT DISTRIBUTION											2		
	FIXTURE: NOTES:	PPP PRIME PRO - FLOW-ACTIVATED TRAP PRIMER. PROVIDE DISTRIBUTION UNIT (PPP MI-DU) AS REQUIRED. PLUG UNUSED PORTS PLUG UNUSED TRAP PRIMER OUTLETS AS NECESSARY.	1/2		-		-	-	-	-	-		N-A	-
WCO	WALL CLEAN OUT											2		
	FIXTURE: NOTES:	JAY R SMITH 4472	-	-	-	-	-	-	-	-	-		N-A	-
FCO	FLOOR CLEAN OUT											2		
	FIXTURE: NOTES:	JAY R SMITH 4020 - NICKEL BRONZE	-	-	-	-	-	-	-	-	-		N-A	-
WHA	WATER HAMMER ARRESTOR											2		
	FIXTURE: NOTES:	JAY R SMITH SERIES 5000 BELLOWS TYPE WATER HAMMER ARRESTOR - SIZED AS	-	-	-	-	-	-	-	-	-		N-A	-

NOTES - APPLIES TO ALL FIXTURES:
1. SEE PLANS FOR CONNECTION SIZE.
2. ADA COMPLIANCE REVIEW AND VERIFICATION IS BY THE PROJECT'S DESIGNATED ADA CONSULTANT (OTHERS).
3. CONTRACTOR TO VERIFY DRAIN COMPATIBILITY WITH CONSTRUCTION TYPE PRIOR TO INSTALLATION OR PROCUREMENT. ALTERNATE DRAINS OF EQUIVALENT QUALITY, FINISH AND FUNCTION MAY BE SUBMITTED FOR APPROVAL IF DEEMED NECESSARY.
4. PROVIDE HEAT TRACING AND INSULATION ON SUPPLY PIPING IN UN-HEATED AREAS (TYP).

BASIS OF DESIGN LEGEND:
1 = FIXTURE SELECTION PROVIDED BY ARCHITECT.
2 = FIXTURE SELECTION BASED UPON KNOWN COMPLIANCE WITH INDUSTRY STANDARDS AND PROJECT REQUIREMENTS. ARCHITECT TO VERIFY ACCEPTABILITY.

PLUMBING

PLUMBING MATERIALS SPECIFICATION MATRIX

SERVICE ID	SERVICE DESCRIPTION	DESIGN PRESSURE (PSIG)	SIZE	MATERIAL	JOINTS	LOCATION FOR USE	INSULATION (R-VALUES PER 2021 WSEC)	REMARKS
DOMESTIC WATER - ABOVE GRADE								
DCW, DHW, DHWC	DOMESTIC COLD WATER, DOMESTIC HOT WATER, DOMESTIC HOT WATER RECIRC	125	2" AND SMALLER	COPPER TUBING TYPE L	SOLDERED, 95-5 SOLDER, LEAD FREE	NO RESTRICTION	CW-NON PLASTIC ONLY, 1/2" MINIMUM	
					PRESS-FIT			
				PEX TUBING ASTM F876 ASTM F877	PIPE INSERT & EXPANSION COLLAR ASTM F1807, ASTM F1960	RIGID- NO RESTRICTION FLEXIBLE- FIXTURE RUNOUTS ONLY PLENUM RATED PEX REQUIRED WHERE INSTALLED IN MECHANICAL PLENUMS	HW- ALL EXCEPT NOT REQUIRED IN RESIDENCE HWC-ALL	
SANITARY WASTE & VENT - ABOVE GRADE								
W	SANITARY WASTE	5	ALL	CAST IRON NO HUB	NHCI FITTINGS	NO RESTRICTION	NONE	NOTE 17, 18
				SOLID WALL SCH 40 PVC	SOLVENT WELD	NOT IN PLENUM AREAS		
V	SANITARY VENT	5	ALL	CAST IRON NO HUB	NHCI FITTINGS	NO RESTRICTION		
				SCH 40 PVC SCH 40 ABS	SOLVENT WELD	NOT ALLOWED IN PLENUMS		
SANITARY WASTE & VENT - BELOW GRADE								
W	SANITARY WASTE	5	ALL	CAST IRON NO HUB	NHCI FITTINGS	NO RESTRICTION	NONE	NOTE 14, 16
				SOLID WALL SCH 40 PVC	SOLVENT WELD	NO RESTRICTION		
V	SANITARY VENT	5	ALL	CAST IRON NO HUB	NHCI FITTINGS	NO RESTRICTION		
				SCH 40 PVC SCH 40 ABS	SOLVENT WELD	NO RESTRICTION		

REMARKS
1) PER SECTION 604.13 OF THE 2021 UPC WITH WASHINGTON AMENDMENTS, COPPER OR STAINLESS STEEL FLEXIBLE CONNECTORS SHALL NOT EXCEED 24" IN LENGTH AND PEX TUBING SHALL NOT BE INSTALLED WITHIN THE FIRST 18 INCHES OF PIPING CONNECTED TO A WATER HEATER.
2) PC TO ISOLATE ALL WATER SUPPLY PIPES RUNNING INSIDE APARTMENT BUILDING USING HOLDRITE SILENCER SYSTEM CLAMPS
3) ALL DOMESTIC SUPPLY PIPING BE SIZED AT NO MORE THAN 5 FT/SEC.
4) ALL WASTE PIPES ARE TO BE ISOLATED FROM BUILDING STRUCTURE USING A CLOSED-CELL NEOPRENE SLEEVE
5) EXPANSION COMPENSATION IS REQUIRED FOR ALL PIPING PER 2021 UPC, SECTION 312.2. PARTICULAR ATTENTION IS TO BE PAID TO ALL PLASTIC PIPING.
6) CAST IRON OR PLENUM-RATED CPVC PIPE IS REQUIRED IN ALL RETURN AIR PLENUMS. PVC & ABS ARE NOT ALLOWED.
7) CEILING CAVITIES SURROUNDING WASTE PIPES OR ROOF DRAIN LINES ARE TO BE FILLED WITH BATT INSULATION.
8) FLOOR PENETRATIONS ARE TO BE PACKED WITH ROCK WOOL OR FIBERGLASS INSULATION AND SEALED WITH A RESILIENT FIRE CAULK. PIPING SHALL BE PREVENTED FROM MAKING RIGID CONTACT WITH THE STRUCTURE AT THESE PENETRATIONS.
9) INSULATE ALL METALLIC COLD WATER LINES WITH 1/2" FIBERGLASS WRAP OR EQUIVALENT.
10) PIPE SHALL BE INSULATED PER WASHINGTON STATE ENERGY CODE 2021 REQUIREMENTS EXCEPT WHERE NOTED OTHERWISE
11) ALL PLASTIC WASTE PIPING (INCLUDING P-TRAPS) LOCATED ABOVE RESIDENTIAL LIVING ROOMS, KITCHENS, AND BEDROOMS SHALL BE WRAPPED WITH PLUMBING LAGGING MATERIAl SUCH AS SOUNDSEAL B15 QFA-3.
12) ALL BURIED PLASTIC PIPING INCLUDING PVC AND CPVC SHALL BE INSTALLED IN ACCORDANCE WITH ASTM D2321 AND ASTM F 1668 STANDARDS.
13)PLANS MUST BE DESIGNED BY AN ENGINEER LICENSED TO PRACTICE IN THE STATE OF WASHINGTON. PIPING SHALL NOT BE INSTALLED UNTIL APPROVED BY THE CODE OFFICIAL
14) CAST IRON WASTE & RAINLEADER PIPING: PROVIDE HEAVY DUTY NO-HUB COUPLINGS FOR ANY BELOW-GRADE (BURIED) PIPING, VERTICAL SANITARY AND RAINLEADER RISERS, AND ANY PIPING INSTALLED IN THE CEILING OF SHELL AND CORE RETAIL SPACES. STANDARD DUTY COUPLINGS MAY BE USED IN OTHER LOCATIONS.
15) STAINLESS STEEL FABRICATED FITTINGS ARE NOT ALLOWED. PROVIDE MOLDED MANUFACTERED FITTINGS WITH LEAD FREE/NSF 61/NSF 372 LISTING.
16) SOLVENT CEMENT JOINTS TO BE IN ACCORDANCE WITH SECTION 705.5.2 OF THE 2015 SEATTLE PLUMBING CODE (SPC) AND ASTM F656 FOR PRIMER AND ASTM D2564 FOR SOLVENT CEMENTS.
17) PROVIDE HEAVY-DUTY NO-HUB COUPLINGS FOR ANY CAST IRON INSTALLATION THAT IS BELOW GRADE (BURIED), VERTICAL SANITARY WASTE RISERS, AND PIPING INSTALLED OVER SHELL AND CORE RETAIL SPACES. STANDARD DUTY NH COUPLINGS MAY BE USED IN OTHER LOCATIONS.
18) PVC PIPING IS ALLOWED FOR WASTE PIPING RUNOUTS TO FIXTURES IN RESIDENTIAL UNITS WHERE PIPING IS ENTIRELY LOCATED WITHIN THE SAME UNIT AS THE FIXTURE SERVED. THIS INCLUDES PIPING WITHIN CABINETS, OR WITHIN INTERIOR WALLS. PIPING THAT CROSSES INTO THE CEILING OF ADJACENT UNIT OR LOCATED IN SHARED DEMISING WALLS SHALLBE CAST IRON OR REQUIRES MITIGATION PER ACOUSTICAL CONSULTANT

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
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BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

AUSTIN BONNER
STATE OF WASHINGTON
21017423
REGISTERED PROFESSIONAL ENGINEER
04/11/2024

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT SET

ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

PLUMBING NOTES AND MATRICES

SHEET #
P0.01

PLUMBING AND FIRE PROTECTION EQUIPMENT COORDINATION LIST

GENERAL EQUIPMENT INFORMATION						EQUIPMENT INFO		SIZING DATA														REMARKS	STRUCTURAL DATA			
EQUIP. NO.	EQ. QTY	PROV BY	DESCRIPTION	AREA SERVED	LOCATION	MAKE BASIS	MODEL BASIS	GPM	FT HD	EQ. EFF.	MBH EACH INPUT/ OUTPUT	REQUIREMENTS PER UNIT						STARTER			T- STAT	WALL SWITCH	EMERG. POWER	STDBY POWER	SEE REMARKS BELOW FOR FURTHER INFORMATION	UNIT SIZE			WEIGHT
												BHP	HP	kW	NCA	VOLTS	PH	DISC.	MAN.	MAG.	VFD					L	H	W	(LBS)
PLUMBING EQUIPMENT																													
TANKS																													
ET-1-1	1	PC	EXPANSION TANK	DHW	LEVEL 1	AMTROL	ST-5C-DD	2	GAL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	14	8	10
																										-	-	-	-
HEAT TRACE																										-	-	-	-
HEAT TRACE	-	PC	HEAT TRACE	PER PLANS	PER PLANS		THERMON			-	-	-	-	-	0.1	-	120	1	-	-	-	-	-	-	-	5 W/FT. PROVIDED & INSTALLED BY PC. WIRED BY EC	-	-	-	-

REMARKS (CORRESPOND TO EQUIPMENT ABOVE BY TYPE):

GENERAL ELECTRICAL COORDINATION INFORMATION:
EC: PROVIDE ALL POWER WIRING AND DISCONNECTS (U.N.O.), SINGLE POINT POWER CONNECTION (U.N.O.) (THIS NOTE APPLIES TO ALL EQUIPMENT IN THE LIST ABOVE)
AUTOMATIC MOTOR STARTER WITH HOA SWITCH SHALL BE PROVIDED AND INSTALLED BY E.C., COIL CIRCUIT POWERED BY E.C., COIL VOLTAGE TO BE 120V.
MANUAL STARTER W/OVERLOAD PROTECTION SHALL BE PROVIDED AND INSTALLED BY E.C.
E.C. TO PROVIDE (X) 120V/1a POWER CIRCUITS AT EACH MECHANICAL ROOM AND EACH ROOFTOP WELL FOR THE CONTROLS CONTRACTOR. ALL 120V/1a CONVENIENCE OUTLETS FOR SERVICING MECHANICAL EQUIPMENT, AS REQUIRED BY CODE (WITHIN 25'), ARE BY E.C.

MISC. POWER CIRCUITS:
E.C. PROVIDE ALL 120V/1a WIRING TO 24V TRANSFORMERS PROVIDED BY C.C. DISCONNECTS AS REQUIRED ARE BY E.C.

VARIABLE FREQUENCY DRIVE (IF NOTED ON EQ):
ALL VFDS TO BE PROVIDED BY P.C. AND FIELD MOUNTED & WIRED BY EC.
VFD'S MAY BE PROVIDED WITH FUSED DISCONNECTS BY P.C. FOR SD MECHANICAL BUDGET THE P.C. IS TO ASSUME THAT DISCONNECTS ARE PROVIDED BY E.C.

EMERGENCY POWER:
PLUMBING EQUIPMENT ON EMERGENCY POWER (SEE LIST ABOVE):
E.C. SHALL PROVIDE AND INSTALL PRIMARY AND SECONDARY POWER. EQUIPMENT SHALL BE CONTROLLED BY THE FIRE ALARM PANEL DURING ALARM MODE, AND BY BUILDING AUTOMATION SYSTEM DURING NORMAL MODE. EMERGENCY OPERATION CONTROL WIRING SHALL BE PROVIDED AND INSTALLED BY E.C.
AUTOMATIC STARTER SHALL SHALL MEET SEATTLE BUILDING CODE SECTION 909 REQUIREMENTS.

STANDBY BACKUP POWER:
NONE
NON LIFE SAFTEY BACKUP POWER. NONE ASSUMED.

MISC. PLUMBING POWER CIRCUIT SCHEDULE

TAG#	PROJECT	FLOOR	EQUIPMENT DESCIPTION	SYSTEMS SERVED	CIRCUIT LOCATION	PIPING HEAT TRACE BY	PIPING INSULATION BY	PIPE SIZE	HEAT TRACE WATTS/LF	PIPING LINEAL FOOTAGE	NUMBER OF CIRCUITS REQUIRED	DISCONNECT	VOLTAGE /PHASE	AMPS	TRANSFORMER	NORMAL POWER	EMERGENCY POWER (NEC 700)	LEGALLY REQUIRED STANDBY (NEC 701)	STANDBY POWER (NEC 702)	REMARKS
PPC-1-1	OFFICE TI	LEVEL 1	HEAT TRACE	DCW	LEVEL 1	PC	PC	3/4"	5	100'	1	BY E.C.	120/1	10	NA	BY E.C.	NO	NO	BY E.C.	1, 2, 3
EWH-1-1	OFFICE TI	LEVEL 1	WATER HEATER	DCW	LEVEL 1	N/A	PC	N/A	N/A	N/A	N/A	BY E.C.	208/1	NOTE 4	N/A	BY E.C.	NO	NO	BY E.C.	1, 2, 3
CP-1-1	OFFICE TI	LEVEL 1	RECIRC PUMP	DHW	LEVEL 1	N/A	PC	1/2"	N/A	N/A	N/A	BY E.C.	220/1	0.7	N/A	BY E.C.	NO	NO	BY E.C.	1, 3

1: DISCONNECT & WIRING BY E.C.
2: HEAT TRACE AND CONTROLS FURNISHED AND INSTALLED BY P.C. POWER PROVIDED TO HEAT TRACE TERMINATION BY E.C. PIPING INSULATION BY P.C.
3: FOR PRELIMINARY COORDINATION ONLY. E.C. TO CONFIRM REQUIRED POWER AND # OF CIRCUITS BASED UPON FIELD INSTALLATION AND MANUFACTURER INSTALLATION REQUIREMENTS.
4: REFER TO PLUMBING FIXTURE SCHEDULE FOR POWER REQUIREMENTS

MINIMUM PIPE INSULATION THICKNESS (2021 WSEC TABLE C403.10.3)

FLUID OPERATING TEMPERATURE RANGE AND USAGE (DEGREES F)			NOMINAL PIPE OR TUBE SIZE (INCHES)			
	CONDUCTIVITY BTU . IN/(h.ft2.F)2	MEAN RATING TEMPERATURE (DEGREES F)	LESS THAN 1	1 TO 1-1/2	1-1/2 TO 4	4 TO 8
141-200 (REMARK 1)	0.25 - 0.29	125	1.5 (2.5)	1.5 (2.5)	2 (3)	2 (3)
105 - 140 (REMARK 1)	0.21 - 0.28	100	1 (2)	1 (2)	1.5 (2.5)	1.5 (2.5)
40 - 60	0.21 - 0.27	75	0.5	0.5	1	1
LESS THAN 40	0.20 - 0.26	75	0.5	1	1	1

REMARKS:
1) PER C404.7.3.1, FOR HEATED WATER CIRCULATION SYSTEMS, BOTH SUPPLY AND RETURN PIPE INSULATION SHALL BE AT A MINIMUM 1.0 INCH THICKER THAN THAT REQUIRED BY TABLE C403.10.3.
A) EXCEPTION: WHERE PIPING IS CENTERED WITHIN A WALL, CEILING, OR FLOOR FRAMING CAVITY WITH A DEPTH AT LEAST 4 INCHES GREATER THAN THE DIAMETER OF THE PIPE AND THAT IS COMPLETELY FILLED WITH BATT OR BLOWN-IN INSULATION, ADDITIONAL PIPE INSULATION IS NOT REQUIRED.

ELECTRIC WATER HEATER SCHEDULE

TAG #	EWH-1-1
PROJECT	PHA OFFICE TI
QUANTITY	1
BASIS OF DESIGN	
MANUFACTURER	AO SMITH
MODEL NUMBER	DSE-5-3
SERVICE	OFFICE
LOCATION	CABINET UNDER KITCHEN SINK
DESIGN PARAMETERS	
CAPACITY(GALLONS)	5
TANK INLET/ OUTLET CONNECTION SIZE	3"
ENTERING WATER TEMPERATURE	40
LEAVING WATER TEMPERATURE	120
GALLONS PER HOUR RECOVERY	16 (DERATED FOR 208V SERVICE)
FIRST HOUR RATING (APPROX)	20 (DERATED FOR 208V SERVICE)
ELECTRICAL INFORMATION	
TOTAL KW	3
NUMBER OF ELEMENTS	1
SIMULTANEOUS OPERATION	NO
VOLTAGE/PHASE	208/1
DISCONNECT	BY E.C.
EMERGENCY POWER	NO
STANDBY POWER	NO
SPECIFICATIONS	
HEIGHT x DIAMETER	22" x 16"
SHIPPING WEIGHT (LBS)	82
WEIGHT WITH WATER	124
ASME RATED	YES
MISC. DETAILS	
PARTS AND LABOR WARRANTY FROM PROJECT SUBSTANTIAL COMPLETION DATE	1 YEAR
FREIGHT	FOB JOBSITE
SHIPPING INSTRUCTIONS - SHRINK WRAP & COVER ALL OPENINGS	YES
ELECTRONIC SUBMITTAL	YES
ELECTRONIC INSTALL/O&M MANUAL	YES
-	-

REMARKS:
PROVIDE (1) AMTROL MODEL ST-5C-DD EXPANSION TANK (OR APPROVED EQUAL) PER TANK-TYPE ELECTRIC WATER HEATER

CIRCULATION PUMP SCHEDULE

TAG#	CP-1-1
BASIS OF DESIGN	
MANUFACTURER	B & G
MODEL	PL-30B
PUMP TYPE (IN-LINE, END SUCTION, ETC)	CIRCULATOR
SERVICE	DHW RECIRC
LOCATION	LEVEL 1
DESIGN PARAMETERS	
GPM (DESIGN)	1
FT. TOTAL HEAD (DESIGN)	10
SPECIFICATIONS	
CONTROL (TIME CLOCK, AQUA STAT, ETC)	BMS
MOTOR VFD RATED (INVERTER DUTY)	NO
NSF 61 CERTIFIED (POTABLE SYSTEMS)	YES
LEAD FREE	YES
CASING (CAST IRON, BRONZE)	BRONZE
IMPELLER (CAST IRON, BRONZE)	GLASS FILLED PPS
WEAR RING (CAST IRON, BRONZE)	BRONZE
SHAFT (STEEL, STAINLESS)	STEEL
SHAFT SLEEVE (STEEL, STAINLESS, BRONZE)	STAINLESS
SEAL TYPE	CARBON
PIPE CONNECTION SIZE	3/4"
ISOLATION	STAINLESS STEEL
ELECTRICAL DATA	
MOTOR (WATTS/HP)	1/12 HP
VFD (PROVIDED BY M.C. & INSTALLED BY EC)	NO
VFD BYPASS	NO
RPM	2500
VOLTAGE/PHASE	220/1
EMERGENCY POWER	NO
STANDBY POWER	NO
DISCONNECT	BY E.C.
PHYSICAL DIMENSIONS	
WEIGHT	11.6 LBS
MISC DATA	
PARTS AND LABOR WARRANTY FROM PROJECT SUBSTANTIAL COMPLETION DATE	1 YEAR
FREIGHT	FOB JOBSITE
SHIPPING INSTRUCTIONS - SHRINK WRAP & COVER ALL OPENINGS	YES
ELECTRONIC SUBMITTAL	YES
ELECTRONIC INSTALL/O&M MANUAL	YES
-	1

REMARKS:
1. TIMER

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
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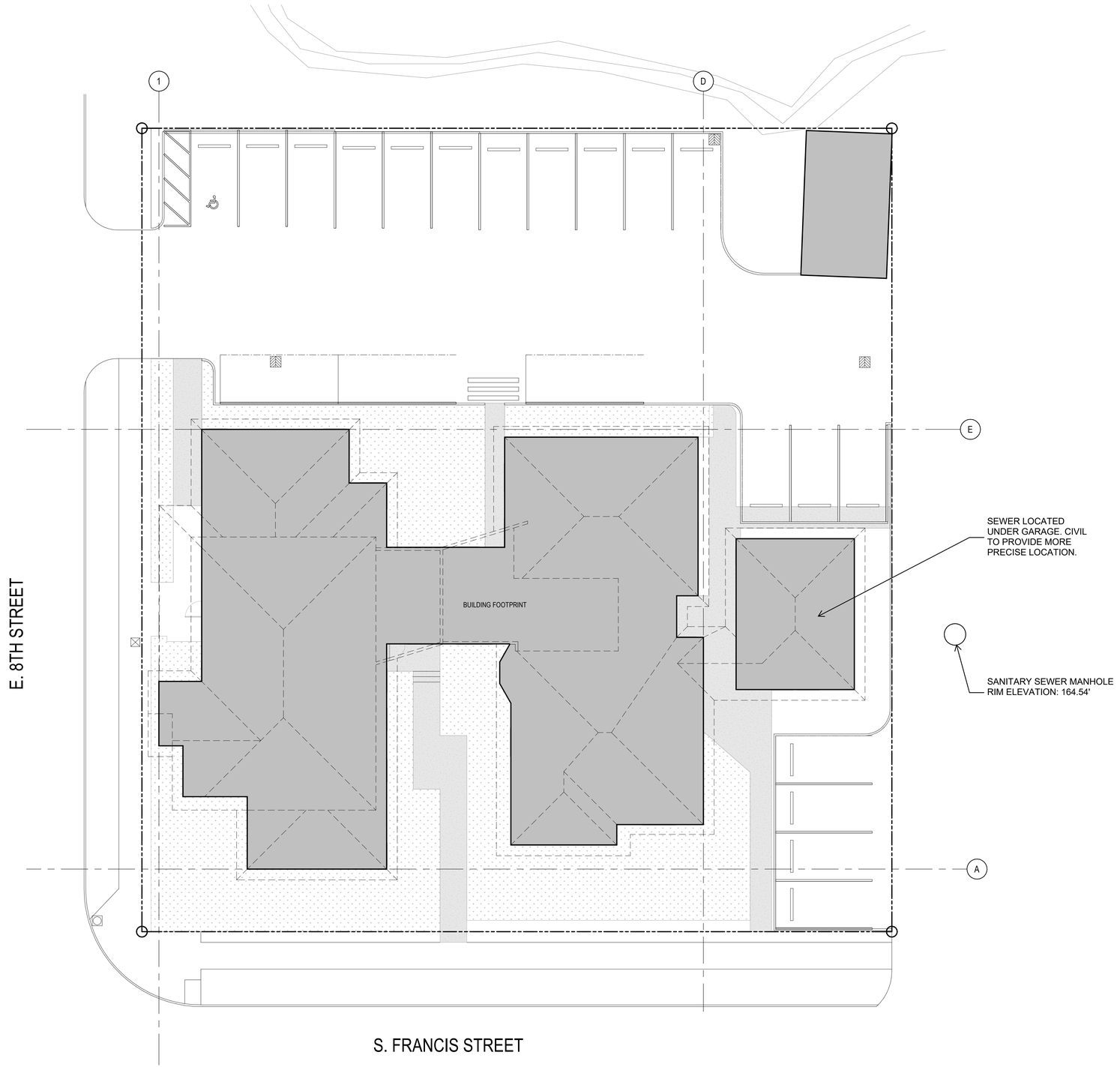
AHU APPROVAL STAMP

PLUMBING SCHEDULES

SHEET #
P0.02



1 SITE PLAN
1" = 10'-0"
0 10' 20' 40'

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
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AUSTIN BONNER
STATE OF WASHINGTON
21017423
REGISTERED PROFESSIONAL ENGINEER
04/11/2024

PHA OFFICE TI
PENINSULA HOUSING AUTHORITY
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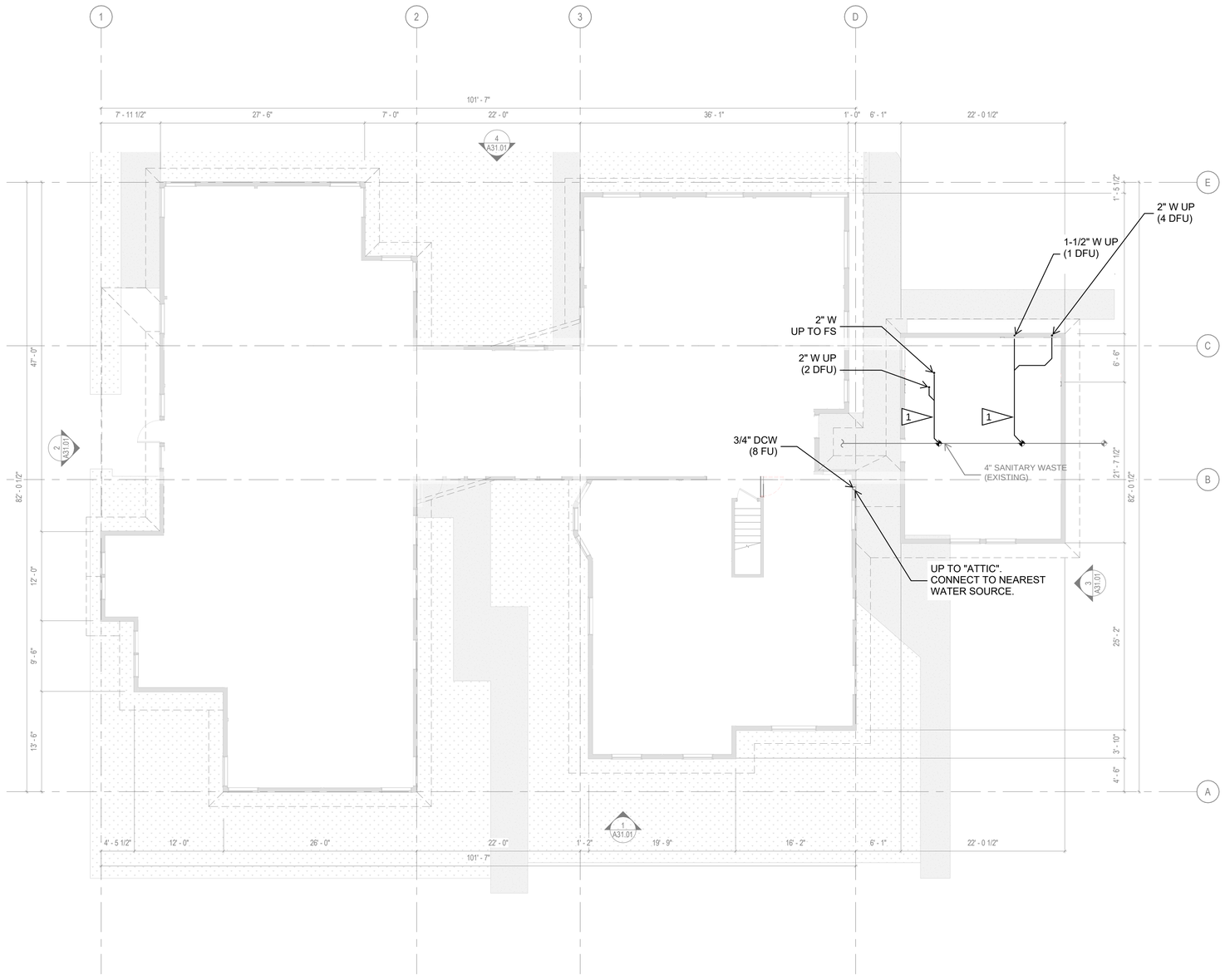
PLUMBING
SITE PLAN

SHEET #
P1.01



FLAGNOTES

1 PIPE SLOPES AT 1/4" PER FT

1 FLOOR PLAN - BELOW GRADE

1/8" = 1'-0"

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ARCHITECTURE INTERIORS PLANNING VIZLAB
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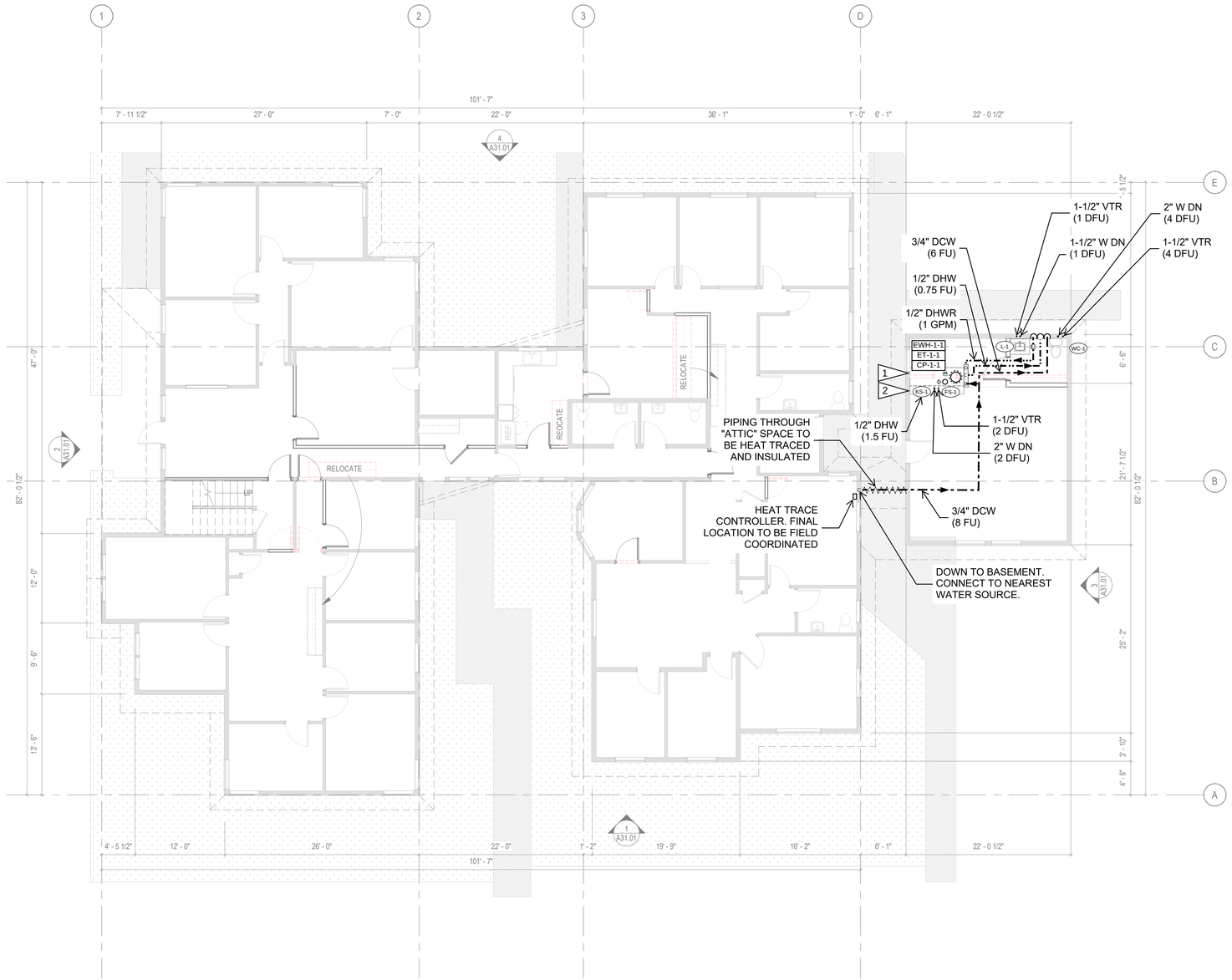
FLOOR PLAN - LEVEL 1

SHEET #

P2.00



FLAGNOTES

1 T&P RELIEF VALVE TO INDIRECTLY DRAIN TO FLOOR SINK. TRAPPED AND PRIMED WITH FLOW ACTIVATED TRAP PRIMER.

2 TIME SWITCHES OR OTHER CONTROL METHODS THAT CAN AUTOMATICALLY TURN OFF AND ON HEATERS OR PUMP MOTORS ACCORDING TO A PRESET SCHEDULE SHALL BE INSTALLED FOR HEATERS AND PUMP MOTORS AS STATED IN SECTION C404.11.2 OF 2021 WSEC. HEATERS AND PUMP MOTORS WITH BUILT IN TIME SWITCHES SHALL BE IN COMPLIANCE WITH THIS SECTION.

1 FLOOR PLAN - LEVEL 1

1/8" = 1'-0"

RICE fergus MILLER
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BREMERTON, WA 98337
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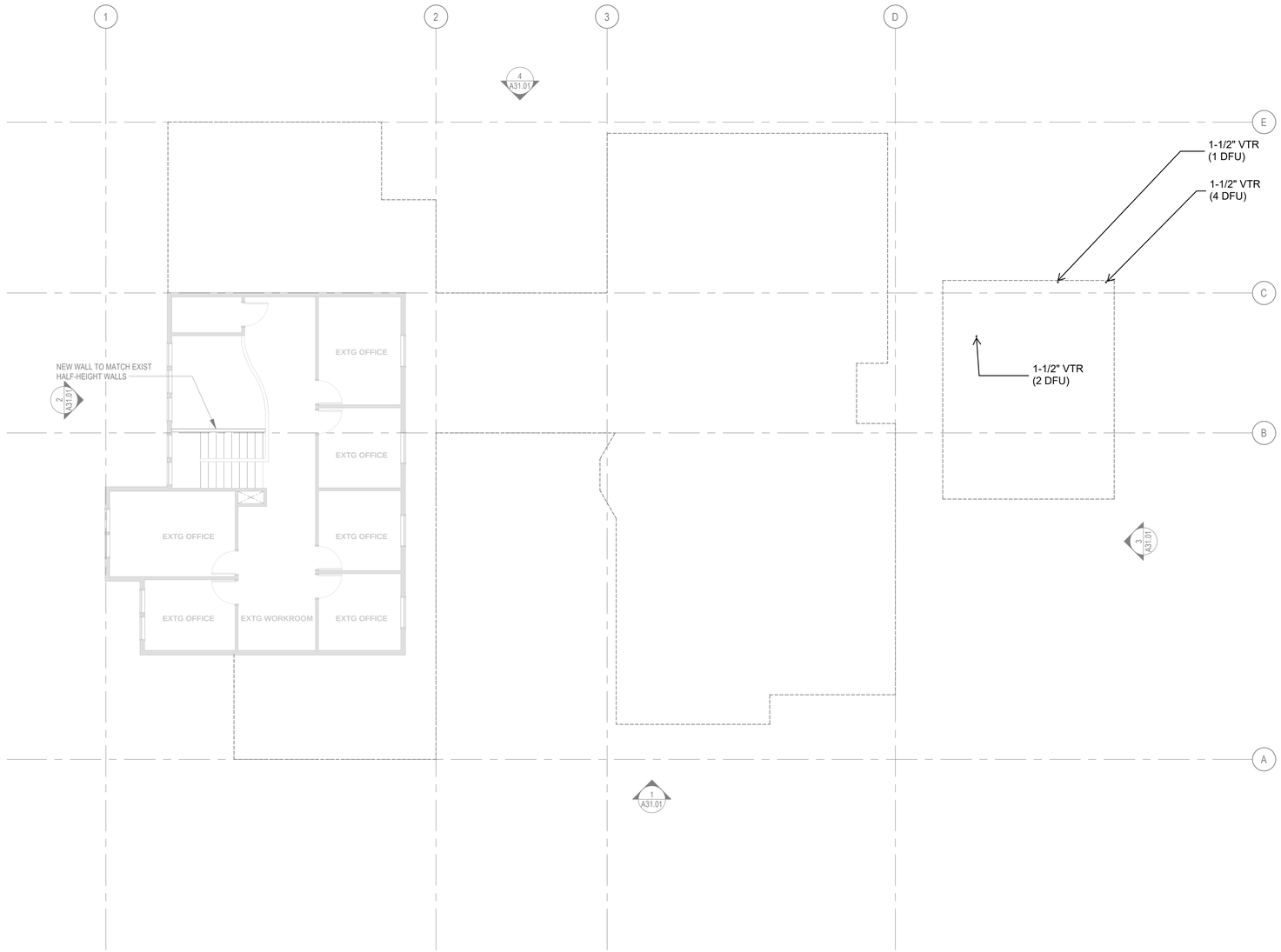
FLOOR PLAN - LEVEL 1

SHEET #

P2.01



1 LEVEL 2
1/8" = 1'-0"

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
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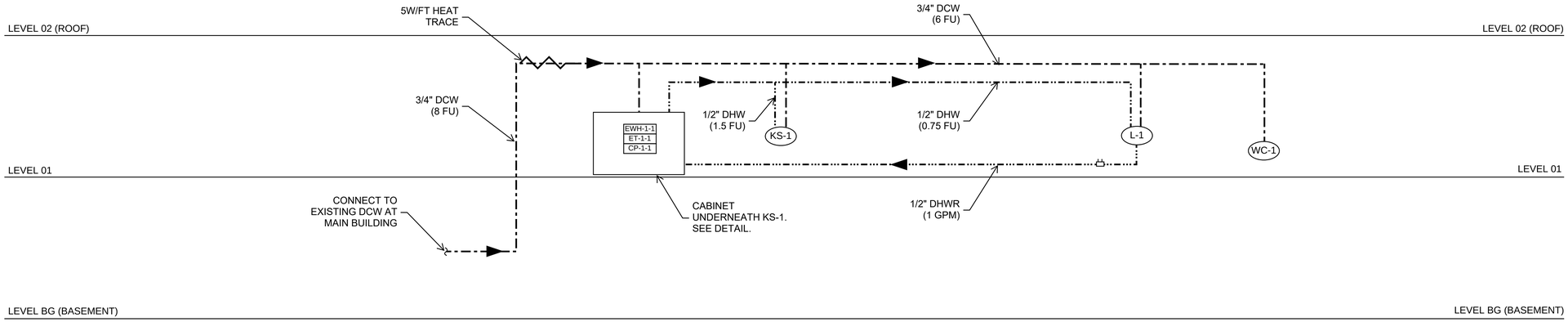
AHJ APPROVAL STAMP

FLOOR PLAN - LEVEL2

SHEET #
P2.02



DOMESTIC WATER RISER DIAGRAM

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

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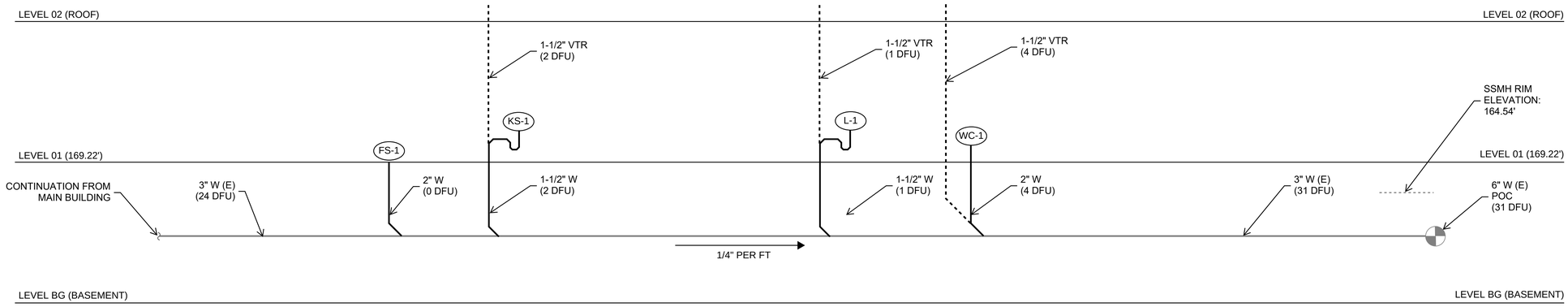
DOMESTIC WATER DIAGRAM

SHEET #
P5.00



WASTE AND VENT RISER DIAGRAM

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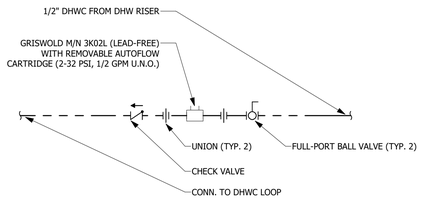
PROJECT # 2023093.01
PERMIT SET
ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

WASTE AND VENT
RISER DIAGRAM

SHEET #
P5.01

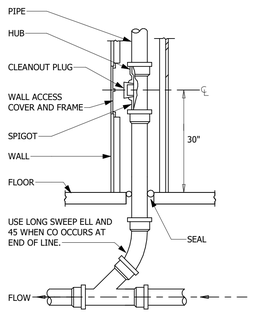


DHW RECIRCULATION BALANCING NOTES:

1. PC TO VERIFY FLOW CARTRIDGES ARE CLEAN PRIOR TO BALANCING. TAB CONTRACTOR TO VERIFY PRESSURE DROP IS BETWEEN MINIMUM AND MAXIMUM BALANCING VALVE CARTRIDGE SETTING.
2. AFTER DHW PLANT MIXING VALVE HAS BEEN SETUP TAB CONTRACTOR TO VERIFY DHW RECIRCULATION TEMPERATURE VIA P/T PORTS ON BALANCING VALVE. IF TEMPERATURES ARE BELOW 112 DEG. F, TAB CONTRACTOR TO CONTACT RUSHING TO VERIFY IF BALANCING VALVE FLOW CARTRIDGE FLOW SHOULD BE INCREASED.
3. PC TO CARRY BUDGET TO REPLACE UP TO (10) OF THE CARTRIDGES WITH HIGHER GPM FLOW CARTRIDGES IF NEEDED. PC TO ORDER ADDITIONAL CARTRIDGES WITH THE INITIAL BV AT 1.0 GPM FOR THIS PURPOSE.

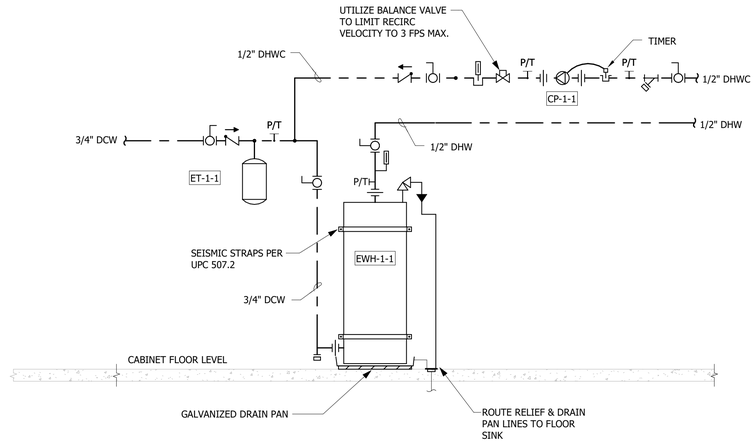
1 DOM. HOT WATER RECIRC. BALANCE VALVE DETAIL

SCALE: NOT TO SCALE



2 WALL CLEAN OUT DETAIL

SCALE: NOT TO SCALE



3 ELECTRIC WATER HEATER PIPING DETAIL

SCALE: NOT TO SCALE

RICE fergus MILLER
ARCHITECTURE INTERIORS PLANNING VIZLAB
275 FIFTH STREET, SUITE 100
BREMERTON, WA 98337
360-377-8773
RFMARCH.COM

RUSHING
1725 Westlake Ave N, Suite 300
Seattle, WA 98109
P: (206) 285-7100 | F: (206) 285-7111
https://rushingco.com

PHA OFFICE TI

PENINSULA HOUSING AUTHORITY

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PORT ANGELES, WA 98362

PROJECT # 2023093.01

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ISSUE DATE APRIL 12, 2024

REVISION SCHEDULE		

AHJ APPROVAL STAMP

DETAILS

SHEET #

P6.00

GENERAL NOTES

ALL MATERIALS, DESIGN, WORKMANSHIP, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL EXISTING BUILDING CODE (IEBC), 2018 EDITION, WITH WASHINGTON STATE AMENDMENTS.

THE **EXISTING STRUCTURE HAS NOT BEEN EVALUATED OR STRENGTHENED TO CONFORM TO CURRENT SEISMIC CODE REQUIREMENTS AS PART OF THIS PROJECT SCOPE**.

ALL TYPICAL DETAILS AND NOTES SHOWN ON DRAWINGS SHALL APPLY, UNLESS OTHERWISE NOTED. TYPICAL DETAILS MAY NOT BE NECESSARILY BE INDICATED ON THE PLANS BUT SHALL STILL APPLY AS SHOWN OR DESCRIBED IN THE DETAILS. WHERE NO DETAIL IS NOTED, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CHOOSE THE APPROPRIATE TYPICAL DETAIL FROM THOSE PROVIDED. ANY ALTERNATE DETAILS PROPOSED BY THE CONTRACTOR SHALL BE PROVIDED WITH CALCULATIONS TO THE ENGINEER FOR APPROVAL PRIOR TO SHOP DRAWING PRODUCTION AND FIELD USE.

COMPARISON OF STRUCTURAL DRAWINGS WITH ARCHITECTURAL, MECHANICAL, PLUMBING, AND ELECTRICAL DRAWINGS WITH REFERENCE TO MATERIALS, LAYOUT, DIMENSIONS, AND ELEVATIONS SHALL BE MADE BY THE GENERAL CONTRACTOR BEFORE STARTING WORK. ANY DISCREPANCIES SHALL BE PROVIDED TO THE ARCHITECT AND ENGINEER FOR REVISED DIRECTION.

ONLY WRITTEN DIMENSIONS SHALL BE USED. DO NOT SCALE STRUCTURAL DRAWINGS. IF DIMENSIONS ARE OMITTED OR ARE NOT CLEAR, CONTACT THE ARCHITECT AND ENGINEER FOR CLARIFICATION.

EXISTING SITE CONDITIONS SHOWN ON THE DRAWINGS REPRESENTS THE PRESENT KNOWLEDGE BUT WITHOUT GUARANTEE OF ACCURACY. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. ANY CONFLICTS OR DISCREPANCIES BETWEEN THE DRAWINGS AND SITE CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CORRECTION. DO NOT DEVIATE FROM THE CONTRACT DOCUMENTS WITHOUT WRITTEN DIRECTION FROM THE STRUCTURAL ENGINEER OF RECORD.

SAFETY MEASURES ON THE JOBSITE ARE THE SOLE AND COMPLETE RESPONSIBILITY OF THE CONTRACTOR DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. RESPONSIBILITIES EXTEND TO SAFETY OF ALL PERSONS AND PROPERTY, AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEW OF THESE CONDITIONS. REQUIREMENTS SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

CONTRACTOR IS RESPONSIBLE FOR INSTALLING TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND ALL COMPONENTS UNTIL FINAL CONNECTIONS AND CONDITIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

ALL STRUCTURAL SYSTEMS COMPOSED OF FIELD ERECTED COMPONENTS SHALL BE SUPERVISED BY THE SUPPLIER DURING MANUFACTURING, DELIVERY, HANDLING, STORAGE, AND ERECTION IN ACCORDANCE WITH INSTRUCTIONS PROVIDED BY THE SUPPLIER.

CONTRACT DOCUMENTS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE MEANS, METHODS, AND SEQUENCING OF CONSTRUCTION AS REQUIRED. SITE VISITS PERFORMED BY THE OWNER'S REPRESENTATIVE DO NOT INCLUDE INSPECTIONS OF MEANS AND METHODS OF CONSTRUCTION PERFORMED BY THE CONTRACTOR.

DEAD LOADS: CONSIST OF BUILDING SELF-WEIGHT PLUS SUPERIMPOSED DEAD LOADS. REFER TO COMPLETE SET OF DRAWINGS WHEN DETERMINING DEAD LOADS.

LIVE LOADS: REDUCIBLE UNLESS OTHERWISE NOTED.

AREA	DESIGN LIVE LOAD
RESIDENTIAL UNITS	40 PSF
RESIDENTIAL CORRIDORS	40 PSF

SNOW LOADS: 25 PSF OVER ROOF AREAS

CONTRACTOR STATEMENT OF RESPONSIBILITY: IT IS THE CONTRACTOR'S RESPONSIBILITY TO SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER OR OWNER'S AUTHORIZED AGENT PRIOR TO THE COMMENT OF WORK IN ACCORDANCE WITH IBC SECTION 1704.4. CONTRACTOR SHALL ACKNOWLEDGE THE SPECIAL REQUIREMENTS CONTAINED IN THE SCHEDULE OF SPECIAL INSPECTIONS.

STRUCTURAL OBSERVATION IS REQUIRED BY THE PROVISIONS OF IBC SECTION 1704.6 BY THE STRUCTURAL ENGINEER OF RECORD DURING SIGNIFICANT CONSTRUCTION STAGES. STRUCTURAL OBSERVATION DOES NOT INCLUDE OR WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED BY IBC SECTIONS 110, 1704, OR OTHER SECTIONS. STRUCTURAL OBSERVATION CONSISTS OF VISUAL OBSERVATION FOR GENERAL CONFORMANCE TO THE CONTRACT DOCUMENTS.

FOUNDATIONS AND SITE WORK

FOUNDATION NOTES: ALLOWABLE SOIL PRESSURES ARE ASSUMED (1,500 PSF BEARING) AND THEREFORE MUST BE VERIFIED BY THE PROJECT SPECIAL INSPECTOR. IF SOILS ARE FOUND TO BE OTHER THAN ASSUMED, NOTIFY THE STRUCTURAL ENGINEER FOR POSSIBLE FOUNDATION REDESIGN.

ANCHORAGE

EXPANSION ANCHORS INTO CONCRETE SHALL MEET THE REQUIREMENTS LISTED BELOW, AND SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE SPECIFIED ICC-ES REPORTS AND MANUFACTURER'S INSTRUCTIONS. SUBSTITUTIONS PROPOSED BY THE CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ACCOMPANYING ICC-ES REPORTS THAT INDICATE EQUIVALENT OR GREATER LOAD CAPACITIES. ALL SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC193. SPECIAL INSPECTION IS REQUIRED FOR ALL EXPANSION BOLT INSTALLATION. DO NOT SUBSTITUTE EXPANSION BOLTS FOR EMBEDDED ANCHORS WITHOUT EXPLICIT APPROVAL BY THE STRUCTURAL ENGINEER. DO NOT REDUCE THE SPECIFIED EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL.

MINIMUM EMBEDMENT DEPTHS FOR EXPANSION ANCHORS ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:

POWER-STUD+ (ICC-ESR #2502) BY DEWALT/ POWERS	
3/8"ø	2-3/8"
1/2"ø	3-3/4"
5/8"ø	4-7/8"
3/4"ø	5-3/4"
STRONG-BOLT 2 (ICC-ESR #3037) BY SIMPSON STRONG-TIE	
3/8"ø	2-7/8"
1/2"ø	3-7/4"
5/8"ø	5-1/8"
3/4"ø	5-3/4"
KWIK BOLT TZ (ICC-ESR #1917) BY HILTI	
3/8"ø	2-3/8"
1/2"ø	3-5/8"
5/8"ø	4-1/2"
3/4"ø	5-3/8"

EPOXY-GROUTED RODS OR REBAR TO CONCRETE SPECIFIED ON THE DRAWINGS SHALL BE ONE OF THE FOLLOWING INSTALLED IN STRICT ACCORDANCE WITH THE ICC-ES REPORTS INDICATED AND MANUFACTURER'S INSTRUCTIONS INCLUDING MINIMUM EMBEDMENT REQUIREMENTS: "SET-XP" BY SIMPSON STRONG-TIE, (ICC-ESR #2508); OR "HIT-HY 200" BY HILTI, INC. (ICC-ESR #3187), "SAFE-SET" INSTALLATION WITH HOLLOW CARBIDE DRILL BIT IS PERMITTED; OR "PURE110+" AS MANUFACTURED BY DEWALT/POWERS (ICC-ESR #3298). SUBSTITUTIONS PROPOSED BY CONTRACTOR SHALL BE SUBMITTED FOR REVIEW WITH ICC-ES REPORTS INDICATING EQUIVALENT OR GREATER LOAD CAPACITIES. IN ADDITION, SUBSTITUTIONS SHALL MEET ICC-ES ACCEPTANCE CRITERIA AC308. SPECIAL INSPECTION OF EPOXY-GROUTED ANCHOR INSTALLATION IS REQUIRED. EPOXY GROUTED RODS OR REBAR SHALL NOT BE USED AS SUBSTITUTES FOR CAST-IN-PLACE ANCHOR BOLTS OR REINFORCING STEEL UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER. NOTIFY ENGINEER IF ANCHOR LOCATIONS CONFLICT WITH REINFORCING STEEL - DO NOT CUT REINFORCING OR REDUCE EMBEDMENT DEPTHS WITHOUT PRIOR APPROVAL. INSTALLATION OF ADHESIVE ANCHORS HORIZONTALLY OR UPWARDLY INCLINED TO SUPPORT SUSTAINED TENSION LOADS SHALL BE PERFORMED BY CERTIFIED PERSONNEL IN CONFORMANCE TO ACI 318-14 SECTION 17.8.2.2. HOLES SHALL BE HAMMER DRILLED AND DRY.

UNLESS OTHERWISE NOTED, PROVIDE THE FOLLOWING EMBEDMENT DEPTHS FOR ANCHORS AT CONCRETE:

1/2"Ø ROD OR #4 BAR . . . . 6"
5/8"Ø ROD OR #5 BAR . . . . 8"
3/4"Ø ROD OR #6 BAR . . . . 10"
7/8"Ø ROD OR #7 BAR . . . . 13"
1"Ø ROD OR #8 BAR . . . . 15"

CONCRETE CONSTRUCTION

CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED, AND PLACED IN ACCORDANCE WITH ACI 318-14 CHAPTER 26, AND ACI 301. NO MORE THAN ONE GRADE OF CONCRETE SHALL BE ON THE JOB SITE AT ANY ONE TIME.

CONCRETE STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS UNLESS A MORE STRINGENT REQUIREMENT IS SPECIFIED ELSEWHERE IN THE CONTRACT DOCUMENTS:

CONSTRUCTION TYPE	28 DAY STRENGTH (f'c)	EXPOSURE CLASSES (ACI 318-14, TABLES 19.3.1.1 AND 19.3.2.1)
FOUNDATIONS AND RETAINING WALLS	4,000 PSI	F0, S0, W0, C1

INTERIOR SLABS SHALL HAVE A MAXIMUM WATER TO CEMENT RATIO BETWEEN 0.40 AND 0.44. SEE SPECIFICATIONS FOR SHRINKAGE REDUCING ADMIXTURE REQUIREMENTS WHERE INDICATED ON DRAWINGS.

CONTRACTOR MAINTAINS FULL RESPONSIBILITY FOR THE SPECIFIED PERFORMANCE OF THEIR CONCRETE MIX DESIGNS, AS WELL AS FOR THE FINAL APPEARANCE OF ALL CONCRETE CONSTRUCTION.

CONCRETE COVER FOR REINFORCING STEEL SHALL BE AS FOLLOWS, UNLESS OTHERWISE NOTED:

DESCRIPTION	CONCRETE COVER
FOOTINGS OR UNFORMED SURFACES CAST PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES PERMANENTLY EXPOSED TO EARTH	2"

BONDING AGENT SHALL BE "MASTEREMACO ADH 326" BY BASF CORPORATION, OR APPROVED EQUAL, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE (OLDER THAN 56 DAYS). INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. EXISTING SURFACES SHALL BE CLEAN AND FREE OF DEBRIS, AND FREE OF EXCESSIVE MOISTURE.

NON-SHRINK GROUT SHALL BE FROM AN APPROVED MANUFACTURER AND SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. STRENGTH SHALL BE EQUAL OR GREATER THAN THE MATERIAL ON WHICH IT IS PLACED, WITH A MINIMUM COMPRESSIVE STRENGTH AT OF 6,000 PSI AT 28 DAYS.

STEEL CONSTRUCTION

ALL STEEL SHALL BE DETAILED, FABRICATED, AND ERECTED IN ACCORDANCE WITH THE LATEST EDITION OF AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS, AND THE LATEST EDITION OF AISC SEISMIC PROVISIONS FOR STRUCTURAL STEEL BUILDINGS.

CONTRACTOR IS RESPONSIBLE FOR DETERMINING THE SCOPE OF WORK FOR BOTH STRUCTURAL STEEL AND METAL WORK SUBCONTRACTORS. THE COMBINED SCOPE OF WORK FOR ALL SUBCONTRACTORS SHALL INCLUDE ALL STRUCTURAL STEEL AND MISCELLANOUS METAL WORK SHOWN IN THE CONTRACT DOCUMENTS.

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING ASTM DESIGNATIONS BELOW UNLESS OTHERWISE NOTED:

DESCRIPTION	ASTM DESIGNATION
HSS SHAPES (SQUARE OR RECTANGULAR)	A500, GRADE B (Fy=46 KSI)
ANCHOR BOLTS OR RODS	F1554, GRADE 36 (Fy=36 KSI)
CONNECTION BOLTS	A325-N
EPOXY-GROUTED THREADED RODS	A36 OR F1554 (Fy=36 KSI)

DIMENSIONAL TOLERANCE FOR STRUCTURAL MEMBERS SHALL BE PER THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, SECTION 6.4 AND ASTM SPECIFICATION A6. UNLESS SPECIFICALLY ALLOWED BY THE ENGINEER, COLUMNS SHALL NOT BE MODIFIED BY THE ROTARY STRAIGHTENING PROCESS.

THREADED STUDS (CPL'S OR CFL'S) FOR CONNECTION OF STRUCTURAL STEEL TO OTHER ELEMENTS SHALL BE MANUFACTURED FROM MATERIAL CONFORMING TO ASTM A29 GR. 1010 THROUGH 1020 (TYPE 2, Fu = 60 KSI MIN.). HEADED STUDS SHALL BE WELDED IN CONFORMANCE WITH THE REQUIREMENTS OF A.W.S D1.1 CHAPTER 7. UNLESS OTHERWISE NOTED, STUDS SHALL BE WELDED BY THE AUTOMATIC MACHINE WELDING PROCESS IN CONFORMANCE WITH A.W.S. REQUIREMENTS. STUD TYPES SHALL BE MANUFACTURED BY NELSON STUD WELDING, INC. OR EQUIVALENT. HEADED STUDS SHALL BE TYPE S3L SHEAR CONNECTORS, THREADED STUDS SHALL BE TYPE CPL PARTIALLY THREADED STUDS OR TYPE CFL FULLY THREADED STUDS.

HOT DIP GALVANIZING SHALL MEET THE REQUIREMENTS OF ASTM A123 AND ASTM A153 WHERE STRUCTURAL STEEL, MISCELLANEOUS METAL, AND FASTENERS EXPOSED TO THE WEATHER OR SOIL. REPAIR GALVANIZING AFTER WELDING IN ACCORDANCE WITH ASTM A780.

STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS FOR REVIEW BY THE ARCHITECT AND STRUCTURAL ENGINEER PRIOR TO FABRICATION.

ALL STEEL SHALL BE CLEANED FREE OF RUST, LOOSE MILL SCALE, AND OIL AFTER FABRICATION.

BOLT HOLES IN STEEL SHALL BE STANDARD HOLES, 1/16 INCH LARGER IN DIAMETER THAN NOMINAL SIZE OF BOLT USED, UNLESS OTHERWISE NOTED. BOLT HOLES IN BASE PLATES MAY BE OVERSIZED PER AISC TABLE 14-2 IF WASHERS ARE PROVIDED IN ACCORDANCE WITH THIS TABLE.

WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS SHALL BE USED AS DEFINED BY A.W.S. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVINIZING IN FIELD PRIOR TO CLEANING. WELDING OF GRADE 60 REINFORCING BARS SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING WITHIN 4" OF COLD BENDS IN REINFORCING STEEL IS NOT PERMITTED. CONTRACTOR SHALL WORK WITH THE FABRICATOR AND ERECTOR TO COORDINATE FINAL DETERMINATION OF ALL FIELD VERSUS SHOP WELDS SHOWN IN THE DRAWINGS TO ACCOMMODATE THE CONSTRUCTION SEQUENCING.

WOOD CONSTRUCTION

ROOF, FLOOR & WALL SHEATHING SHALL BE APA RATED, EXTERIOR OR EXPOSURE 1 PLYWOOD OR ORIENTED STRAND BOARD (OSB) IN CONFORMANCE WITH IBC SECTION 2303.1.5. SHEATHING SHALL BE MANUFACTURED UNDER THE PROVISIONS OF VOLUNTARY PRODUCT STANDARDS DOC PS-1 OR PS-2. SEE DRAWINGS FOR THICKNESS, SPAN RATING, AND NAILING REQUIREMENTS. UNLESS OTHERWISE NOTED, WALL SHEATHING SHALL BE 1/2" (NOMINAL) WITH SPAN RATING OF 24/0. GLUE FLOOR SHEATHING TO ALL SUPPORTING MEMBERS WITH ADHESIVE CONFORMING TO ASTM SPECIFICATION D3498.

TIMBER CONNECTORS CALLED OUT BY LETTERS AND NUMBERS SHALL BE "STRONG-TIE" BY SIMPSON COMPANY, AS SPECIFIED IN THEIR WOOD CONSTRUCTION CONNECTORS CATALOG NO. C-C-2021. A CURRENT ICC-ES REPORT AND A LIST STATING THE ITEM-FOR-ITEM SUBSTITUTION MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR ANY PROPOSED SUBSTITUTIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL ENGINEERING COSTS RELATING TO REVIEW AND/OR RE-DESIGN TO ACCOMMODATE PROPOSED SUBSTITUTIONS. INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER. CONNECTORS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. WHERE CONNECTOR STRAPS CONNECT TWO MEMBERS, CENTER STRAP ON JOINT AND INSTALL NUMBER AND SIZE OF FASTENERS AS SPECIFIED BY MANUFACTURER, WITH EQUAL NUMBER AND SIZE OF FASTENERS IN EACH MEMBER. ALL BOLTS IN WOOD MEMBERS SHALL CONFORM TO ASTM A307. INSTALL WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD. ALL SHIMS SHALL BE SEASONED AND DRIED AND THE SAME GRADE (MINIMUM) AS MEMBERS CONNECTED.

NAILING: MINIMUM NAIL DIAMETER AND LENGTH SHALL BE AS FOLLOWS:

	NAIL SIZE ON DRAWINGS	DIAMETER AND LENGTH
SHEATHING NAILS	8d	0.131" x 2 1/4"
	10d	0.148" x 2 1/2"
FRAMING NAILS	10d	0.148" x 3"
	16d	0.148" x 3 1/2"

DESIGN IS BASED ON COMMON STEEL WIRE NAILS MEETING THE REQUIREMENTS OF ASTM F1667. USE OF ALTERNATE FASTENERS MUST BE SUBMITTED FOR REVIEW AND APPROVAL BY THE STRUCTURAL ENGINEER PRIOR TO THE START OF CONSTRUCTION.

ATLAS DESIGN GROUP INC
ATLAS DESIGN GROUP, INC.
35314 S.E. CENTER STREET
SNOQUALMIE, WA 98065
PH: 253.548.7193
CHRISTOPHER M. PADIN · STATE OF WASHINGTON · 55616 · STRUCTURAL ENGINEER · PROFESSIONAL ENGINEER
4/12/24

PHA OFFICE TENANT IMPROVEMENT
PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT #	2023093.01
PERMIT	
ISSUE DATE	APRIL 12, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

GENERAL STRUCTURAL NOTES

SHEET #
S22.00

INSTALL NEW WALL TOP PLATES W/ DEFLECTION GAP BY INSTALLING 0.140" x 3-1/2" STRONG -TIE SDPW14312MB DEFLECTOR SCREWS BETWEEN ROOF FRAMING MEMBERS AND WALL TOP PLATES. (1) SCREW INTO EACH ROOF FRAMING MEMBER (OR AT 16" OC WHEN PARALLEL TO WALL)

EXISTING WALL IS NON-STRUCTURAL. NO STRUCTURAL IMPACTS TO DEMOLITION AS PART OF THIS PROJECT SCOPE.

CONTRACTOR TO VERIFY AS-BUILT CONDITION TO DETERMINE IF WALL IS SHEATHED WITH PLYWOOD WITH HOLDOWNS INSTALLED AT EACH END. NOTIFY ENGINEER IF SO TO STRENGTHEN EXISTING BUILDING.

EXISTING WALL IS NON-STRUCTURAL. NO STRUCTURAL IMPACTS TO DEMOLITION AS PART OF THIS PROJECT SCOPE.

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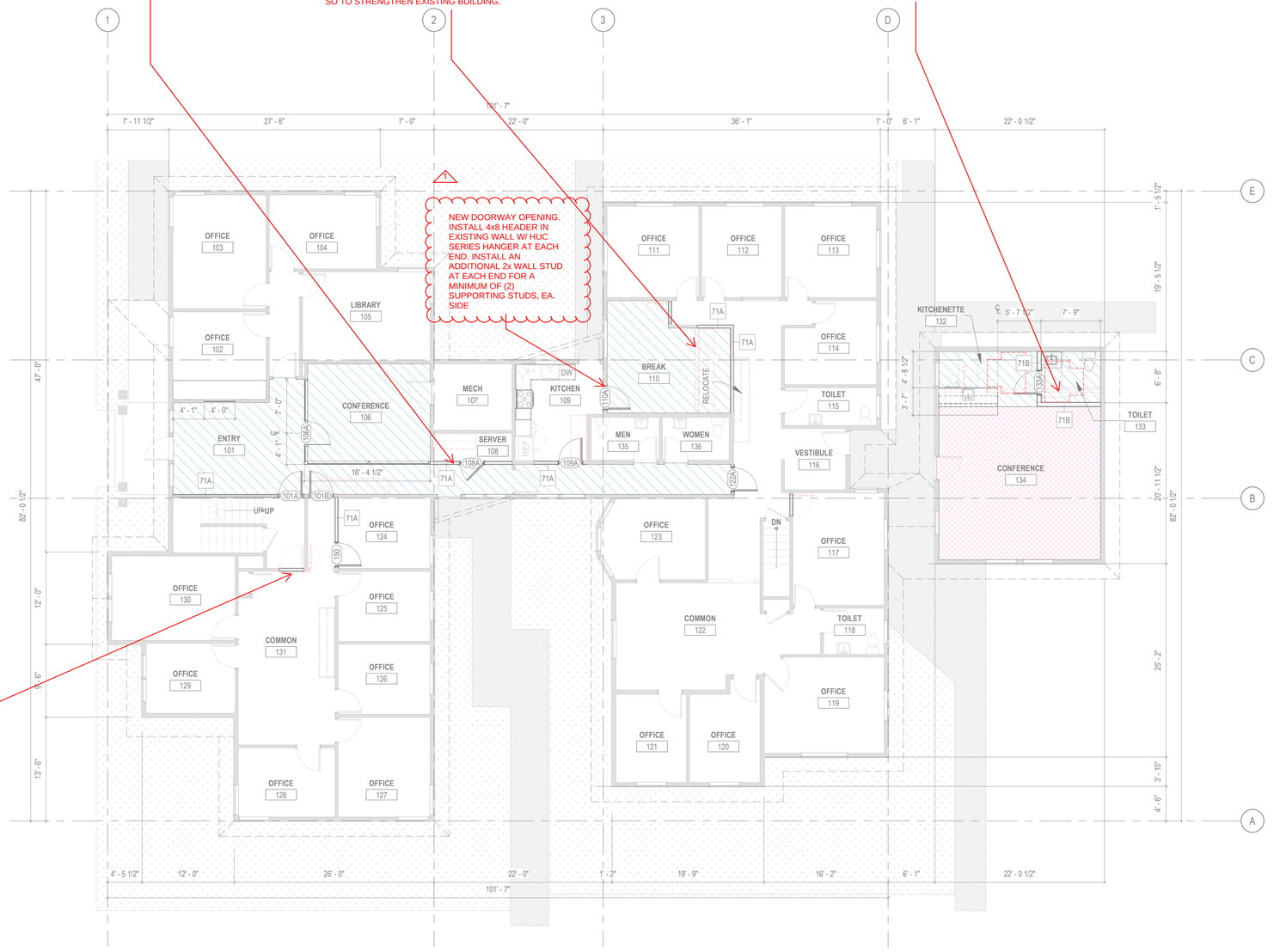

EXISTING DOORWAY TO BE DEMOLISHED. INSTALL NEW INFILL FRAMING AS FOLLOWS:

NEW 2x SILL PLATE W/ 16d COMMON NAILS @ 6" OC INTO EXISTING WOOD FLOORING

INSTALL NEW 2x WALL STUDS AT 16" O.C. TIGHT TO UNDERSIDE OF EXISTING TOP PLATE.

FRAMING IS ALSO TYPICAL AT ALL NEW WALLS SHOWN PER ARCHITECTURAL.

1 FLOOR PLAN - LEVEL 1

1/8" = 1'-0"

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ATLAS DESIGN GROUP INC

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35314 S.E. CENTER STREET
SNOQUALMIE, WA 98065

PH: 253.548.7193

CHRISTOPHER M. PATTI — STATE OF WASHINGTON — 55616 — STRUCTURAL ENGINEER — PROFESSIONAL ENGINEER

4/12/24

PHA OFFICE TENANT IMPROVEMENT

PENINSULA HOUSING AUTHORITY

727 EAST 8TH ST
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1	Permit Revision	5/7/24

AHJ APPROVAL STAMP

LEVEL 1 - FLOOR FRAMING PLAN

SHEET #

S22.01

INSTALL DOUBLE 2x TOP PLATE AT TOP OF FRAMED WALL - CONTINUOUS (DO NOT SPLICE)

INSTALL NEW 2x PLATE AGAINST TOP PLATE AND AGAINST SIDE WALLS AND EXISTING PARTIAL HEIGHT WALL AND SPLICE TOGETHER USING (2) ROWS OF 16d COMMON NAILS @ 16" OC (3" APART)

EXISTING ADJACENT WALL FRAMING

A35 CLIP AT EACH END

SEE NOTES AT LEFT FOR STRUCTURAL REQUIREMENTS AT FRAMED WALL

NEW DOUBLE 2x TOP PLATE (DO NOT SPLICE)

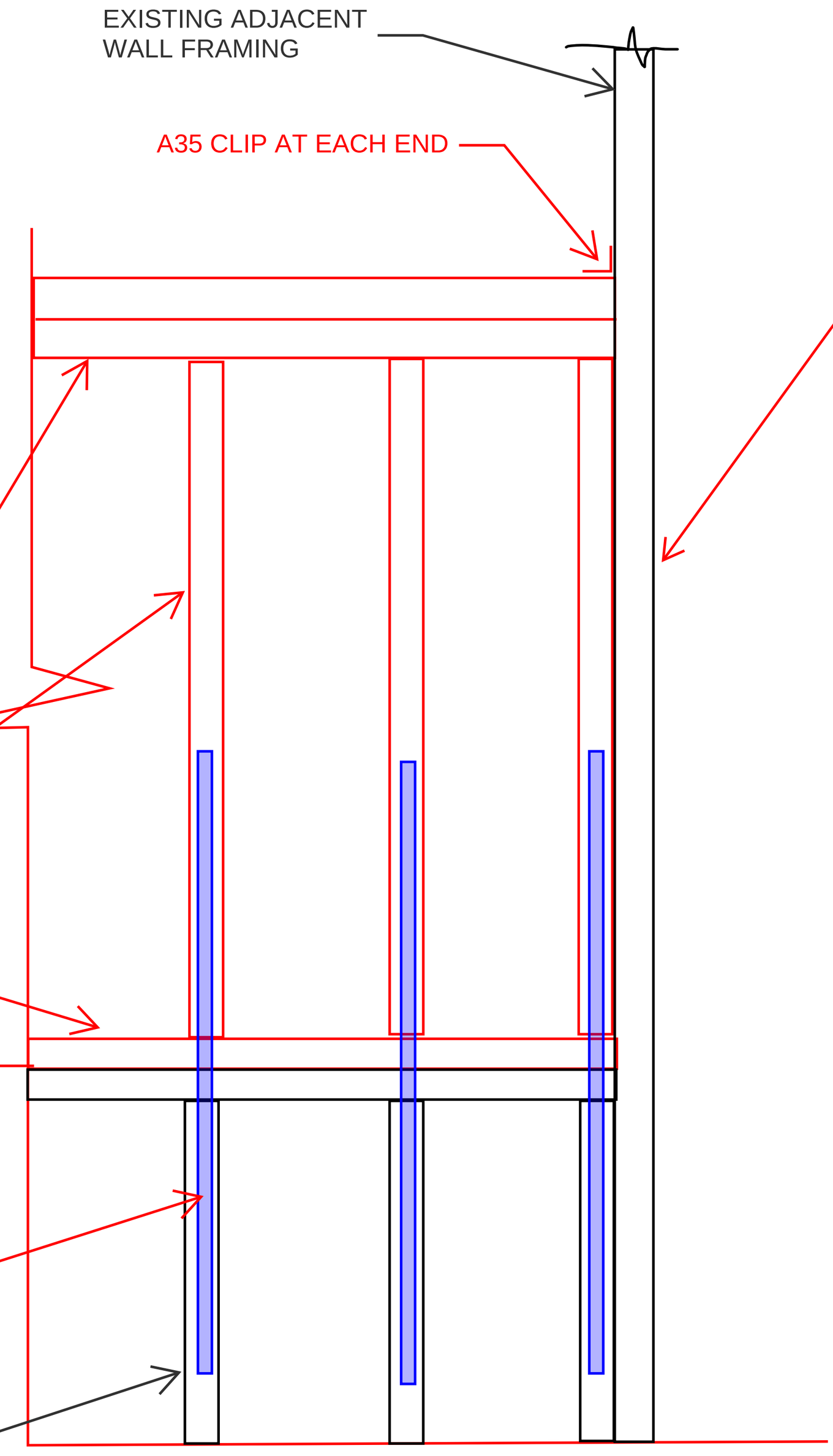
NEW 2x WALL STUDS - ALIGN WITH EXISTING WALL STUDS BELOW

NEW 2x SILL PLATE

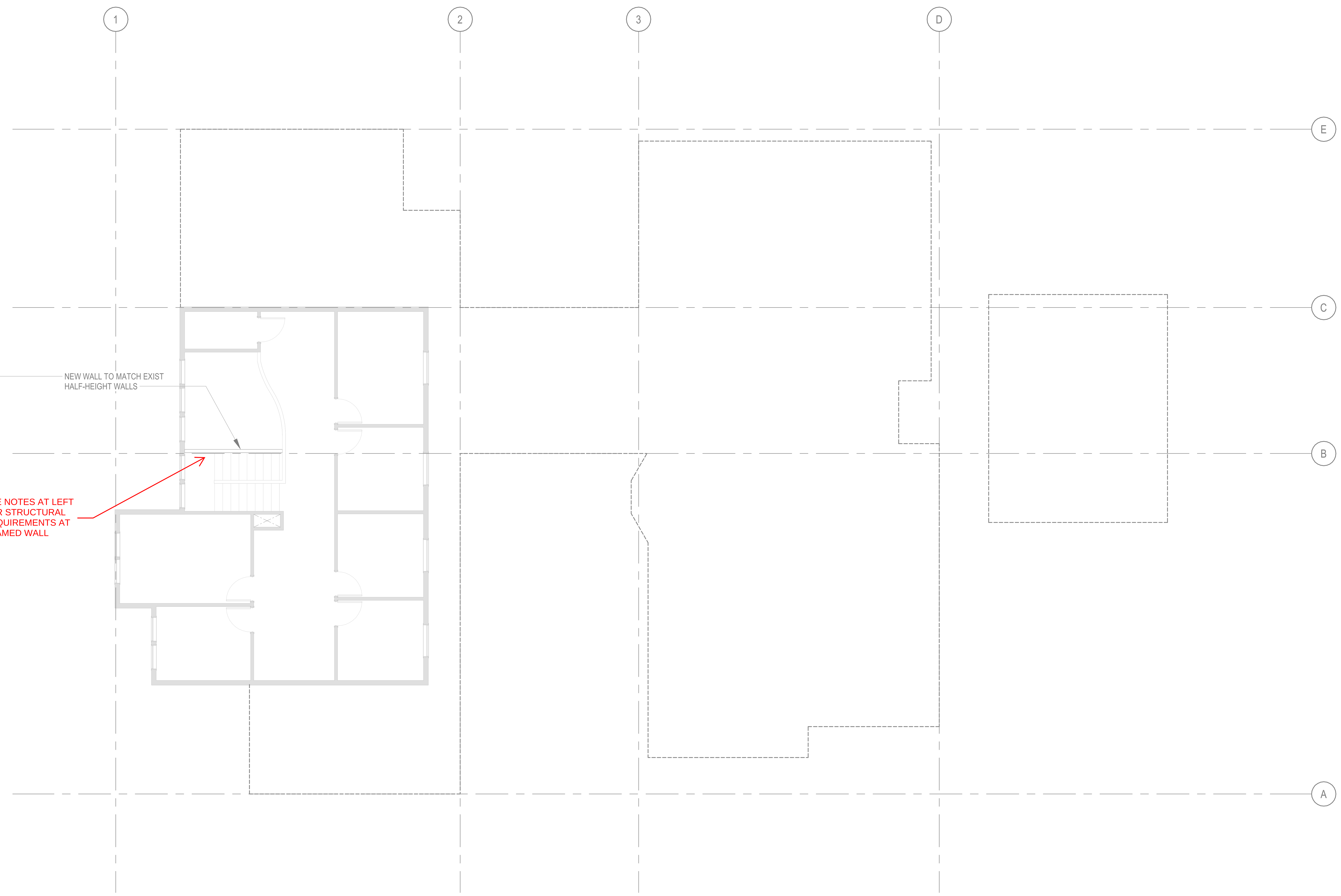
SPLICE

CS16x3'-0" STRAPS EACH SIDE, TO EACH STUD, CENTERED ON SPLICE

EXISTING WALL STUDS



ELEVATION (NOT TO SCALE)



1 LEVEL 2

1/8" = 1'-0"

TRUE NORTH N

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35314 S.E. CENTER STREET
SNOQUALMIE, WA 98065

PH: 253.548.7193

CHRISTOPHER M. PADIN, STATE OF WASHINGTON, STRUCTURAL ENGINEER, PROFESSIONAL ENGINEER

4/12/24

PHA OFFICE TENANT IMPROVEMENT

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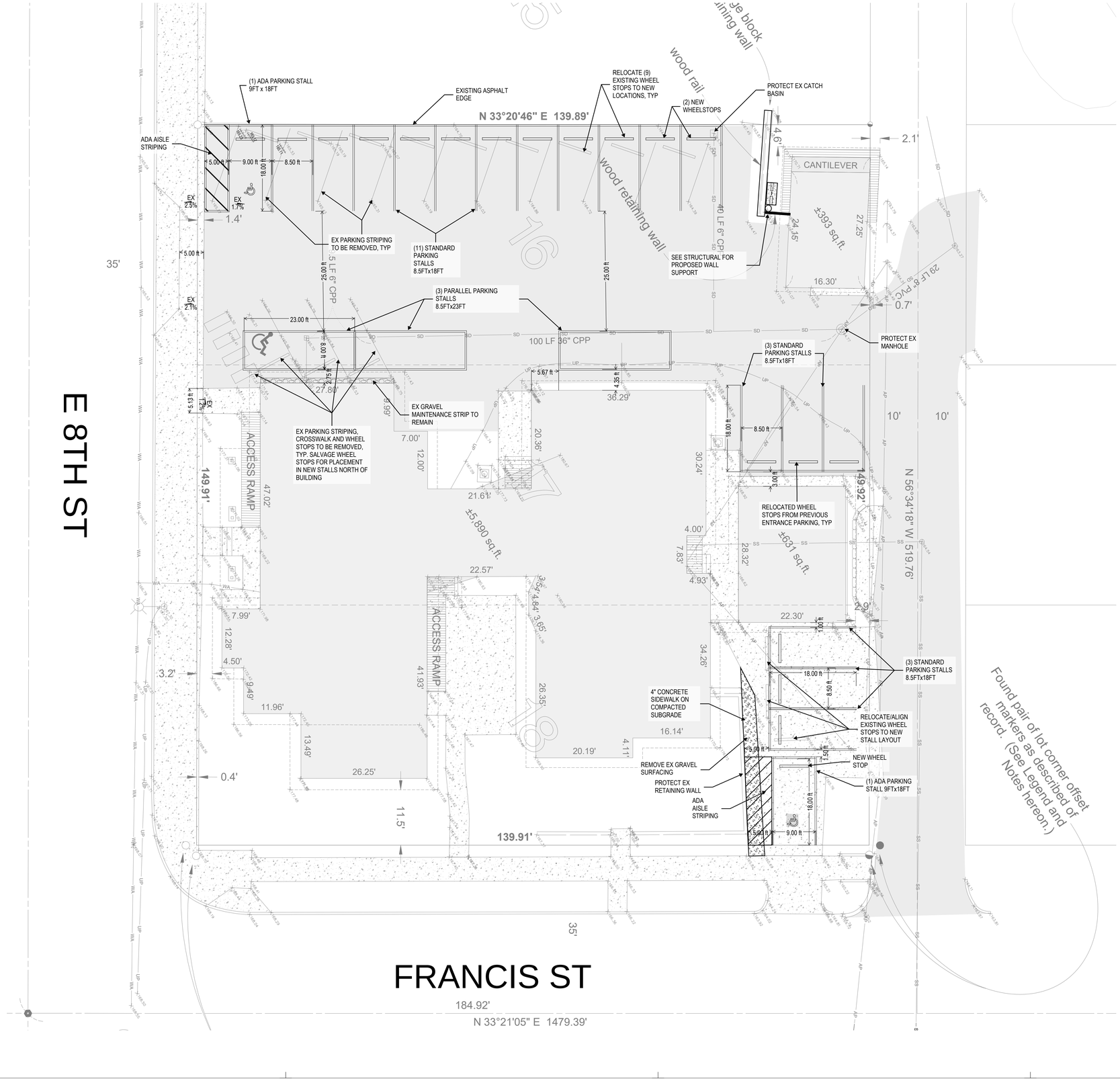
LEVEL 2 - FLOOR FRAMING PLAN

SHEET #

S22.02



COUGHLIN PORTER LUNDEEN
801 SECOND AVENUE, SUITE 900
SEATTLE, WA 98104
(206) 343-0460 www.cplinc.com

0 5 10 20
SCALE 1"=10'

Legend

- EXISTING GRADE
- EX GRAVEL MAINTENANCE STRIP
- CONCRETE SIDEWALK

TIMOTHY B. BROOKINS — STATE OF WASHINGTON — 33708 — REGISTERED PROFESSIONAL ENGINEER — 04/26/24

PHA OFFICE TI

PENINSULA HOUSING AUTHORITY
727 EAST 8TH ST
PORT ANGELES, WA 98362

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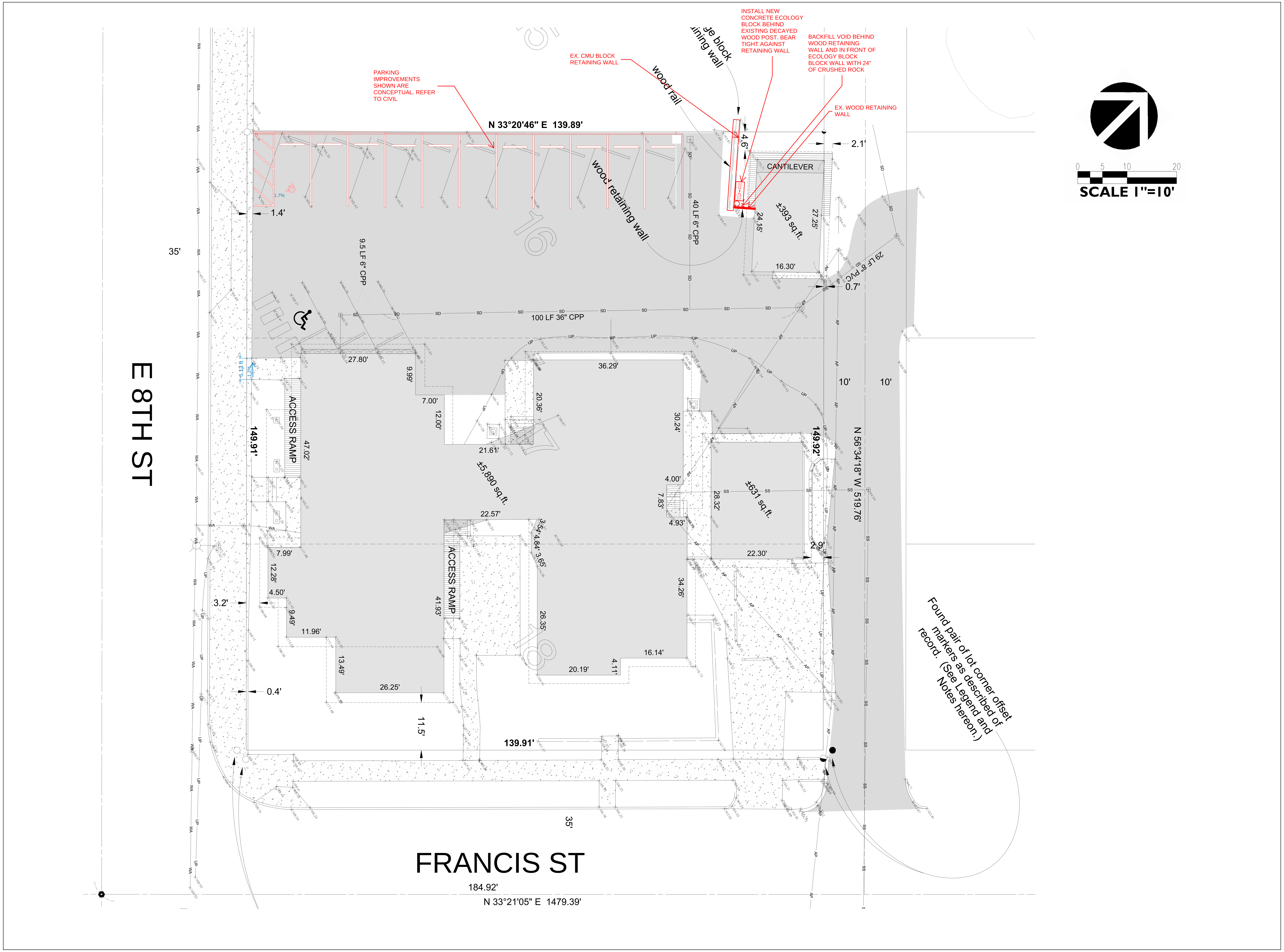
ISSUE DATE APRIL 26, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

SITE PLAN

SHEET #
C1.0



ATLAS DESIGN GROUP INC.

ATLAS DESIGN GROUP, INC.
35314 S.E. CENTER STREET
SNOQUALMIE, WA 98065

PH: 253.548.7193

CHRISTOPHER M. PADIN, STATE OF WASHINGTON, STRUCTURAL ENGINEER, PROFESSIONAL ENGINEER
4/26/24

PHA OFFICE TENANT IMPROVEMENT

PENINSULA HOUSING AUTHORITY

727 EAST 8TH ST
PORT ANGELES, WA 98362

PROJECT # 2023093.01

PERMIT

ISSUE DATE APRIL 26, 2024

REVISION SCHEDULE

AHJ APPROVAL STAMP

SITE PLAN

SHEET #

S2.00

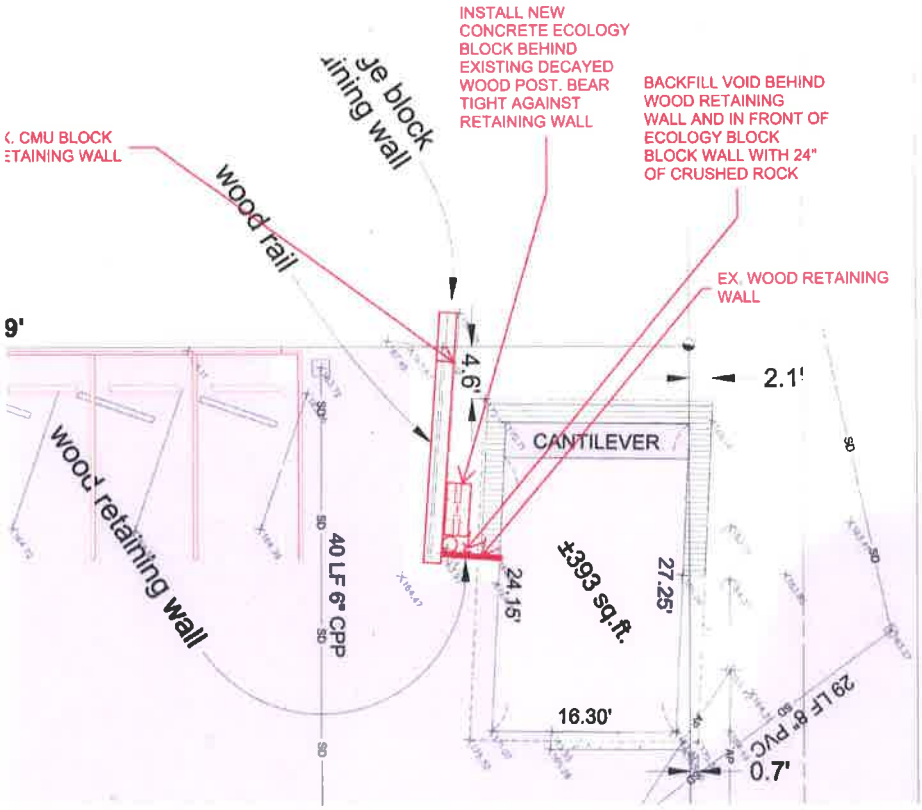
ATLAS DESIGN GROUP INC

Architect	RICE FERGUS MILLER	Sheet	1 of 2
Project	PENINSULA HOUSING AUTHORITY	Job No.	
	OFFICE TENANT IMPROVEMENT	Date	4/30/24
	RETAINING WALL	Engineer	PADIN

ADJACENT TO THE EXISTING PHA BUILDING PARKING LOT IS AN EXISTING 3' TALL RETAINING WALL

THE EXISTING RETAINING WALL SUPPORT POST IS STARTING TO ROT AT THE BASE AND FAIL, PUTTING THE EXISTING WALL AT RISK OF FAILING

OUR PROPOSED FIX IS TO PLACE AN ECOLOGY BLOCK (2' WIDE x 4' LONG x 2' TALL) DIRECTLY BEHIND THE POST TO REINFORCE IT, AND THEN PLACE COMPACTED CRUSHED ROCK BEHIND THE WALL FOR ADDITIONAL SUPPORT TO HELP STABILIZE THE WALL



4/30/24

ATLAS DESIGN GROUP INC

Architect RICE FERGUS MILLER | Sheet 2 of 2
Project PENINSULA HOUSING AUTHORITY | Job No.
OFFICE TENANT IMPROVEMENT | Date 4/30/24
RETAINING WALL | Engineer PADIN

THE INTENT IS TO REDUCE THE RISK OF THE WALL FAILING FURTHER, AND TO PROVIDE A TEMPORARY SOLUTION TO SUPPORTING THE WALL UNTIL A FUTURE PROJECT WHERE THE WOOD DECK STRUCTURE AND RETAINING WALL CAN BE REMOVED AND REPLACED.

USING BASIC ENGINGEERING PRINCIPALS, WE ARE ABLE TO DETERMINE THE APPROPRIATE FACTOR OF SAFETY FOR TEMPORARY RETAINING WALLS, WHICH MUST EXCEED A FACTOR OF SAFETY OF 1.5 FOR TEMPORARY CONDITIONS FOR SLIDING

SELF WEIGHT OF ECOLOGY BLOCK USING A CONCRETE DENSITY OF 150 PCF:

2'x4'x2' = 16 CF x 150 PCF = 2400#

USING A STANDARD COEFFICIENT OF FRICTION OF 0.30, THE SELF WEIGHT OF CONCRETE PROVIDES A FRICTION RESISTING FORCE OF 720 LB HORIZONTALLY

THE APPLIED FORCE FROM A 3' RETAINING WALL, ASSUMING AN ACTIVE SOIL PRESSURE OF 35 PCF AGAINST A 3' TALL WALL CREATES A TRIANGULAR PRESSURE DISTRIBUTION OF 0 PSF AT THE TOP OF THE WALL AND 3x35 = 105 PSF AT THE BOTTOM

THE NET APPLIED FORCE IS 105 PSF x 3' / 2 = 158 LB PER FOOT OF WALL

BASED ON AVAILABLE SURVEY DATA, THE WALL IS APPROXIMATELY 4' LONG, THEREFORE HALF THE LOAD IS TRIBUTARY TO THE WOOD POST, CREATING A NET HORIZONTAL REACTION OF 316 LB

DETERMINING THE FACTOR OF SAFETY: 720 LB / 316 LB = 2.27 > 1.5 THEREFORE WAY GOOD

THE ECOLOGY BLOCK IS SUFFICIENT ON ITS OWN TO BRACE THE WOOD POST, BUT WE ARE REQUIRING ADDITIONAL CRUSHED ROCK TO ALSO HELP STABILITY THE WALL USING THE WEIGHT OF THE AGGREGATE AS AN ADDITIONAL PRECAUTION

DIVISION 22 – PLUMBING
SYSTEMS NARRATIVE

PART 1 - GENERAL

1.01 INTRODUCTION

A. The purpose of this section is to define the specific requirements for plumbing work, including but not limited to general provisions, applicable codes, coordination requirements, submittal requirements, shop drawing requirements, quality assurance, testing adjusting balancing requirements, commissioning requirements, completion requirements, and the warranty requirements.

B. All work under this section shall comply with the requirements of general conditions, supplemental conditions, special conditions, and division 1 – general requirements, and shall include all plumbing sections specified herein.

C. This section includes a general narrative description of Division 22 systems with specific equipment and component criteria that are to be included in the project. Reference all other specification sections, floor plans, drawing notes, drawing equipment schedules, and drawing matrices for additional equipment and project criteria.

D. Specific conflicts between drawings, this specification section, and other specification sections, will not be used to define exclusions. Exclusions based on document conflicts will be accepted or rejected in the engineer of record's formal response to bid clarification requests or Request For Information (RFI's).

1.02 APPLICABLE CODES & STANDARD

A. Wherever an International, National, or Uniform Code is referenced in this Narrative, it means the 2021 Washington State with Port Angeles Amendments version of that code, including any local amendments, is the design standard for this Project. For example, where the UPC is referenced, the 2021 Washington State with Port Angeles Amendments will be used.

B. Design and installation shall comply with rules and regulations of the following:

APPLICABLE WASHINGTON STATE BUILDING CODES			
ENERGY CODE	2021 WASHINGTON STATE ENERGY CODE (SEC) FOR COMMERCIAL BUILDINGS	WAC 51-11C	EFFECTIVE MARCH 15, 2021
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-50	EFFECTIVE MARCH 15, 2021
ACCESSIBILITY CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS CHAPTER 11 AND ICC A117.1-2009	WAC 51-50	EFFECTIVE MARCH 15, 2021
SEISMIC CODE	ASCE 7-2016 AS REFERENCED BY 2018 INTERNATIONAL BUILDING CODE	WAC 51-50	EFFECTIVE MARCH 15, 2021
FIRE CODE	2021 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-54A	EFFECTIVE MARCH 15, 2021
MECHANICAL CODE	2021 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-52	EFFECTIVE MARCH 15, 2021
PLUMBING CODE	2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-56	EFFECTIVE MARCH 15, 2021
BOILER CODE	WASHINGTON STATE BOILER CODE	WAC 296-104	
ELECTRICAL CODE	2020 NATIONAL ELECTRICAL CODE WITH 2020 WASHINGTON AMENDMENTS (NFPA 70)	WAC 296-46B	EFFECTIVE NOVEMBER 1, 2020
ELECTRICAL	ELECTRICIANS AND ELECTRICAL INSTALLATIONS	RCW CHAPTER 19.28	
NFPA STANDARDS	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AS REFERENCED BY THE CODES ABOVE OR AS SPECIFICALLY LISTED BELOW		

1.03 ORDER-OF-PRECEDENCE PROVISIONS

A. In the case of inconsistence or ambiguities in design documents (all specifications and drawings), compliance with the strictest design requirement among conflicting criteria is required.

B. If provided, alternate pricing for compliance with less strict criteria will be evaluated in addition to the mandatory baseline strictest criteria.

C. Provide notice upon discovering potential design conflicts prior to bid where possible.

1.04 PROJECT DELIVERY

A. Rushing is the Engineer of Record responsible for stamped permit and full construction drawings.

B. Pricing Set Bid Notes

1. The intent is to procure MEP pricing packages that cover the full project.
2. Reference current architectural, structural, drawings provided by the owner. Also reference all MEP drawing packages.
3. The architectural floor plans provided are not final. Pricing shall allow for equipment relocations due to minor interior layout modifications.
4. Pricing is to include all MEP provisions as needed to completely buildout the project as defined in all referenced documents.
5. During the bid process, provide specific scope clarification requests through the owner's bid clarification request process.
6. Bids will include a detailed list of scope exclusions.
7. Provide breakout additive pricing for specific scope as required to address perceived scope gaps in the project documents. Electrical and Plumbing subcontractors are to include all permit fees. Mechanical permit fees are included in owner's building permit fees.
8. Rushing will participate in the subcontractor selection process by reviewing proposals, interviewing, and strategizing with the team. Primary goals are to thoroughly identify potential gaps and contingency requirements and to build a strong partnership with the subcontractors and GC.

C. If there is a conflict between design documents and the RFP, the contractor will identify the discrepancy and request a clarification prior to RFP response.

D. Rushing will participate in the subcontractor selection process by reviewing proposals, interviewing, and strategizing with the team. Primary goals are to thoroughly identify potential gaps and contingency requirements and to build a strong partnership with the subcontractors and GC.

~~E. Once selected, the MEP subcontractors will assist the consultant team with construction document completion during the CD phase as follows:~~

~~1. Create a thorough budget control log with value options and pricing. The log will be maintained through the completion of 100% CD's. Rushing will participate in vetting value alternatives and incorporating accepted options into the project drawings and specifications.~~
~~2. Execute full review of consultant drawings and specifications with comments generated within Bluebeam Studio documents (or other methodology agreed to by the team) at completion of 100% DD, 50% CD, and 75% CD. These comments will focus on constructability review and scope resolution. Comments will be tracked and resolved during each stage of design.~~
~~3. The MEP subcontractors will provide limited BIM detailing during the CD phases in critical areas of congestion and coordination between the trades, structural, and architectural designs to vet design decisions and constructability. The goal is to eliminate change orders due to interferences encountered during the construction BIM process.~~

F. Complete equipment, and materials submittals shall be provided in electronic format. PDF bookmarks are required. Submittals shall be complete with all components included and customized to this project's requirements. Include warranty provisions for all equipment. All submittals require owner team approval prior to purchase.

G. Shop drawings: Rushing drawings define the design intent and project scope. The PC is responsible for determining final pipe routing and final coordination with all trades, structural drawings, and the ceiling heights shown in the architectural plans. Rushing's drawings are not intended to be used as installation drawings. The contractor will produce coordinated shop drawings which will be submitted for design team review prior to construction. The PC shall coordinate their shop drawings with other trades prior to shop drawing approval and construction. Shop drawings shall include, but are not limited to:

1. Dimensioned size, location, and elevation of all risers and piping based on coordination with shop drawings for other trades.
2. All required piping accessories including expansion offsets, cleanouts, etc.
3. All equipment including pumps, water heaters, etc.
4. Coordinated locations for all drains, floor cleanouts, etc.
5. Refer to Division 01 Specifications for additional requirements.

H. The architectural floor plans provided are not final. Pricing shall allow for equipment relocations due to minor interior layout modifications.

I. The budget / estimate response proposals will identify scope gaps the contractor perceives and provide breakout pricing to cover these gaps.

J. The plumbing systems will be designed to include scope of work for full standalone compliance with the 2021 WSEC. This includes the WSEC mandatory provisions.

K. All work contracted for must be accepted by all applicable inspectors including Site Superintendent, GC Quality Control Personnel, AHJ's, Owner's Representative (Rushing) or their assignees.

L. Warranty period to extend for one year from date the project is occupied by the Owner, not from the date of completion of the work. Warranty not applicable to defective items due to faulty work of subsequent trades.

M. ~~The PC~~ Peninsula Housing Authority shall submit final CAD as-built drawings to the General Contractor for submittal to Owner within two weeks of project completion or unless alternative timing is agreed to. Drawings shall be submitted in PDF and original AutoCAD formats.

N. O&Ms: Provide hard copy and electronic copies (PDF) of O&Ms for ALL systems within TWO weeks of substantial completion or as noted in contract.

O. Codes, Permits, Inspections, and Fees:

1. Peninsula Housing Authorit shall obtain all permits and inspections and pay all fees required by State and Local authorities, except as noted.
2. All work and materials shall be in accordance with requirements of all applicable local and state codes, statues, standards, and other regulations. Date of regulations shall be as adopted by local authorities at the time of permit intake, unless indicated otherwise.
3. The codes shall be construed as establishing a minimum or base level of requirements. Contract Documents shall not be construed to permit or direct work not in conformance with codes, statues, standards, and other regulations. Where provisions of the various regulations conflict with each other, or with the Contract Documents, the more stringent provisions shall be included in contract pricing. Conflict shall be resolved with the Architect and Authorities Having Jurisdiction (AHJ) prior to completing the design.
4. Where the Contract Documents call for material or construction of a better quality or higher capacity than required by the codes, statues, standards, and other regulations, the provisions of the Contract Documents shall take precedence over the requirements of the codes and standards.
5. Material and equipment within the scope of the UL Testing Laboratory Service shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark. ETL or CSA shall be allowed if acceptable to the Authorities Having Jurisdiction (AHJs).
6. PC shall call for all inspections by the local code authorities when they become due and shall not cover any work until approved by these authorities.

1.05 MISCELLANEOUS SCOPE ITEMS:

A. The PC is to review the Div. 23 narrative and drawings for scope impacts.

1. Div 23 fan coils for split systems require condensate piping by PC routed to indirect drain connections.

2. PC to provide condensate piping from all needed equipment and route to a hub drain, funnel floor drain, floor sink or other approved indirect waste receptor or terminate outdoors if allowed by the AHJ.

B. Property line and interior acoustical calculations will be by the architectural design team's Acoustical Consultant prior to permit submittal. Acoustical Consultant to provide the requisite analysis to assure the team of acceptable acoustical performance of each system.

C. The structural engineer is responsible for all structural calculations required for the supporting structure for permit intake.

D. PC shall include structural tie-down calculations for all equipment as required by the 2021 IBC and ASCE 7. This will be a deferred permit submittal.

E. PC is to provide and install fire stopping of all through and membrane penetrations as required by the IBC and other applicable codes. Floor penetrations to include fire rated sleeves with either a 2" standoff water dam (Holdrite Pro Series Water Dam, Hilti-CFS-CID MD or approved equal), or a sleeving system with a built-in mid body waterproofing seal with a factory-provided W rating (Hilti CFS-680 or approved equal).

F. All ductwork, piping, plumbing, and equipment are to be seismically restrained as required by the 2021 IBC.

G. All code required access panels in walls and/or ceilings are provided and installed by the plumbing contractor. PC to coordinate required locations and sizes with the architect and GC.

H. The contractors will provide and install phenolic tags identifying each specific piece of equipment.

I. All exposed piping in mechanical rooms will be labeled in compliance with accepted industry standards and building standards.

1.06 COORDINATION

A. All pipe routing and equipment locations shall be coordinated with full design team including but not limited to architect, interior designer, and acoustical engineer.

B. No cutting or drilling of joists or beams will occur without Structural Engineer approval.

C. PC shall coordinate with the architect a minimum 36" clearance or more in front of equipment access panels for servicing as required by applicable code, NEC, and the AHJ.

D. Cutting, framing, patching, and painting of wall, ceiling and floor openings shall be by others.

E. Electrical contractor shall furnish and install magnetic motor starters for all equipment ¾ hp and greater unless a VFD is provided. Provide service and disconnect per code, and do all power wiring, including connecting to equipment. Holding coil circuit shall be powered by electrical contractor (120/1 unless indicated otherwise). All starters shall be provided with H-O-A switch.

F. VFD's (where required) are provided by the PC and are installed (mounted) and wired by the electrical contractor. Disconnects will be provided integral with the VFD's. VFD's will not be provided with manual or automatic bypass.

PART 2 - PRODUCTS

2.01 PLUMBING SYSTEMS GENERAL

A. All plumbing products in contact with potable water shall be certified Lead Free and NSF 61/ NSF 372 compliant.

B. All plumbing in areas that contain plenums are to be plenum compatible. No plastic material will be utilized unless noted otherwise.

C. Plumbing materials are per the Plumbing Materials Specification Matrix on the plumbing plans.

D. The PC shall make every reasonable effort to provide materials from a single manufacturer for any given material type unless otherwise noted.

E. All pressurized piping shall have a maximum rated working pressure to accommodate the maximum pressure anticipated for the pipe.

F. Where PVC materials are provided, PC shall provide solid wall piping for sanitary waste. Cellular (foam) core piping is not allowed unless noted otherwise in the materials matrix.

G. All plastic piping installed underground shall be installed in accordance with ASTM D 2321 and ASTM F 1668 as well as all manufacturer guidelines.

H. PVC & CPVC piping is not allowed in plenum spaces unless it is specifically listed for such use. Plastic piping is not acceptable where water discharge temperatures exceed 140°F.

I. Provide cleanouts on sanitary sewer system as required by code.

J. Plumbing is to be insulated per 2021 WSEC requirements.

K. Pipe hanger rod sizes shall not be smaller than those shown in the 2021 UPC, Table 313.6. Suspended piping shall be supported at intervals not to exceed those show in 2021 UPC Table 313.3.

L. Trap primers shall be installed to serve all floor and hub drains other than those connected to the garage drainage system.

1. All trap primer lines should be uniformly sloped from the trap primer toward the fixture being primed. Provide PPP Precision Priming Adapter as required to ensure positive slope toward the primed fixture.
2. Flow activated trap primers (PPP Prime Pro) shall be utilized throughout; except as noted below.
3. Electronic (PPP “Mini-Prime”) shall be used where fixture flow is not available for trap primer activation of a flow-activated primer. PC shall coordinate power requirement for all electronic trap primers with the electrical contractor.
4. Tailpiece trap primers may be used from other than coffee kitchen sinks.

M. All plumbing is to be pressure tested in accordance with code and accepted standards.

N. All isolation valves are to be installed in accessible locations. Plumbing contractor is to provide access panels and coordinate installation by others as required for access to valves.

O. All fixtures shall be provided and installed to comply with Washington state accessibility codes or per other architectural directions.

P. All fixtures to be provided and installed to comply at a minimum with Washington state water conservation performance standards and UPC maximum flow rate standards.

Q. The PC shall route plumbing vents to maintain minimum 20 feet of clearance from outside air intakes.

R. All water supply and waste and vent piping shall be secured in place with 3/16” neoprene strips wrapped around the pipe at stud penetrations or point of support to prevent direct contact with framing and resultant rattling and vibration.

S. Piping and fittings at all water outlets shall be rigidly fastened to structure to prevent movement. Long runs of piping shall be installed with provisions for expansion and contraction.

T. The air gap between party walls is to mitigate sound transference. Pipes placed within this air space air are to be isolated from the studs they pass through. Pipes serving any specific unit must be placed within the stud depth of the wall serving that unit only.

U. Run all water lines in warm areas where possible, avoiding exterior walls and blind corners.

V. The plumbing subcontractor is responsible to review plans to determine which walls, if any, should be increased in depth from that shown on the plans to accommodate the subcontractor's piping. The plumbing subcontractor shall meet with the superintendent and framer to coordinate this sizing with the requirements of other trades.

W. The PC will coordinate bollards or steel plate protection where needed for all piping exposed along garage walls lower than 5'0". Protection to be installed by GC. Vertical piping risers in the garage shall be installed behind columns (as opposed to on the sides or fronts of columns relative to parking stall entry side). Otherwise, vertical pipes will require steel plates for vehicle protection provided and installed by the PC.

X. The plumbing subcontractor will supply roof flashings for pipe penetrations prior to roofing as scheduled by the superintendent. Roof flashings mopped in by roofing contractor. For PVC roofing installations, PC to seal the pipe base with PVC Flashing or Prefabricated vent pipe boots per the roofing manufacturer's installation details.

Y. All HVAC condensate is provided by the PC. Review HVAC deliverables for fan coils with condensate.

Z. Expansion/contraction:

1. Thermal Expansion: P.C. shall provide adequate thermal expansion compensation for all plumbing systems in accordance with UPC Section 312.2. Contractor is to design, provide calculations, and indicate locations of offsets on shop drawings. Design per 2021 UPC, and manufacturer guidelines. Utilize piping offsets where feasible. Bellows type expansion and contraction sleeves to be used where there is insufficient room to allow for offsets.
2. Accommodation for building shrinkage during dry out: All plumbing components are to accommodate the potential of a minimum of 3/8" shrinkage/compression at each floor level. Final criteria to be confirmed by structural. Provide for expansion and contraction of piping to accommodate building settlement/shrinkage during dry-out of wood frame structure:

    a. Wherever possible, plumbing vertical pipe risers are not to be installed and glued until after the building dry-out shrinkage is complete to the full extent allowed by project schedule.
    b. Utilize piping offsets where feasible.

        1) Where piping offsets are not feasible due to insufficient room for offsets - utilize either of the following:

            a) One-piece expansion/ contraction sleeves: Fernco model XJ, Flexicraft Slip-on Drainage Expansion Joint model DWVxxxx or similar. Install such that the joint is in a neutral position (no expansion nor contraction) following building dry-out period.
            b) Sleeve-type expansion/ contraction joint: Canplas Expansion joint model 21381#XXX. Install such that the joint is in a neutral position (no expansion nor contraction) following building dry-out period. Contractor is to design, provide calculations, and indicate locations of offsets and expansion joints on shop drawings. Design per 2021 UPC, and manufacturer's guidelines.
            c) PVC waste and vent risers shall be provided with expansion compensation every 30 feet per IAPMO design standards and 2021 UPC. Provide mechanical slip joint or piping offset sized based on pipe lengths in contractor shop drawings. Offsets may serve for both thermal expansion and building shrinkage compensation.

2.02 NEW CONFERENCE ROOM

A. PC to provide cold water, hot water, waste, vent, and fixtures for area of work as noted in the plumbing and architectural drawings.

B. Domestic Hot Water (DHW) for public fixtures will be served from the local water heater (see Drawings).

1. Public Lavatories:

a. Provide ASSE 1070 mixing valves to ensure that the maximum temperature does not exceed 120°F per 2021 UPC Section 407.3.
b. Per 2021 UPC Sections 407.2.1, 407.4, and 407.2.2 respectively - The maximum flow rate shall not exceed 0.5 gpm at 60 psi, metering faucets shall be provided, and meters shall deliver a maximum of 0.25 gallons per metering cycle.
c. Per 2021 WSEC section C404.3.1, the maximum length of ½" piping that runs from the heated water source to the fixture shall extend no longer than 2' from the heated water source.

C. HVAC condensate systems will be installed complete to an approved indirect drain connection by the plumbing contractor. Condensate trap depth will be per manufacturer requirements and sized per plumbing code criteria. Horizontal condensate piping shall be insulated copper or plenum rated CPVC (Charlotte Pipe plenum rated Flowguard Gold CPVC or equivalent). Vertical copper condensate requires insulation. Vertical CPVC condensate does not require insulation.

2.03 WASTE AND VENT

A. Per 2021 UPC section 709.0 Plumbing fixtures shall be drained to the public sewer by gravity. It is currently assumed that all fixtures may be routed to the sanitary sewer locations (per Civil Engineer), however final determination will be made by the contractor based on field conditions.

B. Per 2021 UPC section 708.0 "Horizontal drainage piping shall be run in practical alignment and a uniform slope of not less than ¼" per foot or 2% toward the point of disposal provided that, where it is impractical due to the depth of the street sewer, to the structural features, or to the arrangement of a building or structure to obtain a slope of ¼" per foot or 2%, such pipe or piping 4" or larger in diameter shall be permitted to have a slope of not less than 1/8" per foot or 1%, where first approved by the Authority Having Jurisdiction."

1. All drainage piping shall be run at 2% unless noted otherwise on the plumbing plans.
2. Final approval for any piping to be sloped at 1% shall be the responsibility of the plumbing contractor.

C. 2021 UPC section 710.1: "Fixtures installed on a floor level that is lower than the next upstream manhole cover of the public or private sewer shall be protected from backflow of sewage by installing an approved type of backwater valve. Fixtures on such floor level that are not below the next upstream manhole cover shall not be required to be protected by a backwater valve. Fixtures on floor levels above such elevation shall not discharge through the backwater valve." Contractor to provide backwater valve(s) downstream of any fixture draining to the public sewer by gravity and installed on a floor that is lower than the next upstream manhole. Preliminary evaluation is that a backwater valve shall not be required for this project. Final determination to be confirmed in the field.

D. Cleanouts shall be provided per 2021 UPC section 707.4 which shall include, but not be limited to: building drains and branches, runs longer than 100', all sinks, all urinals, all horizontal fixture branch lines longer than 5', and at all aggregate changes in direction exceeding 135°. Contractor shall coordinate with AHJ to ensure all required cleanouts have been provided. Final cleanout locations are to be indicated on the shop drawings for Rushing review. 2021 UPC 707.4 exception 3, Excepting the building drain and its horizontal branches, a cleanout shall not be required on a pipe or piping that is above the floor level of the lowest floor of the building. Level 1 will be considered the lowest floor.

E. Materials: Refer to the Plumbing Materials Specification Matrix on the plumbing plans.

F. Heavy duty no-hub couplings provide improved protection against leakage and potential for joint movement in cast iron installations. Contractor shall provide heavy duty couplings for any below-grade (buried) cast iron installation, vertical sanitary waste risers, and piping installed over shell and core retail spaces. Standard duty couplings may be used in other locations.

G. PVC and ABS for vent piping may not be utilized in return air plenums.

H. PVC, where utilized as waste piping, will be Schedule 40 Solid Wall Pipe and PVC DWV Fitting System. PVC Cellular Core product is not allowed except as noted in the materials matrix. PVC Schedule 40 pipe shall be Iron Pipe Size (IPS) conforming to ASTM D 1785 and ASTM D 2665. Injection molded PVC DWV fittings shall conform to ASTM D 2665. Fabricated PVC DWV fittings shall conform to ASTM F 1866. Solvent cement joints shall be made in a two-step process with primer manufactured for thermoplastic piping systems and solvent cement conforming to ASTM D 2564. Systems shall be hydrostatically tested after installation and before burial if below grade. Pipe and fittings shall conform to National Sanitation Foundation Standard 14.

I. All below grade PVC will be installed in strict adherence to ASTM D 2321 and ASTM F 1668 protocol.

J. PVC will not be utilized in any location where transport of 140°F water or greater can be expected now or in the future.

K. Expansion compensation for PVC is required per 2021 UPC Section 312.2 and Table 313.1.

L. All PVC piping will be supported with an approved hanger at intervals sufficiently close to maintain correct pipe alignment and to prevent sagging or grade reversal, but in no case shall the spacing exceed the spacing indicated in 2021 UPC Table 313.3. Pipe will also be supported at all branch ends and at all changes of direction. Support trap arms as close as possible to the trap.

M. All waste pipes shall be isolated from the structure using 1/8” thick neoprene sleeve or strips. Where the hanger is rigidly connected to the structure, the piping shall be isolated from the hanger itself with neoprene liners or a pre-isolated products such as Holdrite Silencer series hanger system Openings shall be oversized for the full depth of the opening so that the pipe can be supported on both sides of the opening without contact. Riser clamps used to support vertical piping shall be isolated from the structure by neoprene pads.

N. Center all vertical waste lines in the interior walls.

O. Nail plates shall be installed wherever needed and when piping is within 1-1/2 inches of the edge of a framing member and as required by code. Leaks due to drywall nails/screws penetrating pipes due to omission of or incorrectly installed nail plates will be repaired at subcontractors’ expense.

P. Waste clean outs shall be installed in unfinished space whenever possible. Otherwise locate within wall and cover by an approved metal access cap. PC is responsible for verifying wall thickness prior to installing pipe.

Q. All plumbing shall be plugged and capped during installation and kept free of contamination and debris.

R. Sewer connections shall be coordinated with the civil engineer per superintendents’ direction. The utility contractor is to make all side sewer connections.

S. Refer to plumbing plans for preliminary sanitary sewer connection sizes and calculations.

2.04 DOMESTIC WATER

A. All valves, piping, and equipment used in the domestic water system will be certified Lead Free and ANSI/NSF 61 & 372 approved per the 2021 UPC.

B. Materials: Refer to the Plumbing Materials Specification Matrix on the plumbing plans.

C. Individual residential unit DCW and DHW isolation valves shall be located with the water meters and be easily accessible after installation and provided with a pre-printed label “unit water shut off”.

D. Supply mains and risers through studs or supported from studs within units will utilize 3/16” neoprene strips to isolate the pipe from direct contact with studs.

E. PEX Plumbing System: Crosslink polyethylene suitable and approved for potable water use. Manufacturers: Uponor

F. PEX Pipe and fittings: The plumbing system used for potable water distribution and consisting solely of Wirsbo AQUAPEX® tubing, ProPEX® and/or APR Fitting Systems, and Uponor EP manifolds and multi-port tees. The complete system installation will fully comply with the Uponor requirements for the associated 25 year warranty.

G. Any brass fittings used for PEX piping shall be certified lead free and resistant to dezincification. Provide Wirsbo or approved equal.

H. Plumbing insulation shall comply with 2021 Washington State Energy Code. Insulation shall be per WSEC and UPC code tables.

I. Insulate all metallic domestic cold water mains with minimum ½” glass fiber insulation to prevent condensation.

J. Provide sectional DCW & DHW isolation valves at risers serving multiple units.

K. Balance valves used in the system will be pressure independent with P/T ports and stainless components. Valves shall control the flow rate to within +/- 5% of the designed flow and have a means to adjust the flow rate without breaking the piping connection such as removable flow cartridges or other means. The balance valve locations will be coordinated with access panels by PC as required. Utilize Griswold K Valve NSF/ANSI 61 and 372 certified models or equivalent.

L. Insulate and heat trace any cold or hot water plumbing exposed to ambient conditions in the unconditioned attic or elsewhere. Heat tracing, controls, and insulation are to be provided by PC. Power to heat trace termination is to be by EC.

M. Provide plenum rated materials for all plumbing systems exposed in areas that contain plenums.

N. The water lines are to be connected to and coordinated with the service/supply lines at the meter location, trenching is by others. PC to include all piping from the building to the exterior meter box.

O. Per the 2021 UPC Section 608.2, the maximum pressure allowed at any fixture shall not exceed 80 psi. PC to provide appropriately sized Pressure Reducing Valves (PRV’s) if required to ensure that the maximum allowable pressure is not exceeded. Existing site water pressure is noted be below 80 psi.

2.05 DOMESTIC HOT WATER

A. Domestic hot water is to be supplied from a new local water heater located below the new kitchen sink. The PC will supply the water heater for the project.

B. DHW system shall consist of the following:

1. Heating will be provided by (1) AO Smith DSE-5-3 electric water heater. Refer to plumbing drawing schedules.

C. Contractor to include isolation valves, unions, and P/T ports on inlet and outlet of heater. P/T Ports to be NSF/ANSI 61 compliant Watts Series LFTP or accepted equivalent. Pipe ASME temperature and pressure relief valve to indirect drain.

D. Hot water will be stored at 120°F.

E. Pipe size transitions between distribution piping and thermostatic mixing valve inlets & outlets shall occur within 12” of the valve assembly.

F. A full recirculation system will be provided with hot water circulator(s) with ECM motor controlled by on-board controller. Balance valves will be provided as needed and installed in an accessible location. Balancing of the system is by the PC. Circulators shall be lead free.

G. Hot water runouts to public lavatories shall not exceed the lengths provided in 2021 WSEC Table C404.3.1. Typical ½" runouts may not exceed 8'.

2.06 PLUMBING FIXTURES AND APPLIANCES

A. Plumbing fixtures will be low flow and in no case will be allowed to exceed flow rates indicated in Chapter 4 of the 2021 UPC. Final required fixture flow rates to be determined. Preliminary anticipated flow rates are as follows:

B. Water Closet: 1.28 GPF or Dual Flush

C. Lavatories: 0.5 GPM

D. Kitchen Sinks: 1.5 GPM

E. All low flow fixtures shall be WaterSense certified where applicable. WaterSense-labeled products and services are certified to use at least 20 percent less water, save energy, and perform as well as or better than regular models.

F. All plumbing fixtures requiring ADA compliance are to be certified for this application per the Federal Americans with Disabilities Act.

G. Plumbing fixtures and trim are to be provided and installed by PC. Final fixture package is yet to be determined.

H. Plumber is responsible for verifying finish floor elevations and setting any floor drains to the appropriate correct elevation. Per 2021 UPC Section 418.5, floors shall be sloped to drains.

I. Exposed water supply and toilet handles shall be matched in finish to the faucet selection in that room unless specifically agreed to in writing.

J. Spigot, gooseneck, and valve escutcheon rings shall be caulked to the tubs/showers/countertop/wall as applicable. Sinks and deck mount tubs shall be caulked to the decks using white silicone caulk

K. Contractors are to provide rough in and final connections to all appliances and fixtures.

L. PC shall provide copper stub out at all plumbing fixture water supply rough-ins, with supply attached to adjacent framing.

PART 3 - EXECUTION

3.01 PREPARATION & INSTALLATION

A. All work contracted for must be accepted by all applicable inspectors including site superintendent, GC quality control personnel, owner's representative or their assigns.

B. Piping shall be run concealed in all areas with finished ceilings and locations must be coordinated with architect and interiors drawings.

C. Plumbing contractor is to coordinate pipe routing with the architect, interiors architect, design team, and construction team with special attention to interior reflected ceiling and acoustical plans. Shop drawings shall be submitted with the above information for review and coordination prior to construction.

D. In areas open to structure, piping shall be routed tight to structure. Piping shall not be run in front of windows or beneath skylights. Contractor to pay special attention to routing in lobby areas.

E. All exposed piping shall be extensively labeled. Clearly label domestic cold water, hot water, hot water recirculation, natural gas piping, irrigation water and other non-potable water piping.

F. As-builts: provide owner with as-built drawings within two weeks of substantial completion. As-builts will reflect all changes from the construction drawing set and will comply with 2021 Washington State Energy Code project completion requirements. As-builts will also comply with architectural specification sections.

G. O&Ms: provide hard copy and electronic copies of O&Ms for all systems within two weeks of substantial completion. O&M's will also comply with architectural specification sections.

H. All plumbing piping shall be routed in a manner to avoid being within electrical rooms. Where piping in electrical room is unavoidable, and conditions require piping to be installed directly above electrical equipment:

1. Per NEC 110.26(F)(1)(a) "Dedicated equipment space equal to the width and depth of the equipment and extending from the floor to a height of 6 feet above the equipment or to the structural ceiling shall be dedicated to electrical installation." No piping shall be installed within this zone.
2. In the area above the zone required by 110.26(F)(1)(a): Provide pipe containment for piping as required by 110.26(F)(1)(b). Provide drain pan with moisture sensor and normally closed ball valve for tray drain.

3.02 TESTING & INSPECTION

A. The Plumbing Contractor is responsible for all test, balance, and startup of plumbing systems.

B. All plumbing systems are to be tested by the PC as required by the AHJ and UPC.

C. All commissioning will be in compliance with the methodologies and practices outlined in the 2021 WSEC C408.

D. The contractor will be expected to fully participate with the Cx process as part of their base contract. No change orders will be accepted for contractor participation.

E. The PC will execute all pre functional testing of plumbing systems to identify and resolve deficiencies prior the final testing.

F. The PC will document deficiencies and provide equipment, materials, and labor necessary to correct deficiencies found during the commissioning process to fulfill contract and warranty requirements.

G. Owner training will be provided by the installing contractor.

1. Water heaters
2. Circulation Pumps and hot water recirculation system.

END OF SECTION

DIVISION 23 – HEATING, VENTILATING, AND AIR-CONDITIONING

SYSTEMS NARRATIVE

PART 1 - GENERAL

1.01 INTRODUCTION

A. The purpose of this section is to define the design and delivery approach upon which the Contractor is to base a budget and bid for preconstruction and construction services. Specifically the services for the mechanical work, including but not limited to: general provisions, applicable codes, coordination requirements, submittal requirements, shop drawing requirements, quality assurance, testing adjusting balancing requirements, commissioning requirements, completion requirements, and the warranty requirements.

B. All work under this section shall comply with the requirements of General Conditions, Supplemental Conditions, Special Conditions, and Division 01 – General Requirements, and shall include all mechanical sections specified herein.

C. This section includes a general narrative description of Division 23 systems with specific equipment and component criteria that are to be included in the project. Reference all other specification sections, floor plans, drawing notes, drawing equipment schedules, and drawing matrices for additional equipment and project criteria.

D. Specific conflicts between drawings, this specification section, and other specification sections will not be used to define project or cost exclusions. Exclusions based on document conflicts will be accepted or rejected in the Engineer of Record's formal response to bid clarification requests or Request for Information (RFIs).

1.02 APPLICABLE CODES AND STANDARDS

A. Wherever an International, National, or Uniform Code is referenced in this Narrative, it means the 2021 WA State version of that code, including any local amendments, is the design standard for this Project. For example where the IFC is referenced, the 2021 WA State Fire Code will be used.

B. Design and installation shall comply with rules and regulations of the following:

APPLICABLE WASHINGTON STATE BUILDING CODES			
ENERGY CODE	2021 WASHINGTON STATE ENERGY CODE (SEC) FOR COMMERCIAL BUILDINGS	WAC 51-11C	EFFECTIVE MARCH 15, 2021
BUILDING CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-50	EFFECTIVE MARCH 15, 2021
ACCESSIBILITY CODE	2021 INTERNATIONAL BUILDING CODE WITH WASHINGTON STATE AMENDMENTS CHAPTER 11 AND ICC A117.1-2009	WAC 51-50	EFFECTIVE MARCH 15, 2021
SEISMIC CODE	ASCE 7-2016 AS REFERENCED BY 2018 INTERNATIONAL BUILDING CODE	WAC 51-50	EFFECTIVE MARCH 15, 2021
FIRE CODE	2021 INTERNATIONAL FIRE CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-54A	EFFECTIVE MARCH 15, 2021
MECHANICAL CODE	2021 INTERNATIONAL MECHANICAL CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-52	EFFECTIVE MARCH 15, 2021
PLUMBING CODE	2021 UNIFORM PLUMBING CODE WITH WASHINGTON STATE AMENDMENTS	WAC 51-56	EFFECTIVE MARCH 15, 2021
BOILER CODE	WASHINGTON STATE BOILER CODE	WAC 296-104	
ELECTRICAL CODE	2020 NATIONAL ELECTRICAL CODE WITH 2020 WASHINGTON AMENDMENTS (NFPA 70)	WAC 296-46B	EFFECTIVE NOVEMBER 1, 2020
ELECTRICAL	ELECTRICIANS AND ELECTRICAL INSTALLATIONS	RCW CHAPTER 19.28	
NFPA STANDARDS	NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) STANDARDS AS REFERENCED BY THE CODES ABOVE OR AS SPECIFICALLY LISTED BELOW		

1.03 ORDER-OF-PRECEDENCE PROVISIONS

A. In the case of inconsistencies or ambiguities in design documents (all specifications and drawings), compliance with the more stringent design requirement among conflicting criteria is required.

B. If provided, alternate pricing for compliance with less stringent criteria will be evaluated in addition to the mandatory baseline most stringent criteria.

C. Provide notice upon discovering potential design conflicts prior to bid where possible.

1.04 PROJECT DELIVERY

A. Pricing Set Bid Notes

1. The intent is to procure MEP pricing packages that cover the full project.
2. Reference current MEP, architectural, and structural drawings.
3. The architectural floor plans provided are not final. Pricing shall allow for equipment relocations due to minor interior layout modifications.
4. Pricing is to include all MEP provisions as needed to completely buildout the project as defined in all referenced documents.
5. Provide specific scope clarification requests through the Owner's bid clarification request process.
6. Bids will include a detailed list of scope exclusions.
7. Provide breakout additive pricing for specific scope as required to address perceived scope gaps in the project documents.
8. Rushing will participate in the Subcontractor selection process by reviewing proposals, interviewing, and strategizing with the team. Primary goals are to thoroughly identify potential gaps and contingency requirements and to build a strong partnership with the Subcontractors and GC.

B. Rushing is the Engineer of Record responsible for stamped permit/construction drawings. Once selected, the MEP Subcontractors will assist the Consultant Team with Construction Document completion during the CD phase as follows:

1. Create a thorough budget control log with design change impacts as well as design and construction value options. The log will be maintained through the completion of 100% CDs. Costs will be added real time to address design team and Owner driven changes.
2. Rushing will participate in vetting value alternatives and incorporating accepted options into the project drawings and specifications.
3. Execute full review of consultant drawings and specifications with comments generated within Bluebeam Studio documents (or other methodology agreed to by the team) after the Permit Set. These comments will focus on constructability review and scope resolution. Comments will be tracked and resolved during each stage of design. Intent is to evaluate critical areas and minimize/eliminate change orders due to interferences encountered during the construction BIM process.

C. Detailing coordination: The MC will produce a 3D model of all systems. The Contractors will coordinate their shop drawings with other trades. The MC will be lead in this effort and will get signed agreements on shop drawings from MEP and other Subcontractors prior to starting work. The MC is responsible for all trade coordination effort as required for shop drawing completion. There will be no change orders for field interference coordination modifications.

D. Shop drawings: Rushing drawings define the design intent and project scope. Rushing's drawings are not intended to be used as installation drawings. The Contractor will produce coordinated shop drawings which will be submitted for design team review prior to construction. Rushing will provide the Construction Document floor plan electronic files for the MC's use if requested. The MC shall coordinate their shop drawings with other trades prior to shop drawing approval and construction.

E. If there is a conflict between design documents and the request for proposal (RFP), the Contractor will identify the discrepancy and request a clarification prior to RFP response.

F. Submittals

1. Transmittal Form indicating the following: project, Contractor, Subcontractor, Vendor, Supplier, specification section, submittal number, and submittal revision number.
2. Complete equipment and materials submittals shall be provided in electronic format. PDFs should be searchable and bookmarks are required for each submitted product. Submittals shall be complete with all components included and customized to this Project's requirements. Include warranty provisions for all equipment. All submittals require Owner team approval prior to purchase.
3. Equipment Submittals: Include only submittal information for equipment and products being used in Project scope. Consistent manufacturer should be used for similar products (i.e. all dampers from a single manufacturer, all GRDs from a single manufacturer, etc.).
4. Materials Submittals: Include only submittal information for materials being used in Project scope. Identify the system and/or application in which each material is being used. Include a copy of the Rushing associated Materials Matrix highlighting which manufacturers and materials will be used and striking-out which will not be used.

G. The budget/estimate response proposals will identify scope gaps the Contractor perceives and provide breakout pricing to cover these gaps.

H. The MC shall submit final electronic as-built drawings to the General Contractor (GC) for submittal to Owner within agreed upon time frames.

I. O&Ms: Provide hard copy if requested by Owner and electronic copies of O&Ms for all systems within two weeks of substantial completion.

J. The mechanical systems will be designed to include scope of work for full standalone compliance with the Energy Code. This includes the Energy Code mandatory provisions.

K. Codes, Permits, Inspections, and Fees:

1. All work and materials shall be in accordance with requirements of all applicable local and state codes, statutes, standards, and other regulations.
2. The codes shall be construed as establishing a minimum or base level of requirements. Contract Documents shall not be construed to permit or direct work not in conformance with codes, statutes, standards, and other regulations. Where provisions of the various regulations conflict with each other, or with the Contract Documents, the more stringent provisions shall be included in contract pricing. Conflict shall be resolved with the Architect and Authorities Having Jurisdiction (AHJ) prior to completing the design.
3. Where the Contract Documents call for material or construction of a better quality or higher capacity than required by the codes, statutes, standards, and other regulations, the provisions of the Contract Documents shall take precedence over the requirements of the codes and standards.
4. Material and equipment within the scope of the UL Testing Laboratory Service shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark. ETL or CSA shall be allowed if acceptable to the AHJs.
5. Mechanical, Electrical, and Plumbing Subcontractors are to include all permit fees and are responsible for document intake.
6. MC shall call for all inspections by the local AHJs when they become due and shall not cover any work until approved by these authorities.

1.05 MISCELLANEOUS SCOPE ITEMS

A. The MC is to review the Div 21, 22, 26, 27, and 28 narratives and drawings for scope impacts.

1. Rushing has attempted to delineate the scope of work between Contractors. Where there are questions or inconsistencies in scope delineation or scope overlap, please notify Rushing so this can be resolved prior to bid. The GC is responsible for final verification of Contractor scope delineation based on the most cost-effective approach for the Project.

B. The Contractor is to provide complete pricing based on the scope described herein, the architectural drawings, and the other indicated references.

C. Property line and interior acoustical calculations will be by the architectural design team's Acoustical Consultant prior to permit submittal. Acoustical Consultant to provide the requisite analysis to assure the team of acceptable acoustical performance of each system.

D. The Structural Engineer is responsible for all structural design and calculations required for the supporting structure of all mechanical equipment and systems for permit intake.

E. MC shall include structural tie-down calculations for all equipment as required by the IBC and ASCE 7. This is a deferred permit submittal.

F. MC is to provide fire stopping of all through and membrane penetrations as required by the IBC and other applicable codes. Floor penetrations to include fire rated sleeves with either a 2" stand off water dam or a sleeving system with a built-in mid body waterproofing seal with a factory-provided W rating.

G. All ductwork, piping, plumbing, and equipment are to be seismically restrained as required by the IBC.

H. The Contractors will provide phenolic tags identifying each specific piece of equipment. Final tagging is to be approved by the Owner.

I. All piping will be labeled extensively in compliance with accepted industry standards and building standards. Final labeling is to be approved by the Owner.

1.06 COORDINATION

A. Installation will be in full compliance with acoustical specifications. The acoustical specification is to be fully followed regardless of conflicts with statements herein.

B. All duct routing and equipment locations shall be coordinated with full design team.

C. MC shall coordinate a minimum 42" clearance or more in front of mechanical equipment access panels for servicing as required by applicable code, NEC, and the AHJ.

D. Cutting, framing, patching and painting of wall, ceiling, and floor openings shall be by Others.

E. Final painting of grilles, registers, and diffusers, as may be required by Architect, shall be done in the field by Others.

F. Electrical Contractor (EC) shall provide magnetic motor starters for all equipment ¾ HP and greater unless a VFD or electrically commutated motor (ECM) is provided. Provide service and disconnect per code, and do all power wiring, including connecting to equipment. Holding coil circuit shall be powered by EC (120/1 unless indicated otherwise).

G. Access panels are not yet shown. All access panels in walls and/or ceilings are furnished by the MC and installed by Others. MC to coordinate required locations and sizes with the Architect and GC.

H. A fire and/or smoke detection and alarm system, as may be required by the Owner, Architect, or AHJs, is the responsibility of the EC.

I. All conduit, line voltage, and low voltage smoke and fire alarm wiring for interlocks on all fire smoke dampers, exhaust systems, etc. are by the EC.

J. Unit nameplate short circuit current rating (SCCR) to meet or exceed ampere interrupting capacity (AIC) rating of panel served. See electrical drawing fault current schedule for preliminary. All small packaged equipment is to be listed for a minimum of 5,000 AIC. Large equipment to be listed for a minimum of 64,000 AIC unless noted otherwise. Final rating is per EC coordination study.

K. During ensuing design phases, it is the responsibility of the Project Acoustical Consultant to provide the requisite analysis of mechanical systems to assure the team of acceptable acoustical performance of each system. The MC is required to submit all systems information in a timely manner to the Acoustical Consultant as needed to assure designs comply with criteria.

1.07 LEED CERTIFICATION

A. The project is not pursuing LEED or any other green rating system.

PART 2 - PRODUCTS

2.01 HVAC SYSTEMS GENERAL

A. All ductwork is to be constructed and installed to appropriate SMACNA standards.

B. All ductwork is to be insulated per Energy Code requirements.

C. A complete engineered seismic restraint, hanger, and vibration isolation package will be provided by the MC. Fully stamped and engineered packages provided by a single vendor (such as ISAT) is preferred.

D. Refer to the Isolation and Tiedown Matrix for vibration isolation elements and requirements.

E. All air intakes and exhaust outlets are to be located with no less than code minimum required separations from openings, intakes, grade, property lines, etc. Some project specific minimum distance requirements may be greater than code minimum if identified within this document or drawings. Final locations are subject to approval through the shop drawing submittal review process prior to construction.

F. HVAC fan motors are to be selected so that normal operation is not in the motor service factor.

G. Per Energy Code Section C403.8.4, all fractional HP fan motors for fans that are 62 watts or greater shall have electronically commutated motors or shall have a motor efficiency of at least 70% when rated in accordance with Department of Energy (DOE) 10 Code of Federal Regulations (CFR) 431. These motors shall also have the means to adjust the motor speed for either

balancing or remote control. Belt-driven fans may use sheave adjustments for airflow balancing in lieu of varying motor speed.

H. HVAC systems will have air filtration meeting requirements of IMC Section 605.4. Refer to Minimum Efficiency Filter Matrix in the Mechanical Drawings for requirements.

I. HVAC motors shall meet the NEMA premium efficiency standard.

J. All equipment attached to structure with isolators will have flex connections to ductwork. For general purpose indoor applications provide Duro Dyne DDFDC Neoprene flex connectors. For general purpose outdoor applications provide Duro Dyne DDFDC Durolon with Hypalon coating flex connectors.

K. Air Volume Control Dampers:

1. Refer to HVAC and Ductwork Accessories Matrix on Mechanical Drawings for basis of design for manual volume dampers and remote operated balancing dampers.

L. Manual Volume Dampers:

1. Provide single blade dampers for ducts up to 14” tall serving diffusers and grilles.
2. Provide opposed blade dampers for ducts over 14” tall.
3. Provide with oil-impregnated nylon or sintered bronze bearings and locking indicating quadrant regulators with locking mechanism. Manufacturer is Rossi – Twistlock or approved equal. Provide with standoff for wrapped ductwork.

2.02 CONFERENCE ROOM

A. HVAC system approach for the conference room will be with mini-split system outdoor condensing unit and indoor fan coil without economizer.

B. The restroom adjacent to the space will be exhausted by local exhaust fan ducted to perimeter louver. Fan to run on occupancy sensor.

C. The MC and its Vendors will assume refrigerant piping design responsibility. Provide refrigerant piping complete as needed between the wall-mounted fan coil and outdoor condensing unit. Refrigerant piping length assumptions for pricing shall allow for changes within the floor plan as the architectural plan develops.

D. Louver will be provided by the MC. Insulated blank offs behind unused portions of louvers will be provided by the MC.

E. Manual volume dampers will be utilized for balancing in lieu of OBDs. Remotely operated balancing dampers (CODs) will be utilized for all runouts above hard lid ceilings.

F. Each fan coil unit and condensing unit will be started and tested, balanced, and commissioned by the MC per Energy Code Section C408 requirements.

G. Split system to be controlled by remote wall-mounted 7-day programmable thermostat.

2.03 RECONFIGURED OFFICE SPACES AND SUPPORT SPACES

A. Reconfigured Conference Rooms and Offices

1. Relocate existing GRDs or provide new GRDs for space reconfiguration. GRD styles to match existing styles. Coordinate final finishes, colors, and locations with architect.
2. Existing controls to remain.
3. Demolish any GRDs and blank off any ductwork that are in direct conflict with new wall locations.

B. Server Room

1. Provide high efficiency mini-split system with standalone wired thermostat. Low voltage wiring by Controls Contractor. Include a drain pan under the condensing unit. PC to route condensate to nearest drain.
2. The MC and its Vendors will assume refrigerant piping design responsibility. Provide refrigerant piping complete as needed between the horizontal fan coil and outdoor condensing unit. Refrigerant piping length assumptions for pricing shall allow for changes within the floor plan as the architectural plan develops.
3. A condensate pan overflow moisture detector will be provided and wired to disable each fan coil on condensate overflow to satisfy IMC 307.2.3 requirements.
4. Condensate systems will be installed complete to an approved indirect drain connection by the PC for all spaces. Condensate trap depth will be per manufacturer requirements and sized per plumbing code criteria. Horizontal condensate piping shall be insulated copper. Vertical copper condensate requires insulation.
5. Split system to be controlled by remote wall-mounted 7-day programmable thermostat.
6. Performance Requirements: SEER2, HSPF, etc. compliant with Energy Code or as indicated on drawings, whichever is higher, when used in combination with compressors and evaporator coils. Provide 15% better than code where economizer is not included.

C. New Staff Lounge:

1. Kitchen Range Hood:

a. The New Staff Lounge requires a range hood. Duct to perimeter with 8” exhaust duct. Per IMC Table 507.1.2, Community Rooms with ranges used for boiling, steaming, and warming may utilize residential range hoods. Output of cooking equipment not to exceed 6 kW. Type I exhaust systems not required.
b. The kitchen range hood is provided by Others. The Architect will specify the hood as part of the appliance package. The MC will provide a duct system that delivers manufacturer-specified minimum CFM.
c. Ductwork to the perimeter and connection to the range hood is by the MC.
d. Operational exhaust rate and CFM requirements for the range hood will be per IMC Tables 403.4.7 and Table 403.4.7.3.

1) Intermittent exhaust requires:

a) Minimum 65% capture efficiency or minimum 160 CFM for a range hood over an electric range

e. Per IMC 403.4.7.2.4 range exhaust hoods are limited to maximum sound rating of 3 sones at airflow settings not less than 100 CFM and at intended static pressure per HVI 916 Section 7.2.
f. Range exhaust airflow will be tested and verified in accordance with IMC Section 403.4.7.3.1.

2. Provide louvered opening at bottom of door for makeup air pathway.
3. Exhaust louver will be provided by the MC. Insulated blank offs behind unused portions of louvers will be provided by the MC.

2.04 CONTROLS

A. Each HVAC system will be provided with standalone controls. There will be no BMS or DDC controls for the building.

PART 3 - EXECUTION

3.01 PREPARATION AND INSTALLATION

A. All work contracted for must be accepted by all applicable inspectors including site Superintendent, GC quality control personnel, Owner's Representative, or their assignees.

B. As-builts: Provide Owner with electronic as-built drawings within two weeks of substantial completion. As-builts will reflect all changes from the construction drawing set and will comply with Energy Code project completion requirements.

C. O&Ms: Provide hard copy and electronic copies of O&Ms for all systems within two weeks of substantial completion.

3.02 TESTING AND INSPECTION

A. All testing, balancing, startup and commissioning is by the MC. All air systems including all heat pumps, range hoods, etc. will have airflow measurement and balancing conducted by the MC.

B. All commissioning will be in compliance with the methodologies and practices outlined in Energy Code Section C408.

C. A 3rd party commissioning agent (CxA) will execute Commissioning of the MEP systems in accordance with Energy Code Section C408. These requirements apply to all systems.

D. The members of the commissioning team consist of the Commissioning Authority (CxA), the Owner's Representative (OR), the designated representative of the Owner's Construction Management firm (CM) (if applicable), the GC, the Architect and Engineer of Record, the MC, the EC, the Testing and Balancing (TAB) representative, and any other installing Subcontractors or Suppliers of equipment. Project Superintendent and Subcontractors, Installers, Suppliers, and

Specialists deemed appropriate by the CxA or others. If known, the Owner's building or plant Operator/Engineer is also a member of the Commissioning Team.

E. The CxA may assist with problem-solving deficiencies, but ultimately that responsibility resides with the A/E, GC, and the Subcontractors. The primary role of the CxA is in regards to Divisions 22, 23, and 26 and is to develop and coordinate the execution of a testing plan, observe and document performance—that systems are functioning in accordance with the documented design intent and in accordance with the Contract Documents.

F. The MC will fully participate in the commissioning process as follows:

1. The MC will participate in all commissioning meetings.
2. MC will verify that coordination, installation, quality control, and final testing have been completed such that installed systems and equipment comply with Construction Documents.
3. The MC will execute and document complete calibration of sensors and actuators and point-to-point testing of control systems.
4. Provide preliminary and final TAB reports indicating all actual field values recorded to the Commissioning Authority prior to initiation of functional testing. TAB will not be complete until the TAB report is accepted by the A/E/Ownership team.
5. Provide Commissioning Authority with controls system wiring diagrams and narrative sequences of operation in time for use in preparing the functional test procedures.
6. Generate and provide blank pre-functional tests and checklists for review by CxA. Incorporate changes recommended by the CxA.
7. MC is to execute pre-functional performance testing (FPTs) in an effort to eliminate deficiencies prior to final testing and witness witnessing stage and inform CxA that the system(s) are ready for witness testing.
8. Execute final FPTs to be witnessed and documented by the CxA.

G. The Contractor will be expected to fully execute the Cx process.

H. Owner training will be provided by the installing Contractor.

END OF SECTION

DIVISION 26 – ELECTRICAL SYSTEMS NARRATIVE

PART 1 - GENERAL

1.01 INTRODUCTION

A. The purpose of this section is to define the design approach upon which the contractor is to base a budget/estimate and establish the design criteria, and design submittals, which will be required in the preparation and execution of the design.

B. All work under this section shall comply with the requirements of General Conditions, Supplemental Conditions, Special Conditions, and Division 01 – General Requirements, and shall include all mechanical sections specified herein.

C. This section includes a general narrative description of Division 26 systems with specific equipment and component criteria that are to be included in the project. Reference all other specification sections, floor plans, drawing notes, drawing equipment schedules, and drawing matrices for additional equipment and project criteria.

D. Design shall comply with rules and regulations of the following:

1. National Fire Protection Association (NFPA)
2. 2023 National Electrical Code, with local jurisdictional amendments.
3. Washington State Electrical Code, WAC 296-46B.
4. National Electrical Manufacturers Association (NEMA)

E. Codes, Permits, Inspections, and Fees:

1. All work and materials shall be in accordance with requirements of all applicable local and state codes, statues, standards and other regulations.
2. The codes shall be construed as establishing a minimum or base level of requirements. Contract Documents shall not be construed to permit or direct work not in conformance with codes, statues, standards and other regulations. Where provisions of the various regulations conflict with each other, or with the Contract Documents, the more stringent provisions shall be included in contract pricing. Conflict shall be resolved with the Architect and Authorities Having Jurisdiction (AHJ) prior to completing the design.
3. Where the Contract Documents call for material or construction of a better quality or higher capacity than required by the codes, statues, standards, and other regulations, the

provisions of the Contract Documents shall take precedence over the requirements of the codes and standards.

4. Material and equipment within the scope of the UL Testing Laboratory Service shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark. ETL or CSA shall be allowed if acceptable to the Authorities Having Jurisdiction (AHJs).
5. EC shall call for all inspections by the local code authorities when they become due and shall not cover any work until approved by these authorities.

1.02 GENERAL ELECTRICAL PROVISIONS

A. Definitions:

1. Electrical Contractor – This term as used in the Contract Documents shall be considered as synonymous with Electrical Contractor, or the Contractor where in reference to providing, furnishing, and/or installing electrical equipment or systems.
2. Low Voltage Contractor- This term may be used in the Contract documents to refer to the low voltage systems integrator for telecommunications, security systems or Fire Alarm.
3. Complete System: The Contract Documents do not attempt to address all materials, devices, equipment, and work that shall be required for completion of the electrical systems. All materials, devices, equipment, and work not addressed in the Contract Documents shall be provided by the Contractor to provide complete and functional systems, shall meet the applicable industry standards, and shall be equal or better than that normally provided for similar buildings in the same geographical area.
4. The Electrical/ Low Voltage Contractor is responsible for providing the finished electrical work, tested, and ready for normal operation.
5. Unless otherwise noted, all materials shall be new. Electrical Contractor shall properly store all materials and equipment in order to protect materials from physical damage or damage due to the elements or corrosion.
6. Materials shall be provided, installed, and/or used in conformance with the manufacturer's recommendations. If manufacturer's recommendations are not in conformance with the intent of the Contract Documents, obtain clarification from the Architect and Engineer prior to proceeding.
7. Coordination: Check drawings of other trades to verify spaces in which work shall be installed. Establish exact locations of piping and ducts in such a manner as to conform to structure, avoid obstructions, and keep openings and passageways clear. Lines that must pitch or that must have a constant elevation, shall have the right-of-way over lines not so restricted. Maintain maximum headroom. If space conditions appear inadequate, notify

the Architect before proceeding with the work. Make reasonable modifications in the work without extra cost as needed to prevent conflict with work of other trades and for proper execution of the work.

8. For installation of equipment furnished by Others, that requires electrical connection, Electrical Contractor shall obtain rough-in dimensions from approved shop drawings, by measurement from the actual equipment to be installed, or as otherwise directed by the Architect. Provide all electrical services to and within equipment in a manner that maintains accessibility, operation, as well as maintenance and repair options.
9. Contractor shall ensure adequate equipment space and required clearances based on actual equipment selected for installation. Any modifications required to accommodate electrical equipment selected shall be at the Contractor's expense.
10. Drawings and Narratives shall be considered as a single entity, identified as the Contract Documents. Consider work indicated in one as required by both.

B. Codes, Permits, Inspections, and Fees:

1. The Electrical / Low Voltage Contractor shall obtain all permits and inspections and pay all fees required by State and Local authorities, except as noted.
2. All work and materials shall be in accordance with requirements of all applicable local and state codes, statues, standards and other regulations. Date of regulations shall be as adopted by local authorities at the time of permit intake, unless indicated otherwise.
3. The codes shall be construed as establishing a minimum or base level of requirements. Contract Documents shall not be construed to permit or direct work not in conformance with codes, statues, standards and other regulations. Where provisions of the various regulations conflict with each other, or with the Contract Documents, the more stringent provisions shall be included in contract pricing. Conflict shall be resolved with the Architect and Authorities Having Jurisdiction (AHJ) prior to completing the design.
4. Where the Contract Documents call for material or construction of a better quality or higher capacity than required by the codes, statues, standards, and other regulations, the provisions of the Contract Documents shall take precedence over the requirements of the codes and standards.
5. Material and equipment within the scope of the UL Testing Laboratory Service shall be listed by the Underwriters Laboratories for the purpose for which they are used and shall bear their listing mark. ETL or CSA shall be allowed if acceptable to the Authorities Having Jurisdiction (AHJs).
6. Electrical Contractor shall call for all inspections by the local code authorities when they become due and shall not cover any work until approved by these authorities.

C. Construction Coordination Drawings

1. It shall be the Contractor's responsibility to work out and coordinate all conflicts and to provide all transitions and offsets required to facilitate installation of work. Provide construction coordination drawings for congested areas requiring close coordination with other trades and the general construction. Electrical work that is fully coordinated and that can be installed generally per the contract documents will not require coordination drawings. Failure to provide coordination drawings, when needed, shall be considered nonperformance, and progress payments will be suspended until the drawings are reviewed and accepted by the Architect/Owner.
2. The construction coordination drawings shall show all related trades, structure, and ceiling, walls, and partitions. Provide cross sections of all congested areas.
3. The final as-built drawings shall be submitted at the completion of the project for record purposes in hard copy as well as AutoCAD electronic files.

D. Submittals and Trade Coordination

1. The Low Voltage Contractor shall coordinate their shop drawings with other trades prior to shop drawing approval and construction.
2. No cutting or drilling of joists or beams will occur without Structural Engineer approval.
3. Architectural drawings shall be checked for ceiling heights, walls, and cabinets that are intended to conceal work of this section. Where conflicts occur, the Architect shall be notified prior to rough-in or installation of the work. Location of exposed work such as diffusers, grilles, and piping outlets shall take precedence over concealed work.
4. Submittals: Mark submittal literature and show drawings clearly, and include all equipment and material shown on drawings and specified. Indicate the following:

    a. Index, followed by specification reference and/or drawing reference for which literature is submitted for review.
    b. Manufacturer's name and address, and supplier's name, address and phone number.
    c. Catalog designation or model number.
    d. Rough-in data and dimensions and cut sheets clearly identifying the specific model and options.
    e. Installation as well as operation and maintenance manuals with specific model and features applicable to this installation identified.
    f. Warranties.
    g. Spare parts lists as recommended by manufacturer for equipment.
    h. Factory certifications.
    i. Troubleshooting guides.

j. Complete customized listing of characteristics, equipment, accessories, etc., specified.

k. Indicate whether item is “As Specified” or “Proposed Substitution”. Indicate any deviations on submittal. Indicate any deviations on submittal. Mark out all non-applicable items and/or clearly identify applicable items. The terminology “As Specified” used without clearly identifying applicable items is not acceptable. Show exactly what will be provided and include options or deletions.

l. Contractor agrees that Shop Drawings Submittals processed by the architect are not Change Orders, that the purpose of Shop Drawing Submittals by the Contractor is to demonstrate to the Architect that the Contractor understands the design concept and demonstrate its understanding by indicating which equipment and material it intends to furnish and install and by detailing the fabrication and installation methods it intends to use.

m. Contractor further agrees that if deviations, discrepancies, or conflicts between Shop Drawings and Specifications are discovered either prior to or after Shop Drawing Submittals are processed by the Architect, the Design Drawings and Specifications shall control and shall be followed.

n. Shop drawings shall be provided for all voice/data and power work, including detailed layout drawings of all devices and raceways.

o. Warranty period to extend for one year from date the project is occupied by the Owner, not from the date of completion of the work. Warranty not applicable to defective items due to faulty work of subsequent trades.

p. As-builts: Contractor shall maintain up to date as-built drawings showing all construction installation with any/all design changes. Drawings shall be maintained in the project office for inspection by the Architect/Owner at any time. Provide Owner with reproducible and electronic (AutoCAD and PDF files) as-built drawings within 4 weeks of substantial completion.

q. Provide manufacturers product, installation and warranty information for all products supplied with signed contract documents per an agreed upon schedule at the time of contract award. This is of particular importance for GC to forward appropriate information to Subcontractors to facilitate coordinated installation of his products.

PART 2 - SYSTEMS

2.01 GROUNDING:

A. Provide a complete National Electrical Code (NEC) grounding system, including UFER ground. Ground conductors shall be sized in accordance with the (NEC).

B. Ground conductors shall be provided for all feeders and branch circuits, except for lighting branch circuits. Conduit or raceway shall not be sole means for equipment grounding.

C. Ground the generator as a separately derived service.

2.02 EQUIPMENT CONNECTIONS:

A. Provide the following equipment connections as listed, but not limited to:

1. HVAC equipment.
2. Plumbing equipment.
3. Circuit Loading: Each 20-amp circuit shall not be loaded to more than 80% or 16A for a 120V circuit, unless circuit feeds a single piece of equipment. Circuit load shall be calculated in compliance with the following:

    a. Lighting: The volt-ampere rating of each fixture connected, in accordance with the NEC.
    b. Convenience Receptacles: 180 VA per duplex receptacle.
    c. Dedicated Receptacle: Nameplate rating of equipment connected.
    d. Motors and all hard-wired equipment: Nameplate rating of equipment connected.

4. Provide all interconnect wiring between controls, equipment, and major mechanical and electrical equipment, except where identified “By Owner”.
5. Provide all disconnects for mechanical, plumbing, and electrical equipment in accordance with the NEC.
6. Label all receptacles, equipment hard wire connections, and power junction boxes with the appropriate panel name and circuit number.

2.03 RACEWAYS AND BOXES

A. Application of Raceways:

1. Outdoors: Apply raceway products as specified below, unless otherwise indicated:

    a. Exposed Conduit: Rigid steel conduit or IMC.
    b. Concealed Conduit, Aboveground: Rigid steel conduit, IMC or EMT depending on trade size.
    c. Underground Conduit: Schedule 40 PVC or as required by AHJ/SCL, direct buried,
    d. Connection to Vibrating Equipment including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment: LFMC.
    e. Boxes and Enclosures, Aboveground: NEMA 250, Type 3R

2. Comply with the following indoor applications, unless otherwise indicated:

    a. Exposed, Not Subject to Physical Damage: EMT.
    b. Exposed and Subject to Severe Physical Damage: Rigid steel conduit or IMC. Includes raceways in the following locations:

        1) Loading dock.
        2) Corridors used for traffic of carts, forklifts, and pallet-handling units.
        3) Mechanical rooms.

    c. Concealed in Ceilings and Interior Walls and Partitions: EMT.
    d. Connection to Vibrating Equipment (Including Transformers and Hydraulic, Pneumatic, Electric Solenoid, or Motor-Driven Equipment): FMC, except use LFMC in damp or wet locations.
    e. Damp or Wet Locations: Rigid steel conduit or IMC.
    f. Raceways for Optical Fiber or Communications Cable in Spaces Used for Environmental Air: Plenum-type, optical fiber/communications cable raceway or EMT.
    g. Raceways for Optical Fiber or Communications Cable Risers in Vertical Shafts: Riser-type, optical fiber/communications cable raceway or EMT.
    h. Raceways for Concealed General-Purpose Distribution of Optical Fiber or Communications Cable: General-use, optical fiber/communications cable raceway, Riser-type, optical fiber/communications cable raceway, Plenum-type, optical fiber/communications cable raceway or EMT.
    i. Boxes and Enclosures: NEMA 250, Type 1, except use NEMA 250, Type 4, stainless steel or nonmetallic in damp or wet locations.

3. Minimum Raceway Size: 1/2-inch trade size (except as included with MC cable).
4. Raceway Fittings: Compatible with raceways and suitable for use and location.

a. Rigid and Intermediate Steel Conduit: Use threaded rigid steel conduit fittings, unless otherwise indicated.
b. PVC Externally Coated, Rigid Steel Conduits: Use only fittings listed for use with that material. Patch and seal all joints, nicks, and scrapes in PVC coating after installing conduits and fittings. Use sealant recommended by fitting manufacturer.

2.04 WIRE AND CABLES:

A. General: All cable should be concealed in slab, ceiling space, floor space or within walls, except in mechanical and/or electrical spaces.

B.

C. Wire: Branch: All branch wire shall be copper. Feeder wiring shall be copper or alloyed aluminum as shown in the feeder schedule.

1. Conductor sizes shall be based on terminations rated for 75 degrees. Contractor shall upsize wire as required, for any equipment provided with 60-degree terminations.

D. Applications:

1. Use type THW or THWN for damp or wet locations, THHN for dry locations.
2. Minimum size: 12 AWG for power, 14 AWG for data/comm., 18 AWG for controls.
3. Solid or stranded conductor size 12 and smaller, stranded conductor for sizes larger than 12 AWG.

E. Feeders:

1. Size feeders to provide a minimum 10% spare capacity over the calculated demand load.
2. All feeders serving panelboards shall have a 100% rated neutral.

F. Grounding:

1. All feeders and branch circuits shall have a separate grounding electrode conductor, sized in accordance with NEC. Use of conduit as the grounding means is not acceptable.

2.05 LIGHTING SYSTEMS:

A. Scope of New Work:

1. Provide new lighting and controls in designated areas as indicated in the lighting design sheets. New lighting shall comply with the city codes referenced in Narrative.

PART 3 - EXECUTION

3.01 PREPARATION & INSTALLATION

A. All work contracted for must be accepted by all applicable inspectors including site superintendent, GC quality control personnel, owner's representative (rushing) or their assigns.

B. As-builts: provide owner with electronic as-built drawings within two weeks of substantial completion. As-builts will reflect all changes from the construction drawing set and will comply with 2021 Washington State Energy Code project completion requirements.

C. O&Ms: provide hard copy and electronic copies of O&Ms for all systems within two weeks of substantial completion.

3.02 TESTING & INSPECTION

A. Test the entire electrical installation to ensure compliance with the Contract Documents.

B. All inspections and tests shall be in accordance with the following applicable codes and standards except as provided otherwise herein.

1. American Society for Testing and Materials – ASTM
2. InterNational Electrical Testing Association – NETA
3. National Fire Protection Association – NFPA
4. State and *Local* Codes and Ordinances.

a. The EC is responsible for all test, balance, and startup of electrical systems.
b. The EC is responsible for coordination study and arc-flash studies.

c. The EC will create functional witness tests for the electrical systems for review by the CxA. The contractor will incorporate the review comments. The EC will execute all pre-functional testing to assure system readiness for final functional testing.
d. Installing contractors will document deficiencies and provide equipment, materials, and labor necessary to correct deficiencies found during the commissioning process to fulfill contract and warranty requirements.
e. The Contractor shall be responsible for implementing all final settings and adjustments of protective devices and electrical equipment in accordance with Manufacturer recommended or Engineer's specified values.
f. Any system material or workmanship which is found defective on the basis of electrical tests shall be reported directly to the Engineer, and shall be corrected by the Contractor at no additional cost to the Owner.
g. The Contractor shall maintain a written record of all tests and upon completion of the project. Assemble and certify a final test report. The test report shall include:

5. Summary of the Project
6. Description of the equipment tested
7. Description of tests performed on each equipment or system
8. Test results
9. All conclusions and recommendations
10. An appendix including appropriate test forms
11. List of *test* equipment used and calibration date

a. Owner training will be provided by the EC.
b. The contractor will be expected to fully comply with the observation process and no change orders will be accepted for the contractor’s participation.
c. The contractor will provide Section 1416 mandated documentation at the appropriate stages of planning, testing, and project closeout.
d. Owner training will be provided by the installing contractor.

END OF SECTION

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

FEATURES & SPECIFICATIONS

INTENDED USE — Available in 2X2, 2X4, and 1X4 configurations, STACK Switch provides both functionality and efficiency. Selectable lumens allows for a variety of mounting heights and switchable color temperature allow you to fine tune the look of your space. The wide center basked and curved matte reflector allow STACK Switch to deliver a high quality of light while maintaining optimal performance.

- **Lumen and color switching make the STACK switch a distributors dream! Go from stocking 108 configurations to just Twelve!**
- 0-10V dimming to 10%
- Long-life LEDs deliver 80% lumen maintenance at 60,000 hours

The STACK Switch troffer delivers glare-free, ambient lighting in a popular center-basket design. The slim profile of the luminaire, coupled with energy-saving LED technology make the STACK Switch an ideal choice for renovation or new construction. The STACK Switch troffer offers a high-quality, cost-effective LED lighting solution for schools, offices, retail, healthcare facilities and other commercial spaces.

CONSTRUCTION — The reflector is finished with a glare reducing matte white paint for improved aesthetics and increased light diffusion. End plates contain easy-to-position integral T-bar clips to securely attach the luminaire to the T-grid. Diffusers are extruded from impact modified acrylic for increased durability. LED boards are accessible from the room-side and drivers are accessible from the plenum.

INSTALLATION — With a depth of only 1.9" for standard models and XX" for CP/EM models, the STACK Switch makes for an easy installation, especially in restrictive plenum applications. The STACK Switch fits into standard 15/16" and narrow 9/16" T-grid ceiling systems. Suitable for damp location.

ELECTRICAL — Long-life LED's, coupled with high-efficiency drivers provide superior quality of light and an extended service life. 80% LED lumen maintenance at 60,000 hours (L80/60,000). 0-10 volt dimming driver, dims to 10%.

Lumen and Color Switching: Integrated lumen and color switching module is easily accessible and mounted on the driver box on the back of the fixture. Simply adjust the toggle switch for low, medium, and high lumen and color settings.

OPTICS — Volumetric illumination is achieved by creating an optimal mix of light to walls, partitions and vertical and horizontal work surfaces – rendering the interior space, objects and occupants in a more balanced, complimentary luminous environment. A high performance acrylic diffuser conceals LED's and efficiently delivers light in a volumetric distribution.

LISTINGS — CSA certified to meet US and Canadian standards. Damp location listed. IC rated. DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

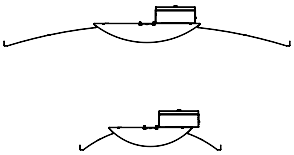
LED Center Element Lay-In

STACK SWITCH

Specifications

Length 1X4: 47-3/4 (121.3)
Width 1X4: 11-3/4
Length 2X2: 23-3/4 (60.3)
Width 2X2: 23-3/4 (60.3)
Length 2X4: 47-3/4 (121.3)
Width 2X4: 23-3/4 (60.3)
Depth 1X4, 2X2, 2X4: 1.9 (4.8)
Depth 1X4, 2x2, 2x4 CP: 3-3/8 (8.57)
Depth 1X4, 2x2, 2x4 EM: 3-5/8 (9.2)

All dimensions are inches (centimeters) unless otherwise specified.



Switchable Lumens

ORDERING INFORMATION

Lead times will vary depending on options selected. Consult with your sales representative.

Example: STAKS 2X4 ALO6 SWW7 IE10WCP

Series		Size & Lumens		Switchable		Options	
STAKS	STAK Switchable	1X4 ALO6	Switchable Lumens - 4000LM, 5000LM, and 6000LM	SWW7	Switchable CCT - 35K, 40K, 50K	(BLANK)	No Option *
		2X2 ALO3	Switchable Lumens - 3000LM, 4000LM, and 5000LM			CP	Chicago Plenum Rated *
		2X4 ALO6	Switchable Lumens - 4000LM, 5000LM, and 6000LM			IE10WCP	IE10WCP 10W Emergency backup, 10W *
						UVOLT	120-347 *

* Only one option may be selected, multiple options can not be combined

Luminaire Type: **L1**

RUSHING now IMEG

Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

1725 Westlake Ave N • Suite 300 • Seattle, WA 98109 • P. 206.285.7100 • www.imegcorp.com

STACK SWITCH LED Center Element Lay-In

ACCESSORIES

Accessories: *Order as separate catalog number.*

DGA14	Drywall grid adapter for 1x4 recessed fixture.
DGA22	Drywall grid adapter for 2x2 recessed fixture.
DGA24	Drywall grid adapter for 2x4 recessed fixture.
1X4SMKSHP PAF	Multi-Use Surface Mount Kit 1X4 Post-Paint
2X2SMKSHP PAF	Multi-Use Surface Mount Kit 2X2 Post-Paint
2X4SMKSHP PAF	Multi-Use Surface Mount Kit 2X4 Post-Paint
ILB CP10 A	LED emergency battery pack, 10W 50VDC (Noncompliant with CA T20)
ILBLP CP10 HE SD A	LED emergency battery pack, 10W Constant Power, Self-Diagnostic, Certified in CA Title 20 MAEDBS
ELA PSRME IC	Remote enclosure for battery for insulated ceiling
*27005E RK8BDP 2P J40	Disconnect Plug (BDP) package of 40
*270055 RK8BDP 2P J10	Disconnect Plug (BDP) Package of 10
*270052 RK8BDP 2P U	Disconnect Plug (BDP) Unit Pack

STACK Switch
WSXA D and SPODMA D wall switches.

WSXA D

SPODMA D

PERFORMANCE DATA

SWITCHABLE TABLE *When adding an EM Battery Option, input wattage is increased by 2-4 Watts

Size	Nomenclature	Lumen Package	CCT	Lumens	Wattage	Efficacy
1X4	STAKS 1X4 AL06 SWW7	Low Lumens	35K	4212	31.18	135
			40K	4369	30.32	144
			50K	4251	31.26	136
		Medium Lumens	35K	5205	39.92	130
			40K	5413	38.54	140
			50K	5229	39.85	131
		High Lumens	35K	6034	48.15	125
			40K	6328	46.22	137
			50K	6077	48.57	125
2X2	STAKS 2X2 AL03 SWW7	Low Lumens	35K	3561	26.92	132
			40K	3683	26.18	141
			50K	3583	27.01	133
		Medium Lumens	35K	4371	34.23	128
			40K	4563	33.13	138
			50K	4375	34.22	128
		High Lumens	35K	5035	40.92	123
			40K	5297	39.41	134
			50K	5053	40.99	123
2X4	STAKS 2X4 AL06 SWW7	Low Lumens	35K	4325	31.5	137
			40K	4470	30.61	146
			50K	4369	31.6	138
		Medium Lumens	35K	5310	40.09	132
			40K	5517	38.71	143
			50K	5357	40.26	133
		High Lumens	35K	6170	48.51	127
			40K	6492	46.6	139
			50K	6228	48.39	129

Emergency Battery Delivered Lumens

Total delivered lumens will differ when in emergency power, this can be calculated by using the following formula

Delivered Lumens = 1.25 x 10 x LPW

Lumens Per Watt (LPW) is calculated by Lumens / Wattage.

Luminaire Type: **L1**

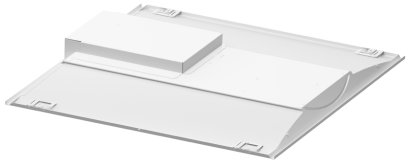
RUSHING now IMEG

Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

PHOTOMETRICS

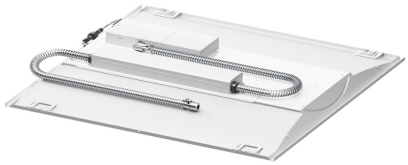
See STACK - Low-Profile Recessed LED Luminaire (acuitybrands.com) for photometry reports.

Standard STAKS Switch Box



Chicago Plenum Option

Chicago Plenum Wiring Access



Emergency Option

Chicago Plenum Cover Opening

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LED Strip Light

CSS

FEATURES & SPECIFICATIONS

INTENDED USE — Available in several color temperatures, lumen packages and lengths. Ideal for use in commercial, retail, office, warehouse and display applications. **Certain airborne contaminants can diminish integrity of acrylic and/or polycarbonate.** Click here for Acrylic-Polycarbonate Compatibility table for suitable uses.

Certain airborne contaminants may adversely affect the functioning of LEDs and other electronic components, depending on various factors such as concentrations of the contaminants, ventilation, and temperature at the end-user location. Click here for a list of substances that may not be suitable for interaction with LEDs and other electronic components.

CONSTRUCTION — Compact-design channel and cover are formed from code compliant, 22 gauge cold-rolled steel.

SENSOR SWITCH JUST ONE TOUCH TECHNOLOGY — Single room control wireless technology available for easy install and commissioning to aid in code compliance. The JOT option enables the fixture with Just One Touch pairing capability. The JOTVTX15 option features a luminaire-embedded occupancy and ambient light sensor allows the luminaire to power off when the space is unoccupied or when enough ambient light is entering the space.

SENSOR SWITCH VISIBLE LIGHT PROGRAMMING TECHNOLOGY — Standalone sensor programming via VLP mobile app and smart device's camera flash from up to 8ft away.

FINISH — High-gloss, baked white enamel (standard).

OPTICS — LEDs provide 80+ color rendering index (CRI) at 3500K, 4000K and 5000K. Diffuse acrylic lens with ultra-sonically welded end caps provides smooth, linear illumination.

ELECTRICAL — Luminaire Surge Protection Level: Designed to withstand up to 2.5kV/0.75kA per ANSI C82.77-5-2015. For applications requiring higher level of protection additional surge protection must be provided.

Driver is standard 0-10V dimming class 2.

Optional internal pluggable wiring harness for reduced labor cost in row mounting applications. (See PLR_ ordering information on page 5.)

INSTALLATION — Fixture may be surface mounted to a ceiling or horizontal and vertical wall or suspension mounted with appropriate mounting options (see accessories). Easy to install row aligner bracket included for continuous row mounting.

LISTINGS — CSA certified to US and Canadian safety standards and listed suitable for damp locations. Minimum starting temperature of -22°F (-30°C). Maximum ambient operating temperature of 104°F (40°C) for 4ft models and 95°F (35°C) for 2ft & 8ft models. See notes for controls temperature restrictions.

DesignLights Consortium® (DLC) Premium qualified product and DLC qualified product. Not all versions of this product may be DLC Premium qualified or DLC qualified. Please check the DLC Qualified Products List at www.designlights.org/QPL to confirm which versions are qualified.

Suitable for use within closet spaces when installed per NEC 410.16 (A)(1) and 410.16(C)(3)(5) spacing requirements.

BUY AMERICAN ACT — Product with the BAA option is assembled in the USA and meets the Buy America(n) government procurement requirements under FAR, DFARS and DOT regulations. Please refer to www.acuitybrands.com/buy-american for additional information.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

A+ Capable Luminaire

This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning.

- All configurations of this luminaire meet the Acuity Brands' specification for chromatic consistency
- This luminaire is part of an A+ Certified solution for nLight® or XPoint™ Wireless control networks marked by a shaded background*

To learn more about A+, visit www.acuitybrands.com/aplus.

*See ordering tree for details

CSS LED Strip Light

Looking for Contractor Select readily available configurations? Click here to visit Contractor Select™ spec sheet or go to www.contractorselect.com

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative. **Example:** CSS L96 ALO4 MVOLT SWW3 80CRI

Series	Nominal Length	Lumen Output	Voltage	Color temperature	Color rendering index
CSS Contractor Single Strip LED	L24 ‡ 22"	2000LM 2000 Lumens ‡ ALO15 Switchable lumens, 1500LM / 2000LM / 2500LM	MVOLT 120-277V UVOLT 120-347V ‡	35K 3500K ‡ 40K 4000K ‡ 50K 5000K ‡ SWW3 Switchable white, 35K / 40K / 50K	80CRI 80 CRI
	L48 48"	4000LM 4000 Lumens ‡ ALO3 Switchable lumens, 3000LM / 4000LM / 5000LM			
	L96 96"	8000LM 8000 Lumens ‡ ALO4 Switchable lumens, 6000LM / 8000LM / 10000LM			

Options

Emergency Battery: ‡
- IE7WCP Emergency battery pack, 7W, CA Title 20 Noncompliant
- IE10WCPHE Emergency battery pack, 10W, Certified in CA Title 20 MAEDBS

Plug-in Wiring: ‡
- PLR__ Plug-in wiring, see page 5 for ordering information
- PLR1LVG Plug-in wiring, low voltage dimming

JOT Enabled Wireless Controls: ‡
- JOT Wireless room control with "Just One Touch" pairing
- JOTVTX15 Wireless occupancy sensor with "Just One Touch" pairing

VLP Enabled Controls: ‡
- VTX15FADC Vertex sensor with Visible Light Programming; On/Off Occupancy with Auto Dimming Photocell (default)
- VTX15FANL Vertex sensor with Visible Light Programming; High/Low/(Off) Occupancy Dimming with Auto Dimming Photocell (default)

Individual Controls:
- SFR7CSS120/277 120/277V Factory installed On/Off motion sensor, 360° small motion ‡
- SFR7CSS347 347V Factory installed On/Off motion sensor, 360° small motion ‡

NOTE: ‡ indicates option chosen has ordering restrictions. Please reference ordering restrictions chart.

Switchable White & Adjustable Lumen Output – BAA Compliant:

CSS L48 ALO3 MVOLT SWW3 80CRI BAA
CSS L96 ALO4 MVOLT SWW3 80CRI BAA
CSS L96 ALO4 MVOLT SWW3 80CRI SFR7CSS120/277 BAA
CSS L48 ALO3 MVOLT SWW3 80CRI IE7WCP BAA
CSS L48 ALO3 MVOLT SWW3 80CRI IE10WCPHE BAA
CSS L96 ALO4 MVOLT SWW3 80CRI IE10WCPHE BAA
CSS L48 ALO3 MVOLT SWW3 80CRI IE10WCPHE SFR7CSS120/277 BAA
CSS L96 ALO4 MVOLT SWW3 80CRI IE10WCPHE SFR7CSS120/277 BAA

Accessories: *Order as separate catalog number.*

HC36 M12	Hanger chain, 36" (1 pair)
ZACVH M100	Adjustable 10' aircraft cable with Y hanger (1 pair)
SQ_	Swivel stem hanger (specify length in 2" increments up to 48")
rPP20D	nLight® air dimming/switching module
SFR7CSS120/277	120/277V field installed On/Off motion sensor, 360° small motion ‡
SFR7CSS347	347V field installed On/Off motion sensor, 360° small motion ‡
Y J10	Y hanger in multiples of 10 (five pair)
WGCSS	Wire Guard with Mounting hardware (one 4ft) ‡
MNLK JBOXCVR M12	Junction box cover and hardware, white

‡ Option Value Ordering Restrictions

Option value	Restriction
L24	Not available with IE7WCP, IE10WCPHE, JOT, JOTVTX15, VTX15FADC, VTX15FANL, WG.
35K, 40K, 50K	Not available with ALO lumen packages.
2000LM, 4000LM, 8000LM	Not available with SWW3.
Emergency Battery	Not available with PLR
JOT Enabled Controls	Not available with ALO3, ALO4, UVOLT or SWW3. Minimum starting temp of 14°F (-10°C). Maximum operating temp of L48 at 95°F (35°C) & L96 at 86°F (30°C). Controls contained in endcap.
VLP Enabled Sensors	Not available with ALO15, ALO3, ALO4, UVOLT or SWW3. See page 5 for default programming and coverage pattern information. Sensors contained in endcap.
SFR Sensors	Can only be mounted at the end of continuous row mount applications. On/off function only. Minimum starting temp of 14°F (-10°C). Ensure correct sensor voltage selected for use with UVOLT fixtures based on application. See page 7 for coverage pattern.
SFR7CSS120/277	Sensor operates at ONLY 120V or 277V. Can NOT be used for 208V or 240V operation.
SFR7CSS347	Sensor operates at 347V ONLY. Not available with MVOLT (120-277V).
Wire Guard	Does not cover SFR controls. Not recommended for use with endcap integrated JOT or VLP enabled controls due to potential detection obstruction.
PLR___ & PLR1LVG	Not available with Emergency or Controls. L24 only available with PLR1LVG.
UVOLT	Not available with Emergency, JOT or VTX.
ILBHI CP10 HE SD A	High voltage emergency driver (347-480V). For use with UVOLT fixtures ONLY at 347V operation.

Luminaire Type: **L2**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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Emergency Battery Pack Options - Field Installable

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter / 2 Hour Runtime
ILB CP10 A	10W	90	1200	
ILBLP CP10 HE SD A	10W	90	1200	Title 20, Self Diagnostic
ILB CP10 HE AELR A	10W	90	1200	Title 20; Enabled with Self Testing, Automated Reporting (STAR)
ILBHI CP10 HE SD A	10W	90	1200	347-480V operation, Self Diagnostic
ILBLP CP15 HE SD A	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic

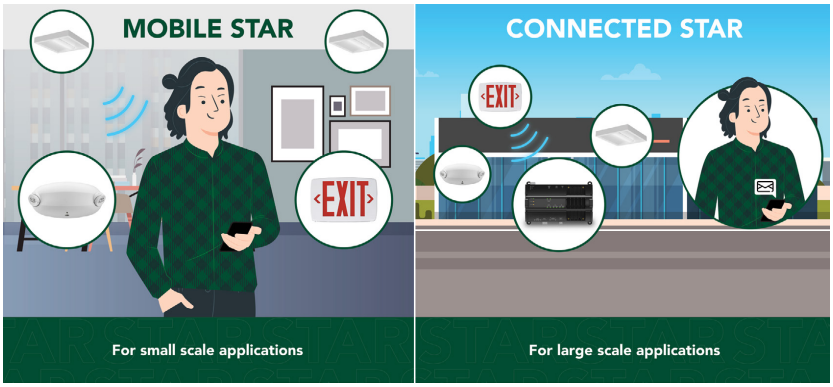
All the above are UL Listed products that are certified for field install external/remote to the fixture.
*Minimum delivered lumen output to assist in product selection for increased fixture mounting height.
The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.
Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

Enabled with STAR

Emergency Lighting with Self-Testing Automated Reporting (STAR), enables self-testing and automated reporting to aid in life safety code compliance. Build your solution and choose your preferred deployment from Mobile STAR, where test data is logged in each individual unit and broadcast to the ClAIRity™+ app, or Connected STAR, where test data is logged in the STAR Gateway by IOTA® and emailed directly. **Leave the ladders, disruptions and written records behind with emergency lighting solutions with STAR!**

Life Safety Code NFPA 101 testing and reporting requirements for emergency lighting include:

- Testing for 30 seconds every 30 days
- Testing for 90 minutes once a year
- Record keeping and to report to the authority having local jurisdiction



Luminaire Type: **L2**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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OPERATIONAL DATA

MVOLT

Nominal Length	Nominal Lumen Package	Color Temperature	Delivered Lumens	Wattage	Lumens/Watt
L24	2000 LM	4000K	2144	15.3	140
	ALO15 (1500LM)	3500K	1889	13.2	143
		4000K	1872	13.0	144
		5000K	1842	13.3	139
	ALO15 (2000LM)	3500K	2256	16.5	137
		4000K	2386	16.1	148
		5000K	2357	16.5	143
	ALO15 (2500LM)	3500K	2600	19.7	132
		4000K	2757	19.0	145
		5000K	2634	19.6	135
L48	4000 LM	4000K	4298	35.3	122
	ALO3 (3000LM)	3500K	3708	27.3	136
		4000K	3931	26.3	150
		5000K	3851	27.1	142
	ALO3 (4000LM)	3500K	4732	36.2	131
		4000K	5076	34.8	146
		5000K	4896	36.2	135
	ALO3 (5000LM)	3500K	5437	43.3	126
		4000K	5884	41.5	142
		5000K	5622	43.4	130
L96	8000 LM	4000K	8596	72.0	119
	ALO4 (6000LM)	3500K	6272	46.2	136
		4000K	6575	44.7	147
		5000K	6510	46.1	141
	ALO4 (8000LM)	3500K	8173	64.1	128
		4000K	8702	61.7	141
		5000K	8450	64.5	131
	ALO4 (10000LM)	3500K	11089	90.4	123
		4000K	12046	86.5	139
		5000K	11437	90.8	126

UVOLT

Nominal Length	Nominal Lumen Package	Color Temperature	Delivered Lumens	Wattage	Lumens/Watt
L24	2000 LM	4000K	2120	14.8	143
	ALO15 (1500LM)	3500K	1438	10.6	136
		4000K	1464	10.3	142
		5000K	1449	10.6	137
	ALO15 (2000LM)	3500K	1891	15.3	124
		4000K	1961	14.9	131
		5000K	1918	15.3	125
	ALO15 (2500LM)	3500K	2541	19.2	132
		4000K	2654	18.7	142
		5000K	2569	19.2	134
L48	4000 LM	4000K	4803	37.9	127
	ALO3 (3000LM)	3500K	3501	25.7	136
		4000K	3659	27.1	135
		5000K	3540	27.1	131
	ALO3 (4000LM)	3500K	4435	34.5	129
		4000K	4727	36.0	131
		5000K	4521	36.0	126
	ALO3 (5000LM)	3500K	5665	46.0	123
		4000K	6109	43.7	140
		5000K	5710	45.7	125
L96	8000 LM	4000K	9606	75.8	127
	ALO3 (6000LM)	3500K	6867	49.9	138
		4000K	7199	49.9	144
		5000K	7128	49.9	143
	ALO3 (8000LM)	3500K	8736	65.3	134
		4000K	9301	65.3	142
		5000K	9032	65.3	138
	ALO3 (10000LM)	3500K	10989	90.9	121
		4000K	11937	90.9	131
		5000K	11333	90.9	125

Note: All values are typical and are at 25C.
Actual performance may vary and is dependent on operating environment.

PROJECTED LUMEN MAINTENANCE			
Lumen Maintenance Factor	0.91	0.81	0.75
Operating Hours	40,000	90,000	120,000

Note: Actual performance may vary based on ambient temperature of installed location.

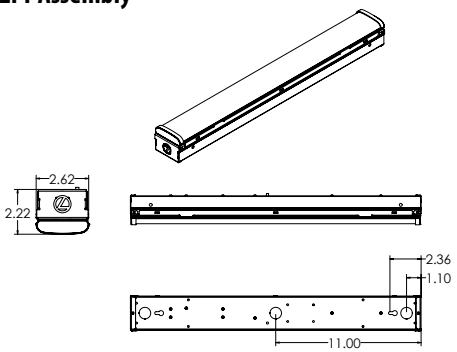
DIMENSIONS

All dimensions are shown in inches unless otherwise noted.

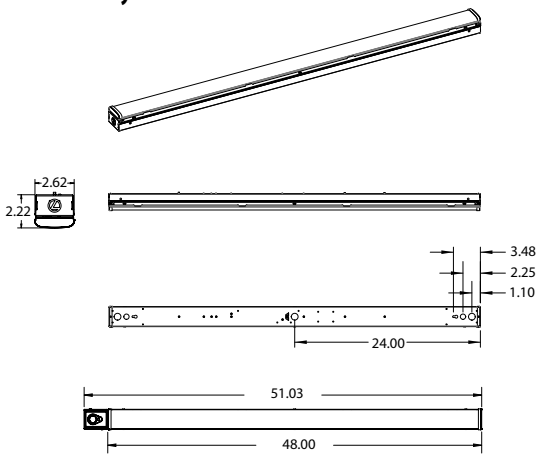
Nominal Length	Length	Width	Height	Approximate weight	Fixtures per pallet	Pallet Dimensions
L24	22"	2.62	2.22	2.5 lbs	336	40 x 48
L48	48"	2.62	2.22	5 lbs	135	46 x 57
L96	96"	2.62	2.22	10 lbs	102	46 x 98.5

*Weights will vary slightly with added options.

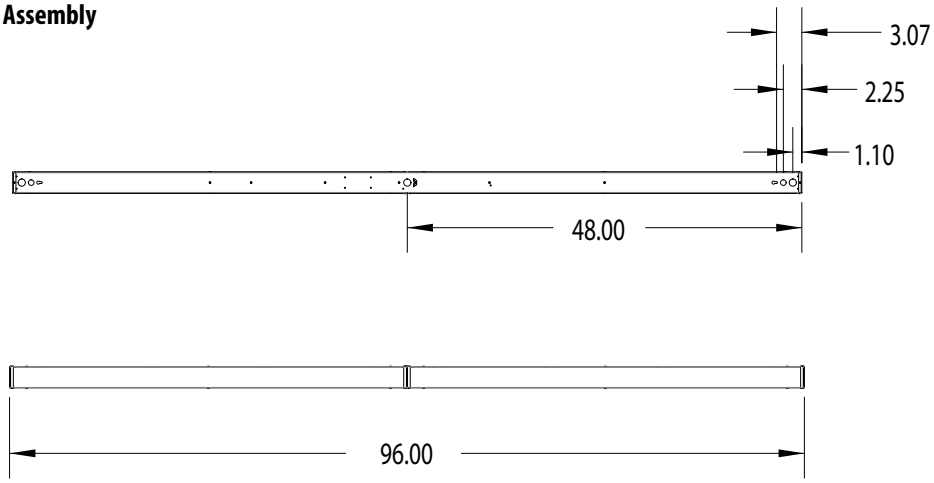
2FT Assembly



4FT Assembly



8FT Assembly



PLUG-IN WIRING OPTION

Advanced plug-in system with two-circuit capability. Available on industrial and strip products and a variety of architectural products mounted in continuous rows. PLR22 (2-circuit) and crossover harness switches hot circuit serving next fixture in row. Reduces fixture types on job for alternating circuit applications (see example below.)

Easy one-step installation, saves up to 35% on labor costs. Expanded switching flexibility helps save energy.

Rows can be 50% longer with two-circuit systems. Polarized, lock-together nylon connectors prevent miswiring in the field. #12 THHN conductor, rated 600V, 90°C. White neutral wire included. Grounding accomplished by fixture in-row connectors.

CSA certified systems available with up to 2 circuits. G ground required.

Not for use with dedicated emergency circuits.

Note: Specifications subject to change without notice.

Wiring

PLR

Advanced 1 or 2-Circuit Plug-In

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

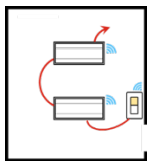
Series	Number of hot wires	Branch circuits	Dimming	Ground
PLR	(blank) Not required for PLR22	Circuits to which driver is connected	LV Low-voltage dimming	G Ground (required)
PLR22	1 Black	(blank) Not required for PLR22		
	2 Black and red	A Black wire		
		B Red wire		

Typical Applications

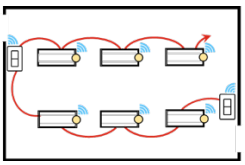
- Multiple-circuit and single-circuit for longer continuous rows
- Multiple-circuit with alternating fixtures on separate circuits and 2-circuit (PLR22)
- Multiple circuit with night-lights located along row as desired

JOT ENABLED WIRELESS CONTROLS

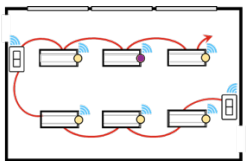
TYPICAL SMALL ROOM APPLICATION (UP TO 250 SQ. FT.)



One Entryway
1x WSXA JOT
2x JOT Enabled Fixture



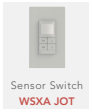
Two Entryways
2x SPODMRA JOT
6x JOT Enabled Fixture with Occupancy Sensor



Two Entryways with Daylight Harvesting
2x SPODMRA JOT
1x JOT Enabled Fixture with Photocell and Occupancy Sensor
5x JOT Enabled Fixture with Occupancy Sensor

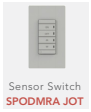
JOT

For use with Sensor Switch WSXA JOT Dimming Wall Switch Sensor



JOTVTX15

For use with Sensor Switch SPODMRA JOT Dimming Wall Switch



	Default Firmware					
Option	**OCC Time Delay**	**Dim to Off Time Delay**	**Photocell Mode**	**Photocell Setpoint**	**Low Trim**	**High Trim**
VTX15FADC or JOTVTX15	10 Min	N/A	On/Off & Auto Dimming	50FC	10%	100%
VTX15FANL		Stay At Dim (Never Off)				
SFR7CSS or SFR30CSS		N/A				

Luminaire Type: **L2**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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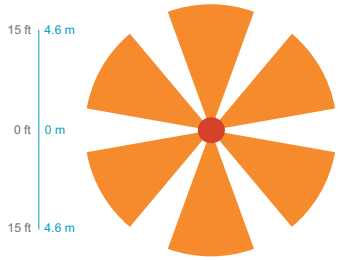
VTX & JOTVTX SENSOR COVERAGE PATTERNS

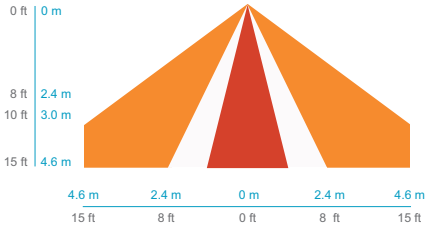
15F LARGE MOTION EXTENDED RANGE 360°

- Optimized full coverage from 8 ft - 15 ft (2.4 m - 4.5 m) mounting heights
- Reliable detection of large motion (e.g. pedestrian walking traffic)
- 1.3 x's mounting height equals approximate detection range

TOP VIEW



SIDE VIEW

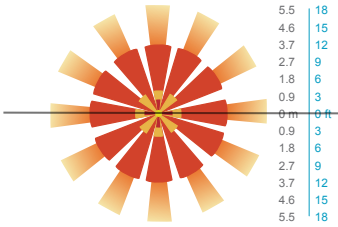


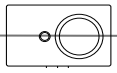
SFR SENSOR COVERAGE PATTERNS

SFR 7 MINI LOW BAY 360°

- Recommended for walking motion detection from mounting heights between 8 ft (2.44 m) and 20 ft (6.10 m)
- Initial detection of walking motion along sensor axes at distances of 2x the mounting height up to 15 ft (4.57 m) and 1.75x up to 20 ft (6.10 m).
- Provides 12 ft (3.66 m) radial detection of small motion when mounted at 9 ft (2.74 m)
- Initial detection will occur earlier when walking across sensor's field of view than when walking directly at sensor

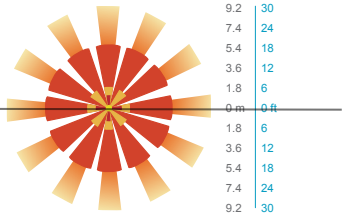
9 FT MOUNTING





Note: Align sensor axes along aisleway for best detection results

15 FT MOUNTING



MAXIMUM # OF FIXTURES PER SFR SENSOR

Nomenclature	Maximum # of Fixtures per SFR SENSOR
CSS L48 4000LM MVOLT	20
CSS L48 ALO3 MVOLT	16
CSS L96 8000LM MVOLT	10
CSS L96 ALO4 MVOLT	8

*PLR option recommended for continuous row mounting with SFR sensor. Input power for continuous row must come through end-of-row fixture with sensor. SFR sensor operates On/Off only.

PHOTOMETRICS

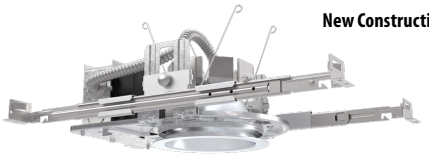
Please see www.lithonia.com.

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

LDN4 SWITCHABLE

4" Open and Wallwash LED
IC and Non-IC
New Construction Downlight



Open Trim

Wallwash Trim

FEATURES & SPECIFICATIONS

INTENDED USE — Typical applications include corridors, lobbies, conference rooms and private offices.

CONSTRUCTION — Galvanized steel mounting/plaster frame; galvanized steel junction box with bottom-hinged access covers and spring latches. Reflectors are retained by torsion springs. Vertically adjustable mounting brackets with commercial bar hangers provide 3-3/4" total adjustment. Two combination ½"-3/4" and four ½" knockouts for straight-through conduit runs. Capacity: 8 (4 in, 4 out). No. 12 AWG conductors, rated for 90°C.

Accommodates 12"-24" joist spacing.

Passive cooling thermal management for 25°C standard. Light engine and drivers are accessible from above or below ceiling.

Ceiling thickness range 1/2" to 1-1/2".

OPTICS — 55° cutoff to source and source image

LEDs are binned to a 3-step MacAdam Ellipse

80 CRI standard. 90 CRI optional.

A+ CAPABLE LUMINAIRE — This item is an A+ capable luminaire, which has been designed and tested to provide consistent color appearance and out-of-the-box control compatibility with simple commissioning when used with Acuity Brands controls products. All configurations of this luminaire are calibrated and tested to meet the Acuity Brands' specifications for chromatic consistency – including color rendering, color fidelity and color temperature tolerance around standard CIE chromaticity coordinates. To learn more about A+ standards, specifications, and testing visit www.acuitybrands.com/aplus.

UGR — UGR is zero for fixtures aimed at nadir with a cut-off equal to or less than 60 degree per CIE 117-1996 Discomfort Glare in Interior Lighting. UGR FAQs

ELECTRICAL — Adjustable lumen output with four module options.
MVOLT 120/277V 50/60Hz driver (0-10V & 120V Phase Dimming to 10% or 1% min dimming level). DALI driver dimming to 1% also available

FCC CFR Title 47 Part 15 Class A for 277V. FCC CFR Title 47 Part 15 Class B for 120V.

Lumen Maintenance

L80 @ 60,000 hours

LISTINGS — Certified to US and Canadian safety standards. Wet location, requires covered ceiling. Title 24 compliant (90CRI, up to 1000lm). Wallwash suitable for damp locations only. Some configurations are Energy Star certified, please visit www.energystar.gov for specific products. Drivers are ROHS compliant.

WARRANTY — 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at: www.acuitybrands.com/support/warranty/terms-and-conditions

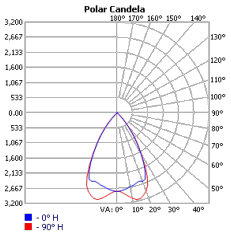
Note: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

PERFORMANCE DATA

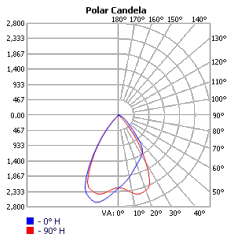
LDN4 AR LS	80CRI								
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
AL01 (500LM)	6	570	99	584	101	597	102	616	105
AL01 (750LM)	9	903	102	924	103	946	105	975	108
AL01 (1000LM)	13	1268	98	1297	100	1328	102	1369	104
AL02 (1000LM)	13	1344	108	1375	110	1408	112	1451	115
AL02 (1500LM)	19	1961	105	2007	106	2055	108	2118	111
AL02 (2000LM)	25	2471	99	2528	101	2588	103	2668	105
AL03 (2000LM)	25	2542	103	2601	104	2663	106	2745	109
AL03 (2500LM)	32	3069	98	3140	99	3214	101	3314	103
AL03 (3000LM)	38	3485	93	3566	94	3651	96	3764	98
AL04 (4000LM)	39	4094	106	4178	108	4262	110	4303	111
AL04 (4500LM)	44	4519	103	4611	105	4703	107	4750	108
AL04 (5000LM)	49	4914	100	5015	102	5115	104	5165	105

- Tested in accordance with IESNA LM-79-08.
- Tested to current IES and NEMA standards under stabilized laboratory conditions.
- CRI: 80 typical

DISTRIBUTIONS



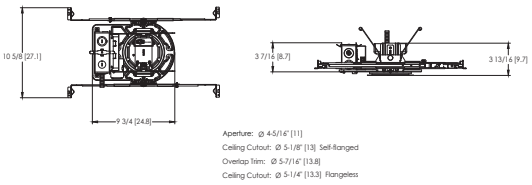
OPEN



Wallwash

DIMENSIONS

LDN4 500-2000 Lumens



See page 5 for other fixture dimensions.

Luminaire Type: **L3**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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LDN4 SWW

Design Select options indicated by this color background.

ORDERING INFORMATION Lead times will vary depending on options selected. Consult with your sales representative.

Example: LDN4 ALO2 SWW1 LO4 AR LSS MVOLT UGZ

LDN4

Series	Lumens ‡	Color Temperature ‡	Trim Style	Trim Color	Flange Color ‡	Trim Finish	Distribution	Voltage
LDN4 4" Round	**Adjustable Lumen Output** ALO1 500/750/1000lm ALO2 1000/1500/2000lm ALO3 2000/2500/3000lm ALO4 4000/4500/5000lm **Fixed Lumen Output** 05LM 500lm 07LM 750lm 10LM 1000lm 15LM 1500lm 20LM 2000lm 25LM 2500lm 30LM 3000lm 40LM 4000lm 45LM 4500lm 50LM 5000lm	**Switchable CCT** SWW1 3000K-3500K-4000K-5000K **Fixed Switchable CCT** 27K 2700K 30K 3000K 35K 3500K 40K 4000K 50K 5000K	LO4 Downlight LW4 Wallwash	AR Clear WR ‡ White painted BR ‡ Black painted TRALTBD ‡ RAL paint trim TCPC ‡ Custom paint trim	(blank) Self-flange TRW White TRBL Black FRALTBD RAL paint flange only FCPC Custom paint flange only	LSS Semi-specular LD Matte diffused LS Specular	(blank) Medium Wide (1.0s/mh) WD Wide (1.2s/mh)	MVOLT 120V - 277V 347 347V step-down transformer supplied

Driver	Emergency ‡	Control Input ‡	Options
UGZ Universal dimming to 10% 0-10V; line voltage dimming (120V)	Blank No emergency option	Blank No control option	90CRI High CRI (90+)
UGZ1 Universal dimming to 1% 0-10V; line voltage dimming (120V)	EL Batterypack (10W constant power) Non-T20 Compliant, integral test switch	NPS80EZ nLight® network power/relay pack with 0-10V dimming	AT ‡ Airtight (IP55)
DALI ‡ DALI dimming to 1%	ELR Batterypack (10W constant power) Non-T20 Compliant, remote test switch	NPS80EZER nLight® network power/relay pack with 0-10V dimming; ER controls fixtures on emergency circuit.	CP ‡ Chicago Plenum
D10 Minimum dimming 10% driver for use with JOT D1 Minimum dimming 1% driver for use with JOT	E10WCP Batterypack (10W constant power) T20 Compliant, integral test switch	NLTAIR2 nLight® Air enabled	
D1 Minimum dimming 1% driver for use with JOT	E10WCPR Batterypack (10W constant power) T20 Compliant, remote test switch	NLTAIRER2 nLight® AIR Dimming Pack Wireless Controls. Controls fixtures on emergency circuit	
	E10WRSTAR Emergency battery pack, 10W with remote test switch and Iota STAR technology	NLTAIREM2 nLight® AIR Dimming Pack Wireless Controls. UL924 Emergency Operation, via power interrupt detection.	
	ETS Iota Emergency Transfer System	JOT Wireless room control with "Just One Touch" pairing	

‡ Option Restrictions

Options	Restriction
	Lumens and Color Temp restriction note: *Fixed Lumens and CCT must be specified together (for example: 10LM 30K).*
AT	Standard for CP and IP55, not availabe with WW
E10WCPR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, or ALO3 (2000-3000L) DALI.
E10WCP	Not available with EC1, EC6, AT, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 (2000-3000L) DALI, OR WL.
E10WRSTAR	Not available with wet location, EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, ALO3 & ALO4 w/DALI, OR 2000-4500 lumens w/JOT. Top access installation or 17.5" plenum clearance required for roomside installation. Not available with integral test switch.
ELR	Not available EC1, EC6, QDS, CP, 347V, NPS80EZ ER, NLTAIRER2, NLTAIREM2, or ALO3 (2000-3000L) DALI.
EC6	Not Available with CP,QDS, ELR, E10WCP, or E10WCPR.
WL	Not available with WW, All CP is wet location, except WW (Damp). IP55 rated.
QDS	Not Available with CP, ELR, E10WCP, or E10WCPR.
EC1	Not Available with CP,QDS, ELR, E10WCP, or E10WCPR.
JOT	Not availabe with CP, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, UGZ, or DALI drivers. Max 4500 lumens. Fixed lumens and CCT only.
NPS80EZ	Not available with CP, QDS, DALI, D1, OR D10 drivers. 120V OR 277V only. Not available with 347V.
NPS80EZER	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. 120V OR 277V only. Not available with 347V.
NLTAIR2	Not available with CP, QDS, DALI, D1, OR D10 drivers. Non-emergency luminaires with this option can be used as a normal power sensing device for nLight AIR devices and luminaires with EM emergency options.
NLTAIRER2	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. Not available with 347V.
NLTAIREM2	Not available with CP, QDS, ELR, E10WCP, E10WCPR, DALI, D1, OR D10 drivers. See UL 924 Sequence of Operation table.
CP	Not available with, QDS, EC1, EC6, ELR, E10WCP, E10WCPR, 347V, JOT, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, D1, OR D10 drivers. Not availabe with square trim.
ETS	Not available with, QDS, ELR, E10WCP, E10WCPR, 347V, JOT, NPS80EZ, NPS80EZ ER, NLTAIR2, NLTAIRER2, NLTAIREM2, DALI, D1, OR D10 driver
DALI	Not available with fixed lumens or CCT. Max 4500 lumens.
WW	Not available with WL, EL, E10WCP.
TRW, TRBL	Available with clear (AR) reflector only.
WR, BR	Not available with a reflector finish
347V	Not available with CP, QDS, EL, ELR, E10WCP, E10WCPR, NLTAIRER2, ETS, NPS80EZ, NPS80EZER, ALO1 ROUND TRIM, 05 LUMENS ROUND TRIM, AND 07 ROUND TRIM.
TRALTBD, FRALTBD	RALTBD for pricing only. Replace with applicable RAL number and finish when ready to order. See the RAL BROCHURE for available color options.
TCPC, FCPC	CPC options for pricing only. Custom color chip needs to be sent in to your Customer Resolution specialist before order can be processed. Click HERE for more details

Luminaire Type: **L3**

LDN4 SWW

Accessories: *Order as a separate catalog number.*	
LO4 AR ** TRIM	4" clear, specular reflector (** specify finish LS, LSS, or LS)
LO4 WR TRIM	4" white reflector
LO4 BR TRIM	4" black reflector
LW4 AR ** TRIM	4" wallwash clear, specular reflector (** specify finish LS, LSS, or LS)
LW4 WR TRIM	4" wallwash white reflector
LW4 BR TRIM	4" wallwash black reflector
GRA4 6 JZ	Oversized trim ring with 6" outside diameter
SCA4	Sloped Ceiling Adapter. Degree of slope must be specified (5D, 10D, 15D, 20D, 25D, 30D). Ex: SCA6 10D.

design select

Items marked by a shaded background qualify for the Design Select program and ship in 15 days or less. To learn more about Design Select, visit www.acuitybrands.com/designselect. *See ordering tree for details

(Maximum order quantity for design select lead times is 256)

EMERGENCY BATTERY PACK OPTIONS - FIELD INSTALLABLE

Battery Model Number	Wattage	Runtime (Minutes)	Lumen Output* @ 120 Lumens/Watt	Other
ILB CP07 2H A	7W	120	840	Storm Shelter / 2 Hour Runtime
ILB CP10 A	10W	90	1200	
ILBLP CP10 HE SD A+	10W	90	1200	Title 20, Self Diagnostic
ILBLP CP15 HE SD A+	15W	90	1800	Title 20, Self Diagnostic
ILB CP20 HE A	20W	90	2400	Title 20
ILB CP20 HE SD A	20W	90	2400	Title 20, Self Diagnostic
ILBHI CP10 HE SD A+	10W	90	1200	347-480V AC Input, Title 20, Self Diagnostic
ILBHI CP15 HE SD A+	15W	90	1800	347-480V AC Input, Title 20, Self Diagnostic

All the above are UL Listed products that are certified for field install external/remote to the fixture.

* Minimum delivered lumen output to assist in product selection for increased fixture mounting height.

+ The CP10 delivered emergency illumination outperforms legacy 1400 lumen fluorescent emergency ballast.

Please contact us at techsupport@iotaengineering.com for any Emergency Battery related questions.

Luminaire Type: **L3**

LDN4 SWW

PHOTOMETRY

LDN4 AR LS	90CRI							
Lumen Output	Wattage	30K/90CRI		35K/90CRI		40K/90CRI		50K/90CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
AL01 (500LM)	6	498	87	512	88	526	90	539	92
AL01 (750LM)	9	789	89	810	91	832	92	853	94
AL01 (1000LM)	13	1108	86	1138	88	1168	89	1198	91
AL02 (1000LM)	13	1174	95	1206	97	1238	99	1270	100
AL02 (1500LM)	19	1714	91	1761	93	1807	95	1854	97
AL02 (2000LM)	25	2159	87	2218	89	2276	91	2335	92
AL03 (2000LM)	25	2222	90	2282	92	2342	94	2402	95
AL03 (2500LM)	32	2682	85	2755	87	2827	89	2900	91
AL03 (3000LM)	38	3046	81	3129	83	3211	85	3294	86
AL04 (4000LM)	39	3398	88	3468	90	3537	91	3572	92
AL04 (4500LM)	44	3751	85	3827	87	3904	89	3942	90
AL04 (5000LM)	49	4079	83	4162	84	4245	86	4287	87

LDN4WW AR LS	80CRI							
Lumen Output	Wattage	30K/80CRI		35K/80CRI		40K/80CRI		50K/80CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
AL01 (500LM)	6	561	97	574	99	587	101	606	103
AL01 (750LM)	9	888	100	908	101	930	103	959	106
AL01 (1000LM)	13	1246	97	1275	98	1305	100	1346	102
AL02 (1000LM)	13	1321	106	1352	108	1384	110	1427	113
AL02 (1500LM)	19	1928	103	1973	105	2020	106	2083	109
AL02 (2000LM)	25	2429	98	2485	99	2544	101	2623	104
AL03 (2000LM)	25	2499	101	2557	103	2618	105	2699	107
AL03 (2500LM)	32	3017	96	3087	98	3160	99	3258	102
AL03 (3000LM)	38	3426	91	3506	93	3589	95	3700	97
AL04 (4000LM)	39	4031	104	4113	106	4195	108	4236	109
AL04 (4500LM)	44	4449	101	4539	103	4630	105	4676	107
AL04 (5000LM)	49	4838	98	4937	100	5035	102	5085	103

LDN4WW AR LS	90CRI							
Lumen Output	Wattage	30K/90CRI		35K/90CRI		40K/90CRI		50K/90CRI	
		Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW	Delivered Lumens	LPW
AL01 (500LM)	6	490	85	503	87	517	89	530	90
AL01 (750LM)	9	776	87	797	89	818	91	839	93
AL01 (1000LM)	13	1089	84	1119	86	1148	88	1178	90
AL02 (1000LM)	13	1155	93	1186	95	1217	97	1248	99
AL02 (1500LM)	19	1685	90	1731	92	1777	94	1822	95
AL02 (2000LM)	25	2123	85	2180	87	2238	89	2295	91
AL03 (2000LM)	25	2184	88	2243	90	2302	92	2362	94
AL03 (2500LM)	32	2637	84	2708	86	2780	87	2851	89
AL03 (3000LM)	38	2994	80	3076	81	3157	83	3238	85
AL04 (4000LM)	39	3346	86	3414	88	3482	90	3516	91
AL04 (4500LM)	44	3692	84	3768	86	3843	88	3881	88
AL04 (5000LM)	49	4015	81	4097	83	4179	85	4220	86

LUMEN OUTPUT MULTIPLIERS - FINISH	
Specular (LS)	1.05
Semi-specular (LSS)	1.00
Matte diffuse (LD)	0.85

LUMEN OUTPUT MULTIPLIERS - CCT			
3000K	3500K	4000K	5000K
0.98	1.0	1.01	1.03

LUMEN OUTPUT MULTIPLIERS - CRI	
80	1.0
90	0.874

HOW TO ESTIMATE DELIVERED LUMENS IN EMERGENCY MODE

Use the formula below to estimate the delivered lumens in emergency mode

Delivered Lumens = 1.25 x P x LPW

P = Ouput power of emergency driver. P = 10W for PS1055CP

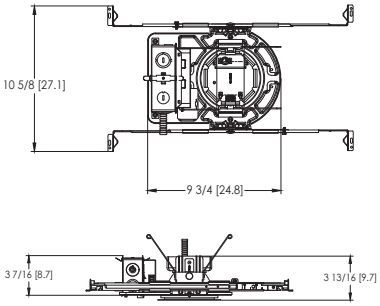
LPW = Lumen per watt rating of the luminaire. This information is available on the ABL luminaire spec sheet.
The LPW rating is also available at Designlight Consortium.

LDN4 SWW

* All dimensions are inches (centimeters) unless otherwise noted.

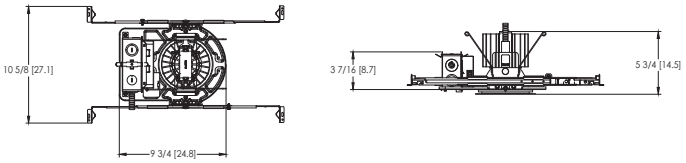
LDN4 SWW1 IC RATING	
ALO1	IC
ALO2	NON-IC
ALO3	NON-IC

LDN4 SWW1 500-2000 Lumens



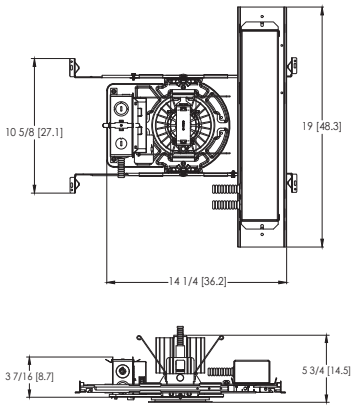
Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 2500-4000 Lumens



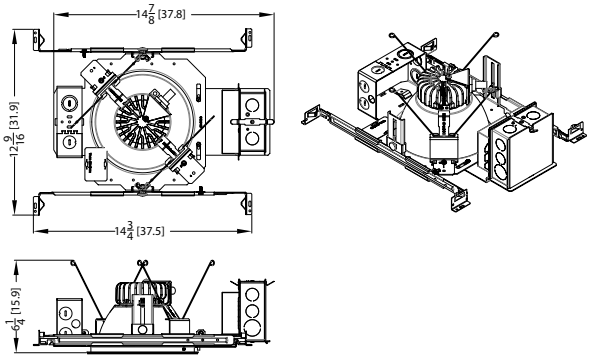
Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 EL



Aperture: Ø 4-5/16" [11]
Ceiling Cutout: Ø 5-1/8" [13] Self-flanged
Overlap Trim: Ø 5-7/16" [13.8]
Ceiling Cutout: Ø 5-1/4" [13.3] Flangeless

LDN4 SWW1 CP 500-3000 Lumens



Luminaire Type: **L3**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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DIMMER COMPATIBILITY

Not compatible with DALI or DMX dimmers. For specific compatible dimmers see below.

COMPATIBLE LINE VOLTAGE DIMMERS:						
Type	Forward Phase	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	Comment
MLV	Sensorswitch WPD	YES	YES	YES	YES	
MLV	Sensorswitch CMR PDT10 ADC VLP	YES	YES	YES	YES	
MLV	Synergy ISD 600LV	YES, 2x*	YES	YES	YES	* min 2 fixtures
INC	Synergy ISD 600 I	YES, 2x*	YES	YES	YES	* min 2 fixtures
MLV	Lutron Glyder GLV-600	YES	YES	YES	YES	
INC	Leviton SureSlide 6633	YES	YES	YES	YES	
MLV	Lutron Diva DVLV-600P	YES	YES	YES	YES	
MLV	Lutron Skylark SLV-600P	YES	YES	YES	YES	
INC	Lutron RadioRA 2 10ND	YES	YES	YES	YES	
MLV	Leviton SureSlide 6613-PLW	YES	YES	YES	YES	
INC	Lutron Diva DVCL-153P	YES	YES	YES	YES	
MLV	Leviton IPM06	YES, 2x*	YES	YES	YES	* min 2 fixtures
Type	Reverse Phase Dimmer Bank	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
ELV	Lutron Nova T NTELV-600	YES	YES	YES	YES	
ELV	Lutron Diva DVELV 600P	YES	YES	YES	YES	
ELV	Lutron Maestro MAELV 600	YES	YES	YES	YES	
ELV	Leviton Vizia VPE06-1LX	YES	YES	YES	YES	
ELV	Leviton Illumatech IPE04	YES	YES	YES	YES	
ELV	Control4 C4-APD 120 REVERSE PHASE	YES	YES	YES	YES	
Type	Miscellaneous Dimmers	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
PHA	Lutron RadioRA2 RRD-6NA	YES	YES	YES	YES	
PHA	Lutron Maestro PRO LED+ RRD-PRO	YES	YES	YES	YES	
Type	Control Systems	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)	
MLV	Lutron LP-RPM-4U	YES	YES	YES	YES	
PHA	Lutron LP-RPM-4A	YES	YES	YES	YES	
MLV	Lutron GRAPHIC EYE QSGRJ-3P	YES	YES	YES	YES	
PHA	Lutron PA Power Module PHPM-PA-120	YES	YES	YES	YES	
ELV	Lutron nLight nSP5PCD ELV	YES	YES	YES	YES	

COMPATIBLE 0-10V DIMMERS:							
Manufacturer	System Type	Description	P/N	ALO1 (500-1000lm)	ALO2 (1000-2000lm)	ALO3 (2000-3000lm)	ALO4 (3000-5000lm)
ACUITY	Wall Box	sensorswitch, dimming switch with multi-way option	SPODMRA	YES	YES	YES	YES
ACUITY	Wall Box	sensorswitch, wall switch sensor, occupancy controlled dimming	WSX D WH	YES	YES	YES	YES
ACUITY	Control System	nLight	nPP16D	YES	YES	YES	YES
ACUITY	Control System	nLight	nPS 80 EZ	YES	YES	YES	YES
ACUITY	Control System	nLight Air	rPP20 D	YES	YES	YES	YES
Lutron	Other	0-10V (sink or source) PowPak wireless dimming module	RMJ-5T-DV-B	YES	YES	YES	YES
Wattstopper	Control System	Digital single relay room controller (0-10V)	LMRC-211	YES	YES	YES	YES
Crestron	Control System	DIN Rail 0-10V fluorescent dimmer, 4 feeds, 4 channels (Green Light System)	DIN-4DIMFLV4	YES	YES	YES	YES
Lutron	Other	Grafik Eye 0-10V adapter	GRX-TVI	YES	YES	YES	YES
Leviton	Wall Box	Illumatech 0-10V	IP710-DLX	YES	YES	YES	YES
Lutron	Control System	Mounted in the Homeworks QS panel - 0-10V dimmer (sink or source)	GRX-TVM2	YES	YES	YES	YES
Lutron	Wall Box	Nova 0-10V wallbox dimmer (use with PP-120-H line voltage relay)	NTFTV	YES	YES	YES	YES
Lutron	Wall Box	Nova 0-10V wallbox dimmer (use with PP-120-H line voltage relay)	NTSTV-DV	YES	YES	YES	YES
Lutron	Wall Box	Nova T	NFTV	YES	YES	YES	YES
Leviton	Wall Box	Renior II 0-10V	AWSMG-7DW	YES	YES	YES	YES

ADDITIONAL DATA

JOT
JUST ONE TOUCH

The Sensor Switch JOT enabled solution offers a wireless, app-free approach to single room lighting control. JOT enabled products use Bluetooth® Low Energy (BLE) technology to enable wireless dimming and switching.

Diagram

LDN4 Series

Sensor Switch
WSXA JOT

1. **Power:** Install JOT enabled fixtures and controls as instructed.
2. **Pair:** Insert the pairing tool into the pinhole on the wall switch; press and hold any button for 6 seconds.
3. **Play:** Once paired, each fixture will individually dim down to 10% brightness. All products will be fully functional.

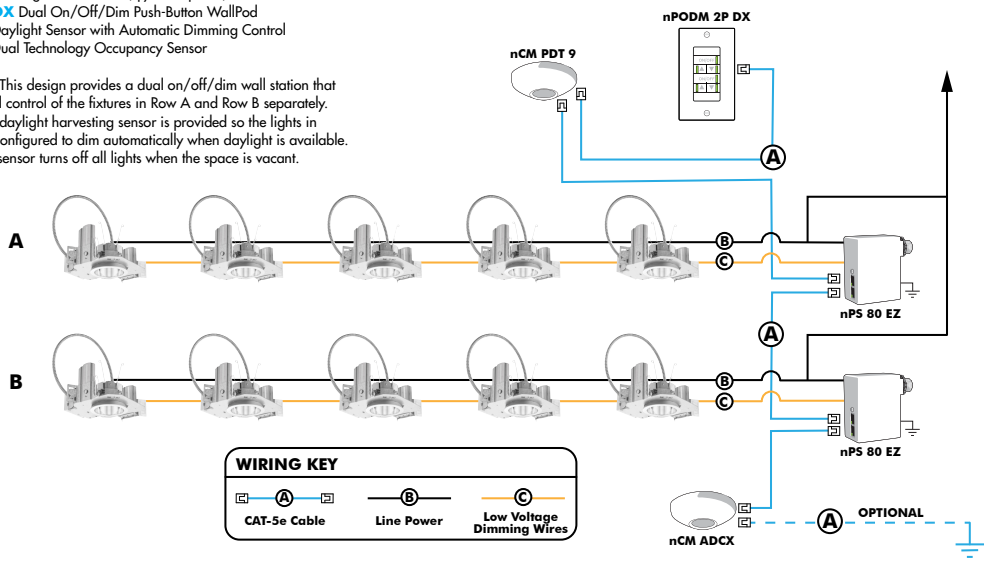
COMPATIBLE 0-10V WALL-MOUNT DIMMERS		
MANUFACTURER	PART NO.	POWER BOOSTER AVAILABLE
Lutron®	Diva® DVTV	
	Diva® DVSCTV	
	Nova T® NTFTV	
	Nova® NFTV	
Leviton®	AWSMT-7DW	CN100
	AWSMG-7DW	PE300
	AMRMG-7DW	
	Leviton Centura Fluorescent Control System	
	IllumaTech® IP7 Series	
Synergy®	ISD BC	RDMFC
	SLD LPCS	
	Digital Equinox (DEQ BC)	
Douglas Lighting Controls	WPC-5721	
Entertainment Technology	Tap Glide TG600FAM120 (120V)	
	Tap Glide Heatsink TGH1500FAM120 (120V)	
	Oasis 0A2000FAMU	
Honeywell	EL7315A1019	EL7305A1010 (optional)
	EL7315A1009	
HUNT Dimming	Preset slide: PS-010-IV and PS-010-WH	
	Preset slide: PS-010-3W-IV and PS-010-3W-WH	
	Preset slide, controls FD-010: PS-IFC-010-IV and PS-IFC-010-WH-120/277V	
	Preset slide, controls FD-010: PS-IFC-010-3W-IV and PS-IFC-010-3W-WH-120/277V	
	Remote mounted unit: FD-010	
Lehigh Electronic Products	Solitaire	PBX
PDM Electrical Products	WPC-5721	
Starfield Controls	TR61 with DALI interface port	RT03 DALInet Router
WattStopper®	LS-4 used with LCD-101 and LCD-103	

LDN4 SWW

EXAMPLE
Group Fixture Control*
*Appiication diagram applies for fixtures with eldoLED drivers only.

nPS 80 EZ Dimming/Control Pack (qty: 2 required)
nPODM 2P DX Dual On/Off/Dim Push-Button WallPod
nCM ADCX Daylight Sensor with Automatic Dimming Control
nCM PDT 9 Dual Technology Occupancy Sensor

Description: This design provides a dual on/off/dim wall station that enables manual control of the fixtures in Row A and Row B separately. Additionally, a daylight harvesting sensor is provided so the lights in Row B can be configured to dim automatically when daylight is available. An occupancy sensor turns off all lights when the space is vacant.



Choose Wall Controls
nLight offers multiple styles of wall controls - each with varying features and user experience.

Push-Button Wallpod
Traditional tactile buttons and LED user feedback

Graphic Wallpod
Full color touch screen provides a sophisticated look and feel

nLight® Wired Controls Accessories:			
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlight for complete listing of nLight controls.			
WallPod Stations	**Model number**	**Occupancy sensors**	**Model Number**
On/Off	nPODM (Color)	Small motion 360°, ceiling (PIR/dual Tech)	nCM 9 / nCM PDT 9
On/Off & Raise/Lower	nPOD DX (Color)	Large motion 360°, ceiling (PIR/dual tech)	nCM 10 / nCM PDT 10
Graphic Touchscreen	nPOD GFX (Color)	Wide View (PIR/dual tech)	nWV 16 / nWV PDT 16
Photocell controls	**Model Number**	Wall Switch w/ Raise/Lower (PIR/dual tech)	nWSX LV DX / nWSX PDT LV DX
Dimming	nCM ADCX	**Cat-5 cables (plenum rated)**	**Model Number**
		10', CAT5 10FT	CAT5 10FT J1
		15, CAT5 15FT	CAT5 15FT J1

Luminaire Type: **L3**

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Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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LDN4 SWW

nLight® AIR Control Accessories:
Order as separate catalog number. Visit www.acuitybrands.com/products/controls/nlightair.

Wall switches	Model number
On/Off single pole	rPODB [color]
On/Off two pole	rPODB 2P [color]
On/Off & raise/lower single pole	rPODB DX [color]
On/Off & raise/lower two pole	rPODB 2P DX [color]
On/Off & raise/lower single pole	rPODBZ DX WH[1]

Notes
1 Can only be ordered with the RES7Z zone control sensor version.

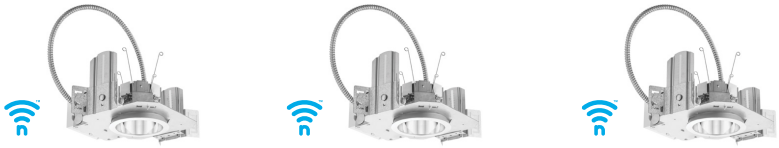
UL924 Sequence of Operation

The below information applies to all nLight AIR devices with an EM option.

- EM devices will remain at their high-end trim and ignore wireless lighting control commands, unless a normal-power-sensed (NPS) broadcast is received at least every 8 seconds.
- Using the CLAIRITY+ mobile app, EM devices must be associated with a group that includes a normal power sensing device to receive NPS broadcasts.
- Only non-emergency rPP20, rLSXR, rSBOR, rSDGR, and nLight AIR luminaires with version 3.4 or later firmware can provide normal power sensing for EM devices. See specification sheets for control devices and luminaires for more information on options that support normal power sensing.

nLight AIR

nLight AIR is the ideal solution for retrofit or new construction spaces where adding communication is cost prohibitive. The integrated nLight AIR rPP20 Power Pack is part of each Lithonia LDN Luminaire. These individually addressable controls offer the ultimate in flexibility during initial setup and for space repurposing.



Simple as 1,2,3

1. Install the nLight® AIR fixtures with embedded smart sensor
2. Install the wireless battery-powered wall switch
3. With CLAIRITY app, pair the fixtures with the wall switch and if desired, customize the sensor settings for the desired outcome

nLight AIR rPODB 2P DX Mobile Device

LITHONIA LIGHTING®

Catalog Number	
Notes	
Type	

Decorative Indoor

Contemporary Square Vanity

VANITY LED

ADA

ENERGY STAR

U.S. PATENT PENDING

FEATURES & SPECIFICATIONS

INTENDED USE

Provides an LED lighting platform to deliver general or task lighting for residential and light commercial applications. Light engine delivers long life and excellent color to ensure a quality, low-maintenance light installation. Ideal for use in bathrooms, lavatories, hallways, corridors, stairways, utility areas and more.

CONSTRUCTION

The Contemporary Square Vanity is constructed of an acrylic diffuser with a brushed nickel housing. The included canopy/junction box cover is removable for a more low-profile look (2' only). The white acrylic diffuser provides even illumination and softens the appearance of the LEDs for improved aesthetics.

OPTICS

2' produces 1300 lumens and 3' produces 1900 lumens at 3000K with 50,000 hours of life.

Extruded acrylic diffuser is of highly transmissive material to minimize LED image and provides high-angle brightness control.

ELECTRICAL

Long-life LEDs, coupled with a multivolt driver, provide extended service life. Standard input = 18 watts, (2'); 26 watts, (3'). Fixture is rated to deliver L70 performance at 50,000 hours and operates at 120-277 volts.

Use with non-dimmable switches only.

LISTINGS

UL Listed to US and Canadian safety standards. Listed for damp locations. ENERGY STAR® certified.

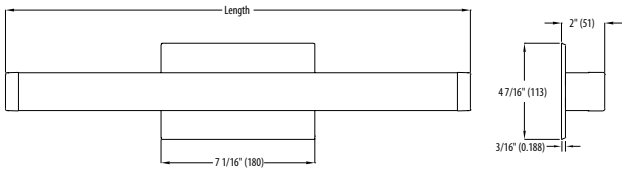
WARRANTY

5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

NOTE: Actual performance may differ as a result of end-user environment and application.
All values are design or typical values, measured under laboratory conditions at 25 °C.
Specifications subject to change without notice.

SPECIFICATIONS	2FT	3FT
Length:	21-7/16 (545)	33-1/4 (845)
Weight:	2.15 (.98)	2.55 (1.16)
3000K Lumens (LPW)	1304 (72)	1922 (73)

All dimensions are inches (millimeters) unless otherwise indicated.
Weights are pounds (kilograms).



ORDERING INFORMATION

Example: FMVCSL 24IN MVOLT 30K 90CRI BN

Series	Length	Voltage	Color temperature	CRI	Finish
FMVCSL Contemporary Square Vanity	**24IN** 2' Nominal **36IN** 3' Nominal	**MVOLT** MVOLT (120V-277V)	**30K** 3000 K	**90CRI** >90	**BN** Brushed Nickel

Luminaire Type: **L4**

RUSHING now IMEG

Note: This Luminaire Cut is for reference only. Refer to Lumnaire Schedule for full specification details.

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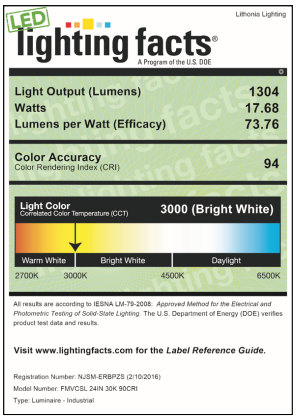
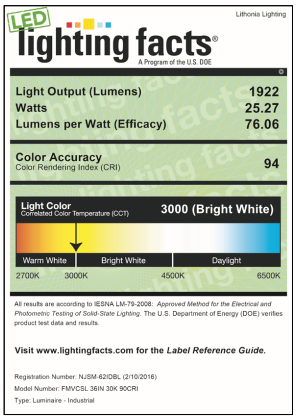
LIGHTING FACTS





ACCESS CONTROL SYSTEM NARRATIVE

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following major components related to the security system:

1. Controllers
2. Credentials and readers
3. Credential holder database and management
4. Credential creation
5. Reporting
6. Electric strike
7. Magnetic locks

B. Contractor to provide power to all electrified hardware included in this project.

C. The intent of this project is to provide new access control system. All electrified hardware will be powered from a power supply located in the Mechanical Room. It is this contractor's responsibility to provide appropriately sized power supplies for the facility. Contractor is required to provide appropriate power for hardware in the access control scope of work. The locations and quantities of each type of device are shown on the drawings or defined in this specification.

D. Provide card readers where indicated in the drawings and access cards/fobs.

E. System shall send notification when a door is propped open. Include request-to-exit detector and door contacts at each door.

F. System shall send notification when a door with door contacts has been forced open from the exterior, or the access control system has been bypassed with a key. Include request-to-exit detectors for all exterior doors.

G. Bid Submission: In addition to the requirements established by the bid proposal form, include the following with the bid submission:

1. Include a system diagram with the proposed solution detailing the overall equipment and interconnections of the access control system. Show equipment locations, manufacturer/model, and cable types.
2. Provide a detailed bill of materials, noting any long-lead items.

H. Related work provided by others:

1. Electrical system Narrative

1.03 SYSTEM DESCRIPTION

A. System shall consist of field-installed Controllers, connected by a high-speed electronic data transmission network. Controller shall have full accessibility and manageability via the Cloud.

B. The access control system shall be designed to be utilized 24 hours per day/7 days a week/365 days of the year.

C. The access control system shall be based upon standard components and proven technology usingopen and published protocols.

D. The access control system shall be a fully distributed solution.

E. The access control system shall offer centralized management of all devices, panels and users, and offer a rule-based system driven by schedules and events.

1.04 DEFINITION

A. Credential: Data assigned to an entity and used to identify that entity through cards, key fobs, etc.

B. Identifier: A credential card, keypad personal identification number or code, biometric characteristic, or other unique identification entered as data into the entry-control database for the purpose of identifying an individual.

C. RF: Radio frequency.

D. Wiegand: Patented magnetic principle that uses specially treated wires embedded in the credential card.

E. Any generic reference to “card” shall mean “credential” (e.g. “card-holder” is synonymous with “credential-holder.”). Any generic reference to “card” shall also refer to “key fob” or similar credential.

1.05 PERFORMANCE REQUIREMENTS

A. Security access system shall use a single database for access-control and credential-creation functions.

B. Distributed Processing: System shall be a distributed system so that information, including time, date, valid codes, access levels, and similar data, is downloaded to Controllers so that each Controller makes access-control decisions for that Location.

C. Solution must support both clients on both Windows and Apple OS platforms.

D. System Network Requirements:

1. Interconnect system components and provide automatic communication of status changes, commands, field-initiated interrupts, and other communications required for proper system operation.
2. Communication shall not require operator initiation or response, and shall return to normal after partial or total network interruption such as power loss or transient upset.
3. System shall automatically annunciate communication failures to the operator and identify the communication link that has experienced a partial or total failure.

E. Field equipment shall include Controllers, sensors, and controls.

F. False Alarm Reduction: The design of Controllers shall contain features to reduce false alarms. Equipment and software shall comply with SIA CP-01.

G. Data Line Supervision: System shall initiate an alarm in response to opening, closing, shorting, or grounding of data transmission lines.

H. Door Hardware Interface: Coordinate controllers to have electrical characteristics that match the signal and power requirements of door hardware.

1.06 SUBMITTALS

A. Product Data: For each type of product indicated, provide a product data sheet in both hard-copy and electronic (PDF) formats. Data sheets indicating multiple products must have the applicable product highlighted or marked.

1. Controller (Server or Appliance/Software)
2. Credentials and readers
3. Credential database and management
4. Credential creation equipment
5. Electrified hardware

1.07 QUALITY ASSURANCE

A. All installation, configuration and setup of software as well as related work hereto shall by carried out by qualified technicians thoroughly trained and certified by the system manufacturer in the installation and service of the provided software.

B. Source Limitations: Obtain Controllers, Identifier readers, and all software through one source from a single manufacturer.

C. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

D. Comply with NFPA 70, "National Electrical Code."

1.08 COORDINATION

A. Coordinate layout and installation of the work of this section with the Owner's equipment, furniture, electrical, mechanical, architectural, and other technology trades.

PART 2 - PRODUCTS

2.02 MANUFACTURERS

A. The following are acceptable manufacturers for general equipment within this section, unless noted otherwise for any product. Any substitutions must be demonstrated to the Owner and Technology Designer for approval in writing before installation.

1. Avigilon
2. Genetec.
3. Lenel Systems International.
4. S2 Security Corporation
5. Or Approved Equivalent

2.03 SYSTEM REQUIREMENTS

A. The access control system shall be implemented controller with a modular hardware hierarchy and embedded software architecture, or through a Windows-based server with distributed control panels. Provide the most current release of software and patches at the time of implementation.

1. The system shall be capable of running on an existing TCP/IP network and shall be accessible, configurable, and manageable from any network-connected PC with a browser.

2. Browser access for configuration and administration of the system shall be possible from a computer on the same subnet, through routers and gateways from other subnets, and from the Internet. Control and management of the system shall therefore be geographically independent.

3. Security of the data communicated over the network to and from the browser, network controller, and nodes is to be protected by encryption (SSL 128-bit) or authentication.

B. Software shall allow access based on

1. Individual access privileges
2. Group access privileges
3. Schedule (Time of day, holiday, etc.).

2.04 APPLICATION SOFTWARE

A. System Software: Software shall have the following features:

1. Multiuser functionality allowing independent activities and monitoring to occur by a minimum of ten (10) simultaneous users.
2. Open architecture that allows importing and exporting of data and interfacing with other systems.
3. Password-protection for various levels of users (system administrator, staff, etc.). Full integration with Microsoft Active Directory and OpenLDAP.

B. Controller Software:

1. Controllers shall operate as an autonomous intelligent processing unit. Controllers shall make decisions about access control, alarm monitoring, linking functions, and door locking schedules for its operation, independent of other system components. Controllers shall be part of a fully distributed processing control network. The portion of the database associated with a Controller and consisting of parameters, constraints, and the latest value or status of points connected to that Controller, shall be maintained in the Controller.

2. Functions: The following functions shall be fully implemented and operational within each Controller:

a. Monitoring inputs.
b. Controlling outputs.
c. Automatically reporting alarms.
d. Reporting of sensor and output status to controller on request.

e. Maintaining real time, automatically updated by the controller at least once a day.
f. Executing Controller resident programs.
g. Diagnosing.
h. Downloading and uploading data to and from the Cloud.

3. Individual Controller Operation:

a. Controllers shall transmit alarms, status changes, and other data when communications circuits are operable. If communications are not available, Controllers shall function in a stand-alone mode and operational data, including the status and alarm data shall be stored for later transmission to the Cloud. Storage capacity for the latest 1024 events shall be provided at each Controller.
b. Controllers that are reset, or powered up from a non-powered state, shall automatically request a parameter download and reboot to its proper working state. This shall happen without any operator intervention.

4. Operating systems shall include a real-time clock function that maintains seconds, minutes, hours, day, date, and month. The real-time clock shall be automatically synchronized with the Cloud server.

C. The system shall provide the following “access control” functions:

1. Login throttling, which can be enabled for the system to limit the number of login attempts from the same IP address in a given period of time.
2. User interface secured access under encrypted password control.
3. System-wide timed anti-passback function.
4. Multiple access levels and cards per person.
5. Detailed time specifications.
6. Scheduled portal unlock by time and threat level.
7. Card format decoder quickly discovers unknown card formats.
8. Compatibility with various input devices, including biometric readers.
9. Activation/expiration date/time by person with one minute resolution.
10. Access level disable for immediate lockdown.
11. Multiple holiday schedules.
12. Timed unlock schedules.
13. Scheduled actions for arming inputs, activating outputs, and locking and unlocking portals.
14. Dual-reader portal support.
15. Magnetic-stripe reader support with cards using ABA Track 2 format for up to 200 bits.
16. Integration with alarm panels.

D. The system shall provide the following “monitoring” functions:

1. Allow users view a full system summary, including an Activity Log, Auto-Monitor, and linksto frequent user tasks.
2. Common alarm panel integration for disarm on access, and arm on egress.

3. Support for the direct viewing of integrated IP cameras.
4. Integrated real-time IP-based DVR and NVR systems with stored video replay for events.
5. Provides alarms on video loss, video motion detection, and video restore events.
6. Provides alarms on communication loss and temperature variation.
7. Support for the creation of custom sets of alarm event actions.

E. Report Generation:

1. Alarm Reports: Reporting shall be automatic as initially set up. Include alarms recorded by system over the selected time and information about the type of alarm, the type of sensor, the location, the time, and the action taken.
2. Access and Secure Reports: Document zones placed in access, the time placed in access, and the time placed in secure mode.
3. Cardholder Reports: Include data, or selected parts of the data, as well as the ability to be sorted by name, card number, imprinted number, or by any of the user-defined fields.
4. Cardholder by Reader Reports: Based on who has access to a specific reader or group of readers by selecting the readers from a list.
5. Cardholder by Access-Level Reports: Display everyone that has been assigned to the specified access level.
6. Who Is In (Muster) Report: Contain a count of persons that are "In" at a selected Location and a count with detailed listing of name, date, and time of last use, sorted by the last reader used or by the group assignment.
7. History Reports: Custom reports that allows the operator to select any date, time, event type, device, output, input, operator, Location, name, or cardholder to be included or excluded from the report.

F. Entry-Control Enrollment Software: Database management functions that allow operators to add, delete, and modify access data as needed.

1. Provide multiple, password-protected access levels. Database management and modification functions shall require a higher operator access level than personnel enrollment functions.
2. Multiple Deactivate Dates for credentials. User-defined fields to be configured as additional stop dates to deactivate any credentials assigned to the credential-holder.
3. Default card data programming to speed data entry for sites where most card data are similar.
4. Enhanced File Import Utility to allow batch importing of cardholder data and images.

G. Licensing and Updates:

1. Provide a minimum of s two (2) licenses for system administration. The user license shall be valid in perpetuity while the Owner stays on the current major software release.

2. Include five (5) years of major and minor software updates from the date of substantial completion.

2.05 SYSTEM DATABASE

A. Key control and tracking shall be an integrated function of cardholder data.
   1. Provide the ability to store information about which conventional metal keys are issued and to whom, along with key construction information.
   2. Reports shall be designed to list everyone that has possession of a specified key.

2.06 CONTROLLERS

A. Controllers: Intelligent peripheral control unit, complying with UL 294, that stores time, date, valid codes, access levels, and similar data downloaded from the Cloud or workstation for controlling its operation.

B. Subject to compliance with requirements in this Article, manufacturers may use multipurpose Controllers.

C. Battery Backup: Sealed, lead acid; sized to provide run time during a power outage of 90 minutes, complying with UL 924.

D. Alarm Annunciation Controller:

   1. The Controller shall automatically restore communication within 10 seconds after an interruption with the field device network.

E. Entry-Control Controller:

   1. Function: Provide local entry-control functions including one- and two-way communications with access-control devices such as card readers, keypads, door strikes, magnetic latches, gate and door operators, and exit push-buttons.

      a. Operate as a stand-alone portal Controller using the downloaded database during periods of communication loss between the Controller and the field-device network.
      b. Accept information generated by the entry-control devices; automatically process this information to determine valid identification of the individual present at the portal:

         1) On authentication of the credentials or information presented, check privileges of the identified individual, allowing only those actions granted as privileges.

2) Privileges shall include, but not be limited to, time of day control, day of week control, group control, and visitor escort control.

c. Maintain a date-, time-, and Location-stamped record of each transaction. A transaction is defined as any successful or unsuccessful attempt to gain access through a controlled portal by the presentation of credentials or other identifying information.

2. Data Line Problems: For periods of loss of communications with the Cloud, or when data transmission is degraded and generating continuous checksum errors, the Controller shall continue to control entry by accepting identifying information, making authentication decisions, checking privileges, and controlling portal-control devices.

a. Store up to 1000 transactions during periods of communication loss between the Controller and access-control devices for subsequent upload to the Cloud restoration of communication. Backup Power Supply Capacity: 90 minutes of battery supply.

3. Controller shall integrate with ADA operators to automatically fire and open the door without any further action than presenting a credential at the respective reader. This shall be able to be defined both globally and on an individual user level.

2.07 CARD READERS AND KEY FOBS

A. General Requirements:
1. Operate on secure, standards-based platforms.
2. Operate on the SIA Open Supervised Device Protocol (OSDP) standards for secure transmission of data from the reader to the controller.
3. Support for mobile devices using Seos.
4. Flexible to support future technologies.
5. Secured communications using OSDP with Secure Channel Protocol.
6. The card reader shall have a read range of 4 inches.

B. Communications
1. Wiegand
2. Clock-and-Data
3. Open Supervised Device Protocol (OSDP) via RS-485

C. Feedback: Provide audible and visual (LED or other) feedback to provide visual and audible status indications and user prompts. Indicate power on/off, whether user passage requests have been accepted or rejected, and whether the door is locked or unlocked.

D. Power: Card reader shall be powered from its associated Controller, including its standby power source.

E. Manufacturer:
   1. Interior and Exterior Doors:

      a. HHID Signo™ 20 for mullion locations
      b. HID Signo™ 20K for mullion keypad locations
      c. HID Signo™ 40K for wall switch locations
      d. HID Signo™ 40K for wall switch keypad locations
      e. Approved Equivalent

2.08 ELECTRIC STRIKE

A. General Requirements:

   1. Contractor is to survey existing doors for the appropriate electric strike for the conditions.
   2. The lock shall work with the existing door lock set.
   3. The lock shall be rated at 250000 or greater cycles of operation.
   4. Provide exit devices as needed for each door.
   5. Provide electric strikes with in-line power controller and surge suppressor by the same manufacturer as the strike with the combined products having a five year warranty.

B. Manufacturer:

   1. HES (e.g. Surface Mounted: HES 9400/9600 Series Electric Strike (630 - Stainless Steel))
   2. HES (e.g. Electrified Strikes: HES 1600CS Complete Pac for Latchbolt & Deadbolt Locks (630 - Stainless Steel))
   3. Approved Equivalent

2.09 POWER TRANSFER DEVICES

A. Concealed Quick Connect Electric Power Transfers: Provide concealed wiring pathway housing mortised into the door and frame for low voltage electrified door hardware. Furnish with Molex™ standardized plug connectors and sufficient number of concealed wires (up to 12) to accommodate the electrified functions specified in the Door Hardware Sets. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Wire nut connections are not acceptable.

   1. Manufacturers:

emko Products; ASSA ABLOY Architectural Door Accessories (PE) – EL-CEPT Series.
b. Securitron (SU) - EL-CEPT Series.
c. Von Duprin (VD) - EPT-10 Series.

B. Electric Door Wire Harnesses: Provide electric/data transfer wiring harnesses with standardized plplug connectors to accommodate up to twelve (12) wires. Connectors plug directly to through-door wiring harnesses for connection to electric locking devices and power supplies. Provide sufficient number and type of concealed wires to accommodate electric function of specified hardware. Provide a connector for through-door electronic locking devices and from hinge to junction box above the opening. Wire nut connections are not acceptable. Determine the length required for each electrified hardware component for the door type, size and construction, minimum of two per electrified opening.

1. Provide one each of the following tools as part of the base bid contract:
   a. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Electrical Connecting Kit: QC-R001.
   b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) - Connector Hand Tool: QC-R003.

2. Manufacturers:

   a. Hager Companies (HA) - Quick Connect.
   b. McKinney Products; ASSA ABLOY Architectural Door Accessories (MK) – QC-C Series.
   c. Stanley Hardware (ST) – WH Series.

2.10 DOOR CONTACT

A. Manufacturer:
   1. Securitron DPS-M-BK
   2. Approved Equivalent

2.11 PASSIVE INFRARED SENSOR

A. Manufacturer:
   1. Honeywell IS310 (White)
   2. Bosch DS150i (White)
   3. Securitron XMS
   4. Approved Equivalent

2.12 POWER SUPPLY

A. Manufacturer:
   1. Altronix Power Supply (eFlow6NX8D)
   2. Network Communication Module (LINQ2)
   3. Approved Equivalent

2.13 SMART CARDS (Quantity of 50):
2.14

A. General Requirements:
   1. Vertical or horizontal slot punch capability. Owner to decide on the orientation of the card.

B. Manufacturer:
   1. HID Global Corporation – iClass Seos Smart Card

2.15 CARD PRINTER

A. Manufacturer:
   1. HID Global Corporation - Fargo HDP5000 Card Printer and Encoder
      a. Single-sided over-the-edge printing.
      b. Full-color, continuous-tone printing at 300 DPI.
      c. (1) Printer at the Administration Building
      d. Must include (2) spare full-color ribbon cartridges
   2. Include (1) USB digital cameras, including (1) tripods.
   3. Approved Equivalent

PART 3 - EXECUTION

3.01 EXAMINATION

A. It is the Contractor's responsibility to review the site work, architectural, structural, mechanical, and electrical drawings, specifications, and field conditions, for any details that may impact the installation or provisioning of the system.

B. Prior to installation, a site survey must be performed to determine equipment placement. Any issues with the systems, design, or installation must be brought to the attention of the Technology Designer before the bid is submitted.

C. Examine pathway elements intended for cables. Check raceways, cable trays, and other elements for compliance with space allocations, installation tolerances, hazards to cable installation, and other conditions affecting installation.

D. Notify the Technology Designer of any conditions that would adversely affect installation or subsequent use.

E. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Comply with recommendations in SIA CP-01.

B. Review project plan with Technology Designer and Owner to clarify Owner requirements before installation. Create detailed Project planning and publish documents for review and approval.

3.03 INSTALLATION

A. The Contractor must install and configure the system according to the manufacturer's sequence and guidelines as well as generally accepted standard practices.
B. The Contractor must provide all miscellaneous items and accessories required to make the system operational whether or not such items are specifically mentioned in the plans and specifications.

C. The Contractor must protect equipment and components during installation until final acceptance of the project, and clean all equipment before Owner acceptance using methods and materials recommended by the manufacturer.

D. All security devices (proximity readers, keypads, etc.) must be installed according to ADA requirements.

E. Integrate ADA operators into the access control system. Integration must disable the operator from the building exterior while the door is in a latched position, but must work when scheduled open or upon a valid card read. Operators must work at all times when exiting the building.

F. This contractor is to provide power to all electrified hardware included in this project.

G. Contractor is responsible for configuration of all door schedules, hardware schedules, and hardware specifications to fully understand the extent of their work prior to bid submission. These devices include, but are not limited to:1.Electrified latch retraction devices (electrified crash bars) 2.Electrified mortise locksets 3.Cut-in electric strikes4.Surface mount electric strikes (where provided by others).

3.04 SYSTEM SOFTWARE

A. Develop, install, and test software and databases for the complete and proper operation of systems involved. Assign software license to Owner.

3.05 FIELD QUALITY CONTROL

A. Perform the following field tests and inspections and prepare test reports:

1. Operational Test: After installation of cables and connectors, demonstrate product capability and compliance with requirements. Test each signal path for end-to-end performance from each end of all pairs installed. Remove temporary connections when tests have been satisfactorily completed.

3.06 STARTUP SERVICE

A. Provide import template for user information. Populate database with Owner-provided import file.

B. Enroll and prepare credentials and access cards for Owner's staff (approximately 20 users).

3.07 DEMONSTRATION

A. Develop site specific training modules and materials for the following:

1. Admin Training must include but is not limited to:
   a. System architecture
   b. Computer system administration personnel to manage and repair the LAN and databases and to update and maintain software.
   c. Configuration and setup
   d. Interface controls
   e. Logs and reports
   f. Badge setup, configuration and printing
   g. Events, alarms and notifications

2. Basic User
    a. Interface controls
    b. Badge setup, configuration and printing
    c. Events, alarms and notifications

B. The Contractor's trainer will supply system documentation and training aids customized to this installation. Documentation must be tailored for system administrators and typical users.

C. At the completion of each phase of work, Contractor will provide four (4) hours of startup assistance for out-of-scope work, scheduled at the Owner's discretion. The assistance time may not be contiguous and does not include travel time to or from the project site. Startup assistance will utilize staff involved in the onsite installation unless added personnel is needed to complete the base scope of work according to the project schedule or Owner's requirements. Unused time will be deducted utilizing the labor material price.

3.08 WARRANTY

A. The following warranties must be provided by the awarded contractor at no additional cost to the Owner.

1. Access Control Controller and Panels - The controller and related panels must be warranted with a five (5) year complete warranty, including product maintenance/software updates. The warranty period will start on the date of substantial completion. The awarded contractor will be required to replace any defective product at no additional cost, including labor. The warranty must cover defects in workmanship and material.

B. Final payment will not relieve the awarded contractor of these obligations.

END OF ACCESS CONTORL SYATEM NARRATIVE