**Addendum No. 1**
**To the Plans, Specifications, Proposal and Contract**

**City of Kirkland**
**Fire Station 26 Renovation**
**9930 124th Ave NE, Kirkland, WA 98033**
**CIP # PSC 3006 000**
**JOB # 46-23-PW**

Notice to All Plan holders:

This Addendum No. 1, containing the following revisions, additions, deletions, and/or clarifications is hereby made part of the Plan and Contract Documents for the above-named project. Bidders shall take this Addendum into consideration when preparing and submitting their bids. With issuance of this Addendum, it shall be incorporated into the Contract Documents.

Contractors shall acknowledge receipt of this Addendum in the place provided on the Bid Form. Failure to do so may disqualify the Bidder from consideration of its bid.

All other requirements of the contract documents remain in effect.

| | |
|---|---|
| ISSUED THIS DATE: | December 1st, 2023 |
| BID SUBMITTAL TIME/DATE/LOCATION: | Prior to 1:00 P.M. on December 12, 2023 at<br><br>Cashier - City of Kirkland<br>123 5th Avenue<br>Kirkland WA 98033 |

## GENERAL

**Item 1.** The attendance lists from the November 20, 2023 and November 28, 2023 Mandatory Pre-Bid Conferences are attached.

## PROJECT NOTES/ CLARIFICATIONS

**None**

## QUESTIONS & ANSWERS

(Questions received to date not answered by this addendum will be addressed by a future addendum)

**None**

## PROJECT MANUAL MODIFICATIONS

The following sections are revised:

**Item 1.** Section 00 00 02 APPROVED FOR CONSTRUCTION

a) Replace section issued for bid with attached section dated December 1, 2023.

**Item 2.** Section 00 20 00 INSTRUCTIONS TO BIDDERS

a) Revise third sentence of item C. 1. a. to "Submit material/product requests as specified in Section 01 61 00 to Anneke Davis (adavis@kirklandwa.gov) via e-mail with the subject line of "FS 26: Substitution Request".

**Item 3.** Section 00 41 00 BID FORM

a) Replace section issued for bid with attached section dated December 1, 2023.

**Item 4.** Section 01 21 00 ALLOWANCES

a) Revise section 3.3 A. D. to read
"Allowance No. 4 (Base Bid): Lump Sum Allowance: Include the sum of $60,000 for Unforeseen Conditions. The allowance is applicable to any unforeseen conditions that could not have been anticipated and result in an approved change in the work and change in cost. The allowance shall also be applicable to Owner requested changes in the work."

**Item 5.** Section 01 32 00 PHOTOGRAPHIC DOCUMENTATION AND VIDEO SERVICES

b) Revise section number in header on all pages of section to read: "SECTION 01 32 33".

**Civil Specifications**

**Item 1.** Section 32 12 00 ASPHALT PAVING

a) Replace section issued for bid with attached section dated December 1, 2023.

**Architectural Specifications**

**Item 1.** Section 05 12 00 STRUCTURAL STEEL FRAMING

a) Replace section issued for bid with attached section dated December 1, 2023.

**Item 2.** Section 05 50 00 METAL FABRICATIONS

a) Replace section issued for bid with attached section dated December 1, 2023.

**Item 3.** Section 05 52 13 PIPE AND TUBE RAILINGS

a) Replace section issued for bid with attached section dated December 1, 2023.

**Item 4.** Section 09 51 13 ACOUSTICAL PANEL CEILINGS

a) Revise Article 2.2 Section A to read:

A. Available Products: Subject to compliance with requirements, products that may be incorporated into the Work include, but are not limited to, the following:

1. Basis of Design: CertainTeed Sand Micro Customline
2. Armstrong World Industries, Inc.; Mesa Second Look
3. Or Approved Equal.

**DRAWING MODIFICATIONS**

The following Contract Drawings are revised:

**Architectural Drawings**

**Item 1.** A6.2 REFLECTED CEILING PLAN – LEVELS 3 & 4

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Add keynote E2.59 for Unoccupied Attic Space scrim.
    b. Add keynote N9.30 for finish work around electrical conduit.
    c. Add keynote N9.31 for finish work around duct penetrations.

**Mechanical Drawings**

**Item 1.** M0.4 SCHEDULES

1. Replace sheet issued for bid with attached sheet dated December 1, 2023.

**Electrical Drawings**

**Item 1.** E1.1 ELECTRICAL SITE PLAN

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Revise Flag Note 5 per attached revised sheet E1.1.
    b. Add Flag Note 5 to service feeder per attached revised sheet E1.1.
    c. Add Flag Note 16 per attached revised sheet E1.1.
    d. Revise generator feeder route per attached revised sheet E1.1. Add Flag Notes 5 and 16 to route.

**Item 2.** E2.1 1ST AND 2ND FLOOR POWER FLOOR PLAN

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Add Flag Notes 14, 15, and 16 per attached revised sheet E2.1.
    b. Add new generator feeder route through building ceiling space per attached revised sheet E2.1.

**Item 3.** E2.2 3RD AND 4TH FLOOR POWER FLOOR PLAN

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Add Flag Notes 7, 8, and 9 per attached revised sheet E2.2.
    b. Add new generator feeder route through building per attached revised sheet E2.2.

**Item 4.** E6.1 1ST AND 2ND FLOOR ALERTING PLAN

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Revise Alerting Rack in Flag Note 9 from OFCI to CFCI per attached revised sheet E6.1.
    b. Add second VIL/Strobe rough-in on east wall of Classroom 103 per attached revised sheet E6.1.
    c. Revise layout of speakers in Exercise 208 per attached revised sheet E6.1.
    d. Add Flag Note 14 per attached revised sheet E6.1**.**
    e. Add connection to garage door motor in Exercise 208 per attached revised sheet E6.1.

**Item 5.** E6.2 3RD AND 4TH FLOOR ALERTING PLAN

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Revise Flag Note 7 to add "UNLESS NOTED OTHERWISE" to box mounting height.
    b. Add VIL/Strobe location on east elevation of building exterior per attached revised sheet E6.2.

**Item 6.** E9.1 ONE-LINE DIAGRAM

1. Replace sheet issued for bid with attached sheet dated December 1, 2023. Changes include:
    a. Add feeder schedule to plan per attached revised sheet E9.1

**SUBSTITUTION REQUESTS**

**None**

**Sincerely,**

**Anneke J. Davis, P.E.**
**Senior Project Engineer**

Rod Steitzer (Dec 1, 2023 11:07 PST)

**Rod Steitzer, P.E.**
**Capital Projects Manager**

## Fire Station 26: Pre-Bid Sign-In | 11/20 @ 9am

| ID | Start time | Name (First and Last) | Organization | Type of Contractor (Example - GC) | Phone Number | Email |
|---|---|---|---|---|---|---|
| 1 | 11/20/23 8:52:06 | Miles Johnson | Western Ventures Construction | GC | 760.579.1380 | Bids@westernventures.com |
| 2 | 11/20/23 8:52:27 | Matt Belzer | Wellman Zuck | GC | 206.572.0653 | mbelzer@wellmanzuck.com |
| 3 | 11/20/23 8:57:50 | Daniel Mulvihill | CDK Construction Services | GC | 206.255.1341 | Bids@cdkconstruction.com |
| 4 | 11/20/23 11:15:48 | Dick McCullough | Optimus Construction and Development Inc. | GC | 206.243.2000 | dick@optimusconst.com |

## Fire Station 26: Pre-Bid Sign-In | 11/28 @ 11am

| ID | Date & Time | Name (First and Last) | Organization | Type of Contractor (Example - GC) | Phone Number | Email2 |
|---|---|---|---|---|---|---|
| 1 | 11/28/23 11:00:24 | Carl Linder | Construction Groupinternational | Demolition and Abatement | 4257534724 | carll@cgius.net |
| 2 | 11/28/23 11:00:49 | Mary Swanson | Construction Group International | Demolition and Abatement | 4258643248 | Marys@cgius.net |
| 3 | 11/28/23 11:01:06 | Casey Neuman | Lincoln Construction Inc | GC | 2538476414 | Bids@lincolnnw.com |
| 4 | 11/28/23 11:01:13 | Chris Crawford | Jimmy's Roofing | Roofing Subcontractor | 4252751275 | c.crawford@jimmysroofing.com |
| 5 | 11/28/23 11:01:16 | Kurt Dickson | Dickson Electric llc | EC | 4253197708 | Kurt@dicksonelectricllc.com |
| 6 | 11/28/23 11:01:54 | Eric Strock | Summit | Sub | 2067950572 | Erics@summitsealants.com |
| 7 | 11/28/23 11:03:13 | Matthew DiLoreto | NorthStar Demo & Abate | Sub | 4252210242 | mdiloreto@northstar.com |
| 8 | 11/28/23 11:06:05 | duane klinge | Klinge  and Assoc | GC | 2067932394 | duaneklinge@hotmail.com |
| 9 | 11/28/23 11:09:17 | Michelle Waterman | Hi Mark Construction Inc | General Contractor | 2533774594 | mh20man@msn.com |
| 10 | 11/28/23 11:15:05 | Thorn martin | Chinook roofing | Roofing | 2535004386 | Thorn.martin@chinookroofing.com |
| 11 | 11/28/23 11:15:15 | Guy Hamilton | Crescent Mechanical | HVAC | 2538335054 | Abby@Crescentmech.com |

# CITY OF KIRKLAND
# DEPARTMENT OF PUBLIC WORKS

## Fire Station 26 Renovation
## JOB NO. 46-23-PW
## CIP NO. PSC 3006000

***Approved for Construction:***

Rod Steitzer (Nov 29, 2023 14:04 PST)

Rod Steitzer, P.E.
Capital Projects Manager

# BID FORM

Bidder (Contractor):_____Date: _____

Address: _____

_____

Phone:_____E-mail:_____

**TO: City of Kirkland**
**123 5th Avenue**
**Kirkland, WA 98033**

**RE: Fire Station 26 Renovation**
**JOB NO. 46-23-PW**
**CIP NO. PSC 3006**
**9930 124TH AVE NE, Kirkland WA 98033**

## GENERAL PROPOSAL

The undersigned, hereinafter called the Bidder, declares that the only persons or parties interested in this proposal are those named herein; that this proposal is in all respects fair and without fraud; that it is made without collusion with any official or employee City of Kirkland; and that the proposal is made without any connection or collusion with any person making another proposal on this contract.

The Bidder further declares that they have carefully examined the contract documents for the construction of the project; that they have personally inspected the site; that they have satisfied themselves as to the quantities involved, including materials and equipment and conditions of work involved, including the fact that the description of the quantities of work materials, as included herein, is brief and is intended only to indicate the general nature of the work and to identify the said quantities with the detailed requirements of the contract documents; and that this proposal is made according to the provisions and under the terms of the contract documents, which documents are hereby made a part of this proposal.

The Bidder further agrees that they have exercised their own judgment regarding the interpretation of subsurface information and have utilized all data which they believe is pertinent from the Architect, Owner and other sources in arriving at his/her conclusions.

The Bidder agrees to hold their bid proposal open for sixty (60) days after the actual date of bid opening and to accept the provisions of the Instructions to Bidders regarding disposition of bid bond.

The Bidder agrees that if this bid is accepted through Award of Contract by Council, it will, within ten (10) calendar days after notification of acceptance, execute the contract with the Owner in the form of contract included in the contract documents, and will, at the time of execution of the Contract, deliver to the Owner the Performance and Payment Bonds and all Certificates of Insurance required therein, and will, to the extent of its proposals, furnish all machinery, tools, apparatus, and other means of construction and do the work in the manner, in the time, and according to the requirements as specified in the contract documents and required by the engineer/architect or other project manager designated thereunder.

BID FORM

**TIME OF COMPLETION:**

The Owner can issue Notice to Proceed at any time after contract execution. The undersigned understands and agrees that Substantial Completion of the work shall be no later than 305 consecutive calendar days after the Notice to Proceed, and that Final Completion of the work shall be no later than 45 consecutive calendar days after Substantial Completion. The Owner intends to issue a Limited Notice to Proceed for a period of approximately 21 calendar days prior to the issuance of the Notice to Proceed. See Section 01 10 00.

**PERMITS, FEES AND INSPECTIONS:**

Owner will obtain and pay for the general building permit and general electrical permit. The contractor is required to meet the requirements and conditions of any owner-procured permits, to post the permits, and for the scheduling and inspections related to these permits. The Contractor is responsible for all other required permits for the project in their entirety: including, but not limited to, the plumbing, electrical low voltage, temporary power, mechanical, irrigation, trade, and utility permits. A City right-of-way permit is not required to be applied for or paid for as this is a City project, although the Contractor will need to comply with requirements of working in the right of way, such as, but not limited to, developing an approved traffic control plan for approval by the City. Utility charges and utility connection fees, if incurred by the contractor to facilitate the work, shall be paid back to the contractor by the Owner within the contract document change order process without markup of any kind. All other City of Kirkland and other State of Washington or local agency permits and requirements are the financial and administrative responsibility of the Contractor at no cost to the City of Kirkland.

**BASE BID:**

The Bidder further proposes to accept as full payment for the work proposed herein the amounts computed under the provisions of the contract documents and based upon the bid price for fully completed work as included in the proposal and the Bid Price represents a true measure of the labor, equipment, and materials required to perform and complete the work, including all allowances for overhead and profit for each type of work called for in these contract documents, as well as all use taxes, overhead, profit, bond premiums, insurance premiums and all other miscellaneous and incidental expenses. The amounts shall be shown in both words and figures. In case of discrepancy, the amount shown in words shall govern.

The Total for Base Bid shall include the lump sum allowances for the provision of items and work as specified in Section 01 21 00.

The unit prices for the provision of items and work as specified in Section 01 22 00 are not included in the Total for Base Bid. However, evaluation of low bid will be based on the Total for Base Bid plus the sum of all multiplied unit prices as calculated and stated in the Unit Prices section below.

The undersigned bids for complete construction of the Fire Station 26 Project as follows:

For the **Total for Base Bid,** which does not include Washington State sales tax, the sum of:

_____ DOLLARS
(Please print dollar amount in words in space above.)

$_____
(Please write dollar figure in numerals in space above.)

BID FORM

**TRENCHING**

Trenching is included in the Total for Base Bid above. The bidder shall enter in the blank space provided below; the dollar amount (in numbers) the bidder has included in its Total for Base Bid for any work requiring trenching that will exceed a depth of 4'-0" per Chapter 49.17 RCW. If trenching excavation safety provisions do not pertain to the project the Bidder should enter "N.A." or "Not Applicable" in the following blank $_____. **The bidder must fill in the blank.**

**LUMP SUM ALLOWANCES (Refer to Section 01 21 00 for description of Allowances):**

The Undersigned certifies that the sums specified as lump sum allowances for the provision of items and work as specified in Section 01 21 00 – Allowances, are included within the Total Base Bid.

| | | |
|---|---|---|
| 1. | Allowance No. 1 Additional Signage | $2,500 |
| 2. | Allowance No. 2 Public Art Integration | $5,000 |
| 3. | Allowance No. 3 Moisture Barrier | $15,500 |
| 4. | Allowance No. 4 Unforeseen Conditions | $60,000 |
| 5. | Allowance No. 5 Additional Electrical | $5,000 |
| 6. | Allowance No. 6 Full Heavy-Duty HMA and Subbase Replacement | _____ (bidder calc) |

Bidder to Calculate Allowance No. 6:
2400 Square Feet x _____(bidder insert Unit Price 5) = _____ (bidder calculate total allowance). Do not include the unit price multiplier for the value of Unit Price 5 in this calculation.

**UNIT PRICES (Refer to Section 01 22 00 for description of Unit Prices):**

The Undersigned certifies that the following unit prices for the provision of items and work as specified in Section 01 22 00 – Unit Prices will be incorporated into the Agreement. The following are not to be included in the Total Base Bid, however the sum of the multiplied unit prices, as stated and calculated below, are included in the evaluation of low bid.

**1. Unit Price/Bank cubic yard for Over-excavation and replacement of Unsuitable Soils:**

Bid w/o Sales Tax $_____/bank cu. yd
(Please write dollar figure in space above –in numerals)

Multiply Unit Price 1 Bid X 250 (250 does not reflect anticipated quantity; the product of the unit price bid and 250 shall be used for the evaluation of low bid).

$_____
(Please write dollar figure in space above –in numerals)

**2. Unit Price/Bank cubic yard for Over-excavation and replacement of Contaminated Soils:**

Bid w/o Sales Tax $_____/bank cu. yd
(Please write dollar figure in space above –in numerals)

BID FORM

Multiply Unit Price 2 Bid X 250 (250 does not reflect anticipated quantity; the product of the unit price bid and 250 shall be used for the evaluation of low bid).

$_____
(Please write dollar figure in space above –in numerals.)

**3. Unit Price No. 3: Rock Removal and replacement with satisfactory soil material.**

Bid w/o Sales Tax $_____/bank cu. yd
(Please write dollar figure in space above –in numerals)

Multiply Total for Unit Price 3 Bid X 250 (250 does not reflect anticipated quantity; the product of the unit price bid and 250 shall be used for the evaluation of low bid).

$_____
(Please write dollar figure in space above –in numerals.)

**4. Unit Price No.4: Provision of Controlled Density Fill (CDF) in locations as authorized by the Owner:**

Bid w/o Sales Tax $_____/cu. yd
(Please write dollar figure in space above –in numerals)

Multiply Total for Unit Price 4 Bid X 250 (250 does not reflect anticipated quantity; the product of the unit price bid and 250 shall be used for the evaluation of low bid).

$_____
(Please write dollar figure in space above –in numbers.)

**5. Unit Price No.5: Provision of Full Heavy-Duty HMA and Subbase Replacement**

Bid w/o Sales Tax $_____/sq. ft.
(Please write dollar figure in space above –in numerals)

Multiply Total for Unit Price 5 Bid X 250 (250 does not reflect anticipated quantity; the product of the unit price bid and 250 shall be used for the evaluation of low bid).

$_____
(Please write dollar figure in space above –in numerals.)

**ADDENDA**

Receipt of the following Addenda is hereby acknowledged.

Addendum No. _____ dated _____

Addendum No. _____ dated _____

Addendum No. _____ dated _____

BID FORM

Addendum No. _____ dated _____

**BID REVIEW MEETING**

The Undersigned agrees that if they are the successful bidder, they will be available for a bid review meeting with the Architect and the Owner at the Owner's office, at a time to be agreed upon.

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

**I certify (or declare) under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct:**

_____
CONTRACTOR (Company Name)

_____ _____
By (Signature) Printed Name/Title of Signatory

_____
(Indicate whether Contractor is Partnership)

_____ _____
Washington State Contractor's Registration Number

Contractor's Industrial Insurance Account Number

Contractor's Address:

_____ _____
Telephone Number

_____ _____
Fax Number

**BID FORM TO BE SUBMITTED IN A SEALED ENVELOPE**
**END OF SECTION**

# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of Contract, including and Supplementary Conditions and Division 01 Specification Sections, apply to this section.

## 1.2 SUMMARY

A. Work includes but is not limited to following:

1. Subgrade for asphalt concrete paving for Parking Lots and Roadways.
2. Asphalt concrete paving.
3. Asphalt patching for utilities.

B. Coordinate related work specified in other parts of the Project Manual, including but not limited to following:

1. Section 31 20 00 – Earth Moving.
2. Section 32 13 00 – Concrete Paving

## 1.3 REFERENCES

A. This Section incorporates by reference the latest revisions of the following documents. They are part of this section insofar as specified and modified herein. The Contractor shall have one copy of the each of the following documents at the job site. The bidder in submitting a bid acknowledges that he is familiar with the documents named in References and that they are incorporated into this document by reference. The Standard Plans and Policies apply only to performance and materials and how they are to be incorporated into the work. The legal/contractual relationship sections and the measurements and payment sections do not apply to this document.

1. Standard Specifications: WSDOT-APWA: Standard Specifications for Road, Bridge, and Municipal Construction, 2023
2. Standard Plans: WSDOT/APWA Standard Plans for Road, Bridge, and Municipal Construction
3. City of Kirkland Public Works Pre-Approved Plans
4. Geotechnical Report:
   Geotechnical Engineering Services
   Fire Station 26, Kirkland WA
   June 12, 2023

## 1.4 DEFINITIONS

A. Crushed Surfacing: Gravel layer placed between the compacted subgrade and final surfacing. Includes Top Course and Base Course.

B. Excavation: Removal of material encountered above subgrade elevations, or as indicated on project documents.

C. Fill: Soil materials placed at a specified degree of compaction used to obtain an indicated grade or elevation.

D. Structural Fill: Soil placed as fill and compacted to the specified maximum dry density per the project documents and as defined by ASTM D 1557.

E. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

F. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below base, drainage fill, or topsoil materials.

G. Unauthorized over-excavation: Excavation below subgrade elevations or beyond indicated dimensions without approval of the Geotechnical Engineer.

H. Unsuitable Soils: Existing, in-situ soil, or other material that can be identified as having insufficient strength characteristics or stability to support the intended loads. Unsuitable soil also includes imported or on-site soil containing organics, construction debris, or other deleterious material, or damaged by weather.

I. Wet Weather Earthwork: Earthwork performed between dates of October 1 and April 30 or during wet weather regardless of the time of year.

## 1.5 SUBMITTALS

A. Submit under provisions of Division 013300.

B. Submit product data for all materials specified.

## 1.6 QUALITY ASSURANCE

A. Contractor shall correct any work that exhibits aggregate separation, soft spots, and excess porosity at no additional cost to the Owner.

B. Repair cracks and unsatisfactory elevation irregularities immediately upon notification.

C. Replace any paving not draining properly.

1.7 SYSTEM DESCRIPTION

A. This work shall consist of one or more courses of plant mixed asphalt concrete placed on a prepared base in accordance with these specifications and in reasonably close conformity with the lines, grades, thicknesses, and typical cross-sections shown in the plans or established by the Owner's representative.

B. Asphalt concrete shall be composed of asphalt and aggregate which, with or without the addition of mineral filler and blending sand as may be required, shall be mixed in the proportions specified to provide a homogenous, stable, and workable mixture.

1.8 PROJECT SITE CONDITIONS

A. Environmental Requirements:

1. Accomplish paving in accordance with the Weather Limitations outlined in Section 5-04.3(1) of the Standard Specifications. Asphalt Paving shall be in accordance with referenced standard specifications and the following:

a. Do no paving in rain or when subgrade or base is wet or frozen.
b. Do not apply tack coats when base is wet.

1.9 DIMENSIONS AND LAYOUTS

A. See Section 31 10 00, "Site Preparation".

PART 2 - PRODUCTS

2.1 GENERAL

A. Comply with "Quality Control" provisions, "References," Specifications, and Manufacturer's data. Where these may be in conflict, the more stringent requirements govern.

B. Conform to APWA - Section II, "Specifications for Asphalt Paving" of above referenced manual. Provide bases, type and thickness of asphalt concrete as required by type of soils for indicated use.

2.2 ASPHALT PAVING

A. Headers, Benders & Stakes: Construction Grade Douglas fir; preservative treated.

B. Crushed Rock Base Course shall be per Specification 31 20 00, "Earth Moving".

C. Asphalt Binder shall be viscosity grade AR-4000, PG 58-22.

D. Hot Mix Asphalt ("HMA") shall be ½-inch HMA in accordance with Section 9-03.8 of the Standard Specifications

E. Crack Filler: Flexafil rubberized asphalt, or equal.

F. Other Materials: Provide all accessory and incidental materials, equipment, tools, and methods required for completion of paving, where indicated on drawings, including the following.

1. Tack Coat: CSS-1 in accordance with Section 9-02.1(6) of the Standard Specifications. Apply to all vertical surfaces to which "HMA" abuts.

2. Petromat or engineer approved equal: The geotextile construction shall be a needlepunched nonwoven geotextile composed of 75% polypropylene and 25% recycled polyester, staple fiber, calendared on one side. The geotextile should be resistant to ultraviolet degradation.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

A. Verify installation conditions as satisfactory to receive work of this Section. Do not install until unsatisfactory conditions are corrected. Beginning work constitutes your acceptance of conditions as satisfactory.

1. Construction shall conform to the details, dimensions and grades specified. Maximum variations in finished grade of paving shall be +/- 0.05 feet.
2. Grade and compact all areas to be paved in accordance with Section 31 20 00, “Earth Moving”.

### 3.2 PREPARATION

A. Protect surrounding areas and surfaces to preclude damage from work of this Section.

1. Protect work of other trades.
2. Should any defacement or damage occur, repair or replace as directed.

B. Traffic Control: Traffic Control shall be provided as required in accordance with the City of Kirkland requirements and the Manual on Uniform Traffic Control Devices.

### 3.3 ASPHALT PAVING INSTALLATION

A. General: Remove all existing fill, debris, vegetation, and other perishable materials from areas to be paved. Proof-roll subgrade and address soft yielding areas per Geotechnical Engineers recommendation. Bring areas requiring fills to rough grade elevations. Install wood headers and benders to true lines as indicated and securely staked to prevent movement or displacement during paving operations. Remove upon completion.

B. Base Course: Place in accordance with the requirements of Section 4-04 of the Standard Specifications and to the thickness shown on the plan or to match existing depth, whichever is greater. Materials shall be graded and compacted in 4-inch maximum layers to at least 95 percent of maximum density in accordance with ASTM D1557, Method D.

C. Tack Coat: All contact surfaces, curbs and cold pavement joints shall be painted with asphalt emulsion before the surfacing is laid. All longitudinal and transverse joints shall be fully compressed by the spreading machine and be free from surface irregularities.

D. Hot Mix Asphalt (HMA) Paving: Provide HMA as indicated on the plans, consisting of mineral aggregate, uniformly mixed with bituminous material in a central plant. Provide all labor, equipment and materials required to complete the work. All asphalt concrete pavement work shall conform to the requirements of Section 5-04.3 of the Standard Specifications.

E. Place asphalt in accordance with Section 5-04 of the Standard Specifications. Spread, finish and compact in accordance with Sections 5-04.3(7) and 5-04.3(10) of the Standard Specifications. Minimum lift thickness shall be 1 ½ inches. Compact to a minimum of 92% of the theoretical Rice Density.

F. Construct joints in accordance with Section 5-04.3(12) of the Standard Specifications. Provide surface smoothness in accordance with Section 5-04.3(13) of the Standard Specifications.

G. Sample and test asphalt concrete in accordance with Section 5-04.3(10)B of the Standard Specifications.

## 3.4 ASPHALT PAVEMENT PATCHING

A. Patching Bituminous Pavement: Replace the existing pavement with ½" HMA asphalt concrete pavement and compacted aggregate base course to either match the existing thickness as the existing HMA and base the asphalt paving section as shown on the plans, whichever is greater.

## 3.5 CLEANING

A. After completion of paving operations, clean surfaces of excess or spilled asphaltic materials.

B. Contractor shall phase the final lift of pavement in a manner to limit Construction traffic within this area after completion.

C. Do not permit vehicular traffic on asphaltic paving until it has cooled and hardened, and in no case sooner than twelve (12) hours after placing.

END OF SECTION

# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. This Section includes the following:

1. Structural steel.
2. Architecturally Exposed Structural Steel (AESS).
3. Grout.

B. Related Sections include the following:

1. Division 01 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.
2. Division 05 Section "Metal Fabrications" for other metal items not defined as structural steel.
3. Division 09 Section “Painting” for surface preparation and priming requirements.

## 1.3 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

B. AESS: Structural Steel that is exposed is considered to be, Architecturally Exposed Structural Steel (AESS) in the Contract Documents. See Architectural drawings for extents.

## 1.4 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.

1. Submit Shop Drawings and Erection Drawings prior to start of fabrication.
2. Indicate connections. Indicate welded connections with AWS A2.4 welding symbols. Indicate net weld lengths and designation of electrodes.
3. Verify all dimensions and correlate work with adjoining work.
4. Indicate locations and details of bearing plates to be anchored or embedded in other construction and all erection connections and accessories required.

5. Indicate size, type, grade, profiles, spacing, and location of all members, openings, and attachments.
6. Indicate cambers.
7. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.
8. Show the piece mark numbers on the erection drawings.
9. Indicate surface preparation, finishes, and shop primer.

C. Template Drawings and Placement Plans: As required for satisfactory placing, connection, and anchorages

D. Welding certificates: To be available for review by Inspection Agency.

E. Qualification Data: For installer and fabricator.

F. Mill Test Reports: Signed by manufacturers certifying that the following products comply with requirements:

1. Structural steel including chemical and physical properties.
2. Bolts, nuts, and washers including mechanical properties and chemical analysis.
3. Direct-tension indicators.
4. Tension-control, high-strength bolt-nut-washer assemblies.
5. Shop primers.
6. Nonshrink grout.

G. Source quality-control test reports.

H. Certified Manufacturer's Test Reports: All Steel Receiving Seismic Critical Welds: Tensile tests and chemical analysis, including all trace elements.

I. Maintain one copy of each document on-site.

## 1.5 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer with sufficient personnel and a minimum of five years' experience with successfully completed structural steel work similar in complexity to this project.

B. Welding Standards: Comply with AWS D1.1, "Structural Welding Code--Steel."

1. Qualifications for Welding Work: Qualify welding personnel in accordance with AWS D1.1, "Qualification," and WABO (or approved equal) requirements or approved equal.
    a. Qualify welders in accordance with AWS D1.1 for each process, position, and joint configuration.
    b. Welders who have not used the welding process for a period of 6 or more months shall be requalified.

c. If recertification of welders is required, retesting will be the Contractor's responsibility.
d. WPSs for each joint type shall indicate proper AWS qualification and be available where welding is performed.

C. Comply with applicable provisions of the following specifications and documents:

1. AISC's "Code of Standard Practice for Steel Buildings and Bridges."
2. AISC's "Seismic Provisions for Structural Steel Buildings" and "Supplement No. 2."
3. AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings."
4. AISC's "Specification for the Design of Steel Hollow Structural Sections."
5. AISC's "Specification for Load and Resistance Factor Design of Single-Angle Members."
6. RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
7. American Welding Society (AWS) D1.1, "Structural Welding Code."
8. International Building Code (IBC), 2018, where not in conflict with AISC provisions.

D. Perform work defined as AESS in accordance with AISC, "Code of Standard Practice for Steel Buildings and Bridges."

## 1.6 DELIVERY, STORAGE, AND HANDLING

A. Deliver structural steel to project site in such quantities and at such times as to ensure the continuity of installation. Include templates and instruction for the proper setting of anchor bolts.

B. Store materials to permit easy access for identification and any inspection not completed in the fabrication shop. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.

1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures.

C. Repair or replace damaged materials or structures as directed.

## 1.7 COORDINATION AND SEQUENCING

A. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

B. Coordinate schedule with other trades where attachments or interferences occur.

C. Schedule and sequence fabrication to coordinate with installation schedules and progress schedule.

1.8 FIELD MEASUREMENTS

A. Verify that field measurements and conditions are as shown on drawings, shop drawings, or as instructed by Product Manufacturer.

1.9 REDESIGN

A. Obtain written acceptance from the Architect/Structural Engineer for Contractor-initiated redesign or departures from that indicated by the contract documents.

B. Contractor to Bear costs for Contractor-initiated or construction error caused changes to type, form, system, or details of construction from those indicated by the contract documents.

C. Contractor to Pay the engineering fees required by the Structural Engineer to check the adequacy of such changes.

PART 2 - PRODUCTS

2.1 STRUCTURAL-STEEL MATERIALS

A. Steel Materials: Provide structural steel shapes, plates, angles, and bars of size, type, and quality as shown on the Drawings. Steel that is badly corroded or damaged in the opinion of the Inspector, shall not be incorporated in the Work. Steel materials shall conform to the Structural Drawings.

B. Carbon-Steel Bolts and Threaded Fasteners: Comply with structural drawings and general notes and ASTM A 307, Grade A, carbon-steel, hex-head bolts and threaded fasteners; carbon-steel nuts; and flat, unhardened steel washers.

C. Welding Materials and Electrodes: Comply with AWS.

D. Comply with AWS requirements and procedures for shop welding, appearance, quality of welds, and methods used in correcting welding work.

2.2 BOLTS, CONNECTORS, ANCHORS AND BEARINGS

A. High-Strength Bolts, Nuts, and Washers: ASTM A 325, Type 1, heavy hex steel structural bolts; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.

1. Finish: Plain at interior; Hot-dip zinc coating, ASTM A 153/A 153M, Class C, where exposed to weather.

B. Tension-Control, High-Strength Bolt-Nut-Washer Assemblies: ASTM F 1852, Type 1, round head steel structural bolts with splined ends; ASTM A 563 heavy hex carbon-steel nuts; and ASTM F 436 hardened carbon-steel washers.

1. Finish: Plain at interior; Mechanically deposited zinc coating, ASTM B 695, Class 50, where exposed to weather.

C. Welded Headed Stud Connectors: Unless otherwise noted, ASTM A 108, Grades 1015 through 1020, headed-stud type, cold-finished carbon steel; AWS D1.1, Type B.

D. Unheaded Anchor Rods: ASTM F 1554, Grade 36, unless grade indicated otherwise on drawings.

1. Configuration: Straight.
2. Nuts: ASTM A 563 heavy hex carbon steel.
3. Plate Washers: ASTM A 36/A 36M carbon steel.
4. Washers: ASTM F 436 hardened carbon steel.
5. Finish: Plain at interior; Hot-dip zinc coating, ASTM A 153/A 153M, Class C, where exposed to weather.

E. Headed Anchor Rods: ASTM F 1554, Grade 36, unless grade indicated otherwise on drawings, straight.

1. Nuts: ASTM A 563 heavy hex carbon steel.
2. Plate Washers: ASTM A 36/A 36M carbon steel.
3. Washers: ASTM F 436 hardened carbon steel.
4. Finish: Plain at interior; Hot-dip zinc coating, ASTM A 153/A 153M, Class C, where exposed to weather.

F. Threaded Rods: ASTM A 36/A 36M.

1. Nuts: ASTM A 563 heavy hex carbon steel.
2. Washers: ASTM A 36/A 36M carbon steel.
3. Finish: Plain at interior; Hot-dip zinc coating, ASTM A 153/A 153M, Class C, where exposed to weather.

G. Eye Bolts and Nuts: ASTM A 108, Grade 1030, cold-finished carbon steel.

H. Sleeve Nuts: ASTM A 108, Grade 1018, cold-finished carbon steel.

2.3 GROUT

A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time. Minimum compressive strength shall be 6,000 psi.

2.4 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Load and Resistance Factor Design Specification for Structural Steel Buildings."

1. Camber structural-steel members where indicated. Fabricate all beams with rolling camber up.
2. Mark and match-mark materials for field assembly.
3. Fabricate for delivery a sequence that will expedite erection and minimize field handling of structural steel.
4. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Continuously seal joined members exposed to weather by continuous welds. Grind exposed welds smooth for architecturally exposed structural steel or as indicated in contract documents.

C. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.

1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

D. Bolt Holes: Cut, drill, or punch bolt holes perpendicular to metal surfaces. Provide standard bolt holes unless indicated otherwise on drawings. Holes shall be accurately centered and shall register true upon erection. Poor matching of holes shall be cause for a rejection. Small errors may be repaired by drilling or reaming, with prior approval of Engineer/Architect.

E. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

F. Cleaning: Clean and prepare steel surfaces that are to remain unpainted according to SSPC-SP 1, "Solvent Cleaning" or SSPC-SP 2, "Hand Tool Cleaning."

G. Welded Headed Stud (WHS) Connectors: Prepare steel surfaces as recommended by manufacturer of WHS connectors. Use automatic end welding of headed-stud shear connectors according to AWS D1.1 and manufacturer's written instructions.

H. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.

1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.

2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

I. Plane bearing surfaces to true beds. Abutting surfaces shall be closely fitted. All columns and all bearing stiffeners shall be milled to give full bearing.

J. Clean contact surfaces in accordance with AISC specifications before assembly. Bring assembled parts into close contact. Use drift pins only for aligning members and shall not be used in a manner which will damage metal or enlarge or distort holes. Members requiring accurate alignment shall be provided with slotted holes and/or washers for truing up the steel as required. All finished members shall be true to line and free from twists, bends, and open joints.

K. Properly mark and match-mark materials for field assembly. Fabricate for delivery sequence which will expedite erection and minimize field handling of materials.

L. Where finishing is required, complete the assembly, including welding of units, before start of finishing operations. Finish surfaces of members exposed in the final structure shall be free of markings, burrs, and other defects.

M. Built-up sections shall be made to warpage and alignment tolerances in conformance with AISC and AWS specifications. Shop splices in elements shall be completed prior to welding elements together.

## 2.5 DIMENSIONAL TOLERANCES

A. Fabrication Tolerances: Unless otherwise noted, fabricate structural members to referenced AISC Specifications for allowable tolerances. Do not camber in excess of amounts shown on drawings.

1. Straightness: Structural members of a single rolled shape or built-up structural member shall be straight within the tolerances allowed for wide flanged shapes by ASTM A 6.
2. Length: With both ends finished for contact bearing, maximum variation of overall length equals 1/32-inch. For members without ends finished for contact bearing, maximum length variation equals 1/16-inch for lengths up to 30 feet and 1/8-inch for members over 30-feet long.

B. For members designated as AESS, tolerances shall be as allowed by the AESS section of the AISC Code of Standard Practice for Buildings and Bridges.

## 2.6 SHOP CONNECTIONS

A. High-Strength Bolts: Shop install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. Joint Type: Pretensioned, unless indicated otherwise on drawings.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.
2. Architecturally exposed structural steel:
    a. Remove backing bars or runoff tabs, back gouge, and grind steel smooth.
    b. Verify that weld sizes, fabrication sequence, and equipment used will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.
        1) Grind butt welds flush.
        2) Grind or fill exposed fillet welds to smooth profile. Dress exposed welds.

2.7 PRIMER

A. Shop priming is in addition to priming and painting applications specified in other sections

B. Shop prime steel surfaces except the following:

1. Surfaces embedded in concrete or mortar. Extend priming of partially embedded members to a depth of 2 inches.
2. Surfaces to be field welded.
3. Surfaces to be high-strength bolted with slip-critical connections.
4. Surfaces to receive sprayed fire-resistive materials.
5. Galvanized surfaces.

C. Clean and remove loose scale, heavy rust, and other foreign materials from fabricated steel members and accessories by hand-tool cleaning, SSPC-SP 2.

D. Architecturally exposed structural steel:

1. SSPC-SP 11, "Power Tool Cleaning to Bare Metal," at interior conditions.
2. SSPC-SP 6, "Commercial Blast Cleaning," at all conditions exposed to weather.

E. Shop Coat Primer Paint: Apply one coat of shop primer to provide a continuous, dry film not less than 1.5 mils thick per coat of primer as listed below or an approved equal.

1. Apply two coats of shop primer to surfaces inaccessible after assembly or erection.
2. Primer: Fabricator's standard lead- and chromate-free, non-asphaltic, rust-inhibiting primer.
3. Shop-Applied Zinc-Rich Primer (for steel not galvanized and exposed to weather in its final position, including all AESS, and as otherwise specified): Shop preparation shall be SSPC Method SP-6.
    a. "CarboZink 859" by Carboline Company, "Tnemec-Zinc 90-97" by Tnemec Company, or "Zinc Clad III HS B69A100/B69V100/B69D11" by Sherwin Williams. Color selected by Engineer/Architect.

2.8 GALVANIZING

A. Hot-Dip Galvanized Finish: For the steel indicated to be galvanized, apply zinc coating by the hot-dip process to structural steel according to ASTM A 123/ A 123M.

1. Galvanize all structural steel exposed to weather, not otherwise indicated as architecturally exposed structural steel (AESS).
2. Galvanize all structural steel noted to be galvanized in contract drawings.
3. Fill vent holes and grind smooth after galvanizing.
4. Galvanize lintels and shelf angles attached to structural steel frame and located in exterior walls.
5. Galvanize all steel embedded in concrete or mortar.
6. Galvanize all buried steel.
7. Galvanized Finish Touch-Up: Touch-up paint shall be an organic cold-galvanizing compound having a minimum of 94 percent zinc dust in dry film. "CarboZink 859" as manufactured by Carboline, St. Louis, MO, Tnemec-Zinc 90-97" by Tnemec Company, or "Zinc Clad III HS B69A100/B69V100/B69D11" by Sherwin Williams.

2.9 SOURCE QUALITY CONTROL

A. Owner will engage an independent testing and inspecting agency to perform shop tests and inspections and prepare test reports.

1. Provide testing agency with access to places where structural-steel work is being fabricated or produced to perform tests and inspections.

B. Correct deficiencies in Work that test reports and inspections indicate does not comply with the Contract Documents.

C. Welded Connections: In addition to visual inspection, shop-welded connections will be tested and inspected according to AWS D1.1 and the following inspection procedures, at testing agency's option:

1. Liquid Penetrant Inspection: ASTM E 165.
2. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
3. Ultrasonic Inspection: ASTM E 164.
4. Radiographic Inspection: ASTM E 94.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Prior to erection, verify elevations of concrete- and supporting surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

A. Provide temporary shores, guys, braces, and other supports during erection to keep structural steel secure, plumb, and in alignment against temporary construction loads and loads equal in intensity to design loads. Remove temporary supports when permanent structural steel, connections, and bracing are in place, unless otherwise indicated.

3.3 ERECTION

A. Set structural steel, joists and accessories plumb, square, and true to line accurately in locations and to elevations indicated and according to SJI's specifications and AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Load and Resistance Factor Design Specification for Structural Steel Buildings."

B. Base Plates: Clean concrete- and masonry-bearing surfaces of bond-reducing materials and roughen surfaces prior to setting base plates. Clean bottom surface of base plates.

1. Set base plates for structural members on wedges, shims, or setting nuts as required.
2. Weld plate washers to top of base plate.
3. Snug-tighten anchor rods after supported members have been positioned and plumbed. Do not remove wedges or shims but, if protruding, cut off flush with edge of base plate before packing with grout.
4. Promptly pack grout solidly between bearing surfaces and base plates so no voids remain. Neatly finish exposed surfaces; protect grout and allow to cure. Comply with manufacturer's written installation instructions for non-shrink grouts.

C. Maintain erection tolerances of structural steel and architecturally exposed structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

D. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

1. Level and plumb individual members of structure.
2. Make allowances for difference between temperature at time of erection and mean temperature when structure is completed and in service.

E. Splice members only where indicated. Fasten splices of compression on members after bringing abutting surfaces completely into contact.

F. Remove erection bolts on welded, architecturally exposed structural steel; fill holes with plug welds; and grind smooth at exposed surfaces.

G. Do not use thermal cutting during erection unless approved by Architect. Finish thermally cut sections within smoothness limits in AWS D1.1. Cutting will be permitted only on secondary members which are not under stress, as acceptable to Engineer.

H. Reaming: Light drifting will be permitted to draw the parts together but drifting to match unfair holes will not be permitted. Any enlargement of holes necessary to make connections in the field shall be done by reaming with twist drills, care being taken not to weaken the adjoining metal. If, in the judgment of the Engineer/Architect, the extent of the reaming is such that holes cannot be properly filled or accurately adjusted after reaming, the faulty member shall be discarded and replaced with a new one, and all costs and expenses resulting there from shall be paid by the Contractor.

I. Cutting and Fitting: No cutting of sections, either flanges, webs, stems or angles shall be done by the Contractor without the consent of the Engineer/Architect, unless this cutting is particularly specified or shown on the drawings.

J. Touch-Up Painting: Immediately after erection, clean field welds, bolted connections and abraded areas of the shop paint. Apply paint to exposed areas with the same material as used for shop painting. Apply by brush or spray to provide a minimum dry film thickness of 2.0 mils.

K. Touch-Up and Repair of Galvanizing: Immediately after erection, clean and repair any damaged galvanizing as outlined in previous section regarding galvanizing.

L. Fire retardant blankets shall be employed to completely contain arcs and spatter associated with welding during erection.

M. Weld dams shall not be used.

## 3.4 FIELD CONNECTIONS

A. High-Strength Bolts: Install high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts" for type of bolt and type of joint specified.

1. AESS: Install bolts with heads in matching orientation.

B. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Load and Resistance Factor Design Specification for Structural Steel Buildings" for bearing adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.
2. Assemble and weld built-up sections by methods that will maintain true alignment of axes without exceeding tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for mill material.

C. AESS: Verify that weld sizes, fabrication sequence, and equipment used for architecturally exposed structural steel will limit distortions to allowable tolerances. Prevent weld show-through on exposed steel surfaces.

1. Grind butt welds flush.

2. Grind or fill exposed fillet welds ½-inch and larger to smooth profile. Dress exposed welds.

D. Erection Connections, etc.: Place holes, plates, or other attachments required by the Erector so as not to interfere with or cause any other detrimental effect to structural members or their connections.

## 3.5 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified independent testing and inspecting agency to inspect field welds and high-strength bolted connections.

B. Welded Connections: Field welds will be visually inspected according to AWS D1.1.

1. In addition to visual inspection, field welds will be tested according to AWS D1.1 and the following inspection procedures, at testing agency's option:

a. Liquid Penetrant Inspection: ASTM E 165.
b. Magnetic Particle Inspection: ASTM E 709; performed on root pass and on finished weld. Cracks or zones of incomplete fusion or penetration will not be accepted.
c. Ultrasonic Inspection: ASTM E 164.
d. Radiographic Inspection: ASTM E 94.

C. Visually inspect bolted connections.

D. Correct deficiencies in Work that test and inspection reports have indicated are not in compliance with construction documents.

E. Perform additional testing to determine compliance of corrected Work with specified requirements.

## 3.6 REPAIRS AND PROTECTION

A. Repair damaged galvanized coatings on galvanized items with galvanized repair paint according to ASTM A 780 and manufacturer's written instructions.

B. Touchup Painting: After installation, promptly clean, prepare, and prime or reprime field connections, rust spots, and abraded surfaces of prime-painted joists and accessories and abutting structural steel.

1. Clean and prepare surfaces by SSPC-SP 2 hand-tool cleaning or SSPC-SP 3 power-tool cleaning.
2. Apply a compatible primer of same type as shop primer used on adjacent surfaces.

END OF SECTION

# PART 1 - GENERAL

## 1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

## 1.2 SUMMARY

A. This Section includes the following:

1. Steel framing and supports for applications where framing and supports are not specified in other Sections.
2. Miscellaneous related items including fasteners, connectors, and other items required for complete installation of metal fabrication-type items.
3. Metal bollards.
4. Steel bearing plates, weld plates and angles.
5. Miscellaneous steel trim.
6. Metal-Bar Grating.
7. Attic Access Ladders.
8. Trash Enclosure Doors

B. Products furnished, but not installed, under this Section:

1. Anchor bolts, steel pipe sleeves, slotted-channel inserts, and wedge-type inserts indicated to be cast into concrete or built into unit masonry.
2. Steel weld plates and angles for casting into concrete for applications where they are not specified in other Sections.

C. Related Sections:

1. Division 01 Section "Submittal Procedures" for submittal requirements.
2. Division 06 Section “Interior Architectural Woodwork” for stainless steel counter tops as part of interior cabinetry and metal reinforced cabinet support structure.
3. Division 06 Sections for metal framing anchors.
4. Division 09 Section ”Painting”
5. Division 10 “Miscellaneous Specialties” for stainless steel wire shelving units.

## 1.3 ACTION SUBMITTALS

A. Submit under provisions of Section 01 3300.

B. Product Data: For the following:

1. Paint products.

C. Shop Drawings: Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items.

1. Metal-bar grating joint locations.

D. Templates: For anchors and bolts.

1.4 INFORMATIONAL SUBMITTALS

A. Mill Certificates: Signed by manufacturers of stainless steel certifying that products furnished comply with requirements.

B. Welding certificates.

C. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers certifying that shop primers are compatible with topcoats.

1.5 QUALITY ASSURANCE

A. Fabricator Qualifications: A firm experienced in producing decorative metal similar to that indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

B. Welding Qualifications: Qualify procedures and personnel according to the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
3. AWS D1.3/D1.3M, "Structural Welding Code - Sheet Steel."
4. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

1.6 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with gratings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. In other Part 2 articles where titles below introduce lists, the following requirements apply to product selection:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the manufacturers specified.

2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. Provide materials without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Ferrous Metals: As required per structural general notes

1. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
2. Steel Tubing: ASTM A 500, cold-formed steel tubing.
3. Steel Pipe: ASTM A 53/A 53M, standard weight (Schedule 40), unless another weight is indicated or required by structural loads.

C. Nonferrous Metals:

1. Aluminum Extrusions: ASTM B 221, alloy 6063-T6.
2. Aluminum plates/sheets: ASTM B 209, alloy 6061-T6.
3. Aluminum Castings: ASTM B 26, Alloy 443.0-F.
4. Stainless Steel: ASTM A 666, Type 304, with No. 4 finish (satin), in 0.0312-inch (0.8-mm) minimum nominal thickness, unless otherwise indicated

2.3 FASTENERS

A. Fastener Materials: Unless otherwise indicated, provide the following:

1. General: Type 304 stainless-steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B 633, Class Fe/Zn 5, at exterior walls. Provide stainless-steel fasteners for fastening aluminum. Select fasteners for type, grade, and class required.

   a. Provide non-slotted fasteners.

2. Cast-in-Place Anchors in Concrete: Threaded or wedge type; galvanized ferrous castings, either ASTM A 47/A 47M malleable iron or ASTM A 27/A 27M cast steel. Provide bolts, washers, and shims as needed, hot-dip galvanized per ASTM A 153/A 153M.

3. Aluminum Items: Type 304 stainless-steel fasteners.

4. Stainless-Steel Items: Type 304 stainless-steel fasteners.

2.4 MISCELLANEOUS MATERIALS

A. Primer specified under this section is in addition to priming and painting applications specified under other sections.

B. Zinc-Rich Primer: Complying with SSPC-Paint 20 or SSPC-Paint 29 and compatible with topcoat.

1. Products:

a. Benjamin Moore & Co.; Epoxy Zinc-Rich Primer CM18/19.
b. Carboline Company; Carbozinc 621.
c. ICI Devoe Coatings; Catha-Coat 313.
d. International Coatings Limited; Interzinc 315 Epoxy Zinc-Rich Primer.
e. PPG Architectural Finishes, Inc.; Aquapon Zinc-Rich Primer 97-670.
f. Sherwin-Williams Company (The); Corothane I GalvaPac Zinc Primer.
g. Tnemec Company, Inc.; Tneme-Zinc 90-97.
h. Or approved equal.

C. Galvanizing Repair Paint: SSPC-Paint 20, high-zinc-dust-content paint, compatible with paints specified to be used over it for regalvanizing welds in steel.

D. Nonshrink, Nonmetallic Grout: Factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107.

E. Welding Rods and Bare Electrodes: Select according to AWS specifications for metal alloy welded.

1. For aluminum, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

F. Brazing Rods: For copper alloys, provide type and alloy as recommended by producer of metal to be brazed and as required for color match, strength, and compatibility in fabricated items.

G. Etching Cleaner for Galvanized Metal: Complying with MPI#25.

## 2.5 FABRICATION

A. General: Preassemble items in the shop to greatest extent possible. Use connections that maintain structural value of joined pieces.

1. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges. Remove sharp or rough areas on exposed surfaces.
2. Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. Obtain fusion without undercut or overlap. Remove welding flux immediately. Finish exposed welds smooth and blended.
3. Form exposed connections with hairline joints, flush and smooth, using concealed fasteners where possible. Locate joints where least conspicuous.
4. Fabricate seams and other connections that will be exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
5. Where units are indicated to be cast into concrete or built into masonry, equip with integrally welded steel strap anchors, not less than 24 inches o.c.

B. Miscellaneous Framing and Supports: Provide steel framing and supports not specified in other Sections as needed to complete the Work. Fabricate units from steel shapes, plates, and bars of welded construction. Cut, drill, and tap units to receive hardware, hangers, and similar items.

C. Miscellaneous Steel Trim: Fabricate units from steel shapes, plates, and bars of profiles shown with continuously welded joints and smooth exposed edges. Miter corners and use concealed field splices where possible. Provide cutouts, fittings, and anchorages as needed to coordinate assembly and installation with other work.

1. Exterior Miscellaneous Steel Trim: Galvanize.

## 2.6 METAL BOLLARDS

A. Fabricate metal bollards from Schedule 80 steel pipe.

B. Steel Finish: Hot-dipped galvanized; Field painting specified in Section 09 91 00.

C. Fill fixed metal bollards with concrete, minimum 3000 psi mix. (Remove any debris or water/ snow/ ice first.)

D. Bollard Cap: Pre-formed concrete bollard cap, sized to fit bollards. Basis of Design: Topguard or approved equal.

## 2.7 LOOSE BEARING AND LEVELING PLATES

A. Provide loose bearing and leveling plates for steel items bearing on masonry or concrete construction. Drill plates to receive anchor bolts and for grouting.

B. Galvanize plates. – Field finish per 09 91 00 where exposed to view or the environment.

## 2.8 METAL-BAR GRATINGS

A. Metal-Bar Floor Grating – Galvanized Steel

1. Metal Bar-Grating: Form floor and exterior grating panels to configurations shown from metal bar grating; fabricate to comply with NAAMM MBG 531, "Metal Bar Grating Manual."
2. Fabricate grating from welded steel grating with 1-by-1/8-inch bearing bars at 1-3/16 inch o.c. and crossbars at 4 inches o.c.; galvanized finish.
3. Products: Provide one of the following products subject to conformance with the requirements specified.
   a. "Welded Steel Grating – Type W19-4" – Grating Pacific Incorporated, Seattle, WA; 800/243-3939; website: gratingpacific.com
   b. Or approved Equal.

B. All metal-bar grating at floor locations to be removable.

C. Confirm joint locations with architect prior to fabrication.

D. Fasteners – Metal-Bar Gratings:

1. Saddle clips:

a. Floor Locations: Provide gratings manufacturer's standard stainless steel saddle clips, and application- appropriate stainless steel screws, and related connectors to fasten grating sections to each other, and to stainless steel leveling shims placed under grating (resting on floor) to maintain gratings surface in level condition over sloping concrete floors.
b. Exterior Locations: Provide gratings manufacturer's standard galvanized saddle clips, application- appropriate stainless steel screws, and related connectors to fasten grating sections to each other.

2. Do not damage floor or wall special coating system when installing gratings.

## 2.9 ATTIC ACCESS LADDERS

A. General: Comply with ANSI A14.3, unless otherwise indicated.

B. Steel Ladders: Fabricate steel ladders from galvanized steel plates, and bars per construction documents.

1. Fit rungs in centerline of siderails; plug-weld and grind smooth on outer rail faces.
2. Provide nonslip surfaces on top of each rung, either by coating rung with aluminum-oxide granules set in epoxy-resin adhesive or by using a type of manufactured rung filled with aluminum-oxide grout.
3. Prime, including brackets and fasteners, with zinc-rich primer.

## 2.10 TRASH ENCLOSURE DOORS

A. Per sheet Drawings.

B. Finish: Field painted per section 09 91 00 for exterior galvanized metal. (All components including brackets and fasteners)

## 2.11 FINISHES

A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes. Finish metal fabrications after assembly.

B. Appearance of Finished Work: Variations in appearance of abutting or adjacent pieces are acceptable if they are within one-half of the range of approved Samples. Noticeable variations in the same piece are not acceptable. Variations in appearance of other components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

C. Provide exposed fasteners with finish matching appearance, including color and texture.

D. Steel and Iron Finishes:

1. Hot-dip galvanize items as indicated to comply with ASTM A 123/A 123M or ASTM A 153/A 153M as applicable.
2. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with requirements indicated below for environmental exposure conditions of installed metal fabrications:
    a. Exteriors (SSPC Zone 1B) and Items Indicated to Receive Zinc-Rich Primer: SSPC-SP 6/NACE No. 3, "Commercial Blast Cleaning."
    b. Interiors (SSPC Zone 1A): SSPC-SP 3, "Power Tool Cleaning."
3. Shop Priming: Apply shop primer to uncoated surfaces of metal fabrications, except those with galvanized finishes and those to be embedded in concrete, sprayed-on fireproofing, or masonry, to comply with SSPC-PA 1, "Paint Application Specification No. 1: Shop, Field, and Maintenance Painting," for shop painting.
4. Clean and prime all field welds prior to cover or field painting per section 09 91 00.
    a. All shop primed and galvanized materials to be painted, shall be primed and painted per section 09 91 00.

## PART 3 - EXECUTION

### 3.1 INSTALLATION

A. General: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, with edges and surfaces level, plumb, and true.

1. Fit exposed connections accurately together. Weld connections that are not to be left as exposed joints but cannot be shop welded. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication.
2. Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction.
3. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.

B. Set bearing and leveling plates on cleaned surfaces using wedges, shims, or leveling nuts. After bearing members have been positioned and plumbed, tighten anchor bolts and pack solidly with nonshrink, nonmetallic grout.

### 3.2 METAL BOLLARDS

A. Fixed Metal Bollards: Anchor bollards in place with concrete footings, as shown. Place concrete and vibrate or tamp for consolidation. Support and brace bollards in position until concrete has cured.

1. Fill bollards solidly with concrete, mounding top surface to shed water with a uniform ¼ bowl shape.

B. Finish: Field painted per section 09 91 00 for exterior galvanized metal.

3.3 INSTALLING METAL BAR GRATINGS

A. General: Install gratings to comply with recommendations of referenced metal bar grating standards that apply to grating types and bar sizes indicated, including installation clearances and standard anchoring details.

B. Attach removable units to supporting members with type and size of clips and fasteners indicated, as recommended by grating manufacturer for type of installation conditions shown.

C. Ensure adjacent work will not block or interfere with removal of the grate as required for future maintenance.

3.4 CLEANING

A. Touch up surfaces and finishes after erection.

1. Painted Surfaces: Clean field welds, bolted connections, and abraded areas and touch up paint with the same material as used for shop painting.
2. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A 780.

END OF SECTION

# PART 1 - GENERAL

## 1.1 SUMMARY

A. Section Includes:
   1. Aluminum railings.

B. Related Requirements:

   1. Section 05 51 13 "Rough Carpentry."

## 1.2 COORDINATION

A. Coordinate selection of shop primers with topcoats to be applied over them. Comply with paint and coating manufacturers' written recommendations to ensure that shop primers and topcoats are compatible with one another.

B. Coordinate installation of anchorages for railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

## 1.3 ACTION SUBMITTALS

A. Product Data:
   1. Fasteners.
   2. Post-installed anchors.
   3. Shop primer.
   4. Metal finishes.
   5. Paint products.

B. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work.

C. for Initial Selection: For products involving selection of color, texture, or design**, including mechanical finishes**.

D. Samples for Verification: For each type of exposed finish required.

   1. Sections of each distinctly different linear railing member, including handrails, top rails, posts, and balusters, including finish.
   2. Fittings and brackets.
   3. Assembled Sample of railing system, made from full-size components, including top rail, post, handrail, and infill. Sample need not be full height.

      a. Show method of **connecting and finishing** members at intersections.

E. Design Submittal: For railings, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Qualification Data: For **delegated design professional engineer**.

B. Welding certificates.

C. Mill Certificates: Signed by manufacturers of stainless steel products, certifying that products furnished comply with requirements.

D. Product Test Reports: For tests on railings performed by a qualified testing agency, in accordance with ASTM E894 and ASTM E935.

E. Research Reports: For post-installed anchors, from ICC-ES or other qualified testing agency acceptable to authorities having jurisdiction.

1.5 QUALITY ASSURANCE

A. Welding Qualifications: Qualify procedures and personnel in accordance with the following:

1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

1.6 DELIVERY, STORAGE, AND HANDLING

A. Protect mechanical finishes on exposed surfaces of railings from damage by applying a strippable, temporary protective covering before shipping.

1.7 FIELD CONDITIONS

A. Field Measurements: Verify actual locations of walls and other construction contiguous with railings by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design railings, including attachment to building construction.

B. Structural Performance: Railings, including attachment to building construction, withstand the effects of gravity loads and the following loads and stresses within limits and under conditions indicated:

1. Handrails and Top Rails of Guards:

a. Uniform load of 50 lbf/ ft. (0.73 kN/m) applied in any direction.
b. Concentrated load of 200 lbf (0.89 kN) applied in any direction.
c. Uniform and concentrated loads need not be assumed to act concurrently.

2. Infill of Guards:

a. Concentrated load of 50 lbf (0.22 kN) applied horizontally on an area of 1 sq. ft. (0.093 sq. m).
b. Infill load and other loads need not be assumed to act concurrently.

C. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes.

1. Temperature Change: **120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces**.

## 2.2 METALS, GENERAL

A. Metal Surfaces, General: Provide materials with smooth surfaces, without seam marks, roller marks, rolled trade names, stains, discolorations, or blemishes.

B. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails unless otherwise indicated.

1. Provide type of bracket with **predrilled hole for exposed bolt anchorage** and that provides 1-1/2-inch (38-mm) clearance from inside face of handrail to finished wall surface.

## 2.3 ALUMINUM RAILINGS

A. Aluminum, General: Provide alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated, and with not less than the strength and durability properties of alloy and temper designated below for each aluminum form required.

B. Extruded Bars and Tubing: ASTM B221 (ASTM B221M), Alloy 6063-T5/T52.

C. Extruded Structural Pipe and Round Tubing: ASTM B429/B429M, Alloy 6063-T6.

1. Provide Standard Weight (Schedule 40) pipe unless otherwise indicated.

D. Drawn Seamless Tubing: ASTM B210/B210M, Alloy 6063-T832.

E. Plate and Sheet: ASTM B209 (ASTM B209M), Alloy 6061-T6.

F. Die and Hand Forgings: ASTM B247 (ASTM B247M), Alloy 6061-T6.

G. Castings: ASTM B26/B26M, Alloy A356.0-T6.

## 2.4 FASTENERS

A. Fastener Materials:
1. Aluminum Railing Components: **Type 304** stainless steel fasteners.
2. Finish exposed fasteners to match appearance, including color and texture, of railings.

B. Fasteners for Anchoring Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring railings to other types of construction **and capable of withstanding design loads**.

C. Fasteners for Interconnecting Railing Components:
1. Provide concealed fasteners for interconnecting railing components and for attaching them to other work, unless exposed fasteners are unavoidable or are the standard fastening method for railings indicated.

D. Post-Installed Anchors: Fastener systems with working capacity greater than or equal to the design load, according to an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC193[ **or ICC-ES AC308**].

1. Material for Interior Locations: Carbon-steel components zinc-plated to comply with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, unless otherwise indicated.

## 2.5 MISCELLANEOUS MATERIALS

A. Welding Rods and Bare Electrodes: Select in accordance with AWS specifications for metal alloy welded.

1. For **aluminum** railings, provide type and alloy as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.

B. Shop Primers: Provide primers that comply with **Section 09 9100 "Painting."**

## 2.6 FABRICATION

A. General: Fabricate railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage**, but not less than that required to support structural loads**.

B. Shop assemble railings to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations.

1. Clearly mark units for reassembly and coordinated installation.
2. Use connections that maintain structural value of joined pieces.

C. Cut, drill, and punch metals cleanly and accurately.

1. Remove burrs and ease edges to a radius of approximately 1/32 inch (1 mm) unless otherwise indicated.
2. Remove sharp or rough areas on exposed surfaces.

D. Form work true to line and level with accurate angles and surfaces.

E. Fabricate connections that are exposed to weather in a manner that excludes water.

1. Provide weep holes where water may accumulate.
2. Locate weep holes in inconspicuous locations.

F. Cut, reinforce, drill, and tap as indicated to receive finish hardware, screws, and similar items.

G. Connections: Fabricate railings with **welded** connections unless otherwise indicated.

H. Welded Connections: Cope components at connections to provide close fit, or use fittings designed for this purpose. Weld all around at connections, including at fittings.

1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
2. Obtain fusion without undercut or overlap.
3. Remove flux immediately.
4. At exposed connections, finish exposed welds to comply with NOMMA's "Voluntary Joint Finish Standards" for **Finish #1 welds; ornamental quality with no evidence of a welded joint**.

I. Welded Connections for Aluminum Pipe: Fabricate railings to interconnect members with concealed internal welds that eliminate surface grinding, using manufacturer's standard system of sleeve and socket fittings.

J. Nonwelded Connections: Connect members with concealed mechanical fasteners and fittings. Fabricate members and fittings to produce flush, smooth, rigid, hairline joints.

K. Form changes in direction as follows:

1. As detailed.
2. By bending to smallest radius that will not result in distortion of railing member.

L. Bend members in jigs to produce uniform curvature for each configuration required. Maintain cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of components.

M. Close exposed ends of hollow railing members with prefabricated cap and end fittings of same metal and finish as railings.

N. Provide wall returns at ends of wall-mounted handrails unless otherwise indicated. Close ends of returns unless clearance between end of rail and wall is 1/4 inch (6 mm) or less.

O. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect railing members to other work unless otherwise indicated.

1. At brackets and fittings fastened to plaster or gypsum board partitions, provide crush-resistant fillers or other means to transfer loads through wall finishes to structural supports and prevent bracket or fitting rotation and crushing of substrate.

## 2.7 ALUMINUM FINISHES

A. Powder-Coat Finish: AAMA 2603 except with a minimum dry film thickness of 1.5 mils (0.04 mm). Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.

1. Color and Gloss: **As selected by Architect from manufacturer's full range**.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine plaster and gypsum board assemblies, where reinforced to receive anchors, to verify that locations of concealed reinforcements are clearly marked for Installer. Locate reinforcements and mark locations if not already done.

3.2 INSTALLATION, GENERAL

A. Perform cutting, drilling, and fitting required for installing railings.

1. Fit exposed connections together to form tight, hairline joints.
2. Install railings level, plumb, square, true to line; without distortion, warp, or rack.
3. Set railings accurately in location, alignment, and elevation; measured from established lines and levels.
4. Do not weld, cut, or abrade surfaces of railing components that are coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
5. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
6. Align rails so variations from level for horizontal members and variations from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (6 mm in 3.5 m).

B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1. Coat concealed surfaces of aluminum that will be in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

C. Adjust railings before anchoring to ensure matching alignment at abutting joints.

D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing railings and for properly transferring loads to in-place construction.

3.3 RAILING CONNECTIONS

A. Nonwelded Connections: Use mechanical or adhesive joints for permanently connecting railing components. Use wood blocks and padding to prevent damage to railing members and fittings. Seal recessed holes of exposed locking screws, using plastic cement filler colored to match finish of railings.

B. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article, whether welding is performed in the shop or in the field.

C. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve, extending 2 inches (50 mm) beyond joint on either side; fasten internal sleeve securely to one side; and locate joint within 6 inches (150 mm) of post.

3.4 ATTACHING RAILINGS

A. Anchor railing ends to metal surfaces with flanges bolted to metal surfaces and **welded to railing ends**.

B. Attach handrails to walls with wall brackets**, except where end flanges are used**. Provide brackets with **1-1/2-inch (38-mm)** clearance from inside face of handrail and finished wall surface.

1. Use type of bracket with **predrilled hole for exposed bolt anchorage**.
2. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.

C. Secure wall brackets **and railing end flanges** to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.
3. For wood stud partitions, use hanger or lag bolts set into studs or wood backing between studs. Coordinate with carpentry work to locate backing members.

3.5 CLEANING

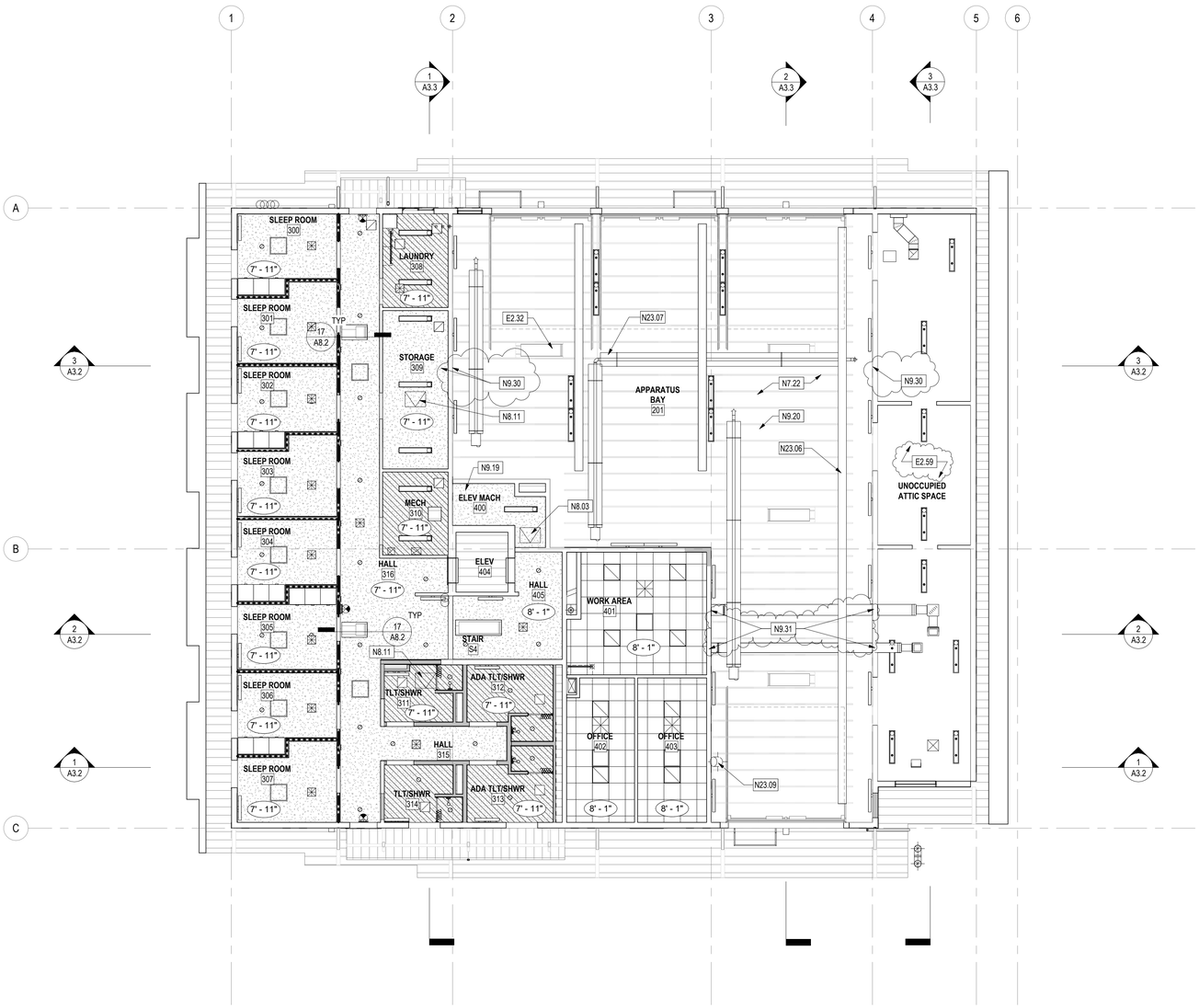
A. Clean **aluminum** by washing thoroughly with clean water and soap and rinsing with clean water.

3.6 PROTECTION

A. Protect finishes of railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at time of Substantial Completion.

B. Restore finishes damaged during installation and construction period, so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION




## 1 REFLECTED CEILING PLAN - LEVELS 3 & 4

Scale: 1/8" = 1'-0"

## RCP GENERAL NOTES

1. CONTRACTOR TO SUBMIT COORDINATION DRAWINGS INDICATING O.H. DOOR BLOCKING, O.H. DOOR TRACK BRACING, LIGHTING, RADIANT HEAT, SPRINKLER LINES & HEADS PRIOR TO MECH. AND ELECT. INSTALLATIONS AT APPARATUS BAYS.
2. SEISMIC CLIPS (BERC 2) INSTALLATION REQUIRE SPECIAL INSPECTIONS. COORDINATE INSPECTIONS WITH OWNER'S SPECIAL INSPECTION AGENCY.
3. PROVIDE COLLAR /TRIM AT ALL CEILING/ROOF PENETRATIONS.
4. DROPPED CEILING JOISTS:
   A. 2X6 @ 2'-0" O.C. FOR SPANS < 12'-0"
   B. 2X10 @ 16" O.C. FOR SPANS >12'-0" & < 18'-0"
5. SEE MECHANICAL & PLUMBING PLANS & SPECS FOR ADDITIONAL CEILING & WALL ACCESS PANELS AT MECHANICAL EQUIPMENT.
6. ACCESS PANELS SHALL BE PROVIDED AT ALL DAMPERS, VALVES AND OTHER MEP EQUIPMENT REQUIRING ACCESS FOR MAINTENANCE ABOVE GYPSUM BOARD CEILINGS, INCLUDING LOCATIONS NOT SHOWN IN DRAWINGS.
7. PROVIDE REMOVABLE CROSS RUNNERS AT ACOUSTICAL PANEL CEILING SUSPENSION SYSTEM WHERE ACCESS TO MECHANICAL SYSTEMS IS NECESSARY.
8. SLAB ELEVATIONS VARY IN THE SPACES ALONG THE APP BAY AND CEILING. ELEVATIONS ARE GIVEN FROM THE LEVEL 2 ELEVATION, WHICH MAY NOT MATCH THE SLAB ELEVATION OF THE ROOM.

## KEYNOTE LEGEND

| | |
|---|---|
| E2.32 | EXISTING SKYLIGHT TO REMAIN. REPLACE/REPAIR SCRIM AROUND SKYLIGHT OPENINGS, TYP. |
| E2.59 | EXISTING SCRIM TO REMAIN IN ENTIRE ATTIC. PATCH AND REPAIR SCRIM AS REQUIRED FOR REMOVAL OF EXISTING LIGHT FIXTURES AND ASSOCIATED CONDUIT/WIRING AND INSTALLATION OF NEW LIGHT FIXTURES. |
| N7.22 | REPAIR SCRIM IN AREAS WHERE TORN |
| N8.03 | 1 HR FIRE RATED ACCESS HATCH |
| N8.11 | ACCESS PANEL IN SAME LOCATION AS EXISTING; COORDINATE AROUND EXISTING FRAMING |
| N9.19 | TYPE X GYP CEILING |
| N9.20 | PAINT SCRIM AND EXPOSED STRUCTURE |
| N9.30 | CUT OUT GYP BOARD AT WALLS OR CEILINGS FOR CONDUIT PENETRATIONS, SCRIBE NEATLY AROUND PENETRATIONS AND FILL IN ANY GAPS WITH CONT. SEALANT. PROVIDE ESCUTCHEON PLATE AT VISIBLE SIDE OF PENETRATION. REFER TO ELECTRICAL FOR CONDUIT ROUTING. |
| N9.31 | CUT OUT GYP BOARD FOR DUCT PENETRATIONS, SCRIBE NEATLY AROUND PENETRATIONS AND FILL IN ANY GAPS WITH CONT. SEALANT. REFER TO MECHANICAL. |
| N23.06 | VEHICLE EXHAUST TRACK, TYP. - REFER TO MECHANICAL |
| N23.07 | RADIANT HEATER, TYP. - REFER TO MECHANICAL |
| N23.09 | RANGE HOOD EXHAUST GOOSENECK, PAINTED TO MATCH EXISTING ROOF, TYP. - REFER TO MECHANICAL |

## RCP LEGEND

- GYPSUM BOARD CEILING
- 2 X 4 SCORED ACOUSTICAL PANEL CEILING
- GYPSUM BACKER BOARD CEILING SKIMCOAT FOR SMOOTH SURFACE AS REQUIRED

- INDICATES 20X30 ACCESS PANEL
- SUSPENDED LIGHT FIXTURE
- UNDER CABINET LIGHT FIXTURE
- SURFACE MOUNTED LIGHT FIXTURE
- LAY-IN LIGHT FIXTURE
- RECESSED DOWNLIGHT
- WALL MOUNTED LINEAR LIGHT
- EXTERIOR LIGHT
- EXTERIOR LIGHT
- EXIT LIGHT
- WALL RECESSED NIGHT LIGHT
- RETURN AIR EXHAUST
- SUPPLY AIR
- RATED PARTITION EXTEND TO DECK ABOVE
- 9'-10" FINISH HEIGHT ABOVE FIN. FLOOR
- EXP EXPOSED CEILING & OPEN FRAMING, PRIME AND PAINT ALL EXPOSED STRUCTURE

0 4' 8' 16'
1/8" = 1'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6235 REGISTERED ARCHITECT
BRIAN J. HARRIS
STATE OF WASHINGTON
11/14/2023
EXPIRES: 03/03/2024

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 3 | ADDENDUM 1 | 12/01/23 |

Project Title:

**FIRE STATION 26 RENOVATION**

CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

Sheet Title:

**REFLECTED CEILING PLAN - LEVELS 3 & 4**

Scale: As indicated
Project No. : 22-27-26
Date : 11/14/2023

Sheet Number :

**A6.2**

# SPLIT SYSTEM A/C & HEAT PUMP UNIT SCHEDULE

| INDOOR UNIT | | | | | | | | | | | | | | | | | OUTDOOR UNIT | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | SUPPLY | | | COOLING | | | | | | HEATING | ELECTRICAL | | SOUND | | | | | COOLING | | | HEATING | | ELECTRICAL | | | | SOUND | | |
| MARK | MAKE | MODEL | TOTAL CFM | ESP W.C. | OSA CFM | TOTAL MBH | SENSIBLE MBH | EAT DB / WB | OAT DB | ECONO (Y/N) | ECONO EXCEPT | HEATING MBH OUTPUT @ 20 OAT | VOLT/PH | MCA | LEVEL dBA | OP. WT. LBS. | MARK | MAKE | MODEL | TOTAL MBH | IEER | EER | TOTAL MBH | COP AT 47 F | VOLT / PH | MCA | MOCP | SCCR kA | LEVEL dBA | OP. WT. LBS. | NOTES: |
| | | | | | | | | | | | | | | | | | CM-1 | MITSUBISHI-TRANE | TURYE1443AN40AN | 144 | 29.7 | 12.9 | 160 | 3.86 | 208/3 | 49 | 80 | (C) | 65 | 700 | E, 1, 2, 5 |
| FC-1 | MITSUBISHI-TRANE | TPLFYP008FM140A | 315 | --- | N/A | 7.3 | 5.9 | 75/63 | 88.0 | N | C403.3.5 | 5.7 | 208/1 | 0.28 | 33 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-2 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-3 | MITSUBISHI-TRANE | TPLFYP018FM140A | 460 | --- | N/A | 16.4 | 11.4 | 75/63 | 88.0 | N | C403.3.5 | 12.6 | 208/1 | 0.5 | 43 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-4 | MITSUBISHI-TRANE | TPLFYP048EM140B | 1235 | --- | N/A | 43.7 | 31.9 | 75/63 | 88.0 | N | C403.3.5 | 34.0 | 208/1 | 1.27 | 45 | 60 | | | | | | | | | | | | | | | A, D, 4 |
| FC-5 | MITSUBISHI-TRANE | TPKFYP006LM140A | 190 | --- | N/A | 5.7 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 4.5 | 208/1 | 0.2 | 31 | 30 | | | 1 | | | | | | | | | | | | A, B, 4 |
| FC-6A | MITSUBISHI-TRANE | TPLFYP008FM140A | 315 | --- | N/A | 7.3 | 5.9 | 75/63 | 88.0 | N | C403.3.5 | 5.7 | 208/1 | 0.28 | 33 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-6B | MITSUBISHI-TRANE | TPLFYP008FM140A | 315 | --- | N/A | 7.3 | 5.9 | 75/63 | 88.0 | N | C403.3.5 | 5.7 | 208/1 | 0.28 | 33 | 30 | | | | | | | | | | | | | | | D, 4 |
| FC-7 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-8 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-9 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-10 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-11 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-12 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-13 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-14 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-15 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.2 | 75/63 | 88.0 | N | C403.3.5 | 3.5 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| | | | | | | | | | | | | | | | | | CM-2 | MITSUBISHI-TRANE | TURYE963AN40AN | 96 | 33.1 | 15.1 | 108 | 4.26 | 208/3 | 31 | 45 | (C) | 60 | 700 | E, 1, 2, 5 |
| FC-20 | MITSUBISHI-TRANE | TPLFYP036EM140B | 1095 | --- | N/A | 32.1 | 23.7 | 75/63 | 88.0 | N | C403.3.5 | 26.9 | 208/1 | 0.92 | 41 | 60 | | | | | | | | | | | | | | | A, D, 4 |
| FC-21 | MITSUBISHI-TRANE | TPLFYP012FM140A | 335 | --- | N/A | 10.7 | 7.6 | 75/63 | 88.0 | N | C403.3.5 | 9.1 | 208/1 | 0.29 | 34 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-22 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.1 | 75/63 | 88.0 | N | C403.3.5 | 3.8 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-23 | MITSUBISHI-TRANE | TPLFYP005FM140A | 280 | --- | N/A | 4.5 | 4.1 | 75/63 | 88.0 | N | C403.3.5 | 3.8 | 208/1 | 0.24 | 30 | 30 | | | | | | | | | | | | | | | A, D, 4 |
| FC-24 | MITSUBISHI-TRANE | TPKFYP030KM142A | 915 | --- | N/A | 26.7 | 20.9 | 75/63 | 88.0 | N | C403.3.5 | 22.9 | 208/1 | 0.63 | 49 | 50 | | | | | | | | | | | | | | | A, B, 4 |
| FC-25 | MITSUBISHI-TRANE | TPKFYP012LM140A | 295 | --- | N/A | 10.7 | 7.7 | 75/63 | 88.0 | N | C403.3.5 | 9.1 | 208/1 | 0.24 | 41 | 20 | | | | | | | | | | | | | | | A, B, 4 |

**NOTES:**
1. MANUFACTURER'S DIGITAL CONTROL SYSTEM WITH TE-200A CENTRAL CONTROLLER W/ BACNET INTERFACE.
2. CONTROL POWER SUPPLY UNIT.
3. FACTORY FILTER BOX WITH MERV 8 FILTER.
4. FACTORY PROVIDED WASHABLE FILTER.
5. SNOW/HAIL GUARD KIT

A. TAR-40MA REMOTE CONTROLLER.
B. PROVIDE WITH BLUEDIAMOND CONDENSATE PUMP
C. SEE SPECIFICATIONS AND ELECTRICAL.
D. INTEGRAL CONDENSATE PUMP
E. PAC-YG66DCA DIDO CONTROLLER (FOR ERV UNITS)

# ENERGY RECOVERY VENTILATOR SCHEDULE

| | | | | SUPPLY | | | EXHAUST | | | FAN POWER | HEAT EXCHANGER AHRI 1060 | | HEAT | | | ELECTRICAL | | | | | WGT. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MARK | MAKE | MODEL | TYPE | CFM | ESP | HP | CFM | ESP | HP | (W/CFM) | MATERIAL | WINTER SENS. | INPUT | OUTPUT | EFF | MCA | MOCP | VOLT/PH | SCCR | | LBS | NOTES |
| ERV-1 | GREENHECK | ERV-20-30L | INDOOR | 1325 (8) | 0.75 | 1-1/2 | 1,200 | 0.5 | 1 | 0.594 | WHEEL | 86.5% | N/A | --- | --- | 15.2 | 20 | 208/3 | NOTE F | | 2500 | A,B,D,1,2,3,4,5,6,7 |
| ERV-2 | GREENHECK | ECV-10L-VG-P | INDOOR | 525 | 0.75 | 1/2 | 500 | 0.5 | 1/2 | 0.574 | CORE | 68.6% | N/A | --- | --- | 8.6 | 15 | 208/1 | NOTE F | | 2000 | A,C,E,1,2,3,4,5,6 |
| ERV-3 | VENTACITY | VS400CM-ERV | INDOOR | 400 | 0.5 | 0.23 | 400 | 0.5 | 0.23 | 0.85 | CORE | 68.0% | N/A | --- | --- | 15.1 | 20 | 208/1 | NOTE F | | 250 | A,C,G,1,2,5 |

**NOTES:**
1. DOUBLE WALL CONSTRUCTION W/ INSULATION & HINGED ACCESS
2. MERV 13 SUPPLY FILTERS; MERV 8 EXHAUST FILTERS
3. MOTORIZED LOW LEAK SUPPLY AND EXHAUST DAMPERS
4. PERMATECTOR FINISH
5. INTERNAL NEOPRENE ISOLATION
6. DIRTY FILTER SENSORS
7. WHEEL ROTATION SENSOR
8. INCREASE AIRFLOW TO 1625 CFM FOR DCV, SEE SPEC 230593

A. MICROPROCESSOR UNIT CONTROL, WITH REMOTE CONTROLLER & BACNET INTERFACE.
B. SUPPLY - CONSTANT VOLUME, W/VFD; EXHAUST - CONSTANT VOLUME W/VFD
C. SUPPLY - CONSTANT VOLUME, W/ECM; EXHAUST - CONSTANT VOLUME W/ECM
D. MODULATING WHEEL FROST CONTROL
E. TIMED EXHAUST FROST CONTROL
F. SEE SPECIFICATIONS AND ELECTRICAL
G. ELECTRIC PREHEAT FROST CONTROL

# BRANCH CIRCUIT CONTROLLER SCHEDULE

| MARK | MAKE | MODEL | NUMBER OF BRANCHES | POWER SOURCE | MCA | WEIGHT (LBS) | NOTES: |
|---|---|---|---|---|---|---|---|
| BC-1 | MITSUBISHI-TRANE | TCMBM1016JA11N4BV | 16 | 208/1 | 1.8 | 150 | ALL |
| BC-2 | MITSUBISHI-TRANE | TCMBG0108SJ11N4BV | 8 | 208/1 | .9 | 80 | ALL |
| | | | | | | | |

**NOTES:**
1. PROVIDE WITH BLUE DIAMOND CONDENSATE PUMP.
2. PIPE CONDENSATE DRAINAGE TO NEAREST INDIRECT WASTE BY PLUMBER.


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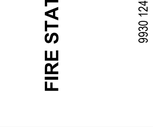



BID SET

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 12/01/23 |

Project Title:

FIRE STATION 26 RENOVATION

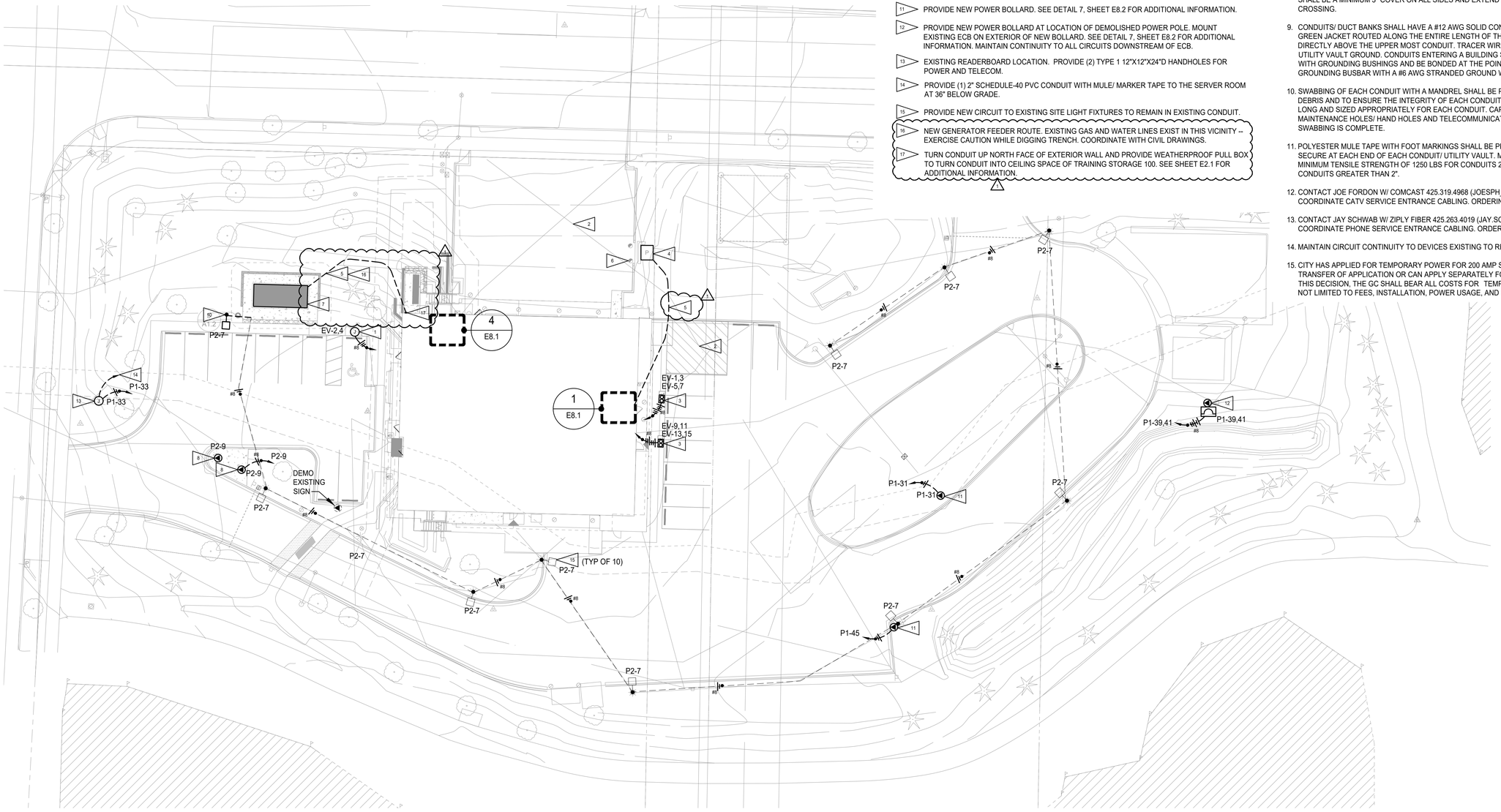
CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

Sheet Title:
SCHEDULES

Scale:
Project No. : 22036
Date : 11/14/2023

Sheet Number :

M0.4




N 1 E1.1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"

## FLAG NOTES

1. NEW EV CHARGER ROUGH-IN. EXISTING FIBER CONDUIT IS LOCATED UNDER THIS SIDEWALK IN VICINITY OF NEW ROUGH-IN. FIELD VERIFY LOCATION OF EXISTING FIBER CONDUIT AND TAKE CAUTION TO AVOID DAMAGING CONDUIT WHILE DIGGING.
2. FIELD VERIFY DEPTH OF EXISTING STORM DRAIN LINE. DETERMINE IF STORM LINES WILL CONFLICT WITH THE NEW UTILITY VAULT. COORDINATE REVISIONS TO VAULT LOCATION IF NECESSARY.
3. DUAL ELECTRIC CAR CHARGER LOCATION. CONCRETE BASE AND BOLLARDS BY GENERAL CONTRACTOR. VEHICLE CHARGER IS FURNISHED BY OWNER, INSTALLED BY DIV 26.
4. EXISTING PSE UTILITY TRANSFORMER ON EXISTING VAULT/VAULT LID TO REMAIN. EXTEND NEW SECONDARY FEEDER INTO EXISTING VAULT. COMPLY WITH ALL PSE REQUIREMENTS.
5. SEE ONELINE DIAGRAM, SHEET E9.1 FOR ADDITIONAL INFORMATION.
6. EXISTING GUARD POSTS TO REMAIN.
7. PROVIDE DIESEL GENERATOR WITH SKID BASED FUEL TANK AND SOUND ATTENUATED WEATHERPROOF ENCLOSURE. PROVIDE CONCRETE HOUSEKEEPING PAD FOR GENERATOR. COORDINATE REQUIREMENTS FOR CONCRETE HOUSEKEEPING PAD WITH MANUFACTURER AND STRUCTURAL ENGINEER PRIOR TO CONSTRUCTING. SEE ONE LINE DIAGRAM SHEET E9.1 FOR ADDITIONAL INFORMATION.
8. PROVIDE POWER TO FLAG POLE WITH BUILT-IN LIGHT FIXTURE.
9. NEW DUAL CHARGING STATION ROUGH-IN ONLY.
10. EXISTING LIGHT FIXTURE TO BE RELOCATED. INTERCEPT EXISTING CIRCUIT AND EXTEND TO NEW LOCATION. PROVIDE NEW POLE BASE.
11. PROVIDE NEW POWER BOLLARD. SEE DETAIL 7, SHEET E8.2 FOR ADDITIONAL INFORMATION.
12. PROVIDE NEW POWER BOLLARD AT LOCATION OF DEMOLISHED POWER POLE. MOUNT EXISTING ECB ON EXTERIOR OF NEW BOLLARD. SEE DETAIL 7, SHEET E8.2 FOR ADDITIONAL INFORMATION. MAINTAIN CONTINUITY TO ALL CIRCUITS DOWNSTREAM OF ECB.
13. EXISTING READERBOARD LOCATION. PROVIDE (2) TYPE 1 12"X12"X24"D HANDHOLES FOR POWER AND TELECOM.
14. PROVIDE (1) 2" SCHEDULE-40 PVC CONDUIT WITH MULE/ MARKER TAPE TO THE SERVER ROOM AT 36" BELOW GRADE.
15. PROVIDE NEW CIRCUIT TO EXISTING SITE LIGHT FIXTURES TO REMAIN IN EXISTING CONDUIT.
16. NEW GENERATOR FEEDER ROUTE. EXISTING GAS AND WATER LINES EXIST IN THIS VICINITY -- EXERCISE CAUTION WHILE DIGGING TRENCH. COORDINATE WITH CIVIL DRAWINGS.
17. TURN CONDUIT UP NORTH FACE OF EXTERIOR WALL AND PROVIDE WEATHERPROOF PULL BOX TO TURN CONDUIT INTO CEILING SPACE OF TRAINING STORAGE 100. SEE SHEET E2.1 FOR ADDITIONAL INFORMATION.

## GENERAL NOTES

1. PROVIDE ALL CONDUIT, BOXES AND WIRE AS REQUIRED BY NEC, WAC AND SPECIFICATONS FOR A FULLY FUNCTIONING SYSTEM.
2. CONTACT PUGET SOUND ENERGY SERVICE REPRESENTATIVE BRANDON CHAISY (Brandon.Chaisy@pse.com) WHEN VAULT, CONDUITS AND SERVICE ARE READY FOR INSPECTION.
3. PUGET SOUND ENERGY ELECTRICAL SERVICE HANDBOOK FOR COMMERCIAL/INDUSTRIAL AND MULTIFAMILY PROJECTS IS LOCATED AT WWW.PSE.COM. COMPLY WITH ALL STANDARDS. PROVIDE ALL REQUIREMENTS.
4. PSE PAD MOUNTED TRANSFORMER EXISTING TO REMAIN. TRANSFORMER PRIMARY FEEDER EXISTING TO REMAIN. CONTRACTOR SHALL DIG SECONDARY TRENCHING AND COORDINATE ALL REQUIREMENTS WITH PSE SERVICE REPRESENTATIVE AND PSE ELECTRICAL SERVICE HANDBOOK.
5. CONTRACTOR SHALL BACKFILL AND COMPACT TRENCHES AND VAULT HOLE PER CONTRACT AND PSE REQUIREMENTS AFTER INSPECTION AND APPROVAL BY PSE.
6. COORDINATE PLACEMENT OF ALL MAINTENANCE HOLES/ HAND HOLES WITH CIVIL AND LANDSCAPING CONTRACTORS PRIOR TO ANY SITE WORK. CONFLICTS SHALL BE BROUGHT TO ARCHITECT FOR RESOLUTION PRIOR TO COMMENCEMENT OF SITE WORK.
7. INSTALLATION OF CONDUITS AND UTILITY VAULTS SHALL INCLUDE BUT NOT LIMITED TO TRENCHING, BACKFILL, TAMPING OF EARTH, TRACER WIRE AND CONCRETE ENCASEMENT. THE SLOPE OF THE DUCT BANK GRADE SHALL BE 4 INCHES PER 100 FEET MINIMUM TOWARD THE UTILITY VAULT.
8. CONDUITS SHALL BE ENCASED WITH CONCRETE RATED AT 3000 PSI WHERE PASSING UNDER BUILDING FOUNDATIONS AND AT STREET/ PARKING LOT CROSSINGS. ENCASEMENT SHALL BE A MINIMUM 3" COVER ON ALL SIDES AND EXTEND 60" ON EACH SIDE OF CROSSING.
9. CONDUITS/ DUCT BANKS SHALL HAVE A #12 AWG SOLID CONDUCTOR TRACER WIRE WITH GREEN JACKET ROUTED ALONG THE ENTIRE LENGTH OF THE CONDUIT/DUCT BANK DIRECTLY ABOVE THE UPPER MOST CONDUIT. TRACER WIRE SHALL BE CONNECTED TO UTILITY VAULT GROUND. CONDUITS ENTERING A BUILDING SHALL BE PVC COATED RSC WITH GROUNDING BUSHINGS AND BE BONDED AT THE POINT OF ENTRY TO THE GROUNDING BUSBAR WITH A #6 AWG STRANDED GROUND WIRE.
10. SWABBING OF EACH CONDUIT WITH A MANDREL SHALL BE PROVIDED TO REMOVE ALL DEBRIS AND TO ENSURE THE INTEGRITY OF EACH CONDUIT. THE MANDREL SHALL BE 12" LONG AND SIZED APPROPRIATELY FOR EACH CONDUIT. CAP CONDUITS INSIDE EACH MAINTENANCE HOLES/ HAND HOLES AND TELECOMMUNICATIONS ROOM DIRECTLY AFTER SWABBING IS COMPLETE.
11. POLYESTER MULE TAPE WITH FOOT MARKINGS SHALL BE PROVIDED IN ALL CONDUITS, SECURE AT EACH END OF EACH CONDUIT/ UTILITY VAULT. MULE TAPE SHALL HAVE A MINIMUM TENSILE STRENGTH OF 1250 LBS FOR CONDUITS 2" OR LESS AND 2500 LBS FOR CONDUITS GREATER THAN 2".
12. CONTACT JOE FORDON W/ COMCAST 425.319.4968 (JOESPH_FORDON@COMCAST.COM)TO COORDINATE CATV SERVICE ENTRANCE CABLING. ORDERING OF SERVICE BY OWNER.
13. CONTACT JAY SCHWAB W/ ZIPLY FIBER 425.263.4019 (JAY.SCHWAB@ZIPLY.COM) TO COORDINATE PHONE SERVICE ENTRANCE CABLING. ORDERING OF SERVICE BY OWNER.
14. MAINTAIN CIRCUIT CONTINUITY TO DEVICES EXISTING TO REMAIN.
15. CITY HAS APPLIED FOR TEMPORARY POWER FOR 200 AMP SERVICE. GC CAN ASSUME TRANSFER OF APPLICATION OR CAN APPLY SEPARATELY FOR SERVICE. REGARDLESS OF THIS DECISION, THE GC SHALL BEAR ALL COSTS FOR TEMPORARY POWER INCLUDING BUT NOT LIMITED TO FEES, INSTALLATION, POWER USAGE, AND REMOVAL.

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MICHAEL S. CASE STATE OF WASHINGTON 33273 REGISTERED PROFESSIONAL ENGINEER

12/01/2023

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 12/01/23 |

Project Title:

**FIRE STATION 26 RENOVATION**
CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

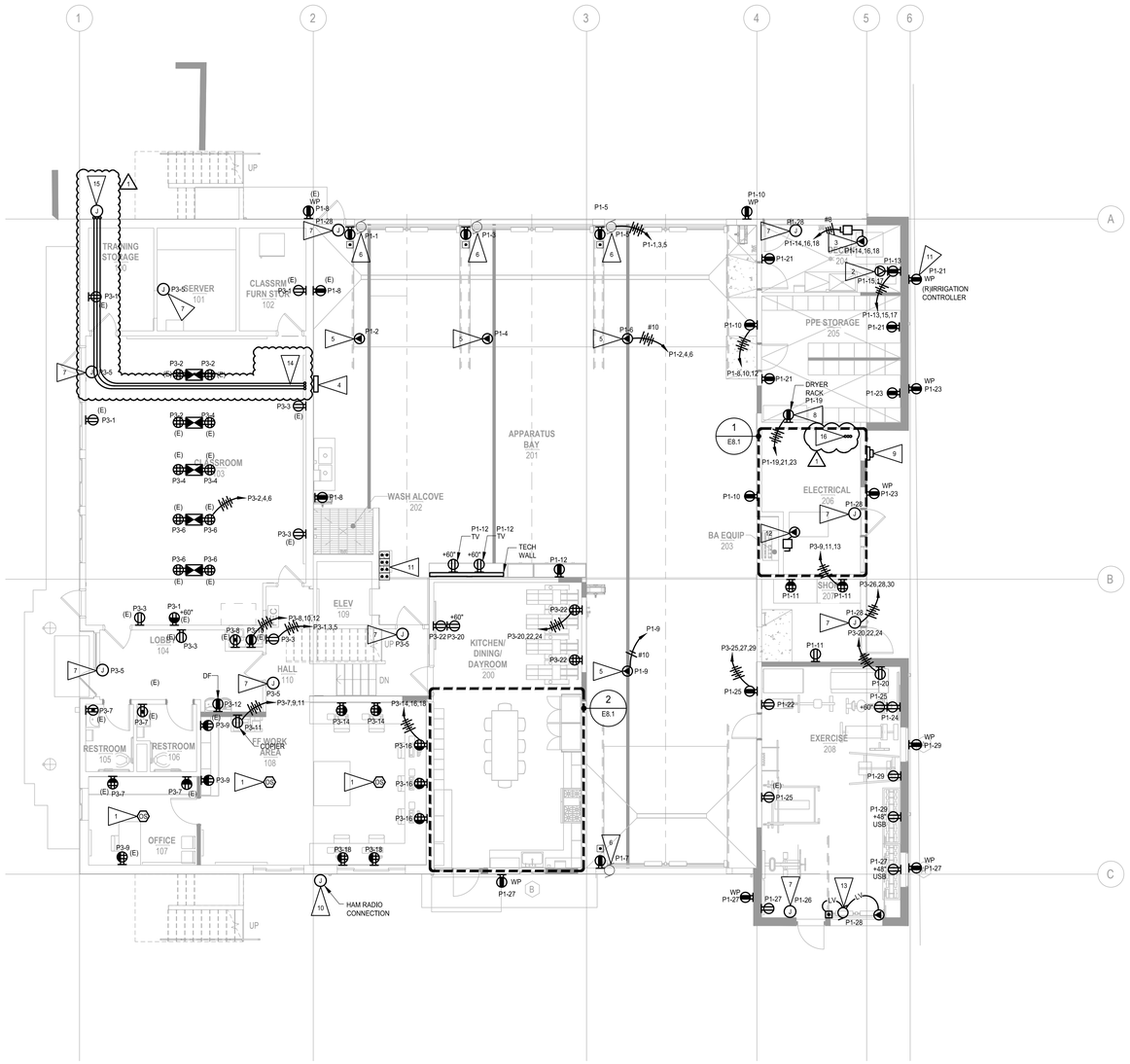
Sheet Title:

ELECTRICAL SITE PLAN

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E1.1**




1ST & 2ND FLOOR POWER FLOOR PLAN
SCALE: 1/8" = 1'0"

## GENERAL NOTES

1. CIRCUIT NUMBERS SHOWN REFER TO PANEL P1 UNLESS OTHERWISE NOTED.
2. INSTALL ALL DEVICE BOXES PRIOR TO INSTALLATION OF CONDUIT. SCHEDULE WALK-THROUGH WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION OF ANY CONDUIT.
3. COORDINATE ALL CEILING MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL CEILING PLANS. WHERE CONFLICT OCCURS, ARCHITECTURAL R.C.P. TAKES PRECEDENT EXCEPT WHEN LOCATION IS MODIFIED BY CODE AUTHORITY.
4. WALL MOUNTED DEVICES SHALL NOT BE MOUNTED BACK TO BACK UNLESS PHYSICAL SPACE NECESSITATES IT. IF THESE DEVICES MUST BE MOUNTED BACK TO BACK, PROVIDE SOUND INSULATION AT BOXES.
5. FOR BRANCH CIRCUITS THAT EXCEED 75' IN LENGTH, INCREASE WIRE BY ONE AWG SIZE.
6. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS.
7. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF ALL DEVICE LOCATIONS, UNLESS OTHERWISE NOTED. DEVICES IN KNEE SPACES ARE LOCATED BETWEEN THE COUNTERTOP AND CABLE TRAY. SEE ARCHITECTURAL CASEWORK ELEVATIONS AND DETAILS FOR EXACT MOUNTING HEIGHTS.
8. FOR ANY DEVICE MOUNTING LOCATION THAT CONFLICTS WITH A MIRROR, GENERAL CONTRACTOR SHALL COORDINATE DEVICE LOCATION WITH ARCHITECT PRIOR TO ROUGH IN.
9. PROVIDE ALL CONDUIT, BOXES AND WIRE AS REQUIRED BY WAC, NEC, AND SPECIFICATIONS SECTIONS 26 05 00, 26 05 11, 26 05 19, 26 05 32 AND 26 05 33 FOR A FULLY FUNCTIONING SYSTEM.
10. DEVICES SHOWN WITH '(E)' SUBSCRIPT INDICATES NEW DEVICE AND CIRCUIT IN EXISTING ROUGH-IN.

## FLAG NOTES

1. PROVIDE PLUG LOAD POWER PACK CONNECTED TO LIGHTING CONTROL SYSTEM TO CONTROL HALF-SWITCHED RECEPTACLES WITH CEILING MOUNTED OCCUPANCY SENSOR.
2. WASHER/DRYER STACK.
3. WASHER EXTRACTOR.
4. GENERATOR ANNUNCIATOR PANEL. INSTALL BACKBOX AND PROVIDE CONDUIT AND PROPER WIRE/CABLE FOR GENERATOR ANNUNCIATOR FROM BACK BOX TO GENERATOR. (PROVIDE 5'-0" CABLE SERVICE LOOP IN BACKBOX.) VERIFY EXACT LOCATION WITH FIRE DISTRICT PRIOR TO ROUGH-IN.
5. PROVIDE CORD DROP WITH HUBBELL #HBL5369C RECEPTACLE AT 4'-0" AFF. PROVIDE TYPE SOOW 10-3 CABLE WITH 10' SERVICE LOOP AT CEILING FOR FUTURE FOR FLEXIBILITY OF USE. PROVIDE STRAIN RELIEF. PROVIDE 3'-0" EXTENSION CORD WITH HUBBELL #HBL5369C & #HBL5366C CONNECTORS ON EITHER END. PROVIDE ONE EXTENSION CORD AT EACH CORD DROP. SEE DETAIL 3, SHEET E8.2 FOR ADDITIONAL INFORMATION.
6. EXISTING DOOR MOTOR TO REMAIN. RECIRCUIT AS INDICATED.
7. PROVIDE POWER TO DOOR HARDWARE POWER SUPPLY. COORDINATE REQUIREMENTS FOR DOOR HARDWARE WITH HARDWARE SUPPLIER AND SPECIFICATION 08 71 00. SEE DOOR HARDWARE GROUPS, SPECIFICATION 08 71 00 PARAGRAPH 3.2, SPECIFICATION 28 13 00, SHEET E5.1, AND DETAILS 4 & 5, SHEET E8.5 FOR ADDITIONAL INFORMATION.
8. BUNKER GEAR DRYING RACK. COORDINATE RECEPTACLE TYPE WITH OWNER PRIOR TO ROUGH-IN.
9. NEW PSE METER. SEE ONELINE DIAGRAM, SHEET E9.1 FOR ADDITIONAL INFORMATION.
10. PROVIDE NEW CONDUIT AND WIRING FROM EXISTING HAM RADIO CONNECTION TO NEW LOCATION. MAKE FINAL CONNECTION. FIELD VERIFY EXISTING LOCATION.
11. EXISTING GARAGE DOOR CONTROLS TO REMAIN.
12. REINSTALL EXISTING SCBA COMPRESSOR IN EXISTING LOCATION. SEE ONELINE DIAGRAM, SHEET E9.1 FOR ADDITIONAL INFORMATION.
13. NEW DOOR MOTOR IN EXECISE ROOM. COORDINATE ALL REQUIREMENTS WITH DOOR INSTALLER AND PROVIDE.
14. GENERATOR FEEDER ROUTE. PROVIDE SUPPORTS ALONG ROUTE AS REQUIRED. CONCEAL CONDUIT ABOVE CEILING SPACE AND COORDINATE INSTALLATION WITH MECHANICAL CONTRACTOR TO AVOID CONFLICTS WITH DUCTWORK. AT EAST WALL OF CLASSROOM, TURN CONDUIT UP INTO STORAGE ROOM 309. SEE ROUTE CONTINUATION ON SHEET E2.2.
15. PROVIDE WEATHERPROOF PULL BOX AT EXTERIOR OF BUILDING. MOUNT AT LEVEL EVEN WITH CEILING SPACE OF TRAINING STORAGE 100. SEE FLAG NOTE 17, SHEET E1.1 FOR ADDITIONAL INFORMATION.
16. ROUTE GENERATOR FEEDER CONDUIT DOWN FROM ATTIC SPACE ABOVE INTO TOP OF ATS.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MICHAEL S. CASE STATE OF WASHINGTON 33273 REGISTERED PROFESSIONAL ENGINEER
12/01/2023


**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 12/01/23 |

Project Title:

**FIRE STATION 26 RENOVATION**
CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

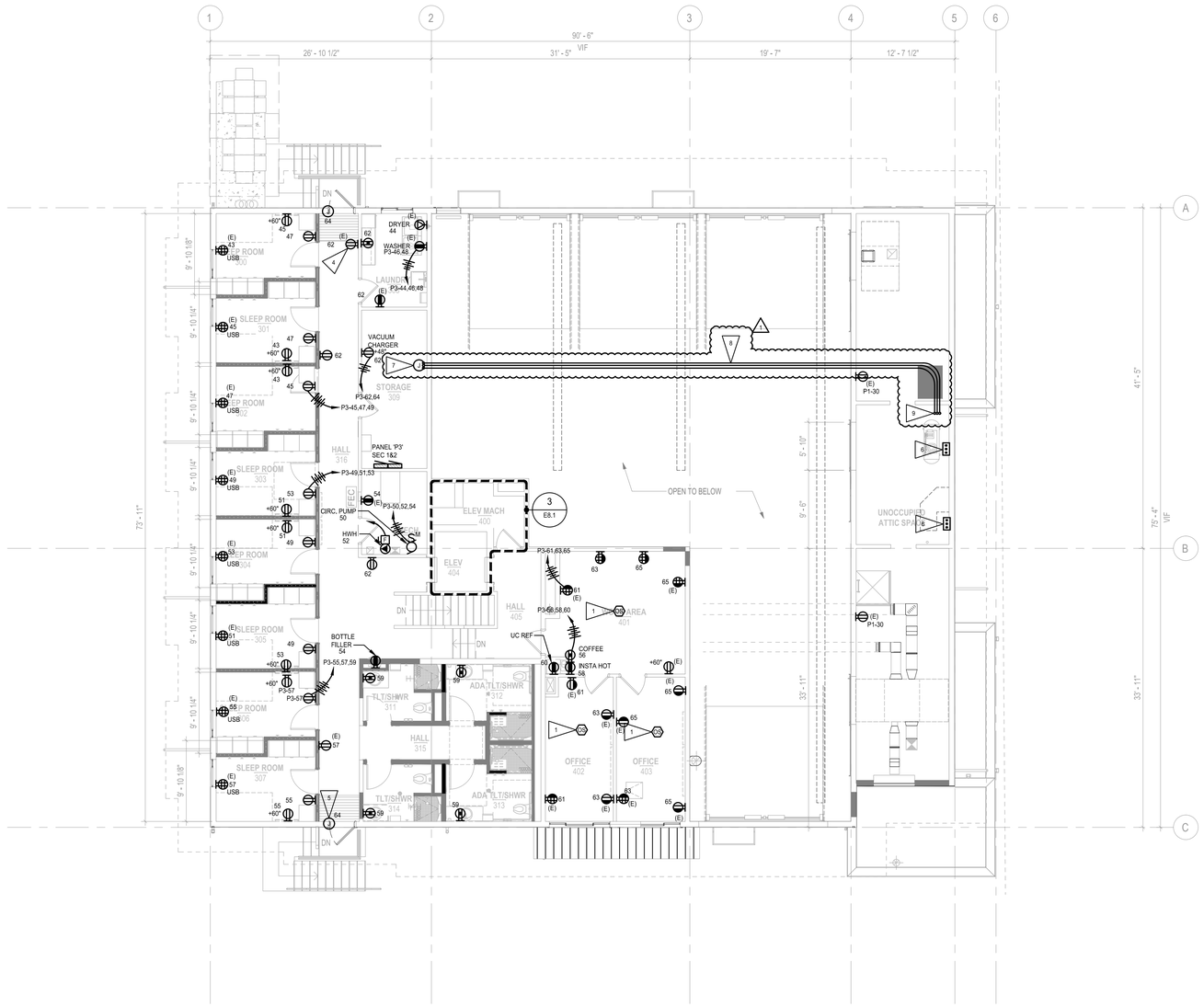
Sheet Title:

1ST & 2ND FLOOR POWER FLOOR PLAN

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E2.1**




## 3RD & 4TH FLOOR POWER FLOOR PLAN

N 1 / E2.2

SCALE: 1/8" = 1'0"

## GENERAL NOTES

1. CIRCUIT NUMBERS SHOWN REFER TO PANEL P3 UNLESS OTHERWISE NOTED.
2. INSTALL ALL DEVICE BOXES PRIOR TO INSTALLATION OF CONDUIT. SCHEDULE WALK-THROUGH WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION OF ANY CONDUIT.
3. COORDINATE ALL CEILING MOUNTED DEVICE LOCATIONS WITH ARCHITECTURAL CEILING PLANS. WHERE CONFLICT OCCURS, ARCHITECTURAL R.C.P. TAKES PRECEDENT EXCEPT WHEN LOCATION IS MODIFIED BY CODE AUTHORITY.
4. WALL MOUNTED DEVICES SHALL NOT BE MOUNTED BACK TO BACK UNLESS PHYSICAL SPACE NECESSITATES IT. IF THESE DEVICES MUST BE MOUNTED BACK TO BACK, PROVIDE SOUND INSULATION AT BOXES.
5. FOR BRANCH CIRCUITS THAT EXCEED 75' IN LENGTH, INCREASE WIRE BY ONE AWG SIZE.
6. PROVIDE DEDICATED NEUTRAL CONDUCTOR FOR ALL BRANCH CIRCUITS.
7. SEE ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS OF ALL DEVICE LOCATIONS, UNLESS OTHERWISE NOTED. DEVICES IN KNEE SPACES ARE LOCATED BETWEEN THE COUNTERTOP AND CABLE TRAY. SEE ARCHITECTURAL CASEWORK ELEVATIONS AND DETAILS FOR EXACT MOUNTING HEIGHTS.
8. FOR ANY DEVICE MOUNTING LOCATION THAT CONFLICTS WITH A MIRROR, GENERAL CONTRACTOR SHALL COORDINATE DEVICE LOCATION WITH ARCHITECT PRIOR TO ROUGH IN.
9. PROVIDE ALL CONDUIT, BOXES AND WIRE AS REQUIRED BY WAC, NEC, AND SPECIFICATIONS SECTIONS 26 05 00, 26 05 11, 26 05 19, 26 05 32 AND 26 05 33 FOR A FULLY FUNCTIONING SYSTEM.
10. DEVICES SHOWN WITH '(E)' SUBSCRIPT INDICATES NEW DEVICE AND CIRCUIT IN EXISTING ROUGH-IN.

## FLAG NOTES

1. PROVIDE PLUG LOAD POWER PACK CONNECTED TO LIGHTING CONTROL SYSTEM TO CONTROL HALF-SWITCHED RECEPTACLES WITH CEILING MOUNTED OCCUPANCY SENSOR.
2. BOTTLE FILLER.
3. DISPATCH RELAY RESET PUSHBUTTON FOR GAS BBQ, SQUARE D CLASS 9001-BF101. SEE CONTROL RELAY PANEL DETAIL 1, SHEET E8.6. MOUNT AT +44". PROVIDE LABEL FOR PUSHBUTTON.
4. PROVIDE NEW RECEPTACLE IN EXISTING RECEPTACLE ROUGH-INS (TYP).
5. PROVIDE POWER TO DOOR HARDWARE POWER SUPPLY. COORDINATE REQUIREMENTS FOR DOOR HARDWARE WITH HARDWARE SUPPLIER AND SPECIFICATION 08 71 00. SEE DOOR HARDWARE GROUPS, SPECIFICATION 08 71 00 PARAGRAPH 3.2, SPECIFICATION 28 13 00, SHEET E5.1, AND DETAILS 4 & 5, SHEET E8.4 FOR ADDITIONAL INFORMATION.
6. REINSTALL EQUIPMENT DEMOLISHED TO MAKE ROOM FOR NEW PLYWOOD BACKING. SEE E4.X SERIES SHEETS AND MECHANICAL EQUIPMENT CONNECTION SCHEDULE, SHEET E0.3 FOR ADDITIONAL INFORMATION.
7. GENERATOR FEEDER ROUTE. PROVIDE PULL BOX IN ATTIC SPACE ABOVE STORAGE 309 AT ELEVATION EVEN WITH BOTTOM CORD OF STRUCTURAL TRUSS IN APPARATUS BAY. COORDINATE CONDUIT ROUTE WITH OTHER TRADES RUNNING NORTH/SOUTH IN ATTIC SPACE.
8. MOUNT CONDUIT ABOVE BOTTOM CHORD OF TRUSS THROUGH APPARATUS BAY TO PROVIDE REQUIRED CLEARANCE FROM INFRARED BAY HEATERS. UTILIZE 1ST TRUSS SPACE SOUTH OF EXISTING SKYLIGHT. PROVIDE UNISTRUT SUPPORTS ALONG ROUTE AS REQUIRED.
9. TURN CONDUIT DOWN IN ATTIC SPACE INTO TOP OF ATS IN ELECTRICAL ROOM BELOW.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MICHAEL S. CASE STATE OF WASHINGTON 33273 REGISTERED PROFESSIONAL ENGINEER

12/01/2023

**BID SET**

| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 12/01/23 |

Project Title:

**FIRE STATION 26 RENOVATION**

CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

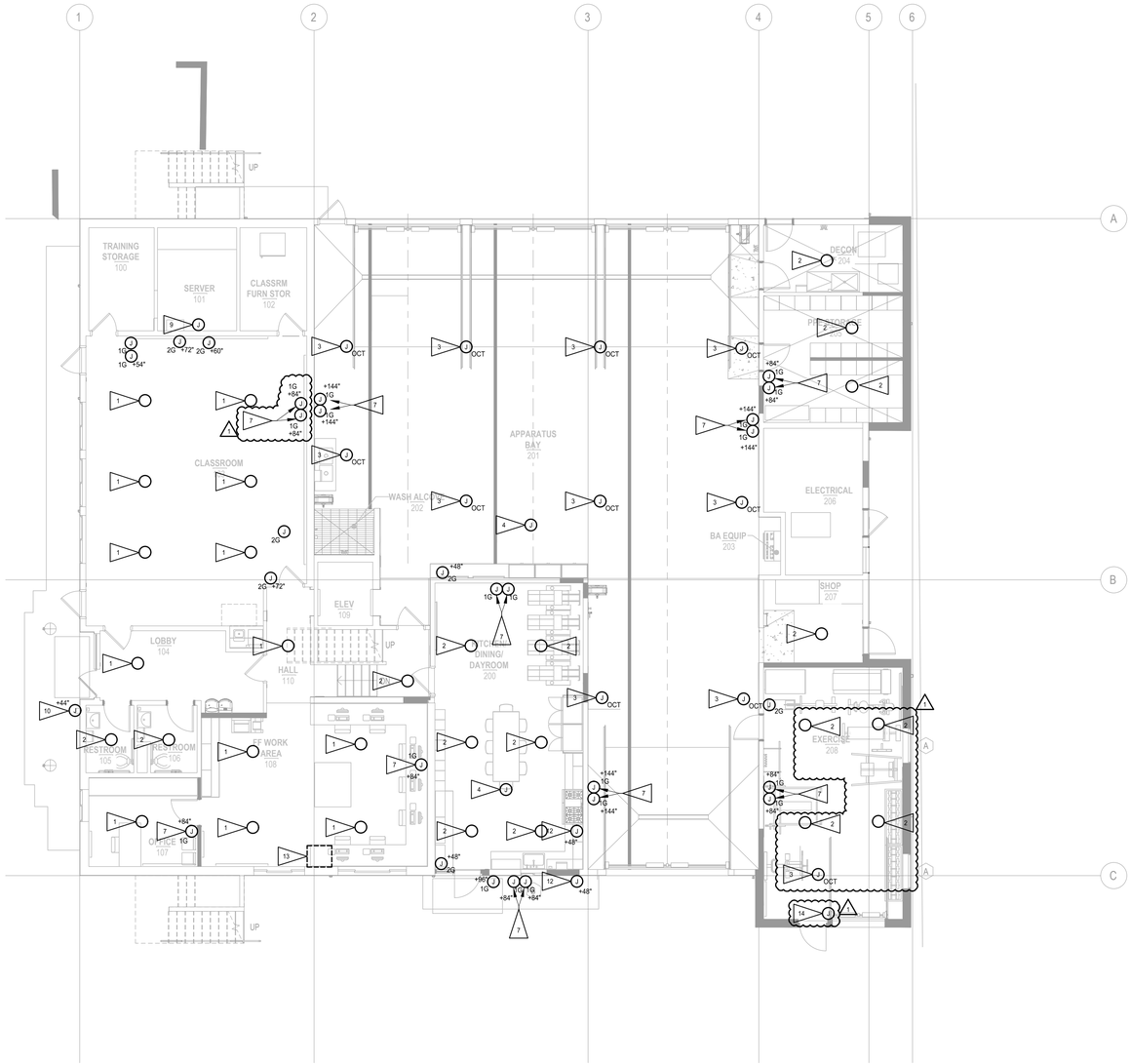
Sheet Title:

3RD & 4TH FLOOR POWER FLOOR PLAN

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E2.2**




1 E3.1 1ST & 2ND FLOOR ALERTING FLOOR PLAN

SCALE: 1/8" = 1'0"

## GENERAL NOTES

1. PROVIDE ALL ELECTRICAL ROUGH-IN.
2. INSTALL ALL DEVICE BOXES PRIOR TO INSTALLATION OF CONDUIT. SCHEDULE WALK-THROUGH WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION OF ANY CONDUIT.
3. PROVIDE EMT FOR ALL ALERTING SYSTEM DEVICE CONNECTIONS IN THE APPARATUS BAY.
4. PROVIDE 3/4" EMT FOR ALL ALERTING SYSTEM ROUGH-IN STUBS TO ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. WHEN PENETRATING RATED WALLS, PROVIDE PER CODE AND SPECIFICATION.
5. ALL ELECTRICAL BOXES SHALL BE RECESSED UNLESS OTHERWISE NOTED. SURFACE MOUNTED BOXES ARE GENERALLY NOT ACCEPTABLE. INFORM ARCHITECT WHERE NOT POSSIBLE PRIOR TO ORDERING MATERIAL AND ROUGH-IN. RECESS BOXES IN OPENED, NEW AND/OR NEWLY FURRED WALLS. IF DEVICE IS SHOWN IN AN EXISTING CONCRETE OR MASONRY WALL PROVIDE SURFACE METAL RACEWAY BOX AND DRILL WALL FROM OPPOSITE SIDE IN EFFORT TO CONCEAL CONDUIT/WIRE IN FRAMING.

## FLAG NOTES

1. FLUSH CEILING SPEAKER IN ACT IS PROVIDED WITH C-RING. INCLUDED WITH THE SPEAKER. INSTALLED BY ALERTING CONTRACTOR.
2. FLUSH CEILING SPEAKER MOUNTED IN GWB. PROVIDE JBL MTC-24MR. PROVIDE 1/2" C. FROM EACH SPEAKER RING TO NEAREST CORRIDOR ACCESSIBLE CEILING.
3. PROVIDE 4" OCTAGON J-BOX STRUCTURALLY AFFIXED TO STRUCTURE TO SUPPORT 50LBS. PROVIDE 1/2" C. BETWEEN BOXES AND STUBBED TO NEAREST ACCESSIBLE CEILING OR ALERTING RACK JUNCTION BOX.
4. PROVIDE DEDICATED 1/2" CONDUIT FOR ALL MIC LOCATIONS. DO NOT COMBINE WITH ANY OTHER SIGNAL. MIC LOCATED FLUSH WITH CEILING.
5. HOMERUN CABLE FROM EACH SLEEPING ROOM DEVICE. (TYPICAL IN SLEEP ROOMS)
6. INSTALL DORM LIGHT AND SPEAKER BOXES/RINGS IN SAME TILE AS CLOSE AS POSSIBLE TO CENTER OF ROOM. COORDINATE WITH LIGHTING AND MECHANICAL GRILLES PRIOR TO ROUGH-IN. LIGHT AND GRILLES TAKE PRECEDENT.
7. ALIGN SPEAKERS, STROBES AND VISUAL INDICATORS WITH LIGHT FIXTURES AT 7' AFF UNLESS NOTED OTHERWISE.
8. MOUNT 1-GANG BOX HORIZONTALLY.
9. ALERTING RACK (CONTRACTOR FURNISHED AND INSTALLED). PROVIDE NEMA 12" X 12" X 4" BACKBOX IN BACK OF TALL CABINET. FLUSH WITH FINISH OF BACK OF CABINET. COORDINATE WITH ALERTING CONTRACTOR AND GENERAL CONTRACTOR PRIOR TO ROUGH-IN. PROVIDE ONE (1) 20AMP RECEPTACLE NEXT TO BACK BOX.
10. DOOR BELL
11. VOLUME CONTROL
12. GAS RESET PUSHBUTTON BUTTON.
13. RELOCATE EXISTING LOCUTION EQUIPMENT FROM EXISTING DEMOLISHED RACK LOCATION TO NEW ALERTING RACK IN SERVER ROOM. COORDINATE EQUIPMENT TO BE MOVED WITH ALERTING SYSTEM INSTALLER (JAYMARC AV).
14. PROVIDE LOW VOLTAGE INTERFACE TO ACTIVATE DOOR (SHUT) IN ALERT MODE. SYSTEM MUST HAVE A DISCRETE CLOSE ONLY MODE. ALERTING CONTRACTOR TO PROVIDE A DRY CONTACT CLOSURE FOR ACTIVATING THE CLOSING OF THE DOOR.

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12/01/2023

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| No. | Description | Date: |
|---|---|---|
| 1 | ADDENDUM 1 | 12/01/23 |

Project Title:

**FIRE STATION 26 RENOVATION**

CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

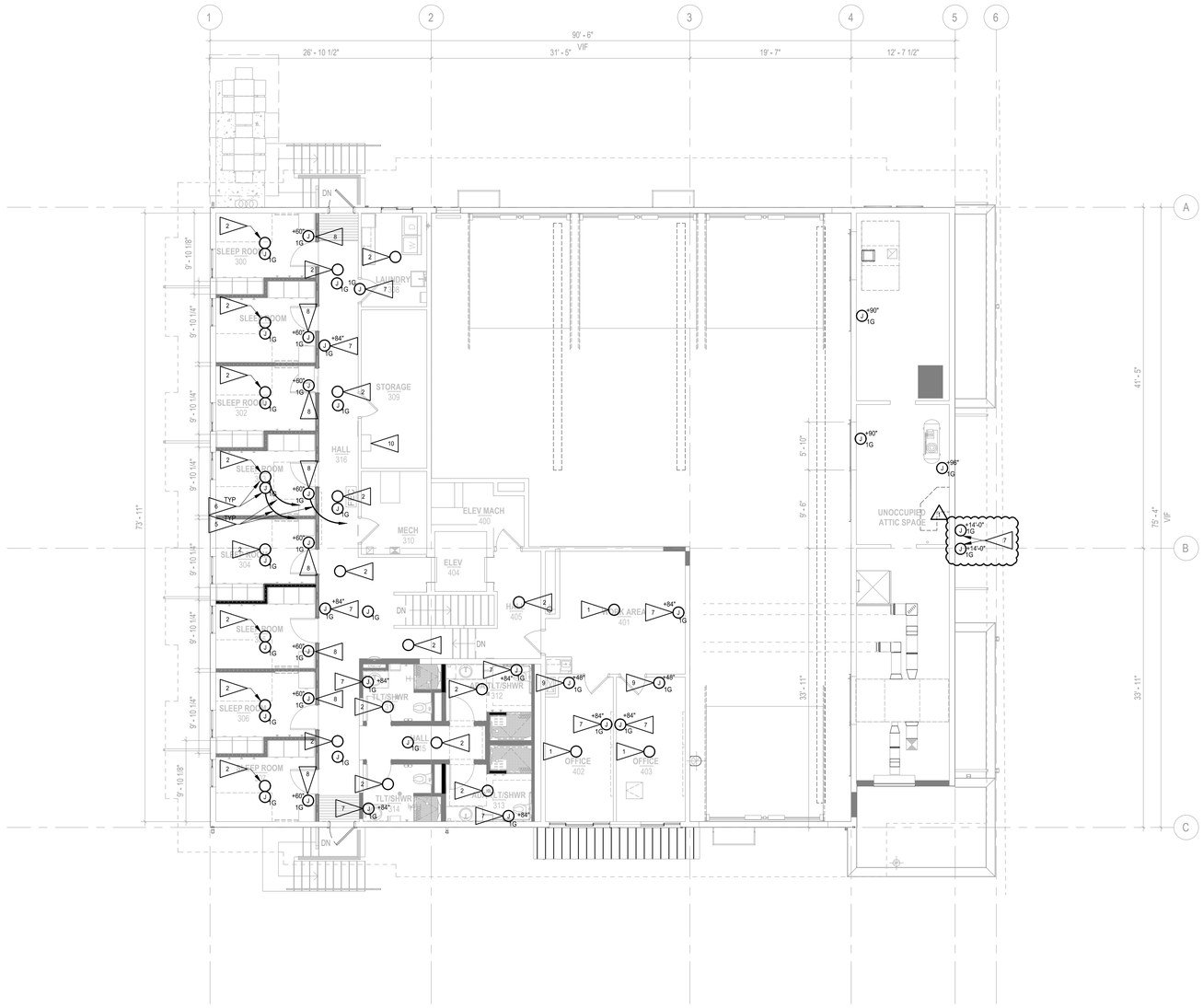
Sheet Title:

1ST AND 2ND FLOOR ALERTING PLAN

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E6.1**




## GENERAL NOTES

1. PROVIDE ALL ELECTRICAL ROUGH-IN.
2. INSTALL ALL DEVICE BOXES PRIOR TO INSTALLATION OF CONDUIT. SCHEDULE WALK-THROUGH WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION OF ANY CONDUIT.
3. PROVIDE EMT FOR ALL ALERTING SYSTEM DEVICE CONNECTIONS IN THE APPARATUS BAY.
4. PROVIDE 3/4" EMT FOR ALL ALERTING SYSTEM ROUGH-IN STUBS TO ACCESSIBLE CEILING UNLESS OTHERWISE NOTED. WHEN PENETRATING RATED WALLS, PROVIDE PER CODE AND SPECIFICATION.
5. ALL ELECTRICAL BOXES SHALL BE RECESSED UNLESS OTHERWISE NOTED. SURFACE MOUNTED BOXES ARE GENERALLY NOT ACCEPTABLE. INFORM ARCHITECT WHERE NOT POSSIBLE PRIOR TO ORDERING MATERIAL AND ROUGH-IN. RECESS BOXES IN OPENED, NEW AND/OR NEWLY FURRED WALLS. IF DEVICE IS SHOWN IN AN EXISTING CONCRETE OR MASONRY WALL PROVIDE SURFACE METAL RACEWAY BOX AND DRILL WALL FROM OPPOSITE SIDE IN EFFORT TO CONCEAL CONDUIT/WIRE IN FRAMING.

## FLAG NOTES

1. FLUSH CEILING SPEAKER IN ACT IS PROVIDED WITH C-RING. INCLUDED WITH THE SPEAKER. INSTALLED BY ALERTING CONTRACTOR.
2. FLUSH CEILING SPEAKER MOUNTED IN GWB. PROVIDE JBL MTC-24MR. PROVIDE 1/2" C. FROM EACH SPEAKER RING TO NEAREST CORRIDOR ACCESSIBLE CEILING.
3. PROVIDE 4" OCTAGON J-BOX STRUCTURALLY AFFIXED TO STRUCTURE TO SUPPORT 50LBS. PROVIDE 1/2" C. BETWEEN BOXES AND STUBBED TO NEAREST ACCESSIBLE CEILING OR ALERTING RACK JUNCTION BOX.
4. PROVIDE DEDICATED 1/2" CONDUIT FOR ALL MIC LOCATIONS. DO NOT COMBINE WITH ANY OTHER SIGNAL. MIC LOCATED FLUSH WITH CEILING.
5. HOMERUN CABLE FROM EACH SLEEPING ROOM DEVICE. (TYPICAL IN SLEEP ROOMS)
6. INSTALL DORM LIGHT AND SPEAKER BOXES/RINGS IN SAME TILE AS CLOSE AS POSSIBLE TO CENTER OF ROOM. COORDINATE WITH LIGHTING AND MECHANICAL GRILLES PRIOR TO ROUGH-IN. LIGHT AND GRILLES TAKE PRECEDENT.
7. ALIGN SPEAKERS, STROBES AND VISUAL INDICATORS WITH LIGHT FIXTURES AT 7' AFF UNLESS NOTED OTHERWISE.
8. MOUNT 1-GANG BOX HORIZONTALLY.
9. VOLUME CONTROL
10. REMOVE EXISTING ALERTING CABINET AND RETURN TO OWNER.

## 3RD & 4TH FLOOR ALERTING FLOOR PLAN

SCALE: 1/8" = 1'0"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Project Title:

**FIRE STATION 26 RENOVATION**

CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

Sheet Title:

3RD AND 4TH FLOOR ALERTING PLAN

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E6.2**

## GENERAL NOTES:

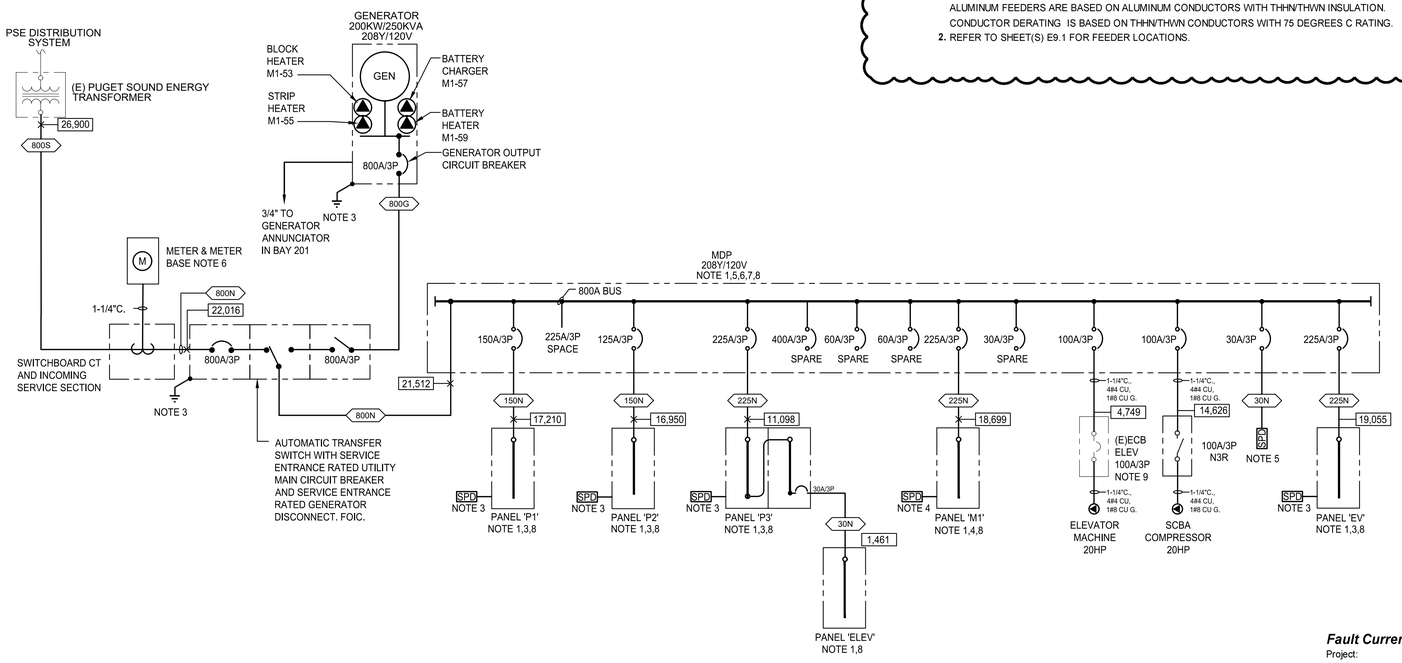
1. SEE PANEL SCHEDULES ON E10 SERIES SHEETS FOR PANEL AND BRANCH CIRCUIT INFORMATION.
2. CONNECT ADDITIONAL SECTIONS OF MULTI-SECTION PANELS WITH CONDUCTORS SIZED THE SAME AS THE PANEL FEEDER CONDUCTORS.
3. PROVIDE INNOVATIVE TECHNOLOGIES PTE-080-3Y-101-MT SURGE SUPPRESSOR. PROVIDE SPD FOR EACH PANELBOARD AS SHOWN. (CONTACT PAMELA GOFF AT MORRIS TECHNOLOGIES, 206.930.8710 FOR INSTALLATION INSTRUCTIONS AND INSPECTION)
4. PROVIDE INNOVATIVE TECHNOLOGIES PTX-080-3Y-101-MT SURGE SUPPRESSOR. PROVIDE SPD FOR EACH PANELBOARD AS SHOWN. (CONTACT PAMELA GOFF AT MORRIS TECHNOLOGIES, 206.930.8710 FOR INSTALLATION INSTRUCTIONS AND INSPECTION)
5. PROVIDE INNOVATIVE TECHNOLOGIES PTX-160-3Y-101-MT SURGE SUPRESSOR. PROVIDE A SPD FOR EACH PANELBOARD AS SHOWN. (CONTACT PAMELA GOFF AT MORRIS TECHNOLOGIES, 206.930.8710 FOR INSTALLATION INSTRUCTIONS AND INSPECTION)
6. SERVICE ENTRANCE RATED.
7. GROUND PER WAC & NEC.
8. ALL SWITCHBOARDS, PANELBOARDS, AND DEVICES, SHALL MEET OR EXCEED THE LISTED AVAILABLE FAULT FOR THAT PANEL OR DEVICE. SYSTEM SHALL BE FULLY RATED.
9. PROVIDE NEW CIRCUIT FROM NEW MDP TO EXISTING ELEVATOR DISCONNECT/ECB.

### 1 FEEDER SCHEDULE

| TAG | COPPER CONDUCTORS | | | | |
|---|---|---|---|---|---|
| | QUANTITY OF SETS | RACEWAY SIZE | CONDUCTORS | | |
| | | | PHASE | NEUTRAL | GROUND |
| 30N | 1 | 3/4" | 3#10 | 1#10 | 1#10 |
| 60N | 1 | 1" | 3#6 | 1#6 | 1#10 |
| 150N | 1 | 2" | 3#1/0 | 1#1/0 | 1#6 |
| 225N | 1 | 2-1/2" | 3#4/0 | 1#4/0 | 1#4 |
| 800S | 3 | 3" | 3#300kcmil | 1#300kcmil | |
| 800N | 3 | 3" | 3#300kcmil | 1#300kcmil | 1#3/0 |
| 800G | 3 | 3" | 3#300kcmil | 1#300kcmil | 1#3/0 |

**NOTES:**

1. COPPER FEEDERS ARE BASED ON COPPER CONDUCTORS WITH THHN/THWN INSULATION. CONDUCTOR DERATING IS BASED ON THHN/THWN CONDUCTORS WITH 75 DEGREES C RATING. ALUMINUM FEEDERS ARE BASED ON ALUMINUM CONDUCTORS WITH THHN/THWN INSULATION. CONDUCTOR DERATING IS BASED ON THHN/THWN CONDUCTORS WITH 75 DEGREES C RATING.
2. REFER TO SHEET(S) E9.1 FOR FEEDER LOCATIONS.




1 / E9.1 ONE LINE DIAGRAM
SCALE: NONE

### *Fault Current Calculations*

Project: 22343 Date: 9/7/23
Job # Kirkland Fire Station 26

**Fault on Load Side of Transformer with Infinite Short Circuit Current on Primary Available.** **AFC**

| Node # | kVA | L-L Volt | Ø | %Z | Short Circuit Current |
|---|---|---|---|---|---|
| PSE XFMR | | 208 | 3 | | 26,900.00 |

**Fault Current at the End of a Run of Cable.**

| Node # | Short Circuit Current at Beginning of Run | Length of Run | L-L Volt | Conductors Per Phase | Ø | Conductor Type | Raceway Type | Wire Size | Short Circuit Current at End of Cable Run |
|---|---|---|---|---|---|---|---|---|---|
| ATS | 26,900.00 | 62 | 208 | 3 | 3 | Copper | Non-Metallic | 300 kcmil | 22,015.79 |
| MDP | 22,015.79 | 8 | 208 | 3 | 3 | Copper | Non-Metallic | 300 kcmil | 21,511.81 |
| Panel P1 | 21,511.81 | 13 | 208 | 1 | 3 | Copper | Non-Metallic | 1/O AWG | 17,210.23 |
| Panel P2 | 21,511.81 | 14 | 208 | 1 | 3 | Copper | Non-Metallic | 1/O AWG | 16,949.51 |
| Panel P3 | 21,511.81 | 79 | 208 | 1 | 3 | Copper | Metallic | 4/O AWG | 11,098.28 |
| Panel M1 | 21,511.81 | 14 | 208 | 1 | 3 | Copper | Non-Metallic | 4/O AWG | 18,699.19 |
| Elevator Machine | 21,511.81 | 75 | 208 | 1 | 3 | Copper | Metallic | 4 AWG | 4,748.81 |
| SCBA Comp | 21,511.81 | 10 | 208 | 1 | 3 | Copper | Non-Metallic | 4 AWG | 14,626.11 |
| Panel EV | 21,511.81 | 12 | 208 | 1 | 3 | Copper | Non-Metallic | 4/O AWG | 19,055.10 |
| Panel ELEV | 11,098.28 | 70 | 208 | 1 | 3 | Copper | Metallic | 10 AWG | 1,461.36 |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Project Title:

**FIRE STATION 26 RENOVATION**
CITY OF KIRKLAND
9930 124TH AVE NE KIRKLAND, WA 98033

Sheet Title:

ONE LINE DIAGRAM

Scale: NOTED
Project No. : 22-27-26
Date : 12/01/2023

Sheet Number :

**E9.1**