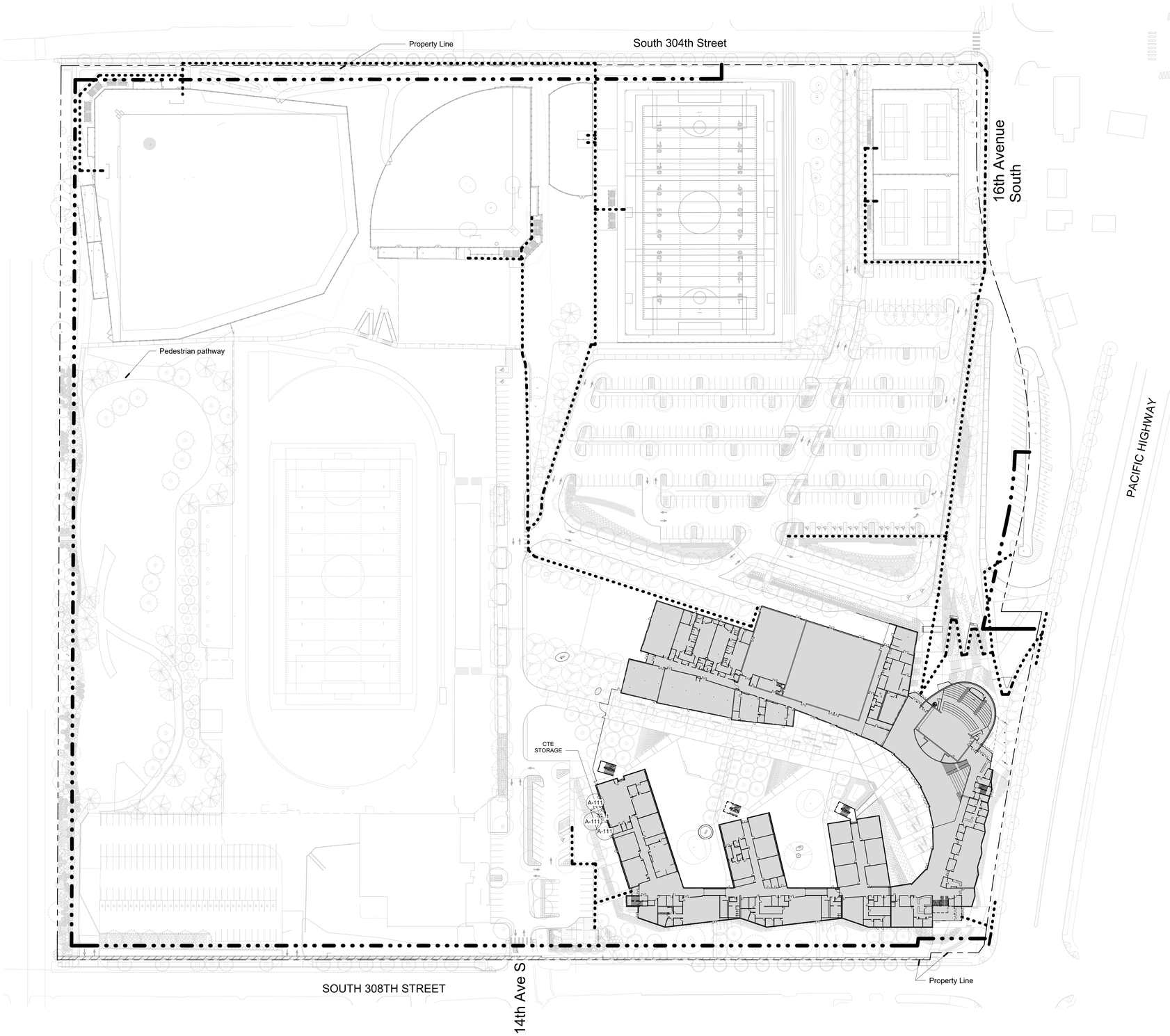


1 G-100 SITE PLAN
1" = 60'-0"

0' 30' 60' 120'

3/5/2025 9:23:39 AM

PROJECT INFORMATION - CTE

PROJECT DESCRIPTION

Construction of an exterior storage canopy (535 SF) fo the CTE classroom next to the existing building. The canopy will be located on the exsiting concete pad next to the exisitng building. There will be no changes to the existing grading or landscae areas

PARCEL NUMBER: 082104-9001

LEGAL DESCRIPTION

Chicago Title Insurance Company order no. 1345567 dated July 16, 2012.

The northeast quarter of the northeast quarter of section 8, township 21 north, range 4 east, Willamette meridian, in King County, Washington;
Except county roads;
And that portion of the northwest quarter of the northwest quarter of section 9, township 21 north, range 4 east, Willamette meridian, in King County, Washington, lying westerly of 16th Avenue South as now established, and also any portion thereof lying westerly of new Pacific Highway South;
Together with that portion of vacated 16th Avenue South as vacated under King County ordinance number 1938;
Except that portion conveyed to the City of Federal Way under recording number 200712240000367; and
Except that portion conveyed to the City of Federal Way under recording number 20081216001287.

Zoning
BC

Occupancies
Groups E

Construction Type
Type IIB

Building Areas

EXISTING OVERALL BUILDING AREA:	235,885 sf
- Allowable Building Area:	53,650 sf per IBC Chapter 5
- Existing Building Area:	34,036 sf
- Level 1 CTE Storage Canopy:	535 sf
- Proposed Building Area:	35,571 sf
	35,571/53,650 = .66 < 1

Special Inspections:

- See Structural sheet S001 for all other required Special Inspections

Deferred Submittals:

- Steel Joists
- Metal fabrications
- Miscellaneous steel
- Fall arrest anchors

ARCHITECTURAL SYMBOLS LEGEND

Building Section Identification — A1 / A301

Wall Section Identification — A1 / A321

Detail Identification — A1 / A501

Exterior Elevation Identification — A201 / A1

Interior Elevation Identification — A4 / A221 / A2 / A3

Drawing Identification — A1 / A101 VIEW NAME 1/8" = 1'-0"

Building Grid Identification — A

Match Line Identification — A101

North Point

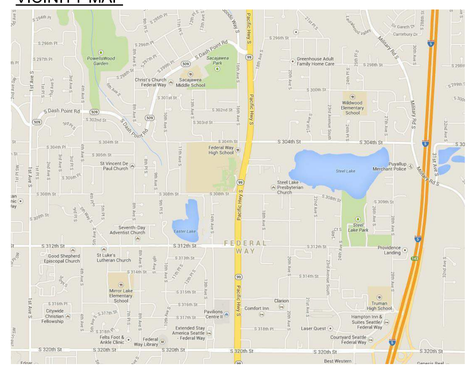
Room Name and Number — ROOM NAME

Elevation Mark

PROJECT INFORMATION - SHEET INDEX

G-1.00	ARCHITECTURAL SITE PLAN
C1.0	CIVIL SITE WORK
A-1.01	FLOOR PLAN - LEVEL 1 OVERALL
A-1.10	FLOOR PLAN - LEVEL 1 PATIAL SW
A-1.11	ENLARGED FLOOR PLANS, BUILDING ELEVATIONS & SECTIONS
S101	GENERAL STRUCTURAL NOTES
S201	CANOPY FOUNDATION AND ROOF FRAMING PLANS
S301	DETAILS
M001	MECHANICAL LEGEND, SHEET LIST & SCHEDULE
M100	MECHANICAL PLAN LEVEL 1 PARTIAL SW
M101	MECHANICAL ENLARGED PLAN
E001	ELECTRICAL LEGEN, GENEAL NOTES ABBREVIATIONS AND DRAWING INDEX
E002	ELECTRICAL SPECIFICATIONS
E100	ELECTRICAL OVERALL PLAN
E101	ELECTRICAL ENLARGED PLAN AND LIGHT FIXTURE SCHEDULE
E901	ELECTRICAL ONE-LINE DIAGRAM
E1001	PANEL SCHEDULES

VICINITY MAP



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Federal Way Public Schools

Federal Way High School CTE Storage

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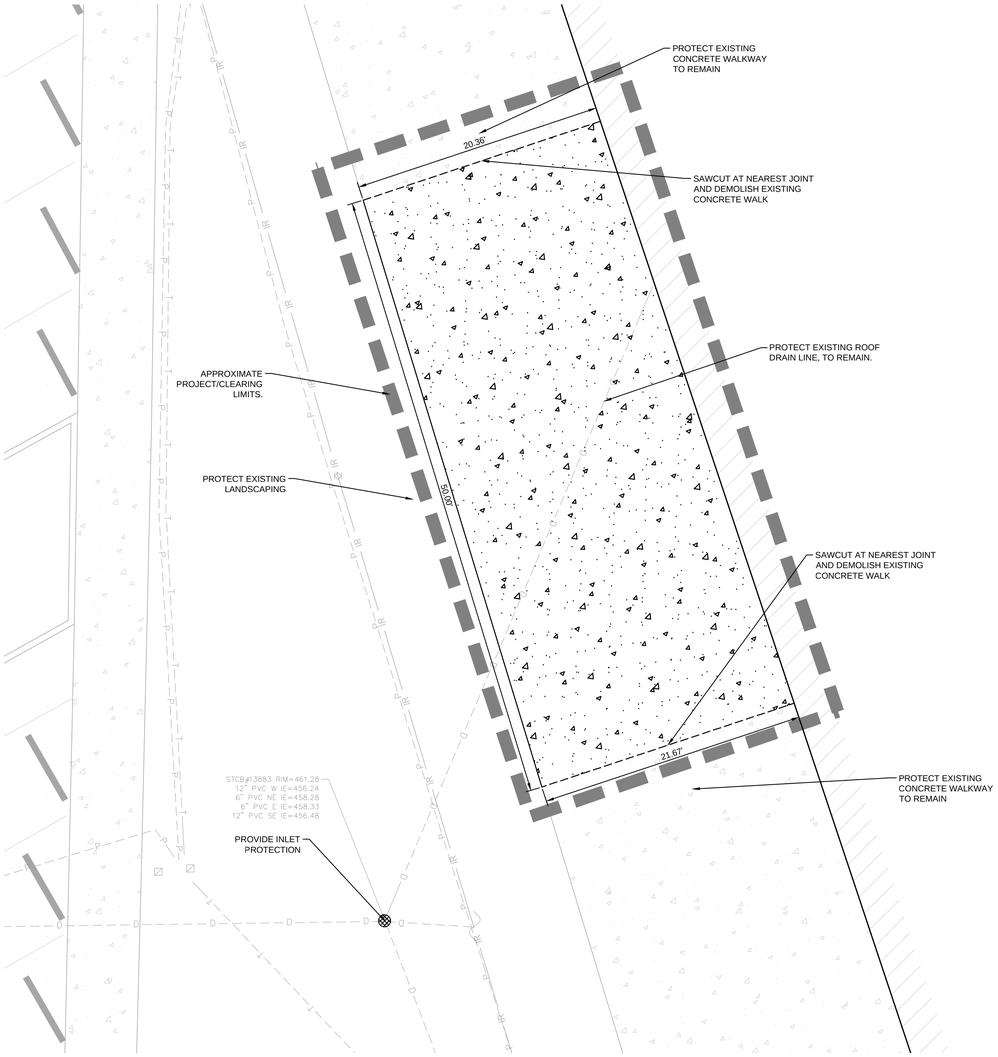
JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

BID SET

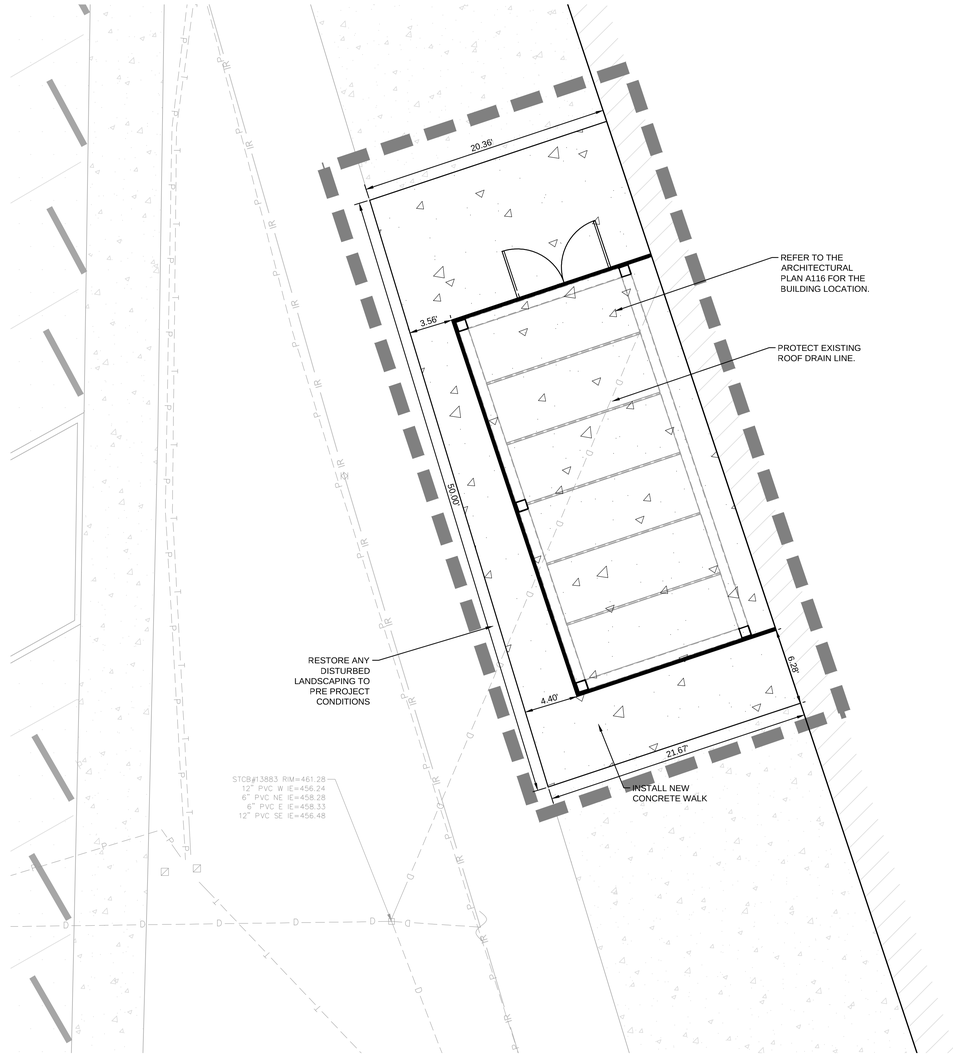
ARCHITECTURAL SITE PLAN

G-100



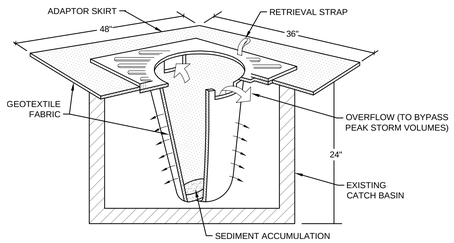
DEMOLITION PLAN

1" = 5'



SITE IMPROVEMENT PLAN

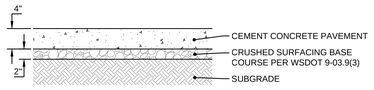
1" = 5'



NOTES:
1. FILTERS SHALL BE INSPECTED AFTER EACH STORM EVENT AND CLEANED OR REPLACED WHEN 1/3 FULL.
2. INSTALL INLET PROTECTION IN ALL NEW STORM STRUCTURES THAT WILL COLLECT STORMWATER AS THEY ARE INSTALLED.

1 CATCH BASIN INLET PROTECTION

NOT TO SCALE



NOTES:
1. DEPTHS INDICATED ARE COMPACTED THICKNESSES.
2. CEMENT CONCRETE PAVEMENT SHALL CONSIST OF PORTLAND CEMENT CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AND A MINIMUM RUPTURE MODULUS OF 580 PSI.
3. ALL BASE MATERIAL SHALL BE COMPACTED TO A MINIMUM DENSITY OF 95% BASED ON THE MODIFIED PROCTOR MAXIMUM DRY DENSITY PER ASTM D-1557.
4. SUBGRADE SHALL BE COMPACTED TO A FIRM AND UNYIELDING CONDITION PRIOR TO PLACEMENT OF ANY PAVEMENT LAYERS. ANY LOCALIZED ZONES OF SOFT, ORGANIC-RICH, OR DEBRIS-LADEN SOILS SHOULD BE OVEREXCAVATED AND REPLACED WITH STRUCTURAL FILL MATERIAL.
5. RECYCLED CONCRETE IS NOT ACCEPTABLE FOR USE IN BASE COURSE.
6. PROVIDE A LIGHT BROOM FINISH AND MATCH EXISTING JOINT LAYOUT. PROVIDE A JOINT LAYOUT SKETCH FOR OWNER TO REVIEW PRIOR TO FORMING.
7. JOINTING PER WSDOT STANDARD PLAN F-30.10-04. DETAILS "E" AND "F". PROVIDE SELF LEVELING JOINT FILLER IN EXPANSION JOINTS TO MATCH EXISTING CONDITIONS.

2 TYPICAL CONCRETE PAVEMENT SECTION

NOT TO SCALE

CLEARING LIMITS NOTE

THE CLEARING LIMITS SHOWN MAY NEED TO BE ADJUSTED TO PERFORM THE WORK. CONTRACTOR IS RESPONSIBLE FOR REVIEWING LIMITS AND CONFIRMING WORK LIMITS PRIOR TO WORK. ANY ADJUSTMENTS SHALL BE INCLUDED IN THE BASE BID.

N

GRAPHIC SCALE

0 5 10

1" = 5 FEET

DEMOLITION NOTES

1. DEMOLITION: IT IS THE INTENT OF THE WORK UNDER THIS CONTRACT TO INCLUDE THE DEMOLITION OF PAVING AS REQUIRED FOR NEW CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FULLY REVIEW THE SITE CONDITIONS AND TO CORRELATE THESE OBSERVATIONS WITH THE PROJECT WORK AND INCLUDE ALL NECESSARY DEMOLITION, WHETHER SHOWN OR NOT, AND INCLUDE ALL SUCH COSTS IN THE BASE BID.
2. CLEARING: IT IS THE INTENT OF THE WORK UNDER THIS CONTRACT TO CONDUCT ALL CLEARING NECESSARY TO BE ABLE TO COMPLETE ALL THE WORK OF THIS PROJECT.
3. CONTRACTOR SHALL LEGALLY DISPOSE ALL DEMOLISHED AND REMOVED MATERIALS OFFSITE UNLESS INDICATED OTHERWISE.
4. CONTRACTOR SHALL ENSURE THAT ADEQUATE FIRE PROTECTION ACCESS IS PROVIDED TO SITE AND EXISTING STRUCTURES TO REMAIN. CONTRACTOR SHALL ALSO PROVIDE ADEQUATE FIRE PROTECTION FOR THE NEW BUILDING.
5. CONTRACTOR SHALL MINIMIZE DUST GENERATION ONSITE BY SPRINKLING THE SITE WITH WATER UNTIL SURFACE IS WET. SEE BMP C140.
6. SAWCUT CONCRETE SIDEWALK AT THE NEAREST JOINT.

GRADING NOTES

1. THE EXISTING SITE SOILS REQUIRE PROPER COMPACTION PRIOR TO PLACEMENT OF PAVING AND UTILITY IMPROVEMENTS.
2. CONTRACTOR SHALL ASSURE POSITIVE DRAINAGE AWAY FROM BUILDINGS FOR ALL PAVED AND NON-PAVED AREAS, AND SHALL GRADE ALL AREAS TO PRECLUDE PONDING OF SURFACE WATER.
3. ADA ROUTES SHALL NOT EXCEED 5% IN THE DIRECTION OF TRAVEL UNLESS HANDRAILS ARE PROVIDED. LANDINGS AT NO MORE THAN 2% SHALL BE PROVIDED FOR EVERY 2.5 FEET OF RISE. CROSS SLOPE SHALL NOT EXCEED 2%.

TESC NOTES

1. ALL LIMITS OF CLEARING AND AREAS OF VEGETATION PRESERVATION AS PRESCRIBED ON THESE PLANS SHALL BE CLEARLY FLAGGED IN THE FIELD AND OBSERVED DURING CONSTRUCTION.
2. ALL TEMPORARY SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO INITIATING ANY CONSTRUCTION ACTIVITIES.
3. ALL REQUIRED SEDIMENTATION AND EROSION CONTROL FACILITIES MUST BE CONSTRUCTED AND IN OPERATION PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION ACTIVITIES TO ENSURE THAT SEDIMENT LADEN WATER DOES NOT ENTER ANY EXISTING DRAINAGE SYSTEM. THE CONTRACTOR SHALL SCHEDULE AN INSPECTION OF THE EROSION CONTROL FACILITIES PRIOR TO ANY LAND CLEARING AND/OR OTHER CONSTRUCTION. ALL EROSION AND SEDIMENT CONTROL FACILITIES SHALL BE MAINTAINED IN A SATISFACTORY CONDITION UNTIL SUCH TIME THAT CLEARING AND/OR CONSTRUCTION IS COMPLETED AND THE POTENTIAL FOR ON-SITE EROSION HAS PASSED. THE IMPLEMENTATION, MAINTENANCE, REPLACEMENT, AND ADDITIONS TO THE EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
4. THE EROSION AND SEDIMENTATION CONTROL SYSTEM MEASURES DEPICTED ON THESE PLANS ARE INTENDED TO BE MINIMUM REQUIREMENTS TO MEET ANTICIPATED SITE CONDITIONS. AS CONSTRUCTION PROGRESSES AND UNEXPECTED OR SEASONAL CONDITIONS DICTATE, ADDITIONAL MEASURES MAY BE NECESSARY TO ENSURE COMPLETE SILTATION CONTROL ON THE SITE. DURING THE COURSE OF CONSTRUCTION, IT SHALL BE THE OBLIGATION AND RESPONSIBILITY OF THE CONTRACTOR TO ADDRESS ANY NEW CONDITIONS THAT MAY BE CREATED BY CONSTRUCTION RELATED ACTIVITIES AND TO PROVIDE ADDITIONAL FACILITIES, OVER AND ABOVE THE MINIMUM REQUIREMENTS, AS MAY BE NEEDED TO PROTECT ADJACENT SITES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
5. ANY DISTURBED AREA WHICH HAS BEEN STRIPPED OF VEGETATION AND WHERE NO FURTHER WORK IS ANTICIPATED FOR A PERIOD OF 10 DAYS OR MORE DURING THE DRY SEASON (MAY 1-SEPT 30) OR 5 DAYS OR MORE IN THE WET SEASON (OCT 1-APRIL 30), SHALL BE IMMEDIATELY STABILIZED WITH MULCHING, GRASS PLANTING, OR OTHER APPROVED EROSION CONTROL TREATMENT APPLICABLE TO THE TIME OF YEAR IN QUESTION. GRASS SEEDING ALONE WILL BE ACCEPTABLE ONLY DURING THE MONTHS OF MAY THROUGH SEPTEMBER INCLUSIVE. SEEDING MAY PROCEED OUTSIDE THE SPECIFIED TIME PERIOD WHENEVER IT IS IN THE INTEREST OF THE CONTRACTOR BUT SHALL BE AUGMENTED WITH MULCHING, NETTING, OR OTHER TREATMENT.
6. WATER SITE AS NECESSARY TO CONTROL DUST.
7. TOPSOIL SHALL NOT BE PLACED WHILE SUBGRADE IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBGRADE IS EXCESSIVELY WET, OR WHEN CONDITIONS EXIST THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING OR PROPOSED SODDING OR SEEDING.
8. ON-SITE EROSION CONTROL MEASURES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ANY PROBLEMS OCCURRING BEFORE FINAL STABILIZATION OF THE SITE SHALL BE CORRECTED BY THE CONTRACTOR.
9. ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHOWN ON THESE DRAWINGS SHALL BE INSTALLED PRIOR TO, OR AS THE FIRST STAGE OF SITE PREPARATION.
10. SHOULD THE TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHOWN ON THESE DRAWINGS NOT PROVE ADEQUATE TO CONTROL EROSION AND SEDIMENTATION, THE CONTRACTOR SHALL INSTALL ADDITIONAL FACILITIES AS NECESSARY TO PROTECT ADJACENT SITES, SENSITIVE AREAS, NATURAL WATER COURSES, AND/OR STORM DRAINAGE SYSTEMS.
11. RUNOFF SHALL NOT BE ALLOWED TO DRAIN INTO THE STORM DRAINAGE SYSTEM DURING CONSTRUCTION. PROVIDE TEMPORARY PROTECTION FOR YARD DRAINS AS REQUIRED TO PREVENT RUNOFF FROM ENTERING THE STORM DRAINAGE SYSTEM.
12. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE COMPLETELY REMOVED PRIOR TO PROJECT COMPLETION.

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DAVID CHRISTOPHER MASON
STATE OF WASHINGTON
23353
REGISTERED
PROFESSIONAL ENGINEER
03/05/2025

Federal Way Public Schools

Federal Way High School

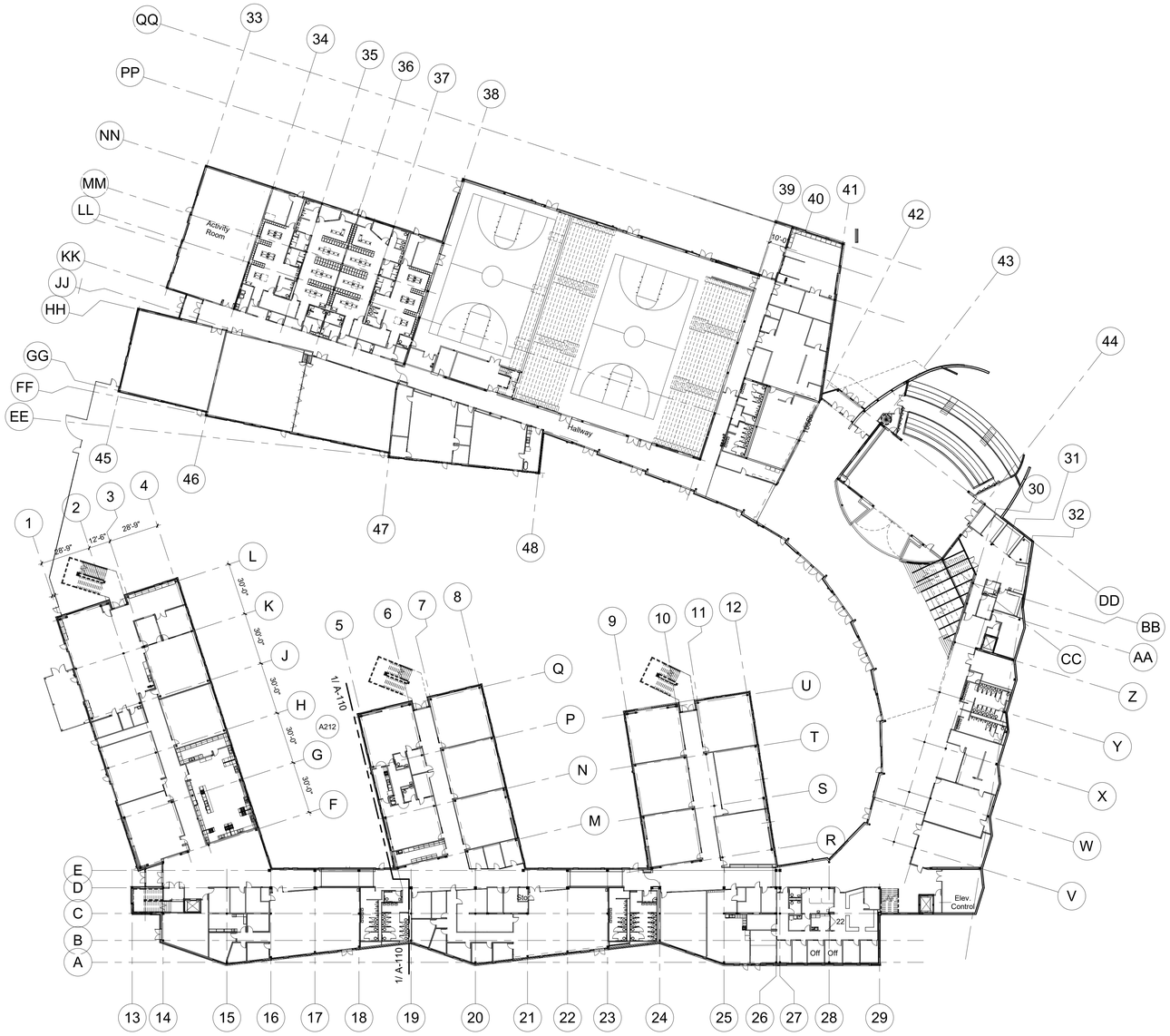
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ISSUE DATE: 3/5/2025

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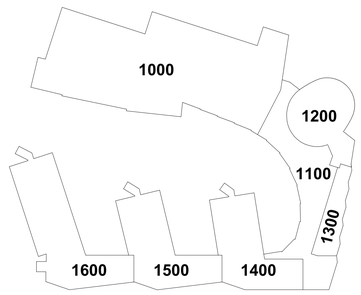
BID SET

CIVIL SITE WORK

C1.0



1 A-101 LEVEL 1
1/32" = 1'-0"



FWHS Room Number Key Level 1

3/5/2025 9:14:47 AM

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Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

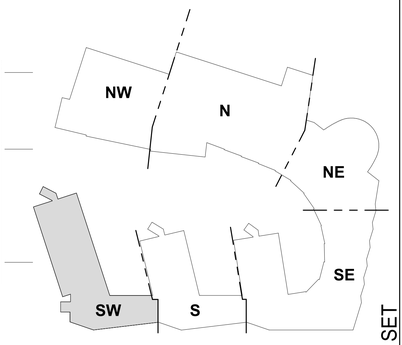
FLOOR PLAN - LEVEL 1 OVERALL

A-101



See A111 for General Floor Plan Notes

1 A-110 LEVEL 1 PARTIAL PLAN SW
1/8" = 1'-0"



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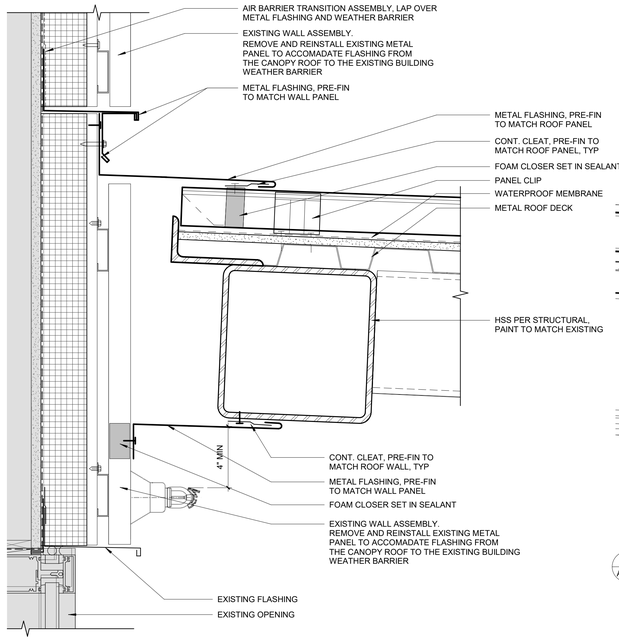
Jurisdiction Stamp Area

FLOOR PLAN - LEVEL 1 PARTIAL SW

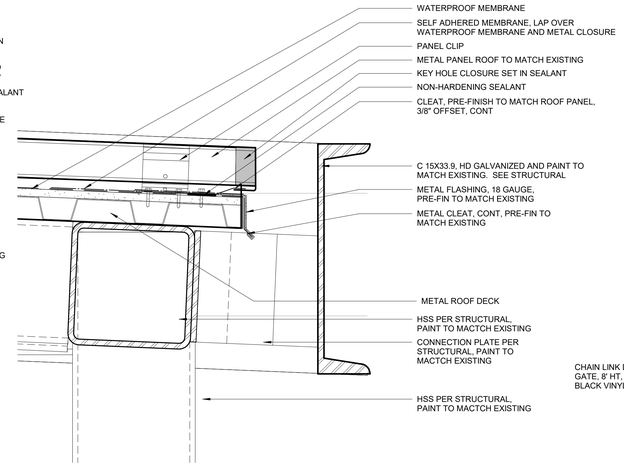
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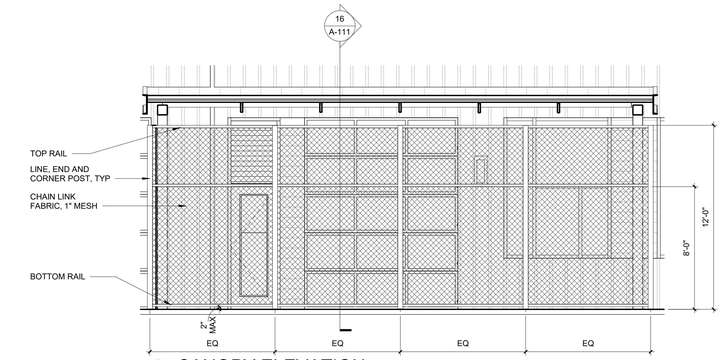
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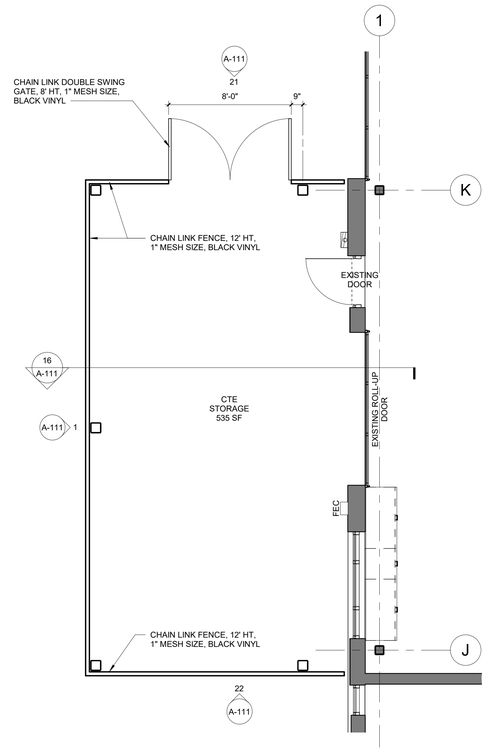
18 A-111 CTE CANOPY DETAIL
3" = 1'-0"



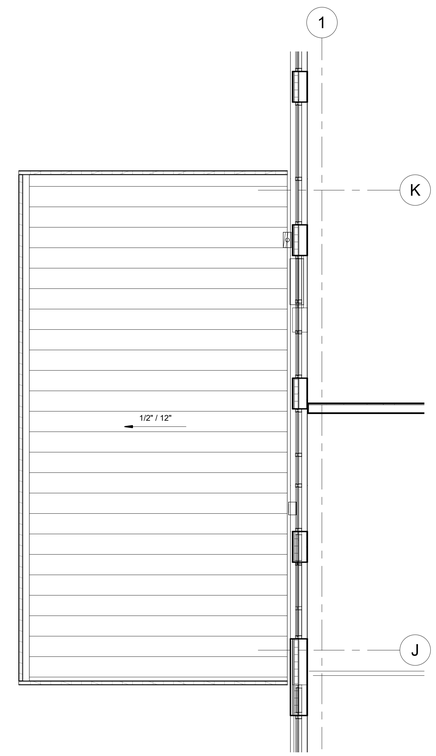
12 A-111 CANOPY EAVE DETAIL
3" = 1'-0"



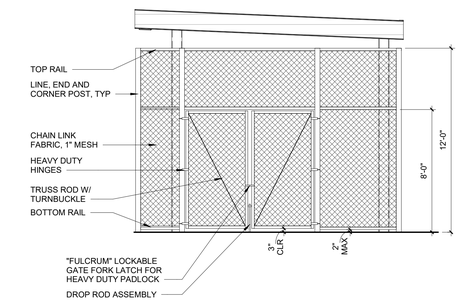
1 A-111 CANOPY ELEVATION
1/4" = 1'-0"



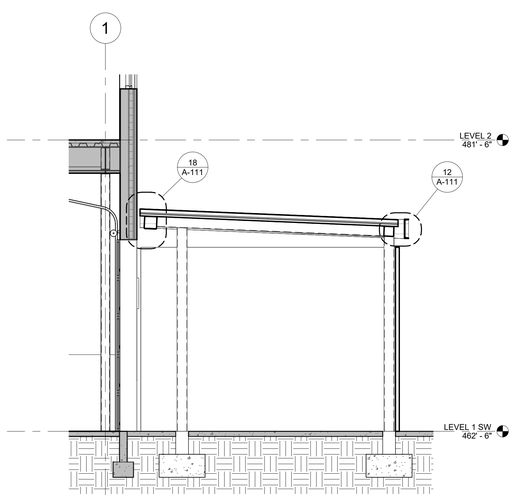
8 A-111 CTE CANOPY ENLARGED PLAN
1/4" = 1'-0"



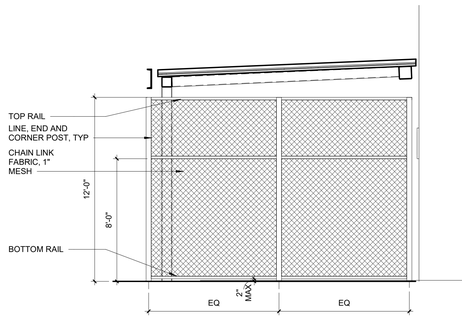
4 A-111 CTE CANOPY ENLARGED ROOF PLAN
1/4" = 1'-0"



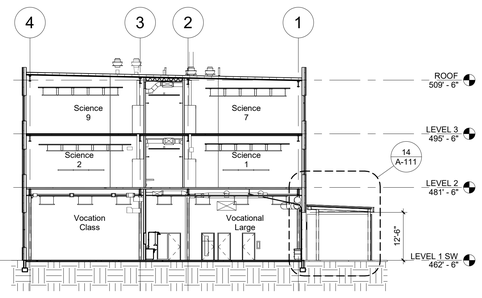
21 A-111 CANOPY ELEVATION
1/4" = 1'-0"



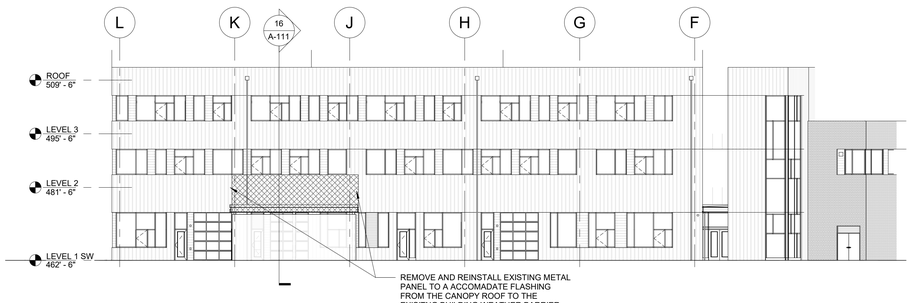
14 A-111 CTE CANOPY SECTION
1/4" = 1'-0"



22 A-111 CANOPY ELEVATION
1/4" = 1'-0"



16 A-111 WEST WING BUILDING SECTION
1/16" = 1'-0"



10 A-111 WEST ELEVATION - CLASSROOM BAR
1/16" = 1'-0"

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Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

BID SET

ENLARGED FLOOR PLANS, BUILDING ELEVATIONS & SECTIONS
A-111

General Structural Notes

(THE FOLLOWING APPLY UNLESS SHOWN OTHERWISE ON THE DRAWINGS.)

CRITERIA:

1. ALL MATERIALS, WORKMANSHIP, DESIGN, AND CONSTRUCTION SHALL CONFORM TO THE DRAWINGS, SPECIFICATIONS, AND THE INTERNATIONAL BUILDING CODE (IBC) WITH WASHINGTON STATE ADMINISTRATIVE CODE AMENDMENTS, 2021 EDITION.

2. DESIGN LOADING CRITERIA:

RISK CATEGORY IBC TABLE 1604.5	III
ROOF SNOW LOAD	28 PSF (INCLUDES I_S = 1.1)
EARTHQUAKE (NEW BUILDING DESIGN)	SEISMIC DESIGN CATEGORY D S_S = 1.33, S_1 = 0.46, S_{DS} = 1.07, S_{D1} = 0.46 I_E = 1.25, STORY DRIFT LIMIT = 0.015 * H EQUIVALENT LATERAL FORCE PROCEDURE STEEL ORDINARY MOMENT FRAMES R = 3.5, Ω_0 = 3.0, C_D = 5.5, C_s = 0.321, BASE SHEAR = 3.6 KIPS
WIND	V = 105 MPH, V_{ASD} = 63 MPH, EXPOSURE "B"

SEE DRAWINGS FOR ADDITIONAL LOADING CRITERIA

3. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH ARCHITECTURAL DRAWINGS AND ALL OTHER CONTRACT DOCUMENTS FOR BIDDING AND CONSTRUCTION. CONTRACTOR SHALL VERIFY DIMENSIONS AND CONDITIONS FOR COMPATIBILITY AND SHALL NOTIFY ARCHITECT OF ALL DISCREPANCIES PRIOR TO CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO COORDINATE BUILDING LAYOUT DIMENSIONS (GRID LAYOUTS, SITE COORDINATES, ETC.) AMONGST ALL TRADES, INCLUDING SHOP FABRICATED ITEMS.

4. CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS, MEMBER SIZES AND CONDITIONS PRIOR TO COMMENCING ANY WORK AND PRIOR TO SUBMITTING SHOP DRAWINGS. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS ARE INTENDED AS GUIDELINES ONLY AND MUST BE VERIFIED. THE EXISTING CONDITIONS SHOWN ON THE DRAWINGS ARE BASED EITHER ON SITE OBSERVATION, ORIGINAL DRAWINGS OR WERE ASSUMED BASED ON EXPECTED CONDITIONS. IF THE EXISTING CONDITIONS DO NOT CLOSELY MATCH THE CONDITIONS SHOWN ON THE DRAWINGS, OR IF THE EXISTING MATERIALS ARE OF QUESTIONABLE OR SUBSTANDARD QUALITY, NOTIFY THE ENGINEER PRIOR TO COMMENCING ANY WORK.

5. CONTRACTOR SHALL PROVIDE TEMPORARY BRACING, BOTH FOR VERTICAL LOADS AND LATERAL STABILITY, FOR THE STRUCTURE AND STRUCTURAL COMPONENTS UNTIL ALL FINAL CONNECTIONS HAVE BEEN COMPLETED IN ACCORDANCE WITH THE DRAWINGS.

6. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK.

7. CONTRACTOR-INITIATED CHANGES SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO FABRICATION OR CONSTRUCTION. CHANGES SHOWN ONLY ON SHOP DRAWINGS WILL NOT SATISFY THIS REQUIREMENT.

8. DRAWINGS INDICATE GENERAL AND TYPICAL DETAILS OF CONSTRUCTION. WHERE CONDITIONS ARE NOT SPECIFICALLY INDICATED BUT ARE OF SIMILAR CHARACTER TO DETAILS SHOWN, SIMILAR DETAILS OF CONSTRUCTION SHALL BE USED, SUBJECT TO REVIEW AND APPROVAL BY THE ARCHITECT AND THE STRUCTURAL ENGINEER.

9. SHOP DRAWINGS FOR REINFORCING STEEL AND STRUCTURAL STEEL SHALL BE SUBMITTED TO THE ARCHITECT AND STRUCTURAL ENGINEER FOR REVIEW PRIOR TO FABRICATION OF THESE ITEMS.

10. SHOP DRAWING REVIEW: DIMENSIONS AND QUANTITIES ARE NOT REVIEWED BY THE ENGINEER OF RECORD, AND THEREFORE MUST BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL REVIEW AND STAMP DRAWINGS PRIOR TO REVIEW BY ENGINEER OF RECORD. SUBMITTALS SHALL BE SUBMITTED ELECTRONICALLY IN PDF FORMAT.

    SHOP DRAWING SUBMITTALS PROCESSED BY THE ENGINEER ARE NOT CHANGE ORDERS. THE PURPOSE OF SHOP DRAWING SUBMITTALS BY THE CONTRACTOR IS TO DEMONSTRATE TO THE ENGINEER THAT THE CONTRACTOR UNDERSTANDS THE DESIGN CONCEPT BY INDICATING WHICH MATERIAL IS INTENDED TO BE FURNISHED AND INSTALLED AND BY DETAILING THE INTENDED FABRICATION AND INSTALLATION METHODS. IF DEVIATIONS, DISCREPANCIES, OR CONFLICTS BETWEEN SHOP DRAWING SUBMITTALS AND THE CONTRACT DOCUMENTS ARE DISCOVERED EITHER PRIOR TO OR AFTER SHOP DRAWING SUBMITTALS ARE PROCESSED BY THE ENGINEER, THE DESIGN DRAWINGS AND SPECIFICATIONS SHALL CONTROL AND SHALL BE FOLLOWED.

STATEMENT OF SPECIAL INSPECTIONS (STRUCTURAL):

11. STATEMENT OF SPECIAL INSPECTIONS - STRUCTURAL ITEMS (SEISMIC DESIGN CATEGORY D):

    DEFINITIONS:
    THE SEISMIC FORCE RESISTING SYSTEM FOR THIS STRUCTURE CONSISTS PRIMARILY OF MOMENT FRAMES, ROOF DIAPHRAGMS, AND STRUT MEMBERS AS SPECIFIED ON THE DRAWINGS. SEE THE LEGEND OF PLAN SHEETS FOR ADDITIONAL INFORMATION DEFINING MEMBER LOCATIONS.

    SPECIAL INSPECTIONS AND TESTING SHALL BE PERFORMED BY THE OWNER APPOINTED INSPECTION AGENCY IN ACCORDANCE WITH CHAPTER 17 OF THE IBC WITH REPORTS PER IBC SECTION 1704.2.4 SUBMITTED TO THE OWNER, ARCHITECT, STRUCTURAL ENGINEER, CONTRACTOR, AND BUILDING OFFICIAL FOR EACH DAY SPECIAL INSPECTIONS OR TESTING IS PERFORMED. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS SPECIFIED IN IBC SECTION 110. SEE TABLES BELOW FOR ADDITIONAL INFORMATION.

STRUCTURAL ITEMS	SPECIAL INSPECTION FREQUENCY	IBC REFERENCE
STRUCTURAL STEEL FABRICATION, ERECTION, AND NONDESTRUCTIVE TESTING*		
SPECIAL INSPECTION AND NONDESTRUCTIVE TESTING FOR STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE QUALITY ASSURANCE (QA) INSPECTION REQUIREMENTS OF AISC 360-16 CHAPTER N. CONTINUOUS INSPECTION SHALL BE PERFORMED AT "P" TASKS DEFINED IN AISC 360-16; PERIODIC INSPECTION SHALL BE PERFORMED AT "O" TASKS DEFINED IN AISC 360-16. ADDITIONAL SPECIAL INSPECTION AND TESTING REQUIREMENTS FOR THE STRUCTURAL STEEL SEISMIC SYSTEM SHALL BE PER AISC 341-16 CHAPTER J AS INDICATED BELOW.		
SHOP AND FIELD WELDING	CONTINUOUS/PERIODIC (QA PER AISC 360 CH. N5.4)	1705.2.1
HIGH STRENGTH BOLTING	CONTINUOUS/PERIODIC (QA AISC 360 CH. N5.6)	1705.2.1
METAL DECKING	PERIODIC	1705.2.2
MATERIAL VERIFICATION (IDENTIFICATION MARKS AND MANUFACTURER'S TEST REPORTS)	PERIODIC	1705.2.1
STRUCTURAL STEEL SEISMIC SYSTEM (INSPECTION AND TESTING)	CONTINUOUS/PERIODIC (QA PER AISC 341 CH. J)	1705.13.1 & 1705.14.1
CONCRETE (SEE GENERAL STRUCTURAL NOTE 13 FOR ADDITIONAL REQUIREMENTS)**		
REINFORCING PLACEMENT	PERIODIC AND PRIOR TO ALL CONCRETE POURS	TABLE 1705.3 ITEM 1
ANCHOR BOLT PLACEMENT	PERIODIC AND PRIOR TO ALL CONCRETE POURS	TABLE 1705.3 ITEM 3
CONCRETE PLACEMENT***	CONTINUOUS	TABLE 1705.3 ITEMS 5-7
CURING & FORMWORK PROCEDURES	PERIODIC	TABLE 1705.3 ITEMS 8 & 14
SOIL COMPACTION	CONTINUOUS	1705.6

* STRUCTURAL STEEL QUALITY ASSURANCE INSPECTIONS, EXCEPT NONDESTRUCTIVE TESTING, MAY BE WAIVED IF APPROVED BY THE OWNER AND BUILDING OFFICIAL FOR WORK PERFORMED ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION IN ACCORDANCE WITH IBC SECTION 1704.2.5.1.
** EXCEPTIONS 1 THRU 5 PER IBC SECTION 1705.3 SHALL NOT APPLY TO CONCRETE WORK ON THIS PROJECT.
*** FREQUENCY OF CONCRETE LABORATORY TESTING SHALL BE IN ACCORDANCE WITH ACI 318-19 SECTION 26.12.2 UNLESS OTHERWISE NOTED IN THE PROJECT SPECIFICATIONS.

ARCH, MECH, & ELEC ITEMS	SEISMIC DESIGN REQUIREMENTS (ASCE 7-16 CHAPTER 13)	PERIODIC SPECIAL INSPECTION AS SPECIFIED PER IBC CHAPTER 17
STEEL STORAGE RACKS	ASCE 7-16 SECTION 15.5.3	REQUIRED FOR ANCHORAGE OF RACKS > 8 FEET IN HEIGHT (IBC 1705.13.7)
ALL OTHER MECHANICAL AND ELECTRICAL COMPONENTS	ASCE 7-16 SECTION 13.6	NOT REQUIRED

STRUCTURAL OBSERVATION PER IBC SECTION 1704.6 IS NOT REQUIRED FOR THIS STRUCTURE.

CONTRACTOR STATEMENT OF RESPONSIBILITY: CONTRACTOR SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY IN ACCORDANCE WITH IBC SECTION 1704.4 TO THE BUILDING OFFICIAL AND OWNER PRIOR TO CONSTRUCTION ACKNOWLEDGING THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS.

GEOTECHNICAL:

12. FOUNDATION NOTES: SUBGRADE PREPARATION INCLUDING DRAINAGE, EXCAVATION, COMPACTION, AND FILLING REQUIREMENTS, SHALL CONFORM STRICTLY WITH THE CIVIL/STRUCTURAL DRAWINGS AND SPECIFICATIONS OR AS DIRECTED BY THE OWNER APPOINTED GEOTECHNICAL ENGINEER. FOOTINGS SHALL BEAR ON COMPACTED IMPORTED STRUCTURAL FILL PER EARTHWORK SPECIFICATIONS. FOOTINGS SHALL BEAR AT LEAST 18" BELOW LOWEST ADJACENT FINISHED GRADE. THE OWNER APPOINTED GEOTECHNICAL ENGINEER SHALL APPROVE FOOTING EXCAVATION/PREPARATION PRIOR TO PLACEMENT OF ALL FOOTINGS. PROVIDE FOR SUBSURFACE DRAINAGE AS NOTED IN THE SPECIFICATIONS.

SOIL PROFILE TYPE	SITE CLASS C
COEFFICIENT OF FRICTION	0.35 (INCLUDING FACTOR OF SAFETY)
ALLOWABLE SOIL PRESSURE	5,000 PSF
LATERAL EARTH PRESSURE (RESTRAINED/UNRESTRAINED).	50 PCF/35 PCF

GEOTECHNICAL REPORT REFERENCE: "ASSOCIATED EARTH SCIENCES, INC, REPORT # KE120504A, FEDERAL WAY HIGH SCHOOL REPLACEMENT, DATED MARCH 14, 2014."

CONCRETE:

13. CONCRETE SHALL BE MIXED, PROPORTIONED, CONVEYED AND PLACED IN ACCORDANCE WITH ACI 318-19 CHAPTER 26 AND ACI 301. CONCRETE SHALL ATTAIN A 28-DAY STRENGTH OF f'c = 4.5 KSI.

    EXPOSURE CLASSES: CONCRETE MIXES SHALL CONFORM TO EXPOSURE CLASSES F0, S0, W0, AND C0 IN ACCORDANCE WITH ACI 318-19, TABLES 19.3.1.1 AND 19.3.2.1, EXCEPT FOR THE FOLLOWING: CONCRETE EXPOSED TO EARTH SHALL CONFORM TO EXPOSURE CLASS C1. CONCRETE EXPOSED TO WEATHER AND FREEZING SHALL CONFORM TO EXPOSURE CLASS F1 (F2 FOR EXTERIOR SLABS EXPOSED TO WEATHER).

    CONCRETE MIXES SHALL MEET OR EXCEED THE REQUIREMENTS SPECIFIED ABOVE. MIXES SHALL BE SUBMITTED TO THE ENGINEER AND BUILDING OFFICIAL FOR APPROVAL TWO WEEKS PRIOR TO PLACING ANY CONCRETE AND SHALL INCLUDE THE AMOUNTS OF CEMENT, CEMENTITOUS MATERIAL, FINE AND COARSE AGGREGATE, WATER AND ADMIXTURES, AS WELL AS THE WATER-CEMENT RATIO, SLUMP, CONCRETE YIELD AND SUBSTANTIATING STRENGTH DATA IN ACCORDANCE WITH ACI 318-19, CHAPTER 26 AND 27. REVIEW OF MIX SUBMITTALS BY THE ENGINEER OF RECORD INDICATES ONLY THAT INFORMATION PRESENTED CONFORMS GENERALLY WITH CONTRACT DOCUMENTS. CONTRACTOR OR SUPPLIER MAINTAINS FULL RESPONSIBILITY FOR SPECIFIED PERFORMANCE.

14. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, fy = 60 KSI.

    WELDED WIRE FABRIC SHALL CONFORM TO ASTM A1064.

15. REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH ACI 315-18 AND 318-19. LAP ALL CONTINUOUS REINFORCEMENT (#5 AND SMALLER) 40 BAR DIAMETERS OR 2'-0" MINIMUM. PROVIDE CORNER BARS AT ALL WALL AND FOOTING INTERSECTIONS. LAP CORNER BARS (#5 AND SMALLER) 40 BAR DIAMETERS OR 2'-0" MINIMUM. LAPS OF LARGER BARS SHALL BE MADE IN ACCORDANCE WITH ACI 318-19 SECTION 25.5, CLASS B. LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 12" AT SIDES AND ENDS.

    NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS OTHERWISE NOTED ON THE DRAWINGS OR APPROVED BY THE STRUCTURAL ENGINEER.

16. CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS U.O.N.:

FOOTINGS AND OTHER UNFORMED SURFACES CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3"
FORMED SURFACES EXPOSED TO EARTH (i.e. WALLS BELOW GROUND) OR WEATHER (#6 BARS OR LARGER). . .	2"
(#5 BARS OR SMALLER). . .	1 1/2"
SLAB-ON-GRADE BOTTOM REINFORCING	2"

17. CAST-IN-PLACE CONCRETE: SEE ARCHITECTURAL DRAWINGS FOR ALL GROOVES, NOTCHES, CHAMFERS, FEATURE STRIPS, COLOR, TEXTURE, AND OTHER FINISH DETAILS AT ALL EXPOSED CONCRETE SURFACES.

18. BONDING AGENT SHALL BE "MASTEREMACO ADH 326" BY BASF CORPORATION OR EQUIVALENT, AND SHALL BE USED WHERE NEW CONCRETE IS PLACED AGAINST HARDENED CONCRETE. PLACE IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS, INCLUDING PREPARATION OF EXISTING SURFACES. CONCRETE SHALL BE CONSIDERED HARDENED AFTER 56 DAYS.

19. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (6 KSI MINIMUM).

STEEL:

20. STRUCTURAL STEEL DESIGN, FABRICATION, AND ERECTION SHALL BE BASED ON THE LATEST EDITIONS OF THE A.I.S.C. SPECIFICATIONS AND CODES:

    1. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS AND PLASTIC DESIGN, OR LOAD AND RESISTANCE FACTOR DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS.

    2. CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES, ADOPTED JUNE 15, 2016.

       IN REFERENCE TO SECTIONS 3.1.1 AND 4.4.1, THE CONTRACT DOCUMENTS (DESIGN DRAWINGS) SHOW COMPLETE CONNECTION DETAILS FOR ALL MEMBERS EXCEPT THOSE NOTED TO BE DESIGN-BUILD ITEMS. ALTERNATE CONNECTION DETAILS REQUESTED BY THE FABRICATOR SHALL BE SUBMITTED TO THE ENGINEER OF RECORD FOR APPROVAL VIA A REQUEST FOR INFORMATION (RFI) PRIOR TO COMPLETION OF SHOP DRAWINGS.

       IN REFERENCE TO SECTION 3.1.6, FABRICATOR SHALL ALSO REVIEW PROJECT SPECIFICATIONS AND ARCHITECTURAL DRAWINGS TO DETERMINE PAINTING AND GALVANIZING REQUIREMENTS. MEMBERS EMBEDDED IN CONCRETE, MASONRY OR TO RECEIVE SPRAY-ON FIREPROOFING SHALL NOT BE PAINTED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING.

       IN REFERENCE TO SECTION 3.3, IN THE EVENT OF DISCREPANCIES BETWEEN DESIGN DRAWINGS AND SPECIFICATIONS, THE DESIGN DRAWINGS GOVERN.

       IN REFERENCE TO SECTION 4.1, THE FABRICATOR SHALL NOT ASSUME BID PACKAGES CONSTITUTE RELEASING THE DRAWINGS FOR CONSTRUCTION WITHOUT EXPLICIT DIRECTION TO DO SO BY THE OWNER.

    3. SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.

    4. QUALITY CONTROL SHALL BE IN ACCORDANCE WITH AISC 360 CHAPTER N (AISC 341 CHAPTER J FOR STEEL SEISMIC SYSTEM).

    CONTRACTOR SHALL ALSO COMPLY WITH OSHA REGULATION 29 CFR PART 1926 SUBPART R - STEEL ERECTION, PUBLISHED JANUARY 18, 2001. MISCELLANEOUS PLATES FOR GUYING CABLE ATTACHMENTS, TEMPORARY JOIST BRACING, ETC. SHALL BE ADDED AS REQUIRED. CONTRACTOR SHALL EVALUATE COLUMNS AND PROVIDE ADEQUATE BASE PLATE SHIMS, ADDITIONAL TEMPORARY ERECTION BOLTS/CLIPS, GUYS, OR TEMPORARY BRACING AS REQUIRED PER SECTION 1926.755.

21. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

TYPE OF MEMBER	ASTM SPECIFICATION	Fy
A. WIDE FLANGE AND WT SHAPES	A992	50 KSI
B. ANGLES, CHANNELS, AND RODS	A36	36 KSI
C. PLATES	A572	50 KSI
D. STRUCTURAL TUBING (HSS - SQUARE OR RECTANGULAR)	A500 (GRADE C)	50 KSI
E. ANCHOR BOLTS OR ANCHOR RODS	F1554	36 KSI (U.O.N.)
F. CONNECTION BOLTS	A325-N	

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

23. NOT USED.

24. HOLE SIZES IN STEEL MEMBERS FOR CONNECTIONS TO CONCRETE OR MASONRY SHALL BE AS FOLLOWS UNLESS SPECIFIED OTHERWISE ON THE DRAWINGS:

	MAXIMUM HOLE DIA. OVER NOMINAL BOLT DIA.	
ANCHOR TYPE	OTHER THAN COL. BASE PLATES	COL. BASE PLATES
CAST-IN-PLACE ANCHOR BOLTS	1/16" *	TABLE 14-2 OF AISC STEEL CONSTR. MANUAL, 15TH ED.
EXPANSION BOLTS	1/16" *	5/16"
EPOXY GROUTED BOLTS	1/8" *	5/16"

* USE OF LARGER HOLES WOULD REQUIRE THE USE OF WELDED PLATE WASHERS AND WOULD REQUIRE PRIOR APPROVAL BY THE STRUCTURAL ENGINEER.

HARDENED OR COMMON PLATE WASHERS ARE REQUIRED BELOW ALL NUTS WHERE OVERSIZED HOLES ARE USED AND SHALL BE SIZED TO COVER ENTIRE HOLE. MINIMUM WASHER SIZES FOR COLUMN BASE PLATES SHALL BE IN ACCORDANCE WITH TABLE 14-2 OF THE AISC STEEL CONSTRUCTION MANUAL, 15TH EDITION.

25. ALL WELDING SHALL BE IN CONFORMANCE WITH A.I.S.C. AND A.W.S. STANDARDS AND SHALL BE PERFORMED BY W.A.B.O. CERTIFIED WELDERS USING E70XX ELECTRODES. ONLY PREQUALIFIED WELDS (AS DEFINED BY A.W.S.) SHALL BE USED. DO NOT PAINT OR GALVANIZE AREAS OF PIECES TO BE FIELD WELDED, OR REMOVE PAINT AND GALVANIZING IN FIELD PRIOR TO WELDING
    THE WELD SYMBOLS SHOWN ON THE DRAWINGS ARE INTENDED ONLY TO AID THE CONTRACTOR IN THE DETERMINATION OF FIELD VERSUS SHOP WELDING. THE CONTRACTOR SHALL WORK WITH THE FABRICATOR AND ERECTOR TO COORDINATE THE FINAL DETERMINATION OF FIELD VERSUS SHOP WELDS TO ACCOMMODATE THE CONSTRUCTION SEQUENCING OF THE PROJECT.

    ALL WELDS SHALL BE MADE WITH A FILLER WELD METAL THAT HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 20 FT.-LBS. AT 0 DEGREES F. WELDS SPECIFICALLY DENOTED AS "DEMAND CRITICAL" SHALL BE MADE WITH FILLER WELD METAL THAT ADDITIONALLY HAS A MINIMUM CHARPY V-NOTCH TOUGHNESS OF 40 FT-LBS AT 70 DEGREES F. SEE AISC 341-16 CHAPTER A3 (4B) AND AWS D1.8 SECTION 6.3 FOR ADDITIONAL REQUIREMENTS. PROPOSED FILLER MATERIAL FOR BOTH SHOP AND FIELD WELDS SHALL BE SUBMITTED FOR REVIEW PRIOR TO CONSTRUCTION.

26. METAL ROOF DECKING: PROVIDE SIZE, TYPE, GAGE, AND ATTACHMENT TO THE SUPPORTING STRUCTURE AS SHOWN ON THE DRAWINGS. ALTERNATES MUST BE CONNECTED ACCORDING TO PUBLISHED ICC-ES CRITERIA FOR DIAPHRAGM SHEARS SHOWN. PROVIDE SHORING WHERE REQUIRED PER MANUFACTURER'S PUBLISHED CRITERIA. ALL DECKING SHALL CONFORM TO THE REQUIREMENTS OF THE STEEL DECK INSTITUTE. SUBMIT DECK INFORMATION TO ARCHITECT AND ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS.

SHEET INDEX

S101	GENERAL STRUCTURAL NOTES
S201	CANOPY FOUNDATION AND ROOF FRAMING PLANS
S301	DETAILS

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BID SET

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CHRISTINE HITTLE — STATE OF WASHINGTON — REGISTERED PROFESSIONAL ENGINEER
02/18/25

#	REVISIONS	DATE

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S.
Federal Way, WA 98003

JOB NO: S24255
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

GENERAL STRUCTURAL NOTES

S101

FOUNDATION PLAN NOTES:

1. SLAB ELEVATION PER CIVIL. SLAB-ON-GRADE SHALL BE 5" THICK WITH #4 @ 14"oc EA. WAY AT CENTER, OVER FREE-DRAINING CAPILLARY BREAK MATERIAL PER GEOTECHNICAL REPORT AND SPECIFICATIONS.

   SEE ARCHITECTURAL DRAWINGS FOR SLAB DEPRESSION AND SLOPE REQUIREMENTS.

2. TOPS OF ALL FOOTINGS SHALL BE AS SHOWN ON PLAN, U.O.N. OVER EXCAVATE AND PLACE SUITABLE COMPACTED FILL AS DIRECTED BY OWNER APPROVED GEOTECHNICAL ENGINEER WHERE REQUIRED.

3. ALL STEEL TO BE HOT DIP GALVANIZED.

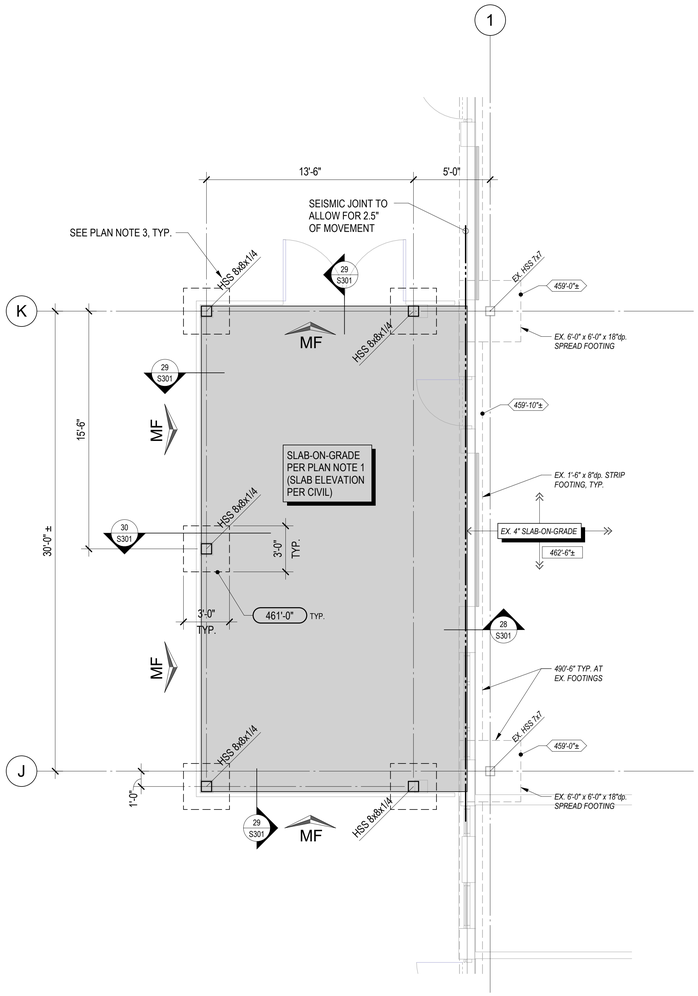
FOUNDATION LEGEND:

- x'-x"± — TOP OF EX. SLAB ELEVATION
- x'-x"± — BOTTOM OF EX. FOOTING ELEVATION
- x'-x" — TOP OF FOOTING ELEVATION
- SLAB-ON-GRADE PER PLAN NOTE 1

FOUNDATION SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 11)

MF-x — MOMENT FRAME



NORTH

1 CANOPY FOUNDATION PLAN
1/4" = 1'-0"

ROOF PLAN NOTES:

1. ROOF DECKING SHALL BE 1 1/2" DEEP PER 6/S301, U.O.N.
2. IN GENERAL, THE ROOF STRUCTURE SLOPES TO DRAINS. SEE ARCH'L DRAWINGS FOR ISOLATED AREAS REQUIRING BUILT-UP INSULATION FOR DRAINAGE. PROVIDE STRAIGHT SLOPES BETWEEN ELEVATIONS SHOWN.
3. STEEL MEMBERS SHALL BE SPACED EQUALLY AS SHOWN, U.O.N.
4. SEE METAL DECKING NOTES FOR SPECIAL CONNECTION REQUIREMENTS AT MOMENT FRAMES.
5. THE GENERAL CONTRACTOR SHALL REINFORCE ALL OPENINGS AT ROOF DECKS PER 3/S301 . ALL OPENINGS MAY NOT BE SHOWN ON THE STRUCTURAL DRAWINGS. SEE ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL OPENINGS NOT SHOWN. CONTRACTOR SHALL COORDINATE OPENING DIMENSIONS AMONGST ALL TRADES.
6. ALL STEEL TO BE HOT DIP GALVANIZED.

ROOF LEGEND:

[x'-x"] — TOP OF STEEL BEAM ELEVATION

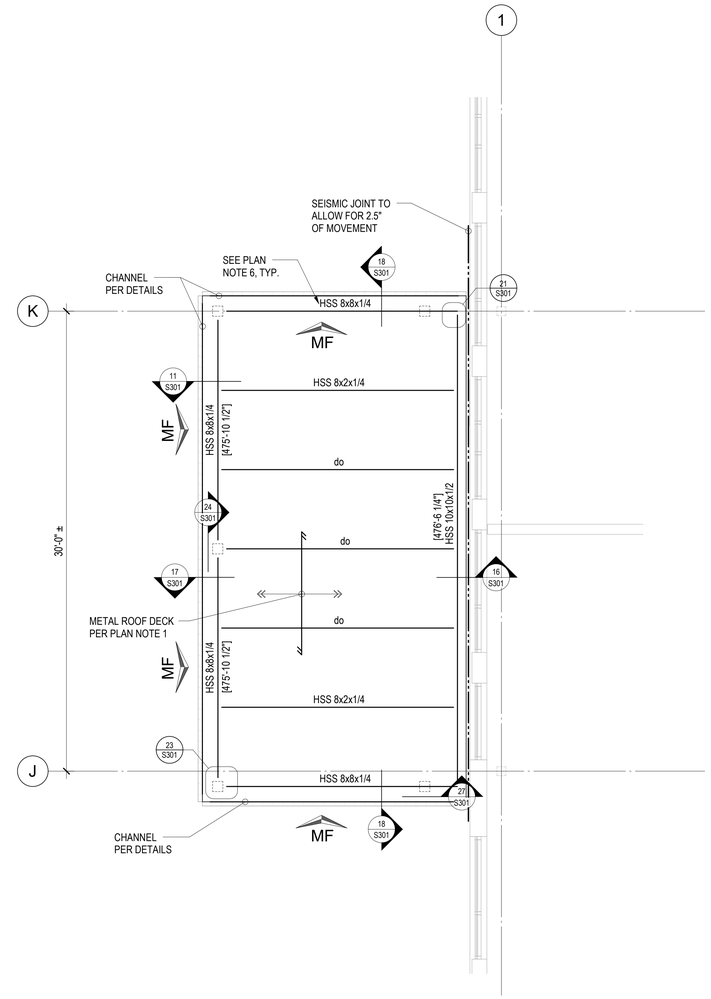
SPAN DIRECTION OF DECK

ROOF SEISMIC FORCE RESISTING SYSTEM LEGEND:

(SEE GENERAL STRUCTURAL NOTE 11)

MF-x — MOMENT FRAME

DIAPHRAGM — DIAPHRAGM AT THIS LEVEL CONSISTS OF THE ROOF DECK PER PLAN



NORTH

2 CANOPY ROOF FRAMNG PLAN
1/4" = 1'-0"

NOTE: ALL DIMENSIONS, ELEVATIONS, AND LOCATIONS OF EXISTING STRUCTURAL COMPONENTS ARE BASED ON INFORMATION GATHERED FROM ORIGINAL DRAWINGS OR CURSORY FIELD MEASUREMENTS AND ARE SHOWN FOR INFORMATION ONLY. CONTRACTOR SHALL FIELD MEASURE AND VERIFY ALL CONDITIONS PRIOR TO COMMENCING ANY WORK. NOTIFY ENGINEER WHERE CONDITIONS VARY FROM THOSE SHOWN.

2/18/2025 8:32:10 AM

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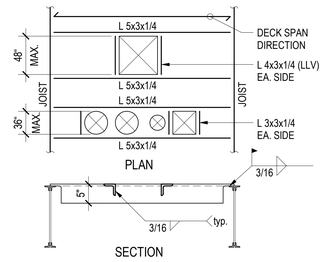
BID SET

CANOPY FOUNDATION AND ROOF FRAMING PLANS

S201

1

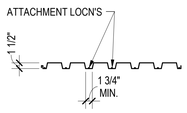
2



NOTES:
1. WELD DECK TO L's W/ 1/2"⌀ PUDDLE WELDS @ 6"oc ALL AROUND OPNG.
2. NO REINFORCING REQD. FOR SINGLE OPNG'S 6"⌀ or 6" SQ. or LESS.
3. LARGER OPNG'S MUST BE COORD. W/ ARCHITECT & ENGINEER.

Reinforcing at Misc. Roof Deck Openings 5802

3



DECK TYPE = ASC DGB-36 OR VERCO PLB-36, G60 GALVANIZED W/ FOLLOWING MIN. PROPERTIES: ①

F_y = 50ksi, PANEL WIDTH = 36"

ALLOWABLE SHEAR CAPACITY REQUIRED = 200 plf

20GA.	18GA.
I_a = +0.197/-0.231 $in.^4$	I_a = +0.287/-0.306 $in.^4$
S_a = +0.228/-0.236 $in.^3$	S_a = +0.311/-0.329 $in.^3$

MAXIMUM ALLOWABLE SPANS ②		
SPAN CONDITION	20GA.	18GA.
SINGLE SPAN	7'-0"	7'-6"
DOUBLE OR TRIPLE SPAN	8'-6"	9'-6"

DECK ATTACHMENT AT SUPPORTS ③			
FASTENER TYPE	FASTENER PATTERN PERP. TO DECK FLUTES	FASTENER SPACING PARALLEL TO DECK FLUTES	SIDE SEAM CONN. SPACING ④
1/2"⌀ (EFFECTIVE) PUDDLE WELDS	36/7 ((2) ROWS 36/7 AT STRUTS) ⑤	24"oc (12"oc AT STRUTS) ⑤	24"oc
POWDER ACTUATED FASTENERS (PAF) ⑥	36/7 ((2) ROWS 36/7 AT STRUTS) ⑤	24"oc (12"oc AT STRUTS) ⑤	24"oc

DECK NOTES:

① DECK MUST STRICTLY MEET CRITERIA LISTED, INCLUDING ICC-ES RESEARCH REPORT ALLOWABLE SHEAR LOADS. SUBMIT DECK INFORMATION TO ENGINEER PRIOR TO BEGINNING SHOP DRAWINGS.

② USE GAGE OF DECK PER SPAN TABLE, U.O.N PER PLAN.

③ USE DECK ATTACHMENTS AT SUPPORTS PER THE TABLE U.O.N. PER PLAN. CONTRACTOR MAY ELECT TO USE EITHER PUDDLE WELDS OR POWDER ACTUATED FASTENERS, CONTRACTOR TO UTILIZE ONLY ONE DECK ATTACHMENT TYPE PER CONTINUOUS DECKING AREA.

④ CONNECT DECK SEAMS WITH THE PUNCHLOK SYSTEM FOR VERCO DECK OR THE DELTAGRIP SYSTEM FOR ASC DECK, U.O.N PER PLAN.

⑤ STRUT ATTACHMENT PATTERNS SHALL APPLY AT MOMENT FRAME BEAMS (WHERE DECK OCCURS BOTH SIDES OF SUPPORT, EXCLUDING OVERHANGS AND CHANGES IN DECK ORIENTATION).

⑥ POWDER ACTUATED FASTENERS SHALL BE PER HILTI (ICC-ESR 2197) OR PNEUTEK (ICC-ESR 2941).

⑦ REINFORCE MISCELLANEOUS DECK OPENINGS PER 3/S301 , U.O.N. DECK OPENINGS MAY NOT BE SHOWN ON PLAN. SEE ARCH'L & MECH'L FOR ADDITIONAL INFORMATION.

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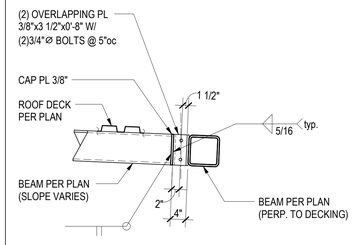
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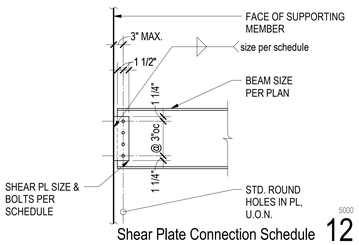
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11

STANDARD BEAM CONNECTION SCHEDULE				
BEAM SIZE	BOLT SIZE (A325N)	NO. OF BOLTS U.O.N.	PL THICKNESS	WELD SIZE
W8	3/4"⌀	2	3/8"	3/16"

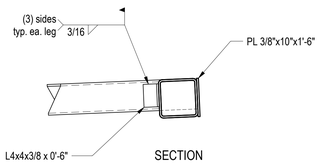


Shear Plate Connection Schedule 5000

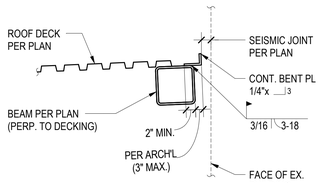
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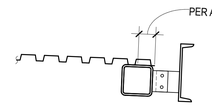


SECTION



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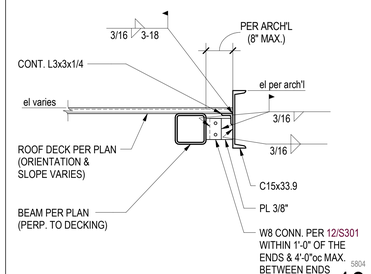
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FOR CALL-OUTS IN COMMON SEE DETAIL 18/S301

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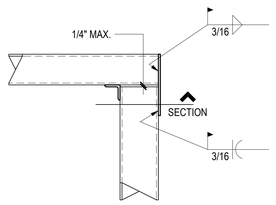


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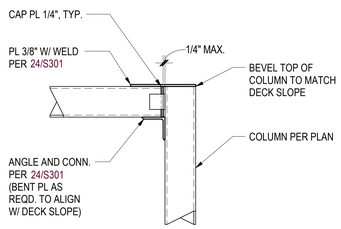
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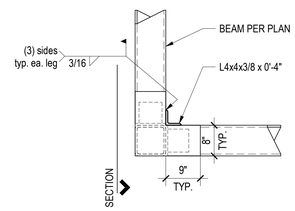
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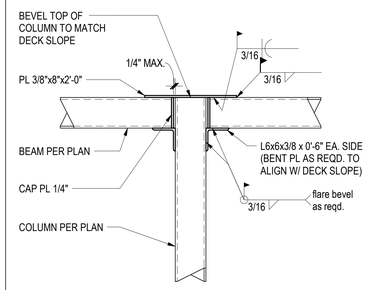
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PLAN

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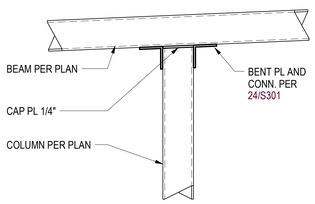


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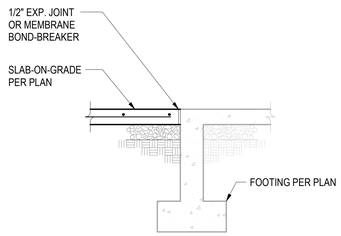
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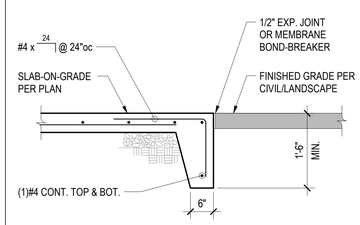
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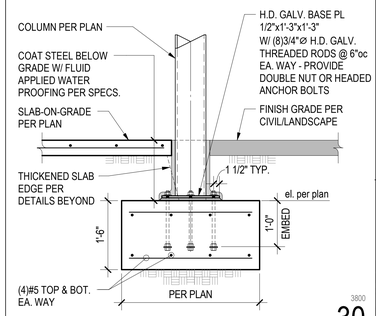
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02/18/25

#	REVISIONS	DATE

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S,
Federal Way, WA 98003

JOB NO: S24255
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

DETAILS

S301

GENERAL

- EXISTING MECHANICAL TO BE REMOVED
- EXISTING MECHANICAL TO REMAIN
- NEW MECHANICAL WORK
- MATCHLINE OR PROPERTY LINE
- ENLARGED PLAN BOUNDARY
- DETAIL/PLAN IDENTIFIER (1 / M1.01)
- SECTION IDENTIFIER (A / M1.01)
- ELEVATION IDENTIFIER (A / M1.01)
- REVISION DEFINITION AREA, AREA ENCIRCLED CONTAINS CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE
- REVISION CALLOUT (1)
- FLAG NOTE CALLOUT (1)
- AHU-01 — MECHANICAL EQUIPMENT TAG
- NORTH ARROW (N)
- INVERT ELEVATION OR POC

ACCESS, EXCAVATION, AND BACKFILLING

- ACCESS DOOR (SPECIFIED OR AS SHOWN ON DWGS)
- MECHANICAL ACCESS (SPECIFIED OR AS SHOWN ON DWGS)

PIPING

- PIPE ELBOW UP OR PIPE TEE UP AND DOWN
- PIPE ELBOW DOWN
- PIPE TEE UP
- PIPE TEE DOWN
- PIPE RISE
- PIPE CAP
- PIPE PLUG
- FLOW DIRECTION
- PIPE BREAK
- PIPE CONNECTION

VALVES

- VALVE: GATE, BALL, BUTTERFLY (REFER TO SPECIFICATIONS)

DOMESTIC WATER PIPING SYSTEM

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER CIRCULATION

ABBREVIATIONS

Ø	DIAMETER, PHASE
A	AIR, AMPS
ABV	ABOVE
AD	ACCESS DOOR
ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GROUND
AHJ	AUTHORITY HAVING JURISDICTION
AMB	AMBIENT
AP	ACCESS PANEL
ARCH	ARCHITECT
ASHRAE	AMERICAN SOCIETY OF HEATING, REFRIGERATION AND AIR-CONDITIONING ENGINEERS, INC.
ASSY	ASSEMBLY
ATM	ATMOSPHERE
BF	BELOW FLOOR
BLW	BELOW
BOP	BOTTOM OF PIPE
BOT	BOTTOM
BV	BALL VALVE
CAP	CAPACITY
CD	CEILING DIFFUSER, CONDENSATE DRAIN
CKV	CHECK VALVE
CLG	CEILING, COOLING
CO	CLEANOUT, CO SENSOR
COND	CONDENSER, CONDENSATE
CONN	CONNECTOR
CONT	CONTINUE, CONTROL
COTG	CLEANOUT TO GRADE
CW	COLD WATER PIPING
D	DRAIN
DEG	DEGREE
DFU	DRAINAGE FIXTURE UNIT
DI	DUCTILE IRON
DIA	DIAMETER
DIM	DIMENSION
DN	DOWN
DWGS	DRAWINGS
DV	DRAIN VALVE
(E)	EXISTING
EFF	EFFICIENCY
EL	ELEVATION
EQUIV	EQUIVALENT
EXT	EXTERIOR, EXTERNAL
F	FAHRENHEIT, FIRE MAIN PIPING
FCO	FLOOR CLEANOUT
FFD	FUNNEL FLOOR DRAIN
FLEX	FLEXIBLE
FLR	FLOOR
FPM	FEET PER MINUTE
FPS	FEET PER SECOND
FS	FLOOR SINK
FT	FEET, FIN TUBE
G	GAS
GA	GAGE
GAL	GALLONS
GALV	GALVANIZED
GPF	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GWB	GYPSUM WALLBOARD
H	HUMIDISTAT, HEIGHT
HB	HOSE BIBB
HD	HEAD, HUB DRAIN
HORIZ	HORIZONTAL
HW	HOT WATER PIPING
HWC	HOT WATER CIRCULATING PIPING
ID	INDIRECT DRAIN
IE	INVERT ELEVATION
IN.	INCH
IRR	IRRIGATION PIPING
L	LENGTH
LBS	POUND
MAV	MANUAL AIR VENT
MAX	MAXIMUM
MC	MECHANICAL CONTRACTOR
MECH	MECHANICAL
MIN	MINIMUM
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OA	OUTDOOR AIR
OC	ON CENTER
P	PUMP, PRESSURE, PLUMBING FIXTURE
POC	POINT OF CONNECTION
PRV	PRESSURE REDUCING VALVE
PSIG	POUNDS PER SQUARE INCH GAGE
QTY	QUANTITY
REF	REFERENCE, RETURN/EXHAUST FAN
RI&C	ROUGH IN AND CONNECT
RPBP	REDUCED PRESSURE BACKFLOW PREVENTER
RV	SAFETY RELIEF VALVE
SCH	SCHEDULE
SF	SUPPLY FAN, SQUARE FOOT
SIM	SIMILAR
SOV	SHUTOFF VALVE
SS	STAINLESS STEEL, SANITARY SEWER
TD	TRENCH DRAIN, TEMPERATURE DIFFERENCE
TEMP	TEMPERATURE
TOP	TOP OF PIPE
TOS	TOP OF STEEL
TOF	TOP OF FOOTING
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS NOTED OTHERWISE
V	VENT PIPING, VOLT
VA	VALVE
W	WASTE, WATT, WIDE, WATER
W/	WITH
WC	WATER CLOSET, WATER COLUMN
WH	WATER HEATER, WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WSEC	WASHINGTON STATE ENERGY CODE
WSFU	WATER SUPPLY FIXTURE UNIT

GENERAL NOTES - MECHANICAL

1. COORDINATE MECHANICAL WORK WITH THAT OF OTHER TRADES (ELECTRICAL, ARCHITECTURAL, STRUCTURAL). REFER TO ELECTRICAL, ARCHITECTURAL, STRUCTURAL, DRAWINGS AND SPECIFICATIONS. COORDINATION SHALL OCCUR PRIOR TO FABRICATION, PURCHASE, AND/OR INSTALLATION OF ALL WORK.
2. COORDINATE PLUMBING, SYSTEMS ROUTING PRIOR TO INSTALLATION.
3. UNLESS OTHERWISE SPECIFIED, THE GENERAL CONTRACTOR (GC) SHALL BE RESPONSIBLE FOR PAINTING, CUTTING, AND PATCHING OF EXISTING FLOORS, WALLS, AND PARTITIONS IN THE EXISTING BUILDING.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SAFE KEEPING OF HIS OWN PROPERTY ON THE JOB SITE. OWNER ASSUMES NO RESPONSIBILITY FOR PROTECTION OF PROPERTIES AGAINST FIRE, THEFT, AND ENVIRONMENTAL CONDITIONS.

PIPING NOTES

1. DISASSEMBLY PROVISIONS: PROVIDE UNIONS OR FLANGES AT PIPING CONNECTIONS TO EQUIPMENT, COILS, TRAPS, CONTROL VALVES, AND OTHER COMPONENTS TO ALLOW DISASSEMBLY FOR MAINTENANCE.
2. PROVIDE 12" LONG, ½" WIDE FLUORESCENT ORANGE TAPE AT CONCEALED VALVE LOCATIONS.

PLUMBING NOTES

1. ACCESS PANELS: PROVIDE IN NON ACCESSIBLE CEILINGS AND WALLS FOR VALVES, WATER HAMMER ARRESTERS, CLEANOUTS, AND OTHER ITEMS THAT REQUIRE ACCESS TO PROPERLY MAINTAIN OR SERVICE THE BUILDING. REFER TO SPECIFICATIONS.

NON-STRUCTURAL MECHANICAL COMPONENT NOTES

1. THE COMPONENT IMPORTANCE FACTOR (Ip) FOR ALL NON-STRUCTURAL COMPONENTS SHALL BE:

   Ip = 1.0

2. THE FOLLOWING ITEMS ARE TAKEN DIRECTLY FROM THE 2018 INTERNATIONAL BUILDING CODE AND FROM THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 7-05. THE CONTRACTOR SHALL REFER TO THE ABOVE FOR ADDITIONAL INFORMATION, EXCEPTIONS, AND FURTHER DESCRIPTIONS. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS AND AS SUCH, SHALL BE INCLUDED WITHIN BID. ALSO REFER TO SPECIFICATION SECTION 230550.
3. 2018 IBC, 1613.1, SCOPE: ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND NON-STRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH ASCE 7-05, EXCLUDING CHAPTER 14 AND APPENDIX 11A.
4. 2018 IBC, 1704.4, CONTRACTOR RESPONSIBILITY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR SEISMIC-RESISTING COMPONENT LISTED IN THE STATEMENT OF SPECIAL INSPECTIONS AND SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:
   - A. ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE STATEMENT OF SPECIAL INSPECTIONS;
   - B. ACKNOWLEDGEMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE BUILDING OFFICIAL;
   - C. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS;
   - D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
4. DIVISION 22 RESPONSIBILITIES:
   - A. HANGERS AND SEISMIC BRACING FOR MECHANICAL SYSTEMS SHALL BE DESIGNED AND SPECIFIED BY DIVISION 22. DIVISION 22 SHALL REFER TO THE MECHANICAL DRAWINGS FOR LOCATIONS OF EQUIPMENT AND HUNG MECHANICAL SYSTEMS AS STRUCTURAL DRAWINGS DO NOT SHOW THE LOCATIONS OF PIPING, AND OTHER COMPONENTS.
   - B. DIVISION 22 SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG PIPING AND OTHER MECHANICAL SYSTEMS (INCLUDING COMBINED MULTIPLE PIPE RUNS) WITH THE GENERAL CONTRACTOR AND THE STEEL AND WOOD JOIST MANUFACTURERS IN ADDITION TO OTHER TRADES THAT MAY BE IMPACTED.

DRAWING INDEX

M001	MECHANICAL LEGEND, SHEET LIST & SCHEDULES
M002	MECHANICAL SPECIFICATIONS
M100	MECHANICAL PLAN LEVEL 1 PARTIAL SW
M101	MECHANICAL ENLARGED PLAN

SPACING OF HANGERS & SUPPORT SCHEDULE

PIPE SIZE (IN)	STEEL & IRON PIPE MAX SPAN (FT)		COPPER TUBING MAX SPAN (FT)	
	WATER SERVICES	STEAM, GAS & AIR SERVICES	WATER SERVICES	GAS & AIR SERVICES
<1/2"	7	8	5	6
3/4"	7	9	5	7

NOT ALL SYMBOLS MAY APPEAR ON THE DRAWINGS

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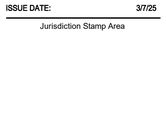
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#	REVISIONS	DATE

N

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

BID SET

MECHANICAL LEGEND, SHEET LIST & SCHEDULES

M001

DIVISION 21

SECTION 210000 - FIRE PROTECTION WORK SPECIFIED IN DIVISION 23
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: The following sections apply to Work in this Division with the exception of items specifically described in Division 21:
1. Section 230500 General Provisions
2. Section 230505 Project Closeout and Systems Start-Up
3. Section 230510 Basic Materials and Methods
4. Section 230520 Mechanical Demolition
6. Section 230810 Systems Training
7. Section 230820 Systems Operations and Maintenance Manuals

PART 2 - Products
Not Used.

Part 3 - Execution
Not Used.

END OF SECTION

SECTION 211000 - AUTOMATIC FIRE SUPPRESSION SYSTEMS
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes design and construction of complete automatic wet fire suppression systems.
B. General Requirements: Drawings and general provisions of the Contract, including General and Supplementary Conditions, Division 01, and Sections 230500 and 230510 apply to Work in this section.
1.2 QUALITY ASSURANCE
A. Regulatory Requirements: Comply with applicable city, county, and state codes and ordinances.
1. Authorities Having Jurisdiction (AHJs)
2. Local Fire Department.
B. Codes and Standards:
1. NFPA 13, Standard for the Installation of Sprinkler Systems and local jurisdiction requirements.
2. ASCE 7, Minimum Design Loads for Buildings and Other Structures.
C. Fire Sprinkler System Contractor's Qualifications for Preparation of Shop Drawings, Installations, Inspections, Maintenance, and Servicing: Only licensed fire protection sprinkler system contractors shall execute contracts for installation, inspection, maintenance, or servicing of fire protection sprinkler systems or any part of such system.
D. Fire Sprinkler System Contractor's Qualifications: Active NICET Level III (Certified Engineering Technician) Certification in Fire Protection Engineering Technology/Automatic Sprinkler System Layout.
E. Tenant Criteria: Review Mall/Tenant Criteria for additional requirements as they pertain to fire sprinkler systems.
1.3 SYSTEM DESIGN CRITERIA
A. Design, furnish, and install complete operable fire suppression systems in accordance with the latest adopted editions of IBC, IFC, NFPA 13, and applicable city, county, and state laws, codes, and standards. Include valves, flow switches, tamper switches, low air pressure switches, and accessories to meet requirements of AHJs and aforementioned codes and standards.
B. In areas where local codes require coverage by either fire sprinklers or heat detectors, provide coverage by fire sprinklers.
C. The Contractor and the fire suppression system subcontractor shall meet with the AHJs prior to preparation of Shop Drawings and hydraulic and earthquake bracing calculations to review procedures for handling submittals, inspection, testing, and for general coordination and to verify sprinkler occupancy hazard classifications.
D. Obtain latest water supply engineering test data prior to design. Include 10 percent safety margin in system design. If test data is not available, conduct test to determine available flow and pressures to hydraulically design system.
E. Coordination with Other Trades:
1. Coordinate fire suppression work with that of mechanical, sheet metal, plumbing, and electrical subcontractors so that best arrangement of equipment, piping, conduit, ducts, and similar items can be obtained.
2. Identify points of conflict between this work and that of other trades so that conflict may be properly adjusted. Fire suppression system subcontractor shall remove and re-install work which interferes with work of other trades at no additional cost to the Owner.
F. No change orders will be issued for additions and deletions of sprinkler heads and associated piping except as such additions and deletions stem from changes in building design made subsequent to approval of Shop Drawings.
1.4 SUBMITTALS
A. Comply with requirements in Division 01 and Section 230500.
B. Product Data: Submit manufacturer's technical product data and maintenance data for each item specified in this section.
C. Shop Drawings and Calculations:
1. Comply with requirements in NFPA 13.
2. Submit preliminary layout showing only head locations for review by the A/E. Include additional heads which may be required for coordinated ceiling pattern at no additional cost to the Owner, even though number of heads may exceed minimum code requirements. Indicate sprinkler head locations as follows:
a. Suspended Accessible Ceilings: Locate heads in center of ceiling tiles up to 2 foot tile dimension, and 1/4 section intervals for 4 foot tile dimension.
b. Suspended Inaccessible Ceilings: Locate heads in conjunction with light fixtures and other devices installed in ceiling in a symmetrical pattern.
c. Arrange heads in straight lines that are parallel and perpendicular to walls.
3. After A/E review of sprinkler head locations, submit Shop Drawings and hydraulic and earthquake bracing calculations to the A/E of entire sprinkler system. Shop Drawings include complete floor plans showing new work and sufficient extent of existing work, locations and types of heads, pipe sizes and cutting lengths, locations and sizes of required beam penetrations, locations and types of hangers, seismic brace(s), drain valves, and other related items. Indicate exposed work.
4. Include risers, flow switches, inside shut-off valves, tamper switches, post indicator valves, backflow preventers and vaults, and similar components.
5. Indicate location of alarm and supervisory initiating devices and other devices and electrical equipment associated with the fire suppression systems.
6. Following review and approval by the A/E, submit Shop Drawings and hydraulic and earthquake bracing calculations to the AHJs. Do not proceed with installation until Shop Drawings have been approved by the AHJs.
D. Contractor's Material and Test Certificate: Submit to certify material selection and testing results using form in NFPA 13. Complete applicable portions of form and sign and date it.
E. Obtain from each AHJ written certification that the permanent installation has been inspected and that it complies with AHJ's published regulations and requirements. Submit prior to Substantial Completion.
F. Operation and Maintenance Data:
1. Prepare complete, simple, understandable, step-by-step testing instructions with recommended and required testing frequency of equipment with methods for testing equipment. Include trouble-shooting manual.
2. Prepare complete, easy-to-read, understandable maintenance instructions including the following information:
a. Instruction on replacing components of system including internal parts.
b. List of equipment and components with address and phone number of both manufacturer and local supplier of each item.
3. Include fire suppression system pressure and alarm system tests.
4. Include copies of the following publications:
a. NFPA 25, Standard for Inspection, Testing, and Maintenance of Water Based Fire Protection.
5. Submit one week minimum prior to system training.
G. Record Drawings:
1. Provide in accordance with Division 01 and Section 230500.
2. Submit one week minimum prior to system training.
PART 2 - PRODUCTS
2.1 MANUFACTURERS
A. Manufacturer of equipment regularly engaged in the manufacture of components specified and with published catalogs listing pertinent specifications of items manufactured.
B. Manufacturer names and model identifications used throughout this section are to establish general configuration, function, size, performance and quality.
C. Manufacturers: Tyco Fire & Building Products (Grinnell Grooved Products, Central Sprinkler, Gem Sprinkler, and Star Sprinkler), The Viking Corp., Reliable Automatic Sprinkler Co., Globe Fire Sprinkler Corp., System Sensor, or approved.
2.2 GENERAL
A. Equipment, Material, and Components Required by NFPA to be Listed: UL listed and labeled and approved by FM and AHJs.
2.3 PIPE AND FITTINGS
A. Pipe:
1. Comply with requirements in NFPA 13.
2. Black steel, ASTM A 53, ASTM A 135, or ASTM A 795.
3. Pipe, other than Schedule 40 or Schedule 10, acceptable if UL listed and labeled, FM approved, and approved by AHJs. CPVC pipe not acceptable.
4. Schedule 40 pipe used in cut groove joints.
5. Schedule 10 pipe used for rolled grooved joints. Rolled grooved joints for dry pipe sprinkler systems not acceptable.
6. Internal and external galvanized steel for exterior pipes, dry pipe sprinkler systems, and drains.
7. Flexible head drop couplings may be used at Contractor's option. If used, shall be braided type. Install with union joint threaded fittings. Include ceiling attachment bracket to allow sprinkler connection installation prior to installation of ceiling tile. Pressure fit type fittings not acceptable.
8. Ductile iron, cement lined, Class 52, mechanical or push-on restrained joints for underground pipe.
B. Fittings:
1. Comply with requirements in NFPA 13.
2. Minimum 125 psi class.
3. 2 Inch and Smaller: 150 pound black malleable or ductile iron, screwed, ANSI B16.3 and ASTM A 197.
4. 2-1/2 Inch and Larger: Grooved joint fittings, malleable iron ASTM A 47 or ductile iron ASTM A 536 bodies. Flanged fittings, forged steel, or ductile iron.
5. Grooved Joint Couplings: UL listed and labeled for sprinkler service. Malleable iron ASTM A 47 or ductile iron ASTM A 536 housing. Chlorinated butyl gasket. Nuts and bolts ASTM A 183. Minimum 110,000 psi tensile.
6. Internal and external galvanized steel fittings for exterior pipes, dry pipe sprinkler systems, and drains.
7. Plain End Couplings: Plain end couplings (Roust-A-Bouts, Plainloks or similar couplings) not acceptable.
8. Hole Cut Outlets:
a. Hole Cut Outlets: Hole cut bolted branch outlet couplings may be used as approved by the AHJs. Hole cut outlets full bodied outlet (U-bolt outlets not acceptable). Victaulic Style 920 and 920N.
2.4 VALVES
A. General: UL listed and labeled and FM approved, minimum 175 psi class.
2.5 SPRINKLER HEADS
A. Automatic sprinkler quick response heads of the type as required by the AHJs and finish for the areas and ceiling construction designated in schedule on the drawings.
B. Operating Temperature: Comply with requirements in NFPA 13. Select to compensate for the maximum temperatures which occur in a particular area during either winter or summer conditions from such sources as unit heaters and sunlight. In no case use heads rated less than 50 F higher than anticipated ambient temperature.
C. Extended coverage sprinkler heads may be used subject to approval by the AHJs.
D. Include escutcheon, self-adjusting type, spring-loaded, or friction fit for each pendant sprinkler head fitting against ceiling.
E. Sprinkler Head Guards: Include where sprinkler heads are subject to damage and for sprinkler heads installed lower than 7 feet above finished floor, grating, and maintenance access area. Wire basket type with screw type fastener. Spring clip type fastener not acceptable. Chrome or nickel plated in finished areas.
F. Sprinkler Cabinet: Include with required number of sprinkler heads of ratings and types installed. Also include escutcheons and sprinkler wrench.
2.9 SPECIALTIES
A. Pipe Supports: Include metal pipe supports, flexible connections, sway braces, hangers, clamps, and other pipe support items in accordance with requirements in NFPA 13. Seismically design pipe hangers and braces per IBC, ASCE 7-05, and NFPA 13. Do not use "C-Clamp" hangers unless they include integral seismic retaining strap.
B. Identification Signs: Enameled signs for drain valves, test valves, control valves, and alarm valves indicating their use.
C. Miscellaneous Connections and Fittings: Drain valves, inspector's test connections, flushing connections, discharge outlets, sight glasses, and other items in accordance with requirements in NFPA 13.
D. Pipe Sleeves: Comply with requirements in Section 230510.
E. Pipe Escutcheon Plates: Comply with requirements in Section 232116.
PART 3 - EXECUTION
3.1 INSPECTION
A. General: Verify installation conditions as satisfactory to receive work of this section. Do not install until unsatisfactory conditions are corrected. Beginning work constitutes acceptance of conditions as satisfactory.
3.2 PREPARATION
A. Field Measurements: Field verify locations of new and existing work prior to commencing work of this section.
B. Protection: Protect surrounding areas and surfaces to preclude damage from work of this section.
3.3 INSTALLATION, APPLICATION, ERECTION, AND PERFORMANCE
A. General: Install, apply, erect, and perform the work in accordance with specifications, and manufacturer's installation instructions and directions. Where these may be in conflict, the more stringent requirements govern.
B. Cooperate with other trades to ensure adequate space for piping placement.
C. Review drawings, specifications, and Shop Drawings of other trades to coordinate work and minimize unnecessary offsets and revisions to approved Shop Drawings. Failure to coordinate does not relieve fire suppression subcontractor from meeting performance standards specified in this section.
1. Fire suppression piping shall not:
a. Reduce headroom to less than 7'-0", except above catwalks.
b. Project into any catwalk, passageway, ladder run, access or egress.
c. Interfere with electrical equipment or access to mechanical units (including filters).
D. Relocate piping and sprinkler heads which, in the opinion of the A/E, do not comply with the above in a manner acceptable to the A/E.
E. Do not order, fabricate, or install materials until approvals are received from AHJs.
F. Install material in strict accordance with Shop Drawings approved by the AHJs and reviewed by the A/E.
G. Service Interruptions: Obtain advance approval from the Owner and local fire department.
3.4 FIRE SUPPRESSION SYSTEMS INSTALLATION
A. Install piping concealed above furred ceilings to minimize obstructions.
B. Support piping only from structural members and not from work of other trades.
C. Install piping system braced to withstand damage from earthquakes. Install flexible couplings and earthquake bracing in accordance with IBC, ASCE 7-05, and NFPA 13.
D. Hole Cut Outlets: Use cutting tool to form opening in pipe. After "coupon" has been removed, securely attach it to bottom of pipe as evidence that it has not been left in pipe.
E. Install system and auxiliary drains to discharge to paved areas, concrete splash blocks, suitable waste within building, or to other locations as indicated or required by the A/E.
F. Install ball drip valve on check valve to drain piping for fire department connection. Drain to floor drain or outside building.
G. Escutcheon Plates: Install at exposed pipe penetrations of ceilings, floors, and walls.
H. Install head guards on sprinkler heads installed lower than 7 feet above finished floor, grating, and maintenance access area. Install on exterior sprinkler heads.
I. Install sprinkler cabinet adjacent to alarm valve assembly.
J. Install inspector test valve at highest and most hydraulically remote part of system in relation to riser assembly. Locate test valves to be accessible from floor. Coordinate locations with A/E. Pipe to standpipe drain or exterior concrete splash block.
K. Install sleeves through walls and floors. Comply with requirements in Section 230510.
L. Identification Signs: Install with chain on stem of valves. Comply with requirements in NFPA 13.
3.5 FIELD QUALITY CONTROL
A. Flush, test, and inspect fire suppression and standpipe systems according to NFPA 13.
B. Test complete alarm system, including control and signal circuits.
C. Notice: Give 1 week notice and arrange for field tests and inspections by AHJs, including paying for inspection fees and securing permits for same.
D. Approval and Acceptance: After fire suppression systems have been completely installed, tested, and substantial completion review items corrected, obtain approval and acceptance of system by AHJs in accordance with NFPA 13. Retests due to failure to meet design requirements shall be at no additional cost to the Owner. Submit completed Contractor's Material and Test Certificate using form in NFPA 13.
3.6 CLEANING AND PROTECTION
A. Clean dirt and debris from sprinklers.
B. Apply masking tape or paper cover to protect sprinkler heads, cover plates, and sprinkler escutcheons to protect from field painting. Remove after painting. Remove sprinkler heads having paint other than factory finish and provide new. Cleaning and reuse of painted sprinkler heads not acceptable.
C. Protect sprinkler heads from damage until Substantial Completion.
D. Fire suppression system subcontractor shall be responsible during installation and testing periods of sprinkler systems for any damage to work of others and to building and its contents caused by leaks in equipment, by unplugged or disconnected pipes, fittings or by overflow, and shall pay for necessary replacements or repairs to work of others damaged by such leakage.

END OF SECTION

DIVISION 23

SECTION 230500 - GENERAL MECHANICAL PROVISIONS
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes materials, equipment, labor, supervision, tools and items necessary for the construction, installation, connection, testing and operation of mechanical work.
1.2 CODES AND STANDARDS
A. Perform work in accordance with requirements in the state in which the work is performed.
B. Conform to applicable industry standards.
C. Notify the A/E of deviations in Contract Documents to applicable codes and ordinances prior to installation of the Work.
1.3 SUBMITTALS
A. Product Data:
1. Submit prior to fabrication of assemblies and delivery of purchased items.
2. Clearly mark catalog pages, equipment, model number and accessories.
1.4 STANDARDS OF QUALITY
A. Equipment shall be manufacturer's regularly catalogued items and shall be supplied as a complete unit in accordance with manufacturer's standard specifications and any optional items required for proper installation for equipment unless otherwise noted. Equipment and materials shall be installed in accordance with the manufacturer's recommendations and best trade practices.
B. Products shall be new unless indicated otherwise in the Contract Documents.
1.5 SUBSTITUTIONS
A. Where "Manufacturer" paragraphs include the words "or approved", prior approval of the proposed substitution by A/E is required.
B. When the A/E approves a substitution request, the approval is given with the understanding that the Bidder:
1. Has determined that it meets or exceeds the quality level of the specified Product, will provide the same warranty, and will coordinate installation and make changes with no additional cost to Owner.
C. Whenever a Product is described by detail, specification, trade name, manufacturer's name or catalog reference, use only such Product.
1.6 DRAWINGS AND SPECIFICATIONS
A. General: The mechanical drawings are diagrammatic. Complete details of building features which affect fire suppression, plumbing, and HVAC installations may not be shown. For additional details, refer to other Contract Documents. Report any discrepancies to the A/E along with suggested revisions.
1.7 RECORD DRAWINGS
A. Prepare Record Drawings. Record Drawings shall be new red lined prints and show the measured locations of portions of the Work and changes the Contractor has made.
B. Record Drawings shall show addendum items, change orders, clarifications, supplemental instructions, and deviations from the Drawings.
1.8 COORDINATION
A. Coordinate work with other trades.
B. Be aware of restricted space for installation of fire suppression, plumbing, and HVAC systems. Include offsets and perform rerouting and coordination to fit elements in available space. Include provisions for such requirements in bid.
C. Equipment, ductwork, and piping shown are based on existing drawings as available and on limited project site observations to the extent possible under current conditions. Field verify existing conditions prior to commencement of work.
D. Coordinate attachments to structure to verify that attachment points on equipment and structure can accept seismic, weight, and other loads imposed.
1.9 WARRANTY
A. Warranty periods shall not commence until Substantial Completion. Minimum period shall be one year. Contractor shall extend longer warranties specified in other sections.
1.10 DEMONSTRATION
A. Following installation of fire suppression, plumbing, and HVAC work and prior to final acceptance, demonstrate that equipment and systems operate as indicated in the Contract Documents and in accordance with manufacturer's recommendations.

END OF SECTION

SECTION 230505 - PROJECT CLOSEOUT AND SYSTEMS START-UP
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes material and labor required to perform start-up of equipment and systems installed in project, to perform checkout of systems and to verify completeness of project requirements.
PART 2 - PRODUCTS
Not used.
PART 3 - EXECUTION
3.1 PROJECT CLOSEOUT PROCEDURES
A. Complete Work described in this section prior to time of Substantial Completion.
B. Mechanical subcontractor shall bear prime responsibility for startup of heating and cooling and plumbing systems.
C. Include documentation required by the governing codes.
3.2 SYSTEM START-UP PROCEDURES
A. Provide start up by authorized factory representative when indicated.
B. Complete adjustments and cleaning of mechanical items per manufacturer's recommendations prior to equipment start up.
3.3 FINAL ACCEPTANCE
A. Final acceptance of Work will not occur until functional testing is complete and outstanding issues resolved.

END OF SECTION

SECTION 230510 - BASIC MATERIALS AND METHODS
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes equipment supports, sleeves, identification, appurtenances, and miscellaneous work.
1.2 QUALITY ASSURANCE
A. UL Compliance: Where UL fire-resistance rating is indicated for construction penetrated by access units, furnish UL listed and labeled units, except for those units which are smaller than minimum size requiring ratings as recognized by governing authority.
B. ANSI Compliance: Comply with ANSI A13.1 for lettering size, colors and installed viewing angles of identification devices unless other requirements are specified.
1.3 SUBMITTALS
A. Product Data: Pipe markers, Access doors, Valve tags.
1.4 PRODUCT DELIVERY, STORAGE, AND HANDLING
A. Deliver, store, and handle products in accordance with manufacturer's recommendations, using means and methods to prevent damage, deterioration, and loss, including theft.
B. Deliver products to site in manufacturer's original containers, complete with labels.
C. Inspect products upon delivery to ensure compliance with the Contract Documents and to ensure that products are undamaged and properly protected.
D. Store products subject to damage by weather conditions above ground, under cover in weather-tight enclosure, with ventilation adequate to prevent condensation. Maintain temperature and humidity within range required by manufacturer's instructions.
E. Close open ends of equipment and work with temporary covers or plugs during storage and construction to prevent entry of foreign material.
PART 2 - PRODUCTS
2.1 MATERIALS
A. Materials shall be new and of manufacturers specified herein. They shall be U.S. made and bear the UL, ETL, or CSA labels where possible.
2.2 EQUIPMENT SUPPORTS
A. Select and size supports, expansion shells and bolts, concrete inserts, and anchor bolts per requirements for seismic restraints specified in Section 230548. Hot dipped or mechanically galvanized where installed outdoors unless noted otherwise on the Drawings. Damaged galvanized surfaces repaired with ZRC Galvilite.
2.3 SLEEVES
A. Materials, General: Schedule 40 galvanized steel pipe with unthreaded ends, cast iron pipe, or minimum 26 gage galvanized sheet steel. Use steel pipe for sleeves at floor slabs.
2.4 PIPE MARKERS AND COLOR BANDS
A. General: Manufacturer's standard preprinted, flexible or semi-rigid, permanent, color-coded, plastic sheet pipe markers. Comply with ANSI A13.1. Seton, Brady, Craftmark, Marking Services or approved.
B. Pipes: Full band pipe markers.
C. Lettering: Manufacturer's standard pre-printed nomenclature which best describes piping system in each instance, as selected by the A/E in cases of variance with names shown or specified.
2.5 VALVE TAGS
A. General: Manufacturer's standard solid plastic valve tags with printed enamel lettering, piping system abbreviation in approximately 3/16 inch high letters.
B. Fasteners: Manufacturer's standard solid brass beaded type chain, length as required for proper attachment of tags to valves manufactured specifically for that purpose.
2.6 ACCESS TO FIRE SUPPRESSION EQUIPMENT
A. General: Universal 1-piece frame, flush type, welded steel ground smooth rounded safety corners, 1-piece spring hinge, slot screwdriver type cam latches, shallow 1-1/4 inch mounting flange. Where located in a painted surface area, units primed for painting; otherwise, polished chrome or stainless steel units, unless another type of finish is indicated.
B. UL Compliance: Where UL fire-resistance rating is indicated, doors UL listed and labeled, except for those doors which are smaller than minimum size requiring fire ratings as recognized by governing authority.
2.7 PERSONNEL PROTECTION
A. General: Where support angles, hangers, equipment supports and appurtenances, and similar items are exposed above floors, walkways, and maintenance access ways, cover such protrusions less than 6'-6" above floor with protective padding.
2.8 PAINTING
A. General: Painting of work specified in mechanical sections which is exposed, including exterior exposed mechanical work, is specified in Division 09.
PART 3 - EXECUTION
3.1 MEASUREMENTS
A. Verify measurements at job site. Locate equipment and fixtures on centers of walls, openings, spaces, and similar locations except where noted otherwise. Check that piping, ducts, and similar elements clear openings.
3.2 INSTALLATION OF EQUIPMENT
A. Equipment Installation:
1. General: Install supports for equipment and appurtenances.
3.3 ACCESSIBILITY
A. General: Locate valves, dampers, controls, and similar components to be readily accessible. Install access doors to achieve accessibility.
B. Equipment:
1. Install equipment which requires periodic servicing or repairs to be readily accessible.
2. Piping, ducts, and conduit shall not interfere with required access.
3.4 PIPE MARKERS AND COLOR BANDS
A. Install identification after completion of covering and painting.
3.5 VALVE TAGS
A. Install valve tags on valves and control devices in each piping system.
3.6 EQUIPMENT NAMEPLATES
A. Install nameplates on or near each major item.
3.7 PAINTING
A. Touch-up: Cover scratches, abrasions, and similar damages to equipment with factory finished surfaces using matching factory furnished paint.
B. Grilles, Registers and Diffusers: Paint inside surface of ducts, visible through grilles, registers, diffusers, and other openings with 1 coat of flat black paint to a point 2 feet from opening on straight ducts or around bend. Similarly, paint pipes and conduits visible through ceiling relief grilles.
3.8 SLEEVES AND SEALING OF SLEEVES
A. Install sleeves for pipes for penetrations through cast-in-place concrete floors. Seal air and watertight.
3.9 EARTHWORK
A. Perform earthwork required for installation of mechanical work below grade.
3.10 CLEANING AND HOUSEKEEPING
A. Remove debris, cuttings, crates, cartons, and similar items, at regular intervals.
B. Before Substantial Completion, carefully clean equipment, fixtures, exposed ducts and piping, and similar items. Remove construction labels, dirt, dust, cuttings, paint, plaster, mortar, concrete, and similar items.

END OF SECTION

SECTION 230520 - MECHANICAL DEMOLITION
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes demolition of existing fire suppression, plumbing, and HVAC work as indicated in the Contract Documents.
1.2 QUALITY ASSURANCE
A. Comply with applicable city, county, and state codes and ordinances.
1.3 SUBMITTALS
A. Certification: Submit certificate of removal and delivery of refrigerant to the Owner, with copy to A/E.
PART 2 - PRODUCTS
NOT USED
PART 3 - EXECUTION
3.1 GENERAL
A. Dust Control: Provide protective measures to minimize transfer of noise, dust, dirt, and refuse to adjacent areas of building. Such measure may include dusttight barriers, temporary walls, portable exhaust fans, vacuum systems, and temporary partitioning.
B. Extent: Keep areas of demolition as clean and orderly as physically possible. Do not allow demolition debris to accumulate. Gather debris and dispose daily. Broom or vacuum-clean work areas on a daily basis.
C. Protection: Protect existing equipment, furnishing, and systems with protective coverings. Protect finished surfaces including floors, ceilings, and walls.
3.2 DAMAGES:
A. Repairs: Promptly repair damage to existing surfaces, equipment, finishes, or adjacent facilities at no cost to the Owner and to the satisfaction of the A/E and the Owner.
3.3 CONTINUITY OF EXISTING UTILITY SERVICES
A. Comply with requirements in Section 230500.
3.4 DEMOLITION
A. General: Provide demolition work required in existing building for removal of existing fire suppression, plumbing, and HVAC equipment, ductwork, controls, and piping and for installation of new equipment, ductwork, controls, and piping. Relocate and modify existing equipment, controls, piping, and ductwork as required by general construction alterations and by installation of new equipment, ductwork, controls, and piping in existing building to achieve a complete and functioning installation.
B. Extent: Remove and dispose of existing materials indicated on the Drawings to be removed.
C. Termination of Demolition: Where existing piping and ductwork is removed, cut back to stack or riser. Provide isolation valve and cap piping and ductwork behind wall or below the floor. Remove unused branch piping and ductwork and piping in walls to be demolished, and cap remaining piping and ductwork.
D. Insulation: Replace damaged sections as specified for new systems where existing insulation is damaged due to cutting and connection to new systems.
E. Reuse: Do not reuse existing products unless indicated on the Drawings.
F. Materials to Owner: Deliver items to the Owner's Representative as indicated in the Contract Documents.
G. Materials to Contractor: Materials other than those reserved by the Owner.
H. Existing Conditions: Comply with requirements in Division 01. Verify specific demolition work and operating conditions to be encountered from on-site review and coordination with the Owner. Maintain service to existing equipment and devices during new construction work as required by construction sequencing/scheduling provisions. In areas adjacent to new construction work, provide temporary services as necessary to meet these conditions. Protect active piping and wiring encountered. Notify the A/E of utilities encountered whose services are not known.
I. Repair of Damages to Underground Utilities: Exact location of existing underground utilities is not definitely known. Should any underground utilities be damaged in excavations, restore such utilities without additional cost to the Owner.
J. Drilling of Concrete: Drill openings through existing concrete with diamond tipped rotary core-drilling equipment or carbide tipped drills. In existing post tensioned slabs, locate and mark post tensioned strand locations with subsurface interface radar type locating equipment prior to drilling, cutting, and sawing operations.
K. Saw-Cutting of Concrete: Saw cut through existing concrete with diamond tipped or carbide tipped saw blade. In existing post tensioned slabs, locate and mark post tensioned strand locations with subsurface interface radar type locating equipment prior to drilling, cutting, and sawing operations.
L. Underground Ducts: Where shown on the Drawings to be abandoned, provide 2'-0" long foam insert in horizontal duct and fill remainder of duct with concrete to floor elevation. Refer to architectural drawings for floor finish.
3.5 DISPOSAL OF DEMOLISHED MATERIALS
A. Disposal: Remove debris, rubbish, and other materials resulting from demolition operations from building site unless reinstalled or delivered to the Owner as indicated in the Contract Documents. Transport and legally dispose of material off site.
B. Burning: Burning of removed materials is not permitted on project site.
C. Refrigerant: Remove refrigerant from existing refrigeration equipment indicated to be removed. Furnish cylinders approved by DOT of sufficient size and quantity to hold entire charge and deliver cylinders to the Owner within building as directed. Furnish certificate signed by the Owner that entire charge has been transferred to cylinders and that cylinders have been received.
3.6 CLEAN-UP AND REPAIR
A. Clean-Up: Upon completion of demolition work, remove tools, equipment and demolished materials from site. Remove protection and leave interior areas clean.
B. Repair: Repair demolition performed in excess of that required at no additional cost to Owner. Return structures and surfaces to conditions existing prior to commencement of demolition work or as directed by the Owner.

END OF SECTION

SECTION 230820 - SYSTEMS OPERATIONS AND MAINTENANCE MANUALS
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes preparation of mechanical systems Operation and Maintenance Manuals.
1.2 SCOPE OF WORK
A. Product Data and Parts List: Include local source of supply for parts and replacement. List parts and components of equipment stating catalog number (serial number and ratings, such as HP, voltage, and GPM) and size of part used in or on equipment.
B. Troubleshooting Guide.
C. Manufacturer's Installation and Service Instructions.
D. Manufacturer's Service Instructions.
E. Start-up Instructions with Certificates of Start-up and Verification.
F. Test Reports.
G. Final approved submittals.
H. Warranties.
PART 2 - PRODUCTS
2.1 FORMAT
A. Assemble Operation and Maintenance Manual in 3-ring binder(s) and CD's.

END OF SECTION

SECTION 232116 - PIPING SPECIALTIES
PART 1 - GENERAL
1.1 SECTION INCLUDES
A. Description: Work includes pipe hangers and supports, strainers, thermometers, pressure gages, temperature/pressure test ports (Pete's Plugs), air vents, alignment guides, and associated appurtenances for piping that apply to multiple systems. Specialty components specific to a single system are specified in that particular section.
1.2 QUALITY ASSURANCE
A. Codes and Standards:
1. ASME B31.1, Power Piping.
2. ASTM E 84, Standard Test Method for Surface Burning Characteristics of Building Materials.
3. NFPA 255, Surface Burning Characteristics Building Materials.
4. UL 723, Test for Surface Burning Characteristics of Building Materials.
B. MSS Compliance: Comply with MSS SP-58 for materials, design, and manufacture of pipe hangers and supports. Comply with MSS SP-69 for fabrication and installation of pipe hangers and supports. Refer to MSS SP-90 for terminology used in this section.
C. Pipe hangers and clamps and related components installed in ceiling spaces used as a return air plenum shall have ratings per NFPA 255, ASTM E 84, and UL 723 with flame spread rating not greater than 25 and smoke developed rating not greater than 50.
PART 2 - PRODUCTS
2.1 GENERAL
A. Furnish factory-fabricated piping specialties, pipe hangers, pipe supports, anchors, dielectric unions, thermometers, pressure gauges and pipe escutcheons recommended by manufacturers for use in services indicated.
B. Materials: Match piping material at point of contact with piping.
PART 3 - EXECUTION
3.1 PIPE HANGERS AND SUPPORTS
A. General: Install building attachments at required locations within concrete or on structure steel for proper piping support. Install additional supports at concentrated loads, including valves, flanges, guides, strainers, expansion joints and at changes in direction of piping.
B. Install hangers and supports complete with necessary insert, bolts, rods, nuts, washers and other accessories.
3.2 DIELECTRIC UNIONS AND NIPPLES
A. Install at the Following Locations:
1. At black and galvanized steel piping connections to copper tubing.
2. At black steel piping connections to bronze valves and similar devices.
3.3 PIPE ESCUTCHEONS
A. Install escutcheons at wall, floor, and ceiling penetrations in exposed finished locations and within cabinets and millwork. Use deep-pattern escutcheons if required to conceal protruding pipe fittings. Escutcheons not required where sleeves project above floor.

END OF SECTION

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PROFESSIONAL ENGINEER
3/7/25

REVISIONS DATE

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

BID SET

MECHANICAL SPECIFICATIONS

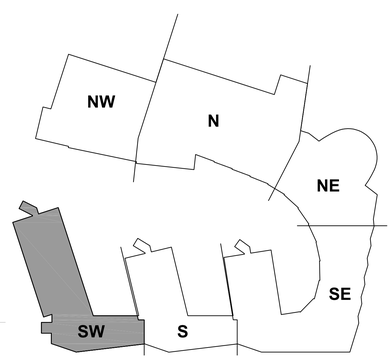
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GENERAL NOTES:

1. MECHANICAL ITEMS SHOWN AND NOTED ON PLAN WERE TAKEN FROM EXISTING DRAWINGS AND FIELD SURVEYS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND REFERENCE ARCHITECTURAL & CIVIL DRAWINGS FOR COMPLETE SCOPE OF WORK AND INCLUDE WITHIN BID.
2. CONTRACTOR SHALL CAP PIPING TO KEEP EXISTING SYSTEMS TO REMAIN IN SERVICE AND/OR TO FACILITATE NEW WORK AS NECESSARY.
3. CONTRACTOR SHALL MAKE ALL CONNECTIONS TO EXISTING COLD WATER PIPING AS NECESSARY TO ALL EXISTING SYSTEMS TO ALLOW SYSTEMS TO OPERATE WITHOUT SHUTDOWN DURING SCHOOL YEAR. PROVIDE VALVES AS NECESSARY TO FACILITATE THIS WORK.
4. SHUTOFF VALVE LOCATIONS ARE SHOWN DIAGRAMMATICALLY. LOCATE AT ACCESSIBLE LOCATIONS AS SPECIFIED.
5. HANGER ATTACHMENT FOR MECHANICAL SYSTEMS TO STRUCTURE SHALL BE PER OPEN-WEB STEEL TRUSS AND JOIST MANUFACTURER. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.



MECHANICAL SITE PLAN - OVERALL
SCALE: 1" = 10'-0"



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BRIAN F. CAMPBELL — STATE OF WASHINGTON — 55330 — REGISTERED PROFESSIONAL ENGINEER

REVISIONS DATE

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

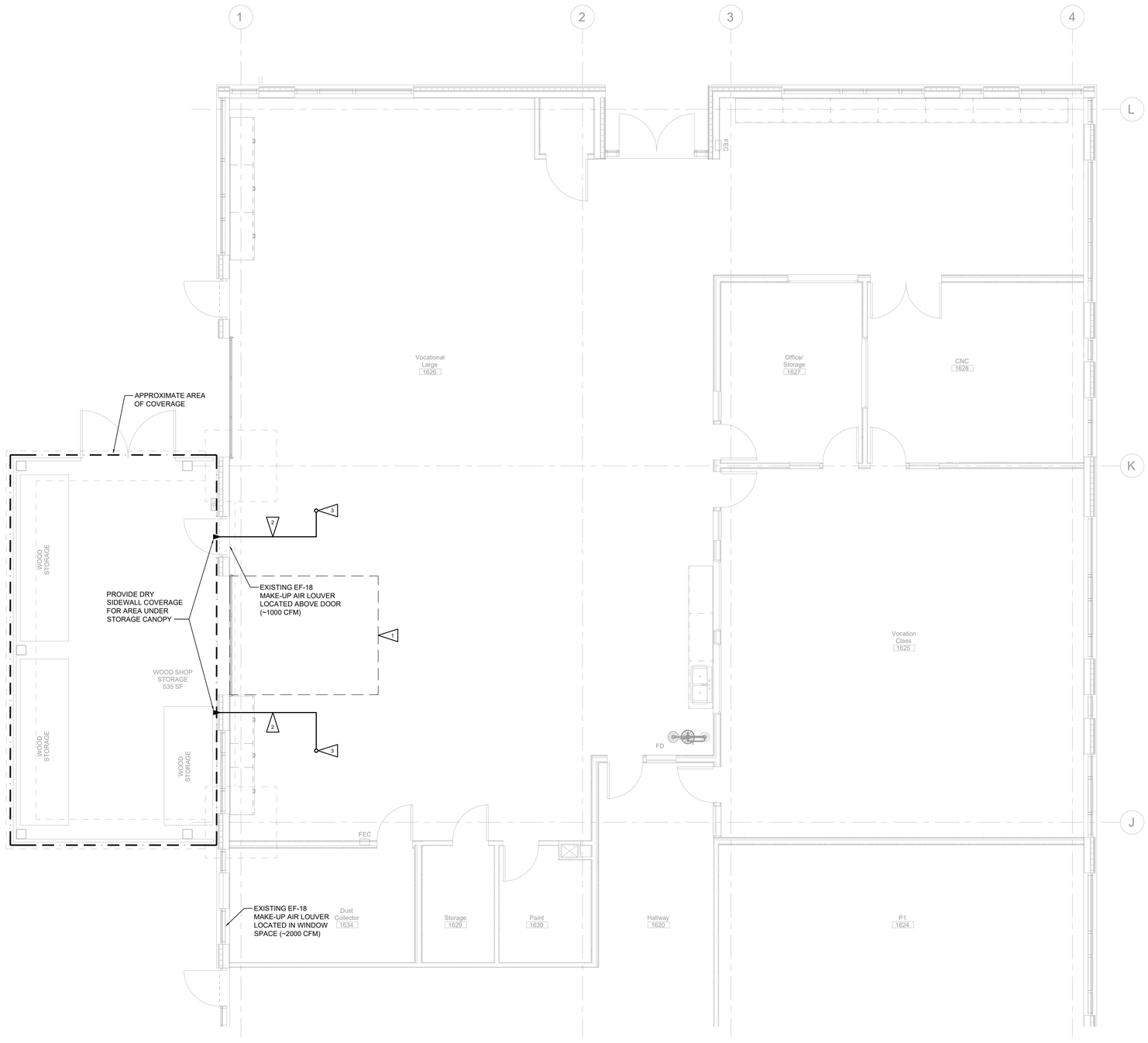
JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

MECHANICAL PLAN LEVEL 1 PARTIAL SW

M100

BID SET



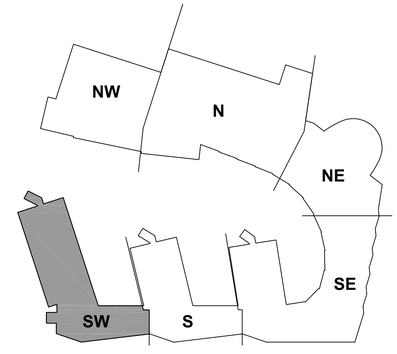
N 1 M1.1 **MECHANICAL FLOOR PLAN**
SCALE: 1/4" = 1'-0"

SHEET NOTES:

1. MECHANICAL ITEMS SHOWN AND NOTED ON PLAN WERE TAKEN FROM EXISTING DRAWINGS AND FIELD SURVEYS. CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID AND REFERENCE ARCHITECTURAL & CIVIL DRAWINGS FOR COMPLETE SCOPE OF WORK AND INCLUDE WITHIN BID.
2. CONTRACTOR SHALL CAP PIPING TO KEEP EXISTING SYSTEMS TO REMAIN IN SERVICE AND/OR TO FACILITATE NEW WORK AS NECESSARY.
3. CONTRACTOR SHALL MAKE ALL CONNECTIONS TO EXISTING COLD WATER PIPING AS NECESSARY TO ALL EXISTING SYSTEMS TO ALLOW SYSTEMS TO OPERATE WITHOUT SHUTDOWN DURING SCHOOL YEAR. PROVIDE VALVES AS NECESSARY TO FACILITATE THIS WORK.
4. SHUTOFF VALVE LOCATIONS ARE SHOWN DIAGRAMMATICALLY. LOCATE AT ACCESSIBLE LOCATIONS AS SPECIFIED.
5. HANGER ATTACHMENT FOR MECHANICAL SYSTEMS TO STRUCTURE SHALL BE PER OPEN-WEB STEEL TRUSS AND JOIST MANUFACTURER. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

FLAG NOTES:

1. NEW FIRE SPRINKLER PIPING SHALL AVOID ROUTING IN AREA ABOVE EXISTING ROLL-UP GARAGE DOOR.
2. ROUTE NEW FIRE SPRINKLER PIPING BELOW FIRE RATED LID.
3. APPROXIMATE LOCATION FOR CONNECTION TO EXISTING FIRE SPRINKLER PIPING. EXISTING FIRE SPRINKLER PIPING IS LOCATED ABOVE THE FIRE RATED CEILING. CONTRACTOR SHALL DEMOLISH CEILING AS REQUIRED FOR CONNECTION TO EXISTING FIRE SPRINKLER PIPING. CONTRACTOR SHALL PATCH CEILING TO MAINTAIN FIRE RATING AND PAINT TO MATCH SURROUNDING SURFACES.



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BID SET

MECHANICAL ENLARGED PLAN

M101

GENERAL

- EXISTING ELECTRICAL TO BE REMOVED
- EXISTING ELECTRICAL TO REMAIN
- NEW ELECTRICAL WORK
- MATCHLINE OR PROPERTY LINE
- ENLARGED PLAN BOUNDARY
- 1 / E1.1 — DETAIL/PLAN IDENTIFIER
- A / E1.1 — SECTION IDENTIFIER
- A / E1.1 — ELEVATION IDENTIFIER
- REVISION DEFINITION AREA, AREA ENCIRCLED CONTAINS CHANGES MADE SUBSEQUENT TO PREVIOUS ISSUE
- 1 — REVISION CALLOUT
- 1 — FLAG NOTE TAG
- 1 — DEMOLITION NOTE TAG
- 1 — EQUIPMENT TAG
- AHU-01 — MECHANICAL EQUIPMENT TAG
- N — NORTH ARROW

LIGHTING

- A / 12 / F — DEVICE SUBSCRIPTS (LIGHT FIXTURE TYPE) (SWITCHLEG) (CIRCUIT NUMBER)
- LIGHTING FIXTURES (REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION)
- STRIP LIGHTING FIXTURE
- WALL-MOUNTED LIGHTING FIXTURE
- EMERGENCY LIGHTING FIXTURES (REFER TO LIGHTING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION)
- POLE-MOUNTED LIGHTING FIXTURE, QUANTITY OF HEADS AS INDICATED
- DOUBLE HEAD, POLE-MOUNTED, LIGHTING FIXTURE

LIGHTING CONTROL

- S — SWITCH, AS DEFINED BY SUBSCRIPT
  - # = SWITCH LOCATED WITHIN THE SPACE IT IS CONTROLLING
  - a = SWITCH LOCATED REMOTE FROM THE SPACE IT IS CONTROLLING
  - MW = LINE VOLTAGE THREE-WAY OR FOUR-WAY
  - OSD = OCCUPANCY SENSOR OR VACANCY SENSOR WITH DIMMER
  - OS = OCCUPANCY SENSOR OR VACANCY SENSOR
  - K = KEYED
  - LH = LIGHTED HANDLE
  - P = PILOT LIGHT
  - T = TIMER

GROUNDING

- G — GROUNDING CONDUCTOR
- GROUND ROD
- GROUNDING BUSBAR
- EQUIPMENT GROUNDING CONNECTION
- GROUNDING STRAP

RACEWAYS AND BOXES

- JUNCTION BOX
- F — FURNITURE WALL FEED OUTLET BOX
- PB / XX — PULL BOX (WHERE INDICATED, SUBSCRIPT INDICATES PULL BOX TYPE)
- HH / XX — HANDHOLE (WHERE INDICATED, SUBSCRIPT INDICATES VAULT TYPE)
- XX — VAULT (WHERE INDICATED, SUBSCRIPT INDICATES VAULT TYPE)
- RACEWAY CONCEALED IN WALL OR IN CEILING (EXPOSED IN UNFINISHED AREAS)
- RACEWAY RUN BELOW FLOOR OR BELOW GRADE
- FLEXIBLE RACEWAY
- RACEWAY (CIRCLE DENOTES VERTICAL TRANSITION)
- RACEWAY CONTINUATION
- RACEWAY STUB WITH BUSHING
- HA-3 — HOMERUN TO PANEL (INDICATES PANEL DESIGNATION AND CIRCUIT NUMBER)
- #10 — (GAUGE OF WIRE OTHER THAN AWG#12) NUMBER OF CONDUCTORS (GROUND CONDUCTOR) (PHASE CONDUCTORS) (NEUTRAL CONDUCTOR)

POWER

- SWITCHBOARD/SWITCHGEAR
- PANELBOARD, FLUSH-MOUNTED
- PANELBOARD, SURFACE-MOUNTED
- (FRONT) TRANSFORMER
- EQUIPMENT CONNECTION - CONFIRM CONNECTION WITH EQUIPMENT MANUFACTURER

RECEPTACLES

- P1A-12 / +42" GF — DEVICE SUBSCRIPTS (CIRCUIT NUMBER) (AC,CR,D,EM,GB,GF,IG,SB,TP,USB,WP OR OTHER SUBSCRIPT) (NON-STANDARD MOUNTING HEIGHT OR AC)
- SPECIAL RECEPTACLE
- DUPLEX RECEPTACLE
- FOURPLEX RECEPTACLE
- SPLIT WIRED DUPLEX RECEPTACLE
- SIMPLEX RECEPTACLE
- CORD DROP CORD RECEPTACLE
- RETRACTABLE CORD REEL RECEPTACLE

ONE-LINE DIAGRAM

- EQUIPMENT ENCLOSURE
- BUS
- WIRE
- TERMINAL / LUG
- CONNECTION
- DELTA
- WYE
- CURRENT TRANSFORMER
- TRANSFER SWITCH
- CIRCUIT BREAKER, FIXED
- CIRCUIT BREAKER, DRAWOUT
- DISCONNECT SWITCH
- FUSED SWITCH
- FUSE
- FUSED CUTOUTS
- GF — CIRCUIT BREAKER WITH GROUND FAULT PROTECTION
- ST — CIRCUIT BREAKER WITH SHUNT TRIP OPERATOR
- K — CIRCUIT BREAKER WITH KIRK KEY
- GF — FUSED SWITCH WITH GROUND FAULT PROTECTION
- MOTOR CONNECTION
- G — GENERATOR
- X — METERING DEVICE (M = METER) (WH = WATT HOUR METER) (A = AMMETER) (V = VOLTMETER)
- ST — SHUNT TRIP
- GF — GROUND FAULT PROTECTION
- EPM — ELECTRONIC POWER METER
- SPD — SURGE PROTECTIVE DEVICE
- GROUND
- 12,241 — AVAILABLE FAULT CURRENT (SYMMETRICAL) TAG
- 225 — FEEDER TAG
- PAD-MOUNT TRANSFORMER
- 480V / 208Y / 120V — TRANSFORMER
- PANELBOARD - MAIN LUGS ONLY
- PANELBOARD - MAIN CIRCUIT BREAKER

NOT ALL SYMBOLS MAY APPEAR ON THE DRAWINGS

GENERAL NOTES

1. PERFORM WORK IN ACCORDANCE WITH APPLICABLE NATIONAL AND STATE CODES AS AMENDED LOCALLY AND ENFORCED BY THE AHJ.
2. OBTAIN AND PAY FOR PERMITS REQUIRED FOR INSTALLATION OF WORK. ARRANGE AND SCHEDULE REQUIRED INSPECTIONS.
3. DEVICE LOCATIONS ARE APPROXIMATE. COORDINATE DEVICE LOCATIONS AND ELEVATIONS WITH APPROPRIATE DOCUMENTS INCLUDING CASEWORK SHOP DRAWINGS AND ARCHITECT'S INTERIOR ELEVATIONS PRIOR TO ROUGH-IN.
4. COORDINATE ELECTRICAL WORK WITH THAT OF OTHER TRADES. REFER TO MECHANICAL AND ARCHITECTURAL DRAWINGS AND SPECIFICATIONS. COORDINATION SHALL OCCUR PRIOR TO FABRICATION, PURCHASE, AND INSTALLATION OF WORK.
5. COORDINATE LOCATION OF LIGHT FIXTURES AND CEILING-MOUNTED DEVICES WITH ARCHITECTURAL REFLECTED CEILING PLANS AND ELEVATIONS.
6. COMPLETION OF WORK SHALL BE EXECUTED IN ACCORDANCE WITH THE PROJECT SCHEDULE. SCHEDULE INSTALLATION WITH OTHER TRADES TO ENSURE PROJECT MILESTONES ARE MET.
7. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL COMPONENTS REQUIRED FOR A COMPLETE INSTALLATION. PROVIDE COMPONENTS REQUIRED FOR COMPLETE AND OPERATIONAL SYSTEMS INCLUDING RACEWAYS, CONDUCTORS, BOXES, SUPPORTS AND SIMILAR ITEMS.
8. BRANCH CIRCUIT HOMERUNS ARE SHOWN TO INDICATE CIRCUIT PROPERTIES AND CONFIGURATION. SINGLE-CIRCUIT HOMERUNS SERVED FROM THE SAME PANELBOARD MAY BE COMBINED IN ACCORDANCE WITH THE DIVISION 26 SPECIFICATIONS, UNLESS INDICATED OTHERWISE. EXTEND AND CONNECT BRANCH CIRCUIT RACEWAY AND WIRING FROM HOMERUN TO DEVICES AND EQUIPMENT WITH CIRCUIT NUMBERS INDICATED. CONDUCTOR QUANTITIES AND SIZES ARE INDICATED AT HOMERUNS ONLY. SHOW ACTUAL RACEWAY ROUTING AND CIRCUITING ON RECORD DRAWINGS. MINIMUM CONDUCTOR SIZE #12 AWG.

NON-STRUCTURAL ELECTRICAL NOTES

1. THE FOLLOWING ITEMS ARE TAKEN DIRECTLY FROM THE 2021 INTERNATIONAL BUILDING CODE AND FROM THE AMERICAN SOCIETY OF CIVIL ENGINEERS (ASCE) STANDARD 7. THE CONTRACTOR SHALL REFER TO THE ABOVE FOR ADDITIONAL INFORMATION, EXCEPTIONS, AND FURTHER DESCRIPTIONS. THE CONTRACTOR SHALL ADHERE TO REQUIREMENTS AND AS SUCH, SHALL BE INCLUDED WITHIN BID. ALSO REFER TO SPECIFICATIONS.
2. 2021 IBC, 1613.1, SCOPE: ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND NON-STRUCTURAL COMPONENTS THAT ARE PERMANENTLY ATTACHED TO STRUCTURES AND THEIR SUPPORTS AND ATTACHMENTS SHALL BE DESIGNED AND CONSTRUCTED TO RESIST THE EFFECTS OF EARTHQUAKE MOTIONS IN ACCORDANCE WITH CHAPTERS 11, 12, 13, 15, 17 AND 18 OF ASCE 7.
3. ASCE 7 CONTRACTOR RESPONSIBILITY: THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION OF A SEISMIC-FORCE-RESISTING SYSTEM, DESIGNATED SEISMIC SYSTEM, OR COMPONENT LISTED IN THE QUALITY ASSURANCE PLAN SHALL SUBMIT A WRITTEN CONTRACTOR'S STATEMENT OF RESPONSIBILITY TO THE REGULATORY AUTHORITY HAVING JURISDICTION AND TO THE OWNER PRIOR TO THE COMMENCEMENT OF WORK ON THE SYSTEM OR COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL INCLUDE THE FOLLOWING:
   - A. ACKNOWLEDGMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED IN THE QUALITY ASSURANCE PLAN;
   - B. ACKNOWLEDGMENT THAT CONTROL WILL BE EXERCISED TO OBTAIN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS APPROVED BY THE AUTHORITY HAVING JURISDICTION;
   - C. PROCEDURES FOR EXERCISING CONTROL WITHIN THE CONTRACTOR'S ORGANIZATION, THE METHOD AND FREQUENCY OF REPORTING AND THE DISTRIBUTION OF THE REPORTS; AND
   - D. IDENTIFICATION AND QUALIFICATIONS OF THE PERSON(S) EXERCISING SUCH CONTROL AND THEIR POSITION(S) IN THE ORGANIZATION.
4. DIVISION 26 RESPONSIBILITIES:
   - A. HANGERS AND SEISMIC BRACING FOR ELECTRICAL SYSTEMS SHALL BE DESIGNED AND SPECIFIED BY DIVISION 26. DIVISION 26 SHALL REFER TO THE ELECTRICAL DRAWINGS FOR LOCATIONS OF EQUIPMENT AND ELECTRICAL SYSTEMS AS STRUCTURAL DRAWINGS DO NOT SHOW THE LOCATIONS OF ELECTRICAL EQUIPMENT, RACEWAYS, AND OTHER COMPONENTS.
   - B. DIVISION 26 SHALL COORDINATE THE SUPPORT SYSTEMS AND DESIGN LOADS FOR HUNG RACEWAYS AND OTHER ELECTRICAL SYSTEMS (INCLUDING COMBINED MULTIPLE RACEWAY RUNS) WITH THE GENERAL CONTRACTOR AND THE STEEL AND WOOD JOIST MANUFACTURERS IN ADDITION TO OTHER TRADES THAT MAY BE IMPACTED.

ENERGY CODE NOTES

1. RECORD DRAWINGS: SUBMIT TO THE BUILDING OWNER PER ENERGY CODE ENFORCED BY THE LOCAL AHJ.
2. OPERATION AND MAINTENANCE MANUALS: SUBMIT TO THE BUILDING OWNER PER ENERGY CODE ENFORCED BY THE LOCAL AHJ.
3. THIS BUILDING AND ITS ENERGY SYSTEMS HAVE BEEN DESIGNED TO COMPLY WITH ENERGY CODE ENFORCED BY THE LOCAL AHJ. CONTRACTOR IS RESPONSIBLE FOR CORRECT INSTALLATION OF ENERGY CONSERVATION MEASURES.
4. LIGHTING CONTROL SYSTEMS COMMISSIONING AND COMPLETION REQUIREMENTS: TEST SYSTEMS TO ENSURE THAT BUILDING SYSTEMS HAVE BEEN INSTALLED AND FUNCTION PROPERLY AND EFFICIENTLY, AND CAN BE MAINTAINED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND OPERATIONAL REQUIREMENTS PER ENERGY CODE ENFORCED BY THE AHJ. REFER TO SPECIFICATIONS FOR ADDITIONAL COMMISSIONING REQUIREMENTS.

ABBREVIATIONS

A	AMPERE
AC	AIR CONDITIONING; ALTERNATING CURRENT; ABOVE COUNTER
AF	AMP FUSE; AMP FRAME
AFC	AVAILABLE FAULT CURRENT
AFF	ABOVE FINISHED FLOOR
AG	ABOVE GRADE
AHJ	AUTHORITIES HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AS	AMP SWITCH
AT	AMP TRIP
ATM	ASYNCHRONOUS TRANSFER MODE
ATS	AUTOMATIC TRANSFER SWITCH
AV	AUDIO VISUAL
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BATT	BATTERIES
BIL	BASIC IMPULSE INSULATION LEVEL
BKBD	BACKBOARD
BKR	BREAKER
BLDG	BUILDING
C	CONDUIT; DEGREES CELSIUS
CAB	CABINET
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CM	CEILING-MOUNTED
CO	CONDUIT ONLY
COW	COMPUTER ON WHEELS
CR	CONTROLLED RECEPTACLE
CT	CURRENT TRANSFORMER
CU	COPPER
D	DEDICATED
DDC	DIRECT DIGITAL CONTROL
DEMARC	DEMARCATION POINT
DISC	DISCONNECT
DIST	DISTRIBUTION
DSL	DIGITAL SUBSCRIBER LINE
DWG	DRAWING
(E)	EXISTING
EA	EACH
EF	EXHAUST FAN
EIA	ELECTRONIC INDUSTRIES ASSOCIATION
ELEV	ELEVATION
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
EPM	ELECTRONIC POWER METER
EPO	EMERGENCY POWER OFF
EQUIP	EQUIPMENT
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
F	FUSE; DEGREES FAHRENHEIT
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FBO	FURNISHED BY OWNER
FC	FOOT-CANDLE
FOIC	FURNISHED BY OWNER INSTALLED BY CONTRACTOR
FOIO	FURNISHED BY OWNER INSTALLED BY OWNER
FSD	FIRE SMOKE DAMPER
G	GROUND
GB	GROUND FAULT CIRCUIT BREAKER
GF	GROUND FAULT CIRCUIT INTERRUPTER
GFP	GROUND FAULT PROTECTION
GND	GROUND
GRS	GALVANIZED RIGID STEEL
HC	HORIZONTAL CROSS CONNECT
HID	HIGH INTENSITY DISCHARGE
HP	HORSEPOWER
HTR	HEATER
Hz	HERTZ
IBC	INTERNATIONAL BUILDING CODE
IC	INTERMEDIATE CROSS CONNECT
IDF	INTERMEDIATE DISTRIBUTION FRAME
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IG	ISOLATED GROUND
IMC	INTERMEDIATE METALLIC CONDUIT
ISDN	INTEGRATED SERVICES DIGITAL NETWORK
J	JUNCTION
K	KIRK KEY
KCMIL	THOUSAND CIRCULAR MILS
kVA	KILOVOLT AMPERE
KVAR	KILOVOLT AMPERE REACTIVE
kW	KILOWATT
LAN	LOCAL AREA NETWORK
LCP	LIGHTING CONTROL PANEL
LEC	LOCAL EXCHANGE CARRIER
LT	LIGHT
LTG	LIGHTING
M	METER
MAN	METROPOLITAN AREA NETWORK
MAX	MAXIMUM
MC	MAIN CROSS CONNECT; METAL CLAD (CABLE)
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDF	MAIN DISTRIBUTION FRAME
MDP	MAIN DISTRIBUTION PANEL
MFR	MANUFACTURER
MH	MANHOLE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MM	MULTIMODE
MPOE	MAIN POINT OF ENTRY
MPOP	MAIN POINT OF PRESENCE
MTD	MOUNTED
MTS	MANUAL TRANSFER SWITCH
(N)	NEW
N	NEUTRAL
NAC	NOTIFICATION APPLIANCE CIRCUIT
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NF	NON-FUSED
NIC	NOT IN CONTRACT
NL	NIGHT LIGHT
OFC	OPTICAL FIBER CABLE
OHL	OVERHEAD LINE
OL	OVERLOAD
OS	OCCUPANCY SENSOR
OSP	OUTSIDE PLANT
P	POLE
PBX	PRIVATE BRANCH EXCHANGE
PF	POWER FACTOR
PH	PHASE
PIR	PASSIVE INFRARED
PIV	POST INDICATING VALVE
PNL	PANEL
PP	PATCH PANEL
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
RC	ROOM CONTROLLER
RCP	REFLECTED CEILING PLAN
REC	RECEPTACLE
REF	REFER TO
REV	REVISION
RM	ROOM
RTRC	REINFORCED THERMORESETTING RESIN CONDUIT
RU	RACK UNIT
SB	STANDBY
SHT	SHEET
SLC	SIGNALING LINE CIRCUIT
SM	SINGLEMODE
SMFC	SURFACE-MOUNTED OPTICAL FIBER CABINET
SMR	SURFACE METAL RACEWAY
SONET	SYNCHRONOUS OPTICAL NETWORK
SP	SERVICE PROVIDER
SPD	SURGE PROTECTIVE DEVICE
SPEC	SPECIFICATIONS
SPST	SINGLE POLE SINGLE THROW
ST	SHUNT TRIP
STP	SHIELDED TWISTED PAIR
SVGA	SUPER VIDEO GRAPHICS ARRAY
SW	SWITCH
SWBD	SWITCHBOARD
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TEL	TELEPHONE
TELCO	TELEPHONE COMPANY
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR
TP	TAMPERPROOF
TR	TELECOMMUNICATIONS ROOM
TTB	TELEPHONE TERMINAL BOARD
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
TYP	TYPICAL
UG	UNDERGROUND
UL	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	UNIVERSAL SERIAL BUS
UTP	UNSHIELDED TWISTED PAIR
UV	UNIT VENTILATOR
V	VOLTS
VA	VOLT AMPERES
VFD	VARIABLE FREQUENCY DRIVE
W	WATT; WIRE
W/	WITH
W/O	WITHOUT
WA	WORKSTATION AREA
WAN	WIDE AREA NETWORK
WG	WIRE GUARD
WH	WATT HOUR METER
WP	WEATHERPROOF
XMFR	TRANSFORMER
Y	WYE
Z	IMPEDANCE

DRAWING INDEX

E001	ELECTRICAL LEGEND, GENERAL NOTES, ABBREVIATIONS AND DRAWING INDEX
E002	ELECTRICAL SPECIFICATIONS
E100	ELECTRICAL OVERALL PLAN
E101	ELECTRICAL ENLARGED PLAN AND LIGHT FIXTURE SCHEDULE
E901	ELECTRICAL ONE-LINE DIAGRAM
E1001	PANEL SCHEDULES

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02/18/2025

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ELECTRICAL LEGEND, GEN. NOTES, ABBREV. & DRAWING INDEX

E001

DIVISION 26 - ELECTRICAL
SECTION 260510
GENERAL ELECTRICAL PROVISIONS

A. GENERAL REQUIREMENTS

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, INCIDENTALS AND DETAILS NECESSARY TO PROVIDE COMPLETE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS. PROVIDE ALL WORK NOT SPECIFICALLY NOTED AS BEING BY THE LANDLORD OR THE OWNER. CLOSELY COORDINATE THE ENTIRE INSTALLATION WITH LANDLORD AND OWNER. FURNISH AND INSTALL EQUIPMENT THAT IS RATED FOR AVAILABLE FAULT CURRENT LEVELS.

2. UNLESS SPECIFICALLY NOTED OTHERWISE, MATERIALS, PRODUCTS, AND EQUIPMENT, INCLUDING ALL COMPONENTS THEREOF, SHALL BE NEW, UNDERWRITERS LABORATORIES LISTED AND LABELED AND SIZED IN CONFORMITY WITH REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES, WHICHEVER IS MORE STRINGENT.

3. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO SUPPLEMENT EACH OTHER AND ANY MATERIAL OR LABOR CALLED FOR IN ONE SHALL BE PROVIDED EVEN THOUGH NOT SPECIFICALLY MENTIONED IN BOTH. ANY MATERIAL OR LABOR WHICH IS NEITHER SHOWN ON THE DRAWINGS NOR CALLED FOR IN THE SPECIFICATIONS, BUT WHICH IS OBVIOUSLY NECESSARY TO COMPLETE THE WORK OR WHICH IS USUALLY INCLUDED IN WORK OF SIMILAR CHARACTER, SHALL BE PROVIDED AS PART OF CONTRACT.

4. WHERE THE DRAWINGS OR SPECIFICATIONS CALL FOR ITEMS WHICH EXCEED CODES OR THE LANDLORD'S TENANT CRITERIA, THE CONTRACTOR IS RESPONSIBLE FOR FURNISHING AND INSTALLING THE SYSTEM WITH THE MORE STRINGENT REQUIREMENTS AS DESIGNED AND DESCRIBED ON THESE DRAWINGS, UNLESS NOTED OTHERWISE.

5. ALL WORK SHALL BE INSTALLED SO AS TO BE READILY ACCESSIBLE FOR OPERATING, SERVICING, MAINTAINING AND REPAIRING. THIS CONTRACTOR IS RESPONSIBLE FOR PROVIDING SUFFICIENT SERVICE ACCESS TO ALL EQUIPMENT.

6. PROVIDE ALL CUTTING, CHASING, OR CHANNELING AND PATCHING REQUIRED FOR ANY WORK UNDER THIS DIVISION. CUTTING SHALL HAVE PRIOR APPROVAL BY OWNER AND THE LANDLORD. PATCHING IS TO MATCH SURROUNDING SURFACES.

7. PROVIDE DEMOLITION OF ALL EQUIPMENT AND DEVICES NOT SCHEDULED FOR REVISE. REMOVE WIRING BACK TO POINT OF SUPPLY.

8. MAKE ALL FINAL ELECTRICAL CONNECTIONS AS REQUIRED FOR A COMPLETE AND OPERATING SYSTEM.

B. TEMPORARY LIGHT AND POWER

1. PROVIDE WIRING FOR TEMPORARY LIGHTING AND POWER FOR ALL CONTRACTORS AND BE RESPONSIBLE FOR IT'S REMOVAL.

C. CODES

1. ALL WORK SHALL BE PERFORMED IN A NEAT AND PROFESSIONAL MANNER AND CONFORM TO THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, LANDLORD'S CRITERIA, THE STATE'S, COUNTY'S, CITY'S AND LOCAL CODES AND ORDINANCES, SAFETY AND HEALTH CODES, NFPA CODES, ENERGY CODES, AND ALL OTHER APPLICABLE CODES AND REQUIREMENTS. INQUIRE INTO AND COMPLY WITH ALL APPLICABLE CODES, ORDINANCES, AND REGULATIONS. INCLUDE ANY CHANGES REQUIRED BY CODES IN THE BID AND IF THESE CHANGES ARE NOT INCLUDED IN THE BID, THEY MUST BE QUALIFIED AS A SEPARATE LINE ITEM IN THE BID. AFTER CONTRACT IS ISSUED, NO ADDITIONAL COST DUE TO CODE ISSUES SHALL BE REIMBURSED BY THE OWNER TO THE CONTRACTOR.

D. LICENSES, PERMITS, INSPECTIONS & FEES

1. OBTAIN AND PAY FOR ALL LICENSES, PERMITS, INSPECTIONS, AND FEES REQUIRED OR RELATED TO HIS WORK.

2. FURNISH TO OWNER ALL CERTIFICATES OF INSPECTION AND FINAL INSPECTION APPROVAL AT COMPLETION OF PROJECT.

E. TRADE NAMES, MANUFACTURERS AND SHOP DRAWINGS

1. WHERE TRADE NAMES AND MANUFACTURERS ARE USED ON THE DRAWINGS OR IN THE SPECIFICATIONS, THE EXACT EQUIPMENT SHALL BE USED AS A MINIMUM FOR THE BASE BID. ALL SUBSTITUTIONS ARE SUBJECT TO APPROVAL IN WRITING, THROUGH SHOP DRAWINGS PROCESS, BY THE OWNER/ARCHITECT PRIOR TO ACCEPTANCE. THE OWNER RESERVES THE RIGHT TO REJECT ANY PROPOSED SUBSTITUTIONS. THE USE OF ANY UNAUTHORIZED EQUIPMENT SHALL BE SUBJECT TO REMOVAL AND REPLACEMENT AT THE CONTRACTOR'S EXPENSE.

F. GUARANTEE

1. GUARANTEE ALL MATERIALS AND WORK PROVIDED AND MAKE GOOD, REPAIR OR REPLACE AT YOUR OWN EXPENSE, ANY DEFECTIVE WORK, MATERIAL, OR EQUIPMENT WHICH MAY BE DISCOVERED WITHIN A PERIOD OF 12 MONTHS FROM THE DATE OF ACCEPTANCE. PROVIDE WRITTEN GURANTEE IN FORMAT ACCEPTABLE TO OWNER.

G. RECORD DRAWINGS

1. MAINTAIN ONE COPY OF DRAWINGS ON THE JOB SITE TO RECORD DEVIATIONS FROM CONTRACT DRAWINGS, SUCH AS:
   A. LOCATION OF JUNCTION BOXES AND RECEPTACLES.
   B. REVISIONS, ADDENDUMS, AND CHANGE ORDERS
   C. DEVIATIONS MADE NECESSARY BY FIELD CONDITIONS, APPROVED EQUIPMENT SUBSTITUTIONS, AND CONTRACTOR'S COORDINATION WITH OTHER TRADES.

2. AT COMPLETION OF PROJECT AND BEFORE FINAL APPROVAL, MAKE ANY FINAL CORRECTIONS TO DRAWINGS AND CERTIFY THE ACCURACY OF EACH PRINT BY SIGNATURE THEREON. ONE COPY OF DRAWINGS STAMPED SHALL BE PLACED "DO NOT REMOVE" IN DRAWING TUBE LOCATED NEXT TO THE ELECTRICAL PANELS.

H. DISCREPANCIES IN DOCUMENTS

1. DRAWINGS (PLANS, SPECIFICATIONS, AND DETAILS ARE DIAGRAMMATIC AND INDICATE THE GENERAL LOCATION AND INTENT OF THE ELECTRICAL SYSTEMS. WHERE DRAWINGS, EXISTING SITE CONDITIONS, SPECIFICATIONS OR OTHER TRADES CONFLICT OR ARE UNCLEAR, ADVISE THE OWNER/ARCHITECT IN WRITING PRIOR TO SUBMITTAL OF BID. OTHERWISE, THE OWNER/ARCHITECT'S INTERPRETATION OF CONTRACT DOCUMENTS OR CONDITIONS SHALL BE FINAL WITH NO ADDITIONAL COMPENSATION PERMITTED.

2. THE LOCATION OF OUTLETS AND EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SCHEMATIC IN NATURE. THE OWNER SHALL HAVE THE RIGHT TO RELOCATE ANY OUTLETS OR FIXTURES BEFORE THEY ARE INSTALLED WITHOUT ADDITIONAL COST.

J. SLEEVES

1. PROVIDE SLEEVES TO PROTECT EQUIPMENT OR FACILITIES IN THE INSTALLATION. EACH SLEEVE SHALL EXTEND THROUGH IT'S RESPECTIVE FLOOR, WALL OR PARTITION AND SHALL BE CUT FLUSH WITH EACH SURFACE EXCEPT SLEEVES THAT PENETRATE THE FLOOR, WHICH SHALL EXTEND 4" ABOVE THE FLOOR.

2. ALL SLEEVES AND OPENINGS THROUGH FIRE RATED WALLS AND/OR FLOORS SHALL BE FIRE SEALED WITH CALCIUM SILICATE, SILICONE "RTV" FOAM, "3M" FIRE RATED SEALANTS OR EQUAL, SO AS TO RETAIN THEIR FIRE RATING.

3. SLEEVES IN BEARING AND MASONRY WALLS, FLOORS AND PARTITIONS SHALL BE STANDARD WEIGHT STEEL PIPE FINISHED WITH SMOOTH EDGES. FOR OTHER THAN MASONRY PARTITIONS, THROUGH SUSPENDED CEILINGS, OR FOR CONCEALED VERTICAL CONDUIT, SLEEVES SHALL BE NO 22 U.S.G GALVANIZED STEEL MINIMUM.

K. HANGERS

1. HANGERS SHALL INCLUDE ALL MISCELLANEOUS STEEL SUCH AS ANGLE IRON, WIRE, UNISTRUT, C-CLAMPS WITH RETAINING CLIPS, CHANNELS, HANGER RODS, ETC., NECESSARY FOR THE INSTALLATION OF WORK.

2. HANGERS SHALL BE FASTENED TO BUILDING STEEL, CONCRETE, OR MASONRY, BUT NOT TO OTHER CONDUIT OR PIPING. HANGERS UPPER ATTACHMENT MUST BE SUPPORTED FROM THE TOP OF THE BAR JOIST. HANGING FROM METAL DECK IS NOT PERMITTED. WHERE INTERFERENCES OCCUR, IN ORDER TO SUPPORT CONDUIT, THE CONTRACTOR MUST INSTALL TRAPEZE TYPE HANGERS OR SUPPORTS WHICH SHALL BE LOCATED WHERE THEY DO NOT INTERFERE WITH ACCESS TO FIRE DAMPERS, VALVES, JUNCTION BOXES, ACCESS DOORS, OTHER EQUIPMENT SERVICE REQUIREMENTS AND/OR OTHER TRADES. HANGER TYPES AND INSTALLATION METHODS ARE SUBJECT TO LANDLORD CRITERIA.

DIVISION 26 - ELECTRICAL
SECTION 260500
BASIC ELECTRICAL MATERIALS AND METHODS

A SCOPE OF WORK

1. PROVIDE ALL LABOR, MATERIALS, EQUIPMENT, SERVICES, TOOLS, TRANSPORTATION, AND FACILITIES NECESSARY FOR, REASONABLY IMPLIED AND INCIDENTAL TO, THE FURNISHING, INSTALLATION, COMPLETION AND TESTING OF ALL THE WORK FOR THE ELECTRICAL SYSTEMS AS SHOWN ON THE DRAWINGS, CALLED FOR IN THE SPECIFICATIONS, AND AS REQUIRED BY JOB CONDITIONS, TO INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   A. A COMPLETE ELECTRICAL DISTRIBUTION SYSTEM INCLUDING PANELBOARDS, TRANSFORMER, FEEDERS, BRANCH CIRCUITS, JUNCTION BOXES, OUTLET BOXES, WIRING DEVICES, COVERPLATES, CONDUITS, ETC.
   B. THE WIRING OF MECHANICAL EQUIPMENT AS OUTLINED ON THE BID SET DRAWINGS AND IN THE SPECIFICATIONS. WORK SHALL INCLUDE WIRING OF ALL STARTERS, DISCONNECTS, AND POWER WIRING OF MECHANICAL EQUIPMENT EXCEPT AS SPECIFICALLY NOTED OTHERWISE.

B. CONDUIT

1. PROVIDE CONDUITS SERVING ALL EQUIPMENT, INCLUDING BUT NOT LIMITED TO RECEPTACLES, HEATING, AIR CONDITIONING, PLUMBING EQUIPMENT, AND ELECTRICAL EQUIPMENT.

2. ALL CONDUITS SHALL BE GALVANIZED RIGID IMC OR EMT UNLESS OTHERWISE NOTED. CONDUIT SHALL BE UL LABELED. EMT CONNECTORS SHALL BE STEEL COMPRESSION OR SET SCREW TYPE. CONDUIT UNDER SLAB ON GRADE SHALL BE RIGID STEEL, OR SCHEDULE 40 PVC WITH RIGID STEEL ELLS WHERE PERMITTED BY LANDLORD OR CODE.

3. CONTRACTOR MAY USE METAL CLAD IN LIEU OF EMT ON BRANCH CIRCUITS OF #12AWG SIZE ONLY.
   A. CONDUCTORS SHALL BE STRANDED COPPER PER UL STANDARD FOR METAL CLAD CABLES AND ASTM B-3.
   B. ALL CONDUCTORS TO BE INSULATED WITH POLYVINALCHLORIDE ALUMINIMUM ALLOY SHEATH THAT MEETS ASTM B-221 SPECIFICATIONS.
   C. METAL CLAD CABLES SHALL MEET ALL REQUIREMENTS OF LATEST NEC SECTION 334 AND MUST BE SUPPORTED AND SECURED AT MAXIMUM INTERVALS OF 6'-0".
   D. METAL CLAD CABLE MAY BE USED FOR ISOLATED GROUND CIRCUITS IF PROVIDED WITH BOTH INSULATED EQUIPMENT GROUND AND ISOLATED GROUND CONDUCTORS.
   E. METAL CLAD CABLE MAY BE USED IN CONCEALED SPACES ONLY. EXPOSED CABLES ARE NOT PERMITTED.

4. IF HVAC CONTROL WIRING IS REQUIRED TO BE RUN IN CONDUIT, IT SHALL BE A MINIMUM OF 3/4", UNLESS NOTED OTHERWISE ON DRAWINGS. ALL IN/UNDER FLOOR CONDUIT SHALL BE OF MINIMUM 3/4" SIZE.

5. SUPPORT ALL CONDUIT, INCLUDING SEISMIC AND SWAY BRACING, IN ACCORDANCE WITH THE NEC AND LOCAL CODES.

6. GENERALLY, ALL CONDUIT SHALL BE CONCEALED EXCEPT FOR UNFINISHED AREAS, SUCH AS EQUIPMENT ROOMS. EXPOSED CONDUIT SHALL BE ALLOWED ONLY AS NOTED ON PLAN AND AS APPROVED BY THE OWNER.

7. FLEXIBLE METAL CONDUIT:
   A. FLEXIBLE CONDUIT SHALL BE USED FOR THE FOLLOWING APPLICATIONS ONLY:
      1. FINAL CONNECTIONS TO MOTORS
      2. FINAL CONNECTIONS INTO AND OUT OF THE TRANSFORMER
      3. FINAL CONNECTIONS TO VIBRATING EQUIPMENT
   B. FLEXIBLE METAL CONDUIT SHALL BE THE SAME SIZE AS THE IMC OR EMT CONDUIT TO WHICH IT IS CONNECTED. BOTH THE FLEXIBLE METAL CONDUIT AND IT'S FITTINGS ARE TO BE LISTED FOR GROUNDING. A GREEN GROUNDING CONDUCTOR SHALL BE INSTALLED. ALL CONNECTORS ARE TO BE OF A NEMA APPROVED TYPE.
   C. THE USE OF ROMEX, BX, ETC IS NOT PERMITTED.
   D. CONNECTION TO OUTDOOR EQUIPMENT MUST BE WEATHERPROOF, I.E LIQUIDTIGHT OR SEALTIGHT.

8. PROVIDE PULL-WIRE IN ALL EMPTY CONDUITS.

9. HOME RUNS AND MAIN CONDUIT RUNS ARE TO BE HELD TIGHT TO STRUCTURE ABOVE OR AS REQUIRED TO ALLOW PROPER SERVICE ACCESS AND OTHER TRADES WORK. CONDUIT MUST BE TRAPEZOID TO ALLOW 3 FEET MINIMUM CLEARANCE ABOVE CEILING.

10. ALL CONDUITS MUST BE SIZED PER NEC AND LOCAL CODES.

C. OUTLET BOXES

1. ALL OUTLET BOXES SHALL BE GALVANIZED PRESSED STEEL OF THE STANDARD KNOCKOUT TYPE. NO ROUND OUTLET BOXES SHALL BE PERMITTED, EXCEPT AS SPECIFICALLY NOTED ON DRAWINGS. CONCEALED BOXES SHALL NOT BE LESS THAN 4" SQUARE AND 1-1/2" DEEP, WITH PLASTER RINGS.

2. EXTERIOR BOXES SHALL BE CAST RUST-RESISTING METAL WITH GASKETED COVERS.

3. INSTALL BOXES RIGIDLY FROM BUILDING STRUCTURE AND SUPPORT INDEPENDENTLY OF THE CONDUIT SYSTEM. ALSO PROVIDE SUITABLE BOX EXTENSIONS TO EXTEND BOXES TO FINISHED FACES OF FLOORS, CEILINGS, WALLS ETC. ALL OUTLET BOXES TO BE PROVIDED WITH CADDY "QUICK-MOUNT BOX SUPPORT" TO MINIMIZE THE DEFLECTION THAT OCCURS WHEN PLUGGING/UNPLUGGING INTO THESE DEVICES.

4. UNLESS OTHERWISE NOTED ON DRAWINGS OR OTHERWISE REQUIRED BY THE NATIONAL ELECTRICAL CODE, HANDICAP CODES OR LOCAL CODES, OUTLET HEIGHTS SHALL BE AS FOLLOWS:
   A. SWITCH HEIGHT 48" FROM FINISHED FLOOR TO CENTERLINE OF OUTLET.
   B. CONVENIENCE OUTLETS: SALES & NON-SALES: 18" FROM FINISHED FLOOR TO CENTERLINE OF OUTLET

D. JUNCTION AND PULL BOXES

1. THE PLANS INDICATE ONLY SCHEMATIC ROUTINGS FOR CONDUIT RUNS. PROVIDE ADDITIONAL BOXES WHERE REQUIRED BY FIELD CONDITIONS OR BY CODE.

2. BOXES AND COVERS SHALL BE GALVANIZED STEEL OF CODE GAUGE SIZE.

3. INSTALL BOXES RIGIDLY SUPPORTED FROM THE BUILDING STRUCTURE AND SUPPORTED INDEPENDENT OF THE CONDUIT SYSTEM.

4. ARRANGE CIRCUITS TO AVOID THE USE OF JUNCTION BOXES IN INACCESSIBLE LOCATIONS. THE USE OF JUNCTION BOXES ABOVE DRYWALL CEILINGS SHOULD BE IN LOCATIONS NEAR ACCESS FRAMES USED FOR DIFFUSERS AND RETURN AIR GRILLES OR ACCESS PANELS AS LOCATED ON PLANS.

5. JUNCTION AND PULL BOXES SHALL BE LABELED WITH CIRCUIT NUMBER IDENTIFICATION AND SYSTEM TYPE ON COVER.

E. WIRING

1. CONDUCTORS FOR FEEDERS AND BRANCH CIRCUITS SHALL BE COPPER AND THE AWG SIZE AND TYPE AS SHOWN ON DRAWINGS. MINIMUM WIRE SIZE #12. THE CONDUCTORS SHALL BE 600 VOLT INSULATION, TYPE THHN/THWN DUAL RATED.

2. MINIMUM WIRE SIZE - 20 AMP BRANCH CIRCUIT SHALL BE AWG LISTED SIZE PER DISTANCE SHOWN BELOW. DISTANCE SHALL BE MEASURED FROM THE PANELBOARD CIRCUIT BREAKER TO THE FURTHEST OUTLET.
   A #12 LESS THAN 100 FEET
   B #10 BETWEEN 100-150 FEET
   C #8 BETWEEN 150 - 250 FEET
   D #6 OVER 250 FEET

3. ON ALL 20 AMP BRANCH CIRCUITS, CONDUCTORS LARGER THAN #10 AWG SHALL BE REDUCED TO #10 AWG WITHIN 10 FEET OF PANEL BOARD AND DEVICE IN JUNCTION BOXES ON RATED TERMINAL STRIPS.

4. CONDUCTORS SHALL BE STRANDED.

5. ALUMINUM CONDUCTORS ARE NOT PERMITTED.

6. ALL WIRING SHALL BE IN CONDUIT, UNLESS SPECIFICALLY NOTED OTHERWISE.

7. THE USE OF SHARED NEUTRALS IS REQUIRED FOR LIGHTING CIRCUITS AND SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.

8. THE USE OF ROMEX, BX, ETC IS NOT PERMITTED.

9. WIRE CONNECTORS SHALL "SCOTCH LOCK" FOR #8 AWG WIRE AND SMALLER AND SHALL BE T & B "LOCKTIGHT" FOR #6 AWG AND LARGER.

10. ALL WIRING TO BE COLOR-CODED AS FOLLOWS:

120/208 VOLT SYSTEM	277/480 VOLT SYSTEM
NEUTRAL - WHITE	NEUTRAL - GRAY
PHASE A OR L1 - BLACK	PHASE A OR L1-BROWN
PHASE B OR L2 - RED	PHASE B OR L2-ORANGE
PHASE C OR L3 - BLUE	PHASE C OR L3-YELLOW
GROUND - GREEN	GROUND - GREEN WITH YELLOW TRACER

F. SAFETY AND DISCONNECT SWITCHES

1. SAFETY AND DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, QUICK-MAKE, QUICK-BREAK, WIREJECTION TYPE FUSE CLIPS, FUSED OR NON-FUSIBLE WITH RATINGS AND SIZES AS NOTED ON PLANS AND REQUIRED BY CODES. ALL FUSES SHALL BE RK-1 REJECTION TYPE WITH TIME DELAY RATED AT 200K AMPERES RMS SYMMETRICAL. FUSE MANUFACTURER AND FUSE TYPE IN INDIVIDUAL EQUIPMENT'S FUSES SHALL BE MANUFACTURED BY BUSSMAN, LITTLE, OR GOULD-SHAWMUT

2. SWITCHES SHALL BE WEATHERPROOF IN OUTDOOR LOCATIONS OR AS REQUIRED BY LOCAL CODES. DISCONNECT SWITCHES THAT ARE INSTALLED AT HEATING, VENTILATING AND AIR CONDITIONING (HVAC) EQUIPMENT SHALL BE FUSED IF NOT PROTECTED WITH A "HACR" BREAKER IN ACCORDANCE WITH THE EQUIPMENT'S NAMEPLATE AND MANUFACTURER'S REQUIREMENTS PER THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES.

3. AT SERVICE ENTRANCE, DISCONNECT SHALL BEAR THE MANUFACTURER'S LABEL INDICATING THE EQUIPMENT IS UL RATED FOR APPLICATION IN ACCORDANCE WITH ALL CODES.

G. GROUNDING

1. FURNISH AND INSTALL COMPLETE WIRED GROUNDING CONDUCTOR SYSTEM, SIZED AND INSTALLED IN ACCORDANCE WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, STATE AND LOCAL CODES, THE LANDLORD'S TENANT CRITERIA AND AS NOTED IN THE SPECIFICATIONS AND AS INDICATED ON THE DRAWINGS.

2. ALL CONDUIT, INCLUDING FLEXIBLE CONDUIT, SHALL BE GROUNDED.

3. ALL POWER CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR. #12 AWG MINIMUM. GREEN ISULATION.

4. GROUNDING CONNECTIONS MADE TO THE WATER PIPING SYSTEM SHALL BE COORDINATED WITH THE PLUMBING CONTRACTOR AND A BONDING JUMPERS INSTALLED AROUND WATER METER PER CODES AND AS INDICATED ON DRAWINGS.

5. ALL DEVICES SHALL BE BONDED TO THE CONDUIT SYSTEM. USE A BONDING JUMPER BETWEEN THE OUTLET BOX AND THE DEVICE GROUNDING TERMINAL. METAL-TO-METAL CONTACT BETWEEN THE DEVICE YOKE AND THE OUTLET BOX IS NOT ACCEPTABLE AS A BOND FOR EITHER SURFACE MOUNTED BOXES OR FLUSH TYPE BOXES. ALL JUNCTION BOXES, OUTLET BOXES, AND PULL BOXES SHALL BE BONDED TO THE CONDUIT SYSTEM.

6. RUN A SEPARATE ISOLATED GROUNDING CONDUCTOR, #12 AWG MINIMUM, IN EACH CONDUIT SERVING ISOLATED GROUND RECEPTACLES.

7. FOR PANEL FEEDERS, BOND THE GROUNDING CONDUCTOR TO THE CONDUIT, WHERE ENTERING AND LEAVING THE CONDUIT. THE GROUNDING CONDUCTOR SHALL BE COPPER WITH GREEN IDENTIFICATION AND SIZED PER N.E.C.

8. ALL ENCLOSURES AND NON-CURRENT CARRYING METAL PARTS ARE TO BE GROUNDED CONDUIT SYSTEM IS TO BE ELECTRICALLY CONTINUOUS. ALL LOCKNUTS MUST CUT THROUGH ENAMELED OR PAINTED SURFACES ON ENCLOSURES WHERE ENCLOSURES AND NON- CURRENT CARRYING METAL PARTS ARE ISOLATED FROM THE CONDUIT SYSTEM, USE BONDING JUMPERS WITH APPROVED CLAMPS. ALL GROUND CLAMPS SHALL BE "PENN-UNION" "GPL" TYPE.

9. SYSTEM GROUND NOT TO EXCEED 25 OHMS PER NEC.

10. SIZE MAIN GROUNDING SYSTEM PER NEC, WAC AND LOCAL CODES. PROVIDE CONDUIT TO PROTECT GROUND WIRE FROM DAMAGE TO MAIN DISTRIBUTION PANEL.

11. INSTALL GROUND CONDUCTORS IN NON-METLLIC CONDUIT.

12. INSPECT GROUNDING AND BONDING SYSTEM CONDUCTORS AND CONNECTIONS FOR TIGHTNESS AND PROPER INSTALLATION.

H. MAGNETIC MOTOR STARTER

1. NEMA RATED. NEMA SIZE RATED FOR MOTOR HORSEPOWER OR AS INDICATED, NEMA SIZE 1 MINIMUM. FULL VOLTAGE, NON-REVERSING (FVNR).

2. CONTACT AND OVERLOAD RELAY. CONTACTOR WITH MINIMUM NO AND 1 NC AUXILIARY CONTACT AND SOLID STATE ELECTRONIC OVERLAOD RELAY TO PROTECT ALL PHASES WITH FIELD ADJUSTABLE CURRENT SETTING AND TRIP CLASS FOR SPECIFIRI MOTOR FULL LOAD AMPS. OVERLOAD RELAY WITH PHASE FAILURE, PHASE LOSS, LOCKED ROTOR, AND STALL PROTECTION. INCLUDE MANUAL RESET PUSHBUTTON ON STARTER COVER TO RESTORE NORMAL OPERATION AFTER TRIP OF FAULT CONDITION.

3. INTEGRAL CONTROL POWER TRANSFORMER: 50VA CAPACITY WITH CIRCUIT BREAKER PROTECTED SECONDARY SELECTED FOR AVAILABLE LINE VOLTAGE AND MAXIMUM 120B CONTROL VOLTAGE.

4. AUTOMATION SYSTEM CONTROL: INCLUDE REMOTE RUN TERMINALS ON STARTER TO ACCEPT VOLTAGE INPUT SIGNAL AN CONTACT CLOSURE. INPUT VOLTAGE SHALL ACCEPT 24VAC, 120VAC, 24VDC, AND 48VDC TO ALLOW DIRECTION CONNECTION OF INPUT SIGNAL TO STARTER.

5. INTERLOCKS: WHERE MOTOR IS INTERLOCKED WITH A CONTROL DAMPER OR CONTROL VALVE, ACTUATOR CONTROL SHALL RESIDE WITHIN STARTER ENCLOSURE. STARTER SHALL PROVIDE VOLTAGE OUTPUT TO OPERATE ACTUATOR WITHOUT CLOSING MOTOR CIRCUIT. STARTER SHALL CLOSE MOTOR CIRCUIT AND START MOTOR UPON RECEIPT OF CONTACT CLOSURE FROM LIMIT OR E4ND SWITCH CONFIRMING CONTROL DAMPER OR CONTROL VALVE POSITION.

I. MANUAL MOTOR STARTER

1. HORSE POWER RATED TOGGLE SWITCH TYPE, LOCKABLE IN THE 'OFF' POSITION, WITH MELTING ALLOW OVERLOAD RELAYS, RED 'RUNNING' PILOT LIGHT, NAMEPLATE AND ENCLOSURE. SQUARE D, CLASS 2510 OR EQUIVALENT.

2. ENCLOSURES: SURFACE MOUNTED, NEMA 1 ENCLOSURE FOR INDOOR AND MENA-3R FOR LOCATIONS SUBJECT TO MOISTURE, UNLESS INDICATED OTHERWISE.

3. ACCEPTABLE FOR SINGLE PHASE MOTORS OF 1 HP AND SMALLER. NOT ACCEPTABLE FOR 3-PHASE MOTORS.

END OF SECTION 260000

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AT FULL SIZE

BRANDON M. INMAN
STATE OF WASHINGTON
40443
REGISTERED
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02/18/2025

REVISIONS DATE

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

BID SET

ELECTRICAL SPECIFICATIONS

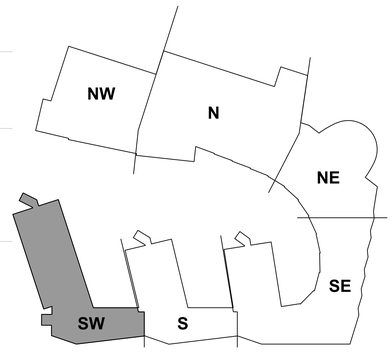
E002



1 E100 ELECTRICAL OVERALL PLAN
1/8" = 1'-0"

SHEET NOTES

1. SEE ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.



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ELECTRICAL OVERALL PLAN

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E100

LIGHT FIXTURE SCHEDULE

TYPE	DESCRIPTION	MANUFACTURER	MODEL SERIES	LIGHT SOURCE	COLOR TEMP	DELIVERED LUMENS	INPUT WATTS	FINISH
S1	4' LED NEMA 4X STRIP LIGHT FIXTURE, WIDE DISTRIBUTION, SURFACE MOUNTED ACCESSORIES, INTEGRAL DRIVER	COOPER METALUX	4VT3 SERIES	LED	4,000 K	4,366	32	WHITE



1 E101 ELECTRICAL ENLARGED PLAN
1/4" = 1'-0"

SHEET NOTES

1. REFER TO CIVIL, LANDSCAPE, AND SURVEY DRAWINGS FOR ADDITIONAL INFORMATION.
2. PROVIDE RMC AS REQUIRED BY CODE WITHIN 2-1/2" OF THE CANOPY ROOF STRUCTURE.
3. PROVIDE SUPPORTING METHODS, RACEWAY, AND BOXES FOR SURFACE-MOUNTED DEVICES AND LUMINAIRES.
4. SEAL BUILDING PENETRATIONS WITH APPROVED FIRE PROOFING AND WEATHER PROOFING MATERIALS.
5. SEE ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
6. PROVIDE EMT CONDUIT UNLESS OTHERWISE NOTED.
7. PROVIDE THHN-2/THWN COPPER CONDUCTORS.

FLAG NOTES

1. REMOVE EXISTING EXIT SIGN. PROVIDE BLANK COVER OVER EXISTING ROUGH-IN EXPOSED BY SIGN REMOVAL. TURN OVER EXIT SIGN TO THE OWNER.
2. PROVIDE CONDUIT AND CONDUCTORS TO EXTEND UNSWITCHED CIRCUIT FROM EXISTING ROOM LIGHTING CIRCUIT TO EXTERIOR STORAGE AREA AS INDICATED. ROUTE CONDUIT SURFACE ON PLYWOOD CEILING AS INDICATED.
3. TRANSITION DOWN FROM CEILING TO ELEVATION TO ROUTE THROUGH EXTERIOR WALL UNDER THE BOTTOM SIDE OF THE STORAGE CANOPY ROOF. PROVIDE CORE DRILL OF EXISTING BUILDING.
4. PROVIDE WEATHERPROOF 2-HOUR TIME SWITCH, INTERMATIC #DF2HW OR APPROVED. LABEL SWITCH 'CTE STORAGE'.
5. PROVIDE UNISTRUT AND SUPPORTING MEANS TO MOUNT LIGHT FIXTURE TO UNDERSIDE OF STORAGE CANOPY ROOF STRUCTURE. ROUTE SURFACE CONDUIT EXPOSED WITHIN STORAGE AREA.

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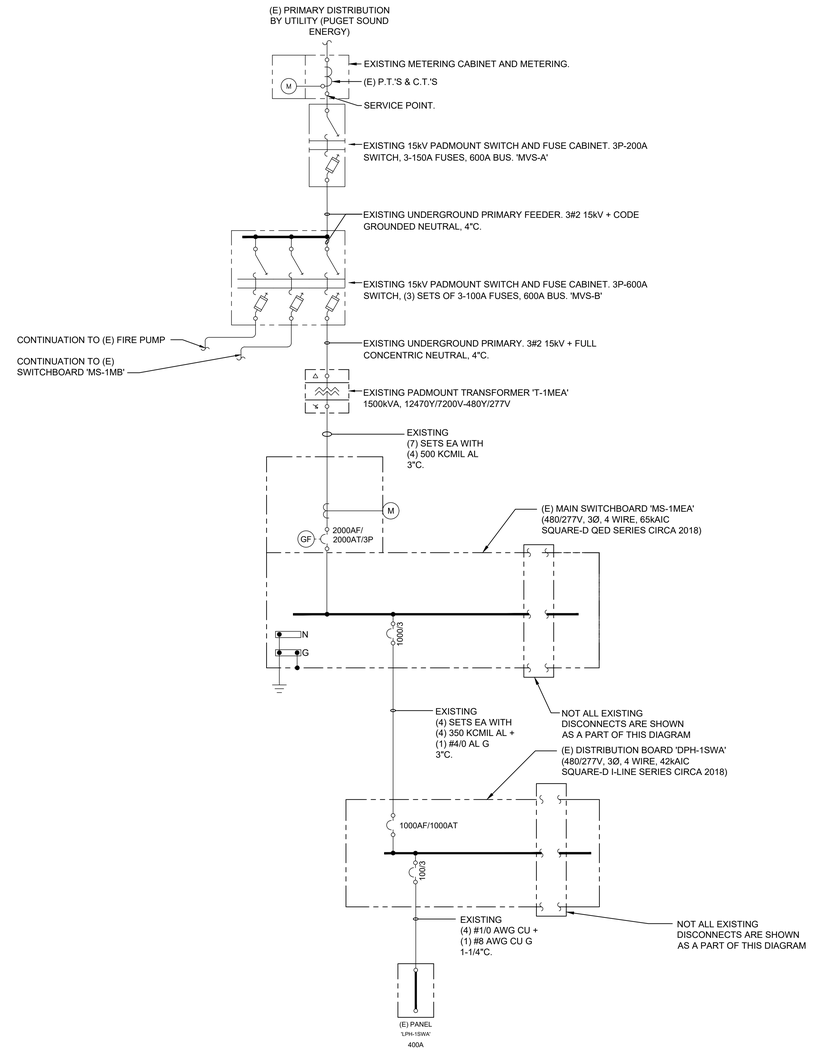
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ELECTRICAL ENLARGED PLAN AND LIGHT FIXTURE SCHEDULE

E101



1 E9.0 **ELECTRICAL ONE-LINE DIAGRAM**

SCALE: NONE

SHEET NOTES:

1. NEW BREAKERS SHALL MATCH EXISTING PANEL MANUFACTURER AND AIC RATING.

FLAG NOTES:

1. GROUND PER NEC & WAC STANDARDS.
2. PANEL SHALL BE SERVICE ENTRANCE RATED.
3. PROVIDE EQUIPMENT NAMEPLATES PER DETAIL 2 ON THIS SHEET.
4. AVAILABLE FAULT CURRENT AT EQUIPMENT INDICATED IS BASED UPON RECORD DRAWINGS.

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ELECTRICAL ONE-LINE DIAGRAM

E901

BID SET

PRIMARY SWITCH SUMMARY : 07/30/2021 | **(E) PRIMARY SWITCH 'MVS-A'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

FED FROM: UTILITY
VOLTAGE: 12470Y/7200V 3Ø, 4-WIRE
MAINS: 150A SWITCH

LOAD CALCULATIONS

LOAD DESCRIPTION	CONNECTED LOAD		DEMAND FACTOR		CALCULATED LOAD
MISCELLANEOUS CONTINUOUS:	-	X	125%	=	-
EQUIPMENT & MISCELLANEOUS:	712634	X	100%	=	712634
LIGHTING:	366873	X	125%	=	458591
LARGEST MOTOR:	129702	X	125%	=	162128
MOTORS:	896453	X	100%	=	896453
RECEPTACLE:	10000	X	100%	=	10000
RECEPTACLES OVER 10kVA:	451012	X	50%	=	225506
COMPUTER:	12000	X	100%	=	12000
ELECTRIC HEATING:	4870	X	100%	=	4870
KITCHEN (EQUIP = 68):	191607	X	65%	=	124545

LOAD SUMMARY

TOTAL CONNECTED LOAD	AMPS
PHASE A: 950,478 VA	132 A
PHASE B: 934,018 VA	130 A
PHASE C: 890,655 VA	124 A

TOTAL CONNECTED LOAD (VA): 2,775,151 VA
TOTAL CONNECTED AMPS: 128 A
TOTAL CALCULATED LOAD (VA): 2,606,727 VA
TOTAL CALCULATED AMPS: 121 A

NOTES:
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PRIMARY SWITCH SUMMARY : 07/30/2021 | **(E) PRIMARY SWITCH 'MVS-B-A'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

FED FROM: (E) PRIMARY SWITCH 'MVS-A'
VOLTAGE: 12470Y/7200V 3Ø, 4-WIRE
MAINS: 100A SWITCH

LOAD CALCULATIONS

LOAD DESCRIPTION	CONNECTED LOAD		DEMAND FACTOR		CALCULATED LOAD
MISCELLANEOUS CONTINUOUS:	-	X	125%	=	-
EQUIPMENT & MISCELLANEOUS:	311354	X	100%	=	311354
LIGHTING:	117810	X	125%	=	147263
LARGEST MOTOR:	129702	X	125%	=	162128
MOTORS:	466785	X	100%	=	466785
RECEPTACLE:	10000	X	100%	=	10000
RECEPTACLES OVER 10kVA:	271849	X	50%	=	135925
COMPUTER:	12000	X	100%	=	12000
ELECTRIC HEATING:	4430	X	100%	=	4430
KITCHEN (EQUIP = 32):	173607	X	65%	=	112845

LOAD SUMMARY

TOTAL CONNECTED LOAD	AMPS
PHASE A: 513,238 VA	71 A
PHASE B: 504,724 VA	70 A
PHASE C: 479,575 VA	67 A

TOTAL CONNECTED LOAD (VA): 1,497,537 VA
TOTAL CONNECTED AMPS: 69 A
TOTAL CALCULATED LOAD (VA): 1,362,730 VA
TOTAL CALCULATED AMPS: 63 A

NOTES:
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TRANSFORMER SUMMARY : 07/28/2021 | **(E) TRANSFORMER 'T-1MEA'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

CLASSIFICATION: NORMAL
FED FROM: (E) PRIMARY SWITCH 'MVS-B-A'
PRIMARY VOLTAGE: 12470Y/7200V 3Ø, 4-WIRE
SECONDARY VOLTAGE: 480Y/277V 3Ø, 4-WIRE
KVA RATING: 1,500 KVA

LOAD CALCULATIONS

LOAD DESCRIPTION	CONNECTED LOAD		DEMAND FACTOR		CALCULATED LOAD
MISCELLANEOUS CONTINUOUS:	-	X	125%	=	-
EQUIPMENT & MISCELLANEOUS:	311354	X	100%	=	311354
LIGHTING:	117810	X	125%	=	147263
LARGEST MOTOR:	129702	X	125%	=	162128
MOTORS:	466785	X	100%	=	466785
RECEPTACLE:	10000	X	100%	=	10000
RECEPTACLES OVER 10kVA:	271849	X	50%	=	135925
COMPUTER:	12000	X	100%	=	12000
ELECTRIC HEATING:	4430	X	100%	=	4430
KITCHEN (EQUIP = 32):	173607	X	65%	=	112845

LOAD SUMMARY

TOTAL CONNECTED LOAD	PRIMARY AMPS	SECONDARY AMPS
PHASE A: 513,238 VA	71 A	1,833 A
PHASE B: 504,724 VA	70 A	1,822 A
PHASE C: 479,575 VA	67 A	1,731 A

TOTAL CONNECTED LOAD (VA): 1,497,537 VA
TOTAL CONNECTED AMPS: PRI: 69 A SEC: 1,802 A
TOTAL CALCULATED LOAD (VA): 1,362,730 VA
TOTAL CALCULATED AMPS: PRI: 63 A SEC: 1,640 A

NOTES:
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MAIN SWITCHBOARD SUMMARY : 07/28/2021 | **(E) MAIN SWITCHBOARD 'MS-1MEA'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

CLASSIFICATION: NORMAL
FED FROM: (E) TRANSFORMER 'T-1MEA'
MOUNTING: SURFACE
VOLTAGE: 480Y/277V 3Ø, 4-WIRE
MAINS: 2000A MAIN CIRCUIT BREAKER

LOAD CALCULATIONS

LOAD DESCRIPTION	CONNECTED LOAD		DEMAND FACTOR		CALCULATED LOAD
MISCELLANEOUS CONTINUOUS:	-	X	125%	=	-
EQUIPMENT & MISCELLANEOUS:	311354	X	100%	=	311354
LIGHTING:	117810	X	125%	=	147263
LARGEST MOTOR:	129702	X	125%	=	162128
MOTORS:	466785	X	100%	=	466785
RECEPTACLE:	10000	X	100%	=	10000
RECEPTACLES OVER 10kVA:	271849	X	50%	=	135925
COMPUTER:	12000	X	100%	=	12000
ELECTRIC HEATING:	4430	X	100%	=	4430
KITCHEN (EQUIP = 32):	173607	X	65%	=	112845

LOAD SUMMARY

TOTAL CONNECTED LOAD	AMPS
PHASE A: 513,238 VA	1,853 A
PHASE B: 504,724 VA	1,822 A
PHASE C: 479,575 VA	1,731 A

TOTAL CONNECTED LOAD (VA): 1,497,537 VA
TOTAL CONNECTED AMPS: 1,802 A
TOTAL CALCULATED LOAD (VA): 1,362,730 VA
TOTAL CALCULATED AMPS: 1,640 A

NOTES:
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DIST. PANEL SCHEDULE : 07/28/2021 | **(E) DIST. PANEL 'DPH-1SWA'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

CLASSIFICATION: NORMAL
FED FROM: (E) MAIN SWITCHBOARD 'MS-1MEA'
MOUNTING: SURFACE
VOLTAGE: 480Y/277V 3Ø, 4-WIRE
MAINS: 1000A MAIN CIRCUIT BREAKER
NEUTRAL: 100% RATED
SECTION: 1 OF 1
TYPE: SQAURE-D I-LINE (CIRCA 2018)
ENCLOSURE: NEMA 1
LOCATION: ELEC 1611

NOTE	ITEM DESCRIPTION	CKT NO.	BREAKER AMPS	BREAKER POLE	LOAD (VA)	Ø	LOAD (VA)	BREAKER AMPS	BREAKER POLE	CKT NO.	ITEM DESCRIPTION	NOTE
	SPACE	1	-	-		A		70	3	2	SPARE	
	SPACE	3	-	-		B		-	-	4	-	
	SPACE	5	-	-		C		-	-	6	-	
	SPACE	7	-	-		A	5873	100	3	8	(E) PANEL 'LPH-1SWA'	
	SPACE	9	-	-		B	4270	-	-	10	-	
	SPACE	11	-	-		C	5098	-	-	12	-	
	SPACE	13	-	-		A		110	3	14	SPARE	
	SPACE	15	-	-		B		-	-	16	-	
	SPACE	17	-	-		C		-	-	18	-	
	SPACE	19	-	-		A	20956	110	3	20	(E) TRANSFORMER 'T-1SWA'	
	SPACE	21	-	-		B	22532	-	-	22	-	
	SPACE	23	-	-		C	25672	-	-	24	-	
	SPACE	25	-	-		A	33646	175	3	26	(E) TRANSFORMER 'T-1SWB'	
	SPACE	27	-	-		B	33309	-	-	28	-	
	SPACE	29	-	-		C	31809	-	-	30	-	
	METERING	31	20	3		A		225	3	32	SPARE	
	-	33	-	-		B		-	-	34	-	
	-	35	-	-		C		-	-	36	-	
	SPARE	37	400	3		A	28147	225	3	38	(E) DIST. PANEL 'DPH-2SWA'	
	-	39	-	-		B	28147	-	-	40	-	
	-	41	-	-		C	28147	-	-	42	-	
	(E) PANEL 'MPH-1SWA'	43	400	3	21142	A	24837	225	3	44	(E) DIST. PANEL 'DPH-3SWA'	
	-	45	-	-	15182	B	24837	-	-	46	-	
	-	47	-	-	13602	C	24837	-	-	48	-	
	MAIN DISCONNECT	49	1000	3		A	58262	225	3	50	(E) DIST. PANEL 'LPH-1SWV'	
	-	51	-	-		B	56072	-	-	52	-	
	-	53	-	-		C	42789	-	-	54	-	

LOAD CALCULATIONS

LOAD DESCRIPTION	CONN. (VA)	DEMAND FACTOR	CALC. (VA)
MISCELLANEOUS CONTINUOUS	-	125%	-
EQUIPMENT & MISCELLANEOUS	209204	100%	209204
LIGHTING	44460	125%	55575
LARGEST MOTOR	9144	125%	11430
MOTORS	56361	100%	56361
RECEPTACLE	10000	100%	10000
RECEPTACLES OVER 10KVA	121510	50%	60755
COMPUTER	12000	100%	12000
ELECTRIC HEATING	2880	100%	2880
KITCHEN (EQUIP = 20)	83607	65%	54345
TOTALS:	**549,166**		**472,550**

LOAD SUMMARY

TOTAL CONNECTED LOAD	AMPS
PHASE A: 192,863 VA	696 A
PHASE B: 184,349 VA	666 A
PHASE C: 171,954 VA	621 A

TOTAL CALCULATED LOAD: 472,550 VA

TOTAL CALCULATED AMPS: 569 A

NOTES:
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PANEL SCHEDULE : 12/05/2024 | **(E) PANEL 'LPH-1SWA'** | **PROJECT: FWHS - Pre-Apprenticeship Program**

CLASSIFICATION: NORMAL
FED FROM: (E) DIST. PANEL 'DPH-1SWA'
MOUNTING: SURFACE
VOLTAGE: 480Y/277V 3Ø, 4-WIRE
MAINS: 100A MAIN LUGS ONLY
NEUTRAL: 100% RATED
SECTION: 1 OF 1
TYPE: SQUARE-D NF (CIRCA 2018)
ENCLOSURE: NEMA 1
LOCATION: ELEC 1611

NOTE	ITEM DESCRIPTION	CKT NO.	BREAKER AMPS	BREAKER POLE	LOAD (VA)	Ø	LOAD (VA)	BREAKER AMPS	BREAKER POLE	CKT NO.	ITEM DESCRIPTION	NOTE
	LIGHTING - HALLWAY 1600, VESTIBULE	1	20	1	348	A	102	20	1	2	LIGHTING - SW EXTERIOR STAIR	
	LIGHTING 1600, 3RD PLACE 1621	3	20	1	576	B	89	20	1	4	LIGHTING - FIRST FLOOR SW EXTERIOR	
	LIGHTING - HALLWAY 1620, 1620.1	5	20	1	492	C	438	20	1	6	LIGHTING - SW MAIN STAIR	
	LIGHTING - COOK, LAB 1622, LAUN. 1623, P1 162	7	20	1	1782	A		20	1	8	SPARE	
	LIGHTING - ENG. 1 1632, ENG. 2 1633	9	20	1	1440	B	2165	20	1	10	LIGHTING - PAINT 1630, STOR. 1626, VOC. 1625	
	LIGHTING - ROOMS 1605 - 1614	11	20	1	1322	C	2346	20	1	12	LIGHTING - ROOMS 1627-1628	
1	**LIGHTING - VOCATION LARGE 1626 & STORAGE**	13	20	1	**1321**	A	2320	20	1	14	LIGHTING - ROOMS 1601-1604	
	SPARE	15	20	1		B		20	1	16	SPARE	
	SPARE	17	20	1		C		20	1	18	SPARE	
	SPARE	19	20	1		A		20	1	20	SPARE	
	SPARE	21	20	1		B		20	1	22	SPARE	
	SPARE	23	20	1		C		20	1	24	SPARE	
	SPARE	25	20	1		A		20	1	26	SPARE	
	SPARE	27	20	1		B		20	1	28	SPARE	
	SPARE	29	20	1		C	500	20	1	30	LIGHTING - SW SITE LIGHTS	
	SPARE	31	20	1		A		20	1	32	SPARE	
	SPARE	33	20	1		B		20	1	34	SPARE	
	SPARE	35	20	1		C		20	1	36	SPARE	
	SPARE	37	20	1		A		15	3	38	POWER MONITORING	
	SPARE	39	20	1		B		-	-	40	-	
	LRC SENSING POWER	41	20	1		C		-	-	42	-	

LOAD CALCULATIONS

LOAD DESCRIPTION	CONN. (VA)	DEMAND FACTOR	CALC. (VA)
MISCELLANEOUS CONTINUOUS	-	125%	-
EQUIPMENT & MISCELLANEOUS	-	100%	-
LIGHTING	15241	125%	19051
LARGEST MOTOR	-	125%	-
MOTORS	-	100%	-
RECEPTACLE	-	100%	-
RECEPTACLES OVER 10KVA	-	50%	-
TOTALS:	**15,241**		**19,051**

LOAD SUMMARY

TOTAL CONNECTED LOAD	AMPS
PHASE A: 5,873 VA	21 A
PHASE B: 4,270 VA	15 A
PHASE C: 5,098 VA	18 A

TOTAL CALCULATED LOAD: 19,051 VA

TOTAL CALCULATED AMPS: 23 A

NOTES:
1. REVISED (ADDED) LOAD ON EXISTING CIRCUIT.
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BID SET

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AT FULL SIZE

BRANDON M. INMAN
STATE OF WASHINGTON
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REGISTERED
PROFESSIONAL ENGINEER
02/18/2025

#	REVISIONS	DATE

N

Federal Way Public Schools

Federal Way High School CTE Storage

30611 16th Ave S
Federal Way, WA 98003

JOB NO: 2426
ISSUE DATE: 3/7/25

Jurisdiction Stamp Area

PANEL SCHEDULES

E1001