









GENERAL NOTES

- 1. WORK AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS AND STANDARDS OF THE AUTHORITIES HAVING JURISDICTION. IF STANDARDS ARE NOT PROVIDED BY THE AUTHORITIES HAVING JURISDICTION, WORK AND MATERIALS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS JOINTLY PROMULGATED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT) AND THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).

EROSION & SEDIMENT CONTROL NOTES

- 1. THE FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED IN ORDER TO BEST MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENTATION CONTROL (ESC) PROBLEMS:
a) CLEAR AND GRUB SUFFICIENTLY FOR INSTALLATION OF TEMPORARY EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICE MEASURES (BMPs);

- 8. CONTROL FUGITIVE DUST FROM CONSTRUCTION ACTIVITY IN ACCORDANCE WITH THE STATE AND/OR LOCAL AIR QUALITY CONTROL AUTHORITIES WITH JURISDICTION OVER THE PROJECT AREA. DO NOT USE WATER WHEN IT MAY DAMAGE ADJACENT CONSTRUCTION OR CREATE HAZARDOUS OR OBJECTIONABLE CONDITIONS, SUCH AS ICE, FLOODING, AND POLLUTION.

DEMOLITION NOTES

- 1. MAINTAIN EXISTING UTILITIES INDICATED TO REMAIN IN SERVICE AND PROTECT THEM AGAINST DAMAGE DURING DEMOLITION OPERATIONS. DO NOT INTERRUPT EXISTING UTILITIES SERVING ADJACENT OCCUPIED OR OPERATING FACILITIES UNLESS AUTHORIZED IN WRITING BY OWNER AND AUTHORITIES HAVING JURISDICTION.

EARTHWORK & GRADING NOTES

- 1. SITE PREPARATION, GRADING, EXCAVATION AND FILL REQUIREMENTS BELOW THE PROPOSED IMPROVEMENTS, EMBANKMENTS, AND UTILITY TRENCHING SHALL BE COMPLETED IN CONFORMANCE WITH WSDOT STANDARD SPECIFICATIONS AND THE GEOTECHNICAL ENGINEERING EVALUATION FOR THE SUBJECT SITE.

PAVING NOTES

- 1. DO NOT APPLY PAVEMENT MATERIALS IF SUBGRADE IS WET OR EXCESSIVELY DAMP, OR IF RAIN IS IMMINENT OR EXPECTED BEFORE TIME REQUIRED FOR ADEQUATE CURE. SURFACE AND AIR TEMPERATURES SHALL CONFORM TO REQUIREMENTS OF WSDOT STANDARD SPECIFICATIONS.

UTILITY & DRAINAGE NOTES

- 1. DRAWING PLANS AND DETAILS INDICATE GENERAL LOCATION AND ARRANGEMENT OF UNDERGROUND UTILITY AND STORM DRAIN PIPING. LOCATION AND ARRANGEMENT OF PIPING LAYOUT TAKE DESIGN CONSIDERATIONS INTO ACCOUNT. INSTALL PIPING AS INDICATED, TO EXTENT PRACTICAL. WHERE SPECIFIC INSTALLATION IS NOT INDICATED, FOLLOW PIPING MANUFACTURER'S WRITTEN INSTRUCTIONS AND REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\01 DWG\SC240432\_GENERAL NOTES.DWG GEN: SIN. AVRAM: LAST SAVED: October 23, 2024 - PLOT DATE: 12/16/24



221 N. Wall Street
Suite 500
Spokane, WA 99201
ph 509.328.2994
www.coffman.com



WHITWORTH COMFORT STATION
N IVANHOE RD & W HAWTHORNE RD
SPOKANE COUNTY, WA 99251
Spokane Transit Authority
1230 W. Boone Avenue
Spokane, Washington 99201

Table with 3 columns: REV, DATE, DESCRIPTION

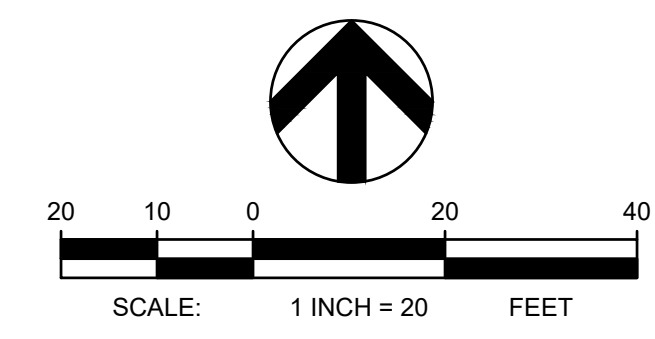
PROJ. NO. 2024-10964
DRAWN CBP
CHECKED CBM
DATE 01/05/2025

COFFMAN ENGINEERS
SHEET TITLE: GENERAL NOTES

SHEET NO: C-001

BID SET





**TBM INFORMATION**  
 SEE TOPOGRAPHIC SURVEY BY COFFMAN ENGINEERS  
 DATED 3/11/2024 FOR TBM INFORMATION

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	292419.22	2480704.38	1935.54	SET X
2	292266.92	2480597.17	1933.04	SET X
3	292612.66	2480714.90	1937.12	SET X

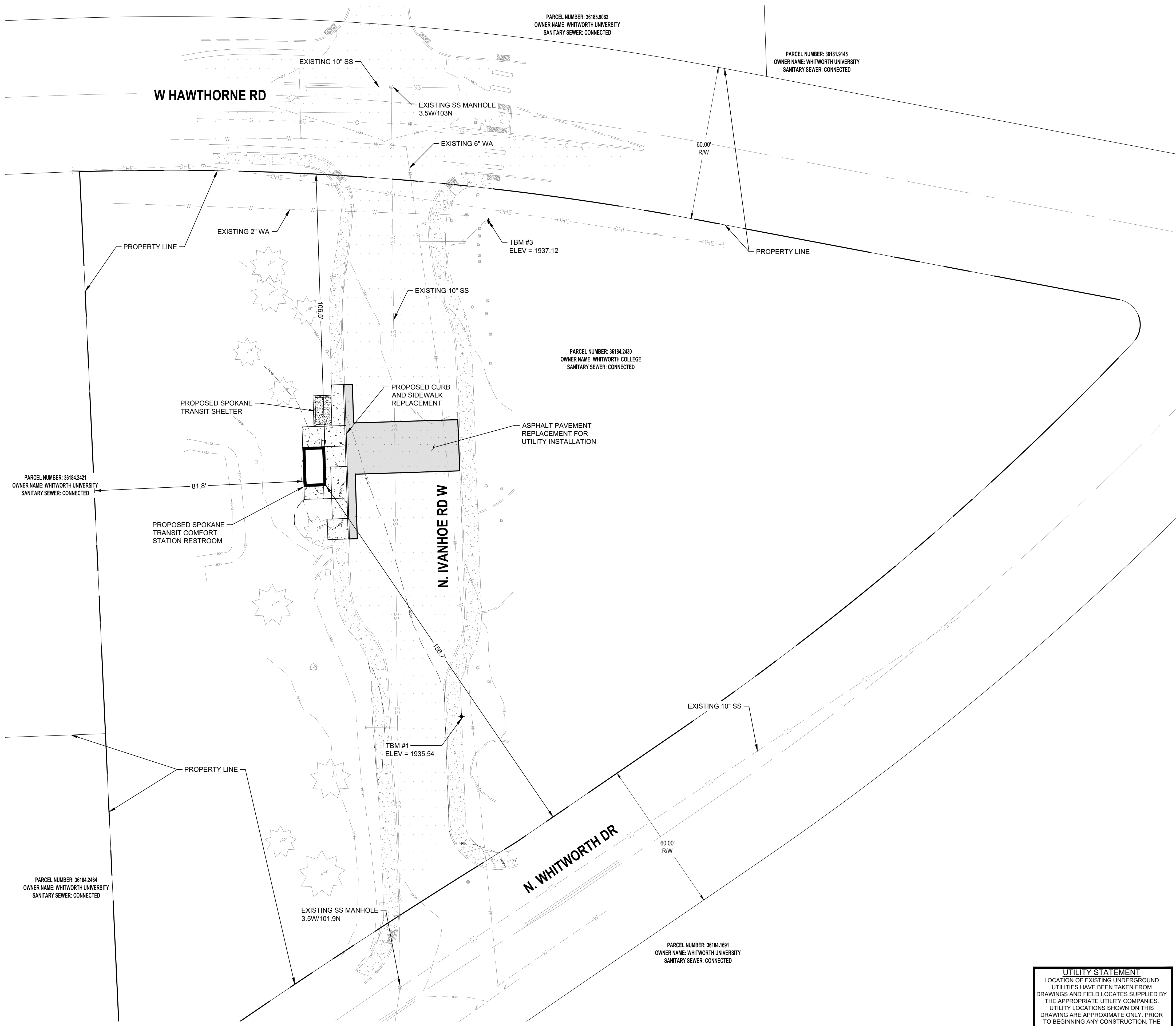
\*NOT SHOWN ON PLAN

**BENCH MARK NOTE**  
 CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS AND BENCH MARKS. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**MONUMENT PRESERVATION NOTE**  
 DISTURBING EXISTING SURVEY MONUMENTS (PROPERTY CORNERS OR KNOWN RECORDED MONUMENTS) IS A GROSS MISDEMEANOR PER RCW 58.04.015. CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS. IF ANY MONUMENTS ARE IN AREAS THAT WILL BE DISTURBED, THE CONTRACTOR SHALL RETAIN A PROFESSIONAL LAND SURVEYOR TO FOLLOW WAC 332-120. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**LEGEND**

	ASPHALT PAVEMENT
	CONCRETE PAVEMENT
	BIO-INFILTRATION SWALE BOTTOM
	INFILTRATION GALLERY
	EXISTING CONTOUR
	PROPOSED CONTOUR
	PROPERTY LINE
	CURB
	SEWER PIPE
	STORM PIPE
	WATER PIPE
	SPOT ELEVATION
	CATCH BASIN
	CLEANOUT
	DRYWELL
	SANITARY SEWER MANHOLE
	STORM DRAIN MANHOLE
	WATER VALVE
	POST INDICATOR VALVE
	FIRE HYDRANT
	FIRE DEPARTMENT CONNECTION
	WATER METER



**UTILITY STATEMENT**  
 LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.



**BID SET**

**COFFMAN ENGINEERS**  
 221 N. Wall Street  
 Suite 500  
 Spokane, WA 99201  
 ph 509.328.2994  
[www.coffman.com](http://www.coffman.com)

**ALSC ARCHITECTS**  
 203 North Washington, Suite 400  
 Spokane, WA 99201  
 509.838.8568  
 4500 Mirwood Drive, Suite 101  
 Coeur d'Alene, Idaho 83815  
 208.676.8292  
[alscarchitect.com](http://alscarchitect.com)



**WHITWORTH COMFORT STATION**  
 N IVANHOE RD & W HAWTHORNE RD  
 SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
 1230 W. Boone Avenue  
 Spokane, Washington 99201

REV	DATE	DESCRIPTION

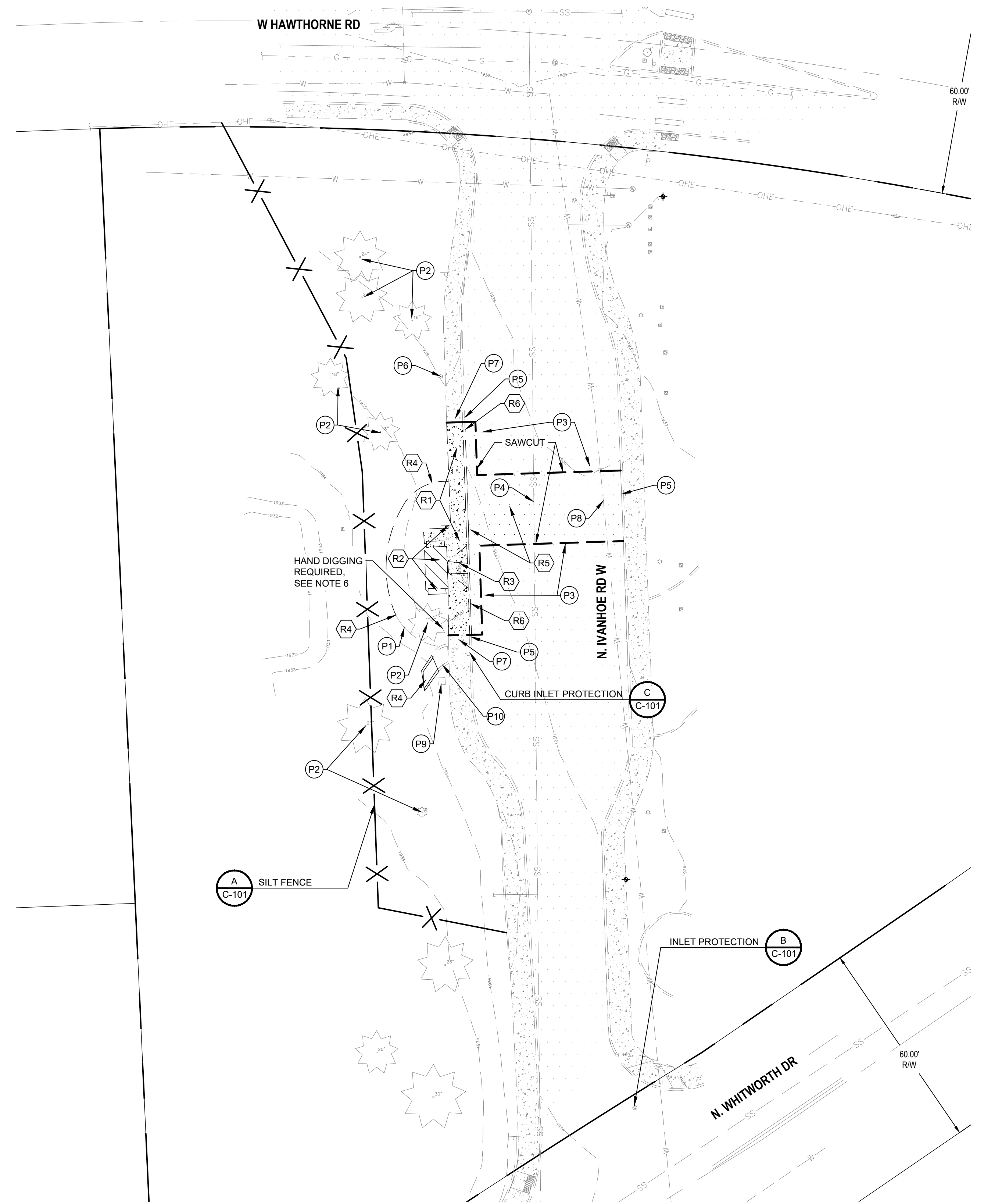
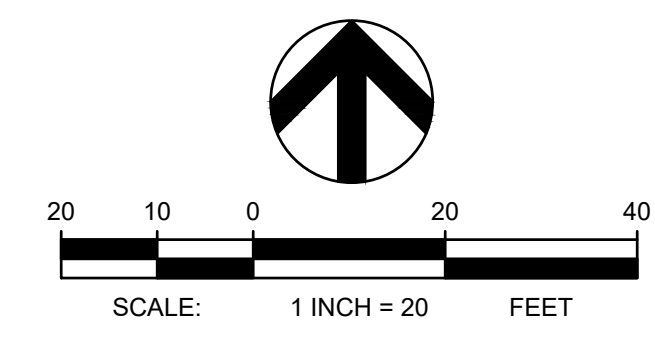
PROJ. NO. 2024-10964  
 DRAWN AS  
 CHECKED BLW  
 DATE 01/05/2025

© COFFMAN ENGINEERS  
 SHEET TITLE:  
**OVERALL SITE PLAN**

SHEET NO:  
**C-050**

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\0.DWG\SS\240432\_OVERALL SITE PLAN.DWG SITE: SIN, AVRAM; LAST SAVED: October 31, 2024 - PLOT DATE: 12/16/24





**LEGEND**

	1935	EXISTING CONTOUR
		SILT FENCE
		SAWCUT
		BUILDING
		CONCRETE
		ASPHALT
		CURB
		SANITARY SEWER
		WATER
		ELECTRIC BOX
		CONIFEROUS TREE
		SIGN
		LIGHT POLE

**TBM INFORMATION**  
SEE TOPOGRAPHIC SURVEY BY COFFMAN ENGINEERS DATED 3/11/2024 FOR TBM INFORMATION

**BENCH MARK NOTE**  
CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS AND BENCH MARKS. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**MONUMENT PRESERVATION NOTE**  
DISTURBING EXISTING SURVEY MONUMENTS (PROPERTY CORNERS OR KNOWN RECORDED MONUMENTS) IS A GROSS MISDEMEANOR PER RCW 58.04.015. CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS. IF ANY MONUMENTS ARE IN AREAS THAT WILL BE DISTURBED, THE CONTRACTOR SHALL RETAIN A PROFESSIONAL LAND SURVEYOR TO FOLLOW WAC 332-120. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

- NOTES**
- REFER TO SHEET C-001 FOR GENERAL NOTES.
  - REFER TO SHEET C-101 FOR EROSION AND SEDIMENT CONTROL DETAILS.
  - REFER TO SHEET C-500 FOR WHITWORTH TREE PROTECTION STANDARDS.
  - LANDSCAPE CURB SHALL BE REMOVED AND REPLACED WITH THE PROPOSED DESIGN SHOWN ON PLAN. CONTRACTOR TO CONFIRM THE EXTENTS OF REMOVAL WITH OWNER IN THE FIELD. SEE SHEET C-200 FOR MORE DETAIL.
  - LANDSCAPING CURB SHALL BE PROTECTED AND CLEANED OF DEBRIS. CONTRACTOR TO REPLACE CURB PER EXISTING DESIGN IF DAMAGED.
  - HAND DIGGING REQUIRED AROUND THE TREE TO AVOID DAMAGE TO THE TREE ROOTS.
  - CONTRACTOR TO PRICE OUT THE REMOVAL OF THE OVERFLOW STRUCTURE SECTION. PREFERENCE OF STA IS FOR OVERFLOW STRUCTURE TO REMAIN IN PLACE.

- DEMOLITION KEY NOTES**
- PROTECT**
- (P1) PROTECT EXISTING LANDSCAPE CURB. SEE NOTE 5.
  - (P2) PROTECT EXISTING TREE. SEE NOTE 4.
  - (P3) PROTECT EXISTING ASPHALT PAVEMENT.
  - (P4) PROTECT EXISTING SANITARY SEWER PIPE.
  - (P5) PROTECT EXISTING CONCRETE CURB.
  - (P6) PROTECT EXISTING LIGHT POLE.
  - (P7) PROTECT EXISTING CONCRETE SIDEWALK.
  - (P8) PROTECT EXISTING WATER PIPE.
  - (P9) PROTECT EXISTING ELECTRICAL HANDHOLE AND ASSOCIATED UNDERGROUND CONDUITS.
  - (P10) PROTECT OVERFLOW STRUCTURE SECTION, SEE NOTE 5 AND 7.

- REMOVE**
- (R1) REMOVE EXISTING GRASS AND TOP SOIL AS NEEDED FOR NEW SIDEWALK. REMOVE EXISTING SIDEWALK TO THE NEAREST JOINT.
  - (R2) REMOVE EXISTING SHELTER, BENCHES, AND SIGN. EXISTING SIGN AND TRASH CAN, IF ANY SHOULD BE RETURNED TO STA.
  - (R3) REMOVE EXISTING CURB RAMP.
  - (R4) REMOVE EXISTING LANDSCAPE CURB. SEE NOTE 5.
  - (R5) REMOVE EXISTING ASPHALT.
  - (R6) REMOVE EXISTING CONCRETE CURB.
  - (R7) REMOVE OVERFLOW STRUCTURE SECTION, SEE NOTE 7.

**UTILITY STATEMENT**  
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.



Know what's below.  
Call before you dig.

**BID SET**

**COFFMAN ENGINEERS**  
221 N. Wall Street  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
4500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
alscarchitects.com



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

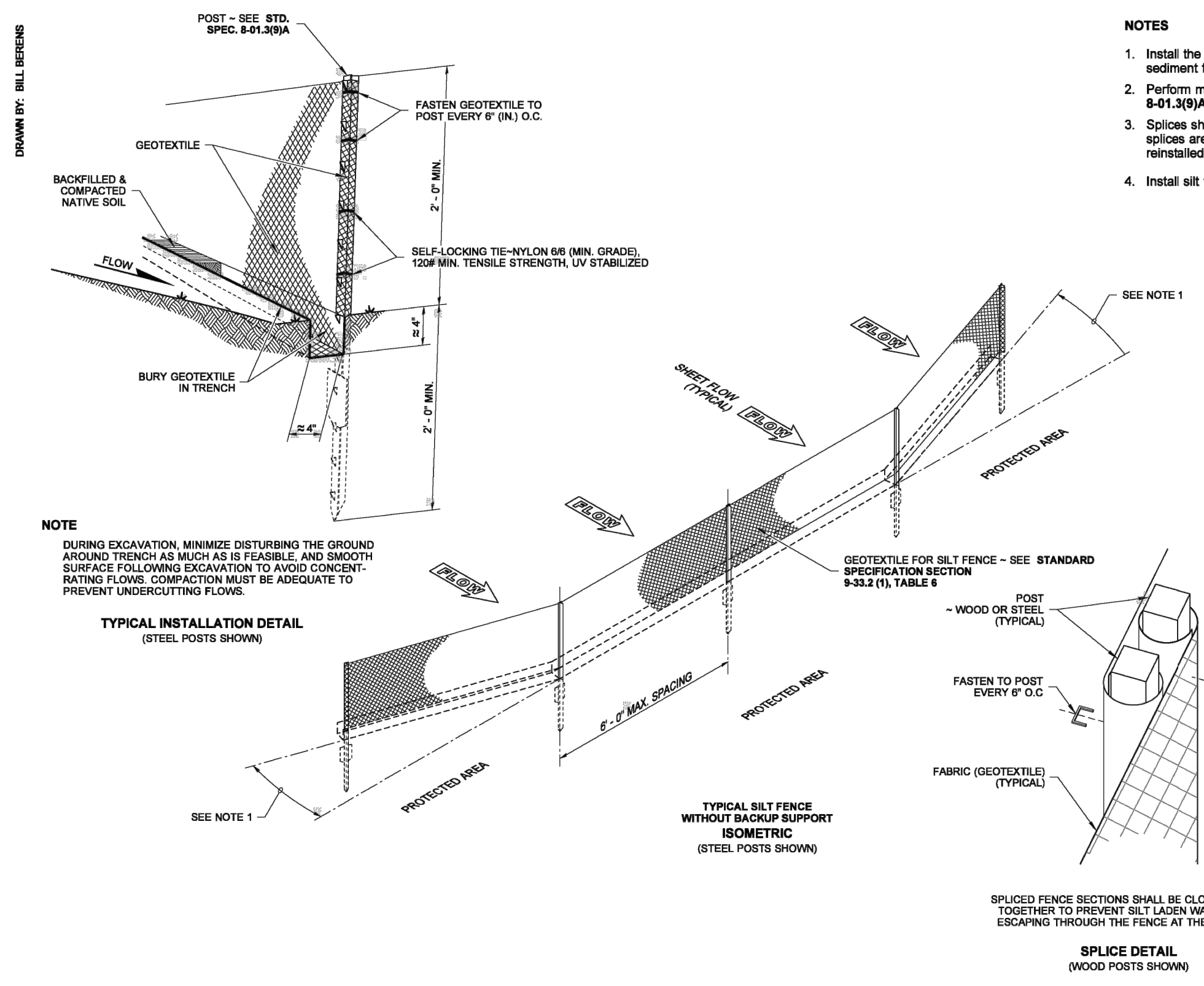
© COFFMAN ENGINEERS

SHEET TITLE:  
**EROSION AND SEDIMENT CONTROL AND DEMOLITION PLAN**

SHEET NO:  
**C-100**

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\010 DWG\SS\240432\_ESC & DEMO PLAN.DWG.ESC.DEMO - SIN, AWRM - LAST SAVED August 12, 2024 - PLOT DATE: 12/16/24

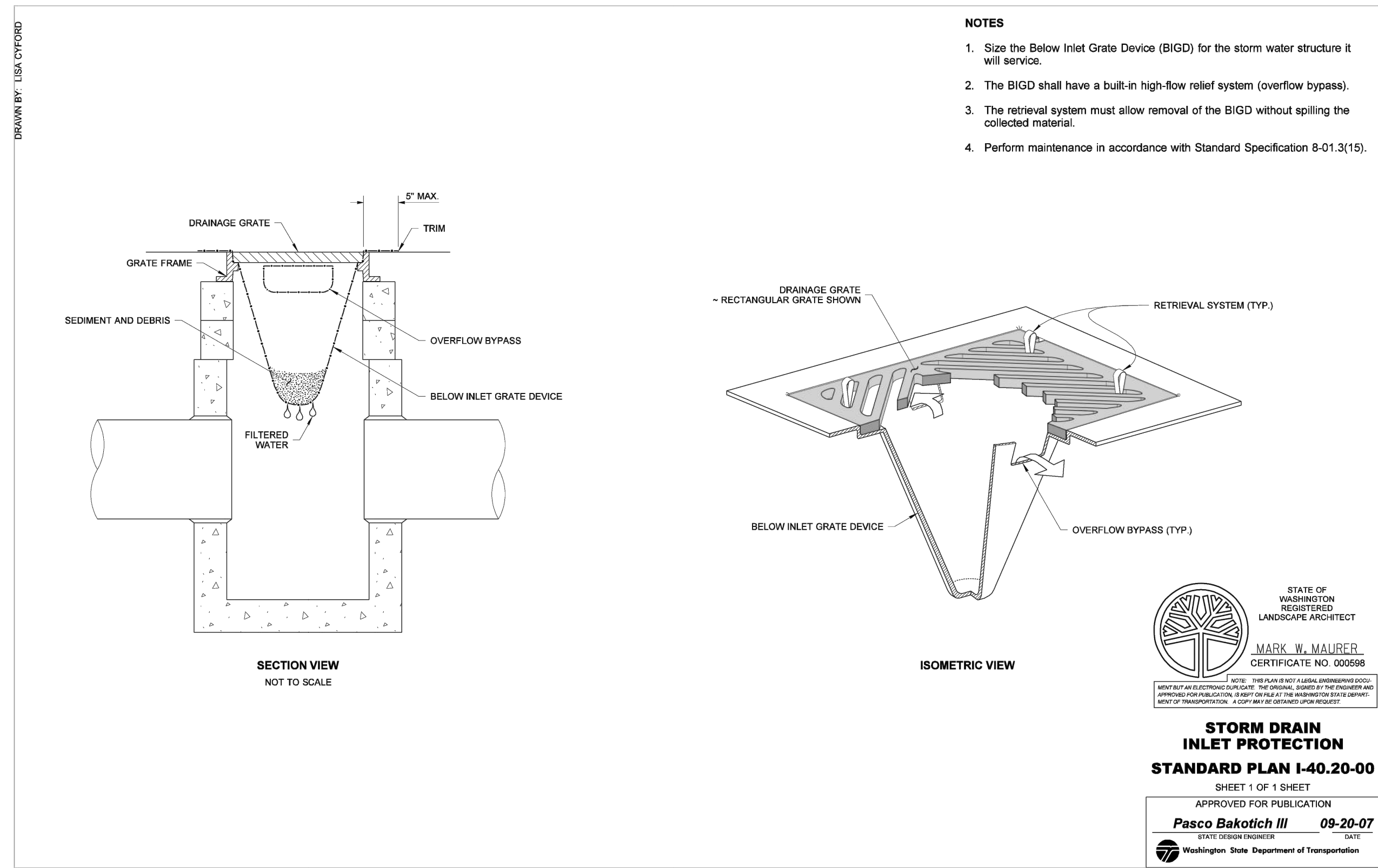




- NOTES**
1. Install the ends of the silt fence to point slightly upslope to prevent sediment from flowing around the ends of the fence.
  2. Perform maintenance in accordance with **Standard Specifications 8-01.3(0)A and 8-01.3(15)**.
  3. Splices shall never be placed in low spots or sump locations. If splices are located in low or sump areas, the fence may need to be reinstalled unless the Project Engineer approves the installation.
  4. Install silt fencing parallel to mapped contour lines.

STATE OF WASHINGTON  
REGISTERED  
LANDSCAPE ARCHITECT  
SANDRA L. SALISBURY  
CERTIFICATE NO. 000890

**SILT FENCE**  
**STANDARD PLAN I-30.15-02**  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
**Pasco Bakotich III** 3/22/13  
REGISTERED ENGINEER DATE  
Washington State Department of Transportation



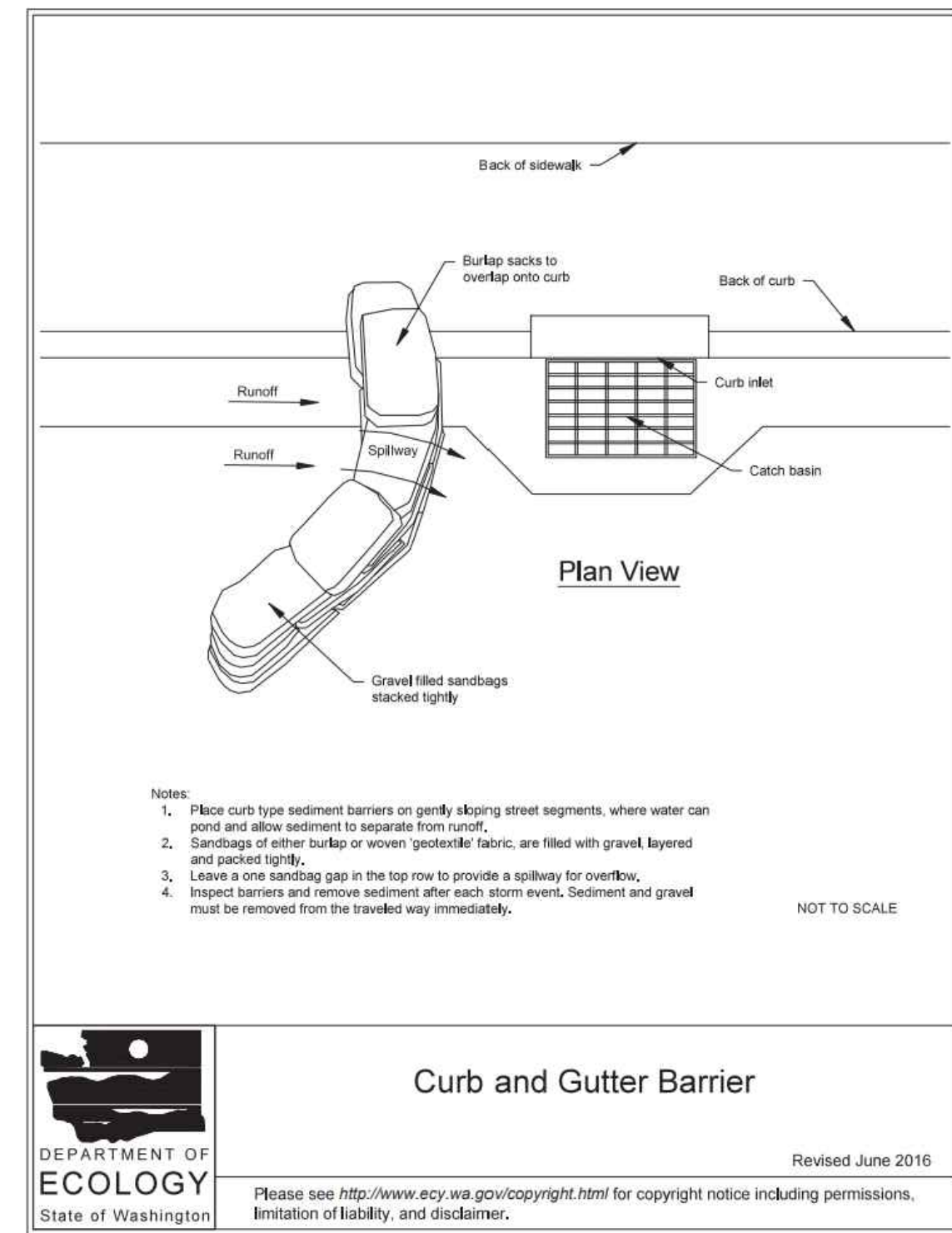
STATE OF WASHINGTON  
REGISTERED  
LANDSCAPE ARCHITECT  
MARK W. MAURER  
CERTIFICATE NO. 000568

**STORM DRAIN INLET PROTECTION**  
**STANDARD PLAN I-40.20-00**  
SHEET 1 OF 1 SHEET  
APPROVED FOR PUBLICATION  
**Pasco Bakotich III** 09-20-07  
REGISTERED ENGINEER DATE  
Washington State Department of Transportation

**A** SILT FENCE  
C-100 SCALE: NTS

**B** INLET PROTECTION  
C-100 SCALE: NTS

**Figure 7.21: Curb and Gutter Barrier**



**C** CURB INLET PROTECTION  
C-100 SCALE: NTS

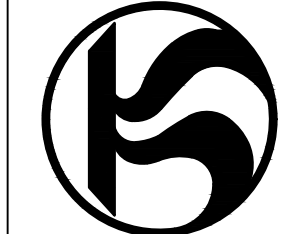
**COFFMAN ENGINEERS**  
221 N. Wall Street  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
[www.coffman.com](http://www.coffman.com)

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
[alscarchitect.com](http://alscarchitect.com)

CAROLYN BERYL MORRISON  
STATE OF WASHINGTON  
REGISTERED PROFESSIONAL ENGINEER  
42312

**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CBP  
CHECKED CBM  
DATE 01/05/2025

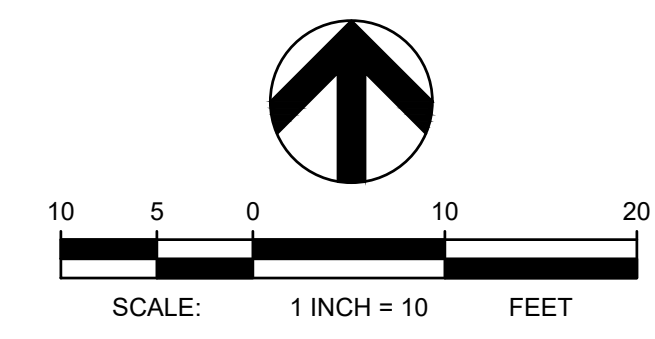
© COFFMAN ENGINEERS  
SHEET TITLE:  
**EROSION AND SEDIMENT CONTROL DETAILS**

SHEET NO:  
**C-101**

**BID SET**

P:\SP02\JOBS\240432 STA WHITWORTH COMFORT STATION\01 DWG\SC240432 ESC DETAILS DWG ESC DETAILS 12, 2024 - PLOT DATE: 12/16/24





**ABBREVIATIONS**

FF	FINISHED FLOOR
ME	MATCH EXISTING
TP	TOP OF PAVEMENT
TC	TOP OF CURB
GB	GRADE BREAK

**LEGEND**

	PROPOSED SIDEWALK
	PROPOSED BUS PAD
	PROPOSED ASPHALT PAVEMENT
	EXISTING CONTOUR
	PROPOSED CONTOUR
	GRADE BREAK
	CURB
	PROPOSED STA SIGN
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION

**TBM INFORMATION**

SEE TOPOGRAPHIC SURVEY BY COFFMAN ENGINEERS DATED 3/11/2024 FOR TBM INFORMATION

**BENCH MARK NOTE**

CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS AND BENCH MARKS. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**MONUMENT PRESERVATION NOTE**

DISTURBING EXISTING SURVEY MONUMENTS (PROPERTY CORNERS OR KNOWN RECORDED MONUMENTS) IS A GROSS MISDEMEANOR PER RCW 58.04.015. CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS. IF ANY MONUMENTS ARE IN AREAS THAT WILL BE DISTURBED, THE CONTRACTOR SHALL RETAIN A PROFESSIONAL LAND SURVEYOR TO FOLLOW WAC 332-120. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**NOTES**

- REFER TO SHEET C-001 FOR GENERAL NOTES.
- CONTRACTOR SHALL UTILIZE WHITWORTH UNIVERSITY'S STOCKPILE FOR IMPORTED FILL NEEDS.
- ASPHALT PATCHING IN N. IVANHOE RD. SHALL COMPLY WITH REGIONAL PAVEMENT CUT POLICY.
- PROPOSED CONCRETE SHALL MATCH ADJACENT EXISTING TOP BACK OF CURB AND SIDEWALK ELEVATIONS, WHERE APPLICABLE.
- LOCATE BUS STOP SIGN POST SO THAT NO POLES, TREES, SHELTERS, DRIVEWAYS, BUILDINGS, OR OTHER IMPEDIMENTS ARE WITHIN THE ADA CLEAR ZONE AND SO THAT SIGN IS VISIBLE TO PEDESTRIANS. THE ADA CLEAR ZONE IS DEFINED AS AN AREA 8' PERPENDICULAR TO THE CURB BY 5' PARALLEL TO THE CURB.
- CONTRACTOR SHALL INSTALL SIGN POST, STA AND THEIR CREWS TO INSTALL SIGN.
- ONCE CONSTRUCTION HAS CONCLUDED, CONTRACTOR TO RE-ESTABLISH IRRIGATION SYSTEM IF EXISTING AND INSTALL SOD ON DISTURBED AREAS.

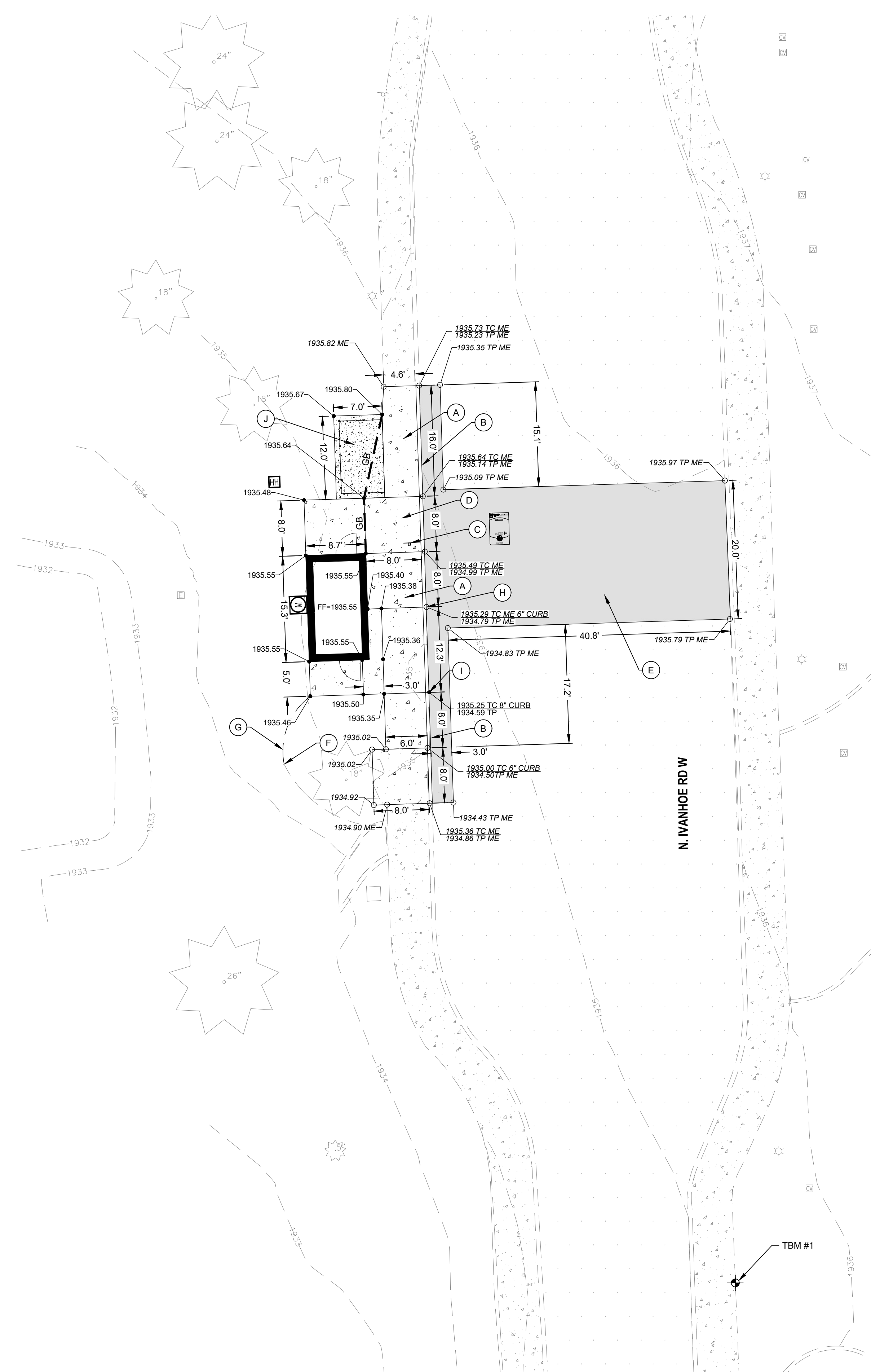
**KEY NOTES**

- (A) INSTALL NEW CONCRETE SIDEWALK PER SPOKANE COUNTY STANDARD PLAN A-4.
- (B) INSTALL 6-INCH CEMENT CONCRETE TRAFFIC CURB PER SPOKANE COUNTY STANDARD DETAIL A-3, TYPE "A".
- (C) INSTALL TYPE P SIGN POST WITH A TYPE E CONNECTION PER CITY OF SPOKANE STANDARD PLAN G-10 AND G-10E. SIGN LOCATION SHALL CONFORM WITH DIMENSIONS SHOWN AND DETAIL 12, SHEET C-401. SIGN TO BE FLAGGED AWAY FROM ROADWAY. SEE NOTE 6.
- (D) ADA CLEAR ZONE, SEE NOTE 5.
- (E) CUT AND PATCH EXISTING ASPHALT AS NEEDED. ASPHALT PATCH SHALL MATCH EXISTING ASPHALT SECTION. CONTRACTOR TO ASSUME 5" ASPHALT OVER 7" BASE COURSE FOR BIDDING PURPOSES.
- (F) CONNECT TO EXISTING LANDSCAPE CURB.
- (G) NEW LANDSCAPE CURB SHALL MATCH EXISTING LANDSCAPE CURB.
- (H) TRANSITION FROM 6-INCH CURB TO 8-INCH CURB.
- (I) TRANSITION FROM 8-INCH CURB TO 6-INCH CURB.
- (J) CONTRACTOR TO INSTALL BUS STOP SHELTER. STOP SHELTER FOUNDATION SHALL CONFORM WITH DIMENSIONS SHOWN ON DETAIL 11, SHEET C-401.

**UTILITY STATEMENT**  
 LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.



**BID SET**



**COFFMAN ENGINEERS**  
 221 N. Wall Street  
 Suite 500  
 Spokane, WA 99201  
 ph 509.328.2994  
 www.coffman.com

**ALSC ARCHITECTS**  
 203 North Washington, Suite 400  
 Spokane, WA 99201  
 509.838.8568  
 6500 Mineral Drive, Suite 101  
 Coeur d'Alene, Idaho 83815  
 208.676.8292  
 alscaarchitects.com



**WHITWORTH COMFORT STATION**  
 N IVANHOE RD & W HAWTHORNE RD  
 SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
 1230 W. Boone Avenue  
 Spokane, Washington 99201

REV	DATE	DESCRIPTION

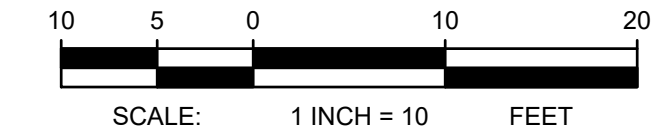
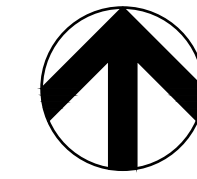
PROJ. NO. 2024-10964  
 DRAWN CBP  
 CHECKED CBM  
 DATE 01/05/2025

© COFFMAN ENGINEERS  
 SHEET TITLE:  
**SITE AND GRADING PLAN**

SHEET NO:  
**C-200**

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\010 DWG\SS\240432 SITE & GRADING PLAN.DWG SITE GRAD - SIN. AWRAM - LAST SAVED: October 23, 2024 - PLOT DATE: 12/16/24





POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1*	292419.22	2480704.38	1935.54	SET X
2*	292266.92	2480597.17	1933.04	SET X
3*	292612.66	2480714.90	1937.12	SET X

\* NOT SHOWN ON PLAN

**ABBREVIATIONS**

G	GRADE
IE	INVERT ELEVATION
L	LENGTH
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEANOUT
WA	WATER

**LEGEND**

—	CURB
—SS—	SEWER PIPE
—WA—	WATER PIPE
—UGE—	ELECTRICAL ROUTING
•	CLEANOUT
✕	WATER VALVE
■	WATER METER
⊕	HAND HOLE
Ⓜ	UTILITY METER

**GENERAL SEWER NOTES**

GENERAL - ALL SEWER LINE CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION AS JOINTLY PROMULGATED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION AND THE WASHINGTON STATE CHAPTER OF THE AMERICAN PUBLIC WORKS ASSOCIATION, CURRENT EDITION, AS ADOPTED AND REVISED BY THE SPOKANE COUNTY PUBLIC WORKS - WASTEWATER SYSTEM DIVISION

SPOKANE COUNTY PUBLIC WORKS - WASTEWATER SYSTEM DIVISION NOTES FOR SMALL PROJECTS

- PER SPOKANE COUNTY SANITARY SEWER ORDINANCE 96-0752, A SET OF WASTEWATER SYSTEM DIVISION STAMPED, ACCEPTED PLANS MUST BE ON THE JOB SITE, AND READILY ACCESSIBLE TO THE INSPECTOR.
- IF A PROJECT INCLUDES A SEWER TAP INTO AN EXISTING COUNTY OPERATED SEWER MAIN, PERMIT AND INSPECTION IS REQUIRED, AND A COUNTY INSPECTOR MUST BE ON SITE AT TIME OF TAP. CALL 509-477-3604 ONE WORKING DAY IN ADVANCE TO SCHEDULE INSPECTIONS.
- SEWER PERMITS ARE REQUIRED FOR EACH BUILDING CONNECTING TO SEWER ON A PROJECT SITE. ALL ON-SITE SANITARY SEWER INSTALLATIONS MUST BE INSPECTED. CALL 509-477-3604 ONE WORKING DAY IN ADVANCE TO SCHEDULE INSPECTIONS.
- ALL SANITARY SEWER PIPE ON SITE MAY BE REQUIRED TO BE CLEANED, MANDREL TESTED, AND AIR OR WATER TESTED FOR LEAKAGE AT THE INSPECTOR'S REQUEST.
- ALL CLEAN-OUTS SHALL BE INSTALLED AT MAXIMUM 90° INTERVALS INCLUDING DISTANCE TO SEWER MAIN IN STREET AND CLEAN-OUT RISER HEIGHT. CLEAN-OUTS SHALL BE PLACED AT ANY CHANGE IN DIRECTION OF 90 DEGREES OR GREATER AND SHALL BE PLACED IN COUNTY APPROVED COVERS OR CASINGS.
- ANY EXISTING SEPTIC TANKS ON SITE SHALL BE ABANDONED AND INSPECTED PER SPOKANE COUNTY HEALTH DISTRICT AND SPOKANE COUNTY PUBLIC WORKS - WASTEWATER SYSTEM DIVISION REGULATIONS. CALL 509-477-3604 ONE WORKING DAY IN ADVANCE TO SCHEDULE TANK INSPECTIONS.
- ANY SANITARY SEWER CONSTRUCTION, INSPECTIONS, RECORD DRAWINGS, AND ENGINEER'S STATEMENTS SHALL CONFORM TO THE REQUIREMENTS SET FORTH IN THE SPOKANE COUNTY POLICY FOR ROAD, DRAINAGE, AND SEWER PROJECTS ADOPTED APRIL 2002.
- THE OWNER/DEVELOPER HEREBY AGREES TO SUBMIT ACCEPTABLE, REPRODUCIBLE AS-BUILT DRAWINGS PREPARED BY AN ENGINEER FOR THE PROJECT WITHIN A 30-DAY PERIOD FOLLOWING SEWER CONSTRUCTION COMPLETION.
- PRE-CONSTRUCTION MEETING REQUIRED. CALL 509-477-3604 TO SCHEDULE AT LEAST 48 HOURS IN ADVANCE.

**TBM INFORMATION**

SEE TOPOGRAPHIC SURVEY BY COFFMAN ENGINEERS DATED 3/11/2024 FOR TBM INFORMATION

**BENCH MARK NOTE**

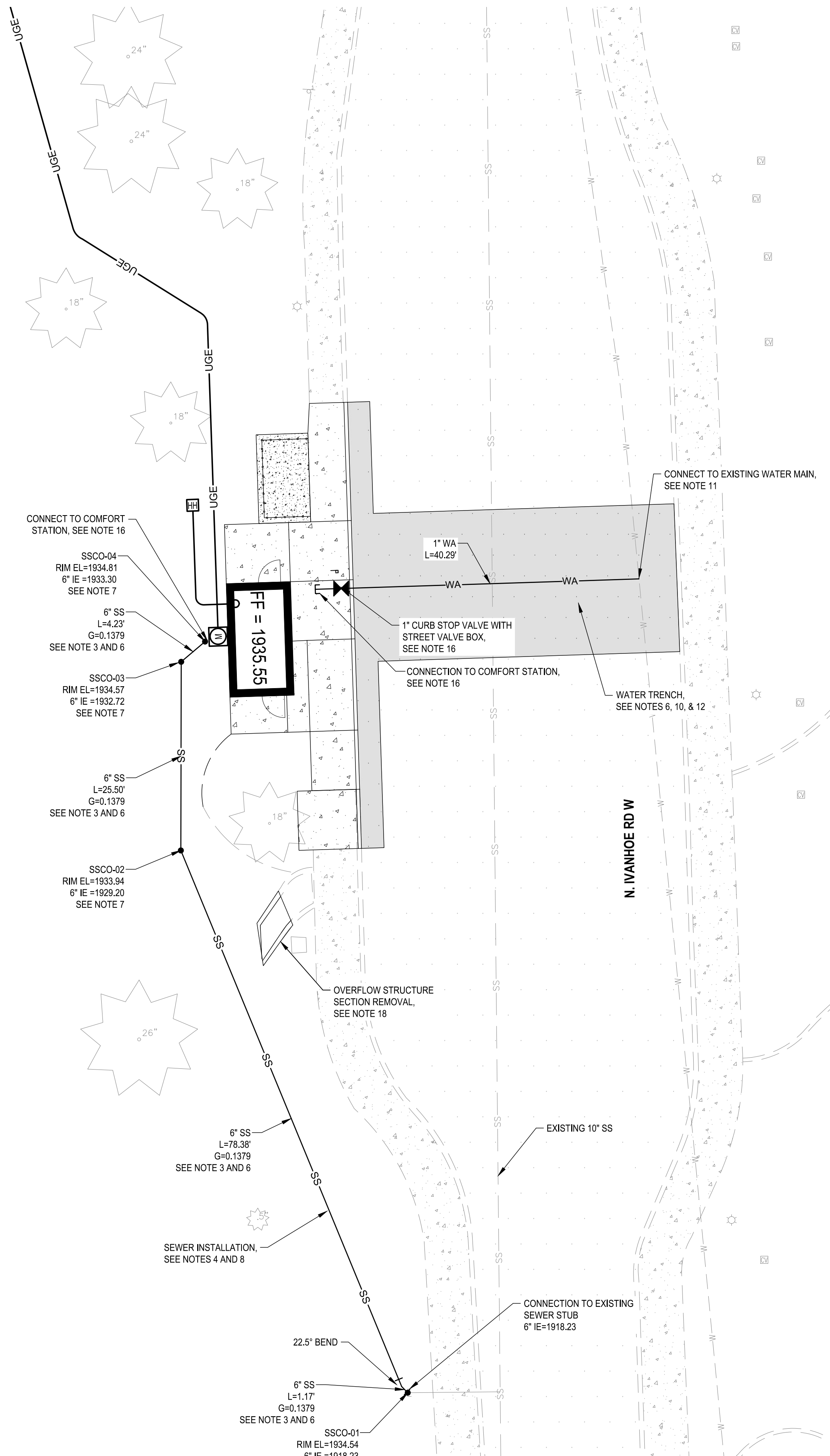
CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS AND BENCH MARKS. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**MONUMENT PRESERVATION NOTE**

DISTURBING EXISTING SURVEY MONUMENTS (PROPERTY CORNERS OR KNOWN RECORDED MONUMENTS) IS A GROSS MISDEMEANOR PER RCW 56.04.015. CONTRACTOR SHALL PROTECT ALL EXISTING PROPERTY CORNERS. IF ANY MONUMENTS ARE IN AREAS THAT WILL BE DISTURBED, THE CONTRACTOR SHALL RETAIN A PROFESSIONAL LAND SURVEYOR TO FOLLOW WAC 332-120. ANY DAMAGE CAUSED BY CONSTRUCTION ACTIVITIES SHALL BE REMEDIATED AT THE CONTRACTOR'S EXPENSE.

**NOTES**

- REFER TO SHEET C-001 FOR GENERAL NOTES.
- REFER TO SHEET C-001, UTILITY & DRAINAGE NOTE 4 FOR ADDITIONAL INFORMATION REGARDING UTILITY SEPARATION AND SLEEVE REQUIREMENTS.
- SANITARY SEWER SERVICES SHALL BE POLYVINYL CHLORIDE PLASTIC (PVC), ASTM D 3034, SDR 35 WITH FLEXIBLE GASKETED JOINTS (PIPE JOINT TYPE FOR RESTRAINED GASKETS). PVC PIPE SHALL BE INSTALLED WITH DETECTABLE MARKING TAPE. MAINTAIN AT LEAST 3-1/2 FEET OF COVER OVER SANITARY SEWER SERVICES.
- SANITARY SEWER PIPING AROUND CORNER SHALL COMPLY WITH DETAIL 3, SHEET C-400.
- CONNECTION TO EXISTING PUBLIC SEWER MAINS SHALL BE COORDINATED THROUGH THE COUNTY SEWER DEPARTMENT A MINIMUM OF 24 HOURS IN ADVANCE OF THE WORK. PRIVATE EXTENSION PERMIT AND INSPECTION REQUIRED. THE EXISTING MAINLINE PIPE SHALL NOT BE CORED OR CUT UNTIL A REPRESENTATIVE OF THE DEPARTMENT IS ON-SITE. IN ADDITION, THE CONTRACTOR SHALL NOTIFY SEWER INSPECTOR (509-477-3604) 24 HOURS PRIOR TO PERFORMING THE WORK. SEE GENERAL SEWER NOTE 2, THIS SHEET
- TRENCHING SHALL COMPLY WITH LABOR AND INDUSTRIES SAFETY STANDARDS. GROUNDWATER MUST BE REMOVED FROM THE TRENCH DURING THE PIPE LAYING PROCESS. TRENCH WIDTH SHALL BE WIDE ENOUGH TO ENSURE PROPER BEDDING. IN LOCATIONS WHERE OPEN TRENCHING WILL NOT BE ALLOWED DUE TO PROXIMITY TO EXISTING TREES, CONTRACTOR TO UTILIZE TRENCH BOXES TO PROTECT EXISTING VEGETATION.
- CLEANOUTS SHALL COMPLY WITH DETAIL 1 AND DETAIL 4, SHEET C-400.
- SIDE SEWER INSTALLATION AND BEDDING PER DETAIL 2, SHEET C-400.
- WATER SERVICES WITH DIAMETERS BETWEEN 1 INCH AND 3 INCHES SHALL BE HDPE (CTS) DOMESTIC WATER SERVICE (CLASS 250, SDR 9 TUBING CONFORMING TO AWWA C901), MAINTAIN AT LEAST 4-1/2 FEET OF COVER OVER WATER LINES.
- WATER PIPE TRENCHING, BEDDING, AND BACKFILL SHALL COMPLY WITH WHITWORTH WATER DISTRICT STANDARDS. WATER SERVICE SHALL BE INSTALLED WITH DETECTABLE MARKING TAPE.
- WATER LINE CONNECTION TO EXISTING MAIN SHALL BE MADE BY WHITWORTH WATER DISTRICT EMPLOYEES ONLY.
- ASPHALT PATCHING IN N IVANHOE ROAD SHALL COMPLY WITH REGIONAL PAVEMENT CUT POLICY.
- ONCE CONSTRUCTIONS HAS CONCLUDED, CONTRACTOR TO RE-ESTABLISH IRRIGATION SYSTEM IF EXISTING.
- CONTRACTOR TO INSTALL SOD ON DISTURBED AREAS.
- SEE ELECTRICAL PLANS FOR MORE INFORMATION ON ELECTRICAL CONNECTIONS TO THE BUILDING.
- SEE MECHANICAL PLANS FOR MORE INFORMATION ON SEWER AND WATER CONNECTIONS TO THE BUILDING. FOR 1" AND SMALL INSIDE METER INSTALLATION, SEE DETAIL 13 AND 14, SHEET C-401.
- REFER TO SHEET C-500 FOR WHITWORTH TREE PROTECTION STANDARDS.
- CONTRACTOR TO PRICE OUT THE REMOVAL OF THE OVERFLOW STRUCTURE SECTION. PREFERENCE OF STA IS FOR OVERFLOW STRUCTURE TO REMAIN IN PLACE.



Know what's below.  
Call before you dig.

**UTILITY STATEMENT**  
LOCATION OF EXISTING UNDERGROUND UTILITIES HAVE BEEN TAKEN FROM DRAWINGS AND FIELD LOCATES SUPPLIED BY THE APPROPRIATE UTILITY COMPANIES. UTILITY LOCATIONS SHOWN ON THIS DRAWING ARE APPROXIMATE ONLY. PRIOR TO BEGINNING ANY CONSTRUCTION, THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EACH UTILITY.



221 N. Wall Street  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

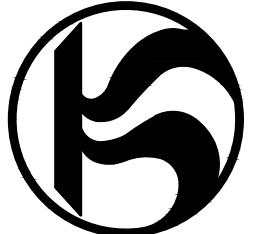


203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
4500 Inland Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
alscarchitect.com



WHITWORTH COMFORT STATION  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CBP  
CHECKED CBM  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**UTILITY PLAN**

SHEET NO:  
**C-300**

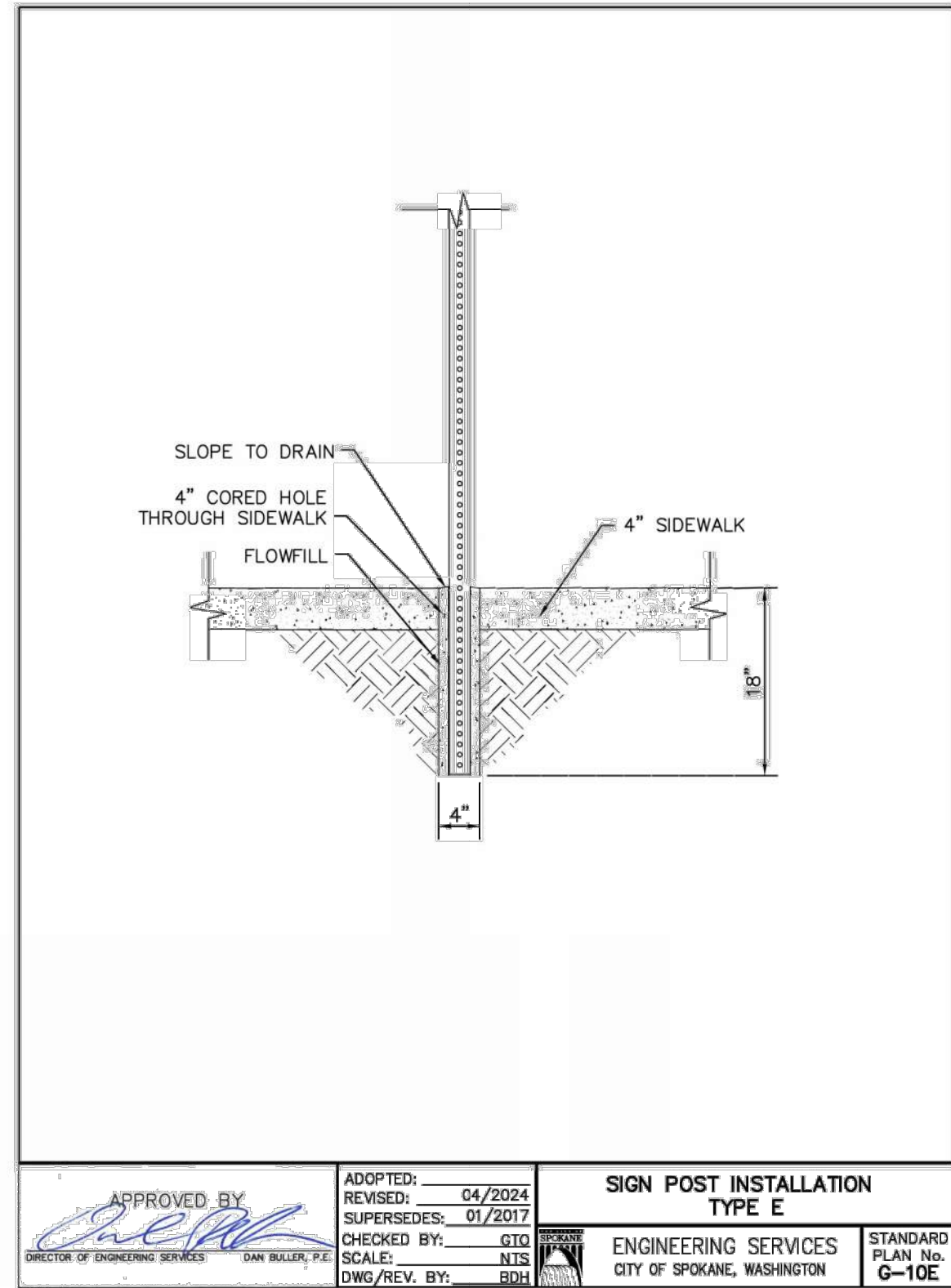
**BID SET**

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\DWG\SSCO\240432 UTILITY PLAN.DWG, UTILITY PLAN.DWG, LUTL, SIN, AIPRAM, LAST SAVED: October 31, 2024 - PLOT DATE: 12/16/24

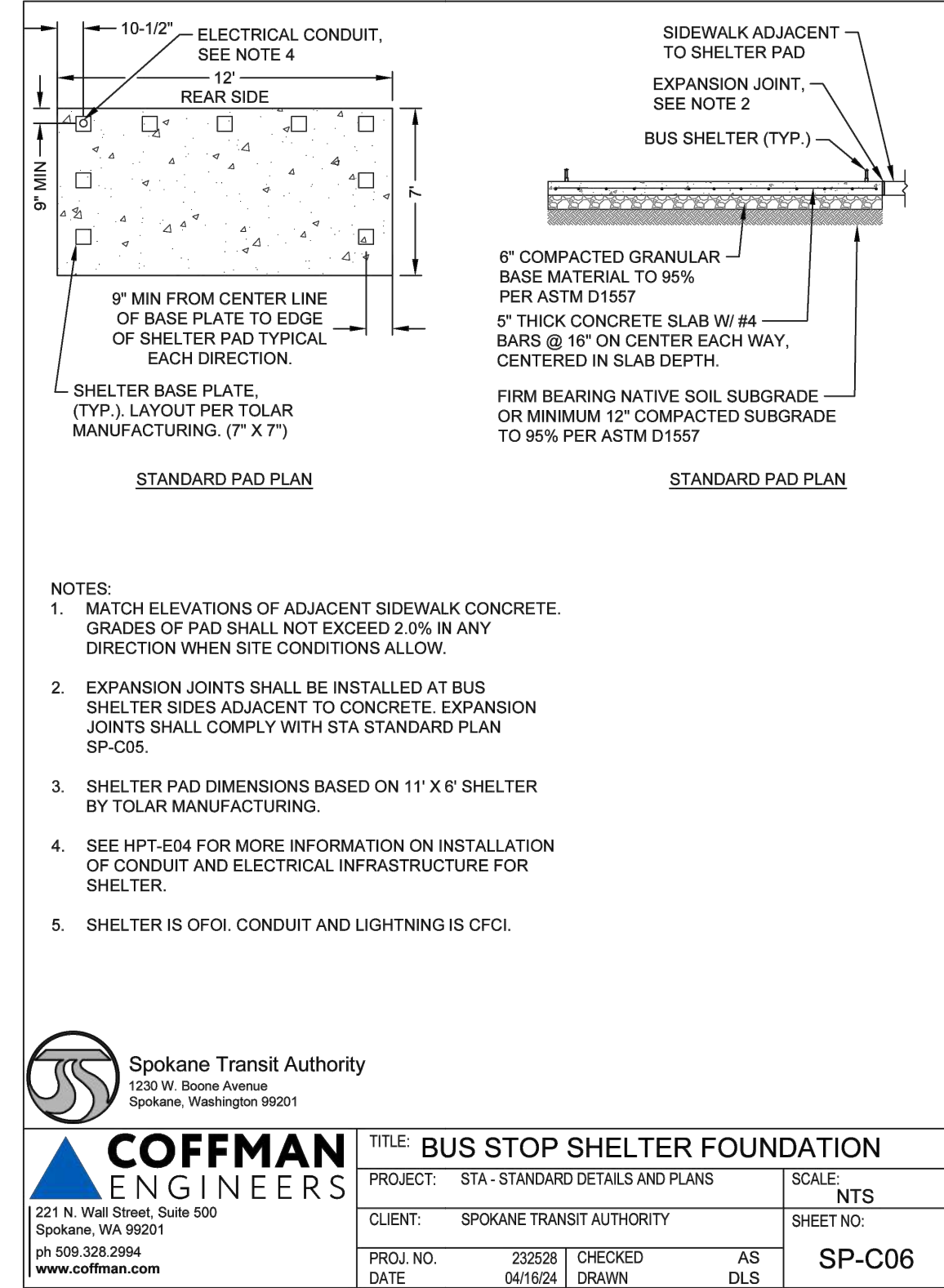




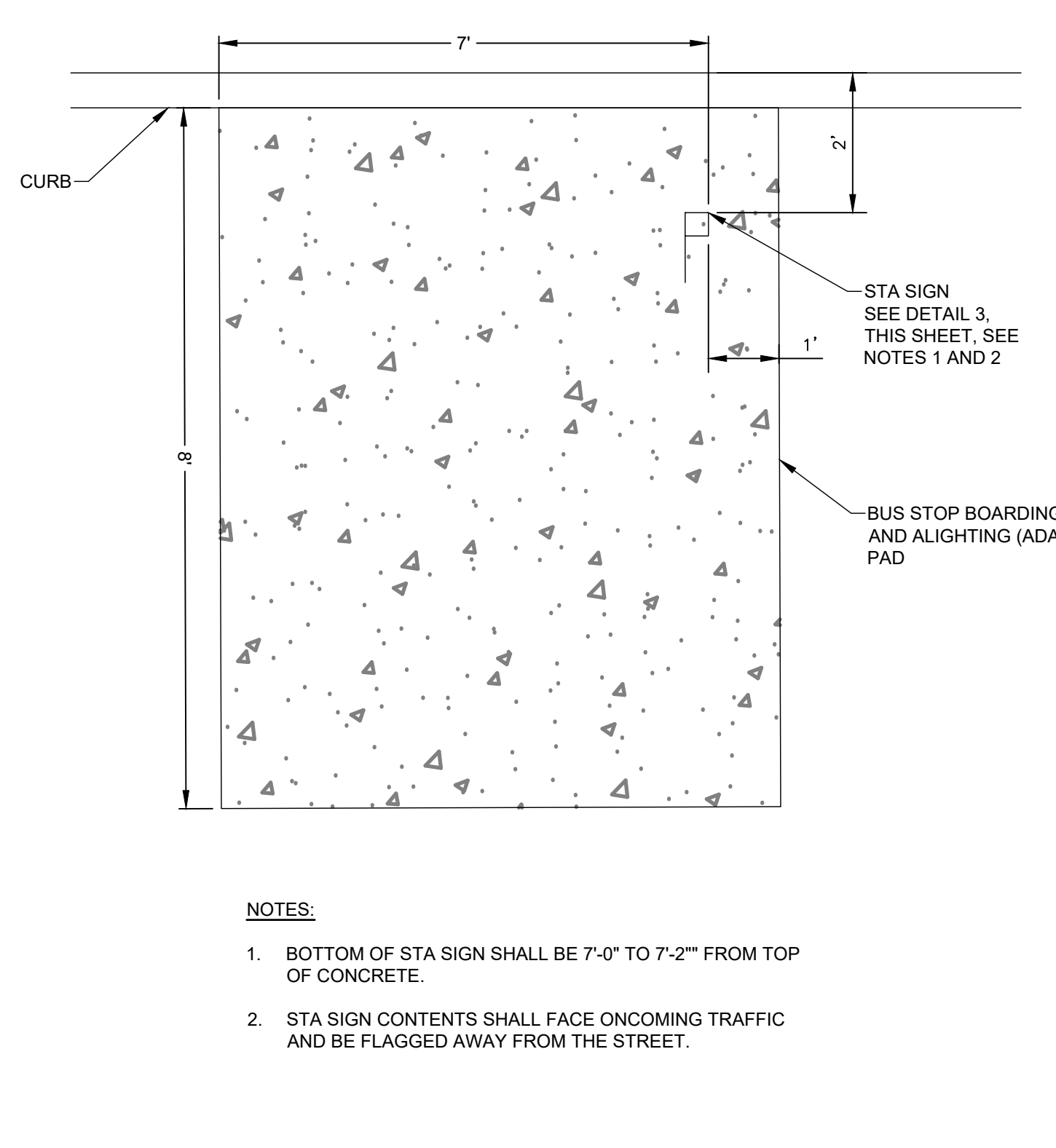




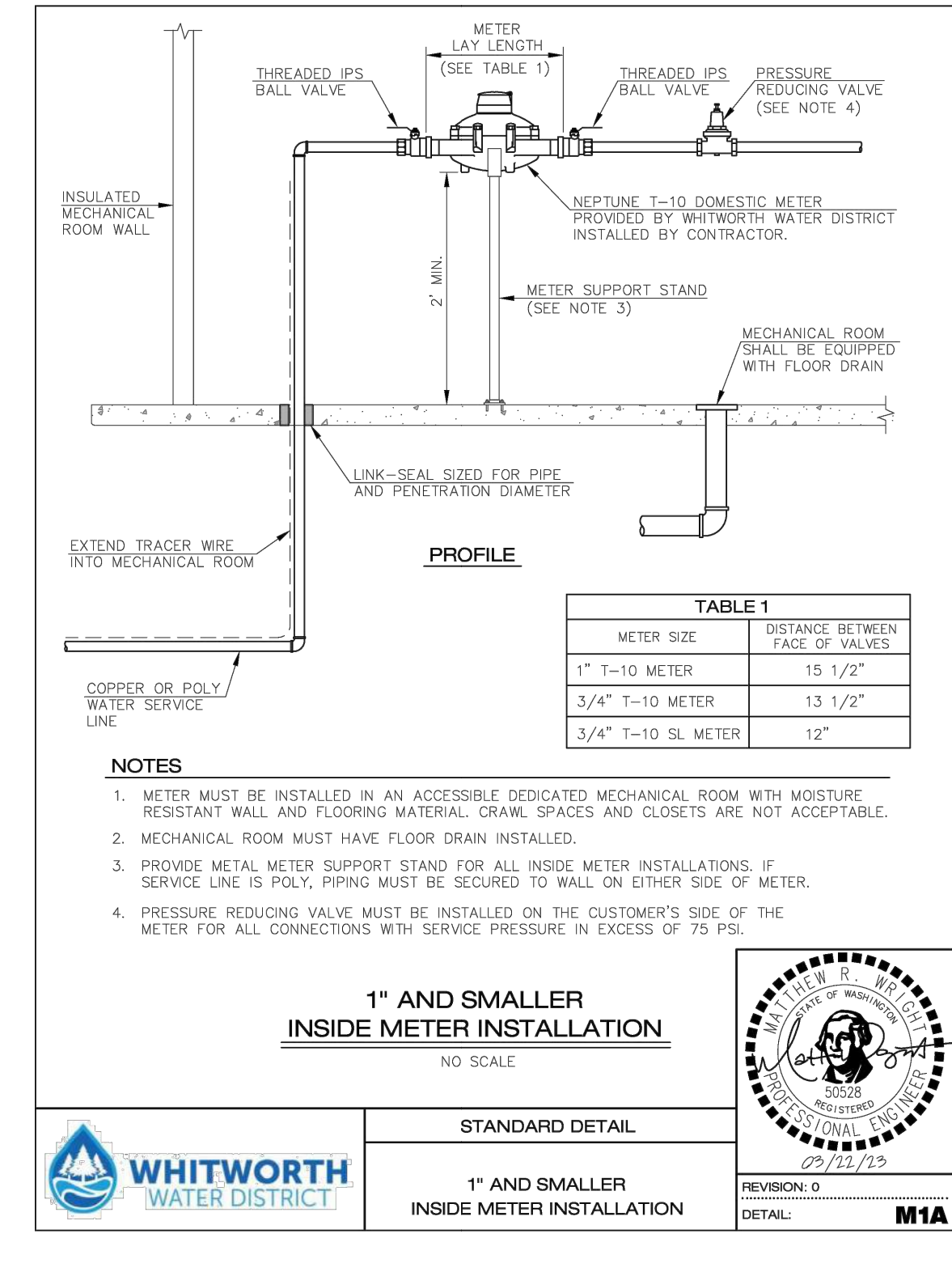
**10 SIGN POST INSTALLATION**  
SCALE: NTS



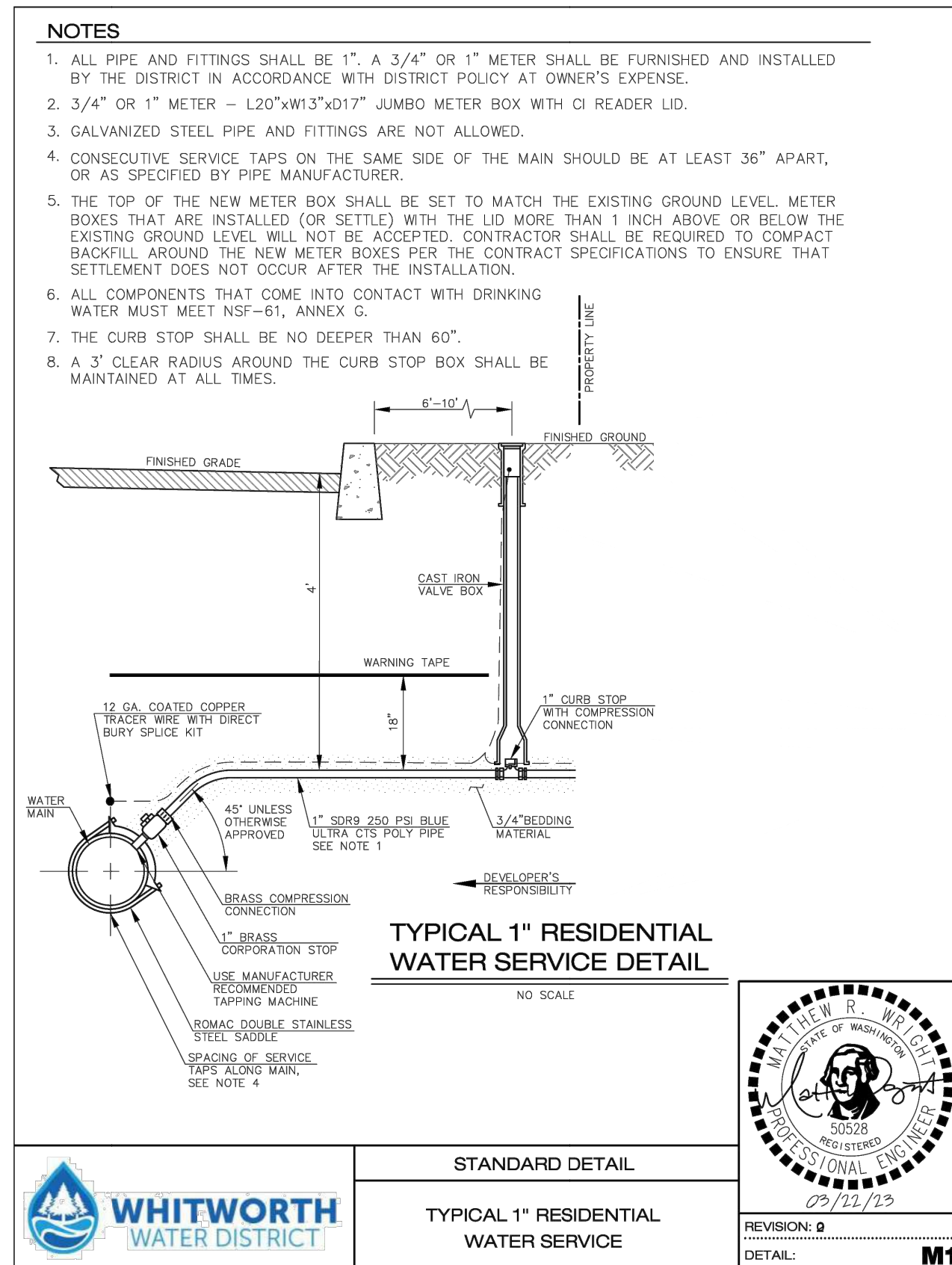
**11 BUS STOP SHELTER FOUNDATION**  
SCALE: NTS



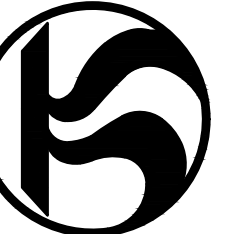
**12 BUS STOP SIGN PLACEMENT**  
SCALE: NTS



**13 INSIDE METER INSTALLATION**  
SCALE: NTS



**14 UNDERGROUND METER INSTALLATION REQUIREMENTS**  
SCALE: NTS



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CBP  
CHECKED CBM  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**CIVIL SITE AND WATER DETAILS**

SHEET NO:  
**C-401**

P:\SP24\JOBS\240432 STA WHITWORTH COMFORT STATION\010 DWG\SS\240432 CIVIL DETAILS\DWG CIVIL DETAILS 401 - SIN\_AVRAM - LAST SAVED: October 25, 2024 - PLOT DATE: 12/16/24



**WHITWORTH UNIVERSITY TREE PROTECTION STANDARDS OVERVIEW**

THE PURPOSE OF THIS DOCUMENT IS TO COMMUNICATE CLEARLY AND SIMPLY WHAT WHITWORTH'S STANDARDS AND EXPECTATIONS ARE WITH REGARD TO TREE PROTECTION IN CONSTRUCTION AREAS. ADHERENCE TO THESE STANDARDS WILL PROTECT TREES FROM BEING DAMAGED AND PROTECT CONTRACTORS FROM LIABILITY FOR DAMAGES.

ALL TREES WITHIN AND AROUND CONSTRUCTION ZONES MUST BE PROTECTED FROM DAMAGE WHILE ANY CONSTRUCTION PROJECTS ARE UNDERWAY. THIS IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ANY CONSTRUCTION-RELATED DAMAGE DONE TO ANY TREE OF ANY SIZE, EVEN IF CAUSED BY A SUBCONTRACTOR, AND WILL PROVIDE COMPENSATION FOR ALL DAMAGES. THIS INCLUDES NEGLIGENCE.

THIS DOCUMENT AND THE ATTACHED *TREE PROTECTION ZONES: QUICK REFERENCE GUIDE* ARE TO BE USED AS GUIDELINES FOR SUBCONTRACTORS. HOWEVER, THEY ARE NOT SUBSTITUTES FOR KNOWING AND ADHERING TO THE TREE PROTECTION REQUIREMENTS INCLUDED IN THE PROJECT SPECS.

**1. IDENTIFY TREES AND ESTABLISH GOALS**

THIS IS THE FIRST STEP IN TREE PROTECTION, AND IT MUST TAKE PLACE IN THE PLANNING STAGE, BEFORE THE CONSTRUCTION AREA IS ESTABLISHED. IDENTIFY WHAT KINDS OF TREES ARE PRESENT, UNDERSTAND WHICH TREES WILL BE AFFECTED BY CONSTRUCTION IN WHAT SPECIFIC WAYS, AND DETERMINE WHICH TREES TO PROTECT, WHICH TO RELOCATE, AND WHICH TO REMOVE.

IDENTIFY AND MARK OUT TREE PROTECTION ZONES. DETERMINE AND MARK OUT A SPACIOUS CONSTRUCTION AREA THAT ALLOWS ROOM FOR LARGE EQUIPMENT TO ACCESS THE SITE AND MOVE FREELY WITHOUT ENTERING TREE PROTECTION ZONES.

**2. ESTABLISH TREE PROTECTION ZONES**

TREE PROTECTION ZONES (TPZS) WILL BE ESTABLISHED BY THE CONTRACTOR ACCORDING TO THE SPECIFICATIONS OUTLINED IN THIS DOCUMENT BEFORE ANY CONSTRUCTION EQUIPMENT COMES ON SITE OR ANY CONSTRUCTION-RELATED ACTIVITY BEGINS, INCLUDING ANY SUBCONTRACTED DEMOLITION, TREE REMOVAL OR EXCAVATION.

TPZS PROTECT THE TREE ITSELF AS WELL AS THE ROOT ZONE AND THE SURROUNDING SOIL. TPZS ARE CONSTRUCTION-FREE, NO-ENTRY ZONES. DON'T PARK EQUIPMENT IN THEM, DON'T STORE STUFF IN THEM, DON'T DRIVE THROUGH THEM, DON'T EVEN ENTER THEM EXCEPT TO PERIODICALLY MONITOR TEMPORARY IRRIGATION SYSTEMS AND MULCH DEPTH.

TPZ SPECIFICATIONS:

**SIZE:** TPZS MUST BE AT LEAST AS BIG AS THE DRIPLINE OF THE TREE. THIS IS NON-NEGOTIABLE. A TREE'S DRIP LINE IS DETERMINED BY THE LATERAL SPREAD OF ITS BROADEST BRANCHES (SEE DIAGRAM). WHEN MULTIPLE TREES ARE CLOSE TOGETHER, THE TPZ WILL INCLUDE THE GROUP OF TREES.

**MATERIAL:** EACH TPZ MUST BE ENCLOSED BY A SIX-FOOT OR HIGHER CHAIN LINK FENCE, PREFERABLY THE SAME KIND OF FENCE USED TO SECURE THE CONSTRUCTION ZONE PERIMETER.

**MULCH:** AN EVEN LAYER OF 4-6 INCHES OF ARBORIST CHIPS MUST BE SPREAD BY HAND ACROSS THE ENTIRE TPZ. THIS IS THE CONTRACTOR'S RESPONSIBILITY, AND IT INCLUDES MONITORING MULCH DEPTH, ADDING MULCH AS NECESSARY, AND REMOVING MULCH BY HAND WHEN CONSTRUCTION IS COMPLETE. CONTRACTOR TO PROVIDE THE ARBORIST CHIPS.

**3. INSTALL AND MAINTAIN IRRIGATION**

TREES MUST BE IRRIGATED REGULARLY OVER THE ENTIRE COURSE OF THE CONSTRUCTION PROJECT. WE PREFER THE USE OF BROADCAST SPRINKLERS. SPRINKLERS MUST PROVIDE CONSISTENT COVERAGE OVER THE ENTIRE TPZ. NETAFIM DRIPLINES ARE ALSO ACCEPTABLE IN CERTAIN CASES AND WITH PRIOR APPROVAL.

IRRIGATION RUN TIMES AND FREQUENCIES WILL BE DETERMINED AND COMMUNICATED BY WHITWORTH STAFF, TO BE IMPLEMENTED AND MAINTAINED BY THE GENERAL CONTRACTOR.

**4. EXCEPTIONS**

CONSTRUCTION ACTIVITY WITHIN A TPZ MAY BE UNAVOIDABLE BASED ON THE DESIGN SPECS. IF THIS IS THE CASE, IT MUST BE AGREED UPON IN A MEETING WITH THE CAMPUS ARBORIST BEFORE CONSTRUCTION BEGINS. THEN, STEPS MUST BE TAKEN TO REDUCE SOIL COMPACTION. THERE ARE TWO OPTIONS: PLANKING OR MULCHING.

- PLANKING: PLACE 2" THICK PLANKING OR 3/4" THICK PLYWOOD ACROSS ALL AREAS OF THE TPZ THAT WILL BE AFFECTED.
- MULCHING: INSTALL ADDITIONAL ARBORIST CHIPS TO A DEPTH OF 10 INCHES ACROSS ALL AREAS OF THE TPZ THAT WILL BE AFFECTED. THIS INCLUDES MONTHLY MONITORING OF MULCH DEPTH, REAPPLYING MULCH AS NECESSARY, AND REMOVING MULCH BY HAND WHEN CONSTRUCTION IS COMPLETE.

TRENCHING WITHIN A TPZ MAY BE UNAVOIDABLE BASED ON THE DESIGN SPECS. IF THIS IS THE CASE, IT ALSO MUST BE AGREED UPON IN A MEETING WITH THE CAMPUS ARBORIST BEFORE CONSTRUCTION BEGINS. ANY DIGGING WITHIN A TPZ MUST BE DONE BY HAND. THIS IS NON-NEGOTIABLE. ANY ROOTS LARGER THAN 1 1/2 INCHES IN DIAMETER MUST REMAIN INTACT, AND THE TRENCH WILL BE CONTINUED ONLY BY BORING OR TUNNELING UNDER THEM. THIS IS NON-NEGOTIABLE. SMALLER ROOTS MUST BE CUT CAREFULLY WITH A PRUNING SAW OR LOPPERS. TRENCHES IN TPZS MUST BE FILLED THE SAME DAY THEY ARE DUG TO PREVENT ROOTS FROM DRYING OUT.

**5. TREE DAMAGES**

THE GENERAL CONTRACTOR IS RESPONSIBLE FOR ALL TREE DAMAGE CAUSED BY CONSTRUCTION ACTIVITY, INCLUDING NEGLIGENCE. EACH OF WHITWORTH'S TREES HAS BEEN APPRAISED BY AN INDEPENDENT ASSESSOR, AND WHITWORTH EXPECTS FULL COMPENSATION FOR ANY LOSS OF THESE ASSETS. WHITWORTH'S CAMPUS ARBORIST WILL PROVIDE THE GENERAL CONTRACTOR WITH THE INDIVIDUAL ASSESSED VALUES OF THE PARTICULAR TREES BEING PROTECTED BEFORE CONSTRUCTION BEGINS.

**6. CONTACT INFORMATION**

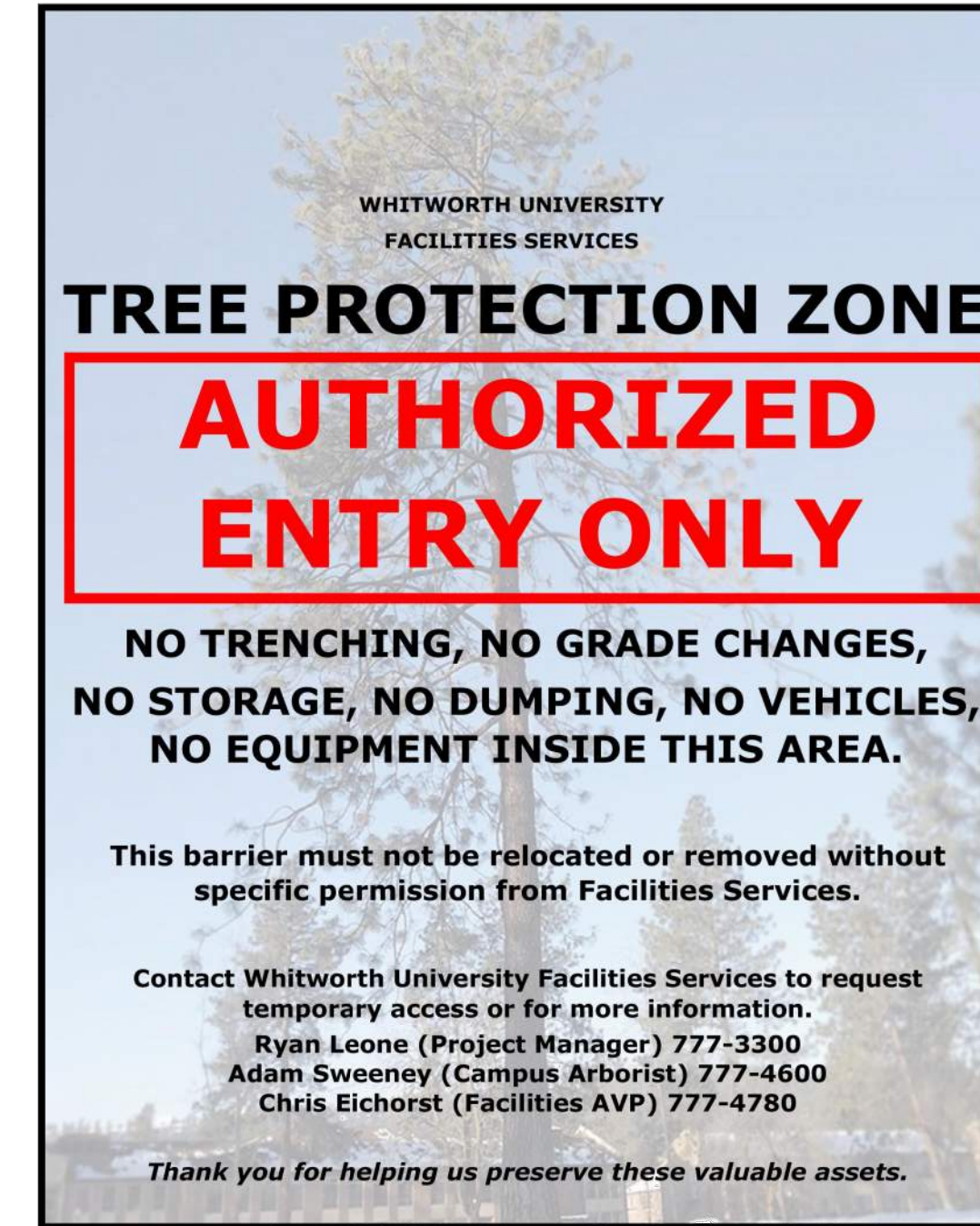
CAMPUS ARBORIST: ADAM SWEENEY  
OFFICE: 509.777.4600  
EMAIL: ASWEENEY@WHITWORTH.EDU

GROUNDS MANAGER: BRANDON PYLE  
OFFICE: 509.777.4464  
EMAIL: BPLYE@WHITWORTH.EDU

PROJECT MANAGER: RYAN LEONE  
OFFICE: 509.777.3300  
EMAIL: RLEONE@WHITWORTH.EDU

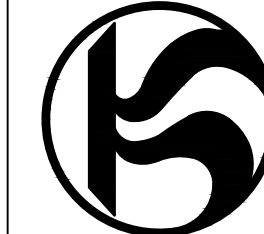
FACILITIES ASST. VP: CHRIS EICHORST  
OFFICE: 509.777.4780  
EMAIL: CEICHORST@WHITWORTH.EDU

EXAMPLE OF SIGNAGE:



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN DLS  
CHECKED AS  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**TREE PROTECTION STANDARDS**

SHEET NO:  
**C-500**

**BID SET**

P:\SP02\JOBS\240432 STA. WHITWORTH COMFORT STATION\01 DWG\SS\240432\_TREE PROTECTION STANDARDS.DWG: TREE PS: SIN, A\PRAM: LAST SAVED: July 30, 2024 - PLOT DATE: 12/16/24





**WHITWORTH UNIVERSITY TREE PROTECTION PLAN: TREE PROTECTION ZONE (TPZ) QUICK REFERENCE GUIDE**

TPZS PROTECT THE TREE, ITS ROOTS, AND THE SURROUNDING SOIL FROM DAMAGE, COMPACTION, AND CONTAMINATION. TPZS ARE CONSTRUCTION-FREE, NO-ENTRY ZONES.

**SIZE:** TPZS MUST BE AT LEAST AS BIG AS THE DRIPLINE OF THE TREE.

**MATERIAL:** TPZS MUST BE ENCLOSED BY A SIX-FOOT OR HIGHER CHAIN LINK FENCE.

**MULCH:** AN EVEN LAYER OF 4-6 INCHES OF ARBORIST CHIPS MUST BE SPREAD BY HAND ACROSS THE ENTIRE TPZ. THIS IS THE CONTRACTOR'S RESPONSIBILITY, AND IT INCLUDES MONITORING MULCH DEPTH, ADDING MULCH AS NECESSARY, AND REMOVING MULCH BY HAND WHEN THE CONSTRUCTION IS COMPLETE. WHITWORTH PROVIDES THE ARBORIST CHIPS.

**IRRIGATION IN TPZS**

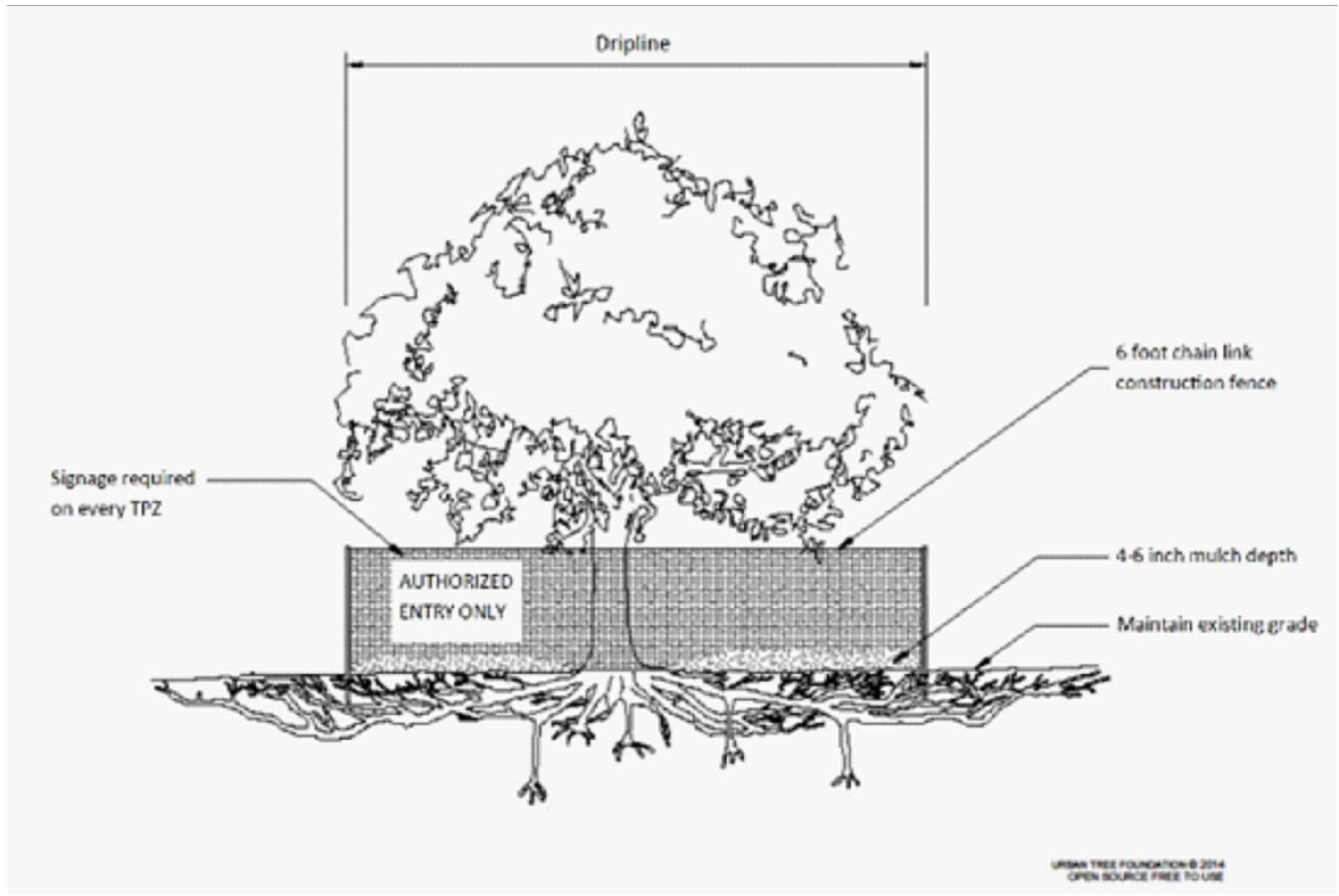
TREES MUST BE IRRIGATED REGULARLY OVER THE ENTIRE COURSE OF THE CONSTRUCTION PROJECT. WE PREFER THE USE OF BROADCAST SPRINKLERS. SPRINKLERS MUST PROVIDE CONSISTENT COVERAGE OVER THE ENTIRE TPZ. NETAFIM DRIPLINES ARE ALSO ACCEPTABLE IN CERTAIN CASES AND WITH PRIOR APPROVAL. WHITWORTH STAFF WILL DETERMINE RUN TIMES.

**INSIDE TREE PROTECTION ZONES:**

- NO STORAGE
- NO PARKING
- NO DUMPING
- NO FUMES
- NO SMOKING
- NO EQUIPMENT ACCESS
- NO HEAVY MACHINERY
- NO TEMPORARY STRUCTURES
- NO TRENCHING
- NO EXCAVATION
- NO GRADE CHANGES
- NO UNAUTHORIZED PRUNING
- NO UNAUTHORIZED ENTRY

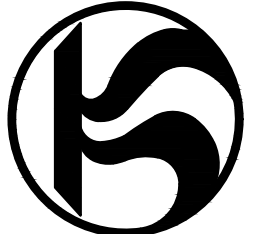
REFER TO THE WHITWORTH TREE PROTECTION STANDARDS FOR MORE DETAIL AND COMPLETE SPECIFICATIONS.

CONTACT CAMPUS ARBORIST ADAM SWEENEY WITH ANY QUESTIONS: [ASWEENEY@WHITWORTH.EDU](mailto:ASWEENEY@WHITWORTH.EDU) (O)509.777.4600



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN DLS  
CHECKED AS  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**TREE PROTECTION ZONE-QUICK REFERENCE GUIDE**

SHEET NO:  
**C-501**

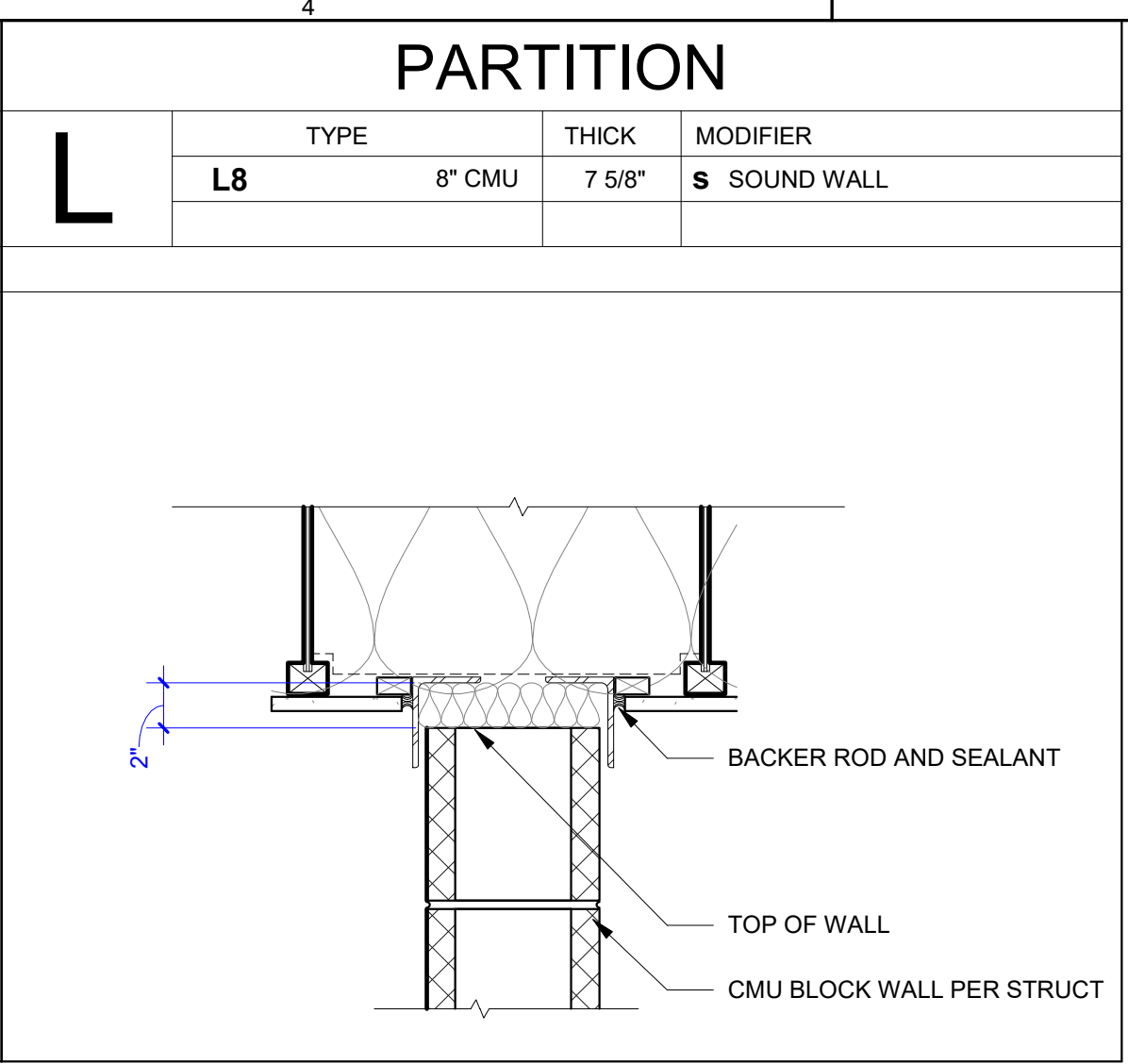
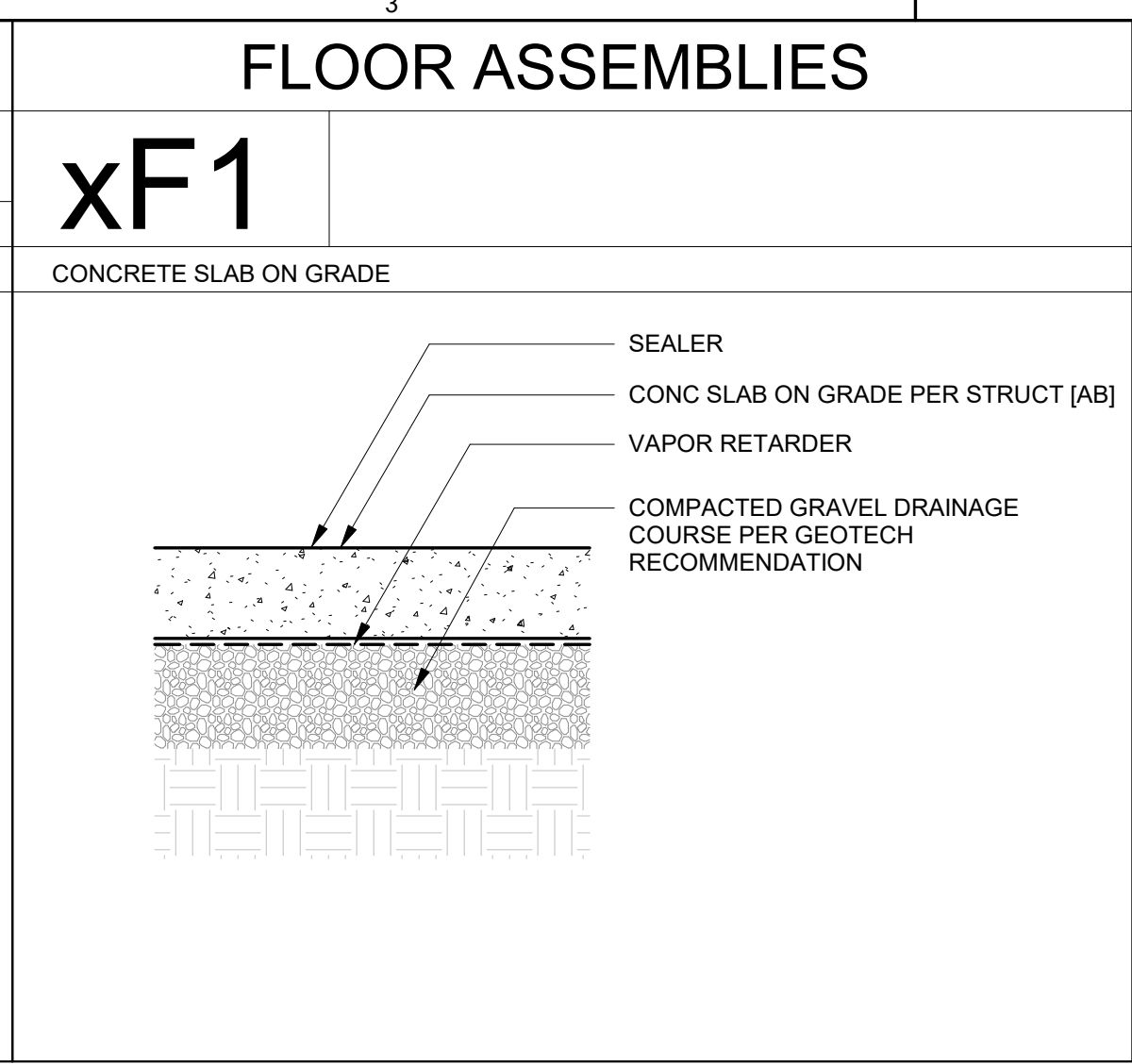
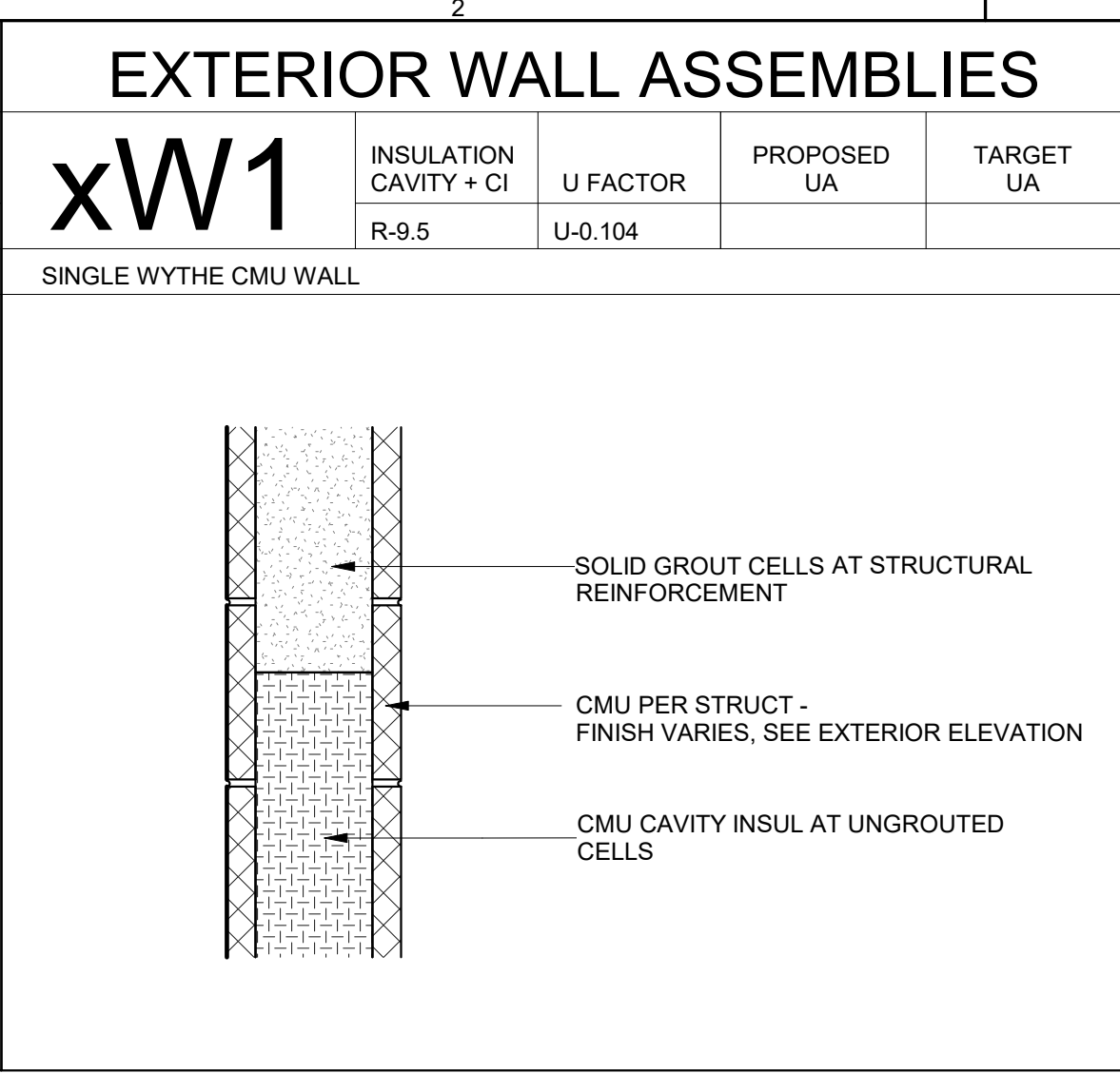
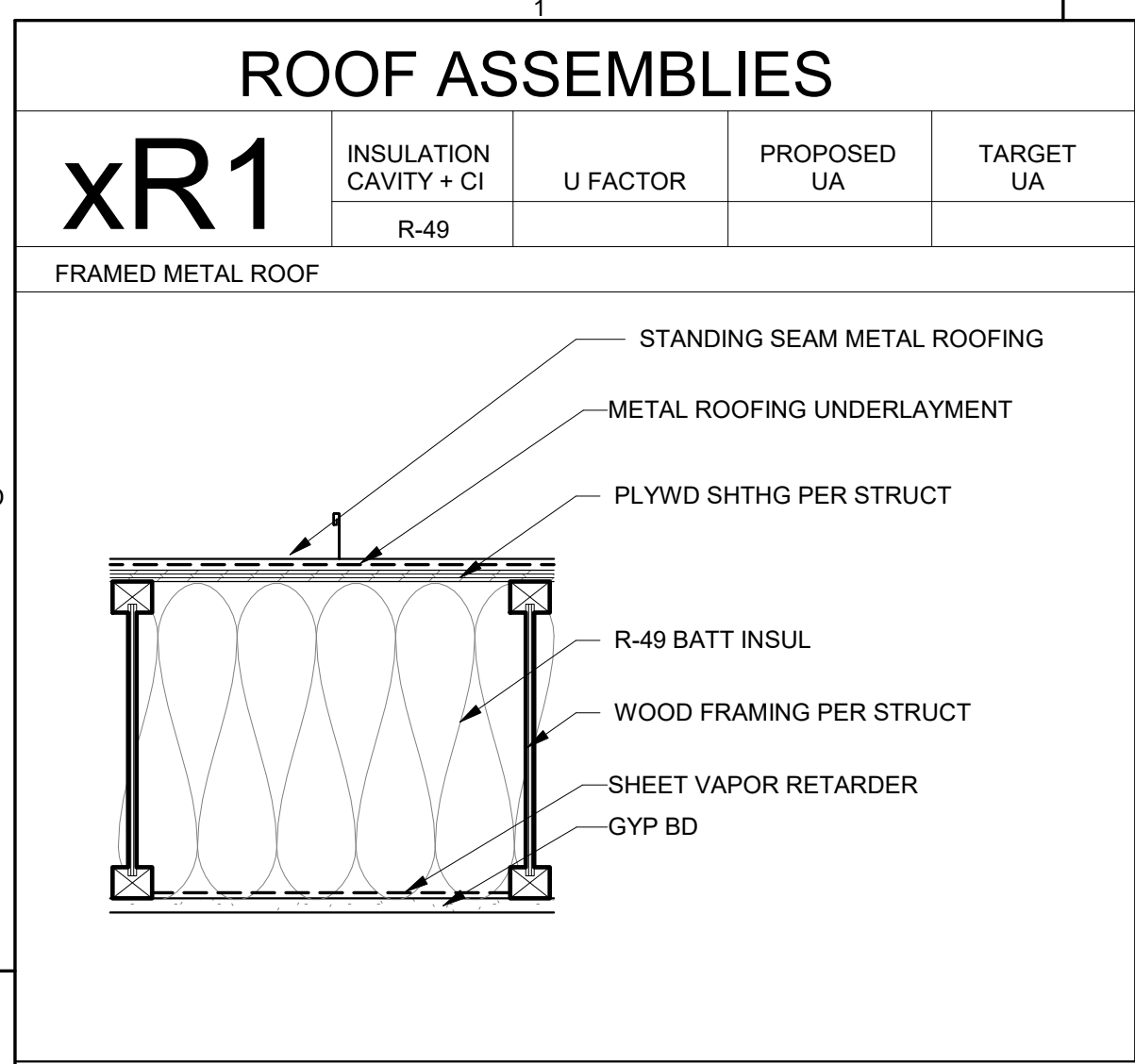
**BID SET**

P:\SP02\JOBS\240423 STA WHITWORTH COMFORT STATION\010 DWG\SSC\240423 TREE PROTECTION STANDARDS.DWG; TREE PS (2) : SIN. A\RAM. LAST SAVED: July 30, 2024. PLOT DATE: 12/16/24



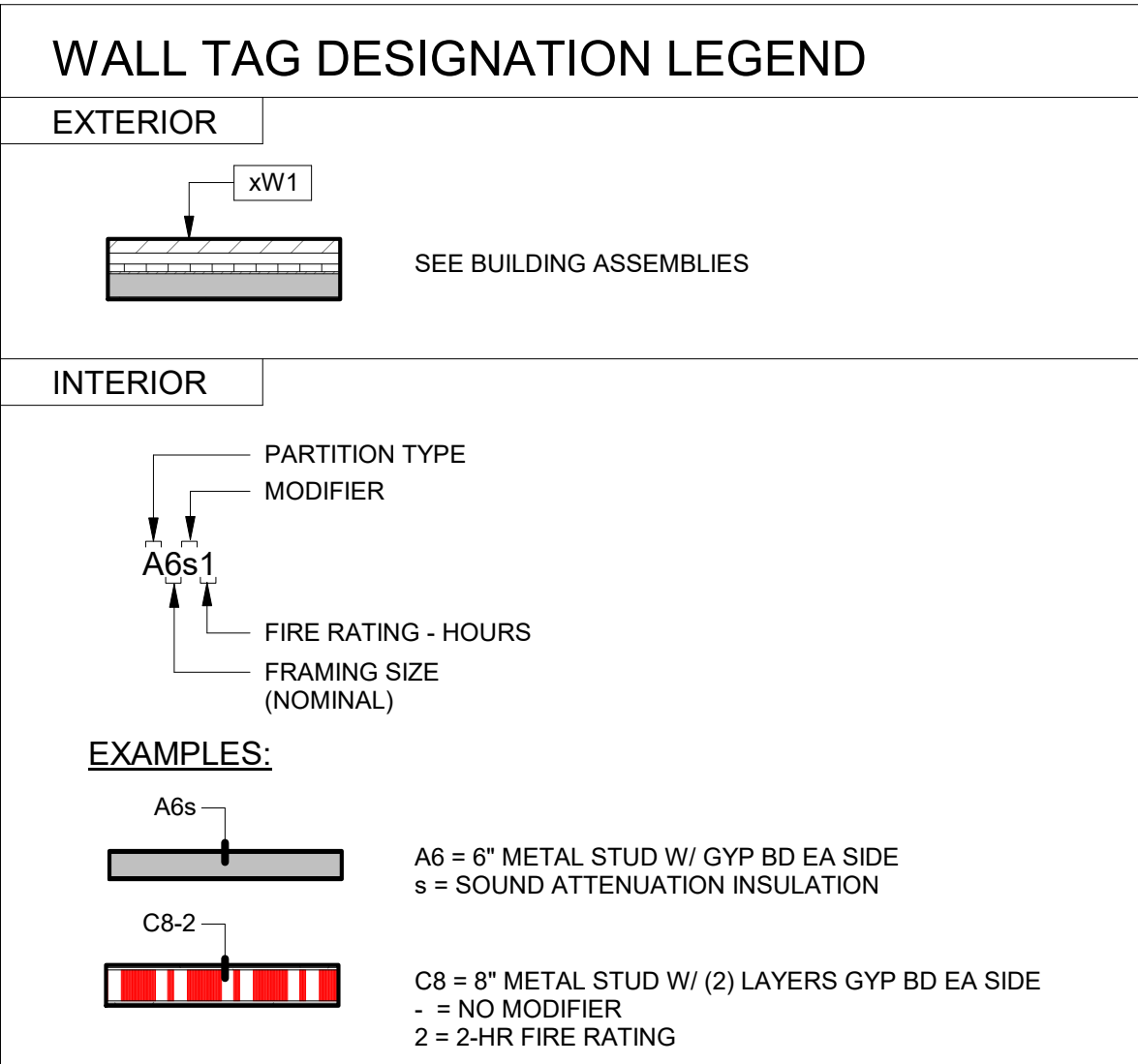






#### PARTITION GENERAL NOTES

- INTERIOR PARTITIONS SHALL EXTEND FULL HEIGHT TO THE UNDERSIDE OF FLOOR DECK OR ROOF DECK ABOVE, UNO.
- STUD SPACING SHALL BE 16"OC TYPICAL.
- PARTITION TYPES INDICATE GENERIC CONSTRUCTION. THE FINISH LEGEND AND SCHEDULE IDENTIFY SPECIFIC MATERIALS TO BE USED FOR THE SUBSTRATES. PARTITION TYPES MUST BE USED WITH THE LEGEND AND SCHEDULE TO UNDERSTAND THE TOTAL ASSEMBLY AND ITS FINISHES.
- TYPICAL CONDITIONS (UNO):
  - PERIMETER RELIEF: WHERE PARTITIONS MEET STRUCTURE OR DISSIMILAR CONSTRUCTION, PROVIDE PERIMETER RELIEF. SEE STRUCTURAL FOR DEFLECTION CRITERIA.
  - FIRE RATED WALL FACE MATERIAL TERMINATIONS: CONTINUOUS FROM TOP OF FLOOR SLAB TO FLOOR OR ROOF SLAB ABOVE.
  - ACOUSTICAL WALL SUBSTRATE MATERIAL: CONTINUOUS FROM TOP OF FLOOR SLAB TO FLOOR OR ROOF SLAB ABOVE. SEAL DEFLECTION SPACE AS REQUIRED.
- SOUND TESTS SHOWN HAVE BEEN CONDUCTED ACCORDING TO THE REQUIREMENTS OF ASTM E 90 FOR LABORATORY TESTS OR ASTM 336 FOR FIELD TESTS. THE CONTRACTOR MUST ADHERE TO SPECIFIED MATERIALS AND CONSTRUCTION DETAILS FOR SOUND AND FIRE RATED ASSEMBLIES, ALL OPENINGS THROUGH THE ASSEMBLY, AND ITS ENTIRE PERIMETER, MUST BE SEALED AIRTIGHT.
- FIRE RATED WALL CONSTRUCTION: PROVIDE FIRE STOPPING TO MEET FIRE RATINGS REQUIRED. WHERE OPENINGS ARE OVERSIZED, PROVIDE WALL INFILL TO MEET FIRE RATINGS.



**COFFMAN ENGINEERS**

221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

www.coffman.com

---

**ALSC ARCHITECTS**

203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568

6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.5292

alscarchitects.com

---

11625 REGISTERED ARCHITECT

TROY H. BISHOP  
STATE OF WASHINGTON

**WHITWORTH COMFORT STATION**

N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

**SHEET TITLE:**

**BUILDING ENCLOSURES & INTERIOR PARTITION TYPES**

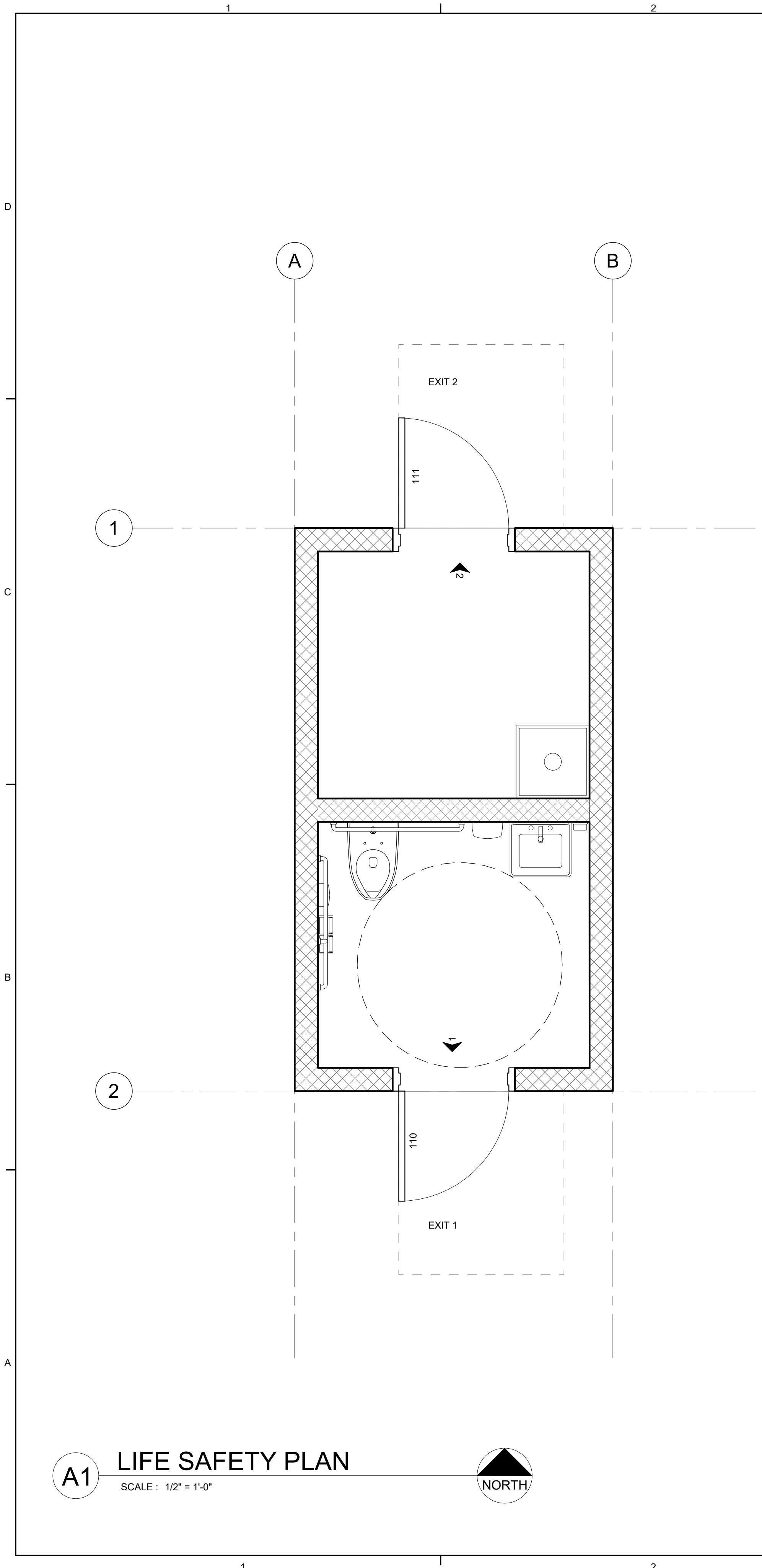
---

**SHEET NO:**

**A-050**

**BID SET**





**ENERGY CODE REQUIREMENTS**

**C401 GENERAL**  
 CLIMATE ZONE 5B SPOKANE  
 OCCUPANCY GROUP ALL OTHER  
 COMPLIANCE PATH PRESCRIPTIVE

**C402 BUILDING ENVELOPE REQUIREMENTS**  
 C402.1.1.1 LOW ENERGY BUILDINGS  
 BUILDING IS AN UNSTAFFED EQUIPMENT SHELTER AND IS EXEMPT FROM THERMAL ENVELOPE PROVISIONS OF THE CODE

**C403 BUILDING MECHANICAL SYSTEMS**  
 SEE MECHANICAL DRAWINGS

**C404 SERVICE WATER HEATING**  
 SEE MECHANICAL DRAWINGS

**C405 ELECTRICAL POWER AND LIGHTING SYSTEMS**  
 SEE ELECTRICAL DRAWINGS

**C406 ADDITIONAL ENERGY EFFICIENCY OPTIONS**  
 C406.1 EXEMPTION: LOW ENERGY BUILDINGS ARE EXEMPT FROM LOAD MANAGEMENT REQUIREMENTS IN TABLE C406.1 AND SHALL ACHIEVE A MINIMUM OF 50% OF THE REQUIRED EFFICIENCY CREDITS.

TABLE C406.1 ENERGY MEASURE CREDIT REQUIREMENTS:  
 NEW BLDG, ALL OTHER 50% x 49 = 25 CREDITS

TABLE C406.2(1) EFFICIENCY MEASURE CREDITS

ITEM 10	20% REDUCED LIGHTING POWER	29 CREDITS
---------	----------------------------	------------

**PROJECT CODE INFORMATION**

**APPLICABLE CODES: (WITH WA AMMENDMENTS)**  
 2021 INTERNATIONAL BUILDING CODE  
 2021 WASHINGTON STATE ENERGY CODE  
 2021 INTERNATIONAL FIRE CODE  
 2021 INTERNATIONAL FUEL GAS CODE  
 2021 INTERNATIONAL MECHANICAL CODE  
 2021 UNIFORM PLUMBING CODE  
 ICC/ANSI A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES

A. TYPE OF CONSTRUCTION (TABLE 601) VB - NON-SPRINKLED

B. BASIC ALLOWABLE FLOOR AREA 5,500 SF  
 ALLOWABLE AREA (SECT 506.2.3)  $A_a = [A_t + (NS \times If)] \times S_a$   
 $A_a = [5,500 + (5,500 \times 0.1)] \times 1$   
 $A_a = 11,000$  SF

ACTUAL AREA 98 SF

C. MAXIMUM BUILDING HEIGHT (TABLE 504.3 / 504.4)  
 ALLOWED 40'-0" / 1 STORY  
 ACTUAL 12'-4" / 1 STORY

D. FIRE RESISTANCE REQUIREMENTS (TABLE 601)  
 STRUCTURAL FRAME 0  
 EXTERIOR BEARING WALLS 0  
 INTERIOR BEARING WALLS 0  
 EXTERIOR NON-BEARING WALLS 0  
 FLOOR CONSTRUCTION 0  
 ROOF CONSTRUCTION 0

E. MAXIMUM TRAVEL DISTANCE (TABLE 1071.2) 250'-0" AT SPRINKLED AREA  
 200'-0" AT NON-SPRINKLED AREA

F. MAXIMUM COMMON PATH OF TRAVEL (TABLE 1006.2.1) 75'-0"

G. PLUMBING FIXTURES (TABLE 2902.1) (WA RULE CR-013E)  
 OCCUPANTS:  $\pm 100SF / 300 = 1$  OCCUPANTS  
 WATER CLOSETS: REQUIRED PROVIDED  
 MALE & FEMALE 1 / xx = 1 1  
 LAVATORIES: REQUIRED PROVIDED  
 MALE & FEMALE 1 / xx = 1 1

DRINKING FOUNTAINS (SEC 2902.6) 0 REQUIRED  
 FOR LOAD LESS THAN 15 DRINKING 0 PROVIDED  
 FOUNTAINS NOT REQUIRED

**LEGAL DESCRIPTION / ZONING INFORMATION**

**AUTHORITY HAVING JURISDICTION:**  
 SPOKANE COUNTY BUILDING & PLANNING DEPARTMENT

**ZONING REQUIREMENTS:**

A. PARCEL NUMBER 36184.2430

B. PROPERTY ADDRESS UNASSIGNED ADDRESS

C. LEGAL DESCRIPTION SPOKANE ESTATES PLAT B; PTN OF TRS 9, 10 & 11 LYG SLY OF HAWTHORNE RD AND PTNS OF VAC RDS LYG BTWN SD TRS.

D. ZONING LDR - LOW RESIDENTIAL AREA

E. MAX BUILDING COVERAGE 55% OF LOT AREA

F. MAX BUILDING HEIGHT 35'-0"

G. FRONT YARD SETBACK 15' - 0" FROM PROPERTY LINE

H. SIDE/REAR YARD SETBACK 5' - 0"

I. PROPOSED BUILDING AREA 99 SF

J. PROPOSED BUILDING HEIGHT 13'-0" / 1 STORY

K. PARKING REQUIREMENTS N/A

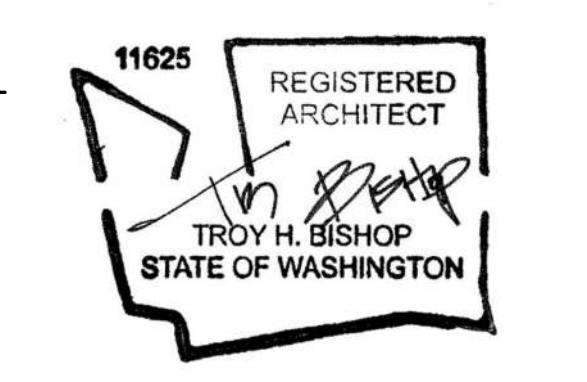
TOTAL PARKING PROVIDED: 0 STALLS

**EXITING REQUIREMENTS**

TOILET ROOM 110 - EXIT #1	1 OCC x 0.15" = 0.15" 34.5" PROVIDED
UTILITY CHASE 111 - EXIT #2	1 OCC x 0.15" = 0.15" 34.5" PROVIDED



221 N. Wall Street,  
 Suite 500  
 Spokane, WA 99201  
 ph 509.328.2994  
 www.coffman.com



**WHITWORTH COMFORT STATION**  
 N IVANHOE RD & E HAWTHORNE RD  
 SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
 1230 W. Boone Avenue  
 Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
 DRAWN BB  
 CHECKED GAS  
 DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
 LIFE SAFETY PLAN

SHEET NO:  
 LS100

BID SET

12/27/2024 10:37:56 AM

**A1 LIFE SAFETY PLAN**  
 SCALE: 1/2" = 1'-0"  
 NORTH



DOOR SCHEDULE

ROOM NAME	MARK	NO OF LEAFS	DOOR			FRAME			HDW	COMMENTS		
			WIDTH	HEIGHT	THK	DOOR TYPE	MATL	TYPE			MATL	HEAD HEIGHT
	110	1	3'-0"	7'-0"	2"	P01	FRP	F11	FRP	2"	1	ELECTRIFIED HARDWARE, SEE ELEC. ACCESS CONTROL BY OWNER.
	111	1	3'-0"	7'-0"	2"	P01	FRP	F11	FRP	2"	1	ELECTRIFIED HARDWARE, SEE ELEC. ACCESS CONTROL BY OWNER.

GENERAL NOTES - PLAN

- DIMENSIONS ARE TO FACE OF GRID LINES, FACE OF CMU, AND CENTERLINE OF COLUMNS UNO
- CLR DIMENSIONS INDICATE CLEAR DIMENSIONS FROM FACE OF WALL FINISH
- WALL TYPES DEFINE THE ENTIRE LENGTH OF A WALL ON THE WALL SIDE NOTED FROM CORNER TO CORNER UNO. SEE SHEET A-050 FOR WALL TYPES LEGEND.
- MASONRY DIMENSIONS ARE NOMINAL, VERIFY ACTUAL DIMENSIONS
- SEE DOOR SCHEDULE FOR DOOR AND RELITE FRAME TYPES AND DETAIL REFERENCES.

CODED NOTES - PLAN

P-15	MOP SINK
P-16	FLOOR DRAIN, SLOPE CONCRETE SURFACE WITHIN 24" RADIUS AT 1/4" PER 12" UNLESS OTHERWISE NOTED
P-17	FRP TO 7'-0" AFF AT MOP SINK
P-19	DASHED LINE INDICATES EDGE OF ROOF ABOVE



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

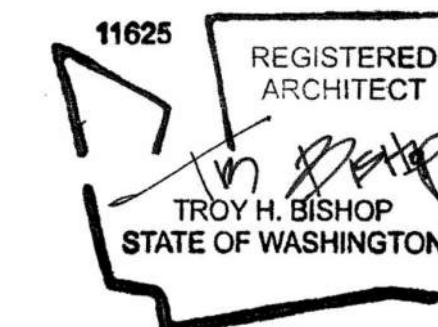
ph 509.328.2994

www.coffman.com



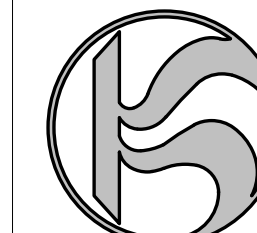
203 North Washington Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.5292

alscarchitects.com



WHITWORTH COMFORT STATION  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

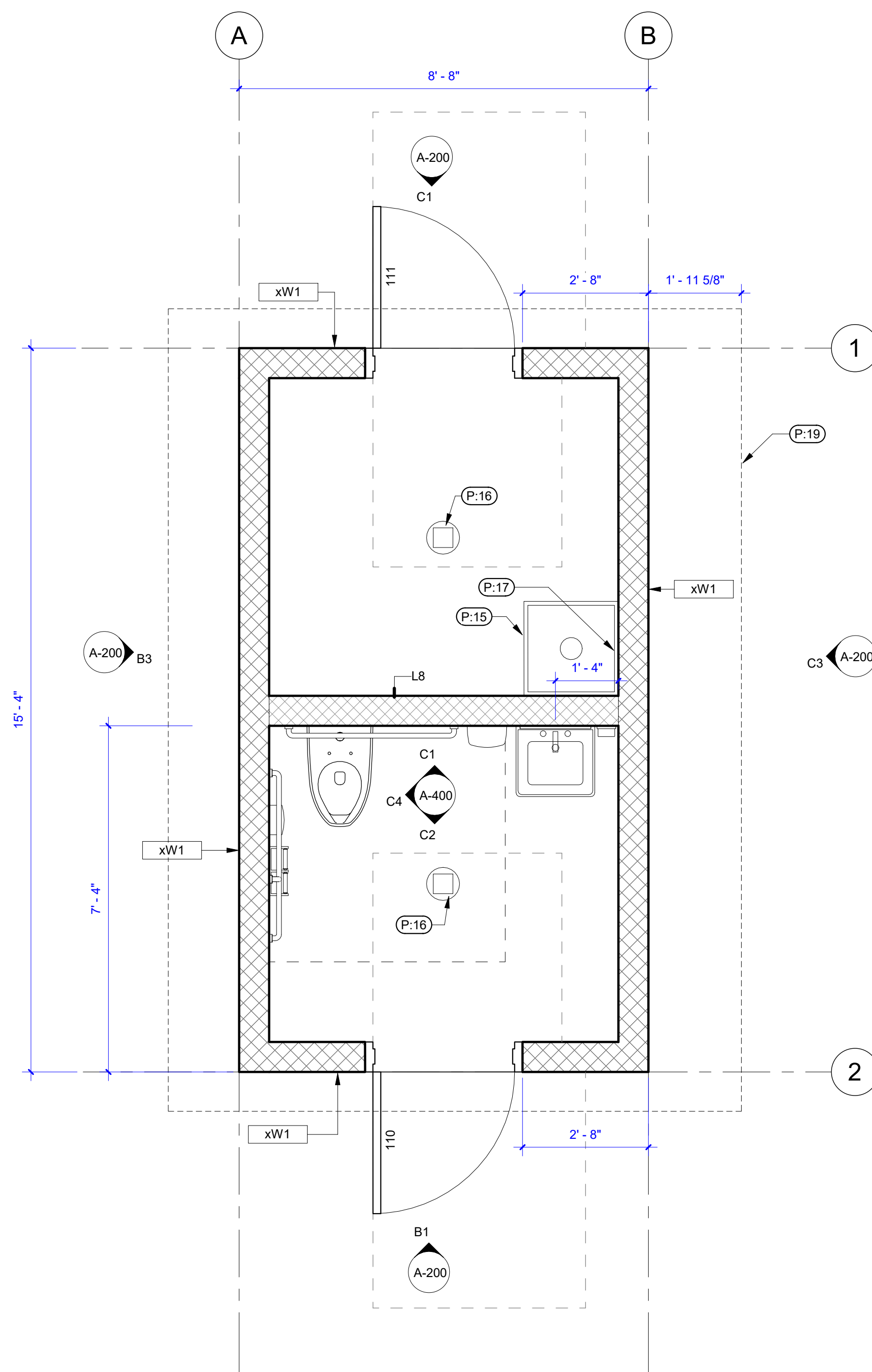
SHEET TITLE:

OVERALL FLOOR PLAN

SHEET NO:

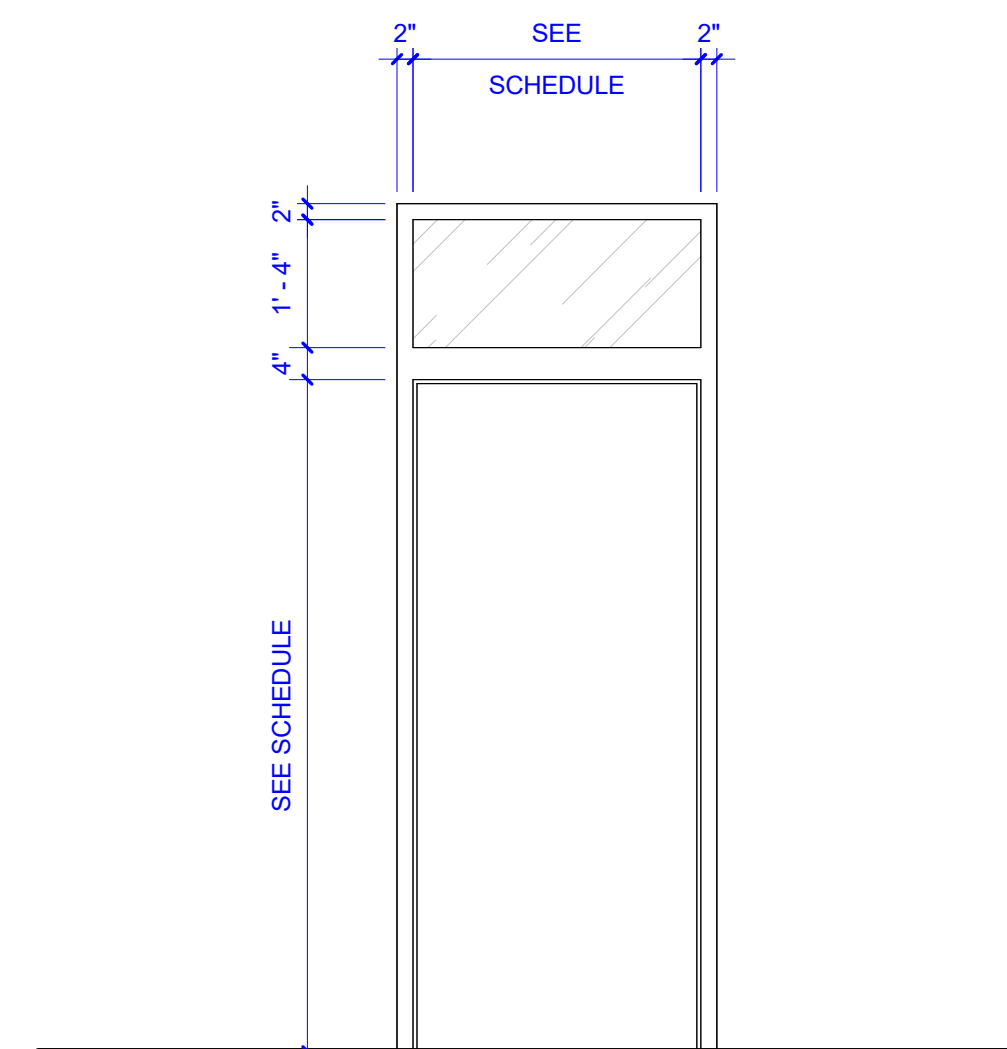
A-100

BID SET



A1 GROUND LEVEL PLAN

SCALE: 1/2" = 1'-0"

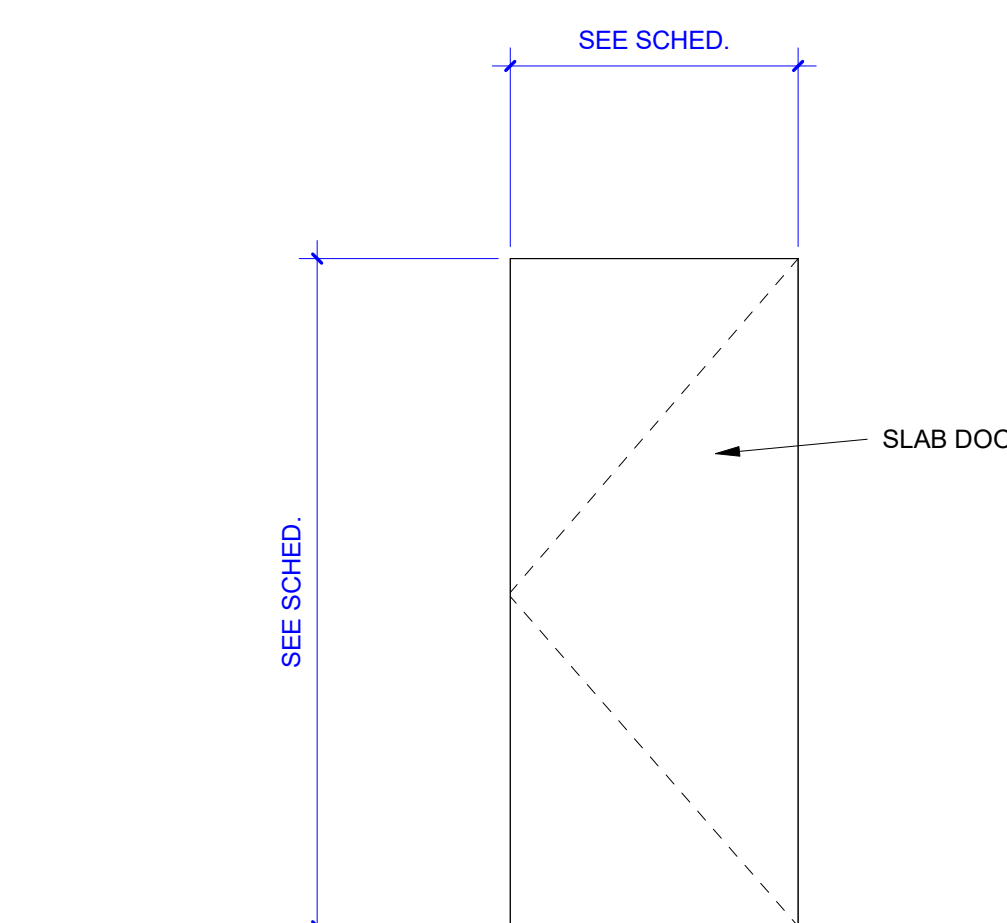


F11

SINGLE TRANSOM

C3 DOOR FRAME ELEVATION

SCALE: NOT TO SCALE



P01

SOLID PANEL

A3 DOOR PANEL ELEVATION

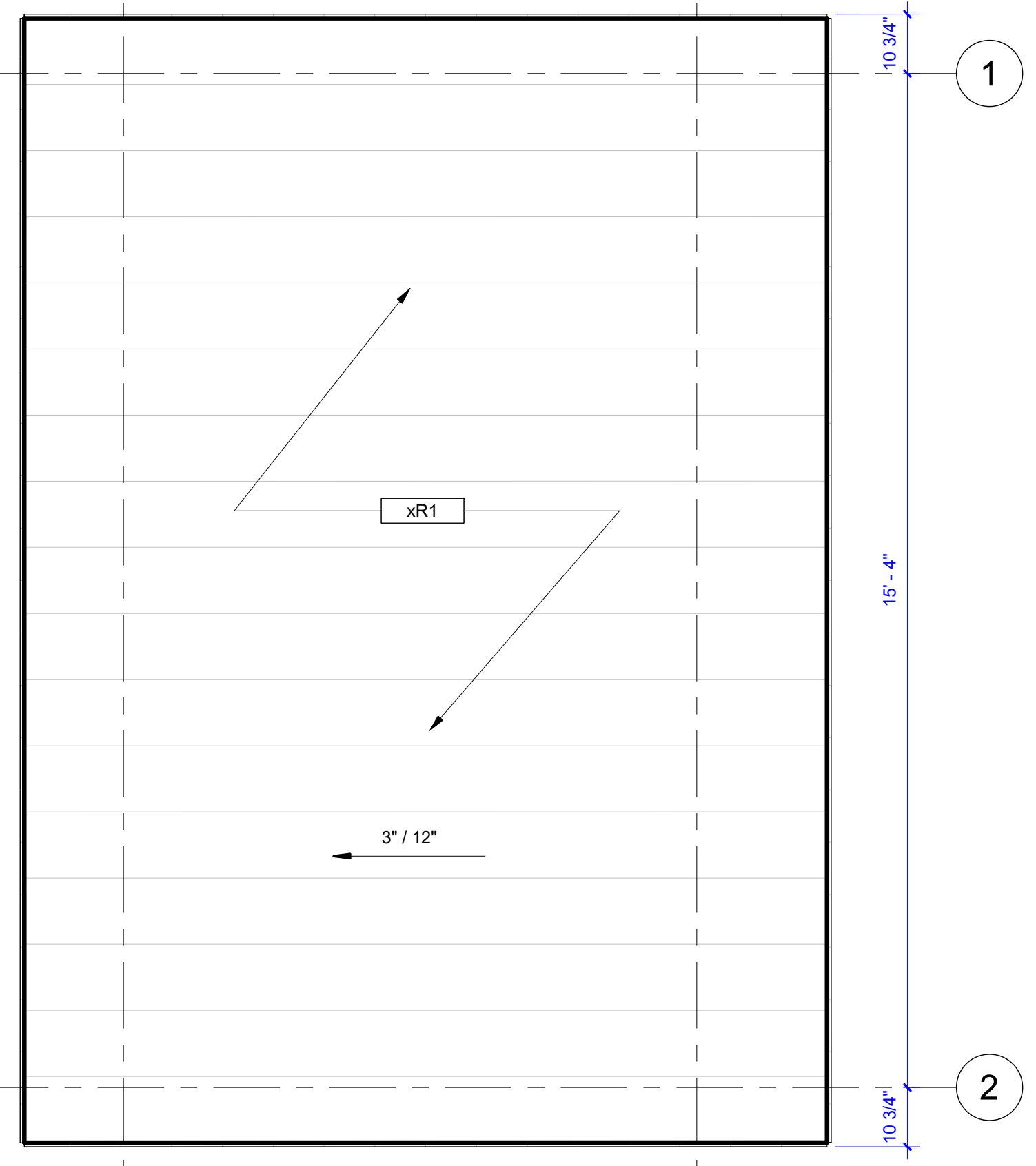
SCALE: NOT TO SCALE



1 2 3 4 5

A B

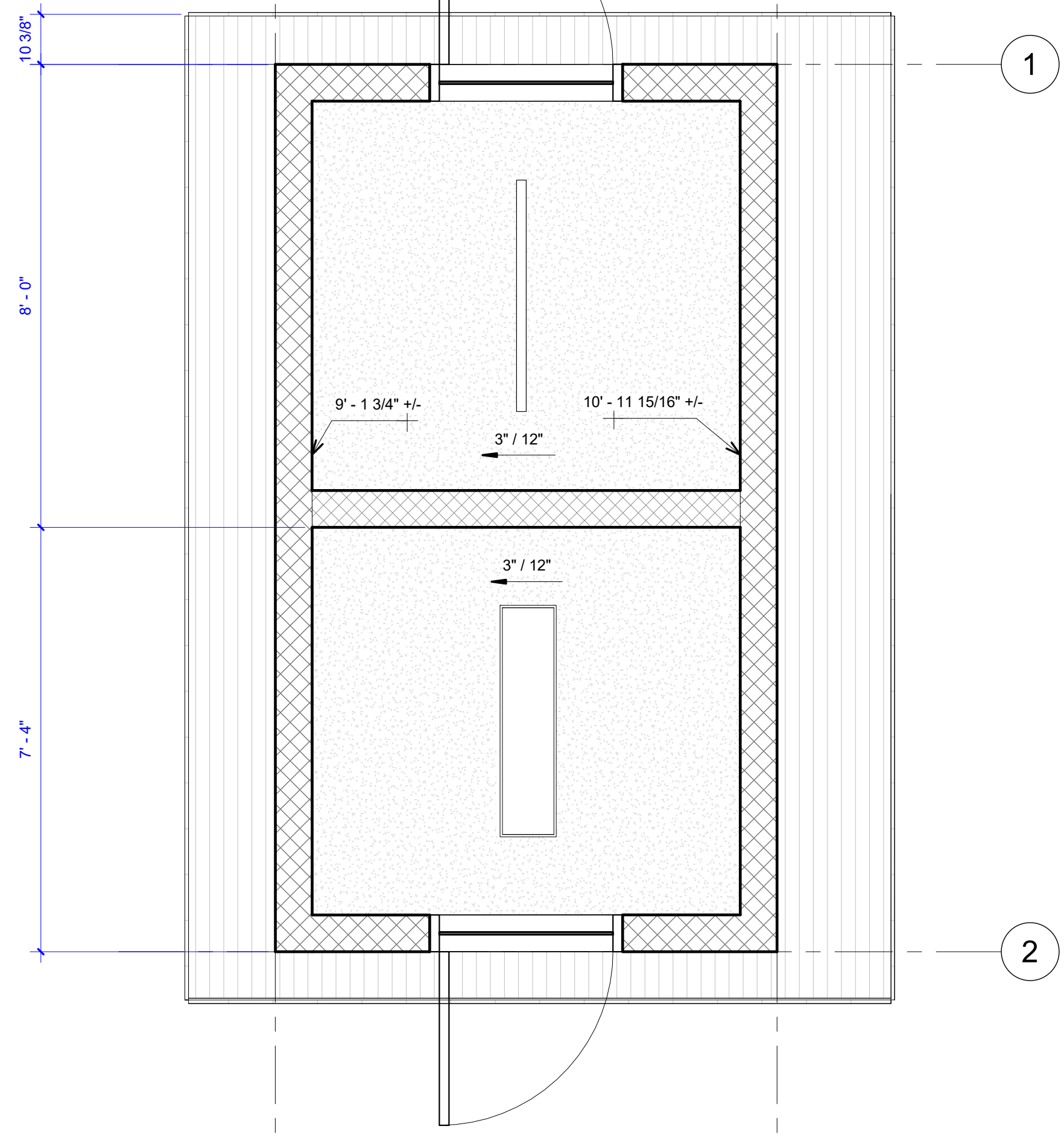
8' - 8"



**A1** ROOF LEVEL PLAN  
SCALE: 1/2" = 1'-0"  
NORTH

A B

8' - 8"



**A3** REFLECTED CEILING PLAN  
SCALE: 1/2" = 1'-0"  
NORTH

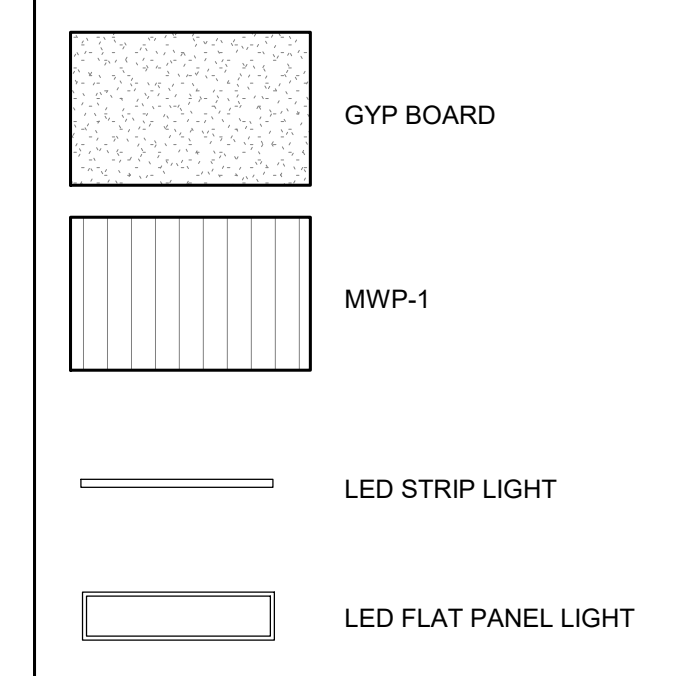
**GENERAL NOTES - ROOF**

1. ARROWS INDICATE DIRECTION OF SLOPE, TYP. SLOPE 1/2" PER FT, TYP.
2. SEE MECHANICAL DWGS FOR MORE INFORMATION, EQUIPMENT & ROOF PENETRATIONS.
3. PROVIDE TAPERED INSULATION CRICKET AT ALL MECH EQUIPMENT.
4. COORDINATE ALL PENETRATIONS THROUGH ROOF WITH ROOFING AND EQUIPMENT MANUFACTURER'S STANDARD DETAILS.

**GENERAL NOTES - RCP**

1. ALL HEIGHTS LISTED ARE AFF UNO.
2. PAINT ALL VISIBLE CEILING ELEMENTS INCLUDING BUT NOT LIMITED TO HVAC DUCTS, CONDUIT, PIPES AND STRUCTURAL ELEMENTS P-1 UNO.
3. ALL GYP BD WALLS & SOFFITS EXPOSED TO VIEW &/OR ADJACENT TO CEILING CLOUDS SHALL BE PAINTED P-1 TO UNDERSIDE OF STRUCTURE. MATCH COLOR OF GYP BD HORIZ SURFACE TO VERT SURFACE.

**CEILING TYPE LEGEND**



**COFFMAN ENGINEERS**  
221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.5292  
alscarchitects.com

11625 REGISTERED ARCHITECT  
*Troy H. Bishop*  
TROY H. BISHOP  
STATE OF WASHINGTON

**WHITWORTH COMFORT STATION**  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

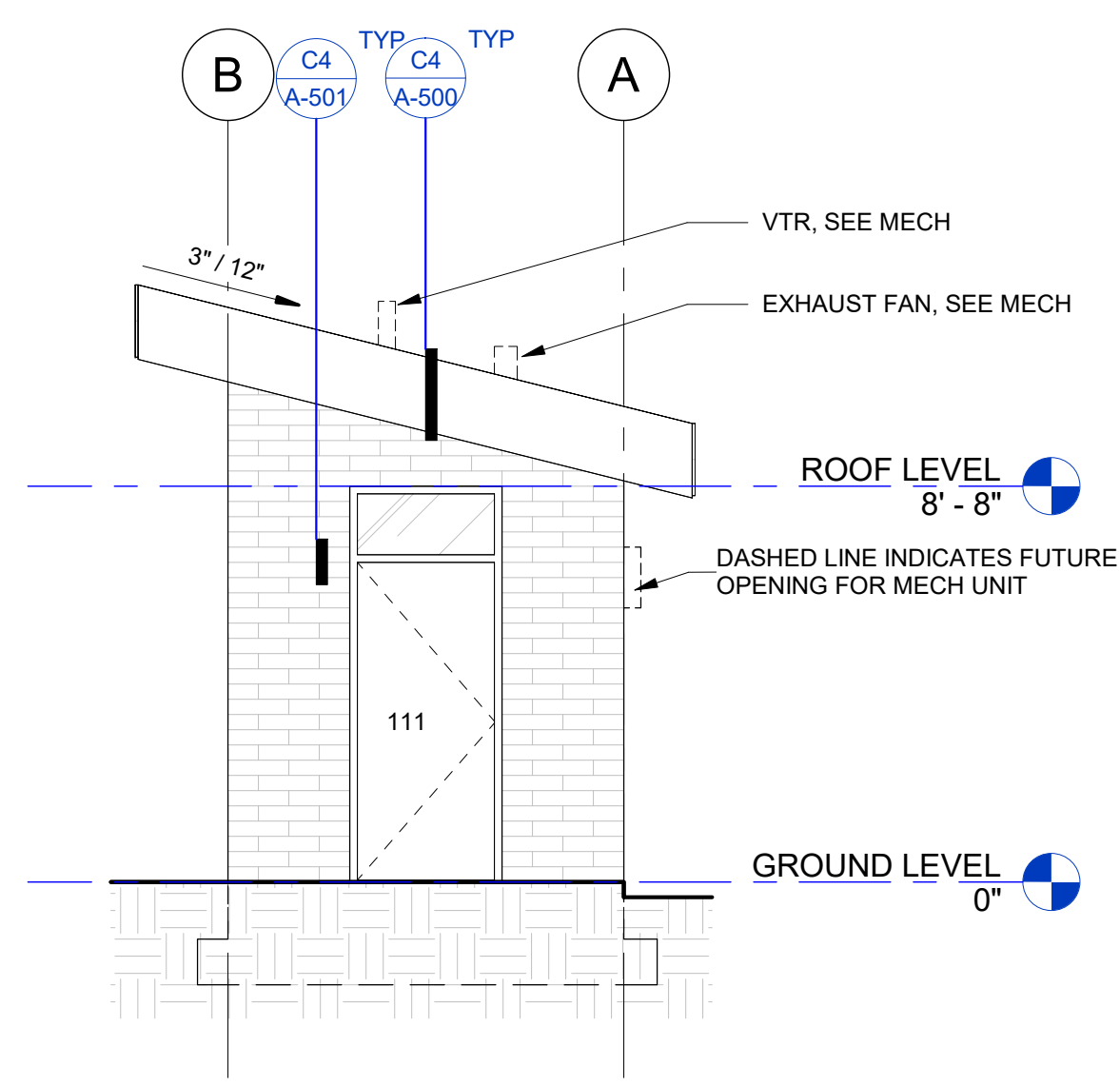
SHEET TITLE:  
**ROOF & REFLECTED CEILING PLAN**

SHEET NO:  
**A-101**

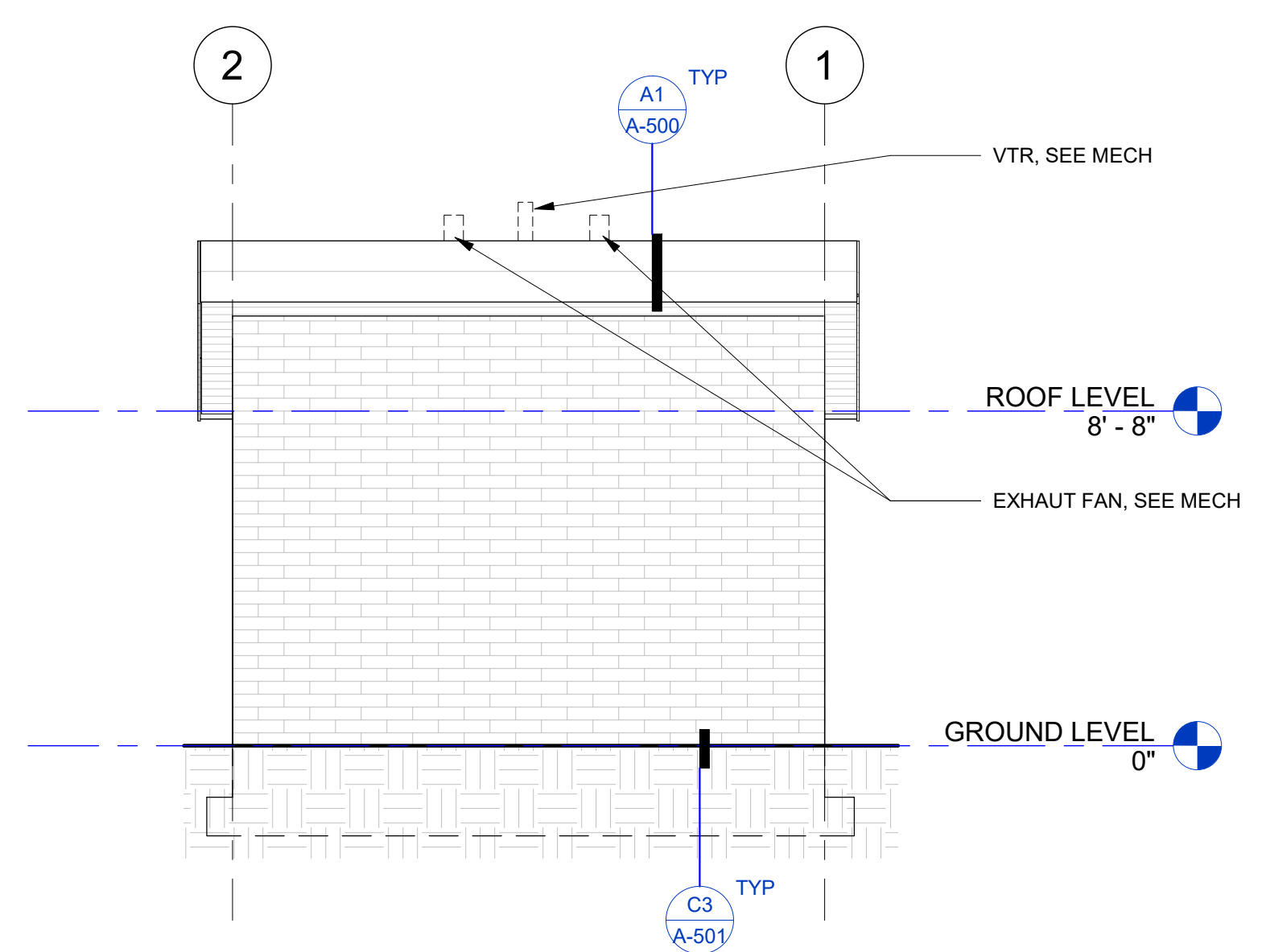
**BID SET**

12/27/2024 10:37:56 AM

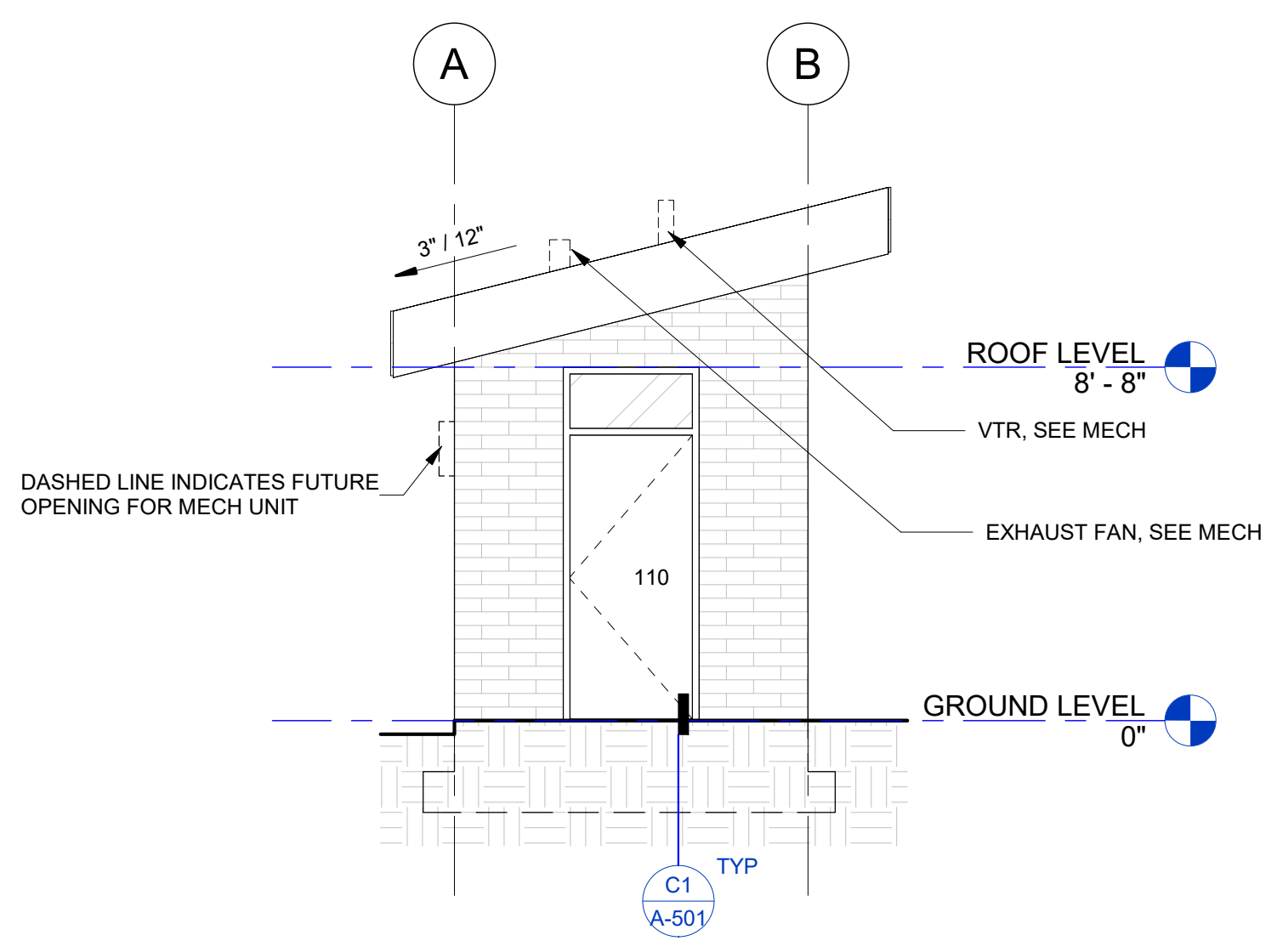




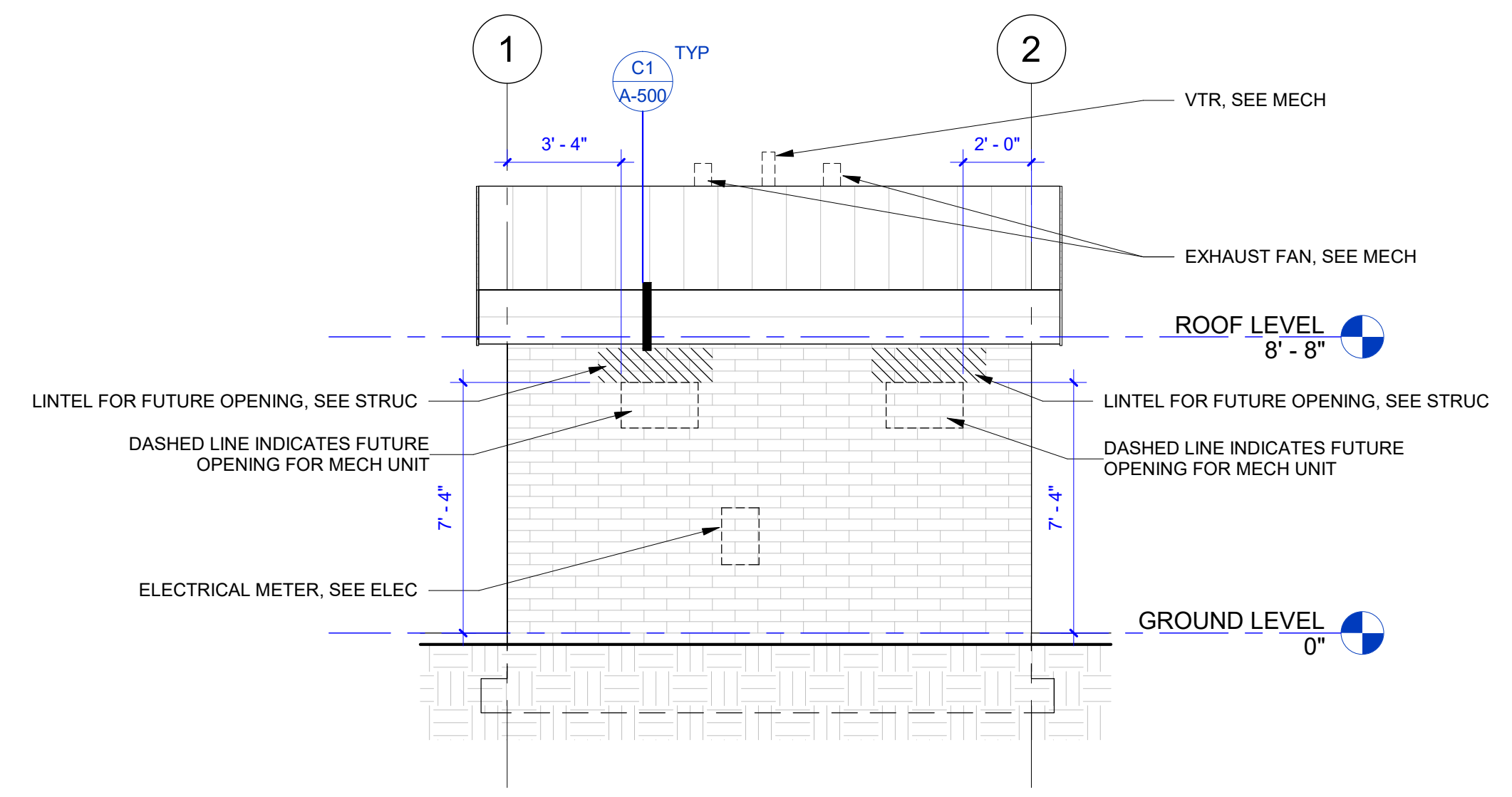
**C1 NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"



**C3 EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**B1 SOUTH ELEVATION**  
SCALE: 1/4" = 1'-0"

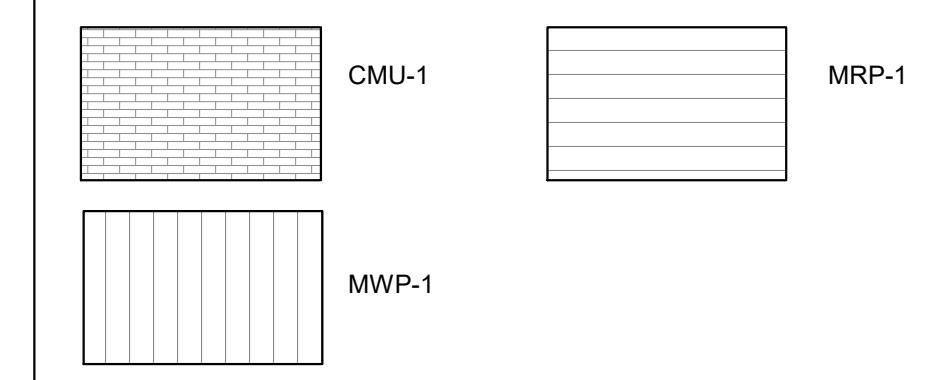


**B3 WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

**GENERAL NOTES - OVERALL ELEVATIONS**

- GROUND LEVEL = 0'-0".
- APPLY ANTI-GRAFFITI AND WATER-REPELLENT COATINGS TO ALL EXPOSED MASONRY.
- AT ALL FLASHING THAT IS NOT CONTINUOUS (ABOVE OR BELOW OPENINGS IN THE WALL, THRU-WALL FLASHING TERMINATION AT DOOR JAMBS, ETC.), PROVIDE FLASHING END DAM.
- SEE SHEET A-050 FOR EXTERIOR ENVELOPE ASSEMBLIES.
- APPROX. LINE OF BELOW GRADE MASONRY LEDGE SHOWN DASHED. RE: STRUCTURAL FOR FOOTING AND LEDGE ELEVATIONS.
- GRADE LINES INDICATED ARE APPROXIMATE AND SHOWN FOR REFERENCE ONLY REFER TO CIVIL AND LANDSCAPE DRAWINGS FOR GRADING INFO.

**MATERIAL LEGEND**



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

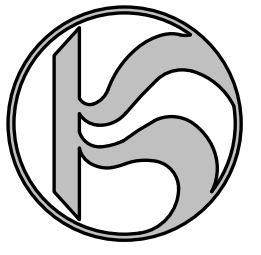


203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.5292  
alscarchitects.com



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

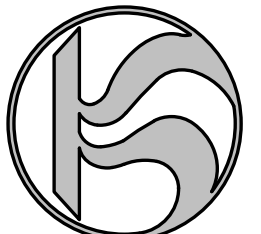
© COFFMAN ENGINEERS

SHEET TITLE:  
**EXTERIOR ELEVATIONS**

SHEET NO:  
**A-200**

**BID SET**





REV	DATE	DESCRIPTION

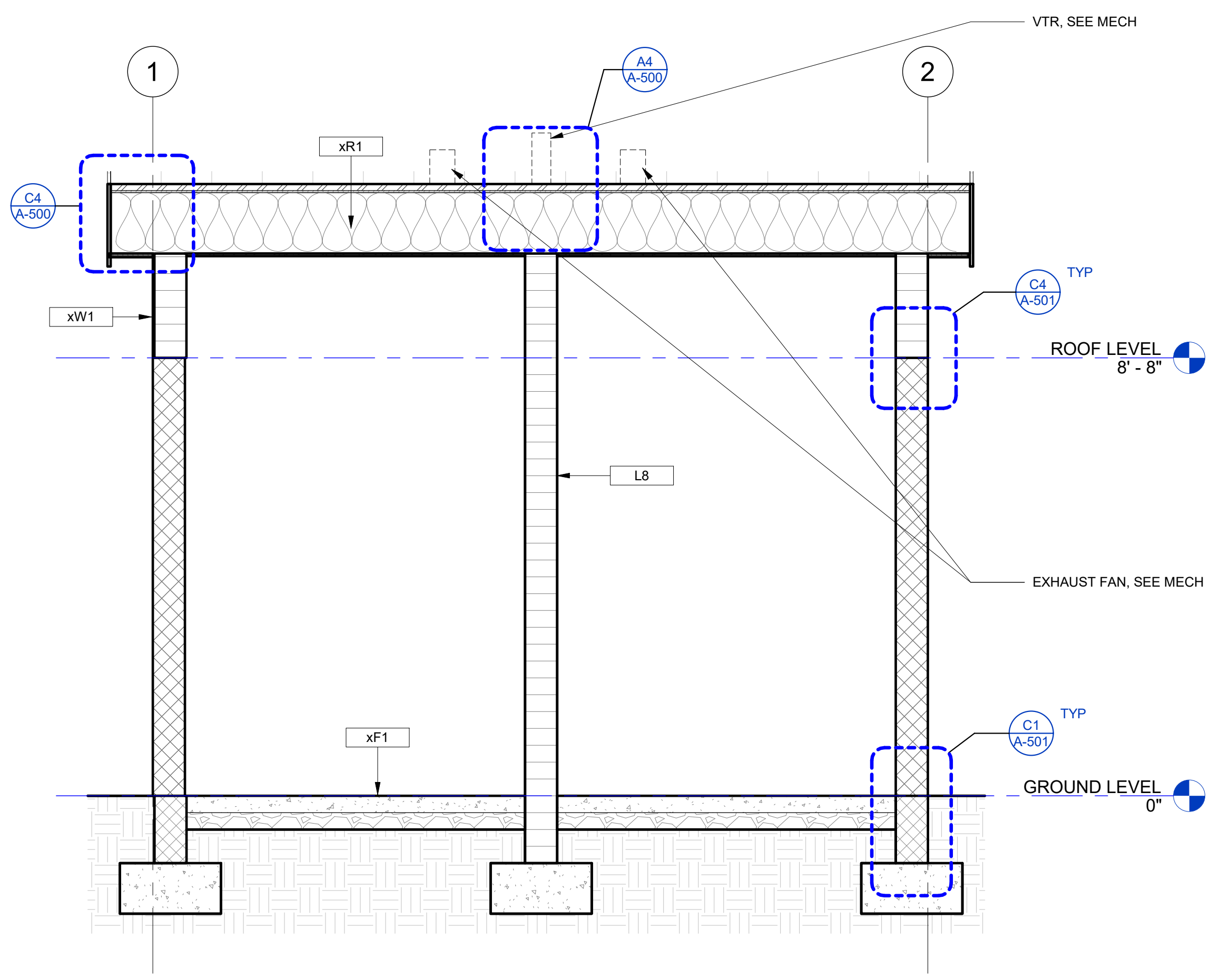
PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

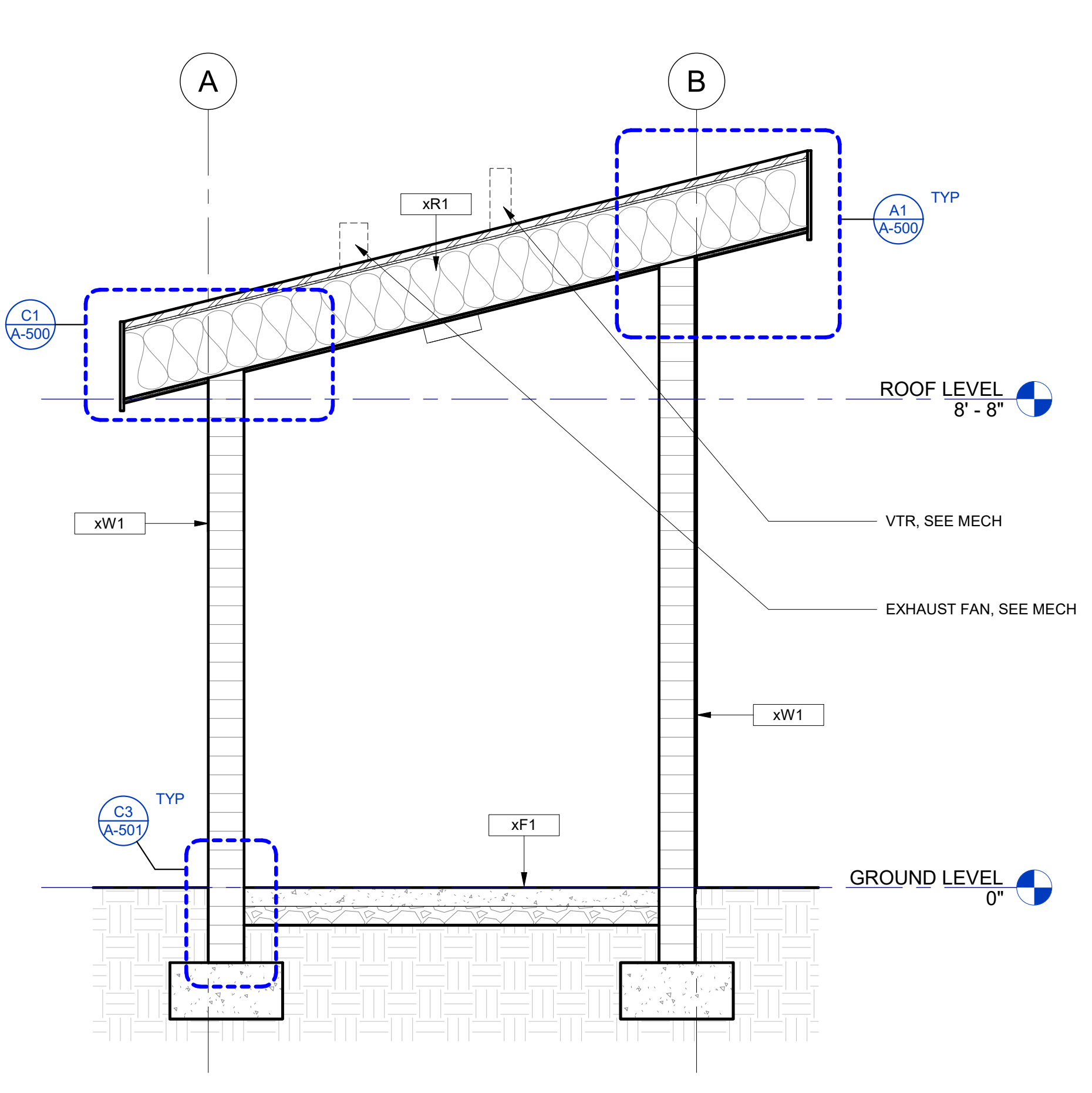
SHEET TITLE:  
**SECTIONS**

SHEET NO:  
**A-300**

**BID SET**

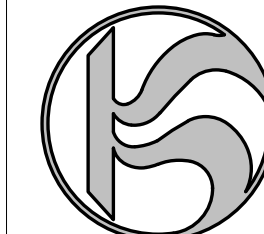


**B1 LONGITUDINAL SECTION**  
SCALE: 1/2" = 1'-0"



**B3 CROSS SECTION**  
SCALE: 1/2" = 1'-0"





REV	DATE	DESCRIPTION

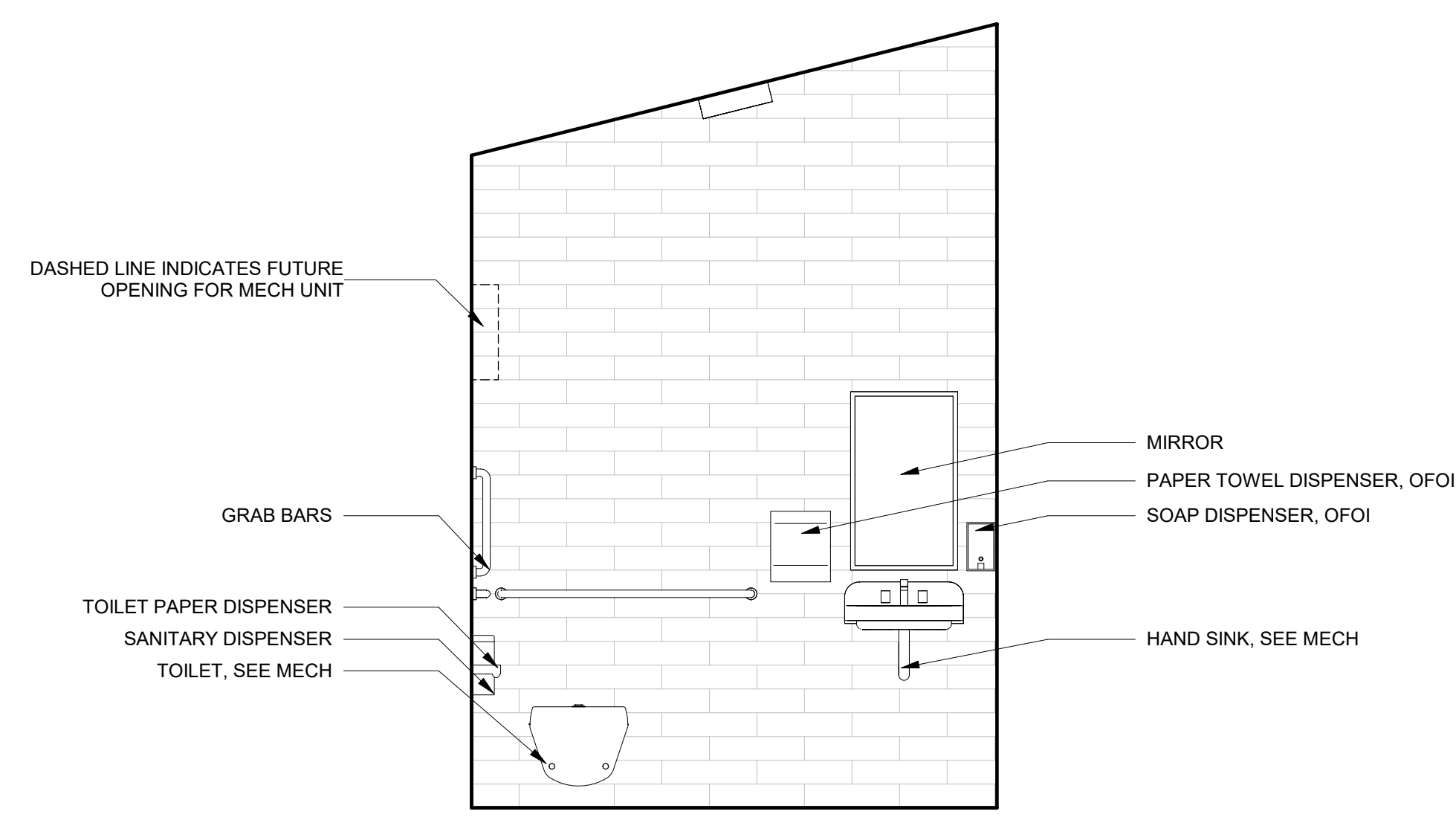
PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

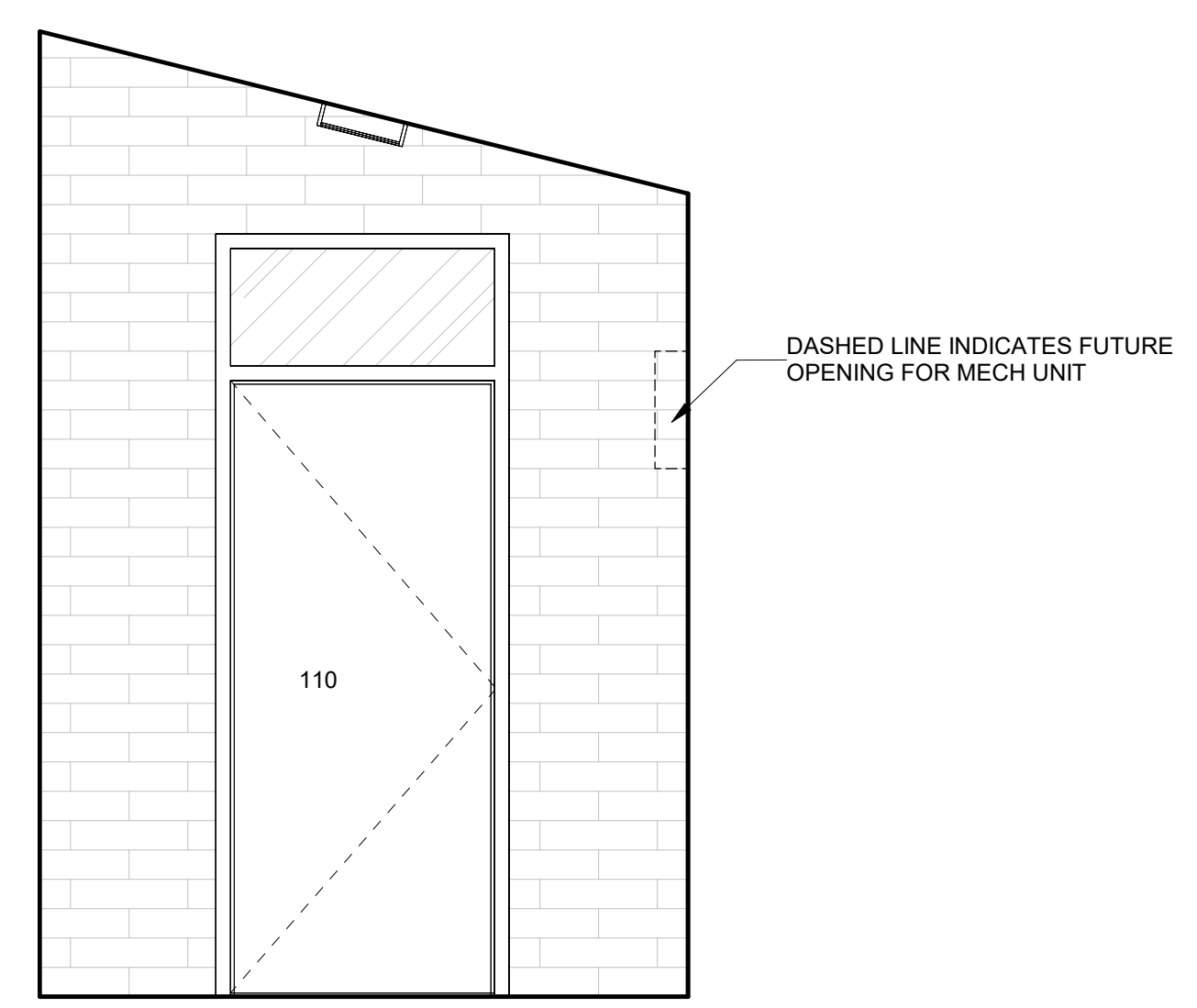
SHEET TITLE:  
**INTERIOR ELEVATIONS & EQUIPMENT MOUNT HEIGHTS**

SHEET NO:  
**A-400**

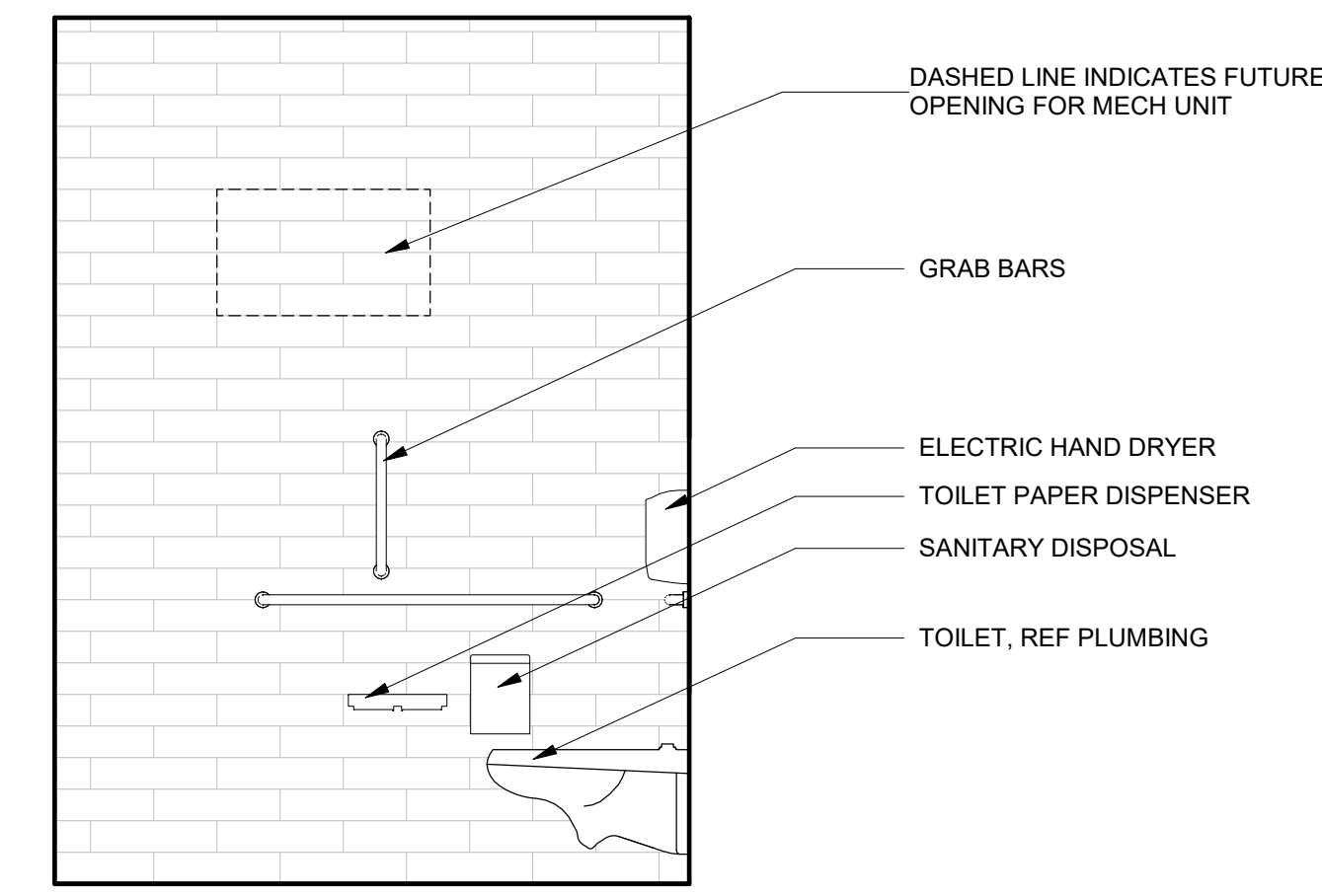
**BID SET**



**C1 INTERIOR ELEVATION - NORTH**  
SCALE: 1/2" = 1'-0"



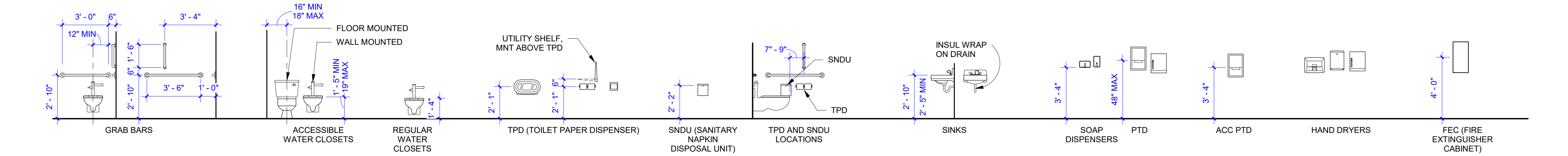
**C2 INTERIOR ELEVATION - SOUTH**  
SCALE: 1/2" = 1'-0"



**C4 INTERIOR ELEVATION - WEST**  
SCALE: 1/2" = 1'-0"

**FINISH SCHEDULE**

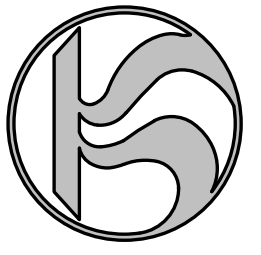
ROOM NO	NAME	FLOOR FINISH	WALL FINISH				CEILING FINISH	COMMENTS
			N	S	E	W		
110	RESTROOM	SC	P2	P2	P2	P2	P1	
111	UTILITY CHASE	SC	P2	P2	P2	P2	P1	



**A1 EQUIPMENT MOUNTING HEIGHTS**  
SCALE: 1/4" = 1'-0"

12/27/2024 10:36:00 AM





REV	DATE	DESCRIPTION

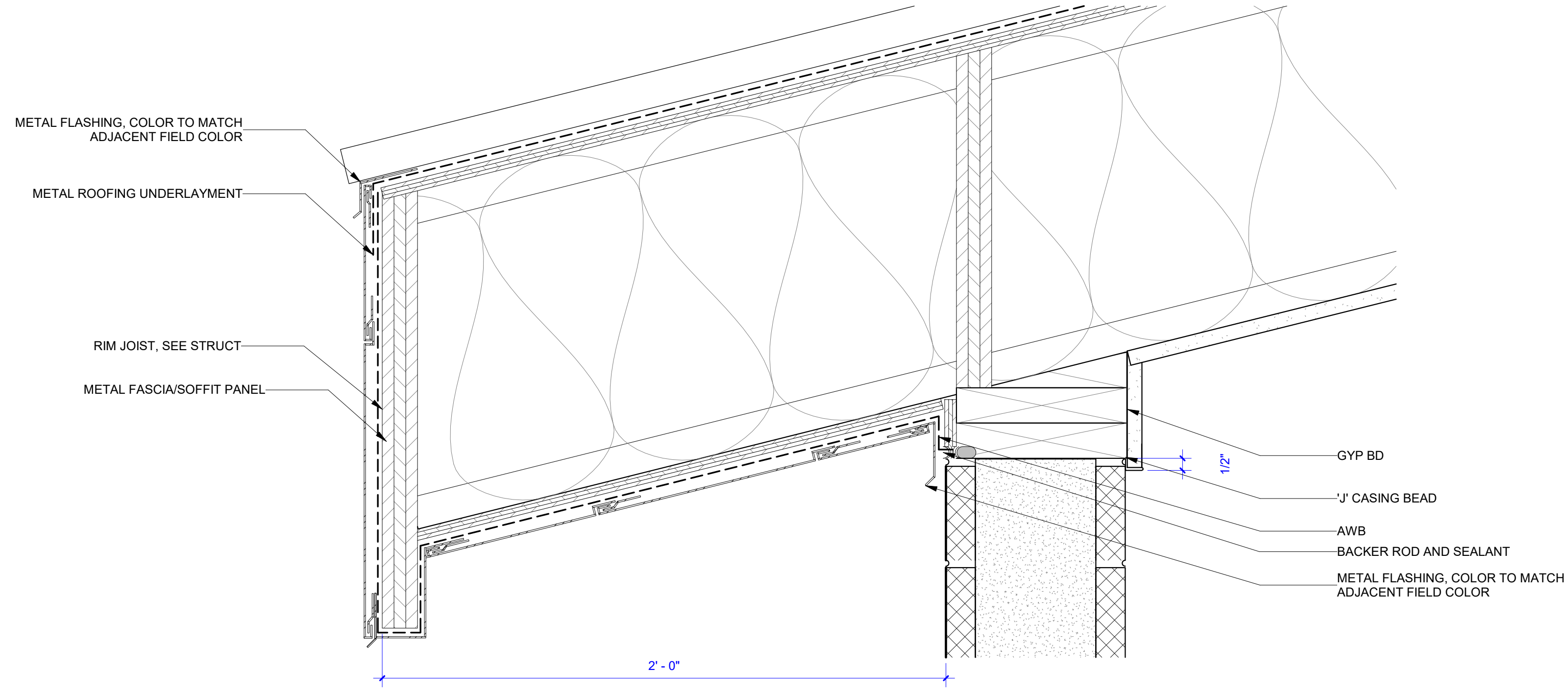
PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

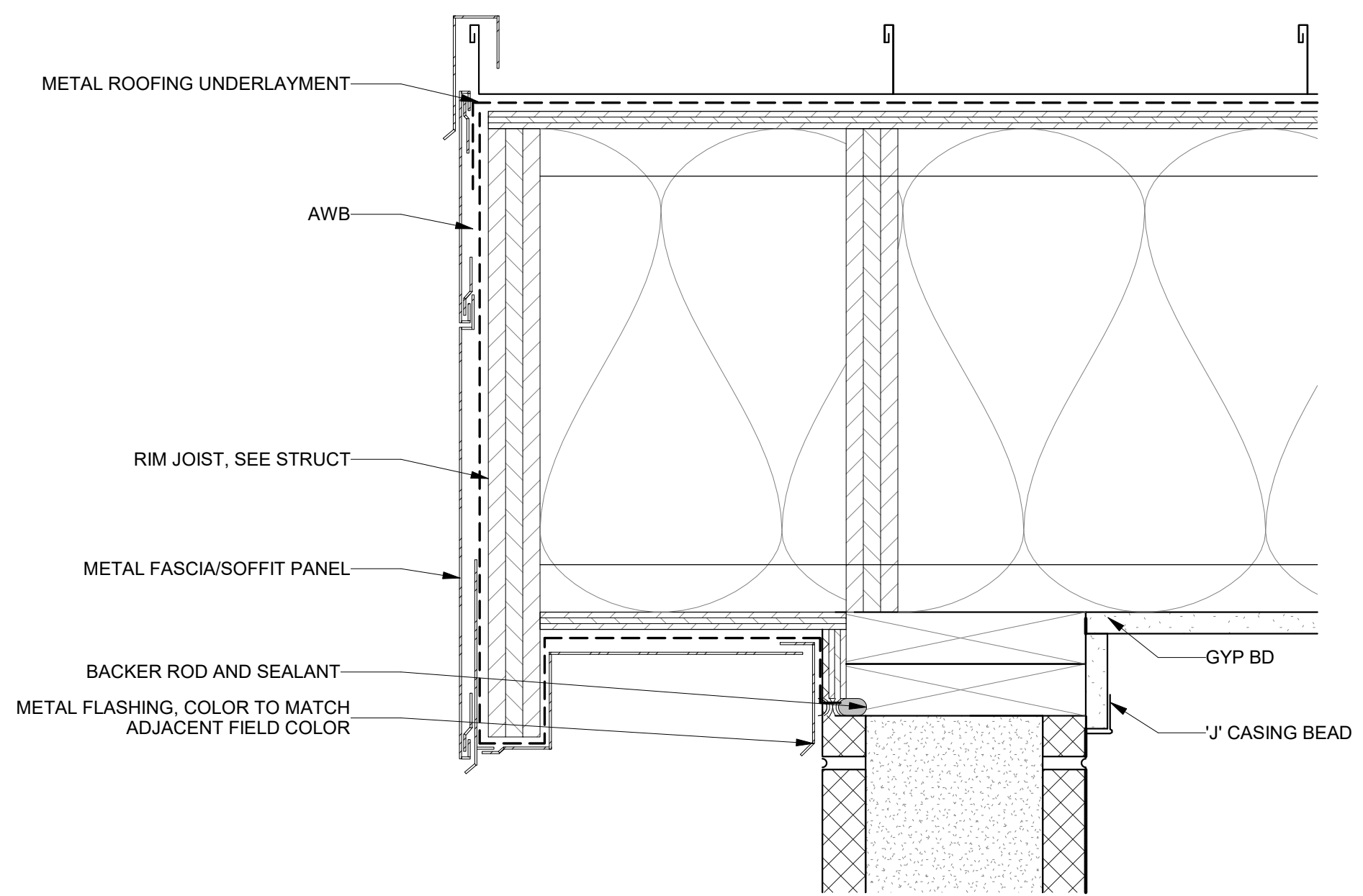
SHEET TITLE:  
**DETAILS**

SHEET NO:  
**A-500**

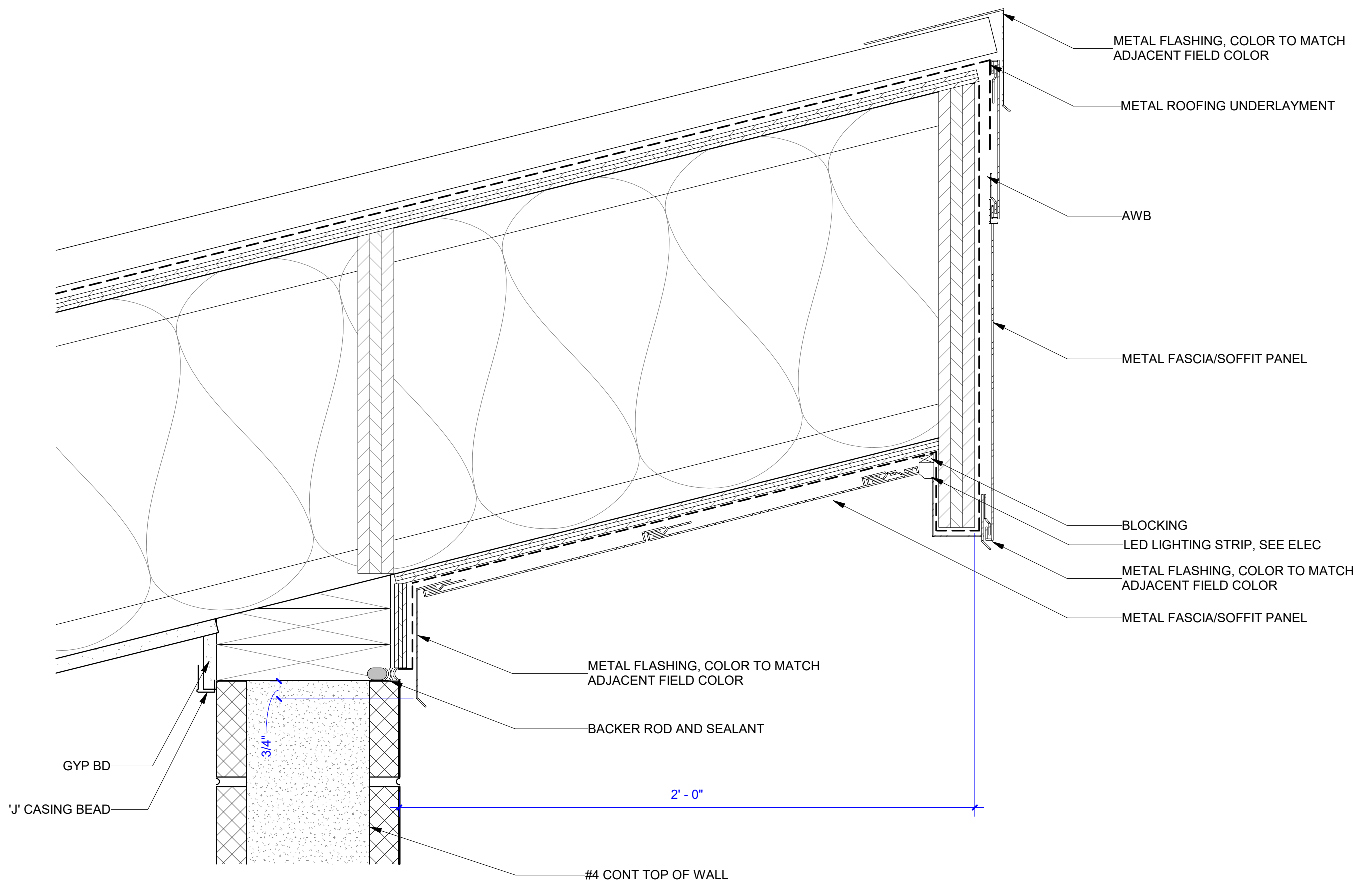
**BID SET**



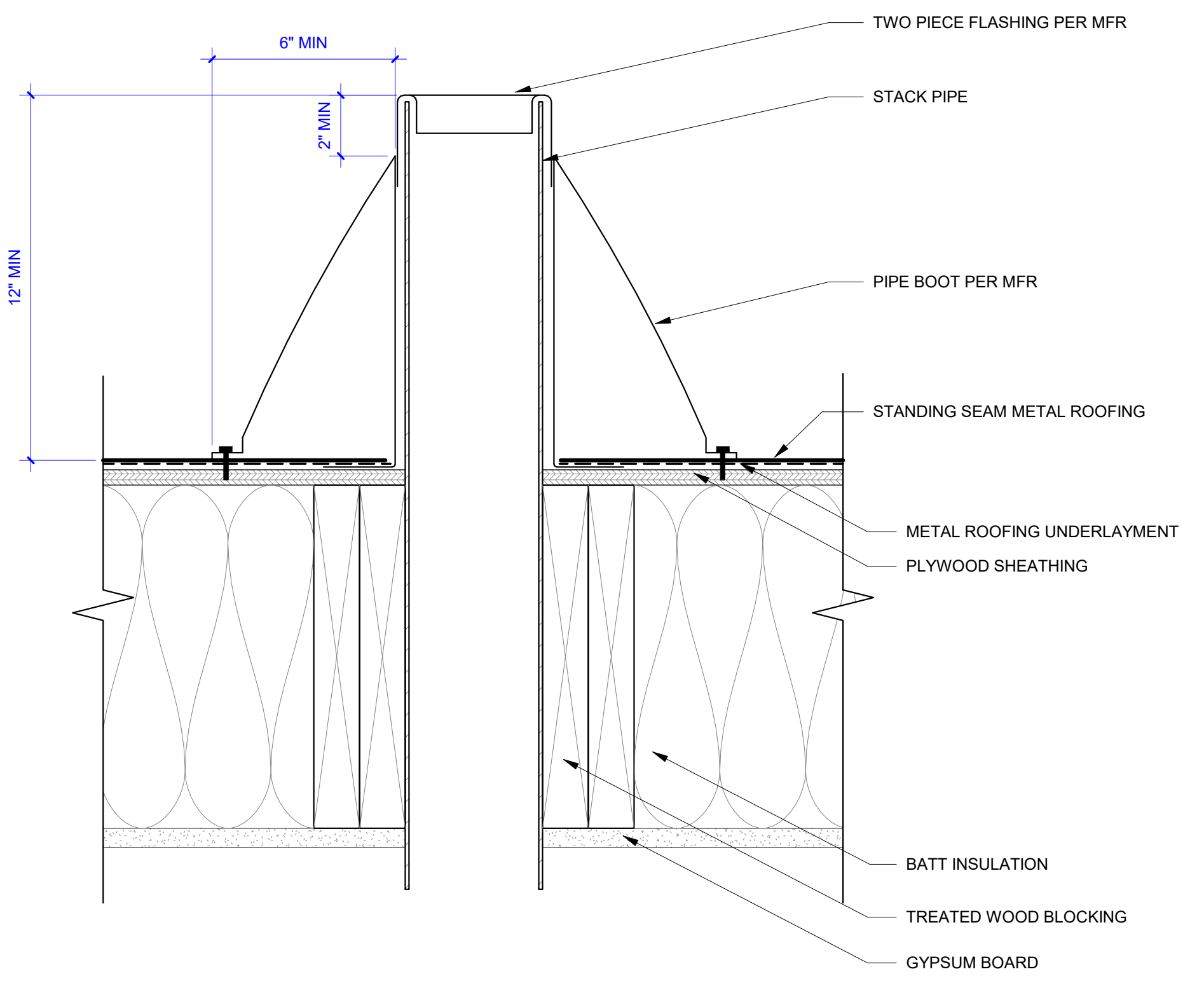
**C1 EAVE @ LOW SIDE**  
SCALE: 3" = 1'-0"



**C4 RAKE**  
SCALE: 3" = 1'-0"



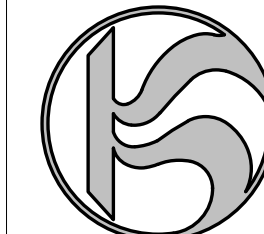
**A1 EAVE @ HIGH SIDE**  
SCALE: 3" = 1'-0"



**A4 VENT THROUGH ROOF**  
SCALE: 3" = 1'-0"

12/27/2024 10:36:00 AM





REV	DATE	DESCRIPTION

PROJ. NO. 2024 - 10964  
DRAWN BB  
CHECKED GAS  
DATE 01/05/2025

© COFFMAN ENGINEERS

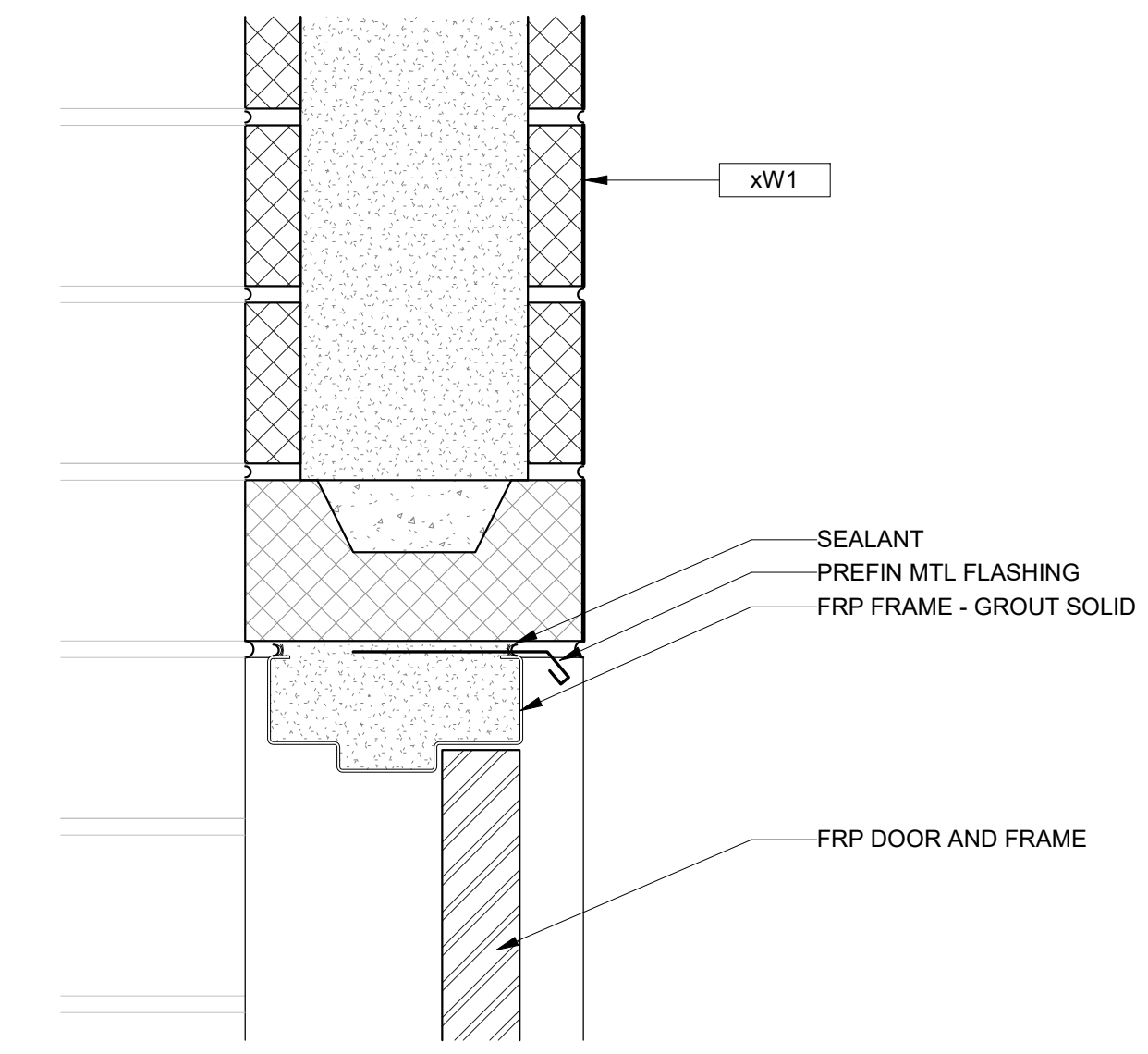
SHEET TITLE:

DETAILS

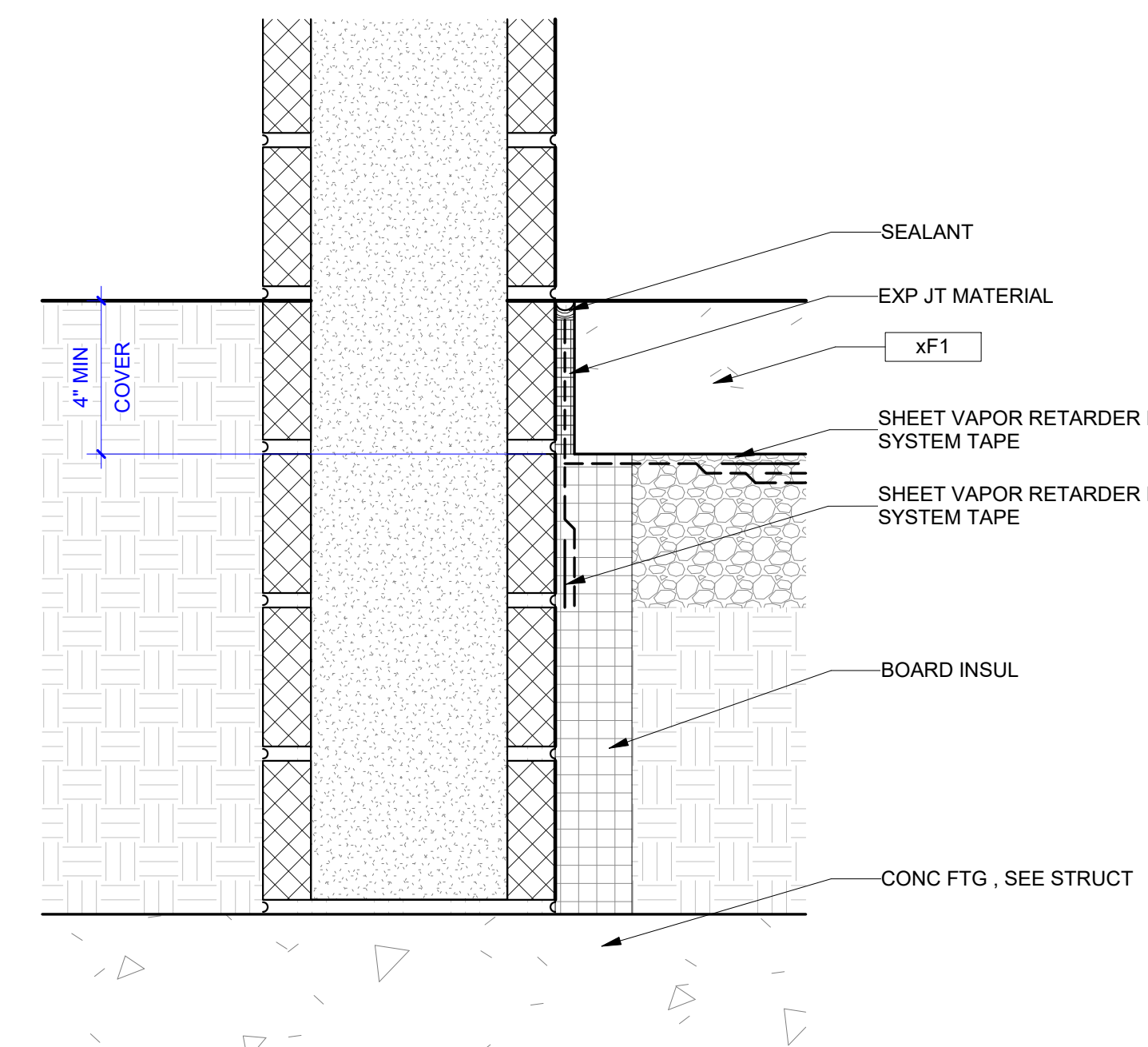
SHEET NO:

**A-501**

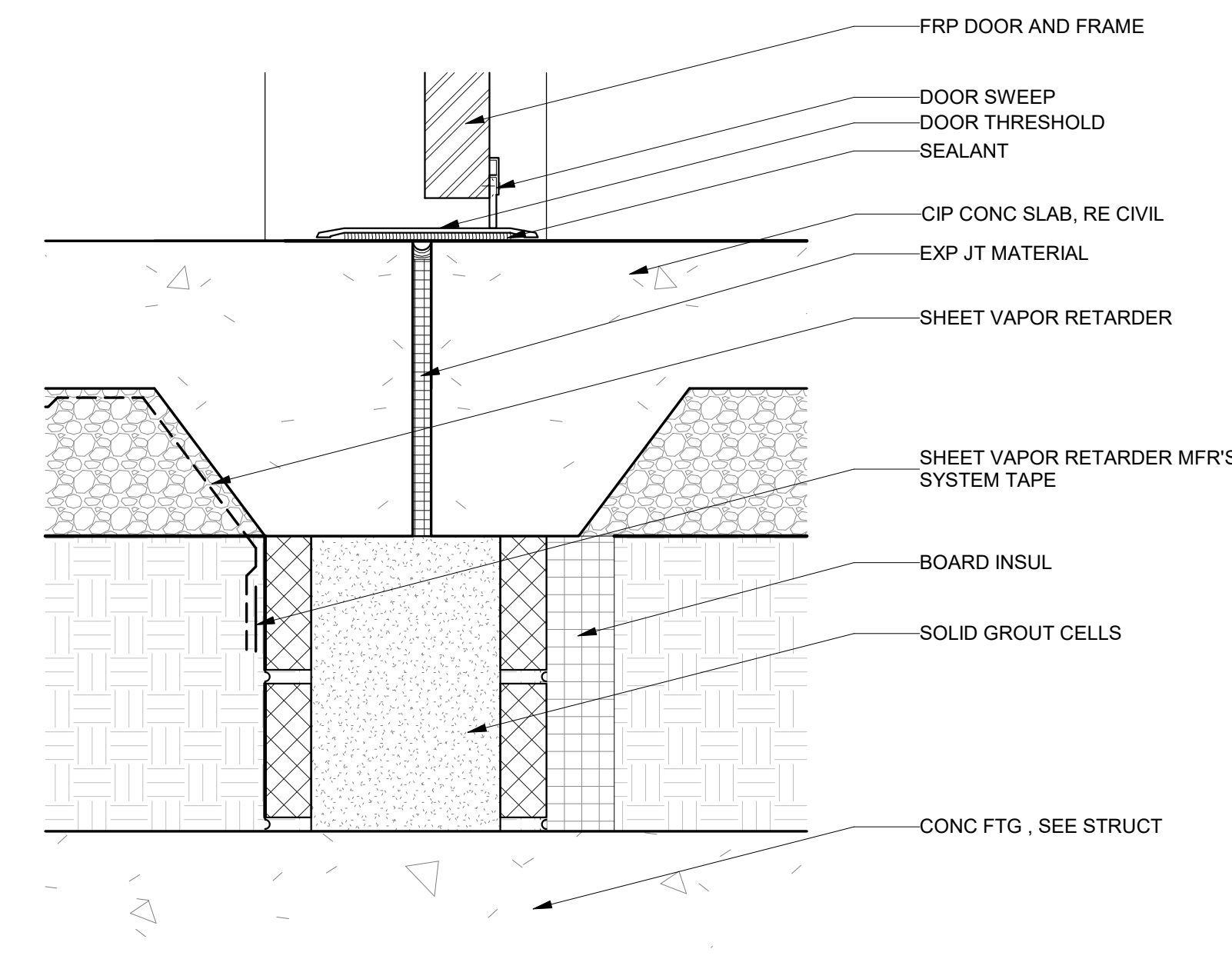
**BID SET**



**C4 DOOR HEAD**  
SCALE: 3" = 1'-0"



**C3 FOUNDATION FOOTING**  
SCALE: 3" = 1'-0"



**C1 DOOR SLAB TRANSITION**  
SCALE: 3" = 1'-0"



# GENERAL STRUCTURAL NOTES

## GENERAL:

THE STRUCTURAL CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE STRUCTURE IS DESIGNED TO BE A STABLE UNIT AS A COMPLETED WHOLE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DESIGN, ERECT AND INSPECT TEMPORARY SHORES, BRACES, ETC. TO SUPPORT THE STRUCTURE AGAINST ALL ANTICIPATED LOADS INCLUDING GRAVITY, WIND, AND LATERAL EARTH PRESSURE UNTIL ITS COMPLETION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SAFETY PRECAUTIONS AND THE MEANS, METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES REQUIRED TO PERFORM THE WORK. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THESE METHODS OF CONSTRUCTION. CONSTRUCTION MATERIAL SHALL BE PLACED ON FRAMED FLOORS AND ROOFS SUCH THAT THE DESIGN LIVE LOADS ARE NOT EXCEEDED.

WORKMANSHIP AND MATERIALS SHALL COMPLY WITH THE EDITIONS OF THE INTERNATIONAL BUILDING CODE AND TESTING STANDARDS ACCEPTED BY THE AUTHORITY HAVING JURISDICTION AND APPLICABLE AT THE TIME THE PROJECT WAS PERMITTED.

NOTES AND DETAILS ON THE DRAWINGS TAKE PRECEDENCE OVER THE GENERAL STRUCTURAL NOTES AND TYPICAL DETAILS. WHERE NOTES AND DETAILS ON DRAWINGS AND THESE GENERAL NOTES AND TYPICAL DETAILS ARE IN CONFLICT WITH THE PROJECT SPECIFICATION, THE MOST STRINGENT SHALL APPLY. WHERE NO SPECIFIC DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER. "TYPICAL" DETAILS ARE NOT FLAGGED ON THE DRAWINGS, BUT APPLY UNLESS NOTED OTHERWISE.

FRAMING MEMBERS WHICH ARE NOT DIMENSIONED SHALL BE ASSUMED EQUALLY SPACED BETWEEN DIMENSIONED POINT OF MEMEBERS SUBJECT TO REVIEW BY THE ARCHITECT AND ENGINEER. DO NOT SCALE DRAWINGS.

## COORDINATION:

ALL DRAWINGS ARE CONSIDERED TO BE PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE STRUCTURAL DRAWINGS AND SPECIFICATIONS WITH THE DRAWINGS AND SPECIFICATIONS OF ALL OTHER DISCIPLINES, INCLUDING BUT NOT LIMITED TO ARCHITECTURAL, CIVIL, MECHANICAL, ELECTRICAL, FIRE PROTECTION, AND AMONG THE SUBCONTRACTORS PRIOR TO START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY APPLICABLE CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS AND SITE CONDITIONS PRIOR TO STARTING CONSTRUCTION. RESOLVE ANY DISCREPANCY WITH THE ARCHITECT.

COORDINATION SHALL INCLUDE, BUT NOT BE LIMITED TO, VERIFYING THE LOCATION AND WEIGHT OF ALL MECHANICAL AND ELECTRICAL EQUIPMENT, AS WELL AS, THE SIZE AND LOCATION OF ALL MECHANICAL OPENINGS IN ROOFS, FLOORS AND WALLS. UNLESS OTHERWISE NOTED ON THE DRAWINGS, DO NOT PENETRATE ANY STRUCTURAL ELEMENTS SUCH AS BEAMS, COLUMNS, WALLS, HEADERS, JAMBS, SLABS, ETC. WITHOUT PRIOR WRITTEN APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT.

SEE ARCHITECTURAL DRAWINGS AND PROJECT SPECIFICATIONS FOR THE FOLLOWING:

1. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENING AND THRESHOLD REQUIREMENTS.
2. SIZE AND LOCATION OF ALL NON-BEARING PARTITION WALLS.
3. SIZE AND LOCATION OF ROOF, FLOOR AND WALL OPENINGS.
4. SIZE AND LOCATION OF DEPRESSED AREAS, CHANGES IN ELEVATION, FLOOR AND ROOF DRAINS, SLOPES, SUMPS, CONCRETE CURBS, LEDGES, PADS AND ISLANDS, CHAMFERS, GROOVES, INSERTS, EMBEDDED ITEMS, FINISH REQUIREMENTS, MISCELLANEOUS STEEL, ETC.
5. DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS.

SEE MECHANICAL, PLUMBING, ELECTRICAL AND OTHER SPECIALTY DRAWINGS AND PROJECT SPECIFICATIONS FOR THE FOLLOWING:

1. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL, ROOF AND FLOOR OPENINGS, ETC., NOT SHOWN OR NOTED.
2. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
3. ANCHORAGE AND BRACING FOR ELECTRICAL, MECHANICAL, OR PLUMBING EQUIPMENT TO THE STRUCTURE.
4. ANCHOR BOLTS FOR MOTOR MOUNTS.
5. SIZE, WEIGHT AND LOCATION OF MACHINES AND EQUIPMENT BASES.

## SPECIAL INSPECTIONS:

THE OWNER WILL EMPLOY AN ICC CERTIFIED SPECIAL INSPECTOR TO PROVIDE INSPECTION OF REQUIRED ITEMS PER IBC CHAPTER 17 AND THE REQUIREMENTS OF THE APPROPRIATE LOCAL JURISDICTION.

SEE SHEET S-002 FOR SPECIAL INSPECTION TABLES.

## CODE:

2021 EDITION OF THE INTERNATIONAL BUILDING CODE (IBC).

## DESIGN LOADS:

ROOF DEAD LOAD ----- 20 PSF (INCLUDES A 5 PSF ALLOWANCE FOR FUTURE PHOTOVOLTAIC ARRAY)  
 ROOF SNOW LOAD ----- SEE SNOW LOADS BELOW  
 ROOF LIVE LOAD ----- 20 PSF

RISK CATEGORY ----- II

## SNOW:

GROUND SNOW LOAD ----- 43 PSF  
 FLAT ROOF SNOW LOAD ----- 30 PSF  
 ALLOWABLE STRESS WIND SPEED (V<sub>s</sub>) ----- 78 MPH  
 SNOW EXPOSURE FACTOR (C<sub>e</sub>) ----- 1.0  
 SNOW LOAD IMPORTANCE FACTOR (I<sub>s</sub>) ----- 1.0  
 THERMAL FACTOR (C<sub>t</sub>) ----- 1.0  
 SLOPE FACTOR (C<sub>s</sub>) ----- 1.0

## WIND:

BASIC DESIGN WIND SPEED (V - 3 SECOND GUST) ----- 110 MPH  
 ALLOWABLE STRESS WIND SPEED (V<sub>as</sub>d) ----- 78 MPH  
 EXPOSURE CATEGORY ----- B  
 INTERNAL PRESSURE COEFFICIENT (G<sub>cp</sub>i) ----- +/- 0.18  
 DIRECTIONALITY FACTOR ----- K<sub>d</sub> = 0.85  
 GROUND ELEVATION FACTOR ----- K<sub>e</sub> = 1.00  
 TOPOGRAPHIC FACTOR ----- K<sub>zt</sub> = 1.00

## SEISMIC:

IMPORTANCE FACTOR (I<sub>e</sub>) ----- 1.0  
 S<sub>s</sub> ----- 0.310  
 S<sub>1</sub> ----- 0.112  
 S<sub>ds</sub> ----- 0.320  
 S<sub>d1</sub> ----- 0.177  
 SITE CLASS ----- D  
 SEISMIC DESIGN CATEGORY ----- C  
 SEISMIC FORCE RESISTING SYSTEM ----- INTERMEDIATE REINFORCED MASONRY SHEAR WALLS  
 RESPONSE MODIFICATION COEFFICIENT (R) ----- 3.5  
 SEISMIC RESPONSE FACTOR (C<sub>s</sub>) ----- 0.09  
 OVERSTRENGTH FACTOR (O) ----- 2.5  
 REDUNDANCY FACTOR (ρ) ----- 1.0  
 DESIGN BASE SHEAR ----- 1.3 K (STRENGTH LEVEL)  
 ANALYSIS PROCEDURE ----- EQUIVALENT LATERAL FORCE

## FOUNDATION:

ALLOWABLE SOIL BEARING PRESSURE = 1500 PSF PER IBC PRESUMPTIVE SOIL BEARING PRESSURES. BEAR ALL FOOTINGS ON INORGANIC, UNDISTURBED SOIL OR ON CONTROLLED, COMPACTED FILL. MINIMUM FOOTING DEPTH SHALL BE 2'-0" FOR EXTERIOR FOOTING BELOW FINISH GRADE. PRESUMPTIVE BEARING PRESSURE USED FOR FOUNDATION DESIGN SHALL BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER OR QUALIFIED SOIL SPECIAL INSPECTION PRIOR TO CONSTRUCTING FOUNDATION.

## CONCRETE:

CONCRETE CONSTRUCTION SHALL CONFORM WITH THE LATEST EDITION OF ACI 301. "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS" AND ACI 318, "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE". SUBMIT MIX DESIGNS FOR EACH CLASS OF CONCRETE. ALL CONCRETE SHALL BE NORMAL WEIGHT CONCRETE UNLESS NOTED OTHERWISE.

CONCRETE CONTAINING SUPERPLASTICIZING ADMIXTURE SHALL HAVE A SLUMP NOT EXCEEDING 3", TO BE FIELD VERIFIED, PRIOR TO ADDING ADMIXTURE, AND NOT EXCEEDING 8" AT PLACEMENT. ADDITION OF WATER TO A MIX WITH INSUFFICIENT SLUMP WILL NOT BE PERMITTED, EXCEPT AS ALLOWED PER ASTM C494.

MECHANICALLY VIBRATE ALL CONCRETE WHEN PLACED, EXCEPT THAT SLABS ON GRADE NEED BE VIBRATED ONLY AROUND UNDER-FLOOR DUCTS, ETC. CAST CLOSURE POUR AROUND COLUMNS AFTER DEAD LOAD IS APPLIED.

ITEM	MINIMUM CEMENT CONTENT (SACKS/CY)	28 DAY STRENGTH F <sub>c</sub> (PSI)	MAX. SIZE AGGREGATE	AIR ENTR.	MAX. SLUMP
FOOTINGS AND FDN. WALLS	5	3000	1 1/2"	5-7%	3"
INTERIOR SLAB ON GRADE	5 1/2	4000	1"	2%	4"

## MASONRY:

MASONRY CONSTRUCTION SHALL CONFORM TO CHAPTER 21 OF THE BUILDING CODE AND TMS 402/602.

HOLLOW CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C90, MEDIUM WEIGHT, RUNNING BOND. UNIT COMPRESSIVE STRENGTH 2000 PSI.

MORTAR SHALL CONFORM TO ASTM C270, TYPE S, 1800 PSI MIN. MASONRY CEMENT SHALL NOT BE USED.

GROUT SHALL CONFORM TO ASTM C476, 2000 PSI MIN. MECHANICALLY VIBRATE GROUT IN VERTICAL SPACES IMMEDIATELY AFTER POURING. PROVIDE CLEANOUTS IF GROUT POUR HEIGHT EXCEEDS 5'-4". MAXIMUM GROUT LIFT SHALL BE 5'-4". FOR GROUT KEYS LEFT BETWEEN LIFTS, SEE REQUIREMENTS OF THE LATEST EDITION OF "THE SPECIFICATION FOR MASONRY STRUCTURES", SECTION 3.5F. ALL UNITS BELOW GRADE SHALL BE SOLID GROUTED. FOR SELF-CONSOLIDATING GROUT, SEE REQUIREMENTS OF THE LATEST EDITION OF "THE SPECIFICATION FOR MASONRY STRUCTURES", UNO.

CONDUIT OR PIPES SHALL NOT OCCUR IN SAME CELL AS REINFORCING BARS.

SPECIFIED COMPRESSIVE STRENGTH f<sub>m</sub> SHALL BE 2000 PSI. SPECIAL INSPECTION IS REQUIRED. VERIFICATION OF THE SPECIFIED COMPRESSIVE STRENGTH SHALL BE IN ACCORDANCE WITH IBC SECTION 2105.

UNLESS NOTED OTHERWISE, PLACE CONTROL JOINTS IN MASONRY WALLS AT A MAXIMUM SPACING EQUAL TO THREE TIMES THE WALL HEIGHT, BUT NOT TO EXCEED 40 FEET, ONE-HALF CONTROL JOINT SPACING FROM BUILDING CORNERS, AND A MINIMUM OF 2'-8" FROM THE INSIDE FACE OF OPENINGS.

VERTICAL REINFORCING (APPLIES UNLESS NOTED OTHERWISE):

PROVIDE (1) #5 BAR IN CENTER OF GROUT AT CENTER OF WALL, CONTINUOUS FULL HEIGHT OF WALL WITH ONE BAR AT ALL CORNERS, INTERSECTIONS, WALL ENDS, BEAM BEARINGS, JAMBS AND EACH SIDE OF CONTROL JOINTS AND AT INTERVALS NOT TO EXCEED 32" OC. LAP SPLICES SHALL BE 52 BAR DIAMETERS UNLESS OTHERWISE SPECIFIED IN THE SPLICE SCHEDULE. DOWEL ALL VERTICAL REINFORCING TO THE FOUNDATION WITH DOWELS TO MATCH VERTICAL WALL OR COLUMN REINFORCING.

HORIZONTAL REINFORCING (APPLIES UNLESS NOTED OTHERWISE):

PROVIDE (1) #5 BARS IN MINIMUM 8" DEEP GROUTED CONTINUOUS BOND BEAM AT 32" OC AND AT BOTTOM OF WALL, TOP OF PARAPET OR TOP OF FREESTANDING WALL. PROVIDE (2) #5 BAR IN MINIMUM 8" DEEP GROUTED CONTINUOUS BOND BEAM AT ELEVATED FLOOR AND ROOF LINES. PLACE THESE BARS CONTINUOUS THROUGH CONTROL JOINTS AT ROOF AND FLOOR LINES AND WRAP MASTIC TAPE FOR 1'-6" EACH SIDE OF CONTROL JOINT. AT OTHER LOCATIONS, DISCONTINUE HORIZONTAL REINFORCING AT CONTROL JOINTS. PROVIDE BENT BARS TO MATCH HORIZONTAL BOND BEAM REINFORCING AT CORNERS AND WALL INTERSECTIONS IN ORDER TO MAINTAIN BOND BEAM CONTINUITY. LAP SPLICES SHALL BE 52 BAR DIAMETERS UNLESS OTHERWISE SPECIFIED IN THE SCHEDULE. STAGGER ALTERNATE SPLICES A MINIMUM OF 48 BAR DIAMETERS.

## REINFORCING STEEL:

DEFORMED BARS: ASTM A615 GRADE 40 FOR #3 AND GRADE 60 FOR #4 AND LARGER.

CLEAR CONCRETE COVERAGE (APPLIES UNLESS NOTED OTHERWISE):

CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH ----- 3"  
 FORMED CONCRETE EXPOSED TO EARTH OR WEATHER ----- 2"  
 FORMED CONCRETE NOT EXPOSED TO EARTH OR WEATHER ----- 1 1/2"  
 FROM TOP SURFACE OF SLAB ON GRADE ----- 1 1/2"

WELDING:

WELDING OF REINFORCING STEEL IS PROHIBITED. LAP SPLICES IN CONCRETE: UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, WALLS, SLABS AND FOOTINGS SHALL BE CLASS "B" TENSION LAP SPLICES. STAGGER ALTERNATE SPLICES A MINIMUM OF ONE LAP LENGTH.

PROVIDE BENT CORNER BARS TO MATCH AND LAP WITH HORIZONTAL BARS AT CORNERS AND INTERSECTIONS OF FOOTINGS AND WALLS. SPACING SHOWN FOR REINFORCING BARS ARE MAXIMUM ON CENTERS. ALL BARS PER CRSI SPECIFICATIONS AND HANDBOOK. SECURELY TIE ALL BARS IN POSITION PRIOR TO PLACING CONCRETE.

## WOOD:

GENERAL:

DO NOT NOTCH OR DRILL JOISTS, BEAMS OR LOAD BEARING STUDS WITHOUT PRIOR APPROVAL OF THE STRUCTURAL ENGINEER THROUGH THE ARCHITECT. PROVIDE 1 X 3 OR METAL CROSS BRIDGING AT MIDSPAN OF ALL JOISTS. ALL NAILS SHALL BE COMMON NAILS. ALL NAILING NOT NOTED SHALL BE IN ACCORDANCE WITH TABLE 2304.10.2 OF THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE. ALL FRAMING ANCHORS AND CONNECTORS SHALL BE AS MANUFACTURED BY SIMPSON COMPANY OR OTHER APPROVED EQUAL WITH ICC CERTIFICATION. ALL NAIL HOLES IN FRAMING ANCHORS AND CONNECTORS SHALL BE FILLED WITH NAILS PER MANUFACTURERS PUBLISHED NAIL SIZES. ALL BOLTS SHALL BE ASTM A307 BOLTS INSTALLED WITH STEEL WASHERS.

PREFABRICATED WOOD "I" JOISTS:

PROVIDE JOISTS AS MANUFACTURED BY RED BUILT CORPORATION OR AN APPROVED SUBSTITUTE WITH A CURRENT ICC APPROVAL. DESIGN, FABRICATE AND ERECT IN ACCORDANCE WITH THE APPLICABLE ICC REPORT. JOIST FLANGES SHALL BE LVL.

MEMBER SIZES ARE SHOWN ON THE DRAWINGS. JOIST MANUFACTURER SHALL SUPPLY ADDITIONAL JOISTS AS REQUIRED TO SUPPORT MECHANICAL EQUIPMENT. JOIST MANUFACTURER SHALL SUBMIT SHOP DRAWINGS AND CALCULATIONS FOR REVIEW PRIOR TO FABRICATION. PROVIDE SEALED CALCULATIONS FOR ALL JOISTS BY A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT IS LOCATED. CALCULATIONS SHALL INCLUDE DEFLECTION AND CAMBER REQUIREMENTS.

LIVE LOAD DEFLECTIONS SHALL BE LIMITED TO SPAN/240 AT SIMPLE SPAN ROOF MEMBERS AND 2 X SPAN/240 AT CANTILEVERED ROOF MEMBERS. TOTAL LOAD DEFLECTIONS SHALL BE LIMITED TO SPAN/180 AT SIMPLE SPAN ROOF MEMBERS, AND 2X SPAN/180 AT CANTILEVERED ROOF MEMBERS. ALL JOISTS SHALL BE CAMBERED TO A MAXIMUM RADIUS OF 2,250 FEET.

## FRAMING LUMBER:

MEMBER	F <sub>b</sub> (PSI)	F <sub>v</sub> (PSI)	E (PSI)	F <sub>d</sub> /I (PSI)	SPECIES & GRADE
2x NAILERS	900	180	1,600,000	1,350	DOUG FIR-LARCH #2

DOUG FIR/LARCH (NORTH) IS NOT AN ACCEPTABLE ALTERNATIVE TO DOUG FIR/LARCH LUMBER. CONTRACTOR TO SUBMIT A SUBSTITUTION REQUEST TO THE ENGINEER OF RECORD PRIOR TO START OF CONSTRUCTION IF DOUG FIR/LARCH (NORTH) SUBSTITUTION IS DESIRED.

FRAMING LUMBER SHALL COMPLY WITH THE LATEST EDITION OF THE GRADING RULES OF THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) OR THE WEST COAST LUMBER INSPECTIONS BUREAU (WCLIB). ALL SAWN LUMBER SHALL BE STAMPED WITH THE GRADE MARK OF AN APPROVED GRADING AGENCY. MOISTURE CONTENT SHALL NOT EXCEED 19%.

STRUCTURAL COMPOSITE LUMBER:

PROVIDE MEMBERS AS MANUFACTURED BY THE WEYERHAUSER CORPORATION OR AN APPROVED SUBSTITUTE WITH A CURRENT ICC APPROVAL. FABRICATE AND ERECT IN ACCORDANCE WITH THE APPLICABLE ICBO REPORT.

MEMBER SIZES ARE SHOWN ON THE DRAWINGS.

MEMBER PROPERTIES:

MEMBER	F <sub>b</sub> (PSI)	F <sub>v</sub> (PSI)	E (PSI)	F <sub>d</sub> /I (PSI)
REDLAM LVL BEAMS	2900	285	2,000,000	2635

STRUCTURAL SHEATHING:

	STRUCTURAL SHEATHING PROPERTIES AND ATTACHMENT			
	THICKNESS	SPAN/INDEX RATIO	EDGE NAILING	INTERMEDIATE NAILING
ROOF	5/8"	32/16	8d @ 6" OC	8d @ 12" OC

STRUCTURAL SHEATHING INCLUDES ALL-VENEER PLYWOOD:

ALL STRUCTURAL SHEATHING SHALL BE APA RATED SHEATHING WITH AN EXTERIOR OR EXPOSURE 1 DURABILITY CLASSIFICATION AND SHALL BEAR THE STAMP OF AN APPROVED TESTING AGENCY. LAY UP FLOOR AND ROOF WITH THE LONG DIMENSION PERPENDICULAR TO SUPPORTS AND PROVIDE PANEL LENGTHS TO BE CONTINUOUS OVER TWO OR MORE SUPPORTS. ALL WEATHER WOOD PLYWOOD SHALL BE BONDED WITH AN EXTERIOR GLUE AND BE GRADE MARKED INDICATING CONFORMANCE WITH THE CURRENT EDITION OF U.S. DEPARTMENT OF COMMERCE PRODUCT STANDARD PS 1 "STRUCTURAL PLYWOOD (WITH TYPICAL APA TRADEMARKS)", AND STAMPED WITH AN APA GRADE MARK.

PRESSURE TREATMENT OF LUMBER AND PLYWOOD:

ALL LUMBER TO BE PRESERVATIVE TREATED SHALL CONFORM TO AWPA U1 AND M4 AND BEAR THE QUALITY MARK OF AN APPROVED INSPECTION AGENCY PER AWPA U1. PLATES AND STUDS WITH ENDS CUT AFTER PRESSURE TREATING AND PLACED BELOW GRADE SHALL HAVE THE ENDS BELOW GRADE BRUSHED, DIPPED OR SOAKED WITH PRESERVATIVE UNTIL THE WOOD ABSORBS NO MORE PRESERVATIVE. USE THE FOLLOWING PRESERVATIVE FOR FIELD TREATMENT:

COPPER NAPHTHENATE CONTAINING A MINIMUM OF 2 PERCENT METALLIC COPPER IN SOLUTION.

ALL WEATHER WOOD FASTENERS:

NAILS: HOT-DIPPED ZINC COATED STEEL NAILS CONFORMING TO THE REQUIREMENTS OF THE CURRENT EDITION OF ASTM A153. SUBMIT TECHNICAL INFORMATION SHOWING COMPLIANCE.

FRAMING ANCHORS:

FRAMING ANCHORS SHALL BE OF ZINC COATED SHEET STEEL (GALVANIZED) BY THE HOT-DIP OR MATTE FINISH PROCESS. THE CORROSION RESISTANT COATING SHALL BE 1.25 OZ. POT YIELD COMMERCIAL CLASS HOT-DIPPED ZINC COATING, OR 0.625 OZ. MATTE FINISH HOT-DIPPED ZINC COATING EACH SIDE, AND MAY BE APPLIED TO THE STEEL SHEET BEFORE THE ANCHOR IS STAMPED OUT. NAILS/SCREWS FOR USE WITH FRAMING ANCHORS SHALL CONFORM WITH THE REQUIREMENTS ABOVE. BASIS OF DESIGN ANCHORS ARE SIMPSON.

STEEL JOIST HANGERS SHALL BE TESTED AND APPROVED IN ACCORDANCE WITH IBC SECTION 1709.



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

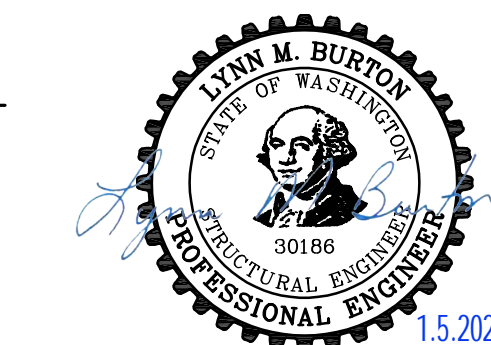
www.coffman.com



203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568

6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292

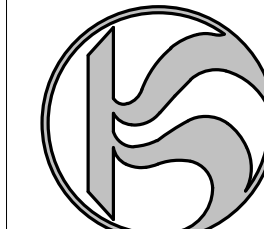
alscarchitects.com



WHITWORTH COMFORT STATION

N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
 DRAWN CEP  
 CHECKED SMM  
 DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**GENERAL  
 STRUCTURAL  
 NOTES**

SHEET NO:  
**S-001**

BID SET



IBC TABLE 1705.6			
REQUIRED VERIFICATION AND INSPECTION OF SOILS			
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	
1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	-	X	
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	-	X	
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	-	X	
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	-	
5. PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	-	X	

TMS 602-16 TABLE 4					
LEVEL 2 QUALITY ASSURANCE FOR MASONRY CONSTRUCTION					
MINIMUM SPECIAL INSPECTIONS					
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5 B.1.b.3 FOR SELF-CONSOLIDATING GROUT					
VERIFICATION OF $F_{m}$ AND $F_{ACI}$ IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE					
MINIMUM SPECIAL INSPECTION					
INSPECTION TASK	FREQUENCY OF INSPECTION		TMS 402	TMS 602	
	CONTINUOUS	PERIODIC			
1. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. PROPORTIONS OF SITE-PREPARED MORTAR	-	X	-	-	ART. 2.1, 2.6 A, 2.6 C
B. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	-	X	-	-	ART. 2.4 B, 2.4 H
C. GRADE, TYPE AND SIZE OF REINFORCEMENT, CONNECTORS, ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES.	-	X	-	-	ART. 3.4, 3.6 A
D. PRESTRESSING TECHNIQUE	-	X	-	-	ART. 3.6 B
E. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X <sup>(b)</sup>	X <sup>(c)</sup>	-	-	ART. 2.1 C
F. SAMPLE PANEL CONSTRUCTION	-	X	-	-	ART. 1.6 D
2. PRIOR TO GROUTING, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:					
A. GROUT SPACE	-	X	-	-	ART. 3.2 D, 3.2 F
B. PLACEMENT OF PRESTRESSING TENDONS AND ANCHORAGES	-	X	SEC. 10.8, 10.9	-	ART. 2.4, 3.6
C. PLACEMENT OF REINFORCEMENT, CONNECTORS, AND ANCHOR BOLTS	-	X	SEC. 6.1, 6.3.1, 6.3.6, 6.3.7	-	ART. 3.2 E, 3.4
D. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	-	X	-	-	ART. 2.6 B, 2.4 G.1.b
3. VERIFY DURING CONSTRUCTION:					
A. MATERIALS AND PROCEDURES WITH APPROVED SUBMITTALS	-	X	-	-	ART. 1.5
B. PLACEMENT OF MASONRY UNITS AND MORTAR JOINT CONSTRUCTION	-	X	-	-	ART. 3.3 B
C. SIZE AND LOCATION OF STRUCTURAL MEMBERS	-	X	-	-	ART. 3.3 F
D. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	-	X	SEC. 1.2.1 (e), 6.2.1, 6.3.1	-	-
E. WELDING OF REINFORCEMENT	X	-	SEC. 6.1.6.1.2	-	-
F. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40° F) OR HOT WEATHER (TEMPERATURE ABOVE 90° F)	-	X	-	-	ART. 1.8 C, 1.8 D
G. APPLICATION AND MEASUREMENT OF PRESTRESSING FORCE	X	-	-	-	ART. 3.6 B
H. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	-	-	-	ART. 3.5, 3.6 C
I. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X <sup>(b)</sup>	X <sup>(c)</sup>	-	-	ART. 3.3 B.9, 3.3 F.1.b
4. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS AND/OR PRISMS	-	X	-	-	ART. 1.4 B.2 a.3, 1.4 B.2 b.3, 1.4 B.2 c.3, 1.4 B.3, 1.4 B.4

(b) Required for the first 5000 square feet of AAC masonry.  
(c) Required after the first 5000 square feet of AAC masonry.

IBC TABLE 1705.3				
REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD*	IBC REFERENCE
1. INSPECTION REINFORCEMENT, INCLUDING PRESTRESSING TENDONS, AND VERIFY PLACEMENT.	-	X	ACI 318 CH. 20, 25.2, 25.3, 26.6.1 - 26.6.3	-
2. REINFORCING BAR WELDING: a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706; b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM SIZE; AND c. INSPECT ALL OTHER WELDS.	-	X	AWS D1.4, ACI 318: 26.6.4	-
3. INSPECT ANCHORS CAST IN CONCRETE.	-	X	ACI 318: 26.13.3.3	-
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS: a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS. b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	X	-	ACI 318: 26.13.3.2	-
5. VERIFYING USE OF REQUIRED DESIGN MIX.	-	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	-	ASTM C172, ASTM C31, ACI 318: 26.5, 26.12	-
7. INSPECTION OF CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	-	ACI 318: 26.5	-
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	-	X	ACI 318: 26.5.3 - 26.5.5	-
9. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	-	X	ACI 318: 26.11.1.2 (b)	-

**NOTES:**

- a. WHERE APPLICABLE, SEE ALSO IBC SECTION 1705.13. SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
- b. SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 26.13.2.5 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO THE COMMENCEMENT OF THE WORK.



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

www.coffman.com

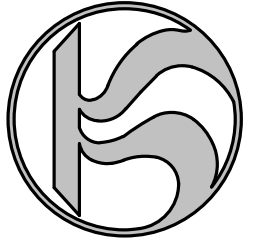


203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
alscarchitects.com



WHITWORTH COMFORT STATION  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CEP  
CHECKED SMM  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:

SPECIAL INSPECTION TABLES

SHEET NO:

S-002

BID SET

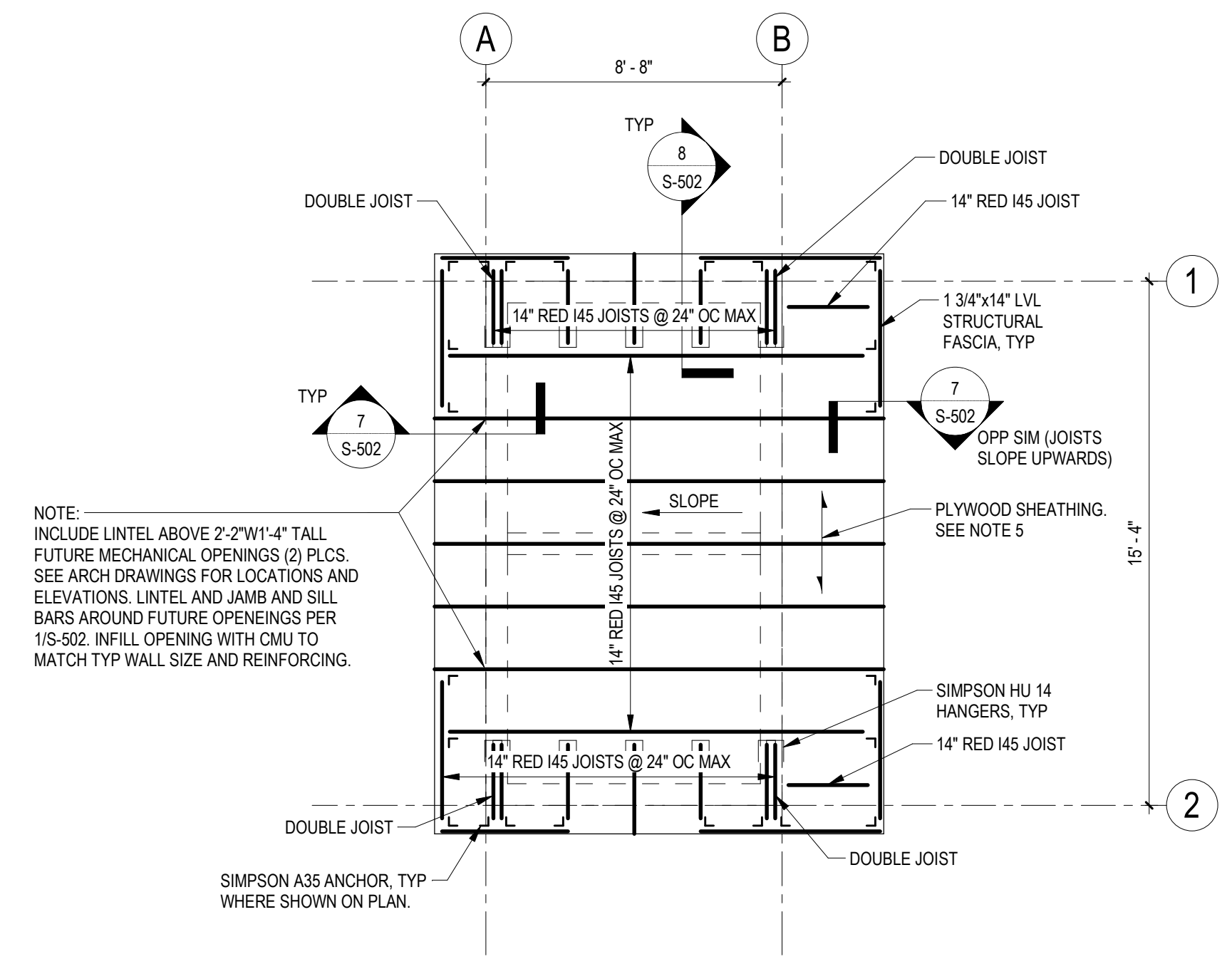
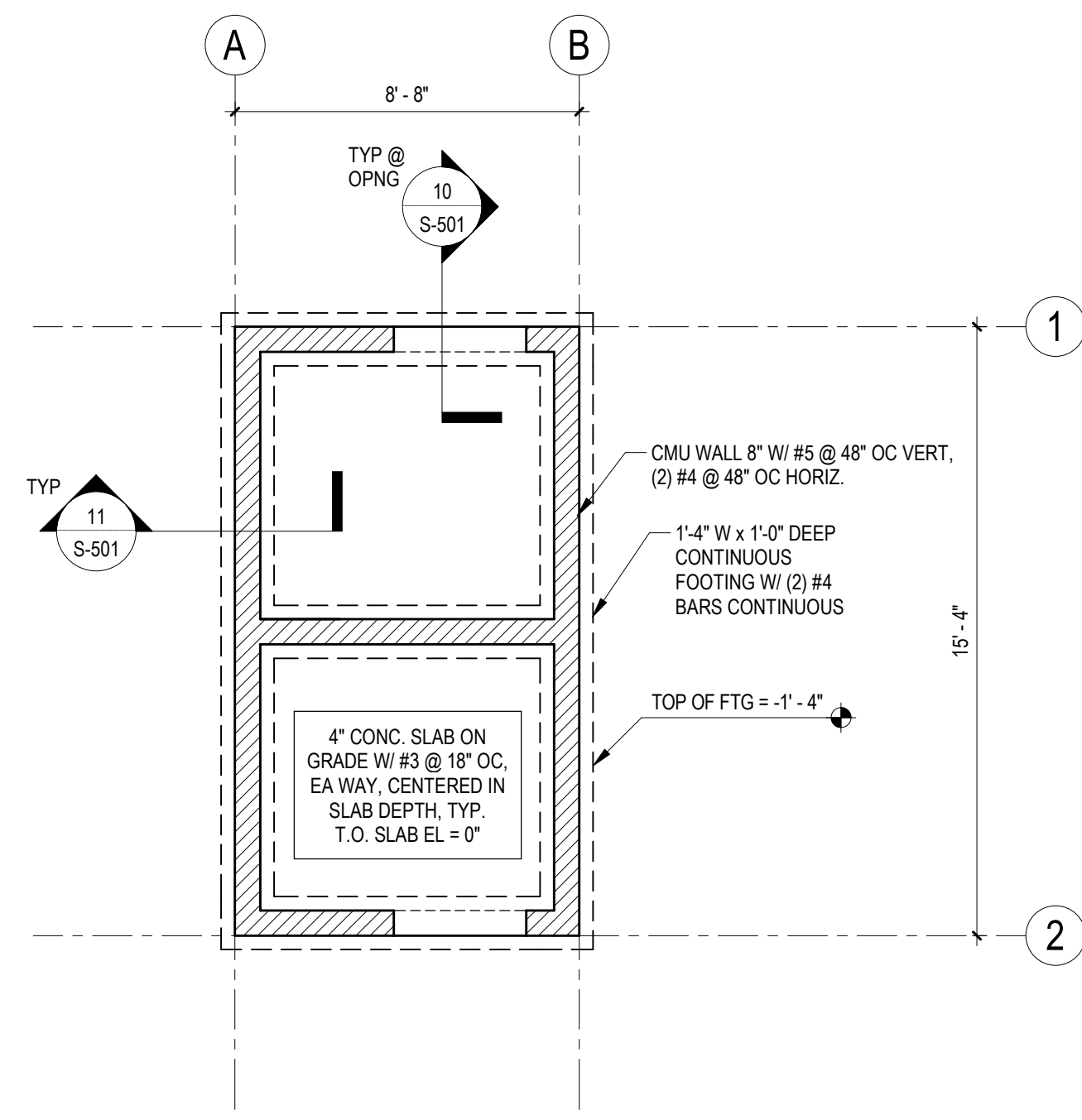


**FOUNDATION PLAN NOTES**

1. SEE SHEET S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE SHEET S-002 FOR SPECIAL INSPECTION TABLES.
3. FOR TYPICAL FOUNDATION DETAILS NOT REFERENCED ON PLAN SEE SHEETS S-501.
4. VERIFY ALL PLAN DIMENSIONS WITH ARCHITECTURAL PRIOR TO CONSTRUCTION.
5. DIMENSIONS ARE TO GRID LINES, FACE OF CONCRETE, FACE OF CMU WALLS, CENTERLINE OF BEAMS/COLUMNS, UNLESS NOTED OTHERWISE.
6. CONTRACTOR TO COORDINATE DRAWINGS WITH ALL OTHER DISCIPLINES PRIOR TO POURING FOUNDATIONS INCLUDING BUT NOT LIMITED TO: DOOR AND WINDOW LOCATIONS, DEPRESSED SLABS, SLAB SLOPES, LOCATION OF DRAINS, BLOCKOUTS FOR PLUMBING, MECHANICAL AND ELECTRICAL CONDUITS, ETC. SEE TYPICAL FOUNDATION DETAIL SHEETS FOR FURTHER INFORMATION.
7. TOP OF FOOTING ELEVATION AT ALL EXTERIOR FOOTINGS TO BE -1'-4" BELOW TOP OF SLAB, UNLESS NOTED OTHERWISE ON PLAN.

**ROOF FRAMING PLAN NOTES**

1. SEE SHEET S-001 FOR GENERAL STRUCTURAL NOTES.
2. SEE SHEET S-002 FOR IBC SPECIAL INSPECTION TABLES.
3. FOR TYPICAL FRAMING DETAILS NOT REFERENCED ON PLAN SEE S-502.
4. VERIFY ALL PLAN DIMENSIONS WITH ARCHITECTURAL PRIOR TO CONSTRUCTION.
5. INDICATES 5/8" PLYWOOD SHEATHING. SEE 6/S-502 AND STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.



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

**ROOF FRAMING PLAN**  
1/4" = 1'-0"

**COFFMAN ENGINEERS**  
221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
alscarchitects.com



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CEP  
CHECKED SMM  
DATE 01/05/2025

© COFFMAN ENGINEERS  
SHEET TITLE:  
**FOUNDATION PLAN AND ROOF FRAMING PLAN**

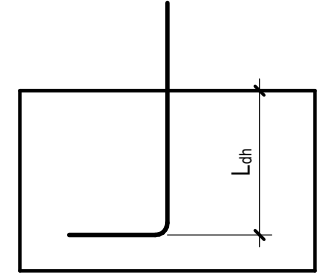
SHEET NO:  
**S-101**

**BID SET**

12/19/2024 11:20:56 AM



BAR SIZE	DEVELOPMENT OF STANDARD HOOKS (90°)	
	F <sub>c</sub> = 2500 OR 3000 PSI	F <sub>c</sub> = 4000 PSI
#3	9"	7"
#4	12"	9"
#5	15"	12"
#6	18"	14"
#7	21"	17"
#8	24"	19"
#9	27"	21"
#10	31"	24"
#11	34"	27"



- NOTES:
1. REINFORCING YIELD STRENGTH F<sub>y</sub>=60 KSI.
  2. APPLICABLE TO UNCOATED BARS ONLY.
  3. NORMAL WEIGHT CONCRETE ONLY.
  4. NOT APPLICABLE TO JOINTS OF SPECIAL MOMENT FRAMES.
  5. IF DESIGN F<sub>c</sub> IS NOT SHOWN, USE NEXT LOWEST F<sub>c</sub> SHOWN IN TABLE FOR CONSERVATIVE HOOK LENGTH.

### 1 MINIMUM DEVELOPMENT LENGTHS FOR 90° HOOKED BARS

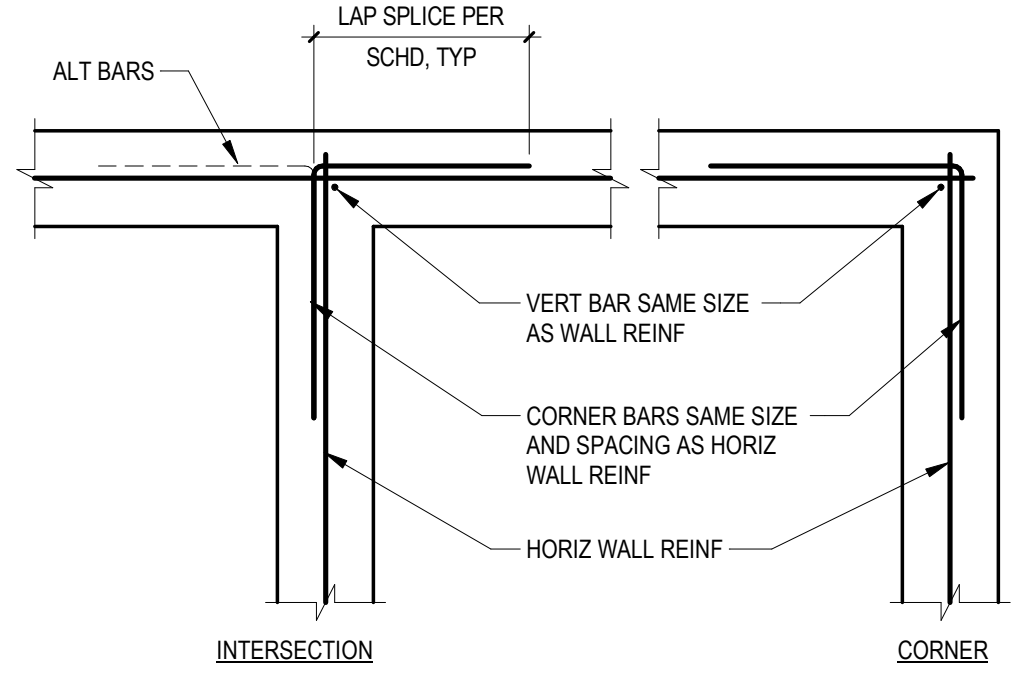
3/4" = 1'-0"

BAR SIZE	CLASS B TENSION SPLICES, L <sub>st</sub>				COMPRESSION BARS, L <sub>sc</sub>	
	F <sub>c</sub> = 2,500 OR 3,000 PSI		F <sub>c</sub> = 4000 PSI		F <sub>c</sub> = ALL	
	REGULAR BARS	TOP BARS	REGULAR BARS	TOP BARS	OPEN	ENCLOSED W/ TIES SPACED NOT MORE THAN 4" O.C.
#3	24"	31"	19"	24"	12"	12"
#4	32"	41"	25"	32"	15"	13"
#5	40"	52"	31"	40"	19"	16"
#6	48"	62"	37"	48"	23"	20"
#7	69"	89"	54"	70"	27"	23"
#8	79"	102"	62"	80"	30"	25"
#9	89"	116"	70"	91"	34"	29"
#10	100"	130"	79"	102"	38"	32"
#11	111"	144"	87"	113"	43"	36"

- NOTES:
1. UNLESS NOTED OTHERWISE, LAP SPLICES IN CONCRETE BEAMS, WALLS, SLABS AND FOOTINGS SHALL BE CLASS "B" TENSION LAP SPLICES AND LAP SPLICES IN CONCRETE COLUMNS SHALL BE COMPRESSION LAP SPLICES.
  2. STAGGER ALTERNATE SPLICES A MINIMUM OF ONE LAP LENGTH.
  3. TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 12" OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
  4. REINFORCING YIELD STRENGTH F<sub>y</sub> = 60 KSI.
  5. FOR BEAMS AND COLUMNS ACI 25.4.2.2 CASE 1 APPLIES (CONCRETE COVER AT LEAST ONE BAR DIAMETER AND CENTER TO CENTER SPACING AT LEAST TWO BAR DIAMETERS).
  6. FOR ALL OTHER MEMBERS CASE 1 APPLIES (CONCRETE COVER AT LEAST ONE BAR DIAMETER AND CENTER TO CENTER SPACING AT LEAST THREE BAR DIAMETERS).

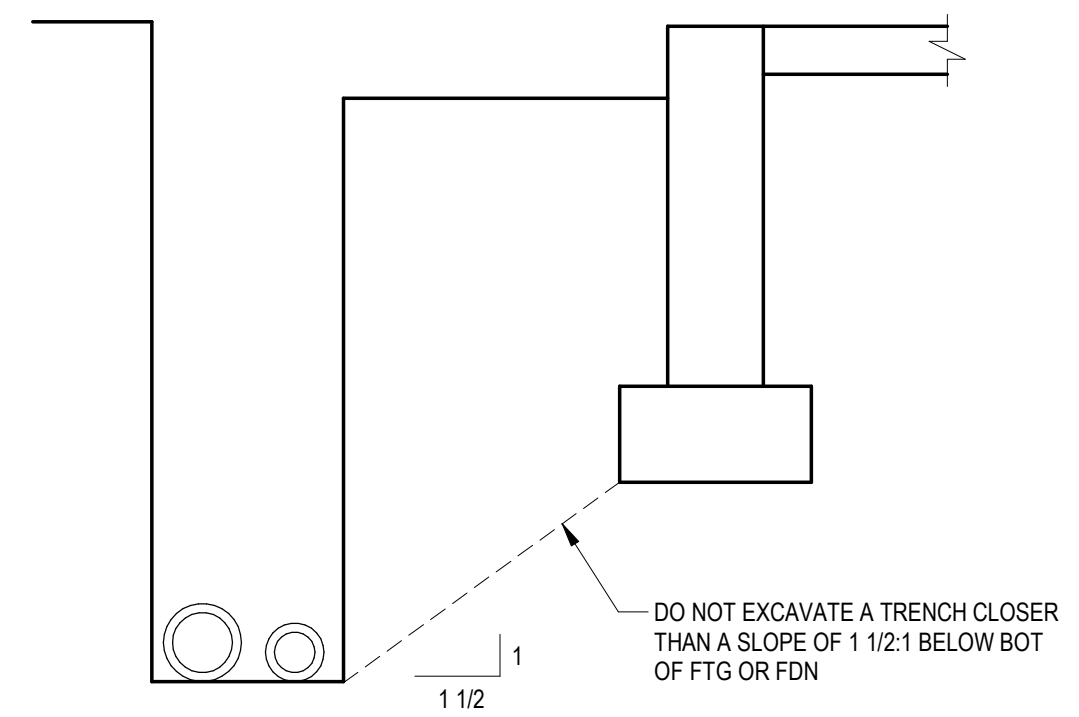
### 2 MINIMUM LAP SPLICE LENGTHS FOR REINFORCING IN CONCRETE

3/4" = 1'-0"



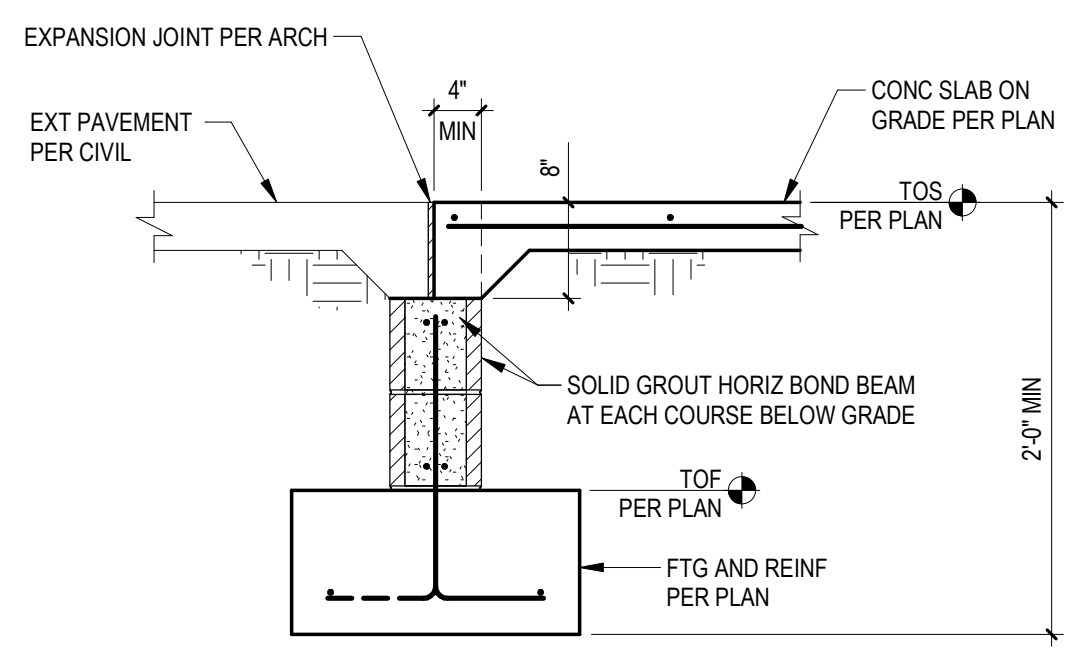
### 5 TYPICAL CONCRETE REINFORCING AT INTERSECTIONS & CORNERS (SINGLE CURTAIN)

3/4" = 1'-0"



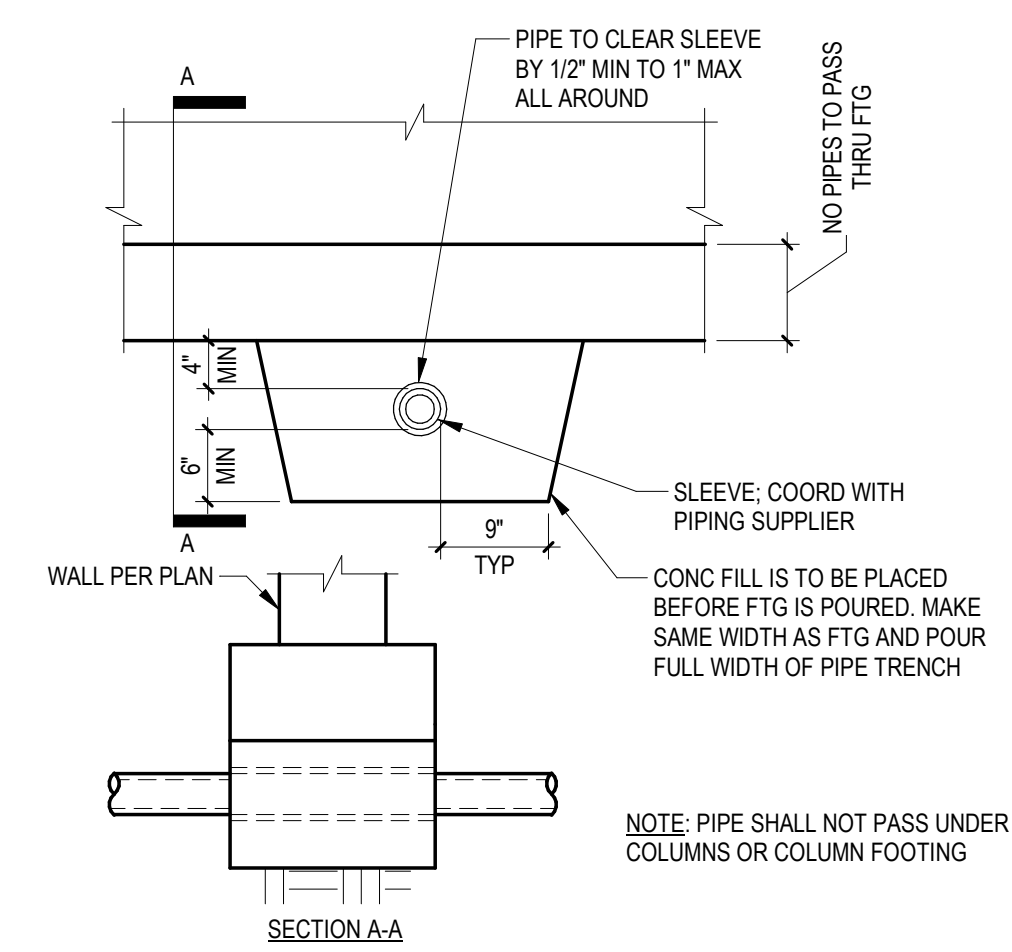
### 6 TYPICAL TRENCH PARALLEL TO FOUNDATION WALL

3/4" = 1'-0"



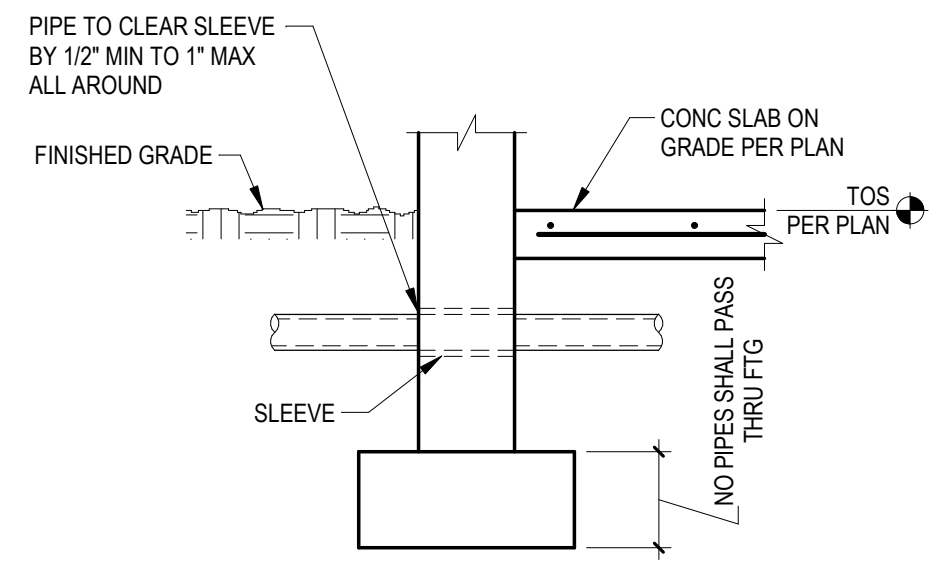
### 10 TYPICAL SECTION AT DOOR OPENING

3/4" = 1'-0"



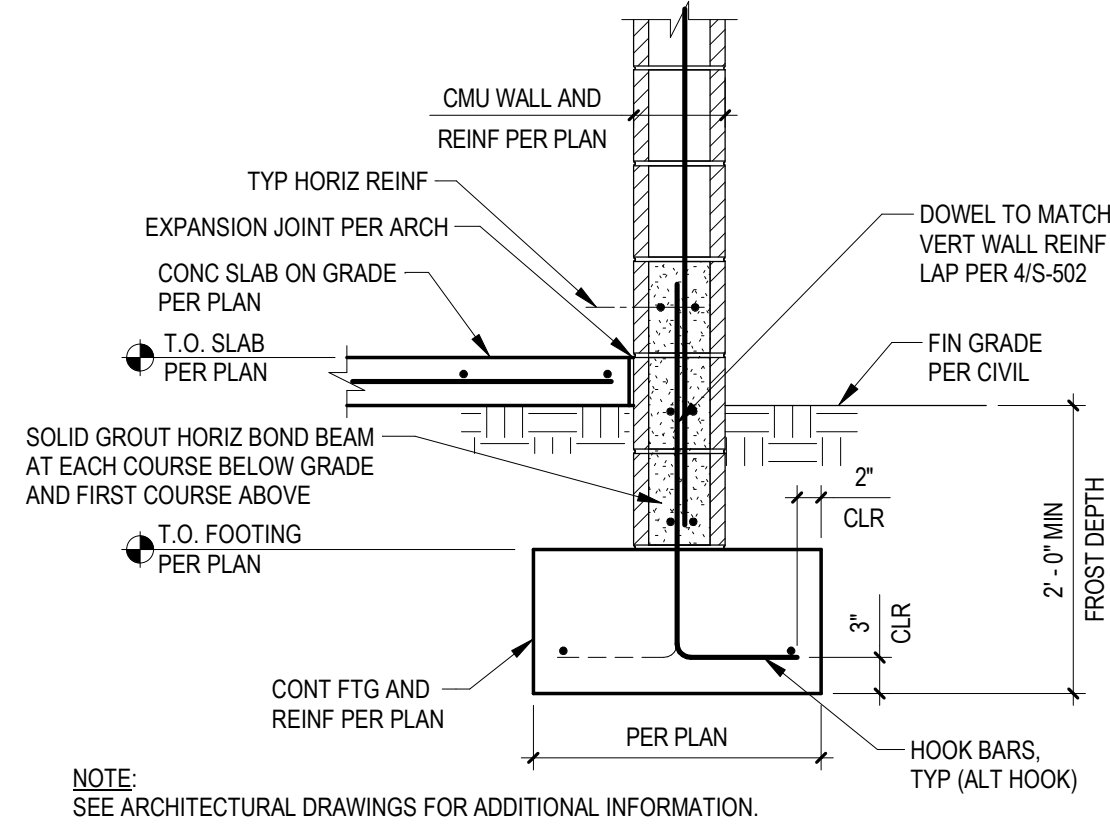
### 3 TYPICAL PIPE PASSING BELOW WALL

3/4" = 1'-0"



### 7 TYPICAL PIPE THROUGH CONCRETE FOUNDATION WALL

3/4" = 1'-0"

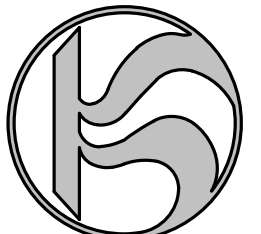


### 11 TYPICAL EXTERIOR WALL SECTION

3/4" = 1'-0"

### 4 NOT USED

1 1/2" = 1'-0"



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN CEP  
CHECKED SMM  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**FOUNDATION DETAILS**

SHEET NO:  
**S-501**







### GENERAL NOTES

- CONTRACTOR SHALL SECURE, MAINTAIN, AND PAY FOR ALL REQUIRED PERMITS, LICENSES, AND INSPECTIONS FOR DURATION OF WORK UNLESS DIRECTED OTHERWISE.
- ALL WORK SHALL COMPLY WITH THE OWNER'S REQUIREMENTS, AND WITH ALL APPLICABLE STATE AND LOCAL CODES, OR AUTHORITY HAVING JURISDICTION.
- SUBSTITUTIONS OF EQUIPMENT OTHER THAN AS SPECIFIED SHALL BE THE COMPLETE RESPONSIBILITY OF THE CONTRACTOR, ANY ADDITIONAL ELECTRICAL, STRUCTURAL, MECHANICAL, OR ARCHITECTURAL REQUIREMENTS SHALL BE PROVIDED AT NO ADDITIONAL EXPENSE TO THE OWNER.
- DRAWINGS ARE DIAGRAMMATIC IN NATURE AND DO NOT ATTEMPT TO SHOW ALL REQUIRED OFFSETS. COORDINATE WITH OTHER TRADES AND PROVIDE ALL NECESSARY OFFSETS. REFER TO ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR CONSTRUCTION DETAILS.
- REFER TO PROJECT MANUAL (SPECIFICATIONS) FOR ADDITIONAL REQUIREMENTS. PLANS AND SPECIFICATIONS SHALL BE TAKEN TOGETHER. PROVIDE ALL WORK CALLED FOR IN EITHER. IN CASE OF CONFLICT BETWEEN SPECIFICATIONS AND PLANS THE MORE STRINGENT SHALL APPLY.
- ALL EQUIPMENT AND MATERIAL ON THE JOB SITE PRIOR TO INSTALLATION SHALL BE COVERED AND PROTECTED FROM RAIN, DIRT, DUST, AND DAMAGE.
- VERIFY PHYSICAL DIMENSIONS OF EQUIPMENT TO ENSURE THAT ACCESS CLEARANCES CAN BE MET. COORDINATE FINAL EQUIPMENT LOCATIONS W/ GENERAL CONTRACTOR AND OTHER TRADES TO ALLOW FOR REQUIRED MECHANICAL EQUIPMENT CLEARANCES.
- PROVIDE AN UNOBSTRUCTED PASSAGEWAY MEASURING NO LESS THAN 36" WIDE BY 80" HIGH FROM DOOR INTO THE SPACE TO SERVICEABLE MECHANICAL EQUIPMENT. A LEVEL WORKING SPACE MEASURING NO LESS THAN 30" WIDE BY 36" DEEP MUST BE PROVIDED IN FRONT OF CONTROL SIDE OF EQUIPMENT FOR SERVICING.
- PROVIDE NEC CODE MINIMUM HORIZONTAL AND VERTICAL WORKING CLEARANCES FOR ALL ELECTRICAL PANELS AND EQUIPMENT. OFFSET MECHANICAL WORK AS REQUIRED.
- CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF INSTALLATION STANDARDS AND CONSTRUCTION CONDITIONS. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS PRIOR TO SHOP FABRICATION AND/OR FIELD INSTALLATION. DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THE CONSTRUCTION DRAWINGS SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER.
- ALL MECHANICAL EQUIPMENT, MATERIALS, AND INSTALLATION SHALL BE PROVIDED BY THE CONTRACTOR. ALL EQUIPMENT SHALL BE COMPLETE, INSTALLED, AND FULLY FUNCTIONAL PRIOR TO FINAL ACCEPTANCE OF THE WORK.
- INSTALL ALL EQUIPMENT PER MANUFACTURERS RECOMMENDATIONS AND REQUIREMENTS. ANY CONFLICTS BETWEEN THE MANUFACTURERS DOCUMENTATION AND THE CONTRACT DOCUMENTS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER.
- DO NOT ALLOW ANY WORK TO BE COVERED UP OR ENCLOSED UNTIL INSPECTED, TESTED AND APPROVED BY OWNER'S REPRESENTATIVE OR AUTHORITY HAVING JURISDICTION.
- MECHANICAL EQUIPMENT SHALL NOT BE USED FOR TEMPORARY HEATING OR COOLING DURING CONSTRUCTION.
- PIPES AND WIRING IN PLENUM SHALL BE RATED FOR PLENUM USE. PVC, ABS, AND PLASTIC PIPING IS NOT ACCEPTABLE IN PLENUM APPLICATIONS.
- ALL DETAILS ARE TYPICAL UNLESS NOTED OTHERWISE.

### 2021 WA STATE ENERGY CODE NOTES

- DOCUMENTS DESCRIBED IN SECTION C103.6, INCLUDING RECORD DOCUMENTS, MANUALS, COMPLIANCE DOCUMENTATION, AND SYSTEM OPERATION TRAINING, SHALL BE PROVIDED TO THE BUILDING OWNER OR OWNER'S AUTHORIZED AGENT WITHIN 90 DAYS OF THE DATE OF RECEIPT OF THE CERTIFICATE OF OCCUPANCY.
- HVAC SYSTEM CONTROLS SHALL BE CAPABLE OF AUTOMATIC START AND STOP PER SECTION C403.4.2.3.

### GENERAL PLUMBING NOTES

- PROVIDE ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO CONSTRUCT A COMPLETE, OPERATIONAL PLUMBING SYSTEM FOR THE ENTIRE PROJECT AS SHOWN ON THESE DRAWINGS, INCLUDING ALL NECESSARY FEES AND PERMITS.
- THE ENTIRE INSTALLATION SHALL CONFORM TO THE MOST RECENTLY ADOPTED REQUIREMENTS OF THE PLUMBING CODE, AND ALL OTHER APPLICABLE CITY, COUNTY, STATE, AND FEDERAL CODES AND REGULATIONS IN EFFECT AT THE DATE OF THE BID. CONFORM TO ANY CODES, RULES, REGULATIONS AND REQUIREMENTS THAT THE PROJECT OWNER HAS.
- PRIOR TO FABRICATION AND INSTALLATION, THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL PLUMBING WORK WITH ALL OTHER TRADES INCLUDING THE MECHANICAL CONTRACTOR, FIRE PROTECTION CONTRACTOR, ELECTRICAL CONTRACTOR, GENERAL CONTRACTOR, AND ANY CONTRACTOR HIRED DIRECTLY BY THE OWNER. WHERE CONFLICTS MAY OCCUR, THEY SHALL BE RESOLVED PRIOR TO INSTALLATION.
- THE WORKING DRAWINGS ARE DIAGRAMMATIC. BECAUSE OF THE SMALL SCALE OF THE DRAWINGS, THEY DO NOT SHOW EVERY OFFSET, BEND OR ELBOW NECESSARY FOR THE COMPLETE INSTALLATION IN THE SPACE PROVIDED. ALL LOCATIONS FOR PLUMBING EQUIPMENT AND PIPING SHALL BE CHECKED AND COORDINATED WITH THE ARCHITECTURAL, MECHANICAL, STRUCTURAL AND ELECTRICAL DRAWINGS.
- ALL EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE EQUIPMENT MANUFACTURER'S RECOMMENDATIONS. PROVIDE ALL FITTINGS, TRANSITIONS, VALVES, WORKING CLEARANCES, AND OTHER DEVICES AND ACCESSORIES REQUIRED FOR A COMPLETE, WORKABLE INSTALLATION.
- PROVIDE PROPER PROVISIONS FOR EXPANSION OR MOVEMENT OF ALL PIPING.
- PROVIDE WATER HAMMER ARRESTORS (SHOCK ABSORBERS) AT ALL PIPE LOCATIONS WHERE VALVE CLOSURES MAY CAUSE WATER HAMMER OR RESULT IN EXCESSIVE PIPE VIBRATION OR MOVEMENT. (EXAMPLES INCLUDE FLUSH VALVES, SENSOR FAUCETS, AND WASHING MACHINES).
- PROVIDE CLEANOUTS AS REQUIRED BY CODE, INCLUDING AT ALL SINKS, URINALS AND END OF RUNS.

### PROJECT SUMMARY

CONSTRUCTION OF A COMFORT STATION COMPRISING OF A DRIVERS RESTROOM AND JANITORIAL/MAINTENANCE ROOM. EACH ROOM IS TO HAVE AN EXHAUST FAN AND ELECTRIC WALL HEATER WITH A BUILT-IN THERMOSTAT. EACH ROOM WILL HAVE LINTELS INSTALLED FOR FUTURE THRU WALL AIR CONDITIONER. PLUMBING SCOPE IS THE INSTALLATION OF HOSE BIB, RESTROOM AND JANITORIAL PLUMBING FIXTURES, UTILITY WATER METER, BACK FLOW VALVE, AND WATER PRESSURE REDUCING VALVE TO BE INSTALLED IN JANITORIAL AREA.

### CODES AND AUTHORITIES HAVING JURISDICTION (AHJ)

THIS LIST IS FOR REFERENCE ONLY AND MAY NOT CONTAIN ALL CODES REQUIRED FOR THIS PROJECT OR LIST ALL AUTHORITIES HAVING JURISDICTION. CONTACT STATE, COUNTY AND CITY BUILDING DEPARTMENT FOR A FULL AND ACCURATE

- 2021 INTERNATIONAL BUILDING CODE
- 2021 UNIFORM PLUMBING CODE
- 2021 WASHINGTON STATE ENERGY CODE
- 2021 INTERNATIONAL MECHANICAL CODE
- CODE AMENDMENTS SPECIFIC TO THE LOCAL AND REGIONAL JURISDICTIONS
- SPOKANE, WA CODE AGENCIES AND OFFICIALS

### DESIGN CONDITIONS

LOCATION	SPOKANE, WA
OUTDOORS	SUMMER 92.9°F DB / 62.8°F WB
	WINTER 5.1°F DB
	EVAPORATION 65.2°F WB / 86.9°F MCDB
INDOOR	COOLING 75°F
	HEATING 70°F
VENTILATION	PER ASHRAE 62.1-2018
ELEVATION	1890 FT ABOVE SEA LEVEL

### PIPING LEGEND

—CS— CONDENSER WATER SUPPLY	—RL— REFRIGERANT LIQUID LINE
—CR— CONDENSER WATER RETURN	—RS— REFRIGERANT SUCTION LINE
—CWS— CHILLED WATER SUPPLY	—HRS— HIGH PRESSURE REFRIGERANT SUCTION LINE
—CWR— CHILLED WATER RETURN	—G— NATURAL GAS
—HWS— HEATING HOT WATER SUPPLY	—PG— PROPANE GAS
—HWR— HEATING HOT WATER RETURN	—LPG— LIQUID PETROLEUM GAS
—HGS— HEATING GLYCOL SUPPLY	—CA— COMPRESSED AIR
—HGR— HEATING GLYCOL RETURN	—LPS— LOW PRESSURE STEAM SUPPLY
—FOS— FUEL OIL SUPPLY	—LPR— LOW PRESSURE STEAM RETURN
—FOR— FUEL OIL RETURN	—LPC— LOW PRESSURE CONDENSATE
—SMS— SNOWMELT GLYCOL SUPPLY	—MPS— MEDIUM PRESSURE STEAM SUPPLY
—SMR— SNOWMELT GLYCOL RETURN	—MPR— MEDIUM PRESSURE STEAM RETURN
—GWS— GEOTHERMAL WATER SUPPLY	—MPC— MEDIUM PRESSURE CONDENSATE
—GWR— GEOTHERMAL WATER RETURN	—HPS— HIGH PRESSURE STEAM SUPPLY
—D— CONDENSATE DRAIN (D)	—HPR— HIGH PRESSURE STEAM RETURN
—VAC— VACUUM (VAC)	—HPC— HIGH PRESSURE CONDENSATE

### PLUMBING/PIPING SYMBOLS LEGEND

—V— VALVE	—FD— FLOW DIRECTION
—GV— GATE VALVE	—S=2%— PIPE SLOPE & DIRECTION
—BV— BALL VALVE	—R— REDUCER, CONCENTRIC
—GV— GLOBE VALVE	—E— REDUCER, ECCENTRIC
—PV— PLUG VALVE	—U— UNION
—BV— BUTTERFLY VALVE	—F— FLANGES
—NV— NEEDLE VALVE	—BF— BLIND FLANGE
—SV— SPECIALTY VALVE	—EC— END CAP
—AV— BALANCING VALVE	—HQ— HOSE QUICK DISCONNECT
—AV— AUTOMATIC BALANCING VALVE	—PT— PT PLUG (TEST PORT)
—OS & Y— OS & Y VALVE	—FC— FLEX CONNECTOR/COUPLING
—SC— STOP COCK	—EJ— EXPANSION JOINT
—PR— PRESSURE REDUCING VALVE	—EG— EXPANSION GUIDE
—RV— PRESSURE REGULATING VALVE	—XA— PIPE ANCHOR
—CV— CHECK VALVE	—HTD— HOSE THREAD DRAIN BALL VALVE
—SCV— SPRING CHECK VALVE	—HB— HOSE BIBB
—RV— RELIEF VALVE	—WH— WALL HYDRANT HOSE THREAD DRAIN VALVE
—FASV— FUEL ANTI-SIPHON VALVE	—FDC— FIRE DEPARTMENT CONNECTION
—FOSV— FUSIBLE OIL SAFETY VALVE	—WAH— WATER HAMMER ARRESTOR
—MV— MOTORIZED VALVE	—WHA— WATER HAMMER ARRESTOR (PLAN)
—SV— SOLENOID VALVE	—TM— THERMOWELL
—ACV— AUTOMATIC CONTROL VALVE	—T— THERMOMETER
—S— STRAINER	—DT— DIAL THERMOMETER
—SS— STRAINER W/ BLOWDOWN	—PG— PRESSURE GAUGE W/ COCK
—BFP— BACKFLOW PREVENTER	—PG— PRESSURE GAUGE W/ COCK & SIPHON
—FS— FLOW SWITCH	—AV— AIR VENT
—PS— PRESSURE SWITCH	—A— AUTOMATIC C-COIN
—PE— PIPE ELBOW DOWN (OR AWAY)	—M— MANUAL H - HIGH VOLUME
—PE— PIPE ELBOW UP (OR TOWARDS)	—BS— BASKET STRAINER
—PT— PIPE TEE DOWN (OR AWAY)	—AF— AIR FILTER W/ COALESCE & DRAIN
—PT— PIPE TEE UP (OR AWAY)	—AF— AIR FILTER W/ COALESCE, DRAIN, REGULATOR & GAUGE
	—P— PUMP (SYMBOLIC - ARROW INDICATES FLOW DIRECTION)
	—M— WATER METER

### GENERAL LEGEND

**NOTES:**

① SPECIFIC TO LOCATION(S) INDICATED.

A. NOTE APPLIES TO ENTIRE SHEET.

—XX— MECHANICAL EQUIPMENT, SEE MECHANICAL SCHEDULES.

—XX— PLUMBING FIXTURE TAG, SEE PLUMBING SCHEDULES

(E) EXISTING  
(N) NEW  
(NL) NEW LOCATION  
(REL) RELOCATED  
● POINT OF CONNECTION (POC)

**LINETYPES:**

— EXISTING (THIN)  
— NEW (MEDIUM)  
- - - EXISTING TO BE DEMOLISHED

ⓧ THERMOSTAT, ADJACENT NUMBER INDICATES TERMINAL UNIT CONTROLLED

Ⓜ HUMIDISTAT

Ⓢ SENSOR

Ⓢ CO2 CO2 SENSOR

Ⓢ DUCT SMOKE DETECTOR

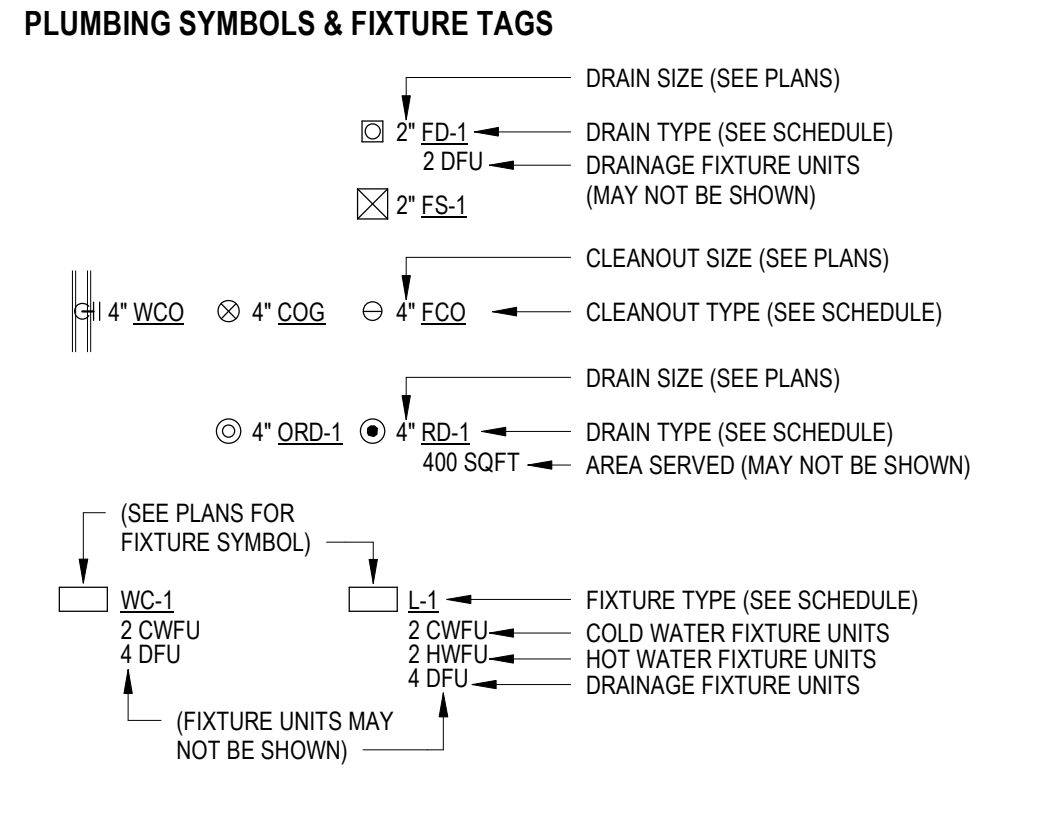
Ⓢ DUCT STATIC PRESSURE

Ⓢ DETAIL SYMBOL:  
A = IDENTIFYING NUMBER  
B = SHEET WHERE DETAIL IS SHOWN

Ⓢ SECTION SYMBOL:  
A = IDENTIFYING NUMBER  
B = SHEET WHERE DETAIL IS SHOWN

### PLUMBING LEGEND

—CW— COLD WATER (CW)	—W— SANITARY WASTE ABOVE GRADE (W)
—HW— HOT WATER (HW)	—BGW— SANITARY WASTE BELOW GRADE (BGW)
—HWC— HOT WATER CIRCULATING (HWC)	—AW— ACID WASTE (AW)
—140 HW— 140° HOT WATER (HW)	—PW— PUMPED WASTE (PW)
—140 HWC— 140° HOT WATER CIRCULATING (HWC)	—OW— OILY WASTE (OW)
—ICW— INDUSTRIAL COLD WATER (ICW)	—V— VENT - SANITARY (V)
—IHW— INDUSTRIAL HOT WATER (IHW)	—AV— ACID VENT (AV)
—SCW— SOFT COLD WATER (SCW)	—RV— RELIEF VENT (RV)
—FCW— COLD WATER FLUSHING SYSTEM (FCW)	—CA— COMPRESSED AIR (CA)
—TW— TEMPERED WATER (TW)	—D— CONDENSATE DRAIN (D)
—NPW— NON-POTABLE WATER (NPW)	—RD— RAIN LEADER (RD)
—IW— IRRIGATION WATER (IW)	—ORD— OVERFLOW RAIN LEADER (ORD)
—DI— DEIONIZED WATER (DI)	—SD— STORM DRAIN (SD)
—DW— DISTILLED WATER (DW)	—TP— TRAP PRIMER (TP)
—VAC— VACUUM (VAC)	—G— NATURAL GAS (G)
	—PG— PROPANE GAS (PG)



### GENERAL ABBREVIATIONS

Ø ROUND or DIAMETER	L LENGTH
AAV AUTOMATIC AIR VENT	LAT LEAVING AIR TEMPERATURE
ABV ABOVE	LBS POUNDS
AD ACCESS DOOR	LF LINEAR FOOT/FEET
AFF ABOVE FINISH FLOOR	LVG LEAVING
AHU AIR HANDLING UNIT	LWG LOW WALL GRILLE
AL ACOUSTIC LINE	LWR LOW WALL REGISTER
AP ACCESS PANEL	LWT LEAVING WATER TEMPERATURE
APD AIR PRESSURE DROP	MAX MAXIMUM
ASME AMERICAN SOCIETY OF MECHANICAL ENGINEERS	MAV MANUAL AIR VENT
AWT AVERAGE WATER TEMPERATURE	MBH 1000 BRITISH THERMAL UNITS PER HOUR
BB BASEBOARD	MCA MINIMUM CIRCUIT AMPACITY
BBD BACKDRAFT DAMPER	MCC MOTOR CONTROL CENTER
BFF BELOW FINISH FLOOR	MFR MANUFACTURER
BHP BRAKE HORSEPOWER	MOP MAXIMUM OVERCURRENT PROTECTION
BG BELOW GROUND/GRADE	MJA MAKEUP AIR UNIT
BTU BRITISH THERMAL UNIT	MIN MINIMUM
BTUH BRITISH THERMAL UNITS PER HOUR	MISC MISCELLANEOUS
C CENTIGRADE	MTD MOUNTED
CC COOLING COIL	MTG MOUNTING
CD CEILING DIFFUSER	(N) NEW
CFM CUBIC FEET PER MINUTE	(NL) NEW LOCATION
CG CEILING GRILLE	N/A NOT APPLICABLE
CI CAST IRON	N/C NORMALLY CLOSED
CLG CEILING	N/O NORMALLY OPEN
CO CLEANOUT	NC NOISE CRITERIA
COG CLEANOUT TO GRADE	N.I.C. NOT IN CONTRACT
CMU CONCRETE MASONRY UNIT	NPT NATIONAL PIPE THREAD
CM CONCRETE	NTS NOT TO SCALE
CONN CONNECT or CONNECTION	OA OUTSIDE AIR
CONST CONSTRUCTION	OBD OPPOSED BLADE DAMPER
CONT CONTINUATION	O/C ON CENTER
(D) DEMOLISH	OD OUTSIDE DIAMETER
DB DECIBEL or DRY BULB	OPNG OPENING
DDC DIRECT DIGITAL CONTROL	PVC PRESSURE CONTROL VALVE
DIA DIAMETER	PD PRESSURE DROP
DIM DIMENSION	PH PHASE
DN DOWN	PLCS PLACES
DOAS DEDICATED OUTDOOR AIR SYSTEM	POC POINT OF CONNECTION
DPR DAMPER	POUA POINT OF USE ALARM
DPS DIFFERENTIAL PRESSURE SWITCH	PRV PRESSURE REDUCING VALVE
DWG DRAWING	PSI POUNDS PER SQUARE INCH
(E) EXISTING	PSIG POUNDS PER SQUARE INCH (GAGE)
EA EACH	(REL) RELOCATE/RELOCATED
EAT ENTERING AIR TEMPERATURE	RA RETURN AIR
EF EXHAUST FAN	RAG RETURN AIR GRILLE
EG EXHAUST GRILLE	REQD REQUIRED
ELEC ELECTRIC or ELECTRICAL	R.O. ROUGH OPENING
ELEV ELEVATION	RPBP REDUCED PRESSURE BACKFLOW PREVENTER
EMCS ENERGY MANAGEMENT CONTROL SYSTEM	RPB REVOLUTIONS PER MINUTE
ERV ENERGY RECOVERY VENTILATOR	SA SUPPLY AIR
ESP EXTERNAL STATIC PRESSURE	SD SMOKE DETECTOR
EWT ENTERING WATER TEMPERATURE	SF SUPPLY FAN
EXH EXHAUST	SHT SHEET
EXST EXISTING	SIM SIMILAR
F FAHRENHEIT	SL SOUNDLINING
FCO FLOOR CLEANOUT	SP STATIC PRESSURE
FCU FAN COIL UNIT	SQ SQUARE
FD FLOOR DRAIN	SQ FT SQUARE FOOT/FEET
FD FIRE DAMPER	SS STAINLESS STEEL
FFD FUNNEL FLOOR DRAIN	STD STANDARD
FF FINAL FILTER	TAB TESTING, ADJUSTING & BALANCING
FLR FLOOR	THK THICK
FPM FEET PER MINUTE	TP TRAP PRIMER or TEST PLUG
FPS FEET PER SECOND	TSP TOTAL STATIC PRESSURE
FS FLOOR SINK	TYP TYPICAL
FSD COMBINATION FIRE/SMOKE DAMPER	TU TERMINAL UNIT
FT FOOT/FEET	UBC UNIFORM BUILDING CODE
FTR FINNET TUBE RADIATION	UFC UNIFORM FIRE CODE
FV FACE VELOCITY	UMC UNIFORM MECHANICAL CODE
GA GAGE or GAUGE	UPC UNIFORM PLUMBING CODE
GAL GALLON	UG UNDERGROUND
GALV GALVANIZED	UH UNIT HEATER
GPH GALLONS PER HOUR	UNO UNLESS NOTED OTHERWISE
GPM GALLONS PER MINUTE	VA VALVE
GRD GRILLE, REGISTER, OR DIFFUSER	VAC VACUUM
H HEIGHT	VAV VARIABLE AIR VOLUME
HB HOSE BIBB	VD VOLUME DAMPER
HD HEAD	VEL VELOCITY
HP HORSEPOWER	VFD VARIABLE FREQUENCY DRIVE
HRV HEAT RECOVERY VENTILATOR	VRF VARIABLE REFRIGERANT FLOW
HTG HEATING, VENTILATION AND AIR CONDITIONING	VTR VENT THRU ROOF
HWG HIGH WALL GRILLE	W WIDE
HWR HIGH WALL REGISTER	W WITH
HZ HERTZ	W/O WITHOUT
ID INSIDE DIAMETER	WB WET BULB
IE INVERT ELEVATION	WC WATER COLUMN
IN INCH or INCHES	WCO WALL CLEANOUT
INSUL INSULATION	WG WATER GAGE
INV INVERT	WGE WASTE GAS EVACUATION
KH KICKSPACE HEATER	WH WALL HYDRANT
KW KILOWATT	WPD WATER PRESSURE DROP
KWH KILOWATT HOUR	WT WEIGHT

### MECHANICAL SHEET INDEX

SHEET NUMBER	SHEET NAME
M-001	MECHANICAL LEGENDS AND ABBREVIATIONS
M-002	MECHANICAL SPECIFICATIONS
M-201	MECHANICAL FLOOR PLANS
M-501	MECHANICAL DETAILS
M-502	MECHANICAL DETAILS
M-601	MECHANICAL SCHEDULES



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com



**WHITWORTH COMFORT STATION**  
 N IVANHOE RD & E HAWTHORNE RD  
 SPOKANE COUNTY, WA 99251  
**Spokane Transit Authority**  
 1230 W. Boone Avenue  
 Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN RKC  
CHECKED TAH  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**MECHANICAL LEGENDS AND ABBREVIATIONS**

SHEET NO:

# M-001

**BID SET**



**MECHANICAL SPECIFICATIONS**

**MECHANICAL WORK, GENERAL**

**A. GENERAL REQUIREMENTS**

CONTRACT REQUIREMENTS: COMPLY WITH BIDDING AND CONTRACT REQUIREMENTS AS OUTLINED BY THE OWNER AND ARCHITECT.

WORK INCLUDED: THIS SECTION APPLIES TO ALL MECHANICAL WORK NORMALLY SPECIFIED UNDER DIVISIONS 22 AND 23. PROVIDE ALL MATERIALS, LABOR, EQUIPMENT, TOOLS, FIELD DESIGN, SHOP DRAWINGS, HOISTING, SCAFFOLDING, SUPERVISION AND OVERHEAD FOR THE CONSTRUCTION, INSTALLATION, CONNECTION, TESTING AND OPERATION OF ALL MECHANICAL WORK AS SHOWN AND SPECIFIED. THE WORD "PROVIDE" USED HEREINAFTER MEANS TO FURNISH AND INSTALL. ALL WORK AND MATERIALS REQUIRED FOR COMPLETE FUNCTIONING SYSTEMS ARE NOT OUTLINED HERE BUT SHALL BE PROVIDED AS PART OF THIS WORK.

CODES: COMPLY WITH ALL APPLICABLE CODES AND ORDINANCES OF THE LOCAL AND STATE CODE ENFORCING AGENCIES. OBTAIN PERMITS, APPROVALS, AND INSPECTIONS, AND PAY ALL COSTS AND FEES FOR PERMITS, REVIEWS, AND INSPECTIONS.

ABBREVIATIONS: WHERE ABBREVIATIONS ARE USED IN THE SPECIFICATIONS AND ON THE DRAWINGS, THE COMMON INDUSTRY DEFINITION SHALL APPLY UNLESS INDICATED OTHERWISE. THE TERM A/E SHALL REFER TO THE PROJECT ARCHITECT AND MECHANICAL CONSULTING ENGINEER AS IF ONE ORGANIZATION.

SUBMITTALS: SUBMIT PRODUCT DATA AND SHOP DRAWINGS FOR ALL SIGNIFICANT MATERIALS, EQUIPMENT, AND FIXTURES TO THE A/E FOR REVIEW. ALLOW REASONABLE TIME FOR REVIEW AND RETURN PRIOR TO ORDERING. ASSUME STA AND A/E WILL RETAIN A TOTAL OF THREE COPIES OF SUBMITTALS UNLESS ARRANGED OTHERWISE.

SAFETY MEASURES: PROVIDE A SAFE ENVIRONMENT TO PROTECT EMPLOYEES AND ALL OTHERS FROM INJURY. COMPLY WITH STATE AND FEDERAL SAFETY AND HEALTH REGULATIONS FOR CONSTRUCTION.

**B. PERFORMANCE OF WORK**

COORDINATION: COORDINATE MECHANICAL WORK WITH ALL OTHER TRADES AND TAKE ALL MEASUREMENTS NECESSARY TO ENSURE PROPER INSTALLATION OF MECHANICAL WORK PRIOR TO START OF FABRICATION. THIS CONTRACTOR SHALL PROVIDE LARGE SCALE DETAIL DRAWINGS WHERE NECESSARY TO COORDINATE WORK IN TIGHT AREAS. THE CONTRACT DRAWINGS DO NOT ATTEMPT TO SHOW EXACT LOCATIONS OF DUCTWORK, PIPING, FIXTURES, AND EQUIPMENT, OR ALL TRANSITIONS AND OFFSETS THAT WILL BE NECESSARY FOR INSTALLATION. ALL NECESSARY TRANSITIONS AND OFFSETS SHALL BE PROVIDED AS PART OF THIS WORK WITHOUT ADDED COMPENSATION.

CUTTING AND PATCHING: PROVIDE ALL CUTTING OF BUILDING CONSTRUCTION, AS REQUIRED FOR THIS WORK. KEEP CUTTING TO A MINIMUM, AND USE SAW CUTTING TO MAINTAIN NEAT, EVEN OPENINGS. UNLESS PATCHING IS INCLUDED UNDER OTHER DIVISIONS OF THIS SPECIFICATION, PROVIDE PATCHING AT ALL CUTTING LOCATIONS. ALL PATCHING SHALL CONFORM TO SPECIFICATIONS FOR THE NEW GENERAL CONSTRUCTION WORK. FINISH TO MATCH EXISTING WORK.

**C. PROJECT COMPLETION**

RECORD DRAWINGS (AS-BUILTS): CORRECTIONS AND CHANGES MADE DURING THE PROGRESS OF THE WORK SHALL BE NEATLY RECORDED AS ACTUALLY INSTALLED FOR AS-BUILT RECORDS. FURNISH ONE CLEAN SET TO THE A/E UPON COMPLETION OF THE PROJECT.

OPERATION AND MAINTENANCE MANUALS: PROVIDE ONE PRELIMINARY COPY AND (3) FINISHED COPIES OF MECHANICAL OPERATION AND MAINTENANCE MANUALS, FOR WORK UNDER THIS PROJECT. ARRANGE INFORMATION CONTAINED IN THE MANUALS IN AN ORDERLY ARRANGEMENT (BY SPECIFICATION SECTION), SEPARATED BY TABS. PROVIDE EQUIPMENT MANUFACTURER, MODEL NUMBER, SIZE, CAPACITY, PERFORMANCE DATA, SCHEDULE OF ROUTINE MAINTENANCE, SUPPLIERS LISTS, LIST OF REPLACEMENT PARTS, AND INCLUDE ANY SHOP DRAWINGS.

OWNER INSTRUCTION: CONTRACTOR SHALL INSTRUCT THE OWNER IN THE USE AND OPERATION OF ALL SYSTEMS INSTALLED UNDER THIS CONTRACT. OBTAIN OWNER'S WRITTEN ACCEPTANCE THAT THEY HAVE BEEN ADEQUATELY TRAINED.

GUARANTEE: GUARANTEE MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR AFTER THE DATE OF SUBSTANTIAL COMPLETION. REFER TO ADDITIONAL REQUIREMENTS OUTLINED BY ARCHITECT AND OWNER.

**BASIC MATERIALS AND METHODS (APPLIES TO ALL WORK)**

**A. GENERAL**

WORK INCLUDED: THIS SECTION APPLIES TO ALL MECHANICAL WORK NORMALLY SPECIFIED UNDER DIVISIONS 22 AND 23 AND REPRESENTS REQUIREMENTS IN ADDITION TO THE REQUIREMENTS STATED IN OTHER SECTIONS. THESE SPECIFICATIONS DO NOT COVER ALL ITEMS THAT WILL BE REQUIRED FOR COMPLETE AND WORKING SYSTEMS. WHERE MATERIALS OR EQUIPMENT NEEDED FOR THIS PROJECT ARE NOT COVERED IN THESE SPECIFICATIONS, PROVIDE THE MATERIALS AND EQUIPMENT OF A QUALITY EQUAL TO OR BETTER THAN THAT GENERALLY UTILIZED BY THE INDUSTRY FOR SIMILAR PROJECTS IN THE SAME GEOGRAPHIC AREA.

**B. SUPPORT AND HANGERS**

SUPPORT OF MECHANICAL SYSTEMS: EACH PIECE OF EQUIPMENT SHALL BE SUPPORTED (FROM ABOVE OR BELOW) IN NOT LESS THAN FOUR CORNERS FROM THE BUILDING STRUCTURE. PIPING AND DUCTWORK SHALL BE SUPPORTED AT INTERVALS SPECIFIED, WITH EACH SYSTEM SUPPORTED INDEPENDENTLY FROM THE BUILDING STRUCTURE.

SEISMIC BRACING: PROVIDE COMPLETE SEISMIC BRACING FOR ALL NEW PIPING, DUCTWORK, AND EQUIPMENT AS REQUIRED BY ASCE 7-10. BRACING SHALL BE PER THE STANDARDS ESTABLISHED IN THE MASON INDUSTRIES, INC. SEISMIC RESTRAINT GUIDELINES, LATEST EDITION. ALL BRACING SHALL BE PROVIDED BY MASON OR PRIOR-APPROVED ALTERNATE.

CONNECTIONS TO THE BUILDING STRUCTURE: WHERE CONCRETE STRUCTURE IS PRESENT, REVIEW THE USE OF CONCRETE ANCHORS WITH THE ARCHITECT, OWNER, AND GENERAL CONTRACTOR, AND VERIFY THAT THERE ARE NO POST-TENSIONED SLABS OR OTHER CONDITIONS THAT NEED TO BE TAKEN INTO ACCOUNT IN SETTING OF ANCHORS. UTILIZE MCCULLOUGH "KWIK-BOLT", PHILLIPS SELF-DRILLING ANCHORS, GREGORY "BULLDOG," OMARK "DRILL ANCHORS", OR OTHER APPROVED ANCHOR TO ATTACH TO CONCRETE STRUCTURES. WHERE BUILDING STRUCTURE IS WOOD OR STEEL, OBTAIN ARCHITECT APPROVAL OF HARDWARE AND METHODS TO BE UTILIZED FOR ATTACHMENT TO THE STRUCTURE.

ADDITIONAL FRAMING: PROVIDE STEEL FRAMING MEMBERS TO TRANSFER LOAD FROM SUPPORT POINTS AT HANGERS TO LOCATIONS WHERE CONNECTIONS CAN BE MADE TO THE BUILDING STRUCTURE. FRAMING MEMBERS SHALL BE 12-GAUGE MINIMUM, 1-3/8" X 1-5/8" MINIMUM CROSS-SECTION SIZE; UNISTRUT, POWERSTRUT, OR OTHER APPROVED. SELECT MEMBER SIZE AND TYPE, AS APPROPRIATE FOR LOAD PER MANUFACTURER GUIDELINES.

PIPE HANGERS: CLEVIS OR RING HANGERS WITH STEEL RODS. HANGERS FOR INSULATED PIPING SHALL BE SIZED FOR OUTSIDE INSULATION, AND 6" SHIELDS SHALL BE PROVIDED AT ALL HANGERS TO PROTECT INSULATION. PIPE SUPPORT SPACING PER IMC TABLE 305.4.

HANGER RODS: HOT ROLLED STEEL ROD, ASTM A 36; SIZE TO "CODE FOR PRESSURE PIPING", ANSI B 31.1, WITH SAFETY FACTOR OF 5. MINIMUM ROD SIZE; 1" PIPE AND SMALLER (240 POUNDS) = 1/4" ROD, 1-1/4" TO 2" PIPE (TO 610 POUNDS) = 3/8" ROD.

INSTALL HIGH DENSITY PRE-MOLDED PIPE INSULATION 180 DEGREES (HALF-SHELLS) ON BOTTOM HALF OF PIPE AT SUPPORTS FOR PIPING GREATER THAN 1" IN DIAMETER, 6" LONG FOR PIPING 6" IN SIZE OR SMALLER. HOT PIPE SUPPORTS SHALL BE HIGH DENSITY POLYISOCYANURATE FOR FLUIDS UP TO 300 F, OR CALCIUM SILICATE. INSULATION AT SUPPORTS SHALL HAVE SAME THICKNESS AS ADJACENT INSULATION.

**C. EQUIPMENT AND PIPING IDENTIFICATION**

NAMEPLATES: PROVIDE NAMEPLATE FOR EACH PIECE OF EQUIPMENT, INCLUDING EQUIPMENT NUMBER AND ANY SPECIAL INSTRUCTION FOR ITS USE; LAMINATED BLACK AND WHITE PLASTIC WITH LETTERING CUT THROUGH TO WHITE BACKGROUND. MINIMUM SIZE 3" X 1".

PIPE IDENTIFICATION: ALL PIPING IN SERVICEABLE LOCATIONS (INCLUDING ABOVE LAY-IN CEILINGS) SHALL BE IDENTIFIED WITH SEMI-RIGID PLASTIC OR ADHESIVE IDENTIFICATION MARKERS. MARKERS SHALL CONFORM TO ANSI A13.1, "SCHEME FOR THE IDENTIFICATION OF PIPING SYSTEMS". LOCATE MARKERS ADJACENT TO EACH VALVE, AT MINIMUM 30" CENTERS WITH AT LEAST ONE MARKER BETWEEN ANY TWO PARTITIONS. PROVIDE DIRECTION OF FLOW ARROWS AT MARKERS.

**D. MISCELLANEOUS MATERIALS**

DIELECTRIC UNIONS: PROVIDE AT EACH PIPE CONNECTION BETWEEN DISSIMILAR METALS. 2 INCHES AND SMALLER, 250 PSIG AT 180 DEG. F., ANSI B16.39. OVER 2" USE FLANGE FITTINGS, ANSI B16.42 (IRON) OR ANSI B16.24 (BRONZE), WATTS 3000 SERIES, EPCO OR EQUIVALENT.

MOTORS: UNLESS OTHERWISE SPECIFIED, ALL ELECTRIC MOTORS FURNISHED SHALL CONFORM WITH THE REQUIREMENTS OF NEMA MG1 "MOTORS AND GENERATORS". PROVIDE MINIMUM MOTOR EFFICIENCIES AS REQUIRED BY THE APPLICABLE ENERGY CODE.

**E. EXECUTION OF WORK**

INSTALLATION, GENERAL: FOLLOW MANUFACTURER'S INSTRUCTIONS AND UTILIZE GOOD INDUSTRY PRACTICE WHEN INSTALLING ALL WORK. USE ONLY SKILLED TRADESPEOPLE WITH QUALIFIED SUPERVISION. ALL WORK SHALL BE LEFT NEAT AND CLEAN.

CONCEALMENT: PIPING AND DUCTWORK SHALL BE CONCEALED WITHIN BUILDING CONSTRUCTION, UNLESS SPECIFICALLY INDICATED OTHERWISE. WHERE PIPING IS INDICATED TO BE EXPOSED TO VIEW IN FINISHED SPACES, PROVIDE CHROME ESCUTCHEONS WHERE THE PIPING PENETRATES THE WALL, FLOOR OR CEILING CONSTRUCTION.

COORDINATION WITH OTHER TRADES: COMPLETE DRAWINGS AND SPECIFICATIONS OF ALL TRADES WILL BE FURNISHED OR WILL BE AVAILABLE FOR INSPECTION IN THE CONSTRUCTION OFFICE AT THE JOBSITE. CAREFULLY CHECK THESE DRAWINGS AND SPECIFICATIONS BEFORE INSTALLING ANY WORK. IN ALL CASES, CONSIDER THE WORK OF ALL OTHER TRADES AND COORDINATE WORK WITH THAT OF THE SHEET METAL, PIPING, PLUMBING, ELECTRICAL, AND SITE-WORK SUBCONTRACTORS, SO THAT THE BEST ARRANGEMENT OF ALL EQUIPMENT, PIPING, CONDUIT, DUCTS, AND OTHER RELATED ITEMS CAN BE OBTAINED.

INTERCONNECTING WIRING: PROVIDE ANY NECESSARY INTERCONNECTING WIRING BETWEEN INDIVIDUAL COMPONENTS AND ACCESSORIES FURNISHED WITH MECHANICAL EQUIPMENT PACKAGES (UNLESS THAT WIRING IS SPECIFICALLY CALLED FOR ON THE ELECTRICAL DRAWINGS). WIRING AND WIRING ACCESSORIES SHALL BE IN ACCORDANCE WITH DIVISION 26 SPECIFICATIONS AND LOCAL ELECTRICAL CODE. WIRING SHALL BE IN CONDUIT OR RACEWAY. WIRING SHALL BE PROVIDED BY THE SUBCONTRACTOR PROVIDING THE EQUIPMENT PACKAGE.

**MECHANICAL INSULATION**

**A. GENERAL**

MANUFACTURERS: MANVILLE, OWENS-CORNING, CERTAINTEED, OR KNAUF. INSTALL IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

INSULATION THICKNESS: 1/2" THICKNESS WITH SLEEVE.

**B. INSULATION MATERIALS**

INDOOR PIPE INSULATION: FIBERGLASS PIPE INSULATION WITH ALL-SERVICE JACKET SHALL BE PROVIDED FOR ALL DOMESTIC WATER PIPING. FITTINGS SHALL BE MITERED SECTIONS OF INSULATION WITH THE SAME THICKNESS AS ADJACENT PIPE INSULATION WITH FACTORY-PREMOLED, ONE-PIECE, UL LISTED (25/50) PVC FITTING COVERS. INSTALLATION MUST REFLECT CAREFUL WORKMANSHIP, AND BE NEAT IN APPEARANCE.

**DOMESTIC WATER AND DRAINAGE**

**A. PIPING SYSTEMS**

WASTE AND VENT PIPING: ASTM A74 STANDARD WEIGHT HUBLESS CAST IRON PIPE, CISPI 301. COUPLINGS; NEOPRENE SLEEVE GASKET, STAINLESS STEEL SHIELD AND BANDS. FITTINGS SHALL BE STANDARD WEIGHT CAST IRON SOIL PIPE FITTINGS, ANSI A112.5.1 AND ASTM A74. HUBLESS CAST IRON FITTINGS, CISPI 301.

DOMESTIC WATER PIPING: TYPE L COPPER WATER TUBE, HARD DRAWN, ASTM B 88. WROUGHT COPPER SOLDER FITTINGS AND SCREWED ADAPTERS, ANSI B16.22.J. SOLDER; 95 PERCENT TIN, 5 PERCENT ANTIMONY SOLDER, ASTM B 32, 95TA.

VALVES: GATE VALVES MSS SP80, 125-PSIG BRONZE, SCREWED OR SOLDER END, UNION BONNET, RISING STEM, SOLID BRONZE DISC. BALL VALVES FED. SPEC. WW-V-35, 250-PSIG BRONZE OR BRASS BODY, BALL AND STEM, SOLDER ENDS OR SCREWED, TEFLON SEAT AND SEAL. CHECK VALVES AND OTHER VALVES SHALL BE OF EQUAL QUALITY AND SAME MANUFACTURER OF GATE AND BALL VALVES, AND SHALL HAVE NOT LESS THAN 125-PSIG RATING.

STRAINERS: 2-1/2 INCHES AND SMALLER, BRONZE, Y-PATTERN, THREADED ENDS, 20-MESH STAINLESS STEEL SCREEN; 250 PSI AT 210 F

**B. PLUMBING ACCESSORIES AND EQUIPMENT**

FLOOR DRAINS: SMITH 2005, DOUBLE DRAINAGE, ADJUSTABLE STRAINER HEAD FLOOR DRAIN, DUCO COATED CAST IRON BODY, FLASHING COLLAR, NICKEL BRONZE STRAINER WITH 1/4" HOLES. PROVIDE SQUARE STRAINER IN AREAS WITH TILE FLOORS AND ROUND STRAINERS IN OTHER LOCATIONS.

DOUBLE-CHECK, BACKFLOW-PREVENTION ASSEMBLIES: DOUBLE-CHECK TYPE BACK-FLOW PREVENTER: 3/4" TO 2" SIZE; LEAD FREE BRONZE CONSTRUCTION WITH ISOLATING BALL VALVES, AND STRAINER. ZURN 9605XL3, WATTS LF007M2QT-S SERIES OR APPROVED EQUIVALENT. PROVIDE CERTIFICATION OF BACKFLOW PREVENTER BY STATE CERTIFIED SPECIALIST, INCLUDE WITH MAINTENANCE MANUALS.

PRESSURE REDUCING VALVES: 2 INCH AND SMALLER, COMPLETE WITH INTEGRAL STRAINER, PRESSURE GAUGE, AND INTEGRAL THERMAL EXPANSION BY-PASS, BRONZE CONSTRUCTION WITH STAINLESS STEEL STRAINER. WATTS NO. LFU5B-Z3 OR EQUIVALENT.

EQUIPMENT, GENERAL: PROVIDE ALL EQUIPMENT CONSISTENT WITH THE CAPACITY, MANUFACTURER, MODEL NUMBER, AND ACCESSORIES AS SPECIFIED OR INDICATED ON THE DRAWING SCHEDULES AND NOTES. EQUIPMENT SUPPLIERS SHALL VERIFY THAT MODEL NUMBERS ARE CONSISTENT WITH CAPACITY, FEATURES, AND ACCESSORIES CALLED FOR AND IDENTIFY ANY CONFLICTS PRIOR TO SUBMITTING QUOTATIONS TO CONTRACTORS. ALL EQUIPMENT WITH ELECTRICAL COMPONENTS SHALL HAVE UL LISTING AS REQUIRED BY THE ELECTRICAL INSPECTOR. ALTERNATE MANUFACTURERS WILL BE CONSIDERED; HOWEVER, A/E FINAL APPROVAL OF EQUALITY OF ALTERNATE MANUFACTURER MODELS IS REQUIRED. ACCEPTABLE ALTERNATE MANUFACTURERS INCLUDE BELL AND GOSSETT, AMTROL, TACO, AO SMITH, STATE, OR AS INDICATED OR PRIOR-APPROVED OTHERWISE. ALTERNATE MANUFACTURERS WITH PRIOR APPROVAL ARE STILL RESPONSIBLE FOR MEETING OR EXCEEDING THE QUALITY AND FEATURES OF THE SPECIFIED ITEMS.

**PLUMBING FIXTURES**

**A. PLUMBING FIXTURE ACCESSORIES**

FIXTURE CARRIERS: PROVIDE CAST IRON OR STEEL CARRIERS FOR ALL WALL-HUNG FIXTURES WITH CONCEALED FIXTURE CARRIERS CONSTRUCTED FOR THE PARTICULAR FIXTURE, HEAVY DUTY CONSTRUCTION WITH SECURE ANCHORING TO CONCRETE FLOOR. SMITH, WADE, ZURN, OR APPROVED. BACK LUG OF WATER CLOSET CARRIERS SHALL BE ANCHORED TO FLOOR.

DRAINS AND TRAPS: PROVIDE GRID STRAINER DRAINS FOR ALL LAVATORIES UNLESS INDICATED OTHERWISE. PROVIDE BASKET STRAINER DRAINS FOR ALL SINKS UNLESS INDICATED OTHERWISE. PROVIDE TRAPS AND TAILPIECES AT ALL FIXTURES UNLESS TRAP IS INTEGRAL WITH FIXTURE.

TRAP PRIMER: SEE FLOOR PLANS FOR WATER AND DRAIN LOCATIONS, AND PLUMBING FIXTURE SCHEDULE FOR PRIMER REQUIREMENTS. TRAP PRIMER FOR ALL FLOOR DRAINS OR MOP SINKS UNLESS INDICATED OTHERWISE. ADJUSTABLE-TYPE AUTOMATIC TRAP SEAL PRIMER VALVE, CAST BRONZE BODY, 1/2" COPPER SWEAT CONNECTIONS OR UNION CONNECTIONS. MANUFACTURER: PRECISION PLUMBING PRODUCTS #P1/P2, JOSAM 88250, OR SMITH FIG. 2699.

STOPS: PROVIDE CHROME STOPS AT EACH WATER CONNECTION TO EACH FIXTURE, EXCEPT WHERE A FAUCET OR CONTROL HAS INTEGRAL STOPS. STOPS SHALL BE A LOOSE KEY PATTERN WITH SHIELD; CHICAGO, BRIDGEPORT BRASS, BRASS CRAFT (SPEEDWAY), TELEDYNE, OR EQUIVALENT.

CAULKING: PROVIDE SILICONE SEALER BETWEEN THE TOP AND THE SIDES OF PLUMBING FIXTURES AND ADJACENT WALL SURFACES; GENERAL ELECTRIC NO. SCS/202. APPLY PER MANUFACTURER'S RECOMMENDATIONS TO FORM A SMOOTH, UNOBTRUSIVE JOINT.

EXPOSED PLUMBING: IN GENERAL, ALL PIPING SHALL BE CONCEALED UNLESS INDICATED OTHERWISE. ANY PIPING THAT MUST BE EXPOSED WITHIN CABINETS OR OTHERWISE, DUE TO CONNECTIONS REQUIRED FOR FIXTURES EQUIPMENT, SHALL BE PAINTED SILVER. ALL EXPOSED ITEMS, INCLUDING STOPS, TRAPS, ETC., SHALL BE CHROME PLATED.

**B. PLUMBING FIXTURES**

GENERAL: PROVIDE THE PLUMBING FIXTURES AS INDICATED BELOW, AND/OR ON THE DRAWINGS. PROVIDE THE MANUFACTURER AND MODEL NUMBERS AS INDICATED; HOWEVER, CONTRACTOR SHALL VERIFY MODEL NUMBERS OF FIXTURES, FLUSH VALVES, FAUCETS, ETC., FIT TOGETHER PROPERLY. ALTERNATE MANUFACTURERS WILL BE CONSIDERED; HOWEVER, A/E FINAL APPROVAL OF EQUALITY OF ALTERNATE MANUFACTURER MODELS IS REQUIRED. ACCEPTABLE ALTERNATE FIXTURE MANUFACTURERS INCLUDE KOHLER, AMERICAN STANDARD, ELIER, ELKAY, JUST, WOODFORD, ACORN, OR AS INDICATED OR PRIOR APPROVED OTHERWISE. ALTERNATE MANUFACTURERS WITH PRIOR APPROVAL ARE STILL RESPONSIBLE FOR MEETING OR EXCEEDING THE QUALITY AND FEATURES OF THE SPECIFIED ITEMS.

**AIR DISTRIBUTION**

**A. DUCTWORK AND ACCESSORIES**

DUCTWORK: DUCTWORK SHALL BE GALVANIZED STEEL. FLEXIBLE DUCT IS NOT ALLOWED. ALL DUCTWORK AND ACCESSORIES SHALL COMPLY WITH THE STANDARDS PRESENTED WITHIN THE MOST RECENT ISSUE OF SMACNA "HVAC DUCT CONSTRUCTION STANDARDS-METAL AND FLEXIBLE" AND WITH THE REQUIREMENTS OF THIS SPECIFICATION (WHICHEVER IS MORE STRINGENT). LONGITUDINAL AND TRANSVERSE JOINTS, SEAMS, AND CONNECTIONS OF ALL LOW-PRESSURE DUCT SYSTEMS (LESS THAN OR EQUAL TO 2" W.G.) SHALL BE SECURELY FASTENED AND SEALED WITH WELDS, GASKETS, MASTICS, OR TAPES IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION INSTRUCTIONS.

DUCT SHALL BE CONSTRUCTED TO THE FOLLOWING PRESSURE AND SEAL CLASSIFICATIONS:

- 1. EXHAUST DUCTS: NEGATIVE 1-IN WG. SEAL CLASS A.

DUCT SEALING COMPOUND: BENJAMIN FOSTER TYPE 30-03, OR UNITED SHEET METAL MANUFACTURE ADHESIVE.

**CONTROLS**

**A. GENERAL**

WORK INCLUDED: PROVIDE COMPLETE AND OPERATING CONTROL SYSTEMS MEETING THE REQUIREMENTS INDICATED ON THE DRAWINGS. THE CONTROL SYSTEM SHALL BE PROVIDED BY THE ORIGINAL EQUIPMENT MANUFACTURER (OEM) AND INTEGRAL TO THE EQUIPMENT.

ALL ELECTRICAL COMPONENTS SHALL HAVE UL LISTING WHERE AVAILABLE. CONTROLS, SWITCHES AND THERMOSTATS SHIPPED LOOSE SHALL BE INSTALLED BY MECHANICAL CONTRACTOR. LOW-VOLTAGE CONTROL WIRE SHALL BE FIELD INSTALLED BY HVAC CONTRACTOR. ELECTRICAL CONTRACTOR (DIV 26) SHALL INSTALL ALL CONDUIT AND POWER WIRING. PROVIDE THOROUGH COORDINATION WITH THE ELECTRICAL SUBCONTRACTOR AND OTHER MECHANICAL TRADES, AS WELL AS EQUIPMENT SUPPLIERS.

TESTING: PROVIDE THOROUGH TESTING OF THE COMPLETED CONTROL SYSTEMS TO ENSURE THAT THEY PERFORM AS REQUIRED.

**B. MISCELLANEOUS CONTROL ACCESSORIES**

GENERAL ACCESSORIES: PROVIDE ALL ITEMS, WHETHER ADDRESSED HEREIN OR NOT, REQUIRED FOR A COMPLETE AND OPERATING SYSTEM CONSISTENT WITH INDUSTRY STANDARDS. REFER TO THE SEQUENCE OF OPERATION FOR REQUIREMENTS RELATING TO CERTAIN COMPONENTS.

**TESTING, ADJUSTING, AND BALANCING**

TESTING AND ADJUSTING: SUBJECT SYSTEMS TO SUCH OPERATING TESTS AS ARE REQUIRED TO DETERMINE THAT THE EQUIPMENT INSTALLED WILL OPERATE PER THE SPECIFIED CAPACITY, RANGES, AND SEQUENCE OF OPERATION. SIMULATE ALL NORMAL AND POSSIBLE ABNORMAL CONDITIONS TO VERIFY PROPER OPERATION IN ALL CONDITIONS. IF TESTS DO NOT DEMONSTRATE SATISFACTORY SYSTEM PERFORMANCE, CORRECT DEFICIENCIES AND RETEST SYSTEMS. CONTRACTOR SHALL FURNISH TO THE OWNER A SIGNED STATEMENT INDICATING THAT TESTING HAS CONFIRMED PROPER OPERATION OF ALL SYSTEMS.

BALANCING: PROVIDE THE SERVICES OF A QUALIFIED BALANCING FIRM TO OBTAIN AIR FLOWS INDICATED ON THE DRAWINGS. BALANCING FIRM SHALL BE A MEMBER OF NEBB OR AABC. PROVIDE ADJUSTMENTS AS REQUIRED TO OBTAIN THE FLOWS INDICATED. AT THE COMPLETION OF THE PROJECT, COMPLETE AND SIGNED BALANCING REPORTS SHALL BE SUBMITTED TO THE A/E AND OWNER INDICATING FINAL FLOW RATES, ETC. COMPLY WITH LATEST EDITION OF NEBB OR AABC BALANCING STANDARDS.

END OF SPECIFICATION



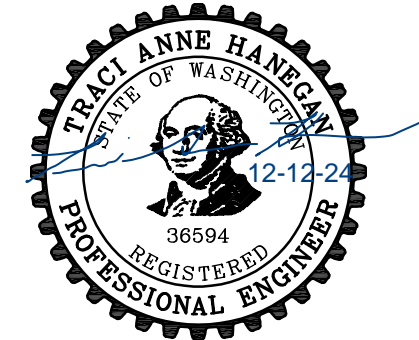
221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

www.coffman.com



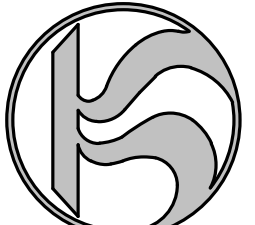
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292  
alscarchitects.com



WHITWORTH COMFORT STATION

N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO.	2024-10964
DRAWN	JTT
CHECKED	TAH
DATE	01/05/2025

COFFMAN ENGINEERS

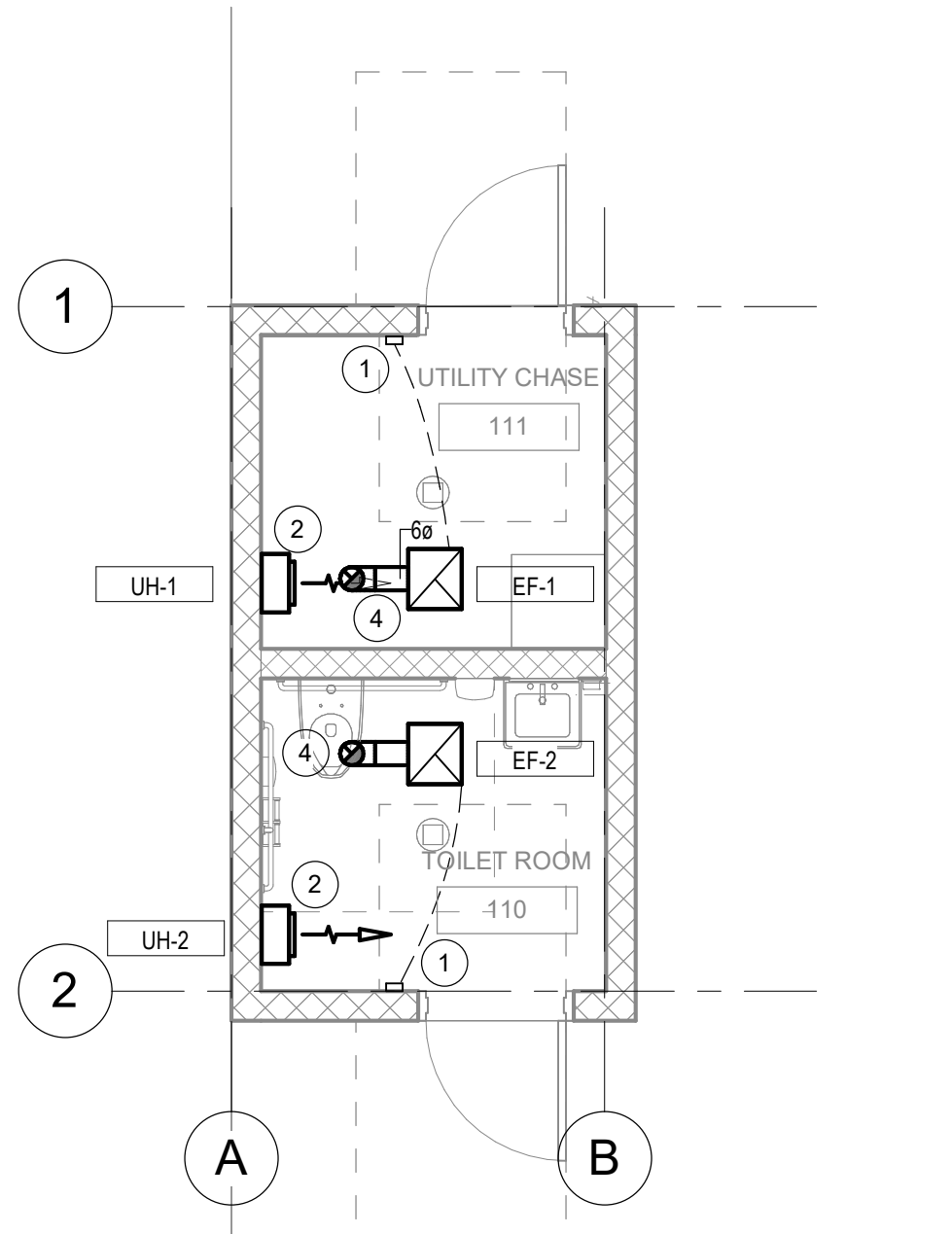
SHEET TITLE:  
**MECHANICAL SPECIFICATIONS**

SHEET NO:  
**M-002**

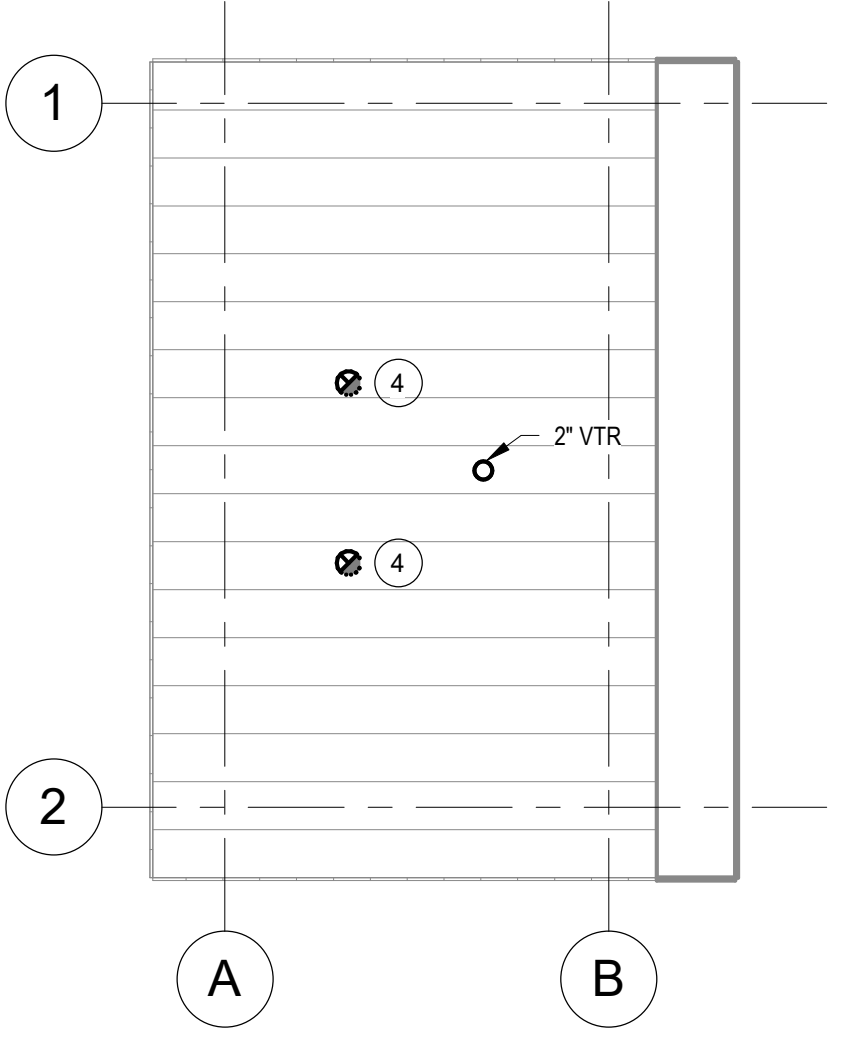
**BID SET**

12/12/2024 1:44:00 PM

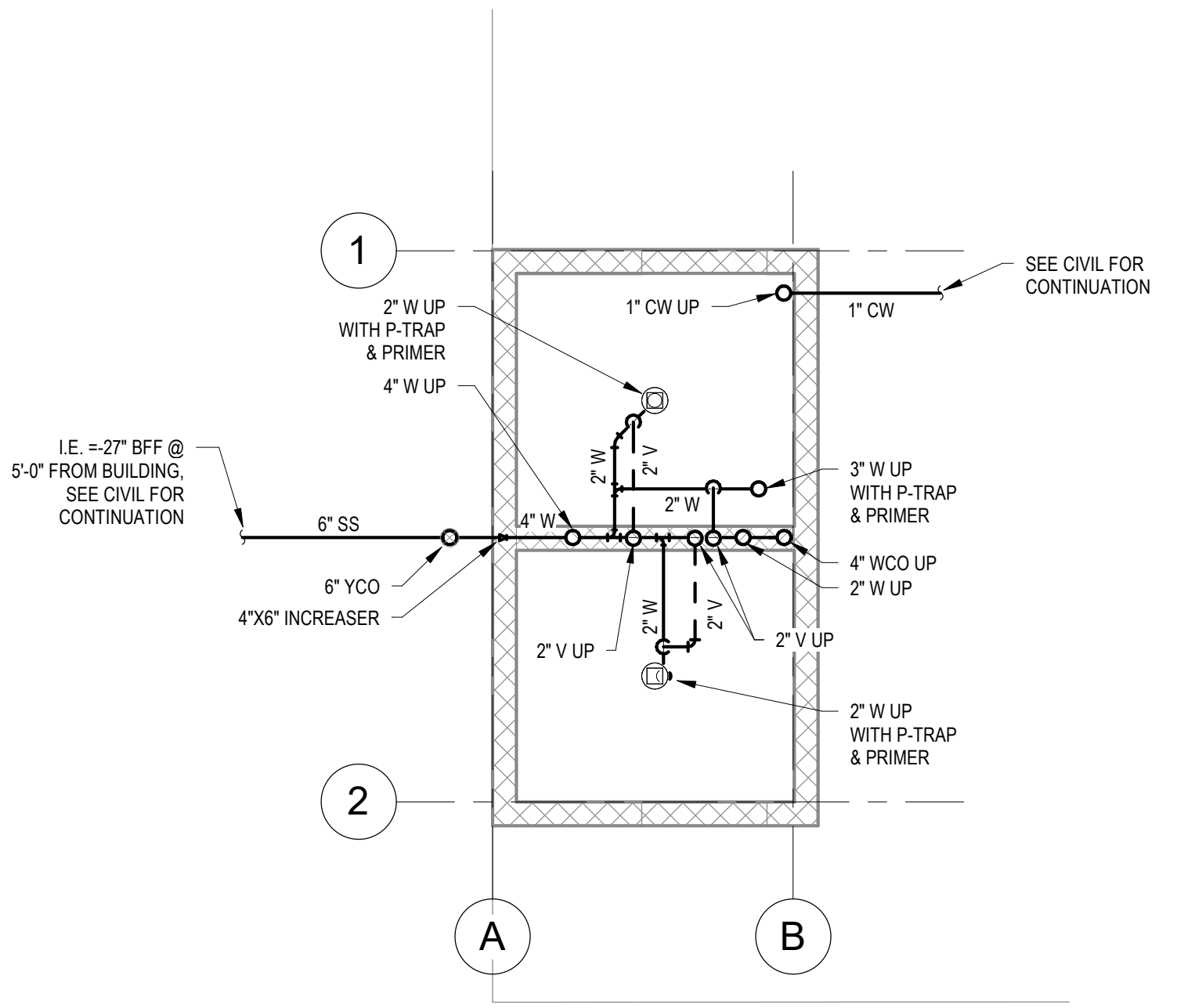




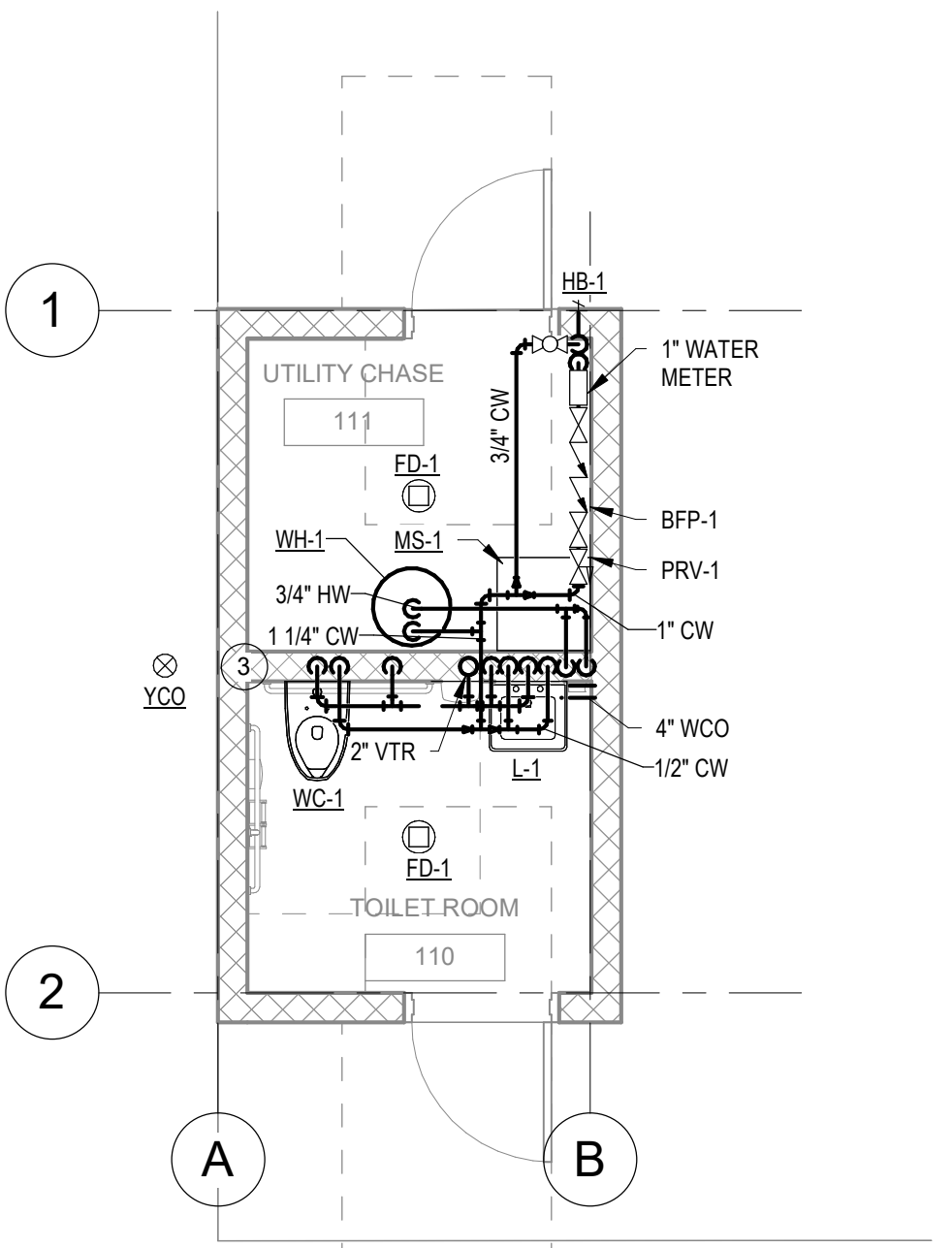
**1 GROUND LEVEL MECHANICAL PLAN**  
1/4" = 1'-0"



**3 ROOF LEVEL MECHANICAL PLAN**  
1/4" = 1'-0"



**4 UNDERSLAB PLUMBING PLAN**  
1/4" = 1'-0"



**2 GROUND LEVEL PLUMBING PLAN**  
1/4" = 1'-0"

**GENERAL HVAC NOTES**

- A. MAINTAIN ACCESS TO ALL DAMPERS FOR MAINTENANCE PURPOSES. PROVIDE ACCESS PANELS WHERE NECESSARY.
- B. LOCATE PLUMBING VENTS AND EXHAUST FANS 10'-0" MIN. FROM HVAC AIR INTAKES.
- C. LOCATE ALL SERVICABLE EQUIPMENT 10'-0" MIN. FROM ROOF EDGE OR PARAPET.

**GENERAL UNDERSLAB PLUMBING NOTES**

- A. ALL PIPING SHALL BE SLEEVED AND SEALED THROUGH ANY STRUCTURE OR CONCRETE.
- B. WASTE AND VENT PIPING SHALL BE NO-HUB CAST IRON DWV.
- C. SLOPE ALL BELOW GRADE SANITARY AND RAIN DRAIN PIPING AT 1/4" PER FOOT, MIN. UND.
- D. TRAP PRIMER PIPING NOT SHOWN FOR CLARITY. SEE FLOOR PLANS FOR WATER AND DRAIN LOCATIONS, AND PLUMBING FIXTURE SCHEDULE FOR PRIMER REQUIREMENTS.
- E. CONTRACTOR TO BLOCK OUT/SLEEVE CONCRETE STEM WALLS WHERE REQUIRED TO ACCOMMODATE PIPING (OR CORE DRILL AFTER CONCRETE IS POURED).

**GENERAL PLUMBING NOTES**

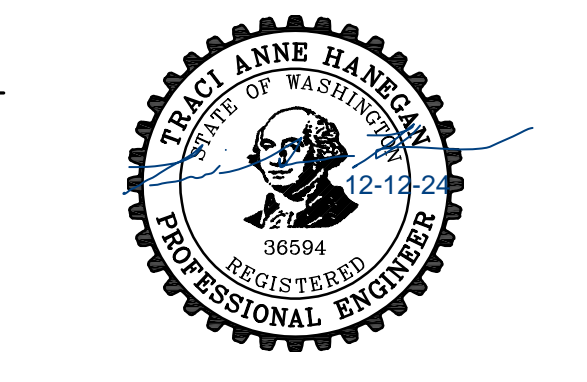
- A. PLUMBING PLANS SHOW GENERAL ROUTING AND ARRANGEMENT OF PIPING.
- B. CONTRACTOR SHALL COORDINATE ROUTING AND SPACE REQUIREMENTS OF PIPING WITH STRUCTURAL MEMBERS AND ALL OTHER TRADES INCLUDING HVAC, FIRE PROTECTION, ELECTRICAL, AND COMMUNICATIONS/DATA. OFFSET PIPING AROUND DUCTWORK AND OTHER OBSTACLES WHERE REQUIRED.
- C. ALL PIPING SHALL BE SLEEVED AND SEALED THROUGH ANY STRUCTURE OR CONCRETE.
- D. DOMESTIC WATER PIPE SIZING SHOWN IS BASED ON TYPE 'L' COPPER WATER TUBING.
- E. WASTE AND VENT PIPING SHALL BE NO-HUB CAST IRON OR SCHEDULE 40 PVC DWV, EXPOSED WASTE AND VENT PIPING SHALL BE CAST IRON.
- F. PROVIDE AND INSTALL CLEANOUTS AT THE BASE OF ALL ROOF DRAINS.
- G. SEE ARCHITECTURAL FOR FIXTURE MOUNTING HEIGHTS.
- H. SEE PLUMBING FIXTURE SCHEDULE FOR PIPE SIZING OF BRANCH CLOSEST TO FIXTURE. TRAP ARMS MAY BE SIZED THE SAME AS FIXTURE OUTLET. UNDERGROUND PIPING SHALL BE NO LESS THAN 2".
- I. INSTALL WATER HAMMER ARRESTORS IN CONFORMANCE WITH MANUFACTURER'S INSTRUCTIONS AND GUIDELINES.
- J. INSTALL ALL VALVES AND WATER HAMMER ARRESTORS IN THE UTILITY CHASE.
- K. PROVIDE AND INSTALL CLEANOUTS AT ALL SINKS.
- L. PROVIDE ISOLATION VALVES AT ACCESSIBLE LOCATIONS FOR ALL WATER PIPING BRANCHES, INCLUDING ALL HOSE BIBBS AND RESTROOMS.
- M. REFER TO ARCHITECTURAL FOR VTR FLASHING DETAILS. FLASHING TO BE COMPATIBLE WITH ROOFING SYSTEM.

**KEY NOTES**

- 1. MOTION SENSOR TO ENERGIZE AND CONTROL FAN. INSTALL WALL MOTION SENSOR SWITCH NEAR DOOR. INSTALL FAN AND CONTROLS PER FAN OEM INSTALLATION MANUAL AND LOCAL CODE. WIRING BY ELECTRICAL CONTRACTOR.
- 2. INSTALL ELECTRIC WALL HEATER WITH INTEGRAL PROGRAMMABLE THERMOSTAT AND CONTROLS PER OEM INSTALLATION MANUAL AND LOCAL CODE.
- 3. PROVIDE AND INSTALL WATER HAMMER ARRESTOR ON WC-1 SUPPLY IN PLUMBING CHASE. SIOUX CHIEF MODEL 652-A OR EQUAL.
- 4. INSTALL FAN IN FINISHED CEILING AND EXTEND DUCTING THROUGH ROOF TRUSS TO ROOF CAP.



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN JTT  
CHECKED TAH  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:  
**MECHANICAL FLOOR PLANS**

SHEET NO:  
**M-201**

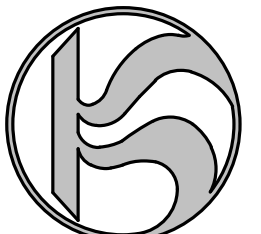
**BID SET**





**WHITWORTH COMFORT STATION**  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

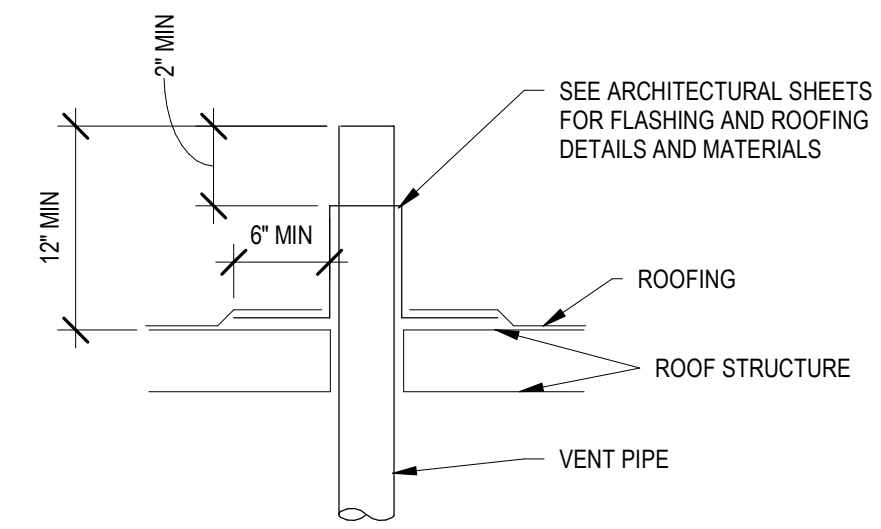
PROJ. NO. 2024-10964  
DRAWN JTT  
CHECKED TAH  
DATE 01/05/2025

© COFFMAN ENGINEERS

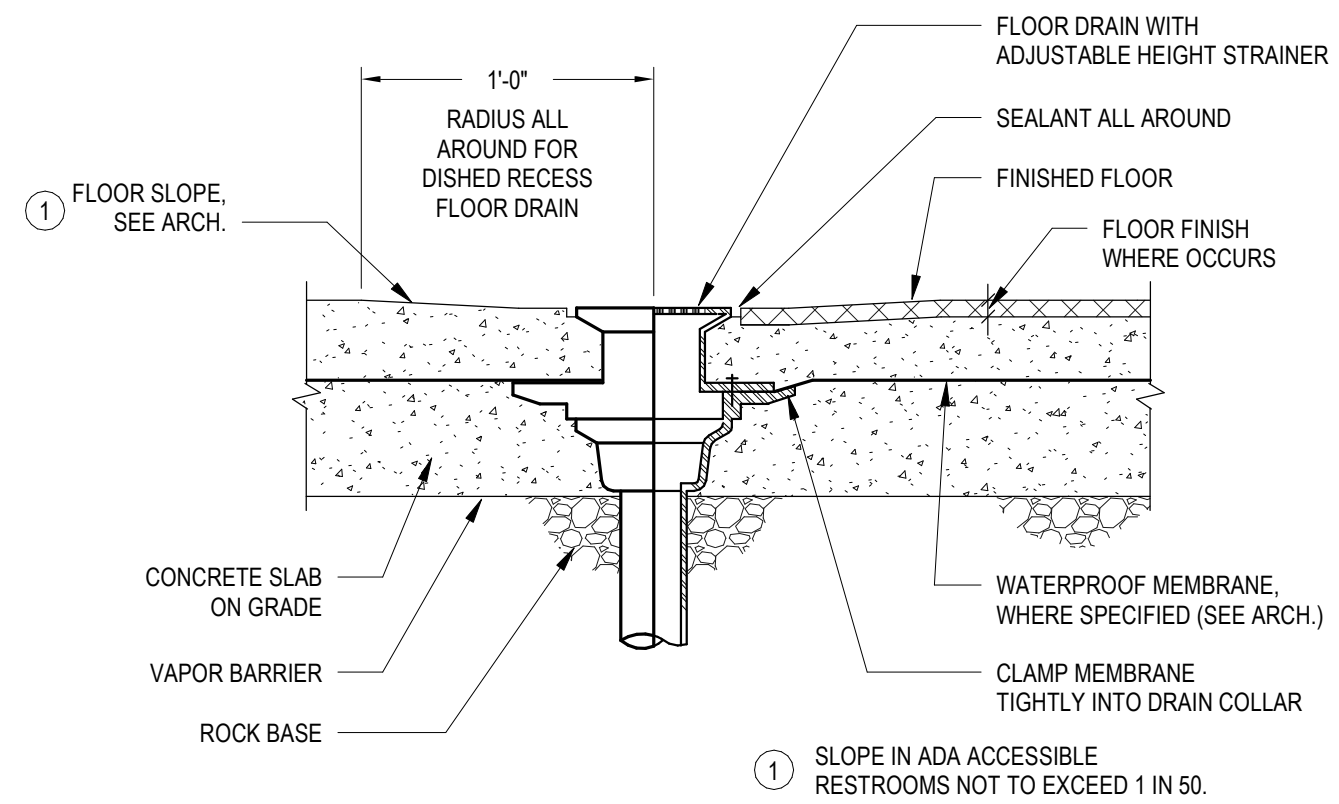
SHEET TITLE:  
**MECHANICAL DETAILS**

SHEET NO:  
**M-501**

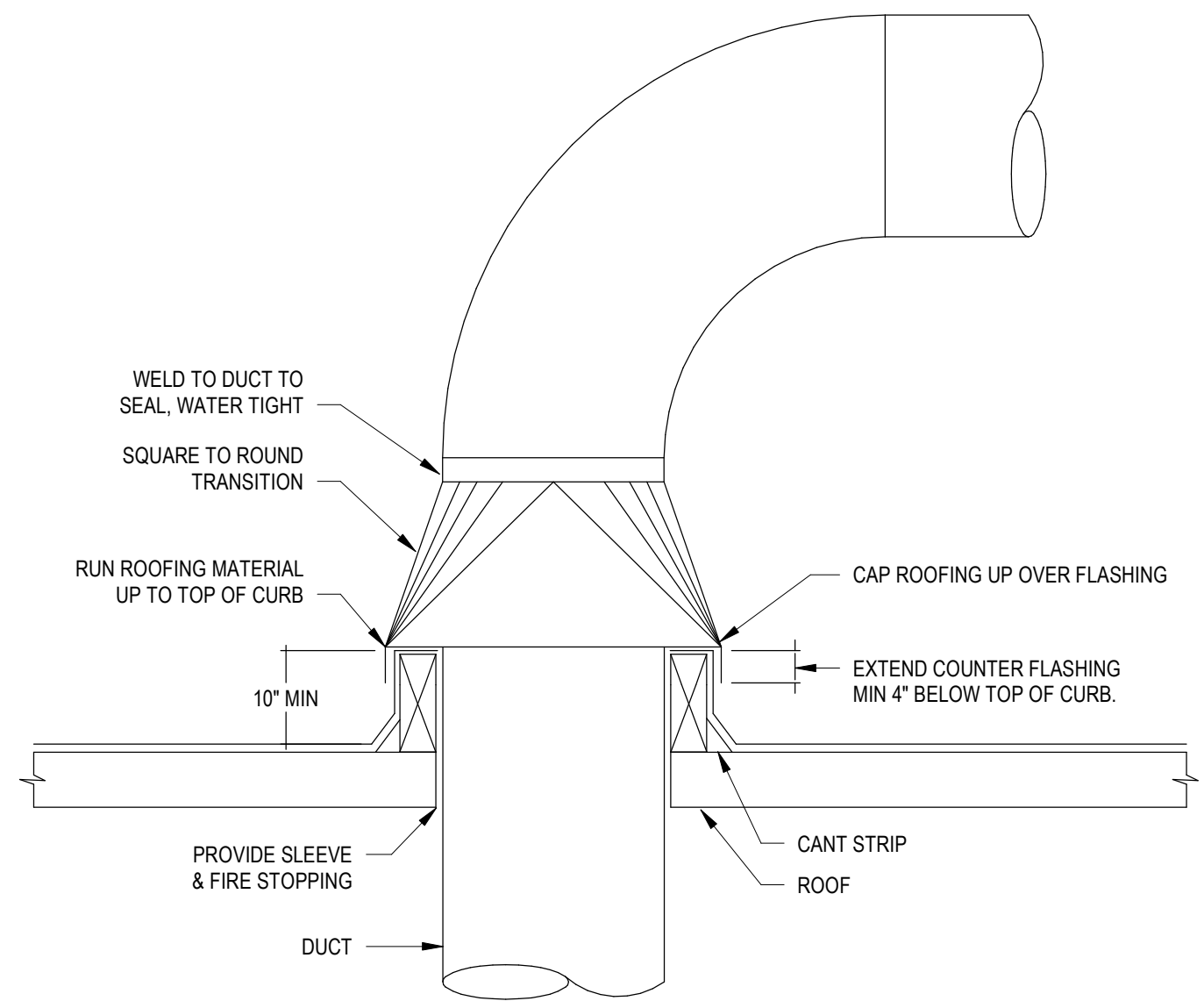
**BID SET**



**3 VENT THROUGH ROOF**  
NTS

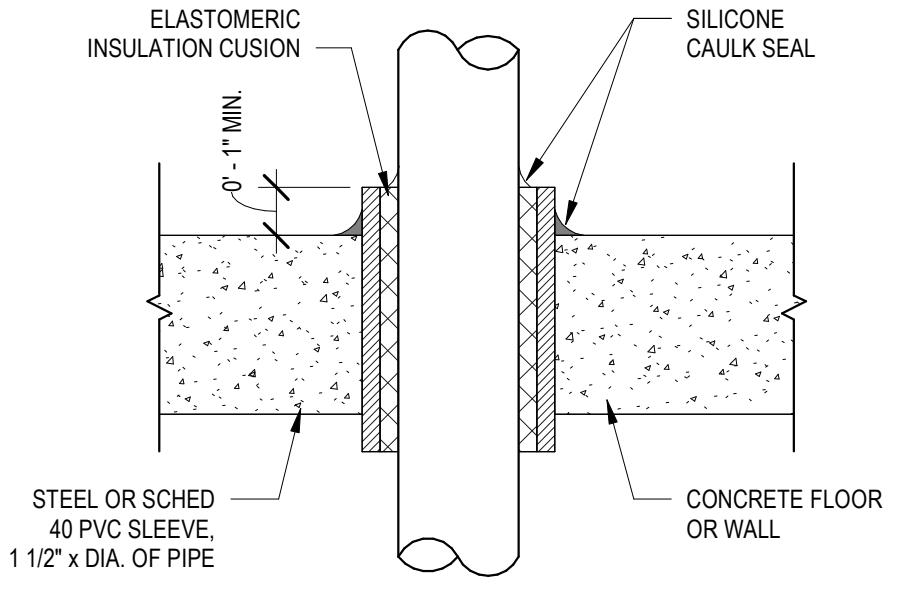


**5 FLOOR DRAIN SLAB ON GRADE**  
NTS

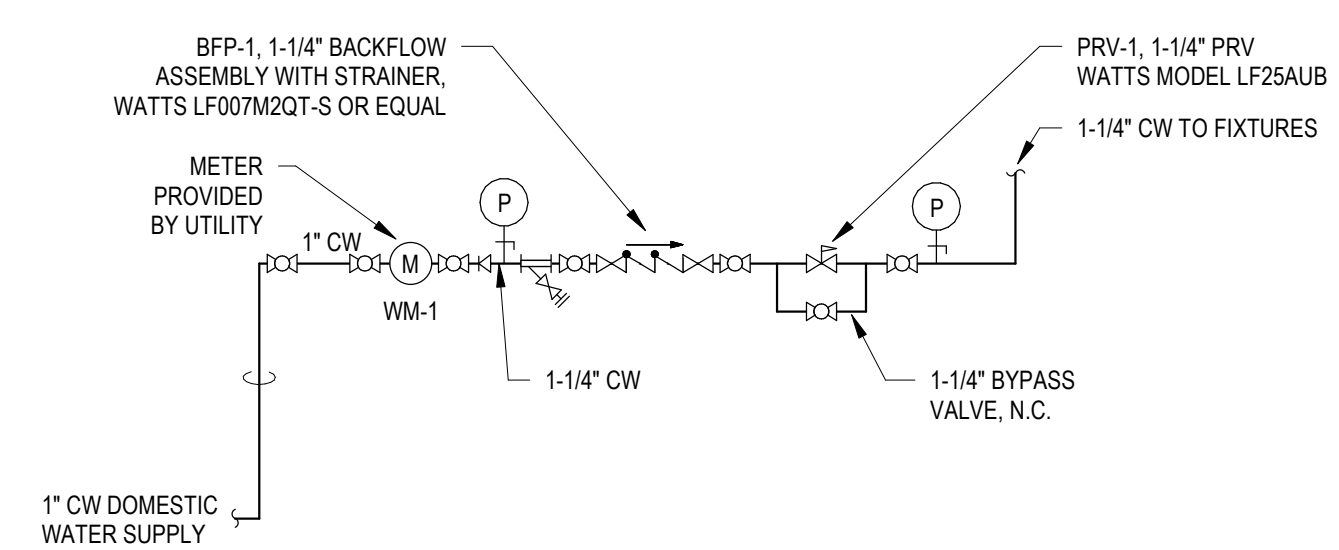


NOTES:  
• SEE ARCHITECTURAL FOR ROOFING

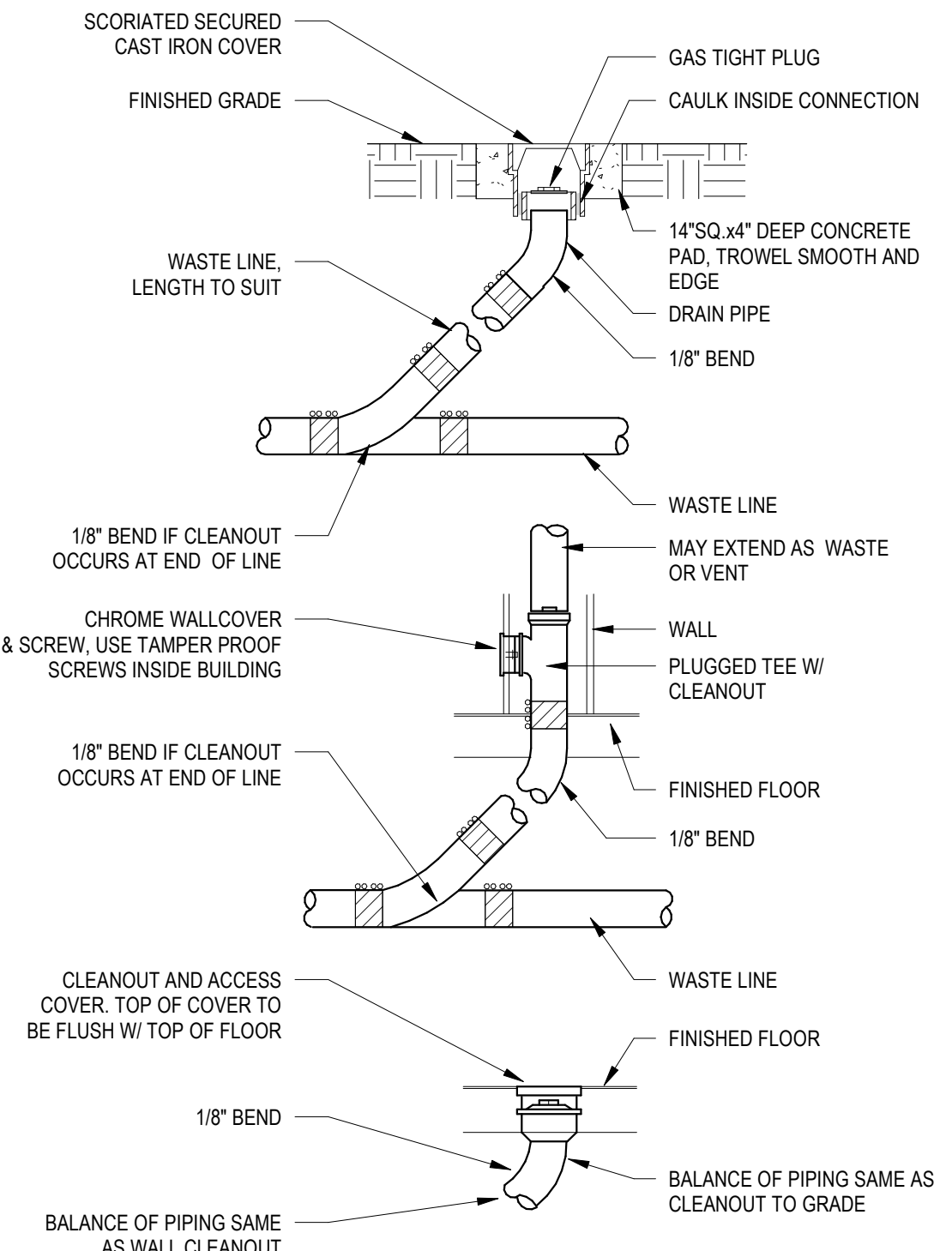
**8 ROUND DUCT ROOF PENETRATION**  
NTS



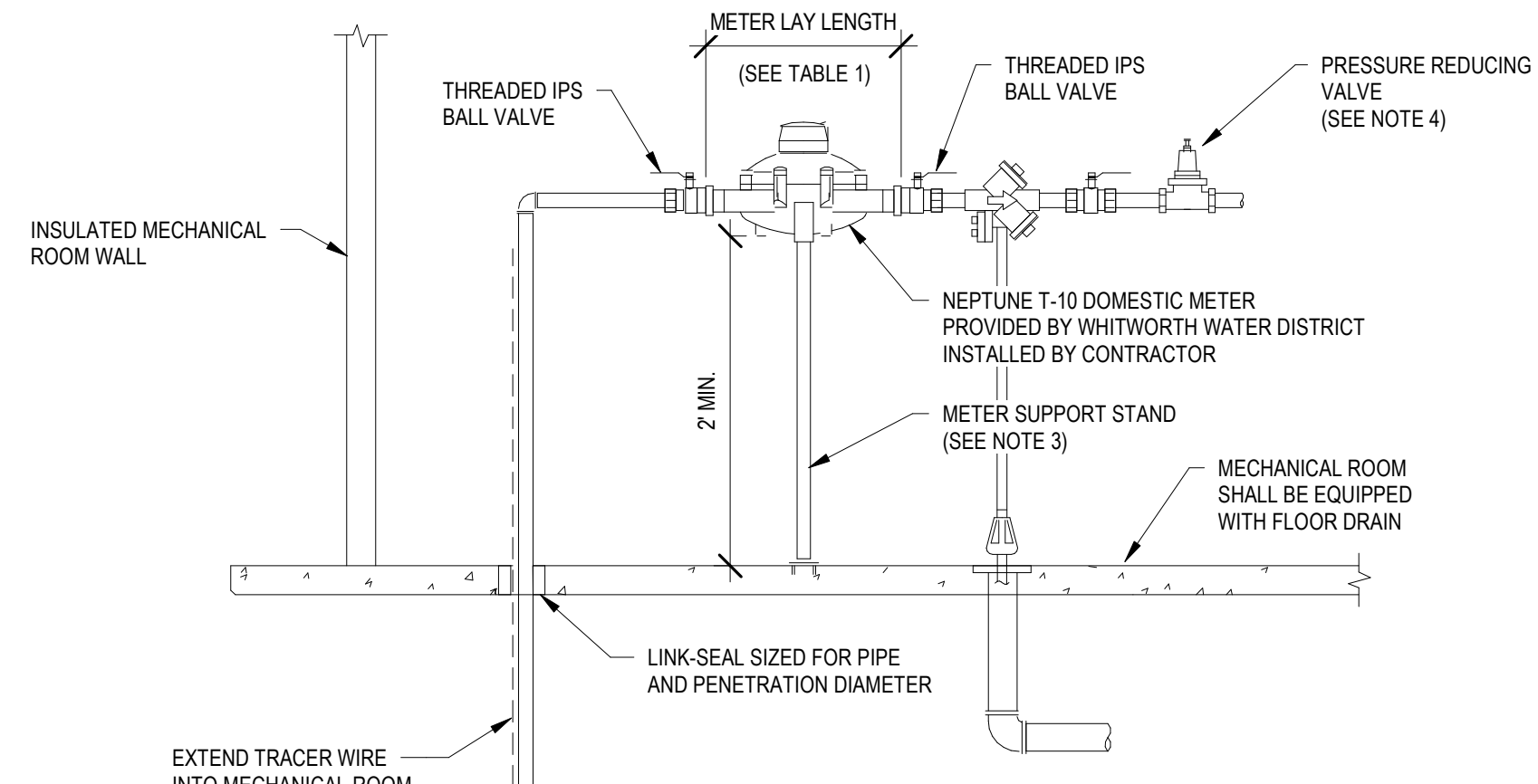
**2 PIPE PENETRATION THROUGH CONCRETE**  
3\"/>



**4 WATER SERVICE ENTRY DIAGRAM**  
NTS



**7 CLEANOUT DETAILS**  
6\"/>

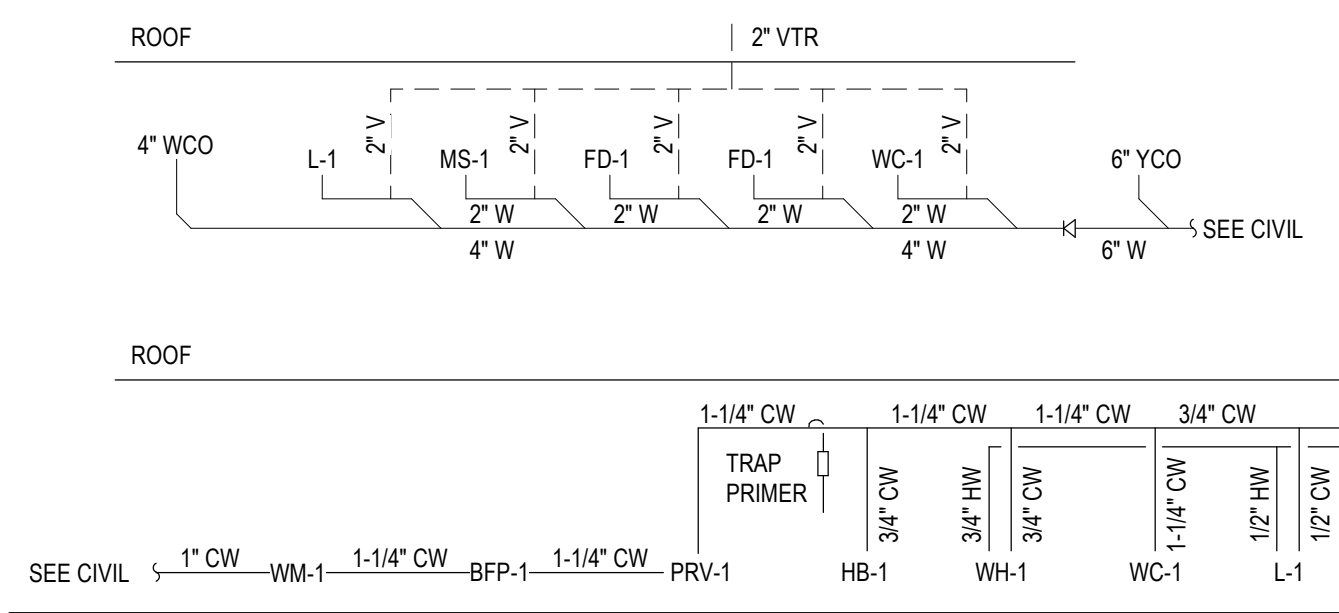


METER SIZE	DISTANCE BETWEEN FACE OF VALVES
1\"/>	

**NOTES:**

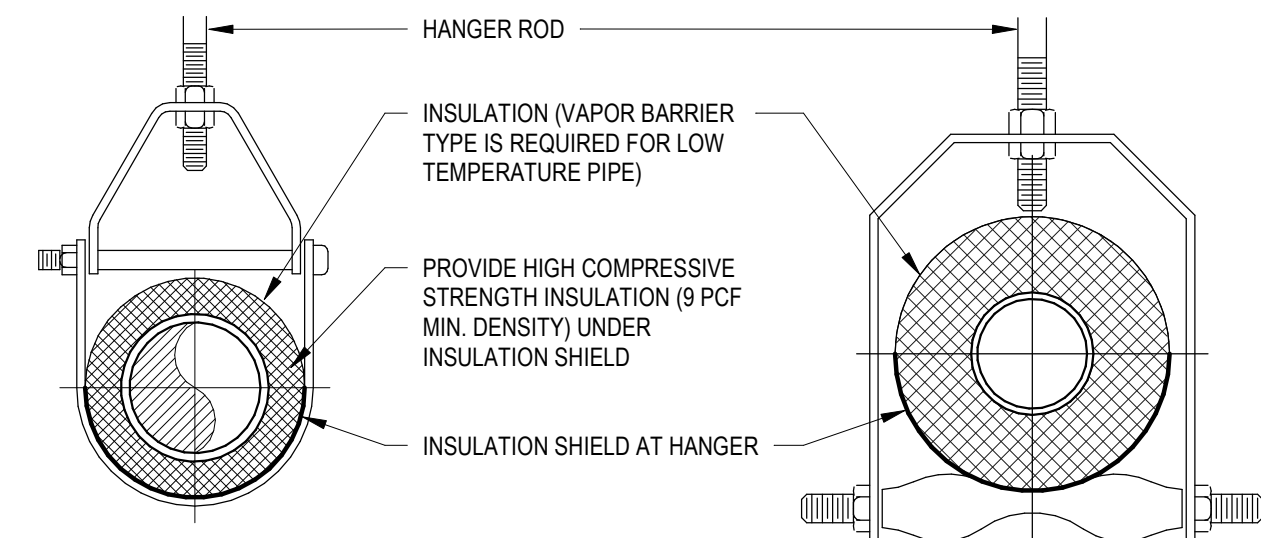
- METER MUST BE INSTALLED IN AN ACCESSIBLE DEDICATED MECHANICAL ROOM WITH MOISTURE RESISTANT WALL AND FLOORING MATERIAL. CRAWL SPACES AND CLOSETS ARE NOT ACCEPTABLE.
- MECHANICAL ROOM MUST HAVE FLOOR DRAIN INSTALLED.
- PROVIDE METAL METER SUPPORT STAND FOR ALL INSIDE METER INSTALLATIONS. IF SERVICE LINE IS POLY, PIPING MUST BE SECURED TO WALL ON EITHER SIDE OF METER.
- PRESSURE REDUCING VALVE MUST BE INSTALLED ON THE CUSTOMER'S SIDE OF THE METER FOR ALL CONNECTIONS WITH SERVICE PRESSURE IN EXCESS OF 75 PSI.

**1 WATER METER DETAIL (TYP)**  
NTS



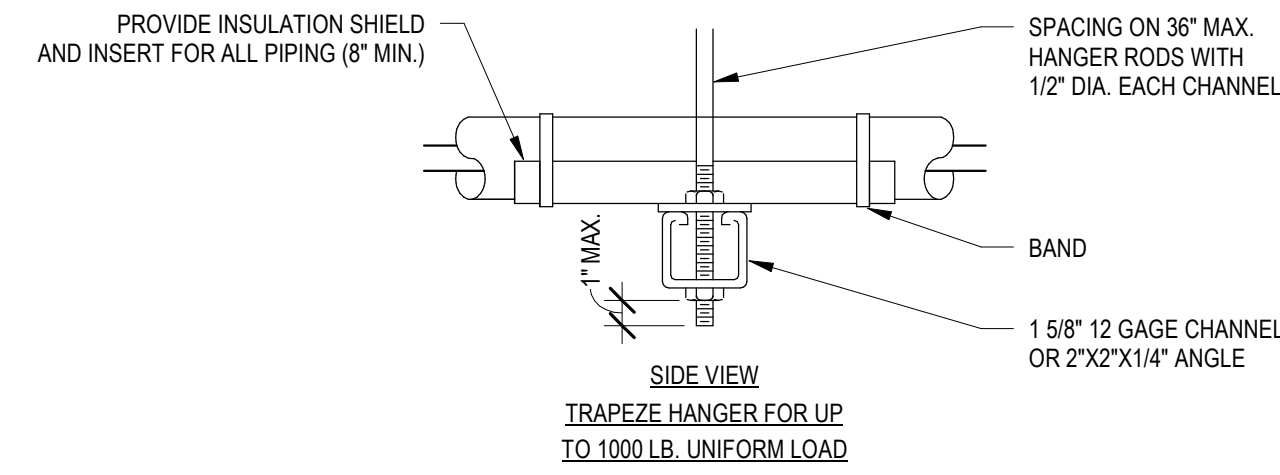
**6 RISER DETAIL**  
NTS





ADJUSTABLE CLEVIS HANGER  
TYPE 1 - SEE SPECIFICATIONS

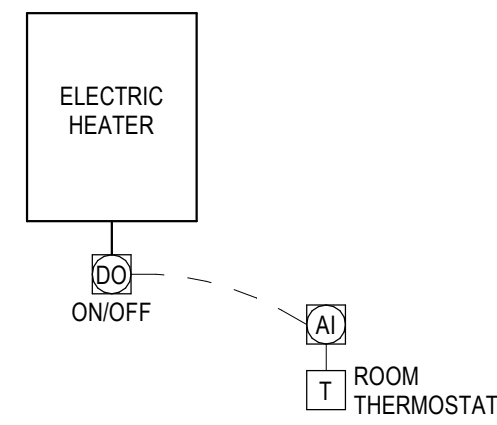
ADJUSTABLE CLEVIS HANGER  
TYPE 43 - SEE SPECIFICATIONS



MAXIMUM PIPE/TUBING SUPPORT SPACING													
NOM. SIZE	IN.	THRU 3/4	1	1 1/4	1 1/2	2	2 1/2	3	4	5	6	8	10
PIPE	FT.	7	7	7	9	10	11	12	14	16	17	19	22
TUBING	FT.	5 FT	6	7	8	8	9	10	12	13	14	16	-

NOTE: FOR TRAPEZE HANGER TAKE SPACING OF SMALLEST SIZE ON TRAPEZE.

1 TYPICAL PIPE HANGER  
NTS

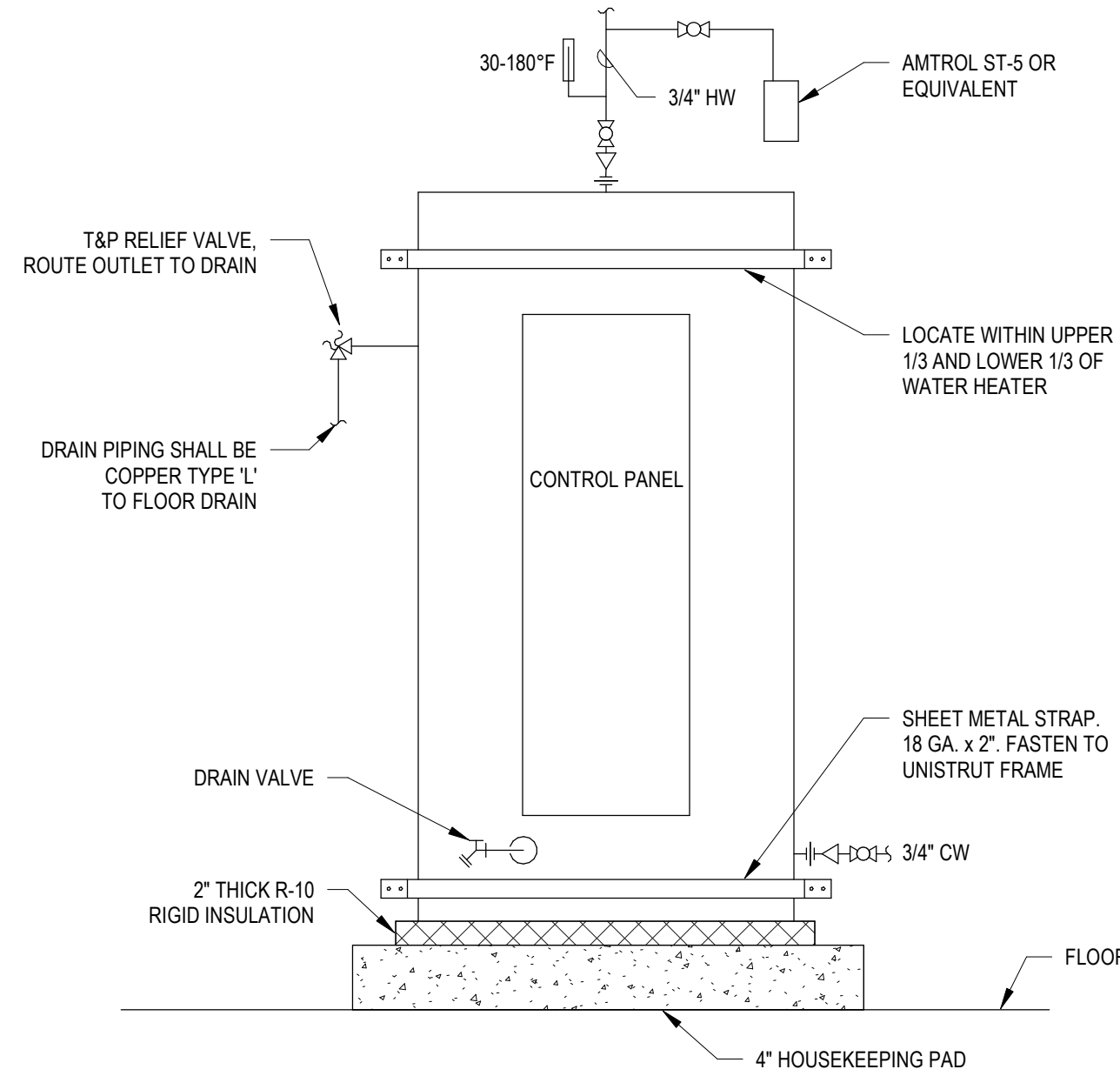


**ELECTRIC HEATER**  
(UH-1)

**SEQUENCE OF OPERATION:**

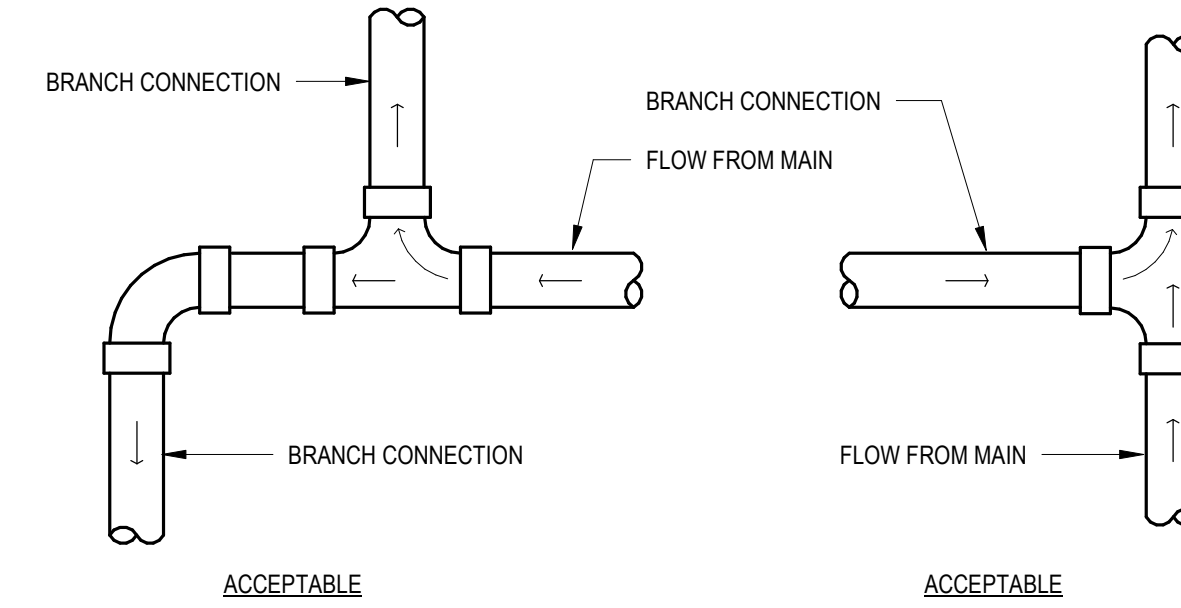
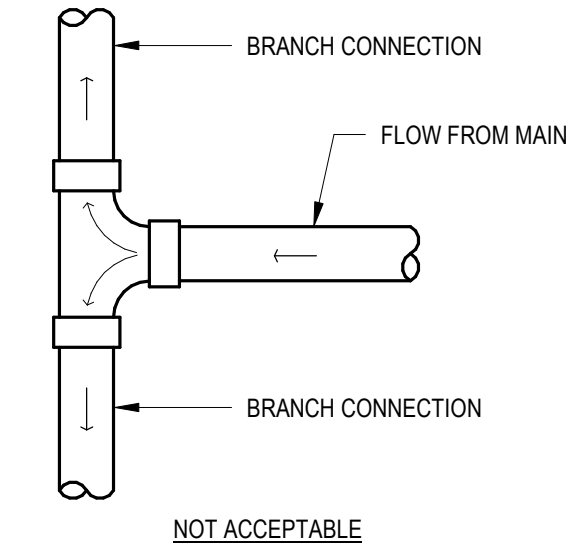
7-DAY PROGRAMMABLE THERMOSTAT SHALL INITIATE MODES OF OPERATION. CONTROLS ARE STAND ALONE.  
ELECTRIC HEATER SHALL CYCLE ON/OFF TO MAINTAIN ROOM TEMPERATURE SETPOINT OF 55°F (SDJ).

4 ELECTRIC HEATER CONTROL DIAGRAM1  
NTS



NOTE:  
PROVIDE AND INSTALL HEAT TRAP ON COLD WATER INLET AND HOT WATER OUTLET IF WATER HEATER DOES NOT HAVE INTERNAL HEAT TRAPS.

2 ELECTRIC WATER HEATER  
NTS

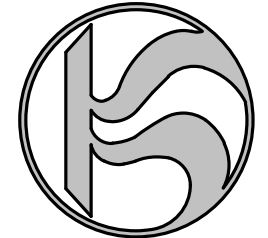


3 TEES FOR COMBINED FLOW DETAIL  
NTS



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN JTT  
CHECKED TAH  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:

**MECHANICAL DETAILS**

SHEET NO:

**M-502**

**BID SET**



DRAINAGE FIXTURE UNIT VALUES - PUBLIC			
FIXTURE DESCRIPTION	QTY.	FIXTURE UNITS	TOTAL
SINK, SERVICE OR MOP BASIN, 3" TRAP	1	3	3
LAVATORY, SINGLE	1	1	1
WATER CLOSET, 1.6 GPF FLUSHOMETER VALVE	1	4	4
FLOOR DRAIN	2	2	4
Total Demand =			12

FIXTURE UNITS OBTAINED FROM TABLE 702.1, UNIFORM PLUMBING CODE, 2021 EDITION.

WATER SUPPLY FIXTURE UNITS - PUBLIC			
FIXTURE DESCRIPTION	QTY.	FIXTURE UNITS (1)	TOTAL
HOSE BIBB (FIRST ONE)	1	2.5	2.5
LAVATORY	1	1	1
SINK, SERVICE OR MOP BASIN	1	3	3
WATER CLOSET, 1.6 GPF FLUSHOMETER VALVE	1	NOTE (2)	40
TOTAL DEMAND =			46.5

(1) FIXTURE UNIT VALUES OBTAINED FROM TABLE 610.3.  
(2) FLUSHOMETER VALVE FIXTURE UNITS FOR WATER CLOSETS AND URINALS OBTAINED FROM TABLE 610.10.

LENGTH FROM METER TO REMOTE FIXTURE = 50'  
PRESSURE RANGE (TABLE 6-5) = 50-75PSI  
WATER METER SIZE = 1"  
BUILDING SUPPLY SIZE = 1"

FIXTURE UNITS OBTAINED FROM UNIFORM PLUMBING CODE, 2021 EDITION.

PLUMBING FIXTURE SCHEDULE										
TAG	FIXTURE DESCRIPTION	MANUFACTURER / MODEL	FAUCET / FLUSH VALVE		PLUMBING ROUGH-IN CONNECTIONS					REMARKS/NOTES
			MANUFACTURER / MODEL	DIRECT WASTE	VENT	IND. WASTE	CW	HW		
WC-1	WATER CLOSET - WALL MOUNT	KOHLER / K-4325	SLOAN / ROYAL 111-1.28	4"	2"	-	1-1/2"	-	1.28 GPF, ADA COMPLIANT, ELONGATED, PROVIDE OLSONITE 10SSCT SEAT. NOTE:1,2,4	
L-1	LAVATORY - WALL MOUNT	KOHLER / K-12643	CHICAGO / 3512-E2805AB	2"	1-1/2"	-	1/2"	1/2"	SINGLE LEVER FAUCET, 0.5 GPM. SUPPLY WITH INTEGRATED, OR SHIPPED LOSE, THERMOSTATIC MIXING VALVE MDL#104451. NOTE:1,3,4,5,6	
MS-1	MOP SINK - FLOOR MOUNT	ACORN / TNC-24	CHICAGO / 897-CRCF	3"	2"	-	3/4"	3/4"	STAINLESS STEEL BUMPER GUARD, MOP HANGER, 36" HOSE. NOTE:7	
HB-1	HOSE BIBB FROST FREE	WOODFORD / B65	-	-	-	-	3/4"	-	FREEZE LESS, FULL FLOW IN-LINE VACUUM BREAKER W/ HOSE THREAD OUTLET, BOX/DOOR ASSEMBLY, CHROME PLATE FINISH, 2-1/4" T-HANDLE.	

NOTES:  
1. PROVIDE & INSTALL WATER HAMMER ARRESTOR ON CW LINE SERVING FIXTURE.  
2. FLUSH VALVES TO BE 1.28 GPF, MANUAL OPERATION.  
3. FAUCET TO BE 0.5GPM, MANUAL OPERATION.  
4. PROVIDE AND INSTALL SUPPORT CARRIER WITH OPTIONS FOR ATTACHMENT TO 8" CMU WALL; SEE ARCHITECTURAL FOR MOUNTING HEIGHT.  
5. INSTALL ADA COMPLIANT TRUEBRO MODEL 2018 LAV-SHIELD KIT.  
6. MIXING DEVICE TO BE IN ACCORDANCE WITH ASSE 1070 OR CSA B125.3.  
7. PROVIDE PRECISION PLUMBING PRODUCTS, INC. MODEL P1/P2 TRAP PRIMER FOR EACH MOP SINK DRAIN. ROUTE 1/2" PIPING TO DRAIN.

PLUMBING DRAIN SCHEDULE														
TAG	DESCRIPTION	MANUFACTURER / MODEL	BODY		STRAINER			OPTIONS			CONNECTIONS			NOTES
			STYLE	MATERIAL	STYLE	MATERIAL	SIZE (IN)	SUFFIX	DESCRIPTION	WASTE	VENT	CW		
FD-1	FLOOR DRAIN	JR SMITH / 2005Y	NO-HUB	CAST IRON	ROUND	NICKEL BRONZE	5	-AHP -NB -P050	HEELPROOF GRATE NICKEL BRONZE STRAINER TRAP PRIMER CONNECTION	2"	1-1/2"	-	1	

NOTES:  
1. PROVIDE PRECISION PLUMBING PRODUCTS, INC. MODEL P1/P2 TRAP PRIMER FOR EACH DRAIN. ROUTE 1/2" PIPING TO DRAIN.

WATER METER SCHEDULE											
TAG	LOCATION	SIZE	MANUFACTURER/ MODEL	SYSTEM	TYPE	PRESSURE RATING (PSI)	MIN / MAX GPM	DIMENSIONS (IN)	CONNECTION TYPE	SHIPPING WEIGHT (LBS)	NOTES
WM-1	UTILITY CHASE 111	1"	NEPTUNE / T-10	BUILDING SUBMETER	DISC	150	2 / 30	9 X 4-3/8	THREADED	6	1, 2

1. LEAD-FREE BRONZE ALLOY.  
2. PROVIDED BY WHITWORTH WATER DISTRICT. INSTALLED BY DIV. 22 CONTRACTOR.

ELECTRIC WATER HEATER SCHEDULE														
TAG	LOCATION	SERVES	MANUFACTURER / MODEL	HEATER TYPE	TANK CAP. (GAL.)	RECOV. CAP.	CONNECTIONS		UNIT POWER REQUIREMENTS				UNIT WT. FULL (LBS)	REMARKS
							CW	HW	KW	VOLTS	Ø	FLA		
WH-1	UTILITY CHASE 111	COMFORT STATION	BRADFORD WHITE / LE120L3-3	INSTANT ELECTRIC	19	90°F RISE @ 14GPH	3/4"	3/4"	3	240	1	12.5	250	ADJUSTABLE DIGITAL TEMPERATURE CONTROL. PROVIDE INSULATED WATER HEATER PLATFORM, DRAIN PAN AND SEISMIC RESTRAINT STRAP KIT. PROVIDE EXPANSION TANK, AMTRON ST-5.

FAN SCHEDULE															
TAG	LOCATION	SERVES	MANUFACTURER/ MODEL	DESCRIPTION		FAN PERFORMANCE			NOISE SONES	UNIT POWER REQUIREMENTS			UNIT WT. (LBS)	SIZE (IN)	NOTES
				TYPE	DRIVE	FLOW (CFM)	ESP (" WC)	SPEED (RPM)		VOLTS	Ø	FLA			
EF-1	UTILITY CHASE 111	UTILITY CHASE 111	COOK/ GN-148	CEILING	ECM	70	5"	859	2	115	1	0.3	15	13.5"X15.5"	1, 2, 3, 4, 5
EF-2	TOILET ROOM 110	TOILET ROOM 110	COOK/ GN-148	CEILING	ECM	70	5"	1157	2	115	1	0.3	15	13.5"X15.5"	1, 2, 3, 4, 5

NOTES:  
1. PROVIDE WITH INTEGRAL DISCONNECT SWITCH, PRE-WIRED INTERNAL SPEED CONTROL, F220 STAINLESS STEEL GRILL.  
2. UNIT SHALL BE FULLY RECESSED.  
3. PROVIDE WITH BACKDRAFT DAMPER.  
4. PROVIDE WITH FACTORY WALL MOUNT MOTION SENSOR CONTROL SWITCH.  
5. PROVIDE WITH 6" ROOF JACK WITH BIRD SCREEN AND BACKDRAFT DAMPER, AND INTEGRAL FLASHING. COOK MODEL RJR100 OR EQUAL.

ELECTRIC UNIT HEATER SCHEDULE															
TAG	LOCATION	TYPE	MANUFACTURER/ MODEL	UNIT PERFORMANCE				HEATING (MBH)	Kw	UNIT ELECTRICAL REQUIREMENTS				UNIT WT. (LBS)	NOTES
				FAN HP	CFM	RPM	SPEED			VOLTS	Ø	MCA	MOCOP		
UH-1	UTILITY CHASE 111	WALL	KING / W2420	-	-	-	-	6.8	2	240	1	8.3	-	12	1, 2, 3
UH-2	TOILET ROOM 110	WALL	KING / W2420	-	-	-	-	6.8	2	240	1	8.3	-	12	1, 2, 3

NOTES:  
1. PROVIDE WITH SURFACE WALL CAN OPTION (WSC).  
2. PROVIDE WITH BUILT-IN THERMOSTAT.  
3. HEATER TO HAVE POSITIVE DISCONNECT FROM POWER SUPPLY.



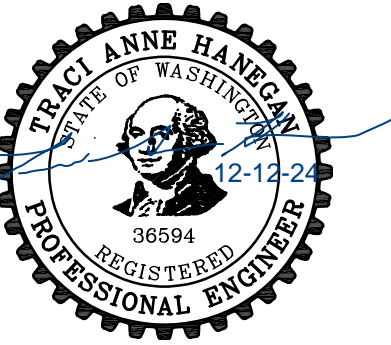
221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

www.coffman.com



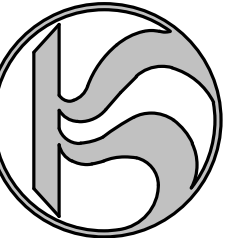
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292  
alscarchitects.com



WHITWORTH COMFORT STATION

N IVANHOE RD & E HAWTHORNE RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964

DRAWN JTT

CHECKED TAH

DATE 01/05/2025

COFFMAN ENGINEERS

SHEET TITLE:

MECHANICAL SCHEDULES

SHEET NO.:

M-601

BID SET



RECEPTACLE SCHEDULE		
SYMBOL	DESCRIPTION	NOTES
	DOUBLE DUPLEX RECEPTACLE - WALL MOUNTED	TAMPER RESISTANT IN AREAS NOTED.
	DUPLEX RECEPTACLE - WALL MOUNTED - GFCI	TAMPER RESISTANT IN AREAS NOTED.
	SPECIAL RECEPTACLE - L14-30R	

LIGHTING CONTROL SCHEDULE		
SYMBOL	DESCRIPTION	NOTE
	OCCUPANCY SENSOR WALL SWITCH	LINE VOLTAGE DUAL TECHNOLOGY
	PHOTOCELL - WALL MOUNTED	CONTRACTOR PROVIDED

TELECOMMUNICATIONS OUTLET SCHEDULE		
SYMBOL	DESCRIPTION	NOTES
	WIRELESS ACCESS POINT, TOTAL OF 2-PORTS	INSTALL WAP ON ROOF. REFER TO DETAIL 3/E-201.
	2-PORTS ACTIVE, (2) CAT 6A CABLE.	

SECURITY AND DOOR ACCESS SCHEDULE		
SYMBOL	DESCRIPTION	NOTES
	PROXIMITY CARD READER	PROVIDE ROUGH-IN AT +44" AFF. 2 GANG BOX WITH 1G RING, 3/4" FC. STUB-UP IN TO CEILING. OFOI CONTROLLER. PROVIDE (1) CAT 6 TO NETWORK.
	ACCESS CONTROL ELECTRIC STRIKE.	PROVIDED WITH DOOR. PROVIDE RACEWAY AND ROUGH-IN.

## LIGHTING SYMBOLS

	LUMINAIRE: ID = FIXTURE TYPE X = SWITCH ASSOCIATION
	SURFACE MOUNTED LUMINAIRE
	SURFACE MOUNTED LUMINAIRE, EMERGENCY
	RECESSED MOUNTED LUMINAIRE - FLAT LENS
	RECESSED MOUNTED LUMINAIRE - DECORATIVE LENS
	RECESSED MOUNTED LUMINAIRE, EMERGENCY
	PENDANT-MOUNTED/SUSPENDED LUMINAIRE
	PENDANT-MOUNTED/SUSPENDED LUMINAIRE, EMERGENCY
	WALL MOUNTED LUMINAIRE
	WALL MOUNTED LUMINAIRE, EMERGENCY
	STRIP LIGHTING LUMINAIRE
	STRIP LIGHTING LUMINAIRE, EMERGENCY
	SURFACE MOUNTED LUMINAIRE
	SURFACE MOUNTED LUMINAIRE, EMERGENCY
	RECESSED MOUNTED LUMINAIRE
	RECESSED MOUNTED LUMINAIRE, EMERGENCY
	WALL MOUNTED LUMINAIRE
	WALL MOUNTED LUMINAIRE, EMERGENCY
	WALL MOUNTED EXIT SIGN
	CEILING MOUNTED EXIT SIGN

## CONDUIT AND WIRING SYMBOLS

	CIRCUIT HOMERUN
	CONCEALED CONDUIT
	LOW VOLTAGE CABLE
	CONDUIT SLEEVE THRU WALL ABOVE CEILING, QUANTITY AND SIZE AS NOTED
	CONDUIT STUBOUT OR STUBUP INTO ACCESSIBLE CEILING SPACE
	CONDUIT STUBOUT WITH ENDCAP
	STUB-UP LOCATION
	UNDERGROUND CONDUIT

## REFERENCE SYMBOLS

	KEYED NOTE IDENTIFIER, SEE KEYED NOTES
	EQUIPMENT IDENTIFIER, SEE EQUIPMENT SCHEDULES
	DOOR IDENTIFICATION SYMBOL
	DETAIL REFERENCE

## GENERAL ELECTRICAL SYMBOLS

	MAIN SERVICE AND DISTRIBUTION EQUIPMENT
	BRANCH CIRCUIT PANEL
	LIGHTING CONTROL RELAY PANEL
	TRANSFORMER
	GROUND BUS, COPPER
	GROUND
	EQUIPMENT CONNECTION
	JUNCTION BOX, DIRECT CONNECTION, VERIFY REQUIREMENTS
	MOTOR CONNECTION
	SAFETY SWITCH
	EMERGENCY POWER OFF PUSH BUTTON
	HANDHOLE

## ABBREVIATIONS

A	AMPERE
AC	AIR CONDITIONING UNIT
AFF	ABOVE FINISH FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AL	ALUMINUM
ARCH	ARCHITECT(URAL)
BFP	BACKFLOW PREVENTOR
BKBD	BACKBOARD
CAB	CABINET
CATV	CABLE TELEVISION
CB	CIRCUIT BREAKER
CGB	COMMUNICATIONS GROUND BUSBAR
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CONC	CONCRETE
COND	CONDUCTOR
C	CONDUIT
CO	CONDUIT ONLY
CONN	CONNECTION
CONTR	CONTRACTOR
COORD	COORDINATE
CU	COPPER OR CONDENSING UNIT
CUH	CABINET UNIT HEATER
CNTRL	CONTROLLER
DDC	DIRECT DIGITAL CONTROL SYSTEM
DEMARC	DEMARICATION
DISC	DISCONNECT SWITCH
ELEC	ELECTRIC(AL)
EWC	ELECTRIC WATER COOLER
EF	EXHAUST FAN
EXP	EXPLOSION PROOF
EXT	EXTERIOR
FA	FIRE ALARM
FC	FAN COIL
FLR	FLOOR
F/SD	FIRE/SMOKE DAMPER
FUOC	FURNISHED UNDER OTHER CONTRACT
FUT	FUTURE
GND	GROUND
GFI	GROUND FAULT INTERRUPTER
HOA	HAND-OFF-AUTO
HP	HORSEPOWER OR HEAT PUMP
HWH	HOT WATER HEATER
IDF	INTERMEDIATE DISTRIBUTION FRAME
IG	ISOLATED GROUND
JB	JUNCTION BOX
KW	KILOWATT(S)
KVA	KILOVOLT-AMPERE(S)
LT(S)	LIGHT(S)
MDF	MAIN DISTRIBUTION FRAME
MDS	MAIN DISTRIBUTION SWITCHBOARD
MRF	MANUFACTURER
MC	MOMENTARY CONTACT
MCA	MULTIPLE OUTLET ASSEMBLY
MS	MANUAL STARTER
MSGB	MAIN SERVICE GROUND BUSBAR
MTGB	MAIN TELECOM GROUND BUSBAR
MT(D)	MOUNT(ED)
MTR	MOTOR
NEC	NATIONAL ELECTRIC CODE (LATEST EDITION)
NL	NIGHT LIGHT (DUSK TO DAWN OPERATION)
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
NO	NORMALLY OPEN
NC	NORMALLY CLOSED
OC	ON CENTER(S)
OFCI	OWNER FURNISHED, CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED, OWNER INSTALLED
OH	OVERHEAD
OS&Y	OS&Y VALVE
PDU	POWER DISTRIBUTION UNIT
PB	PUSHBUTTON
PIV	POST INDICATOR VALVE
PRI	PRIMARY
PVC	POLYVINYL CHLORIDE
PC	PHOTOCELL
SPEC	SPECIFICATION(S)
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
SO	STUB OUT
SU	STUB UP
SURF	SURFACE
SW	SWITCH
SWBD	SWITCHBOARD
TEL	TELEPHONE
TGB	TELECOM GROUND BUSBAR
TS	TIME SWITCH
UBC	UNIFORM BUILDING CODE (LATEST EDITION)
UG	UNDERGROUND
UH	UNIT HEATER
V	VOLT(S)
WG	WIRE GUARD
WP	WEATHERPROOF
W	WATTS
XFMR	TRANSFORMER

## SHEET INDEX

SHEET NUMBER	SHEET INDEX
E.001	ABBREVIATIONS, GENERAL SYMBOLS, AND SHEET INDEX
E.002	GENERAL NOTES AND SPECIFICATIONS
E.101	ELECTRICAL SITE PLAN
E.201	ELECTRICAL PLANS
E.601	ELECTRICAL ONE-LINE, SCHEDULES AND DETAILS



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

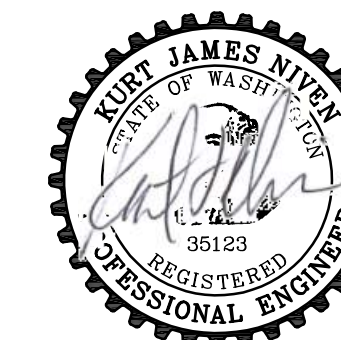
www.coffman.com



203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568

6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292

alscarchitects.com

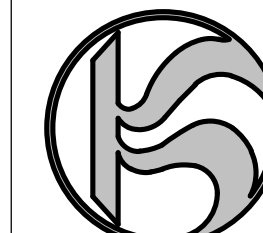


12/16/24

WHITWORTH COMFORT STATION

N VANHOE RD & W HAWTHORN RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964

DRAWN SLP

CHECKED MBV

DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:

ABBREVIATIONS,  
GENERAL  
SYMBOLS, AND  
SHEET INDEX

SHEET NO.:

E-001

BID SET



## ELECTRICAL SPECIFICATIONS

### BASIC MATERIALS AND METHODS

#### PART 1 -- GENERAL

##### 1.01 REFERENCES

- A. UNDERWRITERS LABORATORIES INC.:  
UL 6 RIGID STEEL CONDUIT.  
UL 797 ELECTRICAL METALLIC TUBING.

- B. AMERICAN NATIONAL STANDARDS INSTITUTE:  
ANSINEMA FB 1 FITTINGS AND SUPPORTS FOR CONDUIT AND CABLE ASSEMBLIES.  
ANSINEMA OS 1 SHEET-STEEL OUTLET BOXES, DEVICE BOXES, COVERS AND BOX SUPPORTS.  
ANSI C80.1 RIGID STEEL CONDUIT.  
ANSI C80.3 ELECTRICAL METALLIC TUBING.

- C. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION:  
NEMA WC 5 THERMOPLASTIC INSULATED WIRE AND CABLE FOR THE TRANSMISSION AND DISTRIBUTION OF ELECTRICAL ENERGY.

##### 1.02 SUPPORT SYSTEMS

- A. SUPPORT SYSTEMS SHALL BE ADEQUATE FOR WEIGHT OF EQUIPMENT AND CONDUIT, INCLUDING WIRING, WHICH THEY CARRY.

##### 1.03 SUBMITTALS

- A. SUBMIT ON THE FOLLOWING:  
1. LIGHT FIXTURES  
2. PANELBOARDS

#### PART 2 -- PRODUCTS

##### 2.01 RIGID METAL CONDUIT AND FITTINGS

- A. GALVANIZED RIGID STEEL CONDUIT: UL 6 AND ANSI C80.1; THICK WALL STEEL, HOT-DIP GALVANIZED, THREADED.  
B. FITTINGS AND CONDUIT BODIES: ANSINEMA FB 1; THREADED TYPE, MATERIAL TO MATCH CONDUIT.  
C. INTERMEDIATE METAL CONDUIT (IMC): UL 1242 AND ANSI C80; STEEL, HOT DIPPED GALVANIZED, THREADED.

##### 2.02 ELECTRICAL METALLIC TUBING (EMT) AND FITTINGS

- A. EMT: UL 797 AND ANSI C80.3; STEEL TUBING, HOT-DIP GALVANIZED.  
B. FITTINGS: ANSINEMA FB 1; STEEL, RAIN-TIGHT, INSULATED THROAT, COMPRESSION TYPE.

##### 2.03 FLEXIBLE METAL CONDUIT AND FITTINGS

- A. FLEXIBLE METAL CONDUIT: FS WW-C-566; GALVANIZED STEEL.  
B. LIQUID-TIGHT CONDUIT: FLEXIBLE METAL CONDUIT WITH COPPER BONDING TAPE AND WEATHERPROOF JACKET.  
C. FITTINGS: ANSINEMA FB 1; STEEL, INSULATED THROAT.

##### 2.04 CONDUIT SUPPORTS

- A. CONDUIT CLAMPS, STRAPS, AND SUPPORTS: STEEL OR MALLEABLE IRON.

##### 2.05 SUPPORTING DEVICES

- A. SUPPORT CHANNEL: ELECTRO-GALVANIZED, 12 GAUGE, 1-5/8" X 1-5/8" MINIMUM SIZE.  
B. HARDWARE: CORROSION RESISTANT.

##### 2.06 BUILDING WIRE

- A. THERMOPLASTIC-INSULATED BUILDING WIRE: NEMA WC 5.  
1. INTERIOR FEEDERS, BRANCH CIRCUITS #8 AND LARGER, AND CONTROL WIRING: COPPER, STRANDED CONDUCTOR, 600 VOLT INSULATION, 90 DEGREE TYPE THHN/THWN. SOLID CONDUCTOR IS UNACCEPTABLE.  
2. BRANCH CIRCUITS #10 AND #12 WIRING: COPPER, SOLID CONDUCTOR, 600 VOLT INSULATION, 90 DEGREE TYPE THHN/THWN OR EQUIVALENT MC CABLE.  
3. CONTROL PANEL WIRING: COPPER, STRANDED CONDUCTOR, 600 VOLT INSULATION, EXTRA FLEXIBLE TYPE MTW.

##### 2.07 IDENTIFICATION

- A. TAPE LABELS: EMBOSSED ADHESIVE TAPE, 3/8 INCH, WHITE LETTERS ON BLACK BACKGROUND.  
B. WIRE AND CABLE MARKERS: CLOTH MARKERS, SPLIT SLEEVE OR TUBING TYPE.

##### 2.08 PANELBOARDS

- A. ACCEPTABLE MANUFACTURERS SHALL BE SQUARE D, SIEMENS, EATON/CUTLER HAMMER OR APPROVED EQUIVALENT  
B. BREAKER'S SERVING LIGHT CIRCUITS SHALL BE SWITCH RATED BREAKERS.  
C. PANELBOARD AND BREAKER SIZES SHALL MATCH AS SPECIFIED IN PANEL SCHEDULE.

##### 2.09 DISCONNECTS

- A. ACCEPTABLE MANUFACTURERS SHALL BE SQUARE D, SIEMENS, EATON/CUTLER HAMMER OR APPROVED EQUIVALENT.  
B. SWITCHES SHALL BE FUSED TYPE HEAVY DUTY 250 OR 600 VOLT RATED, OR AS NOTED, OF CAPACITY FOR SIZE OF MOTOR OR EQUIPMENT INDICATED ON THE DRAWINGS.  
C. ANY SNAP SWITCHES USED IN LIEU OF A FUSED DISCONNECT SHALL BE MOTOR RATED AND HAVE OVERLOAD PROTECTION IN ACCORDANCE WITH THE NEC.

#### PART 3 -- EXECUTION

##### 3.01 CONDUIT INSTALLATION

- A. CUT CONDUIT SQUARE USING A SAW OR PIPE CUTTER, DE\_BURR CUT ENDS.  
B. BRING CONDUIT TO THE SHOULDER OF FITTINGS AND COUPLINGS AND FASTEN SECURELY.  
C. CONDUIT TERMINATIONS AT SWITCHBOARDS, PULL BOXES, ETC., SHALL BE RIGIDLY SECURED USING LOCKNUTS AND METALLIC GROUNDING INSULATING BUSHINGS WHERE REQUIRED OR INDICATED ON DRAWINGS.  
D. USE CONDUIT BODIES TO MAKE SHARP CHANGES IN DIRECTION, AS AROUND BEAMS, ON APPROVAL OF ENGINEER ONLY.  
E. WHERE CONDUITS ENTER/EXIT FLOOR, PROVIDE THREADED COUPLING WITH UPPER END FLUSH WITH FINISHED FLOOR. INSTALL THREADED PLUGS IN UNUSED CONDUITS.  
F. USE HYDRAULIC ONE\_SHOT CONDUIT BENDER OR FACTORY ELBOWS FOR BENDS IN CONDUIT LARGER THAN 1-1/4 INCH SIZE.  
G. USE SUITABLE CONDUIT CAPS TO PROTECT INSTALLED CONDUIT AGAINST ENTRANCE OF DIRT AND MOISTURE.

## ELECTRICAL SPECIFICATIONS

### H. PROVIDE SUITABLE PULL STRING IN ALL SPARE AND DATA/COMMUNICATION CONDUITS INSTALLED OR ACCESSED IN THIS CONTRACT, EXCEPT SLEEVES AND NIPPLES.

- I. SEAL BETWEEN RACEWAY AND BUILDING WHERE RACEWAY PASSES THROUGH EXTERIOR WALL OR RATED FIREWALL PER THE FOLLOWING:  
1. CONCRETE CONSTRUCTION: CAST CONDUIT IN WALL OR CORE DRILL WALL AND HARD PACK WITH EQUAL PARTS OF SAND AND CONCRETE OR AN EQUIVALENT METHOD AS APPROVED BY OWNER.

##### 3.02 CONDUIT INSTALLATION SCHEDULE

- A. EXPOSED OUTDOOR LOCATIONS: GALVANIZED RIGID STEEL CONDUIT.  
B. DRY INTERIOR LOCATIONS WITHIN 48 INCHES OF FLOOR OR 2 INCHES DIAMETER AND LARGER: GALVANIZED RIGID STEEL CONDUIT, INTERMEDIATE METAL CONDUIT.  
C. DRY INTERIOR LOCATIONS HIGHER THAN 48 INCHES ABOVE THE FLOOR AND SMALLER THAN 2 INCHES DIAMETER: ELECTRICAL METALLIC TUBING.  
D. MOTOR TERMINALS: FLEXIBLE METAL CONDUIT (18" MAXIMUM LENGTH) FOR FLEXIBILITY. INCLUDE INTERNAL GROUND WIRE.  
E. THE ABOVE SCHEDULE APPLIES UNLESS SPECIFICALLY INDICATED OTHERWISE ON THE DRAWINGS OR IN THE SPECIFICATIONS.

##### 3.03 COORDINATION OF BOX LOCATIONS

- A. PROVIDE ELECTRICAL BOXES AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPLICES, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, AND CODE COMPLIANCE.  
B. SUPPORT BOXES INDEPENDENT OF CONDUIT.  
C. ELECTRICAL BOX LOCATIONS SHOWN ON THE DRAWINGS ARE APPROXIMATE UNLESS DIMENSIONED. VERIFY LOCATION OF OUTLETS IN OFFICES AND WORK AREAS PRIOR TO ROUGH-IN.  
D. LOCATE AND INSTALL BOXES TO ALLOW ACCESS. WHERE INSTALLATION IS INACCESSIBLE, COORDINATE LOCATIONS AND SIZES OF REQUIRED ACCESS DOORS.  
E. LOCATE AND INSTALL TO MAINTAIN HEADROOM AND TO PRESENT A NEAT APPEARANCE.

##### 3.04 SUPPORTING DEVICES

- A. FASTEN HANGER RODS, CONDUIT CLAMPS, AND OUTLET AND JUNCTION BOXES TO BUILDING STRUCTURE.  
B. DO NOT FASTEN SUPPORTS TO PIPING, DUCTWORK, MECHANICAL EQUIPMENT, OR CONDUIT.  
C. DO NOT USE POWDER-ACTUATED ANCHORS.

##### 3.05 GENERAL WIRING METHODS

- A. USE NO WIRE SMALLER THAN 12 AWG FOR POWER AND LIGHTING CIRCUITS, AND NO SMALLER THAN 14 AWG FOR CONTROL WIRING, UNLESS OTHERWISE NOTED ON THE DRAWINGS.  
B. SIZE CONDUCTORS AS SHOWN ON THE DRAWINGS. NO SIZE DEVIATION SHALL BE PERMITTED, UNLESS NOTED OTHERWISE ON DRAWING.  
C. SPLICE ONLY IN JUNCTION OR OUTLET BOXES. NO SPLICING SHALL BE PERMITTED IN PANELBOARD ENCLOSURES.  
D. FEEDERS SHALL NOT BE SPLICED WITHOUT SPECIFIC APPROVAL FROM OWNER.  
E. NEATLY TRAIN AND LACE WIRING INSIDE BOXES, EQUIPMENT, AND PANELBOARDS.

##### 3.06 WIRING INSTALLATION IN RACEWAYS

- A. PULL ALL CONDUCTORS INTO A RACEWAY AT THE SAME TIME. USE UL LISTED WIRE PULLING LUBRICANT FOR PULLING 4 AWG AND LARGER WIRES.  
B. INSTALL WIRE IN RACEWAY AFTER ALL MECHANICAL WORK LIKELY TO DAMAGE CONDUCTORS HAS BEEN COMPLETED.

##### 3.07 WIRING CONNECTIONS AND TERMINATIONS

- A. SPLICE ONLY IN ACCESSIBLE JUNCTION BOXES.  
B. USE UL LISTED COMPRESSION TYPE CONNECTORS WITH INSULATING COVERS FOR COPPER WIRE SPLICES AND TAPS. FOR 8 AWG AND SMALLER, USE INSULATED SPRING CONNECTORS WITH CAPS; 3M SCOTCHLOK OR EQUAL.  
C. THOROUGHLY CLEAN WIRES BEFORE INSTALLING LUGS AND CONNECTORS.  
D. MAKE SPLICES, TAPS, AND TERMINATIONS TO CARRY FULL AMPACITY OF CONDUCTORS WITHOUT PERCEPTIBLE TEMPERATURE RISE.  
E. TERMINATE DEAD-ENDED CONDUCTORS WITH ELECTRICAL TAPE AND MAKE SAFE.

##### 3.08 FIELD QUALITY CONTROL

- A. INSPECT WIRE AND CABLE FOR PHYSICAL DAMAGE AND PROPER CONNECTION.  
B. TORQUE TEST CONDUCTOR CONNECTIONS AND TERMINATIONS TO MANUFACTURER'S RECOMMENDED VALUES.

##### 3.09 COLOR CODING

- A. WIRING SHALL CONFORM TO THE FOLLOWING COLOR CODE. SIZES #8 AWG AND SMALLER SHALL BE COLORED, #6 AWG AND LARGER MAY BE COLORED WITH PLASTIC TAPE OF THE APPROPRIATE COLOR.

DESCRIPTION	208Y/120V	CONTROL
PHASE A (LEFT)	BLACK	-
PHASE B (CENTER)	RED	-
PHASE C (RIGHT)	BLUE	-
NEUTRAL	WHITE	WHITE
GROUND	GREEN	GREEN
120 VAC CONTROL	-	RED
120 VAC CONTROL NEUTRAL	-	WHITE
DC CONTROL (+)	-	BLUE
DC CONTROL (-)	-	BLUE/WHITE
EXTERNAL SOURCE	-	YELLOW

##### 3.10 IDENTIFICATION

- A. DEGREASE AND CLEAN SURFACES TO RECEIVE NAMEPLATES AND TAPE LABELS.  
B. INSTALL NAMEPLATES ON ALL EQUIPMENT DISCONNECTS, CONTROL PANELS, ETC., INSTALLED. INSTALL PARALLEL TO EQUIPMENT LINES.  
C. SECURE NAMEPLATES TO EQUIPMENT USING SCREWS.  
D. INSTALL LABELS (EMBOSSED TAPE) ON ALL OTHER BOXES AND DEVICES, INCLUDING BUT NOT LIMITED TO SWITCHES, RECEPTACLES.  
E. NAMEPLATES AND LABELS SHALL INDICATE PANEL AND CIRCUIT NUMBER EQUIPMENT IS SERVED FROM. (PANEL 2 FOR CIRCUIT 2 FROM PANEL A).  
F. PROVIDE WIRE MARKERS ON EACH CONDUCTOR IN PANELBOARD GUTTERS, PULL BOXES, OUTLET AND JUNCTION BOXES, AND AT ALL LOAD CONNECTIONS. IDENTIFY WITH BRANCH CIRCUIT OR FEEDER NUMBER AS INDICATED ON DRAWINGS. FOR CONTROL WIRING, IDENTIFY WITH WIRE NUMBER INDICATED ON THE SCHEMATIC OR INTERCONNECTION DIAGRAMS. PROVIDE MEGGER RESULTS. USE ATTACHED FORM A (16050), LOW VOLTAGE (600V AND LESS) INSULATION MEGGER TEST REPORT.

## GENERAL NOTES

### THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

- REFER TO SPECIFICATIONS AND ALL OTHER DIVISION DOCUMENTS FOR ADDITIONAL REQUIREMENTS.
- ELECTRICAL CONTRACTOR SHALL COORDINATE WORK WITH OTHER TRADES.
- ALL MATERIALS SHALL BE NEW AND SHALL BE LISTED BY UNDERWRITERS LABORATORIES, INC.
- CATALOG NUMBERS USED IN SYMBOLS LIST AND FIXTURE SCHEDULE ARE TO BE AS NOTED OR APPROVED EQUALS. MAINTAIN SPECIFIED GRADE.
- IT IS THE INTENT OF THE ELECTRICAL CONTRACT DOCUMENTS THAT ALL ELECTRICAL SYSTEMS ARE INSTALLED COMPLETE, TESTED AND READY FOR OPERATION UNLESS SPECIFICALLY NOTED OTHERWISE AND WHETHER OR NOT EVERY ITEM OF EQUIPMENT, DEVICE, BOX, ETC. IS SHOWN ON THE PLANS. ELECTRICAL SUBCONTRACTOR SHALL BE ON THE PREMISES OPENING DAY.
- SEAL ALL PENETRATIONS IN RATED WALLS, FLOORS AND CEILINGS WITH A UL APPROVED FIRE STOP SYSTEM.
- PROVIDE A 220 LB NYLON JET PULL STRING IN ALL EMPTY RACEWAYS.
- ALL CONDUIT BELOW CONCRETE SLABS SHALL BE RIGID, HOT-DIPPED GALVANIZED STEEL CONDUIT OR RIGID, CODE APPROVED PVC.
- THE CONTRACTOR SHALL ENSURE THAT THE ENTIRE ELECTRICAL SYSTEM FOR THIS BUILDING IS GROUNDED IN ACCORDANCE WITH ALL APPLICABLE PROVISIONS OF ARTICLE 250 OF THE N.E.C.
- WORKING SPACE ABOUT ELECTRICAL PANELS, SWITCHGEAR, ETC SHALL COMPLY WITH NEC ARTICLE 110.26.
- ALL LUMINAIRES SHALL BE SECURELY FASTENED AND IN COMPLIANCE WITH ARTICLE 410-16 OF THE CURRENT NEC.
- PROVIDE EQUIPMENT LABELS FOR DISCONNECT SWITCHES, WIRING TROUGHS, ETC. TO IDENTIFY EQUIPMENT OR EQUIPMENT SERVED. LABELS SHALL BE 1/8" THICK OF PHENOLIC MATERIAL, MACHINE ENGRAVED TO EXPOSE CONTRASTING INNER CORE.
- ELECTRICAL CONTRACTOR SHALL PAY ALL UTILITY CONNECTION CHARGES.
- ELECTRICAL CONTRACTOR SHALL ARRANGE ALL INSPECTIONS AND PAY ALL FEES. SUBMIT COPY OF FINAL INSPECTION REPORT TO THE OWNER.
- UNLESS OTHERWISE NOTED, DEVICE MOUNTING HEIGHTS MEASURED TO CENTER OF BOX SHALL BE AS FOLLOWS: RECEPTACLES & SYSTEMS OUTLETS +18" AFF SWITCHES & CONTROL DEVICES +46" AFF CLOCKS - SEE INTERIOR ELEVATIONS OR AS NOTED. 'A' DENOTES ABOVE COUNTER. COORDINATE HEIGHTS WITH CASEWORK AND GENERAL CONTRACTOR.
- ALL BRANCH CIRCUITS SHALL INCLUDE A DEDICATED NEUTRAL AND A GREEN INSULATED EQUIPMENT GROUND CONDUCTOR, MINIMUM WIRE SIZE #12 AWG.
- MINIMUM WIRE SIZE TO BE #12 AWG UNLESS OTHERWISE NOTED.
- PROVIDE THE QUANTITY OF CONDUCTORS REQUIRED TO PROVIDE POWER AND CONTROL OF LIGHTING FIXTURES, BATTERY CHARGING, AND OTHER APPLICATIONS TO MEET THE INTENT OF THE DESIGN. SWITCH LEGS, TRAVELERS, ADDITIONAL UNSWITCHED CONDUCTORS, MULTIPLE NEUTRALS, GROUNDS, ETC., ARE NOT INDICATED. SWITCHING INTENT IS INDICATED BY LOWER CASE LETTER DESIGNATION, NOTE OR SYMBOL.
- LIGHTING CONTROL COMMISSIONING REQUIREMENTS: FOR LIGHTING CONTROLS WHICH INCLUDE DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT-OFF CONTROLS, OCCUPANCY SENSORS, OR AUTOMATIC TIME SWITCHES, THE LIGHTING CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATIONS SHALL BE FUNCTIONALLY TESTED TO ENSURE THEY OPERATED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. A COMPLETE REPORT OF TEST PROCEDURES AND RESULTS SHALL BE PREPARED AND FILED WITH THE OWNER. DRAWING NOTES SHALL REQUIRED COMMISSIONING IN ACCORDANCE WITH THIS PARAGRAPH.
- DIVISION 26 TO PROVIDE CONDUIT AND BOX ROUGH-IN FOR THERMOSTATS. FOR ROUGH-IN LOCATIONS REFER TO MECHANICAL HVAC DRAWINGS. ROUGH-IN SHALL CONSIST OF A 4" SQUARE BOX, SINGLE GANG PLASTER RING & A 1/2" STUB UP INTO THE NEAREST ACCESSIBLE CEILING SPACE. EXISTING STUD WALLS USE CUT-IN BOX AND FLEX. EXISTING BLOCK WALLS UTILIZE A METALLIC SURFACE RACEWAY AND BOX.

## WASHINGTON STATE NONRESIDENTIAL ENERGY CODE COMPLIANCE

- LIGHTING: THE CONTRACTOR SHALL PROVIDE A WRITTEN CERTIFICATION VERIFYING THAT ALL LAMPS AND BALLASTS HAVE BEEN PROVIDED PER THE SPECIFICATIONS. PROVIDE A LIST WHICH INDICATES THE EXACT PART NUMBER OF THE LAMP AND BALLAST PROVIDED FOR EACH FIXTURE TYPE. INCLUDE THE CERTIFICATION AND THE LAMP/BALLAST LIST IN THE O&M MANUAL.
- COMMISSIONING REQUIREMENTS: ALL LIGHTING CONTROLS INCLUDING DAYLIGHT OR OCCUPANT SENSING AUTOMATIC CONTROLS, AUTOMATIC SHUT OFF CONTROLS, OCCUPANCY SENSORS OR AUTOMATIC TIME SWITCHES, THE LIGHTING CONTROLS SHALL BE TESTED TO ENSURE THAT CONTROL DEVICES, COMPONENTS, EQUIPMENT AND SYSTEMS ARE CALIBRATED, ADJUSTED AND OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. SEQUENCES OF OPERATIONS SHALL BE FUNCTIONALLY TESTED TO ENSURE THEY OPERATE IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL PROVIDE A WRITTEN STATEMENT CERTIFYING ALL LIGHTING CONTROLS HAVE BEEN COMMISSIONED. INCLUDE CERTIFICATION IN O&M MANUAL.

## SITE PLANS

### THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

- COORDINATE ROUTING OF UNDERGROUND RACEWAYS WITH ALL NEW AND EXISTING UTILITIES. REFER TO CIVIL DRAWINGS.
- CONTRACT WITH A LOCATOR SERVICE TO MARK THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATION.
- ALL SITE LIGHTING RACEWAYS SHALL BE 1" C. O.U.N.
- ROUTE ALL SITE LIGHTING CIRCUITS VIA LIGHTING CONTROL PANEL.
- PROVIDE ALL REQUIRED CUTTING, PATCHING, EXCAVATION, COMPACTION, AND PATCHING FOR INSTALLATION OF UNDERGROUND RACEWAYS AND UTILITY SERVICES.
- BACKFILL ALL TRENCHES (INCLUDING THOSE FOR UTILITY SERVICES) WITH STRUCTURAL BACKFILL OR GRAVEL BORROW PER WSDOT STANDARDS.
- THE CONTRACTOR IS SOLELY RESPONSIBLE FOR ALL COORDINATION WITH THE SERVING UTILITY COMPANIES INCLUDING COMPLETING AND SUBMITTING ALL NECESSARY APPLICATIONS FOR SERVICE.
- CONTRACTOR TO OBTAIN ALL REQUIRED PERMITS AND EASEMENTS.

## BRANCH CIRCUIT WIRING

### THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

- IN GENERAL ONLY CIRCUIT NUMBERS HAVE BEEN SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED RACEWAYS AND WIRING.
- SHOW ALL RACEWAYS AND WIRING ON AS-BUILT DRAWINGS.
- GENERAL:
  - MINIMUM RACEWAY SIZE SHALL BE 3/4".
  - NO MORE THAN 7 #12 AWG CONDUCTORS SHALL BE INSTALLED IN A RACEWAY.
  - HOMERUNS GREATER THAN 75 FEET TO THE FIRST DEVICE SHALL BE NO. 10 AWG.
  - LIGHTING, POWER, AND MECHANICAL EQUIPMENT CONDUCTORS SHALL NOT BE COMBINED IN THE SAME RACEWAY.
  - PROVIDE A GROUND CONDUCTOR IN ALL RACEWAYS.
  - PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
- LIGHTING:
  - PROVIDE CONDUCTORS AS REQUIRED TO PROVIDE CIRCUITING AND SWITCHING DUTY AS SHOWN ON THE DRAWINGS.
  - PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
- POWER:
  - PROVIDE CONDUCTORS AS REQUIRED TO PROVIDE CIRCUITING SHOWN.
  - FOR OTHER THAN 15 OR 20 AMP SINGLE PHASE RECEPTACLE BRANCH CIRCUITS PROVIDE A DEDICATED HOMERUN TO THE PANEL.
  - FOR 30 AMP BRANCH CIRCUITS PROVIDE #10 AWG CONDUCTORS.
  - FOR 40 AMP AND LARGER BRANCH CIRCUITS PROVIDE RACEWAYS AND WIRING AS SHOWN ON THE DRAWINGS.
  - PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT.
- MECHANICAL EQUIPMENT: PROVIDE RACEWAYS AND WIRING AS SHOWN ON THE MECHANICAL EQUIPMENT CONNECTION SCHEDULE.

## ONE-LINE DIAGRAM

- ALL FEEDERS ARE COPPER WITH THHN/THWN INSULATION.
- PROVIDE PULL BOXES AS REQUIRED BY THE NEC.
- SHORT CIRCUIT CURRENTS LESS THAN 10,000 ASYM FOR 208V PANELS AND 14,000 ASYM FOR 480V PANELS ARE NOT SHOWN.
- THE ONE-LINE DIAGRAM IS DIAGRAMMATIC AND DOES NOT SHOW THE ACTUAL ROUTING OF THE RACEWAYS.
- PROVIDE SHORT CIRCUIT, COORDINATION, AND ARC FLASH STUDY TO INCLUDE ALL OVERCURRENT DEVICES. SET OVERCURRENT DEVICE SETTINGS AS INDICATED BY STUDY. PROVIDE ARC FLASH LABELS AS INDICATED BY STUDY.
- TEST ALL GROUND FAULT RELAYS AS REQUIRED BY THE WAC.

## EQUIPMENT CONNECTIONS

- VERIFY ELECTRICAL REQUIREMENTS WITH MANUFACTURER SHOP DRAWINGS PRIOR TO ROUGH-IN.
- INSTALL AND WIRE EQUIPMENT PER MANUFACTURER SHOP DRAWINGS.
- PROVIDE ALL RACEWAYS, WIRING AND ANCILLARY EQUIPMENT AS SHOWN ON MANUFACTURER SHOP DRAWINGS.
- PROVIDE HARDWIRED CONNECTION, RECEPTACLE OR FUSED DISCONNECT SWITCH AS SHOWN ON MANUFACTURER SHOP DRAWINGS.
- WHERE NO STARTER IS LISTED STARTER TO BE PROVIDED BY MECHANICAL.

## POWER PLANS

### THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

- PROVIDE DISCONNECT SWITCH OR COMBINATION STARTER FOR EACH PIECE OF EQUIPMENT AS SHOWN ON MECHANICAL EQUIPMENT CONNECTION SCHEDULE.
- ALL EXTERIOR RECEPTACLES SHALL BE WP/GFI.
- ALL EXTERIOR DISCONNECTS/STARTERS SHALL BE NEMA 3R.

## LIGHTING PLANS

### THE FOLLOWING GENERAL NOTES APPLY TO ALL DRAWINGS

- REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION OF LUMINAIRES.

## LUMINAIRE SCHEDULE GENERAL NOTES

- THE UNDERLINED LUMINAIRE IN THE SCHEDULE REPRESENTS THE "BASIS OF DESIGN". ALL OTHER MANUFACTURERS LISTED MUST MEET OR EXCEED ALL REQUIREMENTS OF THE BASIS OF DESIGN.
- VERIFY THE VOLTAGE OF ALL LUMINAIRES. REFER TO PLANS FOR SPECIFIC VOLTAGE REQUIREMENTS.
- ALL LUMINAIRES TO BE PROVIDED WITH ALL ROUGH-IN AND TRIM ASSEMBLIES FOR A COMPLETE INSTALLATION.
- ALL LUMINAIRES TO BE UL LISTED AND LABELED. EXTERIOR LUMINAIRES TO BE UL "WET" LABELED.
- LUMINAIRES SHALL BE PROVIDED WITH AN INTERNAL DISCONNECTING MEANS WHICH COMPLIES WITH NEC ARTICLE 410.
- ALL LUMINAIRES TO HAVE AN INTEGRAL BALLAST UNLESS A REMOTE BALLAST IS SPECIFIED.



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201

ph 509.328.2994

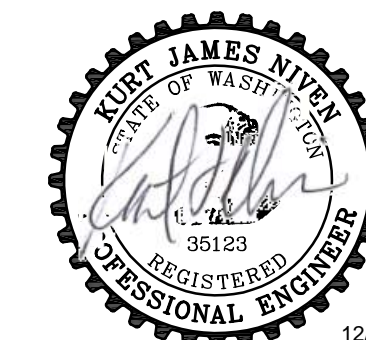
www.coffman.com



203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568

6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292

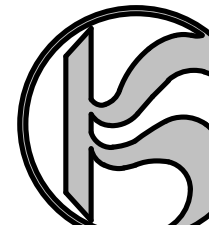
alscarchitects.com



12/16/24

WHITWORTH COMFORT STATION  
N VANHOE RD & W HAWTHORN RD  
SPOKANE COUNTY, WA 99251

Spokane Transit Authority  
1230 W. Boone Avenue  
Spokane, Washington 99201



REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN SLP  
CHECKED MBV  
DATE 01/05/2025

© COFFMAN ENGINEERS

SHEET TITLE:

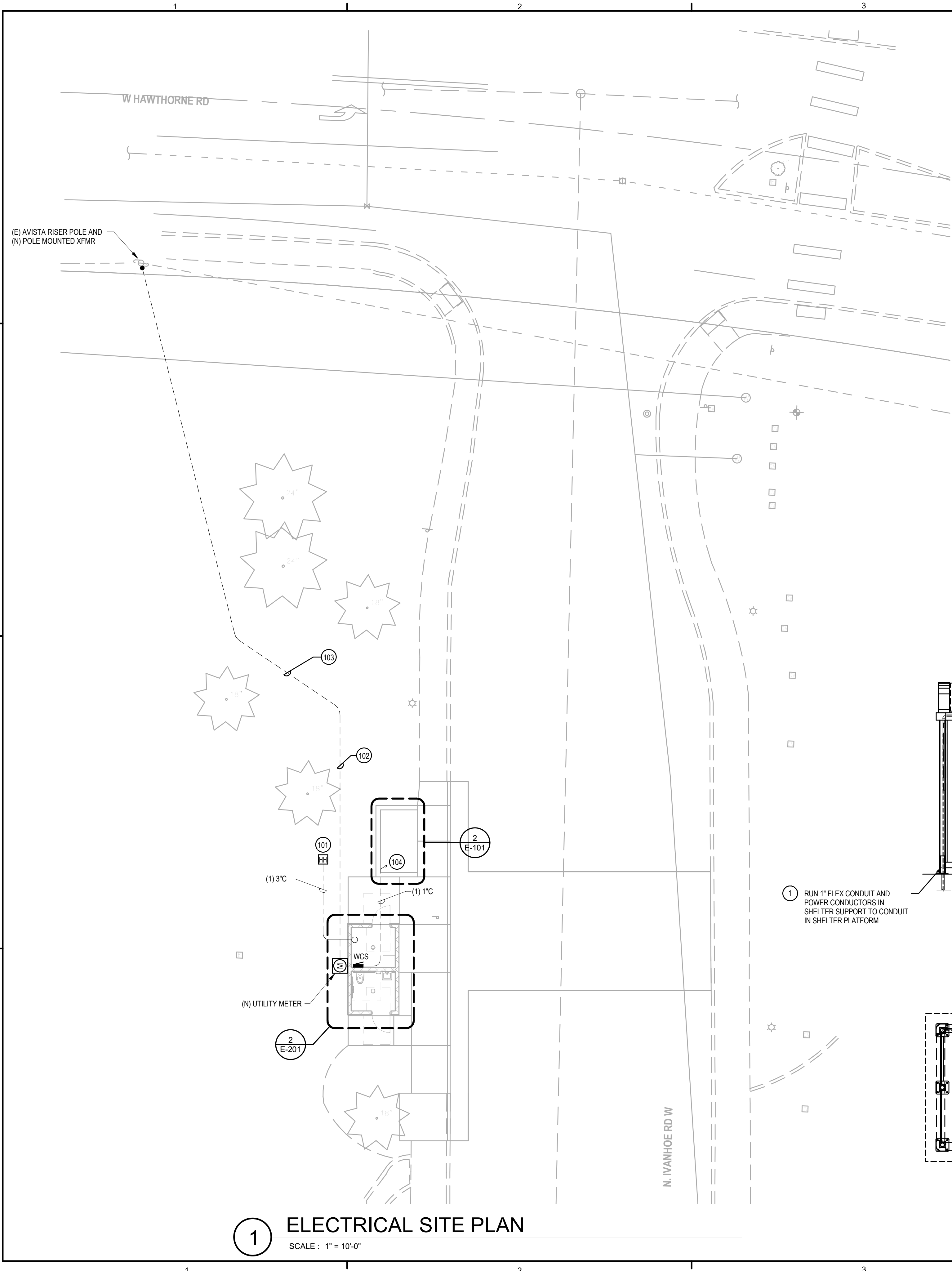
GENERAL NOTES  
AND  
SPECIFICATIONS

SHEET NO:

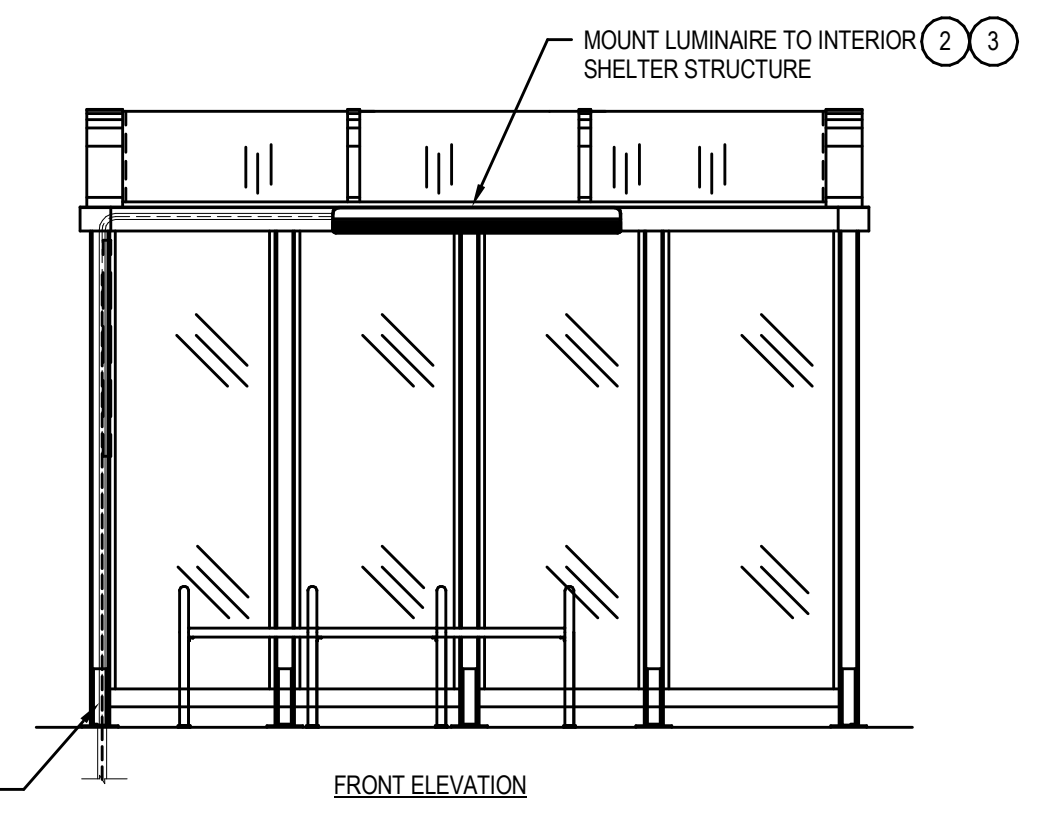
E-002

BID SET

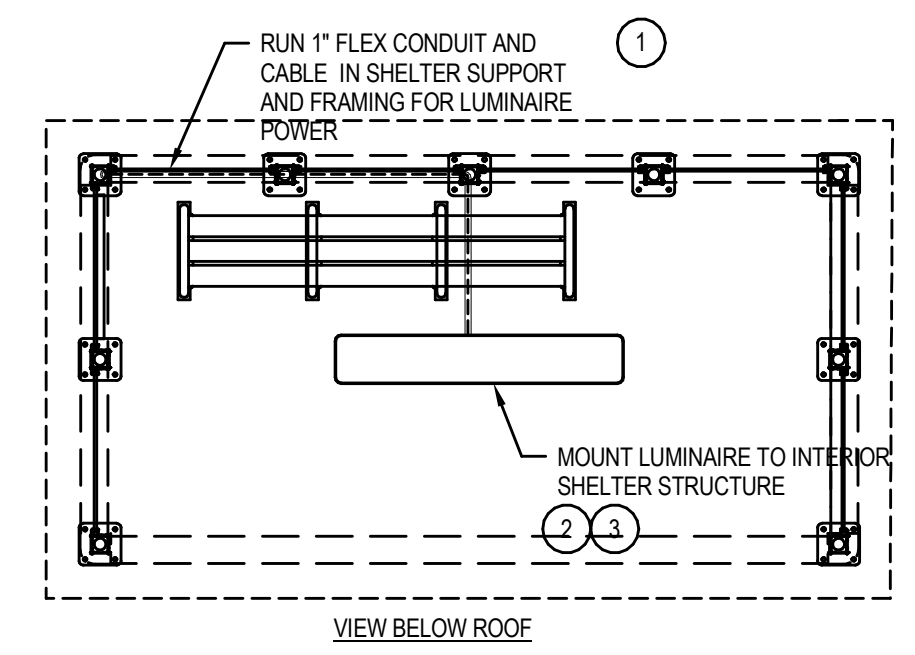




**1 ELECTRICAL SITE PLAN**  
SCALE: 1" = 10'-0"



FRONT ELEVATION



VIEW BELOW ROOF

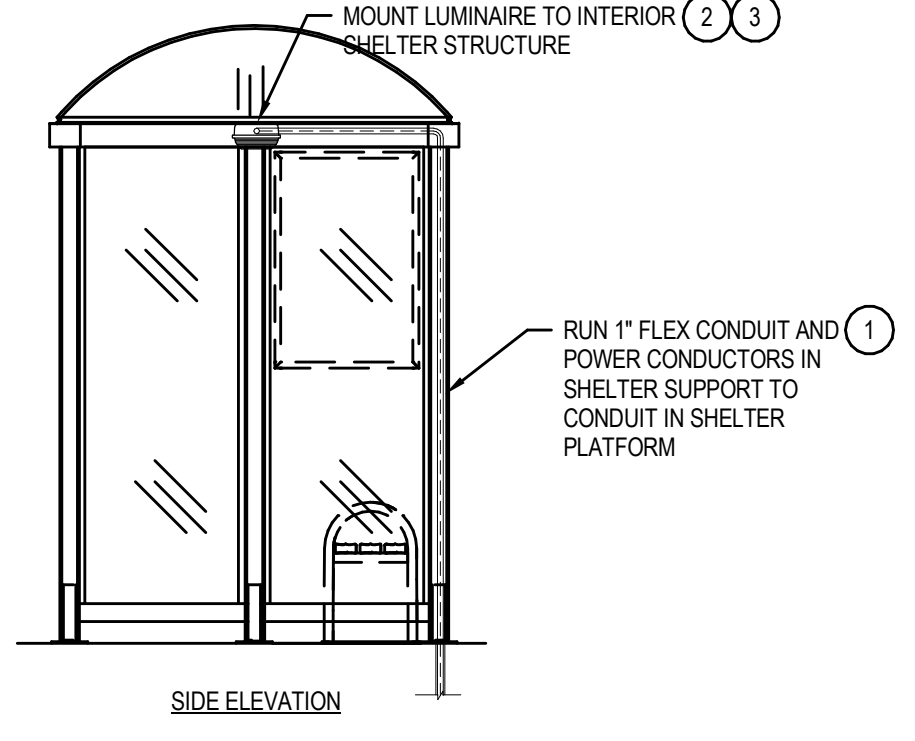
**2 STANDARD SHELTER DETAIL**  
SCALE: NTS

- GENERAL NOTES:**
- ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE NEC AS ADOPTED BY THE STATE OF WASHINGTON OR THE LOCAL AUTHORITY HAVING JURISDICTION.
  - REFER TO DRAWING E-601 FOR ONE-LINE, SCHEDULES, AND DETAILS.
  - MECHANICAL EQUIPMENT CONNECTION REQUIREMENTS DETAILED IN EQUIPMENT CONNECTION SCHEDULE E-601.
  - PROVIDE WEATHERPROOF SEAL FOR EXTERIOR CONDUIT PENETRATIONS.
  - ALL ASPHALT & CONCRETE CUTTING, TRENCHING, BACKFILL, COMPACTION & PATCHING TO MATCH EXISTING CONDITIONS ASSOCIATED WITH INSTALLATION OF ALL CONDUITS INDICATED ON THIS SHEET SHALL BE INCLUDED IN THE ELECTRICAL BID. THIS INCLUDES TRENCHING FOR UTILITY CONDUITS.
  - REFERENCE TRENCH DETAILS ON SHEET E130 FOR ADDITIONAL REQUIREMENTS. CONDUITS SHALL BE INSTALLED WITH 12" VERTICAL CLEARANCE FROM ALL WATER LINES CROSSING OVER OR UNDER ALL ELECTRICAL OR COMMUNICATION CONDUITS.
  - ALL SPARE CONDUITS STUBBED FOR FUTURE USE INDICATED ON THIS PLAN SHALL BE MARKED WITH A VERTICAL REBAR BURIED 6" BELOW FINISHED GRADE. INDICATE STUB LOCATION ON "RECORD DRAWINGS" USING DIMENSIONS FROM TWO FIXED POINTS & INCLUDE BURIAL DEPTH. ENSURE CONDUITS ARE BURIED AT DEPTH THAT WILL MEET MINIMUM DEPTH REQUIREMENTS BASED ON FINAL GRADING.

**UTILITY CONTACTS:**

POWER:  
AVISTA  
JUSTIN HELM  
509-495-2976  
JUSTIN.HELM@AVISTACORP.COM

- KEYNOTES (XX)**
- PROVIDE WSDOT TYPE 1 JUNCTION BOX WITH ANTI-SLIP COVER, OR APPROVED EQUAL. LOCATE IN GRASS A MINIMUM OF 5' BEYOND EXTENTS OF PLATFORM AND PAVEMENT FOR SPARE COMMUNICATIONS CONDUIT.
  - REFER TO ONE-LINE E-601 FOR CONDUIT AND CONDUCTOR REQUIREMENTS. COORDINATE EXACT ROUTING WITH OTHER TRADES AND EXISTING UTILITIES.
  - REFER TO CIVIL DRAWINGS FOR ADDITIONAL TRENCHING REQUIREMENTS AND COORDINATE EXACT ROUTING WITH TREE PROTECTION PLANS PRIOR TO EXCAVATION.
  - STUB-UP CONDUIT PER SHELTER DETAIL. COORDINATE EXACT LOCATION WITH CIVIL PRIOR TO ROUGH-IN. SEE DETAIL 6, DRAWING C-400 FOR ADDITIONAL DETAIL.

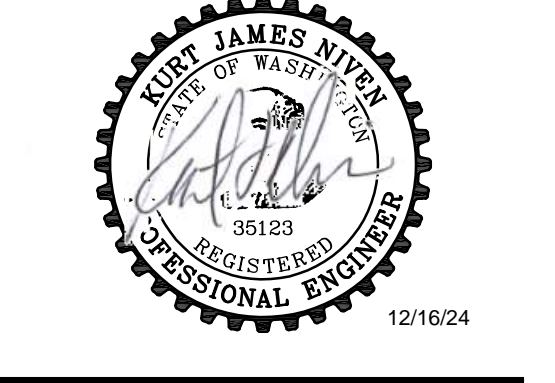


SIDE ELEVATION

- GENERAL NOTES**
- REFER TO ELECTRICAL DETAIL HPT-E01 FOR ADDITIONAL CONDUIT DETAILS.
  - COORDINATE CONDUIT LOCATION WITH STRUCTURAL FOOTING DETAIL PRIOR TO INSTALL.
  - CONTRACTOR TO REFER TO PROJECT DRAWING FOR SPECIFIC SHELTER TYPE AND DIMENSIONS. ELECTRICAL REQUIREMENTS ARE THE SAME FOR ALL SHELTER TYPES.
  - ALL SHELTER COMPONENTS EXCLUDING LUMINAIRE, CONDUIT AND WIRE ARE OFOI.
- KEYED NOTES**
- CONDUIT TO BE ROUTED IN VERTICAL SUPPORTS OF SHELTER TO LUMINAIRE. ANY EXPOSED CONDUIT SHALL ONLY BE ROUTED INSIDE THE SHELTER, HIDDEN WHERE POSSIBLE, AND PAINTED TO MATCH SHELTER. ALL CONDUIT AND WIRE IS OFCI.
  - LUMINAIRE, CONTROLS, HOUSING, AND MOUNTING COMPONENTS TO BE PROVIDED BY STA. CONTRACTOR TO INSTALL.
  - FOR SOLAR POWERED SHELTER: STA TO PROVIDE SOLAR PANELS ON SHELTER ROOF, BATTERY PACK, AND MOUNTING COMPONENTS. CONTRACTOR TO INSTALL PER MANUFACTURER'S SPECIFICATIONS.

**COFFMAN ENGINEERS**  
221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292  
alscarchitects.com



**WHITWORTH COMFORT STATION**  
N IVANHOE RD & W HAWTHORN RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN SLP  
CHECKED MBV  
DATE 01/05/2025

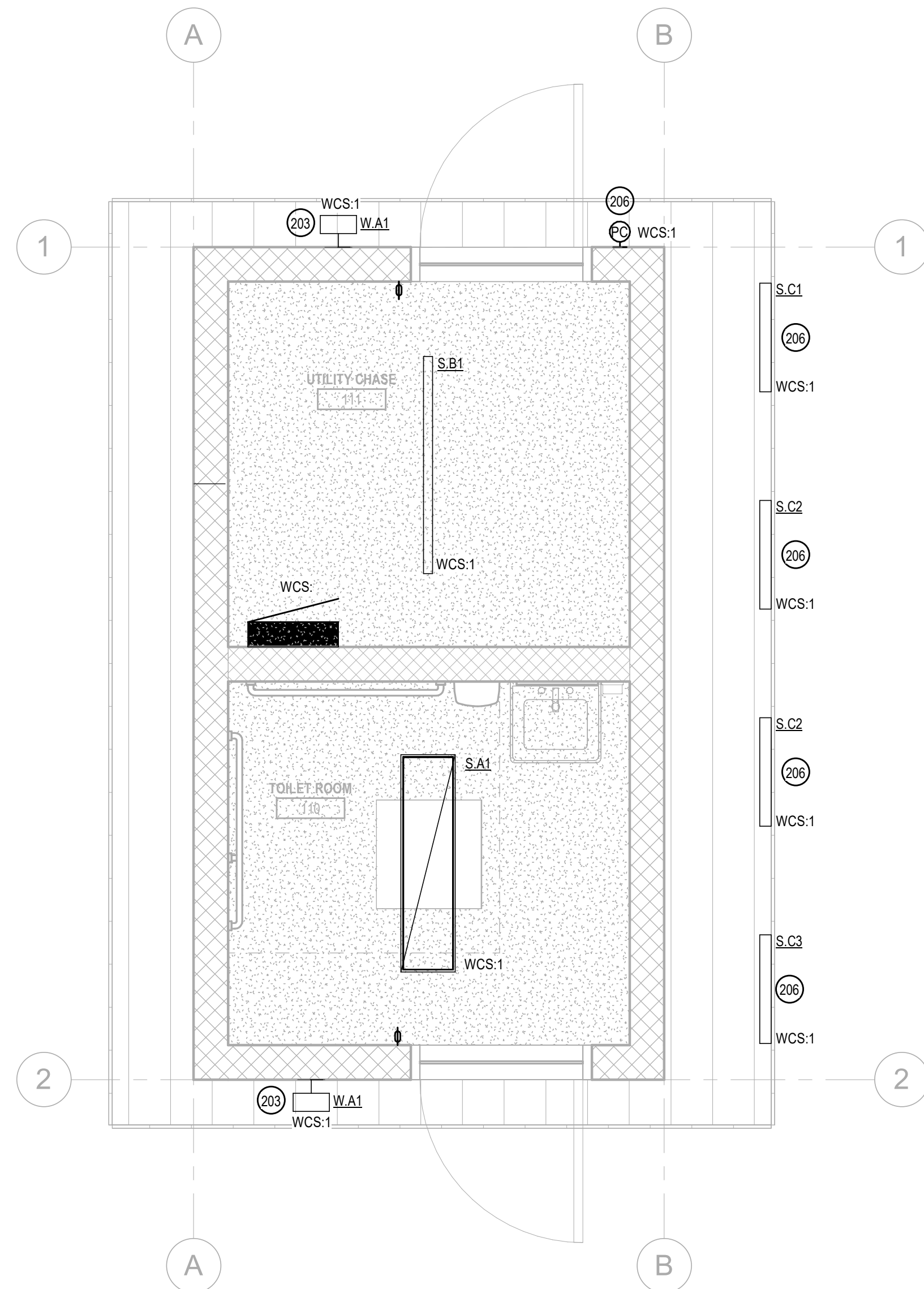
(C) COFFMAN ENGINEERS  
**SHEET TITLE:**  
**ELECTRICAL SITE PLAN**

**SHEET NO:**  
**E-101**

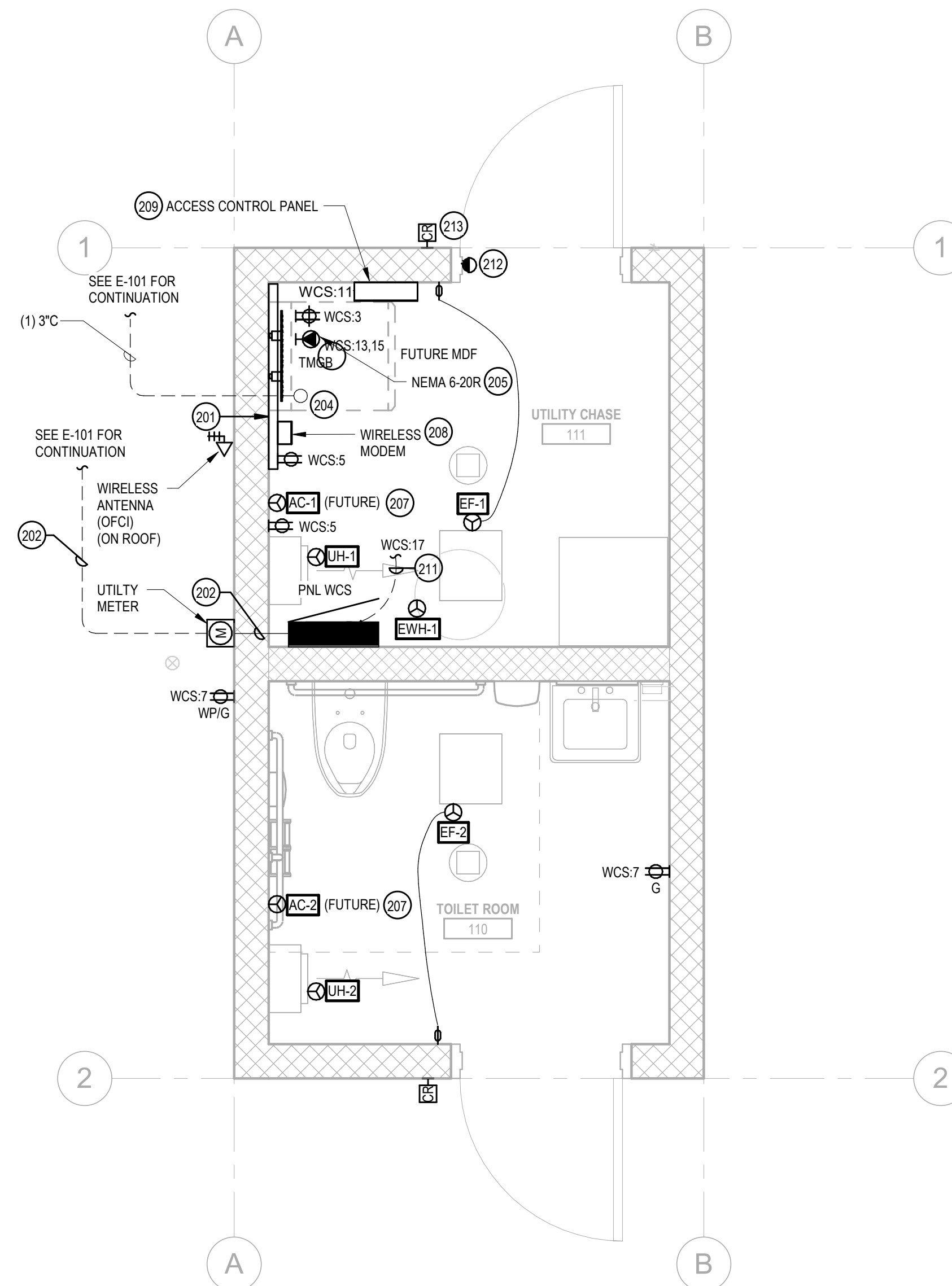
**BID SET**



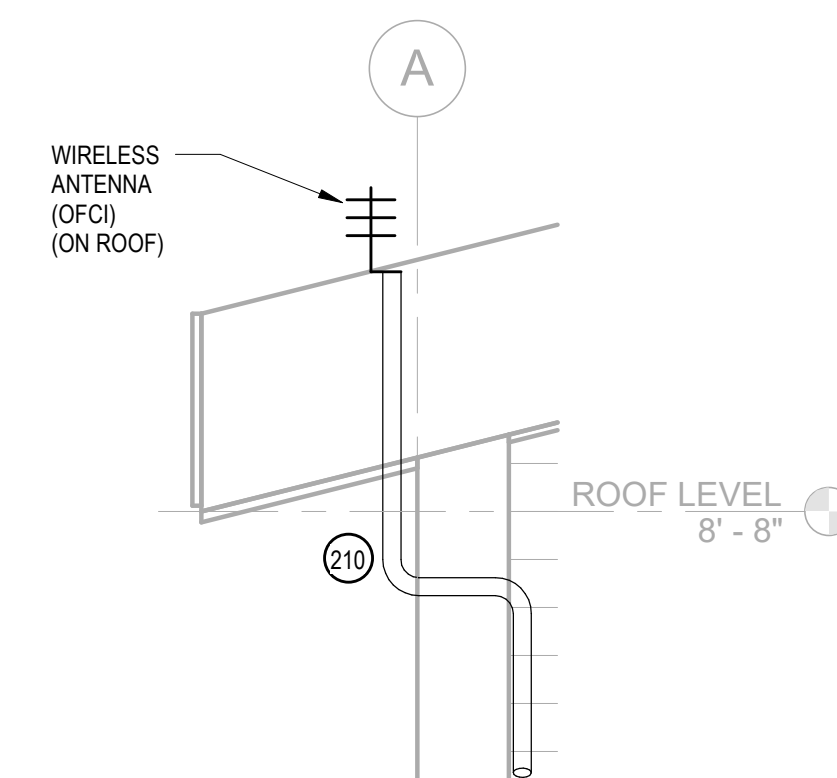
LUMINAIRE SCHEDULE									
TYPE	MANUFACTURER	CATALOG NUMBER	WATTS	TEMPERATURE/CRI	DRIVER	VOLT	MOUNTING	LOCATION	DESCRIPTION
S.A1	METALUX	#BAA-14-CGTX-42-L840	42 W	4000K 80 CRI MIN	LED DRIVER 0-10V DIMMING	UNV 120-277	SURFACE	RESTROOM	1X4 SURFACE MOUNT LED FLAT PANEL
S.B1	METALUX	#BAA-4-SNX-37SL-LW-UNV-L840-CD-1	24 W	4000K 80 CRI MIN	LED DRIVER 0-10V DIMMING	UNV 120-277	SURFACE	MAINTENANCE RM	4' SURFACE MOUNT LED STRIP LIGHT.
S.C1	ALUZ LIGHTING	#A1-ZIBI-PVT-60D-BK-40K-3W-EF-IP67-UNV-2-PC-CC	6 W	4000K 90 CRI MIN	LED DRIVER NON-DIMMING	UNV 120-277	SURFACE	EXTERIOR	2' SURFACE MOUNT AIMED ~30 DEGREES AT WALL
S.C2	ALUZ LIGHTING	#A1-ZIBI-PVT-60D-BK-40K-3W-EF-IP67-UNV-2-CC-CC	6 W	4000K 90 CRI MIN	LED DRIVER NON-DIMMING	UNV 120-277	SURFACE	EXTERIOR	2' SURFACE MOUNT AIMED ~30 DEGREES AT WALL
S.C3	ALUZ LIGHTING	#A1-ZIBI-PVT-60D-BK-40K-3W-EF-IP67-UNV-2-CC-EC	6 W	4000K 90 CRI MIN	LED DRIVER NON-DIMMING	UNV 120-277	SURFACE	EXTERIOR	2' SURFACE MOUNT AIMED ~30 DEGREES AT WALL
W.A1	MCGRAW-EDISON	#BAA-ISS-SA1A-740-U-T3-GM-WLS2BK	20 W	4000K 70 CRI MIN	LED DRIVER 0-10V DIMMING	UNV 120-277	WALL	EXTERIOR	LED WALL PACK WITH INTEGRAL CONTROLS FOR DAYLIGHT AND MOTION BASED DIMMING



1 GROUND LEVEL - LIGHTING PLAN  
SCALE: 1/2" = 1'-0"



2 GROUND LEVEL - ELECTRICAL PLAN  
SCALE: 1/2" = 1'-0"



3 ANTENNA MOUNTING DETAIL  
SCALE: 3/4" = 1'-0"

**GENERAL NOTES:**

- ALL WORK SHALL COMPLY WITH THE CURRENT EDITION OF THE NEC AS ADOPTED BY THE STATE OF WASHINGTON OR THE LOCAL AUTHORITY HAVING JURISDICTION.
- REFER TO DRAWING E-601 FOR ONE-LINE, SCHEDULES, AND DETAILS.
- MECHANICAL EQUIPMENT CONNECTION REQUIREMENTS DETAILED IN EQUIPMENT CONNECTION SCHEDULE E-601.
- PROVIDE WEATHERPROOF SEAL FOR EXTERIOR CONDUIT PENETRATIONS.
- PROVIDE 3/4" 2#12, #12G FOR BRANCH CIRCUITS UNLESS OTHERWISE NOTED.

**KEYNOTES (20X)**

- PROVIDE 3X8 PLYWOOD COMMUNICATIONS BACKBOARD AND GROUNDING BUS BAR WITH #6 IN 3/4" TO GROUND BUS IN PANEL AND 4-PLEX RECEPTACLE AND GROUND BAR INSTALLED BELOW FUTURE MDF CABINET.
- REFER TO ONE-LINE E-601 FOR CONDUIT AND CONDUCTOR REQUIREMENTS.
- EXTERIOR WALLPACKS TO BE SYNCHRONIZED FOR ON/OFF CONTROL VIA INTEGRAL DAYLIGHT SENSORS. PROGRAM OCCUPANCY DIMMING IN COMPLIANCE WITH WSEC.
- PROVIDE (1) 3" SPARE CONDUIT FOR FUTURE COMMUNICATIONS SERVICE. STUB-UP CONDUIT 6" AFF. CAP AND SEAL.
- INSTALL 240V, NEMA 6-20R RECEPTACLE. MAINTAIN SPACE AND CLEARANCE REQUIREMENTS FOR FUTURE MDF CABINET.
- EXTERIOR CANOPY LIGHTS TO BE CONTROLLED VIA NORTH FACING CONTRACTOR PROVIDED WALL MOUNTED, LINE VOLTAGE PHOTOCELL TORK RKP311 OR APPROVED EQUAL.
- FUTURE MECHANICAL UNIT SHOWN FOR REFERENCE ONLY. NO ELECTRICAL SCOPE REQUIRED.
- CONTRACTOR TO INSTALL WIRELESS CELLULAR MODEM AND ANTENNA PROVIDED BY OWNER. MOUNT MODEM TO TELECOM BACKBOARD.
- COORDINATE WITH STA SECURITY CONTRACTOR FOR ACCESS CONTROL. ACCESS CONTROL CABINET AND LENSEL BADGING SYSTEM COMPONENTS TO BE PROVIDED BY SECURITY CONTRACTOR "EverOn". ELECTRICAL CONTRACTOR TO PROVIDE POWER FOR SECURITY CABINET AND ROUGH-IN FOR CARD READER AND DOOR HARDWARE AS NOTED.
- PROVIDE 1 1/2" C AND WIRE PER MANUFACTURER'S REQUIREMENTS TO ROOF MOUNTED ANTENNA. ROUTE CONDUIT THRU SIDE WALL BELOW EAVE TO CONCEAL PENETRATION. INSTALL OWNER FURNISHED ANTENNA AWAY FROM ROOF EDGE MIN 30".
- 1" C, 2#10, #10G UNDERGROUND FEEDER TO SHELTER. REFER TO SITE PLAN FOR CONTINUATION.
- ELECTRIC STRIKE TO BE PROVIDED WITH DOOR. ELECTRICAL CONTRACTOR TO PROVIDE RACEWAY AND PREP DOOR FRAME FOR SECURITY CONTRACTOR PROVIDED CABLING.
- PROVIDE ROUGH-IN AND RACEWAY FOR SECURITY CONTRACTOR PROVIDED CARD READER.

**COFFMAN ENGINEERS**  
221 N. Wall Street, Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com

**ALSC ARCHITECTS**  
203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.6292  
alscarchitects.com

**PROFESSIONAL ENGINEER**  
35123  
12/16/24

**WHITWORTH COMFORT STATION**  
N VANHOE RD & W HAWTHORN RD  
SPOKANE COUNTY, WA 99251

**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN SLP  
CHECKED MBV  
DATE 01/05/2025

(C) COFFMAN ENGINEERS

SHEET TITLE:  
**ELECTRICAL PLANS**

SHEET NO:  
**E-201**

**BID SET**

12/19/2024 1:28:31 PM



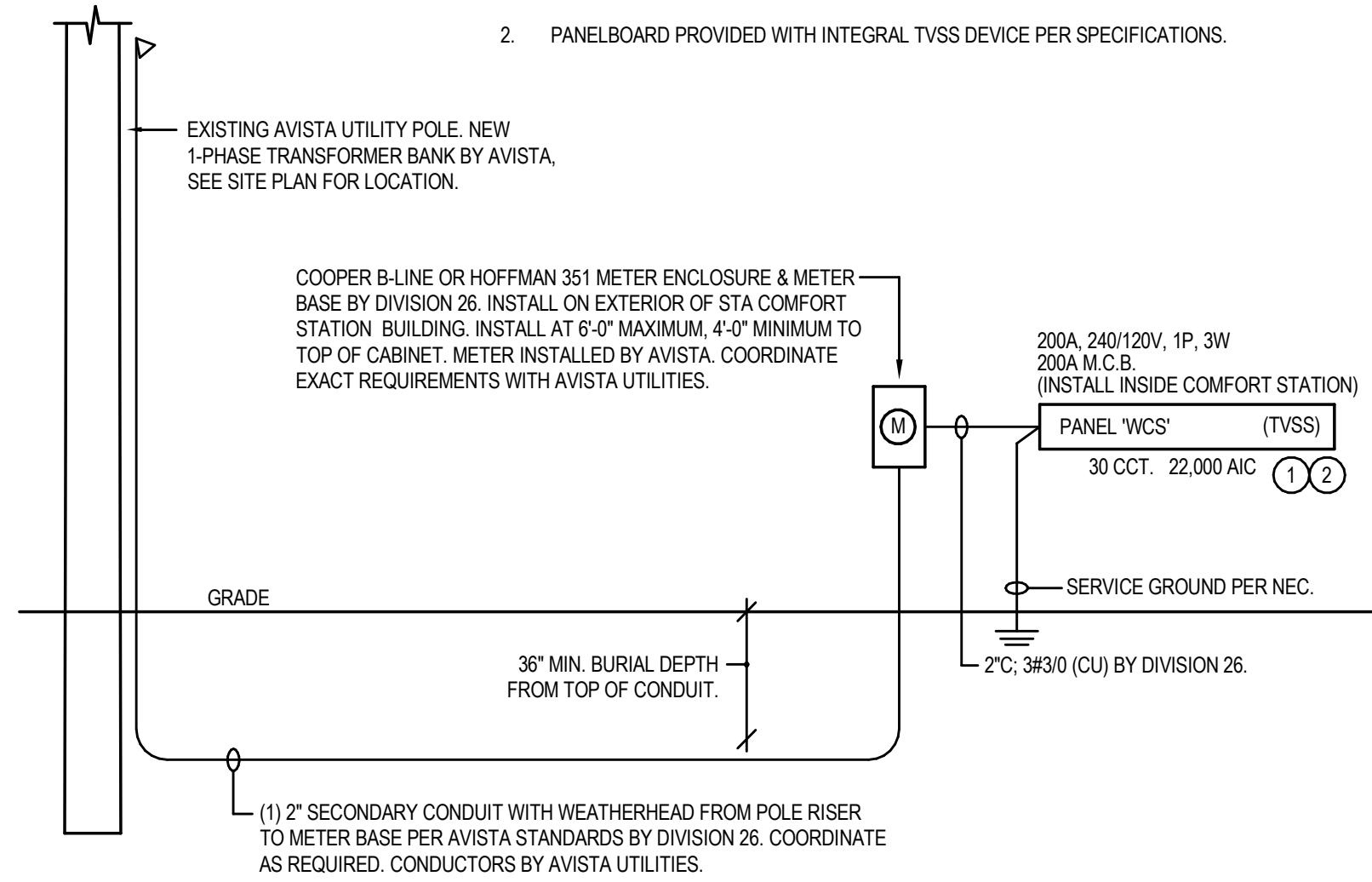
MECHANICAL EQUIPMENT SCHEDULE																		
UNIT ID	EQUIPMENT DESCRIPTION	LOCATION	VOLTS	PHASE/WIRE	HP	LOAD (KVA)	FLA	MCA	MOCBP	CONDUIT & WIRE	CONNECTION TYPE	DISCONNECT DESCRIPTION	DISC NEMA RATING	DISC BY	STARTER DESCRIPTION	STARTER PROVIDED BY	CIRCUIT ID	NOTES
AC-1	THRU WALL AIR CONDITIONER (FUTURE)	UTILITY CHASE-111	240 V	1P 2W		0.77 kVA	3.2			3/4" C, 2#12, 1#12G	HARDWIRED	2P20A DISC SW	NEMA 12	DIV 26	-	DIV 23	WCS-14,16	FUTURE EQUIPMENT SHOWN FOR REFERENCE ONLY. NO ROUGH-IN REQUIRED.
AC-2	THRU WALL AIR CONDITIONER (FUTURE)	TOILET ROOM-110	240 V	1P 2W		0.77 kVA	3.2			3/4" C, 2#12, 1#12G	HARDWIRED	2P20A DISC SW	NEMA 12	DIV 26	-	DIV 23	WCS-18,20	FUTURE EQUIPMENT SHOWN FOR REFERENCE ONLY. NO ROUGH-IN REQUIRED.
EF-1	EXHAUST FAN	UTILITY CHASE-111	120 V	1P 2W		0.04 kVA	.3			3/4" C, 2#12, 1#12G	HARDWIRED	1P15A SW	NEMA 1	DIV 26	-	DIV 23	WCS-9	CONTROLLED VIA OCCUPANCY SENSOR SWITCH.
EF-2	EXHAUST FAN	TOILET ROOM-110	120 V	1P 2W		0.04 kVA	.3			3/4" C, 2#12, 1#12G	HARDWIRED	1P15A SW	NEMA 1	DIV 26	-	DIV 23	WCS-9	CONTROLLED VIA OCCUPANCY SENSOR SWITCH.
EW-1	ELECTRIC WATER HEATER		240 V	1P 2W		3.00 kVA	12.5			3/4" C, 2#12, 1#12G	HARDWIRED	2P20A DISC SW	NEMA 12	DIV 26	-	DIV 23	WCS-10,12	
UH-1	ELECTRIC WALL HEATER	UTILITY CHASE-111	240 V	1P 2W		1.99 kVA	8.3			3/4" C, 2#12, 1#12G	HARDWIRED	FURNISHED WITH UNIT	-	-	-	DIV 23	WCS-2,4	FURNISHED WITH WALL MOUNTED THERMOSTAT
UH-2	ELECTRIC WALL HEATER	TOILET ROOM-110	240 V	1P 2W		1.99 kVA	8.3			3/4" C, 2#12, 1#12G	HARDWIRED	FURNISHED WITH UNIT	-	-	-	DIV 23	WCS-6,8	FURNISHED WITH WALL MOUNTED THERMOSTAT

**GENERAL NOTES:**

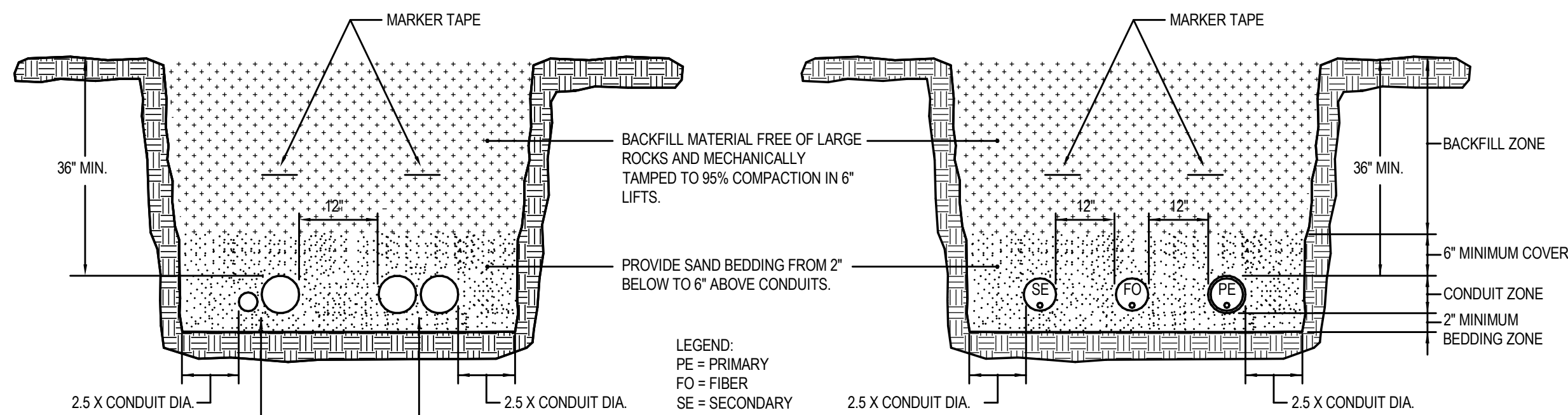
- ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING A LOCATE PRIOR TO EXCAVATING ANYWHERE ON SITE.
- ALL ELECTRICAL GEAR & PANELBOARDS SHALL BE INSTALLED ENSURING NEC REQUIRED WORKING CLEARANCES ARE MET.
- COORDINATE ALL WORK WITH AVISTA UTILITIES TO ENSURE THEIR REQUIREMENTS ARE MET.

**KEYED NOTES:**

- INSTALL INSIDE STA COMFORT STATION, COORDINATE METER LOCATION WITH PANEL PRIOR TO INSTALL.
- PANELBOARD PROVIDED WITH INTEGRAL TVSS DEVICE PER SPECIFICATIONS.



**1 ONE-LINE DIAGRAM**  
SCALE: NTS



**NOTES:**

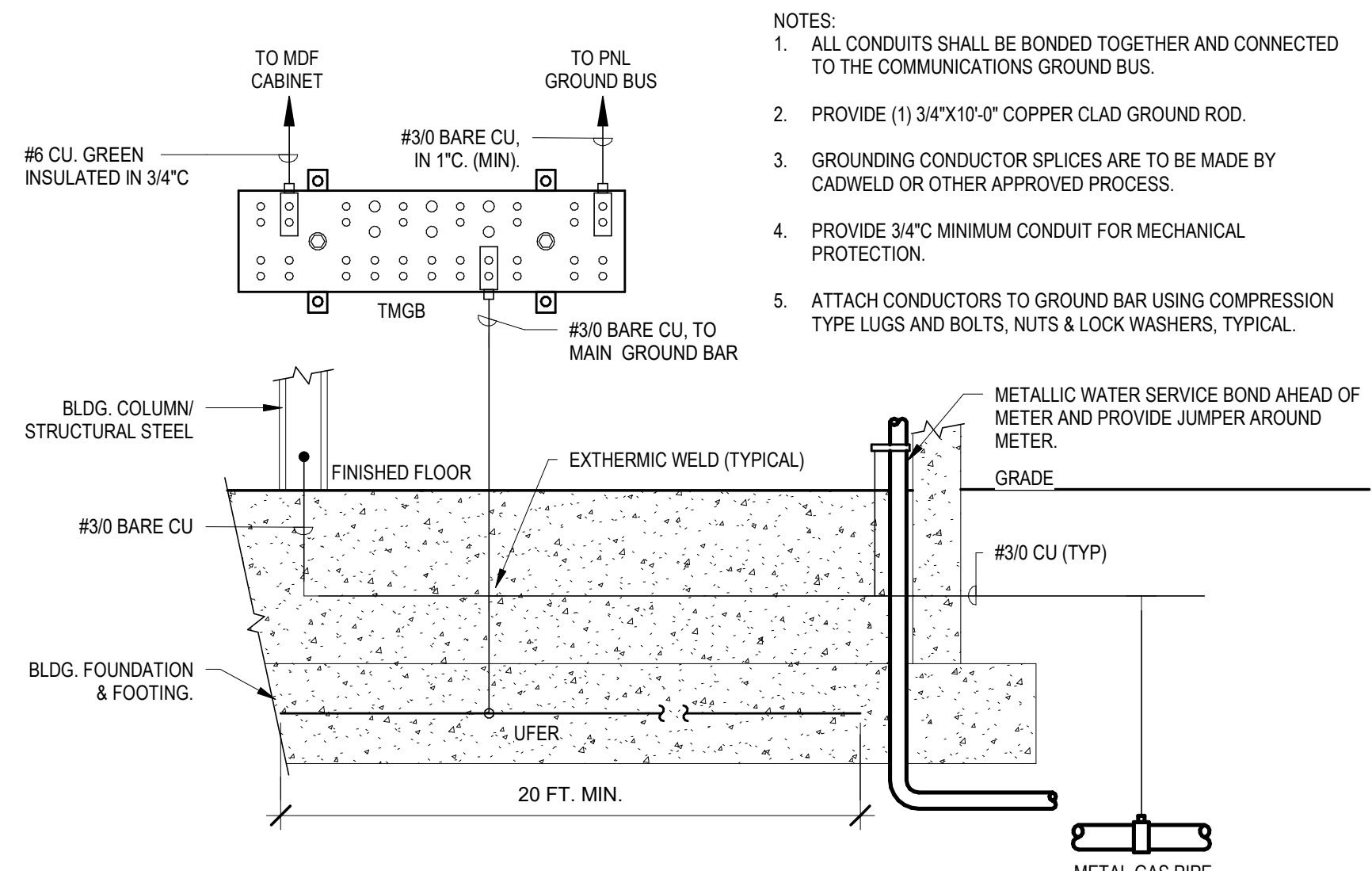
- THE TRENCH BASE SHALL BE COMPACTED IF EXCAVATED WITH A BACK HOE. ALL RIDGES SHALL BE COMPACTED OR REMOVED TO UNDISTURBED SOIL. IF FULL OR PARTIAL FOUNDATION IS REQUIRED IT SHALL BE ADDED IN MINIMAL LIFTS AND COMPACTED TO 95% COMPACTION.
- BEDDING SHALL BE 2" COMPACTED TO 95% AND SHALL FORM A SMOOTH PIPE BED FOR UNIFORM SUPPORT OF CONDUIT.
- THE COMPACTION OF THE CONDUIT ZONE SHALL BE DONE IN A MANNER THAT SHALL NOT DAMAGE OR COMPRESS THE CONDUIT. COMPACTION SHALL BE A MINIMUM OF 95% COMPACTION.
- THE CONDUIT COVER ZONE SHALL BE IN ONE LIFT AND COMPACTED TO 6 INCHES AT 95%.
- FINAL BACKFILL REQUIREMENTS SHALL BE DETERMINED BY THE MATERIAL USED AND THE LAND USE OVER THE TRENCHED AREA. COMPACTION SHALL BE A MINIMUM OF 95% WITH LIFTS THAT SHALL NOT EXCEED 6 INCHES IRRESPECTIVE OF THE MATERIAL EMPLOYED AS BACKFILL.

**2 TYPICAL CONDUIT TRENCHING AND INSTALLATION DETAIL**  
SCALE: NTS

COFFMAN ENGINEERS															
Panel: WCS				BUS AMPS: 200		VOLTS: 120/240 Single, 1P, 3W									
FED FROM: UTILITY				MAIN OCPD: MCB S.E.R.		SPD: TVSS									
LOCATION: UTILITY CHASE 111				MOUNTING SURFACE		LUGS:									
				AIC: 22000											
CCT NO.	CIRCUIT DESCRIPTION	POLES	TRIP	NOTE	A	B	NOTE	TRIP	POLES	CIRCUIT DESCRIPTION	CCT NO.				
1	LTG, UTILITY CHASE 111	1	20 A		0.13	1.00			20 A	2	UH-1, UTILITY CHASE 111	2			
3	REC, UTILITY CHASE 111	1	20 A			0.36	1.00					4			
5	REC, UTILITY CHASE 111	1	20 A		0.36	1.00			20 A	2	UH-2, TOILET ROOM 110	6			
7	REC (EXTERIOR), TOILET ROOM 110	1	20 A			0.36	1.00					8			
9	EF-1, EF-2, ROOM 110, 111	1	20 A		0.08	1.50			20 A	2	EW-1	10			
11	ACCESS CONTROL POWER	1	20 A			0.50	1.50					12			
13	REC (FUTURE MDF), UTILITY CHASE 111	2	20 A	1	1.40	0.39			1	20 A	2	AC-1 (FUTURE), UTILITY CHASE 111	14		
15												16			
17	LTG, SHELTER, UTILITY CHASE 111	1	20 A		0.30	0.39			1	20 A	2	AC-2 (FUTURE), TOILET ROOM 110	18		
19	SPARE	1	20 A			0.00	0.39					20			
21	SPARE	1	20 A		0.00	0.00			20 A	2	SPARE	22			
23	SPARE	1	20 A			0.00	0.00					24			
25	SPARE	1	20 A		0.00					1	SPACE	26			
27	SPACE	1								1	SPACE	28			
29	SPACE	1								1	SPACE	30			
					6.53 kVA	6.88 kVA									
					54.42 A	57.33 A									

**NOTES:**  
1. FUTURE LOAD SHOWN FOR REFERENCE ONLY. PROVIDE BREAKER AND PANEL SCHEDULE DESCRIPTION AS SHOWN.

	CONNECTED KVA	CALCULATED KVA	
LIGHTING:	0.13 kVA	0.16 kVA	125.00%
RECEPTACLES:			
LARGEST MOTOR:	1.54 kVA	1.93 kVA	125%
OTHER MOTORS:	0.08 kVA	0.08 kVA	100%
KITCHEN EQUIPMENT:			
HEATING:	3.00 kVA	3.00 kVA	100%
OTHER:			
<b>TOTAL CONNECTED LOAD:</b>	<b>12.91 kVA</b>		
<b>TOTAL ESTIMATED DEMAND:</b>	<b>13.40 kVA</b>		
<b>TOTAL CONNECTED CURRENT:</b>	<b>53.79 A</b>		
<b>TOTAL CALC. DEMAND CURRENT:</b>	<b>55.84 A</b>		



- NOTES:**
- ALL CONDUITS SHALL BE BONDED TOGETHER AND CONNECTED TO THE COMMUNICATIONS GROUND BUS.
  - PROVIDE (1) 3/4"X10'-0" COPPER CLAD GROUND ROD.
  - GROUNDING CONDUCTOR SPLICES ARE TO BE MADE BY CADWELD OR OTHER APPROVED PROCESS.
  - PROVIDE 3/4" MINIMUM CONDUIT FOR MECHANICAL PROTECTION.
  - ATTACH CONDUCTORS TO GROUND BAR USING COMPRESSION TYPE LUGS AND BOLTS, NUTS & LOCK WASHERS, TYPICAL.

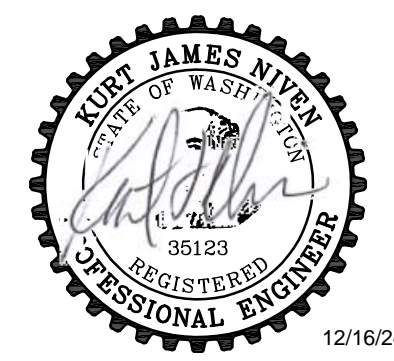
**3 MAIN SERVICE & COMMUNICATIONS GROUNDING DETAIL**  
SCALE: N.T.S.



221 N. Wall Street,  
Suite 500  
Spokane, WA 99201  
ph 509.328.2994  
www.coffman.com



203 North Washington, Suite 400  
Spokane, WA 99201  
509.838.8568  
6500 Mineral Drive, Suite 101  
Coeur d'Alene, Idaho 83815  
208.676.8292  
alscarchitects.com



**WHITWORTH COMFORT STATION**  
N VANHOE RD & W HAWTHORN RD  
SPOKANE COUNTY, WA 99251  
**Spokane Transit Authority**  
1230 W. Boone Avenue  
Spokane, Washington 99201

REV	DATE	DESCRIPTION

PROJ. NO. 2024-10964  
DRAWN SLP  
CHECKED MBV  
DATE 01/05/2025

(C) COFFMAN ENGINEERS  
**SHEET TITLE:**  
ELECTRICAL  
ONE-LINE,  
SCHEDULES AND  
DETAILS

SHEET NO:  
**E-601**

**BID SET**