IONNA SITE NUMBER: OR-0005

INSTALLATION OF ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

9025 SW BARBER ST

WILSONVILLE, CLACKAMAS COUNTY, OREGON 97070

Kimley»Horn

1 SW COLUMBIA ST #650,
PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com

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STIPULATION FOR REUSE

WILSONVILLE, OR 97070 AUTHORIZED AND MAY BE CONTRARY TO THIS DRAWING WAS PREPARED FOR THE LAW. SUITABLE FOR USE ON A DIFFERENT OR THIS DRAWING FOR REFERENCE ONLY. CONTRACTOR OR SITE SPECIFIC DESIGN, AND ITS NOT ARCHITECT AND ENGINEERS. DATE ON 9025 SW AND ITS NOT PROJECT SITE OR AT A LATER TIME. USE ON A SPECIFIC SITE AT: REQUIRES THE SERVICES OF PROPERLY REPRODUCTION OF THIS DRAWING FOR REUSE ON ANOTHER PROJECT IS NOT EXAMPLE ON ANOTHER PROJECT.

SITE INFORMATION

PROPERTY OWNER:
BARBER ST WILDCAT LLC
CONTACT: DAVID WALES
PHONE: (503) 718-6680
EMAIL: DWALES@WALEN.COM

POWER COMPANY:
PORTLAND GENERAL ELECTRIC
CONTACT: LUKE WHITTEMORE
PHONE: (541) 740-9378
EMAIL: LUKE.WHITTEMORE@PGN.COM

PROGRAM CONTACT:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: JESS CAIN
PHONE: (984) 358-6005
EMAIL: JESS.CAIN@KIMLEY-HORN.COM

SURVEYOR:
WESTWOOD PROFESSIONAL SERVICES, NC.
CONTACT: CHRISTOPHER FOLEY, PLS
PHONE: (210) 265-8300
EMAIL: CHRIS.FOLEY@WESTWOODPS.COM

EV SITE ADDRESS:
9025 AW BARBER ST
WILSONVILLE, OREGON 97070

ASSESSOR PARCEL NUMBER (APN):
31W25A01400

COUNTY:
CLACKAMAS

LATITUDE (NAD83):
45.31037

LONGITUDE (NAD83):
-122.77156

BENCHMARK & BASIS OF BEARING

BENCHMARK: 171.29' (NAD 88)

BASIS OF BEARING:
THE VERTICAL DATUM FOR THIS PROJECT SHALL BE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88) AND THE HORIZONTAL DATUM SHALL BE THE NORTH AMERICAN DATUM OF 1983 (NAD-83) IN THE NORTH STATE PLANE OF OREGON STATE PLANE, ZONE 18, US FOOT.

ZONING INFORMATION

PERMITTING JURISDICTION:	CITY OF WILSONVILLE, OREGON
ZONING CLASS:	PDI (PLANNING DEVELOPMENT INDUSTRIAL)
CURRENT USE:	VACANT
PROPOSED USE:	EV CHARGING STATION
OVERLAY DISTRICT:	N/A

FLOOD HAZARD AREA NOTE

THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS GRAPHICALLY SHOWN ON FEMA FIRM MAP COMMUNITY PANEL NUMBER 41005C0242D, EFFECTIVE DATE JUNE 17, 2008.

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES:

- 2022 OREGON MECHANICAL SPECIALTY CODE
- 2022 OREGON FIRE CODE
- 2022 OREGON STRUCTURAL SPECIALTY CODE WITH AMENDMENTS EFFECTIVE OCT. 2023
- 2015 INTERNATIONAL ENERGY CONSERVATION
- 2009 INTERNATIONAL GREEN CONSTRUCTION CODE PUBLIC VERSION 1.0
- 2025 CITY OF WILSONVILLE CODE OF ORDINANCES

NOTE:
IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.

CONTRACTOR NOTE

- CONTRACTOR SHALL COMPLETE INSTALL PER THE SIGNED AND THE SEALED SET OF DRAWINGS. ANY NECESSARY DEVIATIONS FROM THE DRAWINGS MUST BE SUBMITTED THROUGH AN RFI REQUEST PROCESS WITH ENGINEERING FOR AN APPROVAL PRIOR TO CONTRACTOR PROCEEDING WITH A DEVIATION OF THE SIGNED AND SEALED SET OF DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE THEN IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

811 Know what's below. Call before you dig.

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

AERIAL MAP

PROJECT DESCRIPTION

THIS PLAN IS DEVELOPED WITH THE INTENT TO PROVIDE PUBLIC ELECTRIC VEHICLE (EV) CHARGING STATIONS AND AN ELEVATED LIT CANOPY AT THIS LOCATION. THE EXTENT OF DESIGN WITHIN THIS CONSTRUCTION DOCUMENT INCLUDES THE EV CHARGING STATIONS AND THEIR ACCOMPANYING CIVIL AND ELECTRICAL INFRASTRUCTURE.

- DEMOLITION OF EXISTING SURFACES FOR THE INSTALLATION OF EV CHARGERS AND LIT CANOPY.
- GRADING OF SURFACES ASSOCIATED WITH EVSE TO COMPLY WITH ADA REQUIREMENTS.
- INSTALL (1) UTILITY TRANSFORMER TO BE COORDINATED WITH LOCAL UTILITY COMPANY.
- INSTALL (1) SWITCHBOARD ASSEMBLY.
- INSTALL (9) 400KW ALPITRONIC HYC400 EV CHARGERS.
- INSTALL (2) LIGHT POLE AND BASE WITH FIXTURE.
- INSTALL (2) ACCESSIBLE EV SIGN POSTS.
- INSTALL (13) EV SIGN POSTS.
- INSTALL (0) PIPE BOLLARDS.

DRAWING INDEX

SHEET NUMBER	SHEET TITLE
G0.0	COVER SHEET
G1.0	GENERAL NOTES
G2.0	CHARGER SPEC SHEETS
C1.0	ALTA SURVEY (BY OTHERS)
C2.0	SITE PLAN
C2.1	ENLARGED SITE PLAN
C2.2	FFE PLAN
C2.3	FINISH PLAN
C3.0	DEMO PLAN
C4.0	GRADING PLAN
C4.1	UTILITY PLAN
C4.2	UTILITY PROFILES
C4.3	UTILITY PROFILES
C5.0	E&S DETAILS
C6.0	CIVIL DETAILS
C6.1	CIVIL DETAILS
C6.2	CIVIL DETAILS
C6.3	CIVIL DETAILS
C6.4	CIVIL DETAILS
C6.5	CANOPY DETAILS
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E3.0	SINGLE LINE DIAGRAM
E5.0	PHOTOMETRIC SITE PLAN
L0.0	LANDSCAPE COVER
L0.1	TREE INVENTORY PLAN
L1.0	MATERIAL PLAN
L2.0	SOIL PLAN
L3.0	IRRIGATION SCHEDULES AND NOTES
L3.1	IRRIGATION PLAN
L4.0	PLANTING SCHEDULE AND NOTES
L4.1	PLANTING PLAN
L5.0	IRRIGATION DETAILS
L5.1	PLANTING DETAILS

FOR REFERENCE ONLY DRAWINGS

PROPERTY SURVEY / EXISTING CONDITIONS, SEE SHEET C1.0 - ALTA SURVEY (BY OTHERS)

ENGINEER(S) OF RECORD

CIVIL ENGINEER:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: QUINN DUFFY, PE
PHONE: (503) 388-6349
EMAIL: QUINN.DUFFY@KIMLEY-HORN.COM

ELECTRICAL ENGINEER:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: FORREST TURNER, PE
PHONE: (503) 420-0645
EMAIL: FORREST.TURNER@KIMLEY-HORN.COM

STRUCTURAL ENGINEER:
AGI
CONTACT: JED CAMPBELL, DIRECTOR
PHONE: (865) 805-7442
EMAIL: JCAMPBELL@AGI.NET

City of Wilsonville
Exhibit B2 DB25-0004

IONNA™

9025 SW BARBER ST
WILSONVILLE, OR 97070
STORE NO.: 0005

KIMLEY-HORN PROJECT NO.: 196900363

EV STALLS: 16

PUBLIC EV

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER 97788 OREGON NOV 15, 2023 QUINN A. DUFFY

EXPIRES: 12/31/2027

ISSUE BLOCK

No.	PLANNING APPLICATION COMPLETENESS REVIEW	DATE	BY
0		02/26/26	DB
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE

COVER SHEET

SHEET NUMBER

G0.0

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GENERAL CONSTRUCTION NOTES

FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

1. GENERAL CONTRACTOR: TBD
2. ALL SITE WORK SHALL BE COMPLETED AS INDICATED ON THE DRAWINGS.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. GENERAL CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF WORK.
4. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES, AND APPLICABLE REGULATIONS.
5. UNLESS OTHERWISE NOTED PLANS ARE NOT TO BE SCALED. THESE PLANS ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY UNLESS OTHERWISE NOTED. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS OTHERWISE NOTED. SPACING BETWEEN EQUIPMENT IS THE MINIMUM REQUIRED CLEARANCE. THEREFORE, IT IS CRITICAL TO FIELD VERIFY DIMENSIONS, SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF WORK AND PREPARED BY THE ENGINEER PRIOR TO PROCEEDING WITH WORK.
6. WORK PREVIOUSLY COMPLETED IS REPRESENTED BY LIGHT SHADED LINES AND NOTES. THE SCOPE OF WORK FOR THIS PROJECT IS REPRESENTED BY DARK SHADED LINES AND NOTES. CONTRACTOR SHALL NOTIFY THE GENERAL CONTRACTOR OF ANY EXISTING CONDITIONS THAT DEVIATE FROM THE DRAWINGS PRIOR TO BEGINNING CONSTRUCTION.
7. THE CONTRACTOR SHALL PROVIDE WRITTEN NOTICE TO THE CONSTRUCTION MANAGER 48 HOURS (CONTRACTOR SHALL CONFIRM TIMELINE WITH IONNA) PRIOR TO COMMENCEMENT OF WORK.
8. THE CONTRACTOR SHALL PROVIDE UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
9. THE GENERAL CONTRACTOR SHALL MAINTAIN IN GOOD CONDITION ONE COMPLETE SET OF PLANS WITH ALL REVISIONS, ADDENDA, AND CHANGE ORDERS ON THE PREMISES AT ALL TIMES.
10. THE CONTRACTOR SHALL PROVIDE PORTABLE FIRE EXTINGUISHERS WITH A RATING OF NOT LESS THAN 2-A:10-B:C AND SHALL BE WITHIN 25 FEET OF TRAVEL DISTANCE TO ALL PORTIONS OF WHERE THE WORK IS BEING COMPLETED DURING CONSTRUCTION.
11. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. THE CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS SHALL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION, B) CONFINED SPACE, C) ELECTRICAL SAFETY, AND D) TRENCHING & EXCAVATION.
12. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONNECTED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, AS DIRECTED BY THE ENGINEER, AND SUBJECT TO THE APPROVAL OF THE OWNER AND/OR LOCAL UTILITIES.
13. THE AREAS OF THE OWNER'S PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
14. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE FEDERAL AND LOCAL JURISDICTION FOR EROSION AND SEDIMENT CONTROL.
15. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
16. THE SUBGRADE SHALL BE BROUGHT TO A SMOOTH UNIFORM GRADE AND COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY UNDER PAVEMENT AND STRUCTURES AND 80 PERCENT STANDARD PROCTOR DENSITY IN OPEN SPACE. ALL TRENCHES IN PUBLIC RIGHT OF WAY SHALL BE BACKFILLED WITH FLOWABLE FILL OR OTHER MATERIAL PRE-APPROVED BY THE LOCAL JURISDICTION.
17. ALL BROCHURES, OPERATING AND MAINTENANCE MANUALS, CATALOGS, SHOP DRAWINGS, AND OTHER DOCUMENTS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR AT COMPLETION OF CONSTRUCTION AND PRIOR TO PAYMENT.
18. THE CONTRACTOR SHALL SUBMIT A COMPLETE SET OF AS-BUILT REDLINES TO THE GENERAL CONTRACTOR AND OWNER (IONNA) UPON COMPLETION OF PROJECT AND PRIOR TO FINAL PAYMENT.
19. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED FROM SITE VISITS AND/OR DRAWINGS PROVIDED BY THE SITE OWNER. CONTRACTORS SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
20. THE TERM "DESIGN ENGINEER" USED HEREIN SHALL MEAN THE ENGINEER WHO HAS SIGNED AND SEALED HIS/HER RESPECTIVE PLAN SHEETS AND IS IN RESPONSIBLE CHARGE OF THE ENGINEERING DESIGN ON THOSE SHEETS. THE TERM "CONTRACTOR" USED HEREIN SHALL MEAN ANY GENERAL CONTRACTOR OR SUBCONTRACTOR USING THESE PLANS.
21. THE DESIGN ENGINEER SHALL NOT PROVIDE, OBSERVE, COMMENT ON NOR ENFORCE ANY SAFETY MEASURES OR REGULATIONS. THE CONTRACTOR SHALL DESIGN, IMPLEMENT, AND MAINTAIN ALL SAFETY MEASURES AND SHALL BE SOLELY RESPONSIBLE FOR ALL REQUIRED SAFETY MEASURES, PROCEDURES AND PROGRAMS AND COMPLYING WITH ALL LOCAL, STATE AND FEDERAL SAFETY AND HEALTH STANDARDS, LAWS, AND REGULATIONS. THE CONTRACTOR AGREES THAT SHE/HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOBSITE CONDITIONS AND SAFETY OF ALL PERSONS AND PROPERTY DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS.
22. THE DESIGN ENGINEER SHALL HAVE NO RESPONSIBILITY FOR ANY OF THE CONTRACTOR'S MEANS AND METHODS OF CONSTRUCTION, TECHNIQUES, EQUIPMENT CHOICE AND USAGE, SEQUENCE, SCHEDULE, SAFETY PROGRAMS, OR SAFETY PRACTICES, NOR SHALL THE DESIGN ENGINEER HAVE ANY AUTHORITY OR RESPONSIBILITY TO DIRECT OR STOP THE WORK OF ANY CONTRACTOR.
23. ANY CHANGES MADE BY THE CONTRACTOR TO THE CONTRACTUALLY AGREED UPON SCOPE, SCHEDULE AND/OR FEE, WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF THE OWNER, IS THE SOLE RESPONSIBILITY AND LIABILITY OF THE CONTRACTOR. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR DIRECTING, IMPLICITLY OR EXPLICITLY ANY SUCH CHANGES AND THE CONTRACTOR ASSUMES ALL RISK OF UNDERTAKING ANY SUCH CHANGES.
24. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE DESIGN ENGINEER AND OWNER, THEIR OFFICERS, AGENTS AND EMPLOYEES, HARMLESS FROM ANY AND ALL CLAIMS, DEMANDS, JUDGMENTS, LOSS, DAMAGES, COSTS, EXPENSES, FEES OR LIABILITY WHATSOEVER, REAL OR ALLEGED, IN CONNECTION WITH, IN WHOLE OR IN PART, DIRECTLY OR INDIRECTLY, THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING LIABILITY ARISING FROM THE SOLE OR CONCURRENT NEGLIGENCE OF THE OWNER OR THE DESIGN ENGINEER.
25. IF THERE ARE ANY QUESTIONS REGARDING THESE PLANS, THE CONTRACTOR SHALL ISSUE A RFI IN WRITING FROM THE DESIGN ENGINEER AND THE OWNER, REQUESTING A CLARIFICATION BEFORE PERFORMING ANY RELATED OR IMPACTED WORK. ANY ELECTRONIC FILES ARE PROVIDED ONLY FOR THE CONVENIENCE OF THE RECEIVING PARTY AND ARE INTENDED SOLELY FOR THE EXCLUSIVE USE BY THAT PARTY FOR THE PURPOSES EXPRESSLY AUTHORIZED. IN ACCORDANCE WITH STANDARD INDUSTRY PRACTICE, ONLY PRINTED COPIES OF DOCUMENTS DESIGNATED AS "ISSUED FOR CONSTRUCTION", OR EQUIVALENT DESIGNATION, MAY BE RELIED UPON.
26. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR PREPARING ITS BID, IN WHOLE AND IN PART, BASED UPON THE DESIGN SHOWN ON THESE PLANS. THE CONTRACTOR IS NOT AUTHORIZED TO USE ANY QUANTITIES SHOWN ON THESE PLANS WITHOUT THE EXPLICIT WRITTEN PERMISSION OF THE ENGINEER OF RECORD. THE DESIGN ENGINEER MAKES NO WARRANTY OR REPRESENTATION AS TO THE SUITABILITY OF ANY INFORMATION SHOWN HEREON FOR DETERMINING A CONTRACTOR BID.
27. ANYTHING MENTIONED IN THE SPECIFICATIONS, IF ANY, AND NOT SHOWN ON THE DRAWINGS, OR SHOWN ON THE DRAWINGS AND NOT MENTIONED IN THE SPECIFICATIONS, SHALL BE OF LIKE EFFECT AS IF SHOWN OR MENTIONED IN BOTH.
28. THE CONTRACTOR SHALL MAKE EXPLORATORY EXCAVATIONS AND LOCATE EXISTING UNDERGROUND FACILITIES AS NEEDED, SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO PLANS IF REVISIONS ARE NECESSARY DUE TO THE ACTUAL LOCATION, SIZE, TYPE, OR CONDITION OF EXISTING FACILITIES DIFFERING FROM WHAT IS SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE FULLY AND SOLELY RESPONSIBLE FOR ALL DAMAGES DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ALL SUCH FACILITIES WHETHER NOTED ON THESE PLANS OR NOT. THE DESIGN ENGINEER ASSUMES NO LIABILITY FOR ANY DAMAGES SUSTAINED OR COST INCURRED BECAUSE OF THE OPERATIONS IN THE VICINITY OF EXISTING FACILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL OF ANY DAMAGE TO THE EXISTING IMPROVEMENTS AND REPLACEMENT TO THE SATISFACTION OF THE OWNER AND/OR AUTHORITY HAVING JURISDICTION AS NEEDED.
29. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES PRIOR TO STARTING WORK ADJACENT TO, ABOVE OR BELOW THEIR FACILITIES AND SHALL COORDINATE ALL WORK WITH UTILITY COMPANY REPRESENTATIVES.
30. THE CONTRACTOR SHALL VERIFY ALL EXISTING AND PROPOSED GRADING ELEMENTS BEFORE THE START OF CONSTRUCTION AND SHALL IMMEDIATELY NOTIFY THE DESIGN ENGINEER OF ANY DISCREPANCIES.
31. UNLESS EXPLICITLY STATED OTHERWISE HEREIN, THE EARTHWORK QUANTITIES SHOWN ON THESE PLANS ARE APPROXIMATE IN PLACE VOLUMES CALCULATED FROM THE EXISTING GROUND TO THE PROPOSED FINISHED GRADE. EXISTING GROUND IS DEFINED BY THE CONTOURS AND SPOT GRADES ON THE BASE SURVEY. PROPOSED FINISHED GRADE IS DEFINED AS THE FINAL GRADE AS INDICATED ON THE GRADING PLAN(S) AS FINISHED GROUND, FINISHED SURFACE, AND FINISHED FLOOR ELEVATIONS. NO REPRESENTATIONS OF SUCH QUANTITIES OR A BALANCED SITE CONDITION ARE MADE BY THE ENGINEER OF RECORD. THE EARTHWORK QUANTITIES SHOWN ON THESE PLANS ARE FOR PERMITTING PURPOSES ONLY. UNLESS EXPLICITLY STATED OTHERWISE HEREIN, THEY HAVE NOT BEEN FACTORED TO ACCOUNT FOR CHANGES IN VOLUME DUE TO BULKING, CLEARING AND GRUBBING, SHRINKAGE, SUBSIDENCE, OVER-EXCAVATION AND RE-COMPACTION, AND CONSTRUCTION METHODS. NOR DO THEY ACCOUNT FOR THE THICKNESS OF PAVEMENT SECTIONS, STORMWATER QUALITY MEDIA SECTIONS, UTILITY PIPES, TRENCHING AND BEDDING MATERIALS, BUILDING OR WALL FOOTINGS, BUILDING SLABS THICKNESSES AND UNDERLYING BASE OR SAND LAYERS. REUSE OF PULVERIZED MATERIALS THAT WILL UNDERLIE PAVEMENTS, ETC. THE CONTRACTOR IS NOT AUTHORIZED TO USE THE ESTIMATES HEREIN FOR BIDDING AND CONSTRUCTION PURPOSES WITHOUT THE EXPLICIT WRITTEN PERMISSION OF THE ENGINEER OF RECORD.
32. PROPOSED BUILDING PAD ELEVATIONS, IF SHOWN, ARE BASED ON INFORMATION AVAILABLE AT THE TIME OF PREPARATION OF THESE PLANS. CONTRACTOR SHALL CONFIRM SLAB STRUCTURAL SECTION THICKNESSES AND PAD PREPARATION REQUIREMENTS PRIOR TO GRADING FINISHED PADS.
33. THE CONTRACTOR SHALL THOROUGHLY CHECK COORDINATION OF CIVIL, ELECTRICAL, AND ALL OTHER PLANS PRIOR TO COMMENCING CONSTRUCTION. SHOULD DISCREPANCIES OR CONFLICTING INFORMATION BE FOUND ON ANY PLANS, OR IN ANY SPECIFICATIONS, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER AND DESIGN ENGINEER IN WRITING BEFORE PROCEEDING WITH THE WORK IN QUESTION.
34. THE CONTRACTOR SHALL TAKE ALL NECESSARY STEPS TO PROTECT THE PROJECT PROPERTY FROM ANY EROSION AND SILTATION THAT RESULT FROM CONTRACTOR OPERATIONS, BY APPROPRIATE MEANS, OR BY SPECIFIC MEANS DESCRIBED IN THE PROJECT'S PLANS, SPECIFICATIONS OR STORM WATER POLLUTION PREVENTION REPORT, UNTIL SUCH TIME THAT THE PROJECT IS COMPLETED AND ACCEPTED FOR MAINTENANCE BY WHOMEVER IS TO BE ULTIMATELY RESPONSIBLE FOR MAINTENANCE AND THE AGENCY HAVING JURISDICTION. THE DESIGN ENGINEER SHALL HAVE NO RESPONSIBILITY TO DIRECT THE CONTRACTOR REGARDING THE MEANS AND METHODS OF STORMWATER POLLUTION PREVENTION, SEQUENCE, OR SCHEDULE.
35. ALL SHOP DRAWINGS, RFIS AND ANY OTHER DOCUMENTS THAT REQUIRE DESIGN ENGINEER REVIEW SHALL BE SUBMITTED BY THE CONTRACTOR SUFFICIENTLY IN ADVANCE OF CONSTRUCTION OF THAT ITEM, TO ALLOW ADEQUATE REVIEW. COORDINATION AND RESPONSE. SAID DOCUMENTS ARE NOT A DIRECTION FROM THE DESIGN ENGINEER TO MODIFY THE CONTRACTORS SCOPE, SCHEDULE OR PRICE, AND THE CONTRACTOR WARRANTS NOT TO USE THEM AS SUCH.
36. THE CONTRACTOR SHALL ENSURE APPROPRIATE LICENSED PROFESSIONALS HAVE BEEN RETAINED BY THE CONTRACTOR TO PROVIDE ANY/ALL REQUIRED PROJECT CERTIFICATIONS AS MAY BE REQUIRED BY ANY AUTHORITY HAVING JURISDICTION. THE DESIGN ENGINEER WILL NOT PROVIDE ANY PROJECT CERTIFICATIONS UNLESS SPECIFICALLY RETAINED BY THE OWNER TO PROVIDE LIMITED SERVICES.
37. CONTRACTOR SHALL RETAIN A LICENSED SURVEYOR TO DOCUMENT ALL CHANGES TO THE APPROVED CONSTRUCTION DOCUMENTS DURING CONSTRUCTION. THE LICENSED SURVEYOR SHALL PREPARE A SIGNED AND SEALED "AS-BUILT" DRAWING UPON COMPLETION OF CONSTRUCTION. THE DESIGN ENGINEER IS NOT RESPONSIBLE FOR THE PREPARATION IN WHOLE OR IN PART OF THE "AS-BUILT" DRAWINGS.
38. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY MONUMENTATION AND BENCHMARKS WHICH WILL BE DISTURBED OR DESTROYED BY CONSTRUCTION. SUCH POINTS SHALL BE REFERENCED AND REPLACED WITH APPROPRIATE MONUMENTATION BY A LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AUTHORIZED TO PRACTICE LAND SURVEYING. A CORNER RECORD OR RECORD OF SURVEY, AS APPROPRIATE, SHALL BE FILED BY THE LICENSED LAND SURVEYOR OR REGISTERED CIVIL ENGINEER AS REQUIRED BY THE MOST CURRENT VERSION OF THE LAND SURVEYORS ACT.

SETBACK NOTE

CONTRACTOR TO VERIFY THAT LOCATIONS OF ALL PROPOSED EV ELECTRICAL EQUIPMENT AND INFRASTRUCTURE ARE IN COMPLIANCE WITH ALL LOCAL CODES, SETBACKS, AND BUFFERS.

GEOTECHNICAL NOTE

GEOTECHNICAL INFORMATION FOR THE SITE BASED ON GEOTECHINCAL SUBSURFACE INVESTIGATION AND TESTING RESULTS REPORT OBTAINED FROM INTERTEK-PSI TITLED "PSI-GEO-07041598-IONNA PROPOSED EV CHARGING STATION WILSONVILLE OR - DELIVERABLE" AND PUBLISHED ON NOVEMBER 26, 2025.

GENERAL SITE WORK NOTES

PART 1 - GENERAL

CLEARING, GRUBBING, STRIPPING, EROSION CONTROL, SURVEY, LAYOUT, SUBGRADE PREPARATION AND FINISH GRADING AS REQUIRED TO COMPLETE THE PROPOSED WORK SHOWN IN THESE PLANS.

1. REFERENCES:
   A. ODOT (OREGON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION).
   B. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS).
   C. OSHA (OCCUPATION SAFETY AND HEALTH ADMINISTRATION).

2. INSPECTION AND TESTING:
   A. GENERAL CONTRACTOR SHALL PERFORM ALL WORK IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS. PERFORM INSPECTIONS BEFORE CONCEALING WORK WITH FOLLOW-ON ACTIVITIES (BACKFILL, CONCRETE POUR, ETC).

3. SITE MAINTENANCE AND PROTECTION:
   A. PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE CONTRACT.
   B. AVOID DAMAGE TO THE SITE AND TO EXISTING FACILITIES, STRUCTURES, TREES, AND SHRUBS DESIGNATED TO REMAIN. TAKE PROTECTIVE MEASURES TO PREVENT EXISTING FACILITIES THAT ARE NOT DESIGNATED FOR REMOVAL FROM BEING DAMAGED BY THE WORK.
   C. KEEP SITE FREE OF ALL PONDING WATER.
   D. PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH STATE DOT, LOCAL PERMITTING AGENCY AND EPA REQUIREMENTS.
   E. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT AGAINST THEFT FROM PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.
   F. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY THE CONSTRUCTION MANAGER AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.
   G. PROVIDE A MINIMUM 48-HOUR (CONTRACTOR SHALL CONFIRM TIMELINE WITH REPUBLIC SERVICES) NOTICE TO THE CONSTRUCTION MANAGER AND RECEIVE WRITTEN NOTICE TO PROCEED BEFORE INTERRUPTING ANY UTILITY SERVICE.
   H. SOD PLANTED IN THE FALL MUST ESTABLISH ITS ROOTS BEFORE THE FIRST WINTER FROST. DETERMINE WHEN THE FIRST FROST USUALLY OCCURS, AND PLANT THE SOD NO LATER THAN ONE MONTH BEFORE THE FIRST FROST. IF THE CONSTRUCTION IS FINISHED LATER THAN ONE MONTH BEFORE THE FIRST FROST, USE STRAW UNTIL SOD CAN BE INSTALLED.

PART 2 - PRODUCTS

1. SUITABLE MATERIAL – SUITABLE MATERIAL ARE USED FOR GRADING AND BACKFILL. SUITABLE MATERIALS ARE ON SITE SOILS REMOVED FROM EXCAVATIONS THAT EXCLUDE FROZEN SOIL, ROOTS OR ORGANIC MATERIAL, DEBRIS, TRASH, REFUSE, OR PARTICLES SIZE GREATER THAN 3-INCH. SUITABLE SOILS HAVE MOISTURE CONTENTS THAT ALLOW THEM TO BE COMPACTED TO THE SAME DENSITY AS THE NATIVE SOILS.
2. UNSUITABLE MATERIAL – SOILS THAT ARE FROZEN, CONTAIN ROOTS OR ORGANIC MATERIAL, DEBRIS, TRASH, REFUSE, OR PARTICLES SIZES GREATER THAN 3-INCH. SOILS THAT ARE TOO WET OR TOO DRY TO BE COMPACTED TO THE SAME DENSITY AS THE NATIVE SOILS ARE UNSUITABLE.
3. GRANULAR BACKFILL – SHALL MEET THE FOLLOWING GRADATION

SIEVE SIZE	TOTAL PERCENT PASSING
1 1/2 INCH (37.5 MM)	100
No. 4 (4.75 MM)	30 TO 60
NO 200 (0.075 MM)	3 TO 15

4. GRANULAR BEDDING – WELL-GRADED SAND MEETING THE GRADATION REQUIREMENT OF ASTM C 33 FINE AGGREGATE.
5. CONTROLLED LOW STRENGTH MATERIAL (CLSM)– A SELF LEVELING AND SELF COMPACTING CEMENTITIOUS MATERIAL COMPOSED OF SAND, COARSE AGGREGATE, CEMENT, FLY ASH, WATER AND ADMIXTURES. CLSM SHALL BE EXCAVATABLE AND SHALL HAVE A DESIGNED UNCONFINED COMPRESSIVE STRENGTH OF BETWEEN 50 TO 100 PSI.
6. BACKFILL – PRODUCTS MEETING THE REQUIREMENTS OF SUITABLE MATERIAL, GRANULAR BEDDING, GRANULAR BACKFILL OR CLSM.
7. TOPSOIL – SOIL WITH AN ORGANIC CONTENT SUFFICIENT TO ALLOW VEGETATIVE GROWTH.

PART 3 - EXECUTION

1. GENERAL:
   A. BEFORE STARTING GENERAL SITE PREPARATION ACTIVITIES, INSTALL EROSION AND SEDIMENT CONTROL MEASURES. THE WORK AREA SHALL BE CONSTRUCTED AND MAINTAINED IN SUCH CONDITION THAT IN THE EVENT OF RAIN THE SITE WILL BE DRAINED AT ALL TIMES.
   B. BEFORE ALL SURVEY, LAYOUT, STAKING, AND MARKING, ESTABLISH AND MAINTAIN ALL LINES, GRADES, ELEVATIONS AND BENCHMARKS NEEDED FOR EXECUTION OF THE WORK. CONDUCT UTILITY LOCATE IN ACCORDANCE WITH THE ONE-CALL NOTIFICATION.
   C. CLEAR AND GRUB THE AREA WITHIN THE LIMITS OF THE SITE. REMOVE TREES, BRUSH, STUMPS, RUBBISH AND OTHER DEBRIS AND VEGETATION RESTING ON OR PROTRUDING THROUGH THE SURFACE OF THE SITE AREA TO BE CLEARED.
   D. REMOVE THE FOLLOWING MATERIALS TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE ORIGINAL GROUND SURFACE: ROOTS, STUMPS, AND OTHER DEBRIS, BRUSH, AND REFUSE EMBEDDED IN OR PROTRUDING THROUGH THE GROUND SURFACE, RAKE, DISK OR PLOW THE AREA TO A DEPTH OF NO LESS THAN 6 INCHES, AND REMOVE TO A DEPTH OF 12 INCHES ALL ROOTS AND OTHER DEBRIS THEREBY EXPOSED.
   E. REMOVE TOPSOIL MATERIAL COMPLETELY FROM THE SURFACE UNTIL THE SOIL NO LONGER MEETS THE DEFINITION OF TOPSOIL. AVOID MIXING TOPSOIL WITH SUBSOIL OR OTHER UNDESIRABLE MATERIALS. SUFFICIENT TOPSOIL MAY BE STOCKPILED ON SITE FOR USE DURING FINAL SITE GRADING.
   F. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE MATERIAL.
   G. REMOVE FROM THE SITE AND DISPOSE IN AN AUTHORIZED LANDFILL ALL DEBRIS RESULTING FROM CLEARING AND GRUBBING OPERATIONS. BURNING WILL NOT BE PERMITTED.
   H. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE THE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES INDICATED ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE AND LOCATION OF ANY STRUCTURE, UNDERGROUND STRUCTURE, OR OTHER ITEM NOT SHOWN THAT MIGHT INTERFERE WITH THE PROPOSED CONSTRUCTION. NOTIFY THE CONSTRUCTION MANAGER OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.
   I. SEPARATE AND STOCK PILE ALL EXCAVATED MATERIALS SUITABLE FOR BACKFILL. ALL EXCESS EXCAVATED AND UNSUITABLE MATERIALS SHALL BE DISPOSED OF OFF-SITE IN A LEGAL MANNER.
   J. DURING EXCAVATION, THE CONTRACTOR SHALL PROVIDE SHORING, SHEETING, AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF EXCAVATION.

2. BACKFILL:
   A. AS SOON AS PRACTICAL, AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING EXPIRATION OF THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.
   B. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL BE REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.
   C. DO NOT PLACE FROZEN MATERIAL IN AS BACKFILL.
   D. PLACE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8-INCHES LOOSE THICKNESS AND COMPACT TO THE SAME DENSITY AS NATIVE SOIL. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4 INCHES IN LOOSE DEPTH AND COMPACTED.
   E. WHENEVER TESTING INDICATES THAT THE CONTRACTOR HAS NOT OBTAINED THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE REQUIREMENTS ARE MET UNLESS OTHERWISE AUTHORIZED BY THE CONSTRUCTION MANAGER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY, SUCH AS DRYING, ADDING WATER, OR INCREASING THE COMPACTIVE EFFORT TO MEET THE COMPACTION REQUIREMENTS.

3. TRENCH EXCAVATION:
   A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE GENERAL CONTRACTOR. PROVIDE SHORING, SHEETING AND BRACING AS REQUIRED TO PREVENT CAVING OR SLOUGHING OF THE TRENCH WALLS.
   B. EXTEND THE TRENCH WIDTH A MINIMUM OF 6 INCHES BEYOND THE OUTSIDE EDGE OF THE OUTERMOST CONDUIT.
   C. WHEN SOFT YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, EXCAVATE THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12 INCHES BELOW THE REQUIRED ELEVATION, THEN BACKFILL WITH 12" OF GRANULAR BEDDING MATERIAL.

4. TRENCH BACKFILL:
   A. PROVIDE GRANULAR BEDDING MATERIAL OR FLOWABLE FILL IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.
   B. NOTIFY THE GENERAL CONTRACTOR 24 HOURS IN ADVANCE OF BACKFILLING.
   C. CONDUCT UTILITY CHECK TESTS BEFORE BACKFILLING. BACKFILL AND COMPACT TRENCH BEFORE ACCEPTANCE TESTING.
   D. PLACE GRANULAR TRENCH BACKFILL UNIFORMLY ON BOTH SIDES OF THE CONDUITS IN 6-INCH UNCOMPACTED LIFTS UNTIL 12 INCHES OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACE AROUND CONDUITS.
   E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.
   F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT SATISFACTORY BACKFILL MATERIAL IN 8-INCH MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.
   G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN THAT OF THE EXISTING UNDISTURBED MATERIAL IMMEDIATELY ADJACENT TO THE TRENCH.

5. FINISH GRADING:
   A. PERFORM ALL GRADING TO PROVIDE POSITIVE DRAINAGE AWAY FROM STRUCTURES AND SMOOTH, EVEN SURFACE DRAINAGE OF THE ENTIRE AREA WITHIN THE LIMITS OF CONSTRUCTION. GRADING SHALL BE COMPATIBLE WITH ALL SURROUNDING TOPOGRAPHY AND STRUCTURES.
   B. UTILIZE SATISFACTORY FILL MATERIAL RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.
   C. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

6. ASPHALT PAVING ROAD:
   A. CONTRACTOR RESPONSIBLE FOR RE-STRIPING AND APPLYING SEALCOATING, UNLESS OTHERWISE NOTED.
   B. ODOT (OREGON DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION-CURRENT EDITION)

7. STAGING:
   A. WORK / STAGING AREA TO BE CONFIRMED AT PRE-CONSTRUCTION SITE MEETING AND SURROUNDED BY TEMPORARY FENCE (SEE DETAIL BELOW) DURING CONSTRUCTION.
   B. POSSIBLE LOCATION FOR TEMPORARY DRIVE AISLE CLOSURE DURING CONSTRUCTION.
   C. CONTRACTOR TO PROVIDE TEMPORARY SIGNS TO DIRECT TRAFFIC FLOW.
   D. SHORT TERM FENCING TO BE PROVIDED OUTSIDE OF TEMPORARY FENCE FOR ANY OPEN TRENCHES LEFT OVER NIGHT OR UNATTENDED.
   E. TEMPORARY FENCE SHALL BE CLOSED AND LOCKED AT ALL TIMES. IF GATE MUST BE OPEN FOR MOVING EQUIPMENT OR MATERIALS, A SPOTTER SHALL BE PROVIDED TO TO PREVENT UNAUTHORIZED ENTRY.
   F. NO EQUIPMENT OR MATERIALS SHALL BE STORED OUTS

hyc400

Product data sheet 1/3

100 kW to 400 kW
DC-charging system
for EVs

Up to **97.5 %**
efficiency under full load

Up to **2x 600 A**
simultaneous output

50 kW
dynamic load management granularity

150 - 1000 V
output range

Bidirectional
future capability

All-in-one design for an ultra-compact footprint

Up to 4 simultaneous charge outputs

Power-Stack scalable architecture

Product data sheet HYC400UL / V1-1
© Alpitronic Americas LLC
5815 Westpark Drive, Charlotte, NC 28217
info@alpitronic.us

www.hypercharger.us

alpitronic hypercharger

hyc400

Product data sheet 2/3

Charging Interfaces

Connection options	CCS1, J3400 (NACS), CHAdeMO
Cable lengths	11.5 ft (3.5 m), 16.4 ft (5 m), 25 ft (7.5 m)
RFID system	ISO/IEC 14443A/B, ISO/IEC 15693, NFC
Network connections	Dual SIM, 4G LTE Modems 10/100 Base-T Ethernet
Energy management	Configurable static power limit, Dynamic Power limit via OCPP/Modbus
Network communications protocol	Open Charge Point Protocol (OCPP) 1.6 and 2.0.1 Modbus, API
Vehicle communications protocol	DIN 70121, ISO 15118, Autocharge, Plug and Charge, CHAdeMO 1.2

Electrical

AC nominal voltage (RMS)	480 V ±10%
AC nominal input current (RMS)	480 A
Input connection	3-Phase: L1, L2, L3, GND (no neutral)
Frequency	60 Hz
Power factor	> 0.99 at full load
THDi (Total harmonic distortion)	< 5% at full load
Conversion efficiency	up to 97.5% at full load
SCCR	65 kA
Surge protection	Type 1, In 20 kA, Imax 50 kA
Standby power consumption	43 W
DC output	100 kW (one Power-Stack), max. 300 A 200 kW (two Power-Stacks), max. 600 A 300 kW (three Power-Stacks), max. 900 A (600 A max. per cable) 400 kW (four Power-Stacks), max. 1200 A (600 A max. per cable)
Output voltage	150 - 1000 VDC

(1) Standard environmental conditions 60°F [20°C], 10 ft [3 m] distance
(2) See Manual for environmental derate
(3) Depending on the configuration

www.hypercharger.us

alpitronic hypercharger

hyc400

Product data sheet 3/3

General

Operating temperature	-30°C up to +55°C (-22°F to 131°F)[2]
Storage/transport temperature	-40°C to 70°C (-40°F to 158°F)
Altitude	<4,000 m (< 13,000 ft)[2]
Humidity (in operation, storage)	Up to 95% non-condensing
Enclosure type	NEMA 3R (IP54) Indoor/Outdoor
Impact resistance (IEC 62262)	IK10
Noise emission	< 52 dBA[1]
Dimensions (H x W x D)	88 x 29 x 26 in (2185 x 732 x 663 mm)
Weight	1235 lbs up to 1965 lbs (560 kg up to 890 kg)[3]
Accessibility	Meets ADA requirements for height and reach
User interface	15.6" display, 4 buttons, RGB connector status
Multilingual system	GUI in 27 languages
Remote management	Access control, configuration, diagnostics, software updates

Configuration Options

Branding	Options for custom colors (powder coating), custom vinyl
CMS (Cable Management System)	Metal swing arm keeps 16.4 ft (5 m) off the ground
Payment system	Credit card reader optional (Payter/Nayax), EMV Chip, Tap to Pay

Compliance and Safety

NRTL	UL 2202, UL 2231-1, UL 2231-2 CSA C22.2 No. 346.22, No. 281.1-12, No. 281.2-12 File No. E515867
Metering	CTEP No. 5966-24
EMC	FCC 47CFR Part 15B (Class A)
Electrical safety	NEC (NFPA 70) Article 625
NEVI	Buy America, 100% US Steel

More Information:
www.hypercharger.us

alpitronic hypercharger

Kimley»Horn
1 SW COLUMBIA ST #650,
PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com
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WILSONVILLE, OR 97070
STORE NO.: 0005

EV STALLS: 16
KIMLEY-HORN PROJECT NO.: 196950363

PUBLIC EV

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER 97880 OREGON NOV. 15, 2023 QUINN A. DUFFY
EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
CHARGER SPEC SHEETS

SHEET NUMBER
G2.0

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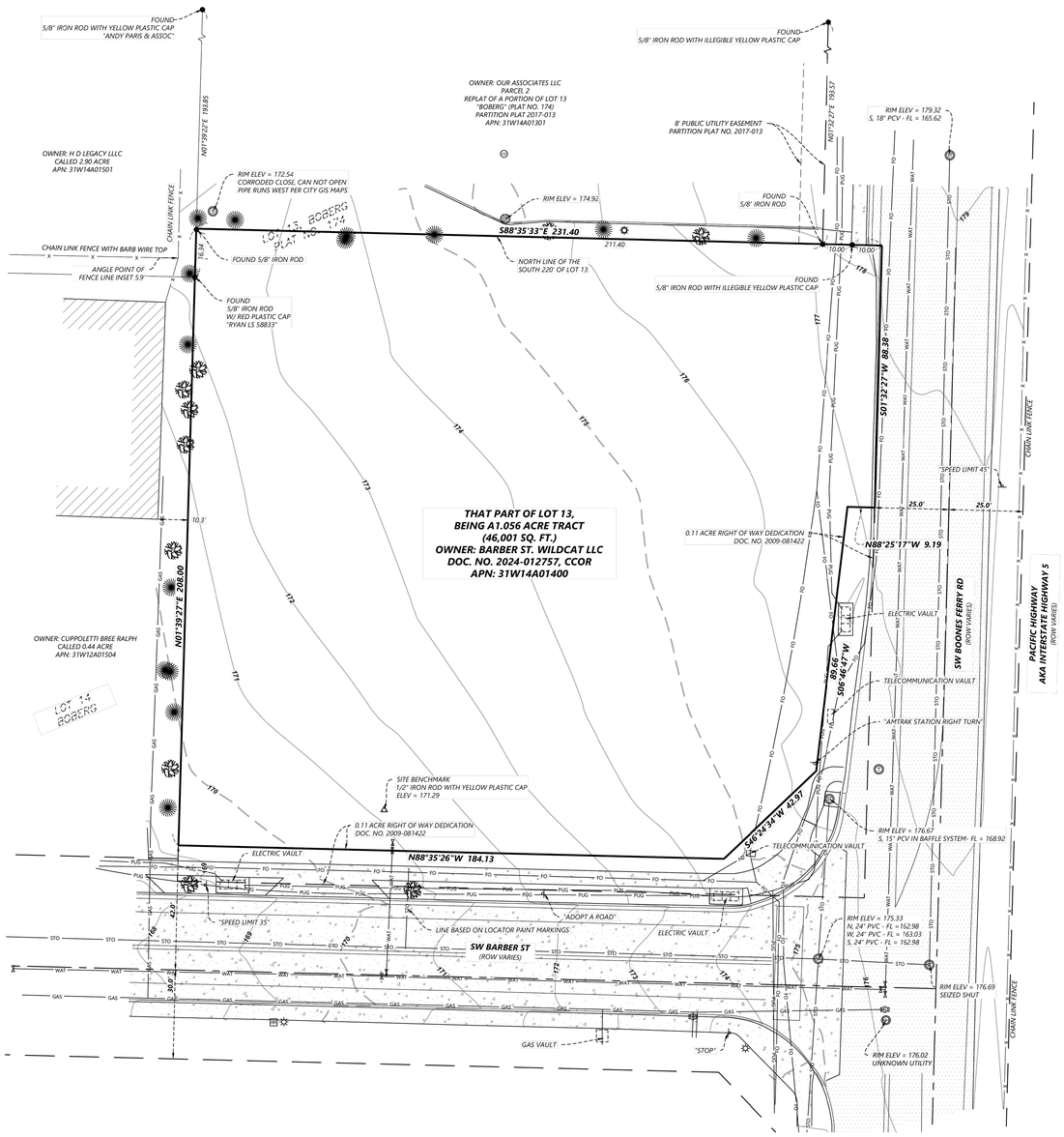
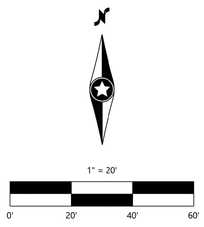




LEGEND

- SANITARY MANHOLE
- SEWER CLEANOUT
- STORM MANHOLE
- CATCH BASIN MANHOLE
- GATE VALVE
- NATURAL GAS VALVE
- STREET LIGHT
- HAND HOLE (SEE LABEL)
- UNKNOWN MANHOLE
- TELEPHONE MANHOLE
- SIGN (SEE LABEL)
- DECIDUOUS TREE
- CONIFEROUS TREE
- BOUNDARY LINE
- EASEMENT LINE
- RIGHT-OF-WAY LINE
- ORIGINAL RIGHT-OF-WAY CENTERLINE
- GAS — GAS LINE
- SAN — SANITARY SEWER
- STO — STORM SEWER
- WAT — WATERMAIN
- FO — FIBER OPTIC
- X — FENCE LINE
- CURB & GUTTER
- CONCRETE SURFACE
- BITUMINOUS SURFACE
- SITE BENCHMARK
- FOUND MONUMENT (SEE LABEL)
- CCOR — CLACKAMAS COUNTY OFFICAL RECORDS

LEGAL DESCRIPTION PER TITLE

The South 220.0 feet of Lot 13, BOBERG, in the City of Wilsonville, County of Clackamas and State of Oregon.

EXCEPTING THEREFROM the East 100.0 feet which was conveyed to the State of Oregon, by and through its State Highway Commission, by deed recorded September 19, 1951 in Book 448, Page 655, Clackamas County Records.

AND EXCEPTING THEREFROM that portion conveyed to the City of Wilsonville for right-of-way purposes in dedication recorded November 24, 2009, Clackamas County Records.

CERTIFICATION

TO: (1) IONNA LLC, A DELAWARE LIMITED LIABILITY COMPANY & (2) FIDELITY NATIONAL TITLE INSURANCE COMPANY;

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 2, 3, 4, 5, 6(b), 8, 9,11(a)(b), 13, 17, 18, 20(a), AND 20(b) OF TABLE A THEREOF. THE FIELDWORK WAS COMPLETED ON APRIL 25, 2025.

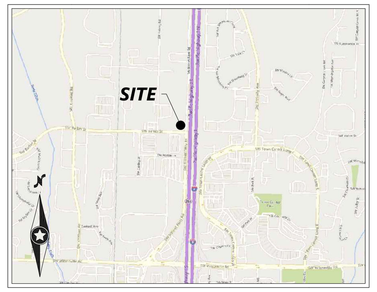
Christopher R. Foley, PLS *DATE 7/08/2025*
OREGON LICENSE NO. 101023, EXPIRATION 12/31/2025
Chris.Foley@westwoodps.com

REGISTERED PROFESSIONAL LAND SURVEYOR
OREGON
JANUARY 10, 2023
CHRISTOPHER R. FOLEY
101023
EXPIRES: 12/31/2025

Call 48 Hours before digging:
811 or call811.com
Common Ground Alliance

VICINITY MAP

(NOT TO SCALE)



WILSONVILLE, OR

GENERAL EXCEPTIONS PER TITLE

The following notes correspond to the numbering system of Schedule B, Part II - Exceptions of the above mentioned title commitment. ***SURVEYORS COMMENTS IN ITALICS***

9. Limited access to and from the Land as set forth in Deed shown below, which provides that there shall be no right of easement or right of access to, from or across the State Highway other than as expressly provided for in said Deed; Grantor: Eugene Schwartz and Caroline Schwartz, husband and wife Grantee: State of Oregon, by and through its State Highway Commission Recording Date: September 19, 1951 Recording No.: Book 448, Page 655
BLANKET IN NATURE

SURVEYOR RESEARCH AND REFERENCES

1. Survey Plat of Boberg, Plat No. 174
2. PS15840 1978 Survey
3. Partition Plat No. 2017-013
4. Deeds: Doc. No. 2024-012757, Doc. No. 2009-081422
5. PS20698 1985 Survey
6. SN2016-099 2016 Survey

TABLE A OPTIONAL ITEM NOTES

2. The subject property has not been assigned as address but fronts SW Boones Ferry Rd, and SW Barber St. in The City of Wilsonville, Oregon 70404.
3. The foregoing property is located within Zone X (areas determined to be outside the 0.2% annual chance floodplain) according to FEMA FIRM Map Number 41005C0242D, Effective Date June 17, 2008.
4. Subject tract area is 1.056 acres, or 46,001 square feet.
5. Elevations and contours shown hereon are based on NAVD88, derived from on the ground survey displaying 1' contour intervals. Site benchmark shown hereon.

6(b). Subject tract is within the City of Wilsonville, Or City Limits, zoned "PDI - Planned Development industrial", according to the Zoning Map of Wilsonville, Oregon, dated June 5, 2023. No zoning report provided to the surveyor as of this date.

8. The surveyor has made a good faith effort to show all substantial, above ground, visible, and permanent features observed during the course of the survey.
9. No marked parking spaces were found within the surveyed portion of the subject lot.

11(a). Evidence of underground utilities existing on or serving the surveyed property as determined by Oregon 811 ticket No. 25093895 , placed on April 1, 2025. Utilities notified were: Comcast Cable, City of Wilsonville, MCI, Zayo FNA Abovenet, NW Natural, Protland General Electric, Ziply Fiber.

11(b). A private utility marking request was made by Westwood. The underground utility lines shown have been located from field survey information provided by BLVD, dated April 11, 2025. The surveyor makes no guarantees that the underground utilities shown comprise all such utilities in the area, either in service or abandoned, nor do we guarantee the accuracy or completeness of the markings and maps provided.

13. Names of adjoining owners are shown according to Clackamas County Assessment & Taxation GIS.
17. The surveyor is not aware of any proposed changes in street right of way lines and there was no observable evidence of recent street or sidewalk construction or repairs at the time of survey.
18. Any plottable offsite easements provided in the Title Insurance Commitment are shown hereon.

20(a). No evidence of soil borings were found on the subject property at the time of the survey. (WITHIN REQUESTED AREA ONLY)

20(b). No wetland delineation markers were observed in the process at the time of the survey. The surveyor is not aware of any recent wetland delineations taking place on the subject property.

SURVEYOR'S NARRATIVE

1. This survey was prepared with a title commitment prepared by Fidelity National Title Commitment Company with a commitment number of 5000014487 and a date of April 21, 2025.
2. Elevations are based on North American Vertical Datum of 1988 (NAVD 88).
3. The horizontal datum is the Oregon State Plane Coordinate System, North Zone, NAD83(2011), Geoid18, International Foot.
4. This land title survey is based on said Plat of Boberg and the subsequent Partition Plat thereof. The boundary was determined by holding found monuments as shown, matching record.

PROJECT:	0060530.57
CHECKED:	ECO
DRAWN:	WCH
HORIZONTAL SCALE:	1" = 20'

REVISIONS:

PREPARED FOR:
Ionna, LLC
Torrance, CA

Westwood
Phone (210) 265-8300 211 North Loop 1604 East, Suite 205
Toll Free (888) 937-5150 San Antonio, TX 78232
westwoodps.com
Westwood Professional Services, Inc.

WILSONVILLE
SW BARBER ST
WILSONVILLE, OREGON 97070

ALTA/NSPS Land Title Survey
A 1.056 ACRE TRACT OF LAND SITUATED IN THE CITY OF WILSONVILLE, CLACKAMAS COUNTY, OREGON, BEING OUT OF LOT 13, BOBERG SUBDIVISION, AND BEING THAT SAME TRACT DESCRIBED IN DOCUMENT NO. 2024-012757, CLACKAMAS COUNTY OFFICIAL RECORDS

PROJECT NUMBER: 0060530.57

SHEET NUMBER: 1 OF 1
DATE: 07/08/2025

NOT TO SCALE
FOR REFERENCE ONLY

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PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com
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WILSONVILLE, OR 97070
STORE NO.: 0005
KIMLEY-HORN PROJECT NO.: 196900363
EV STALLS: 16

PUBLIC EV

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97881
OREGON
NOV 15, 2023
QUINN A. DUFF
EXPIRES: 12/31/2027
DESIGNED AND PROVIDED BY OTHERS

ISSUE BLOCK		DATE	BY
No.	PLANNING APPLICATION COMPLETENESS REVIEW		
0		02/26/26	DB
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DESIGNED BY:	QD
DRAWN BY:	DB
CHECKED BY:	JF
DOCUMENT DATE:	02/26/2026

SHEET TITLE
ALTA SURVEY (BY OTHERS)

SHEET NUMBER
C1.0

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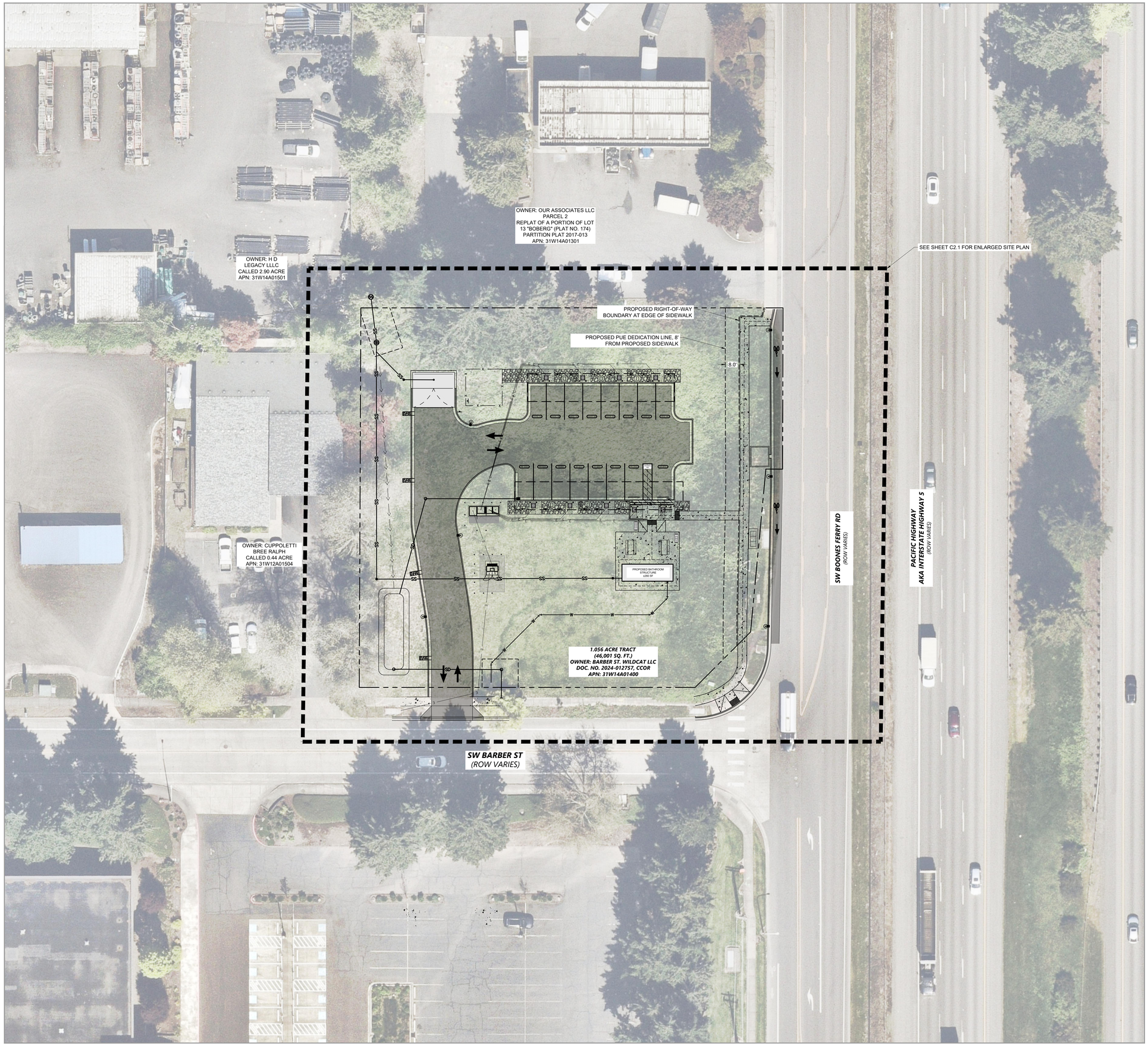

CIVIL SITE PLAN LEGEND

ITEM	DESCRIPTION
	CONCRETE
	RESTORE ASPHALT PAVEMENT
	GRAVEL AREA
	STRIPED ISLAND
	PARKING STRIPING
	SIGN POST
	FENCE
	ACCESSIBLE PATH

CONSTRUCTION NOTES

1. SEE PAVING AND ADDITIONAL CONSTRUCTION NOTES ON SHEET G1.0.
2. CONTRACTOR TO BORE AND / OR HAND-TRENCH CONDUIT AS REQUIRED PER NEC.
3. ALL EQUIPMENT SHALL BE INSTALLED PER CLIENT DESIGN STANDARDS.
4. CONTRACTOR TO RETURN ALL AREAS OF DISTURBANCE BACK TO EXISTING GRADE AND UP TO OR BETTER THAN EXISTING CONDITIONS.
5. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.

PAVEMENT MARKING NOTES

1. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS OR OTHERWISE ESTABLISH A SURVEY OF THE EXISTING STRIPING IN ALL WORK AREAS IN ORDER TO ESTABLISH ALL EXISTING PAVEMENT MARKINGS WITH FULL COORDINATION OF NEW MARKINGS PROPOSED ON THIS PLAN.
2. UNLESS OTHERWISE INDICATED ON THIS PLAN, THE CONTRACTOR SHALL ESTABLISH PAVEMENT MARKINGS FOR ALL FIRE LANES, DIRECTIONAL ARROWS, STOP BARS, CURBS, SIDEWALK, LIGHT POLE BASES, SIGN BASES AND PARKING STALLS TO MATCH THE EXISTING SITE WITHIN THE REPAIR LIMITS.
3. CONTRACTOR TO USE APPROPRIATE PAINT COLORS TO MATCH THE EXISTING FEATURES. ADA BARRIER FREE AREAS TO COMPLY WITH ALL LOCAL AND FEDERAL ADA STANDARDS. PAVEMENT MARKINGS SHALL BE A HIGH QUALITY PAINT RECOMMENDED BY THE PAINT MANUFACTURER. PAINT COLORS SHALL CLOSELY MATCH THE FEDERAL STANDARD 595B COLOR NUMBER AS FOLLOWS: BLUE-COLOR 15180, WHITE-COLOR 37925 AND YELLOW-COLOR 33538.
4. IN AREAS NOT BEING RESURFACED BUT REQUIRING RESTRIPING, CONTRACTOR SHALL REMOVE EXISTING STRIPING BY EITHER SAND BLASTING, WATER BLASTING, OR BY ANOTHER APPROVED METHOD OF STRIPING REMOVAL. WHERE THE STRIPING REMOVAL CHANGES THE SURFACE TEXTURE OF THE EXISTING ASPHALT, CONTRACTOR SHALL SEAL COAT THE AREA PRIOR TO RESTRIPING. CONTRACTOR TO SUBMIT STRIPING REMOVAL METHOD TO PROPERTY MANAGER AND ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

SITE DATA TABLE

DEVELOPMENT NAME	IONNA OR-0005
JURISDICTION	CITY OF WILSONVILLE
PROPERTY OWNER	BARER ST WILDCAT LLC
ADDRESS	9025 SW BARBER STREET
ZONING	PDI
CURRENT USE	VACANT
PROPOSED USE	ELECTRIC VEHICLE CHARGING STATION
BUILDING SQUARE FOOTAGE	260 SF
SETBACKS AND BUFFERS	30' PROJECT SETBACK, 30' SIDE SETBACK, 30' REAR SETBACK
PARKING PROVIDED	16 SPACES
CHARGING STATIONS	9 STATIONS

ALLOWABLE COMMERCIAL USE:
PARKING: 10'x20' x 16 SPACES = 3,200 SF
CANOPY SUPPORTS: 9.6 SF x 10 SUPPORT COLUMNS = 96 SF
CHARGING STATIONS: 2.4' x 2.8' x 9 STATIONS = 60 SF
BUILDING: 29' x 9.3' = 601 SF
TRASH ENCLOSURE: 449 SF
TOTAL AREA: 4,426 SF

IMPERVIOUS AREA:
ON-SITE: 13,838 SF
OFF-SITE: 1,069 SF

GRAPHIC SCALE IN FEET
0 10 20 40
SCALE: 1" = 20'
WHEN PRINTED AT FULL SIZE
(30"x42")

NORTH

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IONNA™

9025 SW BARBER ST
WILSONVILLE, OR 97070
STORE NO.: 0005

EV STALLS: 16
KIMLEY-HORN PROJECT NO.: 196900363

PUBLIC EV

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97858
OREGON
NOV 15, 2023
QUINN A. DUFFY
EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
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DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
SITE PLAN

SHEET NUMBER
C2.0

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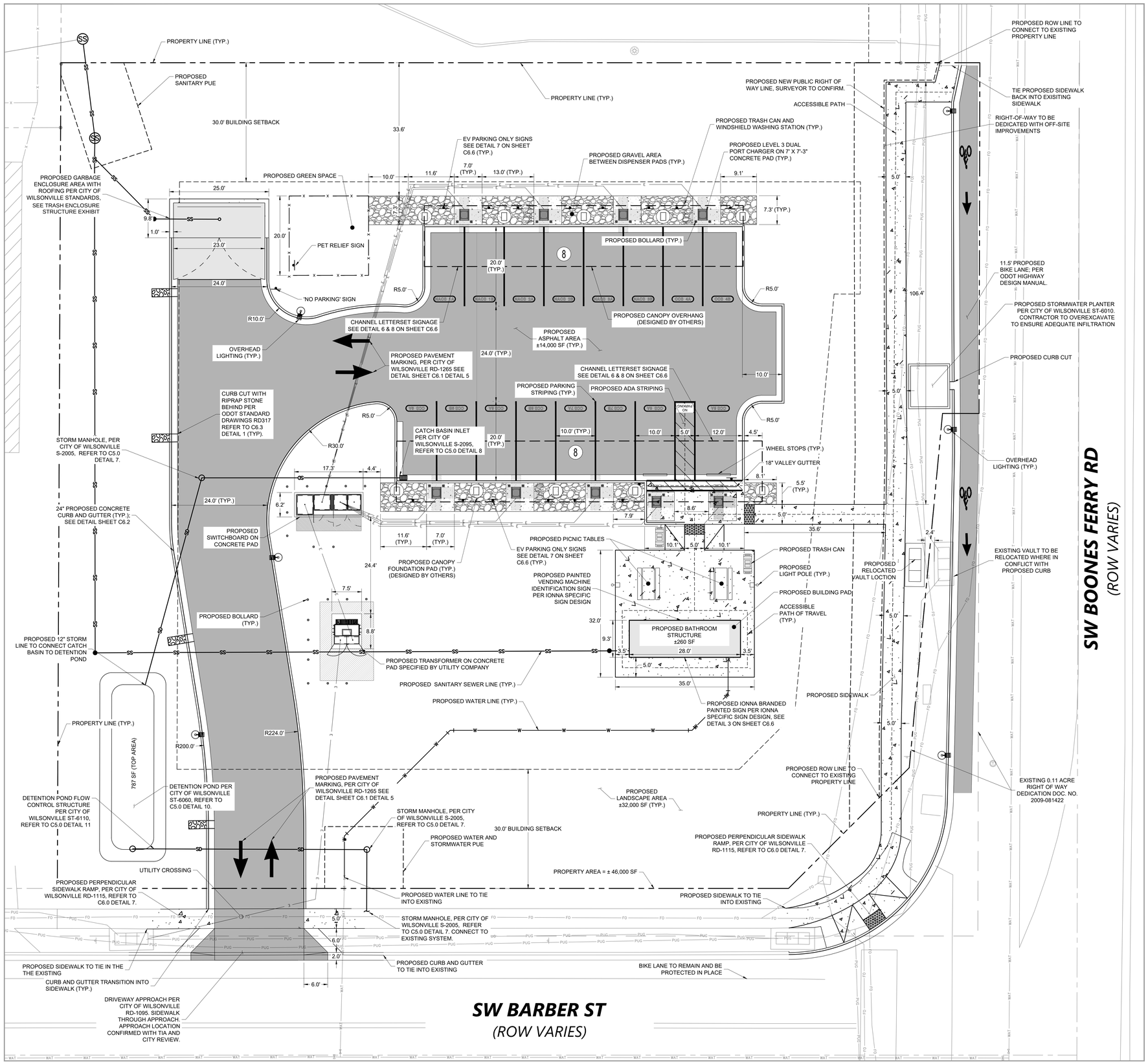

CIVIL SITE PLAN LEGEND

ITEM	DESCRIPTION
	CONCRETE
	RESTORE ASPHALT PAVEMENT
	GRAVEL AREA
	STRIPED ISLAND
	PARKING STRIPING
	SIGN POST
	FENCE
	ACCESSIBLE PATH

CONSTRUCTION NOTES

1. SEE PAVING AND ADDITIONAL CONSTRUCTION NOTES ON SHEET G1.0.
2. CONTRACTOR TO BORE AND / OR HAND-TRENCH CONDUIT AS REQUIRED PER NEC.
3. ALL EQUIPMENT SHALL BE INSTALLED PER CLIENT DESIGN STANDARDS.
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PAVEMENT MARKING NOTES

1. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS OR OTHERWISE ESTABLISH A SURVEY OF THE EXISTING STRIPING IN ALL WORK AREAS IN ORDER TO ESTABLISH ALL EXISTING PAVEMENT MARKINGS WITH FULL COORDINATION OF NEW MARKINGS PROPOSED ON THIS PLAN.
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CHARGER STALL TABLE

STALL NO.	CONNECTOR TYPE	SIGNAGE
1A	NACS	IONNA EV CHARGING ONLY
1B	NACS	IONNA EV CHARGING ONLY
2A	NACS	IONNA EV CHARGING ONLY
2B	NACS	IONNA EV CHARGING ONLY
3A	CCS	IONNA EV CHARGING ONLY
3B	CCS	IONNA EV CHARGING ONLY
4A	CCS	IONNA EV CHARGING ONLY
4B	CCS	IONNA EV CHARGING ONLY
5A	CCS	ADA EV CHARGING
6A	CCS	ADA EV CHARGING
7A	CCS	IONNA EV CHARGING ONLY
7B	CCS	IONNA EV CHARGING ONLY
8A	CCS	IONNA EV CHARGING ONLY
8B	CCS	IONNA EV CHARGING ONLY
9A	CCS	IONNA EV CHARGING ONLY
9B	CCS	IONNA EV CHARGING ONLY

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE (30"x42")

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STORE NO.: 0005

EV STALLS: 16
KIMLEY-HORN PROJECT NO.: 168850003

PUBLIC EV

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97886
OREGON
NOV 15, 2023
QUINN A. DUFF
EXPIRES: 12/31/2027

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DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
ENLARGED SITE PLAN

SHEET NUMBER
C2.1

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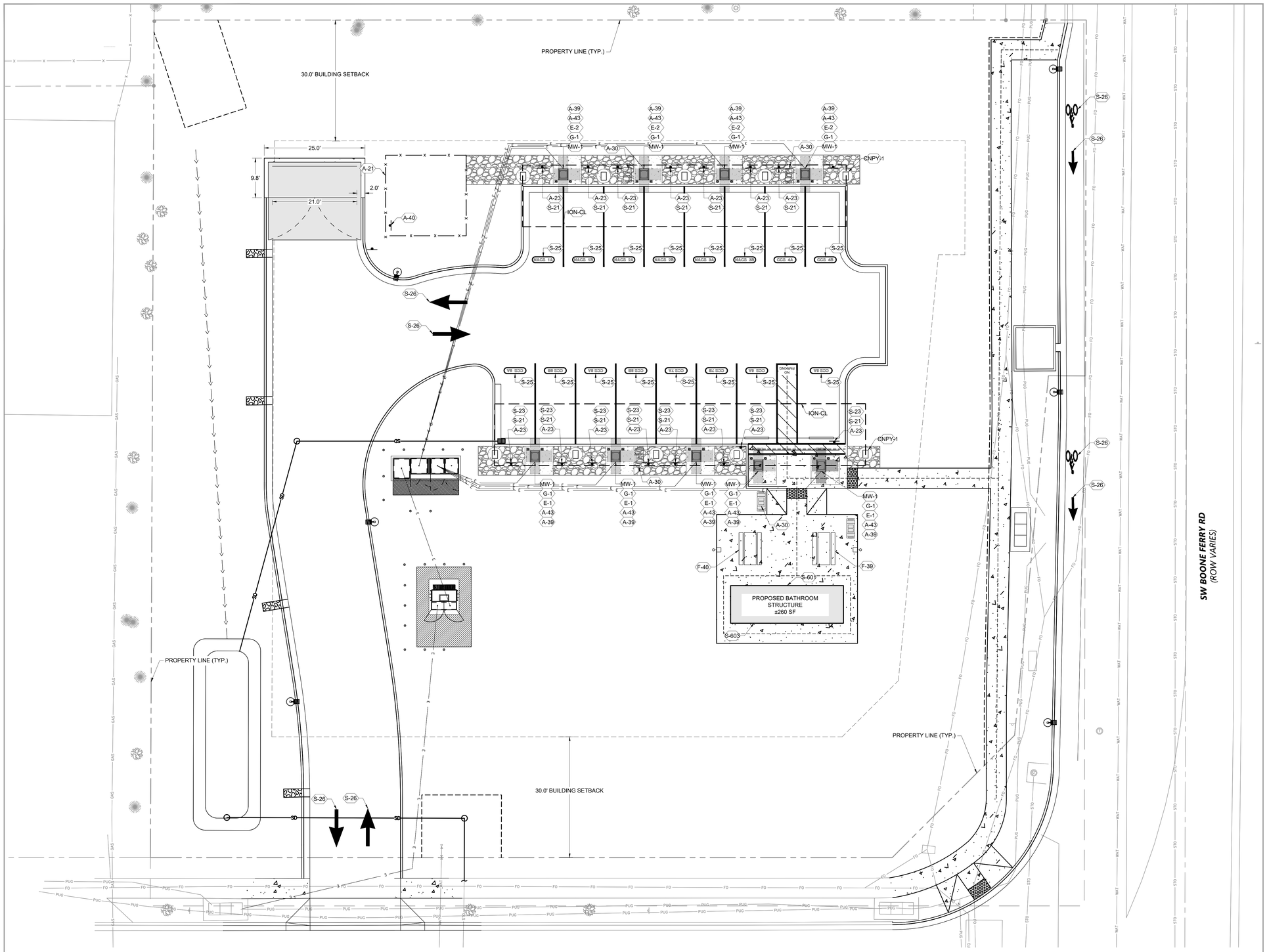

SIGNAGE TABLE					
ID	NAME	MFG	MODEL	NOTE	QTY
MW-1	TOP HAT SIGN	BY VENDOR	BY VENDOR	28" W x 3" D x 10" H POWDERED COATED	9
ION-CL	CANOPY SIGN - CHANNEL LETTERSET - INTERNALLY LIT	SIGN VENDOR	SIGN VENDOR	SOFT LIGHT COLORWAY - INTERNALLY LIT	2
S-21	EV PARKING ONLY	BUILD A SIGN	PER GC	USE APPROVED ARTWORK - 18" H x 12" W x 3/4" D	14
S-23	EV ACCESSIBLE PARKING	PER GC	PER GC	SELECT APPROPRIATE SIGN PER AHJ	2
S-601	SNACK DISPENSERS FOUND HERE	SIGN VENDOR	SIGN VENDOR	USE APPROVED ARTWORK - 3'-2" H x 8'-0" W x 3/4" D	1
S-603	IONNA REAR	SIGN VENDOR	SIGN VENDOR	USE APPROVED ARTWORK - 1'-8" H x 9'-2" W x 3/4" D	1

FURNITURE, FIXTURES, AND EQUIPMENT TABLE					
ID	NAME	MFG	MODEL	NOTE	QTY
CNPY-1	CANOPY-STANDARD-ENDZONE	BY VENDOR	BY VENDOR	DEFINE DIMS, LAYOUT,FINISHES & HEIGHT PER PROJECT	2
A-21	FENCE 1	TBD	BLACK VINYL COATED STEEL FABRIC CHAINLINK	4' HIGHT, SWING GATE, POSTS, TOP AND BOTTOM BAR, HARDWARE	80 LF
A-23	SIGNPOST - 7 FT	BY GC	SQUARE PRE PUNCHED 2X2	PAINT BLACK	16
A-30	TRASH / WC STATION - SINGLE - IONNA	COMMERCIAL ZONE PRODUCTS	75810199	ORDER FOR IONNA SITES	5
A-39	BOLLARD SLEEVE - ORANGE	POSTGUARD.COM	ORANGE WITH WHITE TAPE	COORDINATE SIZE & LENGTH - 4.5 X 36 PREFERRED	27
A-40	PET WASTE STATION 1	ZERO WASTE USA	UPC 840431500409	ALUMINUM STATION & WASTE BAGS, MATTE BLACK	1
A-43	BOLLARD - SCREW IN	POSTGUARD.COM	4 X 32 POWDERCOATED BOLLARD	WITH ANCHOR BASE AND ANCHORS	27
E-1	DISPENSER-CCS	ALPITRONICS		COORDINATE QUANTITY WITH SITE	6
E-2	DISPENSER-NACS	ALPITRONICS		COORDINATE QUANTITY WITH SITE	3
F-39	PICNIC TABLE - ROUND ADA	ULINE	H-26720	ORANGE FINISH	1
F-40	PICNIC TABLE - ROUND	ULINE	H-21270	ORANGE FINISH	1
G-1	DISPENSER FALK	BY VENDOR	BY VENDOR	FIELD APPLIED LABEL KIT, IDENTIFY ID, CHARGER ID, SITE ID	9

(A-21) CHAINLINK FENCING REQUIREMENTS

1. 4' HEIGHT STEEL WIRE FABRIC CHAINLINK FENCING WITH BLACK VINYL COATING
2. 4' SWING GATE, STEEL WIRE FABRIC CHAINLINK FENCE GATE PANEL
3. VERTICAL 1-/4" POSTS SPACED 6' OC, SET IN CONCRETE 24" DEPTH
4. TOP RAIL 1-3/8" WITH BOTTOM TENSION WIRE SET FLUSH TO GROUND

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE (30"x42")

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STORE NO.: 0005
KIMLEY-HORN PROJECT NO.: 168950003
EV STALLS: 16

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97881PE
OREGON
NOV 15, 2023
QUINN A. DUFF
EXPIRES: 12/31/2027

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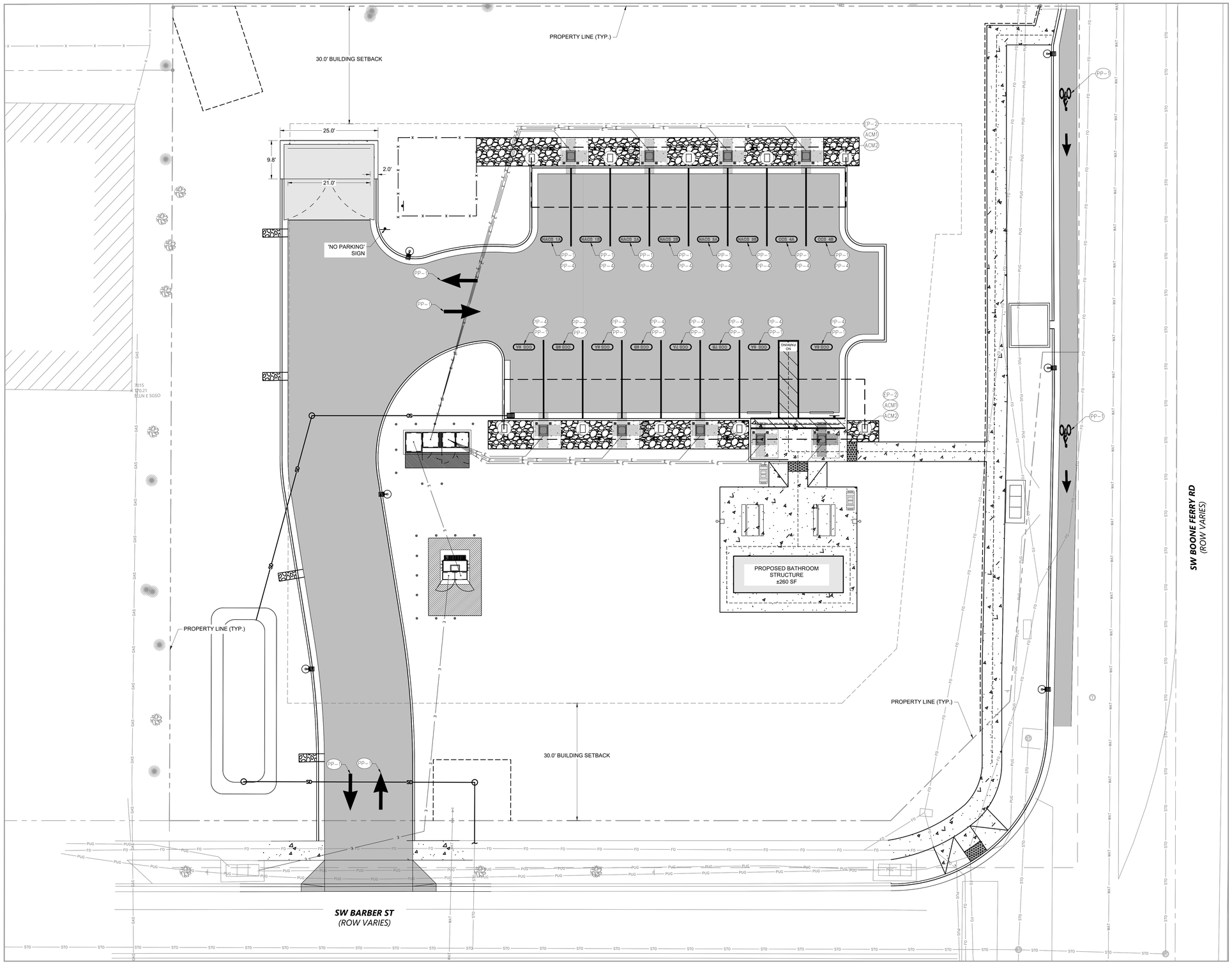
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
FFE PLAN

SHEET NUMBER
C2.2



FINISHES

ID	NAME	MFG	MODEL	COLOR	NOTE
ACM1	CLADDING - ION ORANGE	ALPOLIC	3MM PANEL	WAO ORANGE	
ACM2	CLADDING - SOFT DARK	ALPOLIC	3MM PANEL	AUB BLUE	
EP-2	PAINT - SOFT DARK	SHERWIN WILLIAMS	SEE PROD TABLE	SW 7605 GALE FORCE	CLOSEST MATCH TO PMS 5395 C
EP-3	PAINT - SOFT LIGHT	SHERWIN WILLIAMS	SEE PROD TABLE	SW 7563 RESTFUL WHITE	CLOSEST MATCH TO PMS 9224C
EP-6	PAINT - BLACK	SHERWIN WILLIAMS	SEE PROD TABLE	SW 6258 TRICORN BLACK	
PP-1	TRAFFIC PAINT - WHITE	SHERWIN WILLIAMS	SEE PROD TABLE	SW-B97WD2434	
PP-4	TRAFFIC PAINT - SOFT DARK	SHERWIN WILLIAMS	SEE PROD TABLE	MATCH SW 7605 GALE FORCE	PER CUSTOM SW SPEC. COLOR TO BE COORDINATED WITH THE CHARGER TYPE
PP-5	TRAFFIC PAINT - ION ORANGE	SHERWIN WILLIAMS	SEE PROD TABLE	MATCH SW6886 INVIGORATE	PER CUSTOM SW SPEC. COLOR TO BE COORDINATED WITH THE CHARGER TYPE

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE
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KIMLEY-HORN PROJECT NO.: 196950063
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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97881
OREGON
NOV 15, 2023
QUINN A. DUFFY
EXPIRES: 12/31/2027

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DOCUMENT DATE: 02/26/2026

SHEET TITLE
FINISH PLAN

SHEET NUMBER
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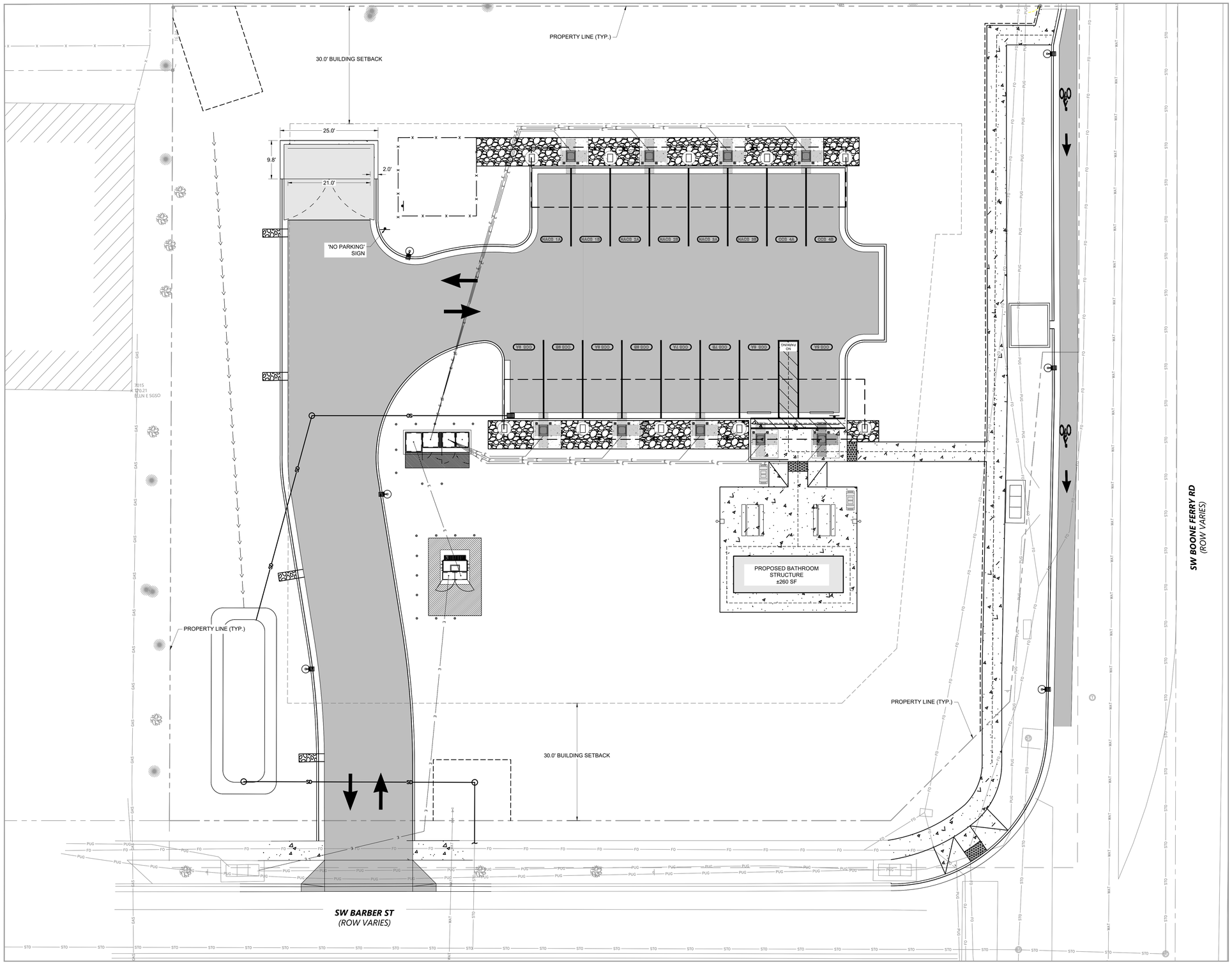

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SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE
(30"x42")

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STORE NO.: 0005

KIMLEY-HORN PROJECT NO.: 196950063

EV STALLS: 16

PUBLIC EV

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
79788PE
OREGON
NOV 15, 2023
QUINN A. DUFFY

EXPIRES: 12/31/2027

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DESIGNED BY: QD
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DOCUMENT DATE: 02/26/2026

SHEET TITLE

GARBAGE DISPOSAL PLAN

SHEET NUMBER

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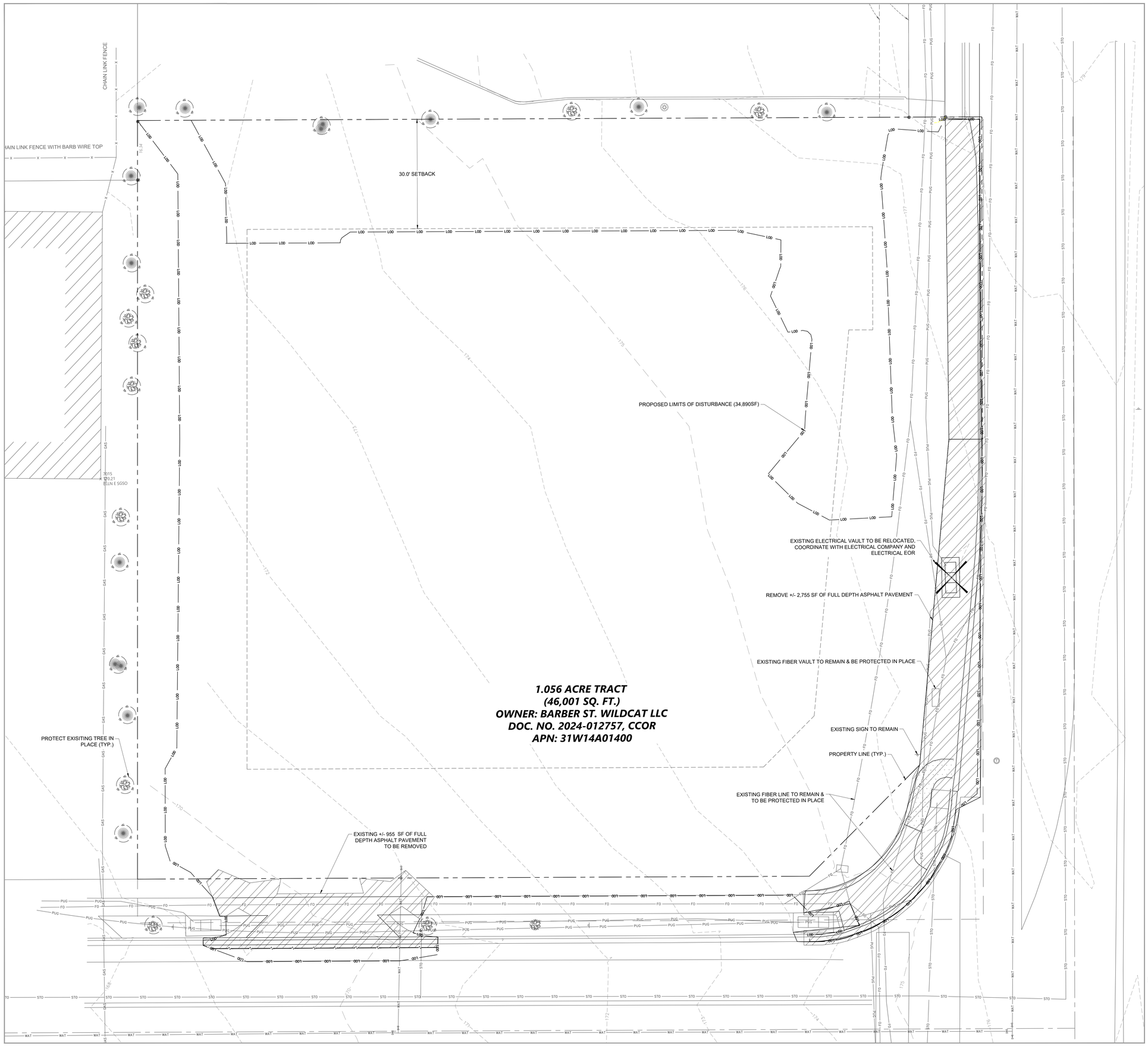

DEMOLITION PLAN LEGEND

ITEM	DESCRIPTION
	EXISTING OBJECT TO BE REMOVED
	EXISTING LINEAR OBJECT TO BE REMOVED / ABANDONED
	EXISTING PARKING STRIPING TO BE MODIFIED / REMOVED
	FULL-DEPTH CONCRETE PAVEMENT REMOVAL
	REMOVE EXISTING CURBING TO LIMITS SHOWN
	FULL-DEPTH ASPHALT PAVEMENT REMOVAL
	ASPHALT / CONCRETE PAVEMENT SAW CUT LINE
	LANDSCAPED / PERVIOUS AREA REMOVAL

EROSION AND SEDIMENT CONTROL LEGEND

ITEM	DESCRIPTION
	STORMWATER FLOW DIRECTION ARROW
	CONSTRUCTION SIGN
CE	CONSTRUCTION EXIT
SF	SILT FENCE
EE	EROSION EEL / FILTER SOCK
IP	INLET PROTECTION
TP	TREE PROTECTION
CW	CONCRETE WASHOUT AREA

DEMOLITION NOTES

1. SEE ADDITIONAL DEMOLITION AND E&S NOTES ON SHEET ######.
2. THE CONTRACTOR SHALL CLEAR THE PROJECT SITE AREA WITHIN THE CONFINES OF THE DEMOLITION LIMIT LINE. THE CONTRACTOR SHALL DEMOLISH AND REMOVE FROM THE SITE ALL EXISTING UTILITY STRUCTURES, PLANTERS, TREES, AND ALL OTHER SITE FEATURES, UNLESS OTHERWISE NOTED ON THE PLAN.
3. DEMOLITION AND REMOVAL OF PAVEMENT INCLUDES PAVEMENT THICKNESS AS WELL AS BASE COURSE THICKNESS.
4. REMOVAL OF LANDSCAPING SHALL INCLUDE ROOTS AND ORGANIC MATERIAL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ANY AND ALL PERMITS AND SHALL PAY ALL FEES NECESSARY FOR ENCROACHMENT, GRADING, DEMOLITION, AND DISPOSAL OF SAID MATERIALS AS REQUIRED BY PRIVATE, LOCAL AND STATE JURISDICTIONS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A SITE INSPECTION TO FULLY ACKNOWLEDGE THE EXTENT OF DEMOLITION WORK.
7. THE CONTRACTOR SHALL VERIFY AND LOCATE ALL EXISTING ABOVE AND UNDERGROUND UTILITIES. LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND ARE SHOWN FOR GENERAL INFORMATION ONLY.
8. DAMAGE TO ANY EXISTING UTILITIES AND SERVICES TO REMAIN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR SHALL REPAIR AND/OR REPLACE IN KIND.
9. EROSION CONTROL MEASURES SHALL BE IMPLEMENTED TO PREVENT DEBRIS AND UNSUITABLE MATERIALS FROM ENTERING STORM DRAINS, SANITARY SEWERS AND STREETS.
10. DUST CONTROL MEASURES SHALL BE IMPLEMENTED DURING DEMOLITION.
11. CONTRACTOR SHALL REMOVE DEMOLISHED MATERIALS FROM THE SITE AS WORK PROGRESSES.
13. ALL DEMOLITION SHALL COMPLY WITH CHAPTER 24 OF THE INTERNATIONAL FIRE CODE.
14. CONTRACTOR TO USE CARE IN HANDLING DEBRIS FROM SITE TO ENSURE THE SAFETY OF THE PUBLIC. HAUL ROUTE TO BE CLOSELY MONITORED FOR DEBRIS OR MATERIALS TRACKED ONTO ADJOINING ROADWAYS. SIDEWALKS, ETC. ROADWAYS AND WALKWAYS TO BE CLEARED DAILY OR AS NECESSARY TO MAINTAIN PUBLIC SAFETY.
15. CONTRACTOR TO INSTALL CHAIN LINK FENCE WITH MESH SCREEN TO PROTECT PUBLIC FROM ENTERING CONSTRUCTION AREA.
16. CONTINUOUS ACCESS SHALL BE MAINTAINED FOR SURROUNDING PROPERTIES AT ALL TIMES DURING DEMOLITION OF EXISTING FACILITIES.
17. ALL MATERIAL REMOVED FROM THIS SITE BY THE CONTRACTOR SHALL BE DISPOSED OF BY THE CONTRACTOR IN A LEGAL MANNER.
18. REFER TO THE TOPOGRAPHIC SURVEY FOR ADDITIONAL DETAILS OF EXISTING STRUCTURES, ETC., LOCATED WITHIN THE PROJECT SITE. UNLESS OTHERWISE NOTED, ALL EXISTING BUILDINGS, STRUCTURES, SLABS, CONCRETE, ASPHALT, DEBRIS PILES, SIGNS, AND ALL APPURTENANCES ARE TO BE REMOVED FROM THE SITE BY THE CONTRACTOR AND PROPERLY DISPOSED OF IN A LEGAL MANNER AS PART OF THIS CONTRACT. SOME ITEMS TO BE REMOVED MAY NOT BE DEPICTED ON THE TOPOGRAPHIC SURVEY. REFER TO THIS PLAN FOR THE LIMITS OF ASPHALT REMOVAL. IF ANY ITEMS ARE IN QUESTION, THE CONTRACTOR SHALL CONTACT THE OWNER PRIOR TO REMOVAL OF SAID ITEMS.
19. THE CONTRACTOR SHALL REFER TO THIS PLAN FOR DEMOLITION/PRESERVATION OF EXISTING TREES. ALL TREES NOT SPECIFICALLY SHOWN TO BE PRESERVED OR RELOCATED SHALL BE REMOVED AS A PART OF THIS CONTRACT. TREE PROTECTION FENCING SHALL BE INSTALLED AS NECESSARY PRIOR TO ANY DEMOLITION.
20. THE CONTRACTOR SHALL RETURN SIDEWALKS, LANDSCAPING, PLANTERS, IRRIGATION SYSTEMS, AND ANY OTHER FACILITIES DISTURBED BY THE WORK TO THE SAME OR BETTER CONDITION THAN EXISTED PRIOR TO THE COMMENCEMENT OF THE WORK.
21. ALL QUANTITIES LISTED IN DEMOLITION PLAN SHEET ARE ONLY APPROXIMATIONS. THE CONTRACTOR SHALL VERIFY ALL QUANTITIES BEFORE BIDDING.
22. TRENCHING IS TO BE USED EXCEPT IN HEAVY TRAFFIC AREAS, MAIN DRIVE AISLES AND ACROSS STORE ENTRANCE.
23. THE CONTRACTOR SHALL PROTECT EXISTING INFRASTRUCTURE IN PLACE WITHIN THE AREA OF IMPROVEMENTS.
24. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.

EXISTING UTILITY NOTE

THE EXISTING UTILITIES SHOWN ON THIS PLAN ARE BASED UPON AVAILABLE RECORDS. THE CONTRACTOR MUST FIELD-DETERMINE THE LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO ANY CONSTRUCTION ACTIVITIES. REPORT DISCREPANCIES AND POTENTIAL CONFLICTS WITH PROPOSED INFRASTRUCTURE TO THE ENGINEER PRIOR TO INSTALLATION OF ANY PIPING.

CITY OF WILSONVILLE LOC 12.36

TREE PROTECTION FENCING
TEMPORARY 6-FOOT CHAIN LINK FENCING SHALL BE INSTALLED AT THE APPROVED TREE PROTECTION ZONE (TPZ) LIMITS PRIOR TO ANY CLEARING, GRADING, OR CONSTRUCTION ACTIVITY. FENCING SHALL REMAIN IN PLACE UNTIL FINAL INSPECTION.

TREE PROTECTION ZONE (TPZ)
TPZ SHALL BE ESTABLISHED AT A MINIMUM OF 1 FOOT RADIUS PER INCH OF DBH, MEASURED FROM THE TRUNK, UNLESS OTHERWISE APPROVED BY THE CITY OR PROJECT ARBORIST.

PROTECTED AREA RESTRICTIONS
NO GRADING, EXCAVATION, TRENCHING, STOCKPILING, VEHICLE ACCESS, MATERIAL STORAGE, CONCRETE WASHOUT, OR EQUIPMENT STAGING SHALL OCCUR WITHIN THE TPZ.

TREE PROTECTION SIGNAGE
"TREE PROTECTION ZONE – DO NOT DISTURB" SIGNAGE SHALL BE POSTED ON FENCING AT MAXIMUM 50-FOOT INTERVALS.

ROOT DISTURBANCE
ANY APPROVED ROOT PRUNING SHALL BE PERFORMED BY HAND OR AIR SPADE UNDER ARBORIST SUPERVISION. NO MECHANICAL EXCAVATION IS PERMITTED WITHIN TPZ LIMITS.

UTILITIES NEAR TREES
UTILITY ALIGNMENTS WITHIN OR ADJACENT TO TPZS SHALL USE TRENCHLESS METHODS WHERE FEASIBLE. IF OPEN TRENCHING IS APPROVED, ROOTS OVER 2 INCHES IN DIAMETER SHALL BE PRESERVED WHERE POSSIBLE AND CLEANLY CUT WHERE UNAVOIDABLE.

GRADE CHANGES
NO GRADE CHANGES GREATER THAN 2 INCHES ARE PERMITTED WITHIN TPZS UNLESS SPECIFICALLY APPROVED BY THE CITY.

TREE REMOVAL
REMOVAL OF REGULATED TREES REQUIRES PRIOR CITY APPROVAL AND PERMITS PER LOC 12.36. REPLACEMENT TREES SHALL BE PROVIDED PER APPROVED MITIGATION RATIOS.

TREE PROTECTION INSPECTION
TREE PROTECTION MEASURES SHALL BE INSPECTED AND APPROVED BY THE CITY PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.

CONTRACTOR RESPONSIBILITY
THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING TREE PROTECTION MEASURES THROUGHOUT CONSTRUCTION. ANY DAMAGE TO PROTECTED TREES MAY RESULT IN ENFORCEMENT ACTION, FINES, OR REQUIRED MITIGATION PER CITY CODE.

811 Know what's below. Call before you dig.

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
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NORTH

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER 97884 OREGON NOV. 15, 2023 QUINN A. DUFFY
EXPIRES: 12/31/2027

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SHEET TITLE
DEMO PLAN

SHEET NUMBER
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OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

OWNER: H D
LEGACY LLLC
CALLED 2.90 ACRE
APN: 31W14A01501

OWNER: CUPPOLETTI
BREE RALPH
CALLED 0.44 ACRE
APN: 31W12A01504

RIM ELEV = 172.54
CORRODED CLOSE, CAN NOT OPEN
PIPE RUNS WEST PER CITY GIS MAPS

PROPERTY LINE (TYP.)

30' BUILDING SETBACK

TRASH ENCLOSURE GRADED TO CONVEY ISOLATED RUNOFF TO SANITARY LINE

CANOPY #1

CANOPY #2

CONNECT 10" STORM LINE TO DETENTION POND UNDER-DRAIN SYSTEM

PROPOSED DETENTION POND PER CITY OF WILSONVILLE ST-6060.

FLOW CONTROL STRUCTURE PER CITY OF WILSONVILLE ST-6110

PROPOSED CULVER, 12" PIPE MINIMUM COVER

DRAINAGE SWALE (TYP.)

LIMITS OF DISTURBANCE (TYP.)

ADA INSET - 1
SEE THIS SHEET

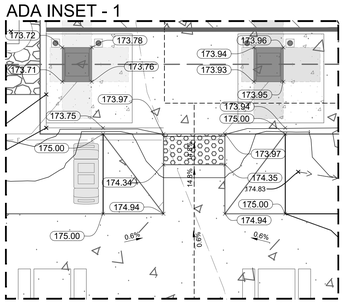
FFE: 175.00

CONTRACTOR TO ADJUST RIM TO FINISH GRADE

SW BOONES FERRY RD
(ROW VARIES)

SW BARBER ST
(ROW VARIES)

ADA INSET - 1



GRAPHIC SCALE IN FEET
0 2.5 5 10
SCALE: 1" = 5'
WHEN PRINTED AT FULL SIZE (30"x42")

NORTH

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE (30"x42")

NORTH

GRADING PLAN LEGEND

ITEM	DESCRIPTION
GB	GRADE BREAK LINE
AP	ACCESSIBLE PATH
(1.7%)	EXISTING FLOW ARROW (DIRECTION AND SLOPE)
2.00%	PROPOSED FLOW ARROW (DIRECTION AND SLOPE)
566.50 TC 566.00 FS	PROPOSED SPOT ELEVATION (SEE SPOT ELEVATION NOTES BELOW)
(566.50 TC) (566.00 FS)	EXISTING SPOT ELEVATION LABEL

SPOT ELEVATION NOTES

ALL SPOT ELEVATIONS ARE PAVEMENT SURFACE UNLESS OTHERWISE NOTED AS FOLLOWS:

BC BOTTOM OF CURB
FS FINISH SURFACE
ME MATCH EXISTING
TC TOP OF CURB

GRADING NOTES

1. ELECTRICAL SUBCONTRACTOR TO REFER TO ELECTRICAL DRAWINGS FOR ALL DISCIPLINE-SPECIFIC WORK.
2. SITE SUBCONTRACTOR TO VERIFY INSTALLATION PROXIMITY TO SLOPE AND INFORM THE ENGINEER IMMEDIATELY IF DISCREPANCIES ARE FOUND BEFORE CONSTRUCTION RESUMES.
3. THE LOCATIONS OF ALL EXISTING UTILITIES SHOWN ON THIS PLAN HAVE BEEN DETERMINED FROM THE SURVEY DONE BY WESTWOOD PROFESSIONAL SERVICES, INC. ON 07/08/2025 AND ARE GIVEN FOR THE CONVENIENCE OF THE SITE SUBCONTRACTOR. REFER TO SHEET C4.0 FOR MORE INFORMATION. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO THE START OF ANY DEMOLITION ACTIVITY, THE SITE CONTRACTOR SHALL NOTIFY THE UTILITY COMPANIES FOR ONSITE LOCATIONS OF EXISTING UTILITIES AND PERFORM A PRIVATE UTILITY LOCATE.

ACCESSIBILITY NOTE

CONTRACTOR SHALL CONDUCT PRE-CONSTRUCTION ACCESSIBILITY SITE WALK WITH IONNA PM TO DETERMINE EXTENTS OF PAVEMENT REHAB REQUIRED TO PROVIDE COMPLIANT PATH OF TRAVEL.

STRUCTURAL NOTE - CANOPY #1

REFER TO RBA STRUCTURAL ENGINEERING, LLC STRUCUTRAL ANALSYIS REPORT AND AGI DESIGN DRAWINGS DATED 12/31/2025 FOR CANOPY AND FOUNDATION DETAILS. CONTRACTOR SHALL VERIFY TOPO IN FIELD PRIOR TO FOUNDATION POUR AND DETERMINE FOUNDATION REVEALS REQUIRED FOR ALL TOPS OF FOUNDATIONS TO BE CONSTRUCTED WITH AN ELEVATION OF 174.63. STOP ANY FOUNDATION WORK AND CONTACT ENGINEER OF RECORD IF ANY FOUNDATION WILL HAVE A REVEAL ABOVE GRADE MORE THAN 3'.

STRUCTURAL NOTE - CANOPY #2

REFER TO RBA STRUCTURAL ENGINEERING, LLC STRUCUTRAL ANALSYIS REPORT AND AGI DESIGN DRAWINGS DATED 12/31/2025 FOR CANOPY AND FOUNDATION DETAILS. CONTRACTOR SHALL VERIFY TOPO IN FIELD PRIOR TO FOUNDATION POUR AND DETERMINE FOUNDATION REVEALS REQUIRED FOR ALL TOPS OF FOUNDATIONS TO BE CONSTRUCTED WITH AN ELEVATION OF 174.00. STOP ANY FOUNDATION WORK AND CONTACT ENGINEER OF RECORD IF ANY FOUNDATION WILL HAVE A REVEAL ABOVE GRADE MORE THAN 3'.

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
OREGON
97888PE
NOV. 15, 2023
QUINN A. DUFF
EXPIRES: 12/31/2027

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SHEET TITLE

GRADING PLAN

SHEET NUMBER
C4.0

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EXISTING SANITARY SEWER MANHOLE. TIE IN INFORMATION IS BASED ON BEST AVAILABLE INFORMATION FROM SURVEY AND GIS DATA. CONTRACTOR TO CONFIRM ELEVATION DATA ONCE RIM IS FORCED OPEN AND NOTIFY THE ENGINEER OF ANY DISCREPENCIES IMMEDIATELY.

SSMH-03
RIM:172.71
IE IN:164.46 S

25 LF - 8" PVC @ 1.00%

SSMH-02
RIM:172.25
IE IN:164.71 S
IE OUT:164.71 N

20 LF - 8" PVC @ 1.00%

16 LF - 8" PVC @ 1.00%

PROPERTY LINE (TYP.)

30.0' SETBACK

GRATE DRAIN FOR DUMPSTER PAD, SEE DETAIL 28

SSCO-02
RIM:173.38
IE IN:164.98 E
IE OUT:164.98 NW

SSGD-001
RIM:173.89
IE OUT:165.15 W

122 LF - 8" PVC @ 1.00%

51 LF - 12" HDPE @ 0.50%

SDMH-01
RIM:171.95
IE IN:169.02 E
IE OUT:169.02 S

SDCB-01
RIM:172.85
IE OUT:169.27 W

54 LF - 12" HDPE @ 0.50%

SSMH-01
RE:169.89
IE IN:166.02 E
IE OUT:166.01 N

5 LF - 8" PVC @ 1.00%

SSCO-01
RIM:174.87
IE IN:167.28 E
IE OUT:167.32 W

BP: 10+00.00

SANITARY CLEANOUT

BUILDING INVERT OUT

130 LF - 8" PVC @ 1.00%

STA: 10+18.64
6 45° BEND

PI: 10+18.64

9 LF OF 6"

STA: 10+31.49
6 45° BEND

12 LF OF 6"

PI: 10+31.49

STA: 10+92.40
6 45° BEND

60 LF OF 6"

PI: 10+92.40

57 LF OF 6"

SDCB-02
RIM:168.31
IE IN:163.38 N
IE OUT:163.38 E

48 LF - 12" HDPE @ 0.50%

STA: 11+30.06
6 45° BEND

SDMH-03
RIM:170.50
IE IN:163.09 W
IE OUT:163.09 S

10 LF OF 6"

30.0' SETBACK

PROPERTY LINE (TYP.)

11 LF - 12" HDPE @ 0.50%

SDMH-02
RIM:169.69
IE IN:163.33 W
IE OUT:163.33 E

EP: 11+48.34

16 LF - 12" HDPE @ 0.50%

CONNECT TO EXISTING STUB OUT

CONNECT TO EXISTING STUB OUT

SW BARBER ST
(ROW VARIES)

SW BOONES FERRY RD
(ROW VARIES)

CIVIL SITE PLAN LEGEND

ITEM	DESCRIPTION
	CONCRETE
	RESTORE ASPHALT PAVEMENT
	GRAVEL AREA
	STRIPED ISLAND
	PARKING STRIPING
	SIGN POST
	FENCE
	ACCESSIBLE PATH

CONSTRUCTION NOTES

1. SEE PAVING AND ADDITIONAL CONSTRUCTION NOTES ON SHEET G1.0.
2. CONTRACTOR TO BORE AND / OR HAND-TRENCH CONDUIT AS REQUIRED PER NEC.
3. ALL EQUIPMENT SHALL BE INSTALLED PER CLIENT DESIGN STANDARDS.
4. CONTRACTOR TO RETURN ALL AREAS OF DISTURBANCE BACK TO EXISTING GRADE AND UP TO OR BETTER THAN EXISTING CONDITIONS.
5. ALL DIMENSIONS ARE TO THE FACE OF CURB UNLESS NOTED OTHERWISE.

PAVEMENT MARKING NOTES

1. CONTRACTOR SHALL TAKE FIELD MEASUREMENTS OR OTHERWISE ESTABLISH A SURVEY OF THE EXISTING STRIPING IN ALL WORK AREAS IN ORDER TO ESTABLISH ALL EXISTING PAVEMENT MARKINGS WITH FULL COORDINATION OF NEW MARKINGS PROPOSED ON THIS PLAN.
2. UNLESS OTHERWISE INDICATED ON THIS PLAN, THE CONTRACTOR SHALL ESTABLISH PAVEMENT MARKINGS FOR ALL FIRE LANES, DIRECTIONAL ARROWS, STOP BARS, CURBS, SIDEWALK, LIGHT POLE BASES, SIGN BASES AND PARKING STALLS TO MATCH THE EXISTING SITE WITHIN THE REPAIR LIMITS.
3. CONTRACTOR TO USE APPROPRIATE PAINT COLORS TO MATCH THE EXISTING FEATURES. ADA BARRIER FREE AREAS TO COMPLY WITH ALL LOCAL AND FEDERAL ADA STANDARDS. PAVEMENT MARKINGS SHALL BE A HIGH QUALITY PAINT RECOMMENDED BY THE PAINT MANUFACTURER. PAINT COLORS SHALL CLOSELY MATCH THE FEDERAL STANDARD 595B COLOR NUMBER AS FOLLOWS: BLUE-COLOR 15180, WHITE-COLOR 37925 AND YELLOW-COLOR 33538.
4. IN AREAS NOT BEING RESURFACED BUT REQUIRING RESTRIPING, CONTRACTOR SHALL REMOVE EXISTING STRIPING BY EITHER SAND BLASTING, WATER BLASTING, OR BY ANOTHER APPROVED METHOD OF STRIPING REMOVAL. WHERE THE STRIPING REMOVAL CHANGES THE SURFACE TEXTURE OF THE EXISTING ASPHALT, CONTRACTOR SHALL SEAL COAT THE AREA PRIOR TO RESTRIPING. CONTRACTOR TO SUBMIT STRIPING REMOVAL METHOD TO PROPERTY MANAGER AND ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE (30"x42")

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CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97880
OREGON
NOV. 15, 2023
QUINN A. DUFF

EXPIRES: 12/31/2027

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SHEET TITLE

UTILITY PLAN

SHEET NUMBER
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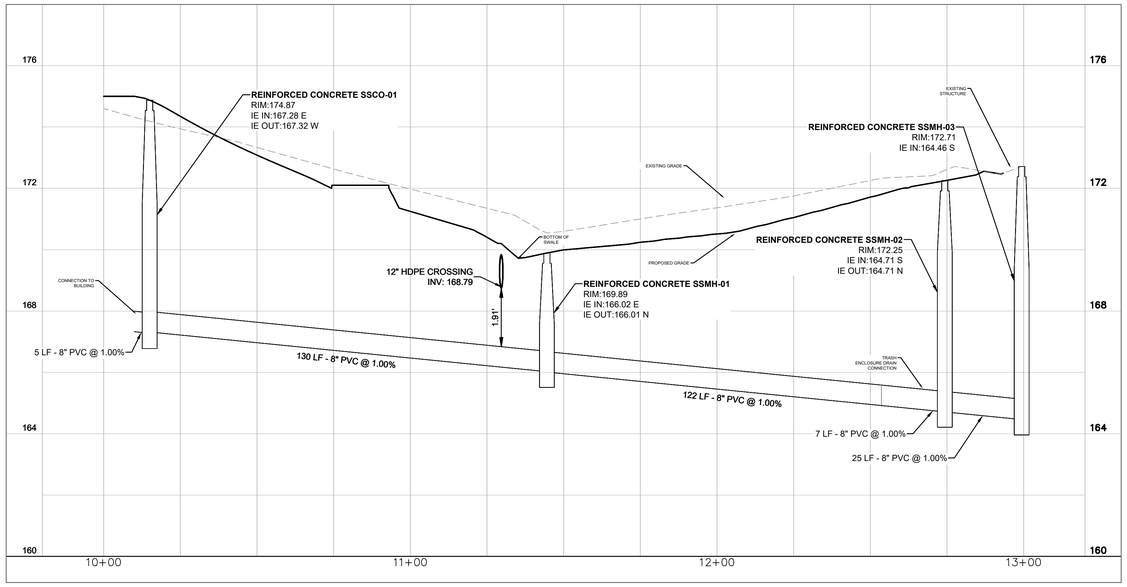
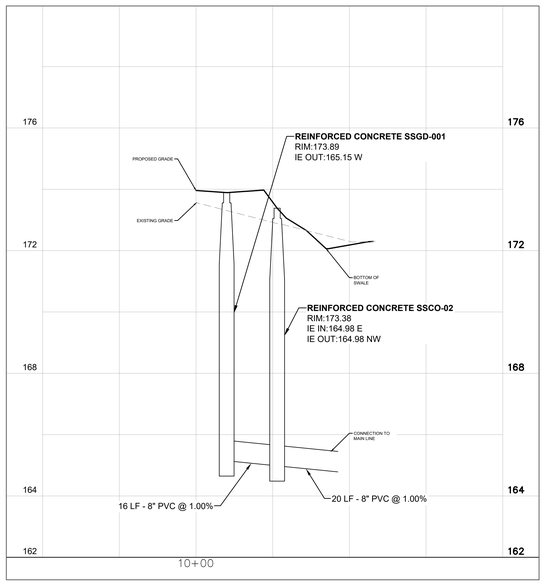


SANITARY SEWER PROFILE:
MAIN LINE FROM RESTROOM BUILDING TO EXISTING STRUCTURE



SANITARY SEWER PROFILE:
SECONDARY LINE FROM GARBAGE ENCLOSURE TO MAIN LINE

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SCALE: 1" = 20'
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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97885
OREGON
NOV 15, 2023
QUINN A. DUFFY
EXPIRES: 12/31/2027

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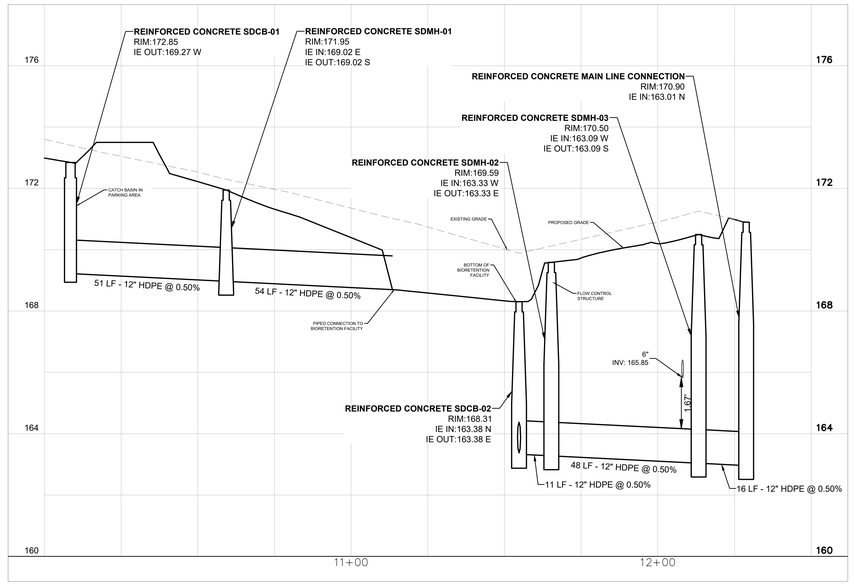
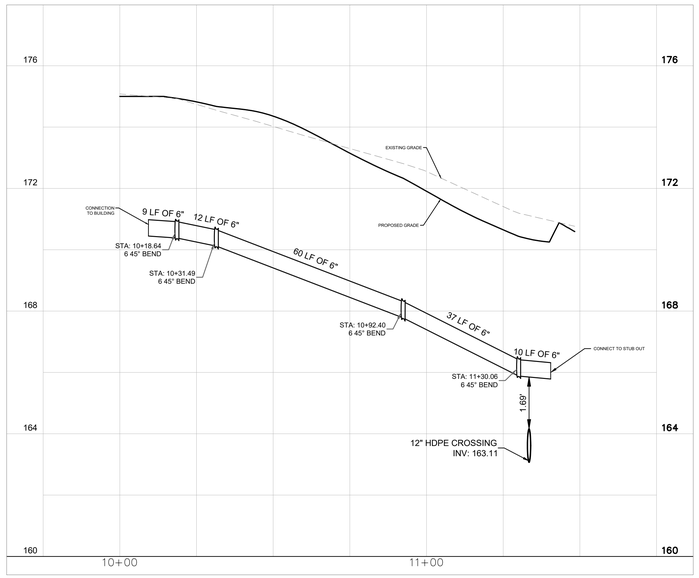


STORMWATER LINE PROFILE:
MAIN LINE FROM PARKING LOT CATCH BASIN TO EXISTING STUB OUT



SANITARY SEWER PROFILE:
MAIN LINE FROM RESTROOM BUILDING TO EXISTING STUB OUT

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Main: (503) 404-3910 | www.kimley-horn.com
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9025 SW BARBER ST
WILSONVILLE, OR 97070
STORE NO.: 0005
KIMLEY-HORN PROJECT NO.: 196950063
EV STALLS: 16

PUBLIC EV

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER
97881PE
OREGON
NOV 15, 2023
QUINN A. DUFFY
EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
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DESIGNED BY: NDR
DRAWN BY: NDR
CHECKED BY: NJR
DOCUMENT DATE: 02/26/2026

SHEET TITLE
UTILITY PROFILES

SHEET NUMBER
C4.3

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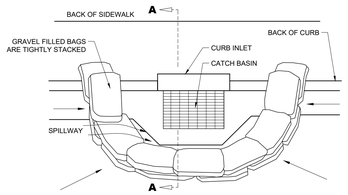
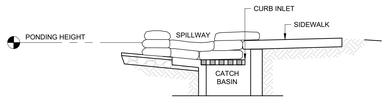


PLAN VIEW



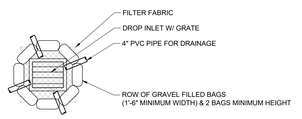
SECTION A-A

NOTES:

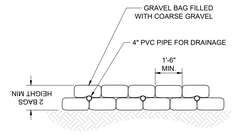
1. PLACE CURB TYPE SEDIMENT BARRIERS ON GENTLY SLOPING STREET SEGMENTS, WHERE WATER CAN POND AND ALLOW SEDIMENT TO SEPARATE FROM RUNOFF.
2. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%.
3. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
4. PLACE SEVERAL LAYERS OF SAND BAGS (1'-0" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
5. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT. SEDIMENT AND GRAVEL MUST BE REMOVED FROM THE TRAVELED WAY IMMEDIATELY.

CURB INLET SEDIMENT BARRIER

SCALE: N.T.S. | 1



PLAN VIEW



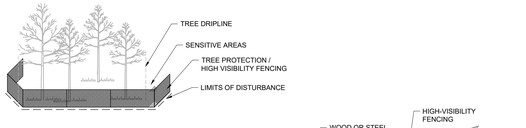
SECTION VIEW

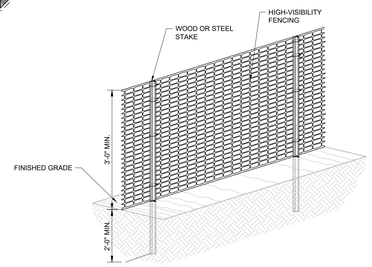
NOTES:

1. GRAVEL BAG MATERIAL: POLYPROPYLENE, POLYETHYLENE OR POLYMIDE WOVEN FABRIC, MINIMUM UNIT WEIGHT 4 OUNCES PER SQUARE YARD, MULLEN BURST STRENGTH EXCEEDING 300 PSI AND ULTRAVIOLET STABILITY EXCEEDING 70%
2. GRAVEL BAG SHALL BE FILLED WITH 3/4" ROCK OR 1/4" PEA GRAVEL.
3. PLACE SEVERAL LAYERS OF SAND BAGS (1'-0" MINIMUM HIGH) OVERLAPPING THE BAGS AND PACKING THEM TIGHTLY TOGETHER.
4. LEAVE GAP OF ONE BAG ON THE TOP ROW TO SERVE AS A SPILLWAY.
5. PLACE WIRE MESH OVER AND 1'-0" (MINIMUM) BEYOND THE INLET STRUCTURE.
6. PLACE FILTER FABRIC OVER WIRE MESH. FILTER FABRIC SHALL BE MANUFACTURED FROM UV RESISTANT POLYPROPYLENE, NYLON, POLYESTER, OR ETHYLENE FABRIC WITH AN EQUIVALENT OPENING SIZE NOT GREATER THAN 20 SIEVE AND WITH A MINIMUM FLOW RATE OF 40 GALLONS/MINUTE/SQ. FT.
7. INSPECT BARRIERS AND REMOVE SEDIMENT AFTER EACH STORM EVENT.

DROP INLET SEDIMENT BARRIER

SCALE: N.T.S. | 2





NOTES:

1. FURNISH AND INSTALL TEMPORARY HIGH-VISIBILITY FENCING AT THE TREE DRIPLINE OR CONSTRUCTION LIMITS AS SHOWN ON EROSION CONTROL PLANS PRIOR TO ANY LAND DISTURBANCE.
2. WHEN POSSIBLE PLACE FENCE 25 FEET BEYOND THE DRIP LINE.

TREE PROTECTION

SCALE: N.T.S. | 3

PERMANENT STABILIZATION MEASURES SHALL BE DONE IN ACCORDANCE WITH LOCAL EROSION AND SEDIMENT CONTROL REQUIREMENTS

PERMANENT STABILIZATION

SCALE: N.T.S. | 4

SEQUENCE

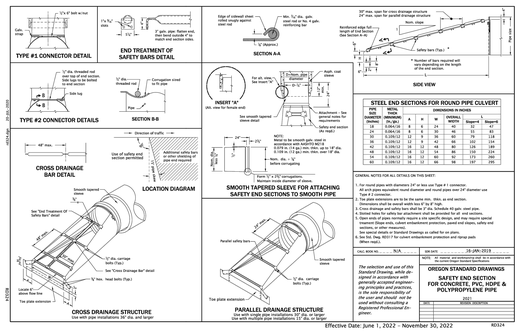
1. PERFORM ANY ROOT PRUNING.
2. INSTALL PROTECTION FENCING.
3. BREAK OR CUT CURB A 6' SECTION OF CURB.
4. CAREFULLY ROTATE CURB SECTION AWAY FROM ROOTS.
5. COORDINATE ALL DEMOLITION OPERATIONS w/ LANDSCAPE ARCHITECT.
6. INSTALL NEW BACKFILL OR SIDEWALK/CURB.

PLAN

ALL DEMOLITION PROCEDURES SHALL OCCUR OUTSIDE THE PROTECTION AREA. COORDINATE WITH LANDSCAPE ARCHITECT.

DEMOLITION PROCEDURE - CURBING

SCALE: N.T.S. | 5



STEEL END SECTIONS FOR ROUND PIPE CULVERT

DIA SIZE (Inches)	METAL THICKNESS (Inches, Min.)	DIMENSIONS IN INCHES A	B	W	OVERALL WIDTH	Diagonal S	Diagonal S
18	0.064/16	8	6	24	46	32	42
24	0.064/16	8	6	24	46	32	42
30	0.109/12	12	9	42	66	55	74
36	0.109/12	12	9	42	66	102	134
42	0.109/12	12	9	42	66	102	134
48	0.109/12	18	12	60	96	126	166
54	0.109/12	18	12	60	92	173	200
60	0.109/12	18	12	60	96	197	235

CALL 800-NO-..... TOLL FREE ..... 48 HRS. ..... 1-800-332-2344 ..... NOTE: All material and installation shall conform to the current Oregon Standard Specifications.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

SAFETY END SECTION FOR CONCRETE, PVC, HDPE & POLYPROPYLENE PIPE

2021

NO.	DATE	REVISION DESCRIPTION

Effective Date: June 1, 2022 – November 30, 2022 — RD324

OUTLET/INLET FOR CULVERT PIPING ODOT RD324

SCALE: N.T.S. | 6

NOTES:

1. ORIFICE AND WEIR DIMENSIONS AND ELEVATION DETERMINED THROUGH FACILITY SIZING MODEL.
2. PIPE SIZING DETERMINED BY ENGINEER.
3. SECONDARY OUTLET SIZED FOR PEAK DESIGN STORM.
4. TOTAL POND DEPTH, PER FACILITY SIZING MODEL, INCLUDES 6" GROWING MEDIA, SEPARATION LAYER, AND DRAIN ROCK AS SHOWN ON ST-6060.
5. SEE DETAIL S-2049 FOR SUMP DEPTH

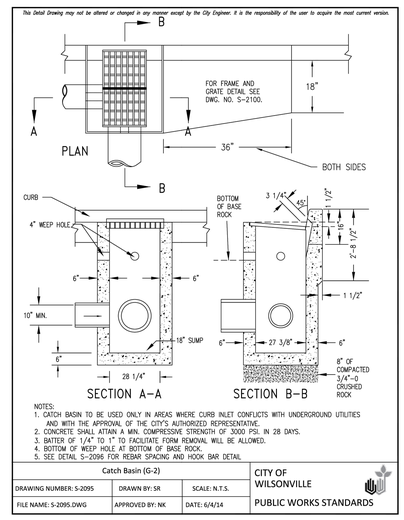
Standard Manhole		
DRAWING NUMBER: S-2005	DRAWN BY: SS	SCALE: N.T.S.
FILE NAME: S-2005.DWG	APPROVED BY: ZW	DATE: 7/23/21

CITY OF WILSONVILLE

PUBLIC WORKS STANDARDS

STANDARD STORM MANHOLE S-2005

SCALE: N.T.S. | 7



NOTES:

1. CATCH BASIN TO BE USED ONLY IN AREAS WHERE CURB INLET CONFLICTS WITH UNDERGROUND UTILITIES AND WITH THE APPROVAL OF THE CITY'S AUTHORIZED REPRESENTATIVE..
2. CONCRETE SHALL ATTAIN A MIN. COMPRESSIVE STRENGTH OF 3000 PSI IN 28 DAYS.
3. BATTER OF 1/4" TO 1" TO FACILITATE FORM REMOVAL WILL BE ALLOWED.
4. BOTTOM OF WEEP HOLE AT BOTTOM OF BASE ROCK.
5. SEE DETAIL S-2096 FOR REBAR SPACING AND REBAR BACK UP DETAIL

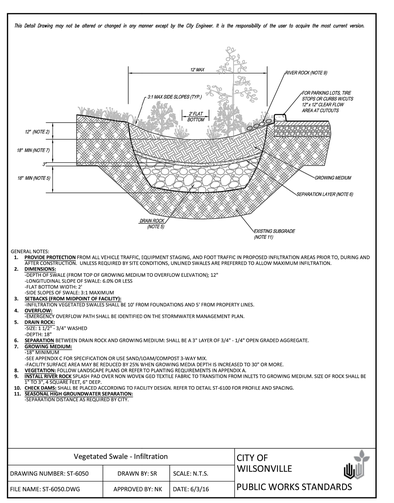
Catch Basin (G-2)		
DRAWING NUMBER: S-2095	DRAWN BY: SR	SCALE: N.T.S.
FILE NAME: S-2095.DWG	APPROVED BY: NK	DATE: 6/4/14

CITY OF WILSONVILLE

PUBLIC WORKS STANDARDS

STANDARD CATCH BASIN S-2095

SCALE: N.T.S. | 8



GENERAL NOTES:

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED SWALES ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION.
2. **DIMENSIONS:**
   - DEPTH (TO STORAGE (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): 12"
   - LONGITUDINAL SLOPE OF SWALE: 6.0% OR LESS
   - FLAT BOTTOM WIDTH: 2'
   - SIDE SLOPES OF SWALE: 3:1 MAXIMUM
3. **SETBACKS (FROM MIDPOINT OF FACILITY):**
   - FROM PROPERTY LINES: VEGETATED SWALES SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES.
4. **OVERFLOW:**
   - EMERGENCY OVERFLOW PATH SHALL BE IDENTIFIED ON THE STORMWATER MANAGEMENT PLAN.
5. **DRAIN ROCK:**
   - SIZE: 1 1/2" - 3/4" WASHED
   - DEPTH: 18"
6. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. **GROWING MEDIUM:**
   - DEPTH: 18"
   - SEE APPENDIX C FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
   - FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
9. **INSTALL RIVER ROCK** SPLASH PAD OVER NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 18"D X 4 SQUARE FEET; 4" DEEP.
10. **CHECK DAMS:** PLACE AS NEEDED ACCORDING TO FACILITY DESIGN. REFER TO DETAIL ST-6100 FOR PROFILE AND SPACING.
11. **SEPARATION FROM GROUNDWATER SEPARATION:**
    - SEPARATION DISTANCE AS REQUIRED BY CITY.

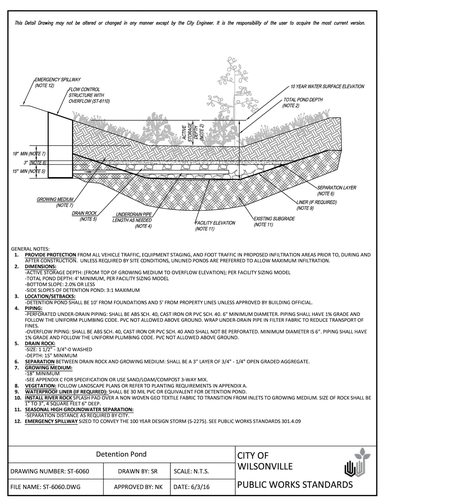
Vegetated Swale - Infiltration		
DRAWING NUMBER: ST-6050	DRAWN BY: SR	SCALE: N.T.S.
FILE NAME: ST-6050.DWG	APPROVED BY: NK	DATE: 6/3/16

CITY OF WILSONVILLE

PUBLIC WORKS STANDARDS

VEGETATED SWALE ST-6050

SCALE: N.T.S. | 9



GENERAL NOTES:

1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION. UNLESS REQUIRED BY SITE CONDITIONS, UNLINED PONDS ARE PREFERRED TO ALLOW MAXIMUM INFILTRATION.
2. **DIMENSIONS:**
   - ACTIVE STORAGE DEPTH: (FROM TOP OF GROWING MEDIUM TO OVERFLOW ELEVATION): PER FACILITY SIZING MODEL
   - TOTAL POND DEPTH: 4' MINIMUM, PER FACILITY SIZING MODEL
   - BOTTOM SLOPE: 2.0% OR LESS
   - SIDE SLOPES OF DETENTION POND: 3:1 MAXIMUM
3. **LOCATION/SETBACKS:**
   - DETENTION POND SHALL BE 10' FROM FOUNDATIONS AND 5' FROM PROPERTY LINES UNLESS APPROVED BY BUILDING OFFICIAL.
4. **PIPING:**
   - PERFORATED UNDER-DRAIN PIPING: SHALL BE ABS SCH. 40, CAST IRON OR PVC SCH. 40. 6" MINIMUM DIAMETER. PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND. WRAP UNDER-DRAIN PIPE IN FILTER FABRIC TO REDUCE TRANSPORT OF FINES.
   - OVERFLOW PIPING: SHALL BE ABS SCH. 40, CAST IRON OR PVC SCH. 40 AND SHALL NOT BE PERFORATED. MINIMUM DIAMETER IS 6". PIPING SHALL HAVE 1% GRADE AND FOLLOW THE UNIFORM PLUMBING CODE. PVC NOT ALLOWED ABOVE GROUND.
5. **DRAIN ROCK:**
   - SIZE: 1 1/2" - 3/4" O WASHED
   - DEPTH: 15" MINIMUM
6. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. **GROWING MEDIUM:**
   - DEPTH: 18" MINIMUM
   - SEE APPENDIX C FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
8. **VEGETATION:** FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
9. **WATERPROOF LINER (IF REQUIRED):** SHALL BE 30 MIL PVC OR EQUIVALENT FOR DETENTION PONDS.
10. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1'-0" X 4' SQUARE FEET X 6" DEEP.
11. **SEPARATION FROM GROUNDWATER SEPARATION:**
    - SEPARATION DISTANCE AS REQUIRED BY CITY.
12. **EMERGENCY SPILLWAY** SIZED TO CONVEY THE 100 YEAR DESIGN STORM (S-2275). SEE PUBLIC WORKS STANDARDS 301.4.09

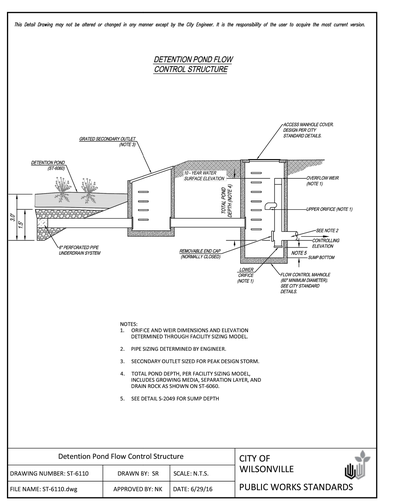
Detention Pond		
DRAWING NUMBER: ST-6060	DRAWN BY: SR	SCALE: N.T.S.
FILE NAME: ST-6060.DWG	APPROVED BY: NK	DATE: 6/3/16

CITY OF WILSONVILLE

PUBLIC WORKS STANDARDS

DETENTION POND ST-6060

SCALE: N.T.S. | 10



NOTES:

1. ORIFICE AND WEIR DIMENSIONS AND ELEVATION DETERMINED THROUGH FACILITY SIZING MODEL.
2. PIPE SIZING DETERMINED BY ENGINEER.
3. SECONDARY OUTLET SIZED FOR PEAK DESIGN STORM.
4. TOTAL POND DEPTH, PER FACILITY SIZING MODEL, INCLUDES 6" GROWING MEDIA, SEPARATION LAYER, AND DRAIN ROCK AS SHOWN ON ST-6060.
5. SEE DETAIL S-2049 FOR SUMP DEPTH

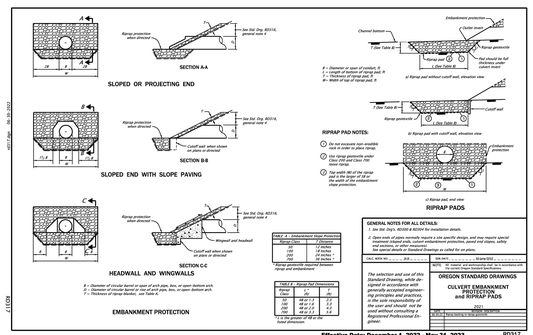
Detention Pond Flow Control Structure		
DRAWING NUMBER: ST-6110	DRAWN BY: SR	SCALE: N.T.S.
FILE NAME: ST-6110.dwg	APPROVED BY: NK	DATE: 6/29/16

CITY OF WILSONVILLE

PUBLIC WORKS STANDARDS

DETENTION POND FLOW CONTROL STRUCTURE ST-6110

SCALE: N.T.S. | 11



CULVERT EMBANKMENT PROTECTION and RIPRAP PADS RD317

SCALE: N.T.S. | 12

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PLANNING APPLICATION COMPLETENESS REVIEW

EV STALLS: 16

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CONSULTANTS

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9025 SW BARBER ST
WILSONVILLE, OR 97070
STORE NO.: 0005
KIMLEY-HORN PROJECT NO.: 196950063

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER — OREGON — NOV. 15, 2023 — QUINN A. DUFFY

EXPIRES: 12/31/2027

DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE

E&S DETAILS

SHEET NUMBER

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POST-INSTALLED ANCHOR NOTES

1. UNLESS OTHERWISE INDICATED ON PLANS, POST-INSTALLED ANCHORS SHOULD CONSIST OF THE FOLLOWING ANCHOR TYPES, OR APPROVED EQUAL:

CHARGER	5/8" EXPANSION ANCHORS, EMBED. 3.75", HILTI KB-TZ2 SS
SWITCHBOARD	1/2" EXPANSION ANCHORS, EMBED. 3.75", HILTI KB-TZ2 SS

2. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHOULD PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT. SUBSTITUTIONS WILL BE EVALUATED BY THEIR HAVING AN ICC ESR SHOWING COMPLIANCE WITH THE RELEVANT AND CURRENT BUILDING CODE.

FOUNDATIONS

1. FOUNDATIONS ARE DESIGNED USING PRESUMPTIVE SOIL VALUES IN ACCORDANCE WITH THE LOCAL BUILDING CODE REQUIREMENTS.
2. ALL FOOTING EXCAVATIONS SHOULD BE INSPECTED BY THE GENERAL CONTRACTOR'S GEOTECHNICAL ENGINEER PRIOR TO PLACING CONCRETE.
3. IBC PRESUMPTIVE VERTICAL BEARING CAPACITY: 1,500 PSF
4. IBC PRESUMPTIVE LATERAL BEARING CAPACITY: 100 PCF
5. CONTRACTOR SHOULD ENGAGE A GEOTECHNICAL TESTING LABORATORY LICENSED IN THE STATE OF THE PROJECT TO CONFIRM SOIL PREPARATION AND SPECIFY PROCEDURES AND SPECIFY COMPACTING REQUIREMENTS NECESSARY TO OBTAIN THE DESIGN SOIL PROPERTIES. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ENGINEER OF RECORD IF ASSUMED SOIL PROPERTIES CANNOT BE OBTAINED ON SITE.

PROJECT GENERAL NARRATIVE AND REQUIREMENTS:

1. THESE CONSTRUCTION DOCUMENTS ARE SPECIFICALLY APPLICABLE TO FOUNDATIONS SUPPORTING THE COMPONENTS LISTED BELOW:

COMPONENT NAME	COMPONENT DIMENSIONS (WxHxD, FT)	COMPONENT WEIGHT (LBS)	EQUIVALENT UNIFORM AREA LOAD (PSF)
CHARGER	2.40x7.34x2.80	1,841	273.81
SWITCHBOARD (3 BAY)	11.17x8.00x4.17	3,269	70.18
SWITCHBOARD (4 BAY)	14.50x8.00x4.00	5,000	86.21

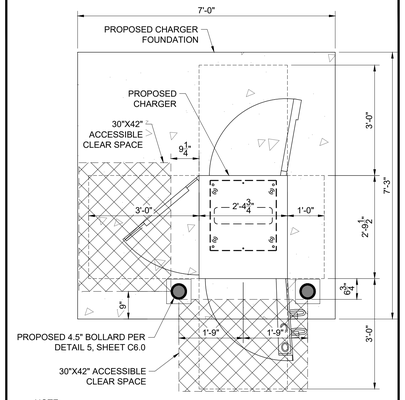
2. EQUIPMENT YIELDING MAXIMUM EQUIVALENT UNIFORM AREA LOAD WAS USED IN DESIGN OF EQUIPMENT PADS.
3. FOUNDATION DESIGN IS BASED ON THE DESIGN CRITERIA.
4. IF THE PROJECT IS LOCATED IN AN AREA CLASSIFIED AS SITE CLASS E OR F, A SITE-SPECIFIC GEOTECHNICAL ANALYSIS IS REQUIRED AND THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.
5. THE CONTRACTOR'S SCOPE OF WORK FOR THIS PROJECT SHOULD INCLUDE ALL COORDINATION, MATERIALS, LABOR, AND OVERHEAD NECESSARY FOR COMPLETION OF THE FOLLOWING:
   - A. ALL STRUCTURES ARE DESIGNED TO ACT AS A STRUCTURAL UNIT UPON COMPLETION. CONTRACTOR SHOULD DESIGN AND PROVIDE NECESSARY BRACING, TEMPORARY SUPPORTS, AND SHORING TO RESIST FORCES ON THE STRUCTURE DURING CONSTRUCTION.
   - B. VERIFY ALL DIMENSIONS AND ELEVATIONS PRIOR TO STARTING WORK. NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
   - C. VERIFY LOCATIONS OF ALL EXISTING UTILITIES PRIOR TO STARTING WORK.
   - D. CONTRACTOR MUST EXERCISE EXTREME CARE DURING THE EXCAVATION AND CONSTRUCTION FOR NEW STRUCTURE TO AVOID DAMAGE TO EXISTING STRUCTURES. CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MEANS AND METHODS REQUIRED TO FACILITATE CONSTRUCTION OF THE WORK AND ENSURING THE SAFETY, STABILITY AND INTEGRITY OF ADJACENT STRUCTURES AND FACILITIES.
   - E. CONTRACTOR MUST ENGAGE A GEOTECHNICAL ENGINEER TO FIELD VERIFY SOIL PARAMETERS NOTED IN THE FOUNDATION NOTES AND CONCRETE CLASS NOTED UNDER CONCRETE NOTES.

DESIGN CRITERIA:

1. DESIGN CRITERIA IS BASED ON THE CONTROLLING GEOGRAPHICAL LOADINGS CONSIDERING CLIENT-PROVIDED PROJECT LOCATIONS IN THE UNITED STATES.
2. THE DESIGN CRITERIA PERTAINING TO EACH SPECIFIC SITE WILL DIFFER FROM THE DESIGN CRITERIA LISTED BELOW. THE DESIGN CRITERIA LISTED BELOW IS CONSERVATIVE RELATIVE TO THE SITE SPECIFIC DESIGN WITH THE CONSIDERATION OF PROJECT GENERAL NARRATIVE AND REQUIREMENTS OF NOTE 4, ABOVE.
3. DESIGN LOADS
   - RISK CATEGORY = II
   - DEAD LOAD:
     - SELF WEIGHT OF MATERIAL
   - WIND:
     - DESIGN WIND SPEED (3 SEC. GUST) = #200 MPH (ULTIMATE)
     - WIND EXPOSURE = C
   - SEISMIC:
     - SEISMIC IMPORTANCE FACTOR, IE = 1.0
     - MAPPED SPECTRAL RESPONSE ACCELERATION PARAMETERS:
       - S_S = #211
       - S_1 = #212
     - SITE CLASS = D, DEFAULT
     - DESIGN SPECTRAL RESPONSE ACCELERATION PARAMETERS:
       - S_{DS} = #213
       - S_{D1} = #214
     - SEISMIC DESIGN CATEGORY = #210
     - RESPONSE MODIFICATION COEFFICIENT (Ra) = 3.0
   - FROST DEPTH = #201

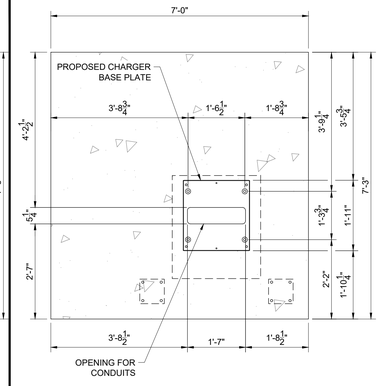
**NOTE: PRIOR TO CONSTRUCTION, SITE-SPECIFIC VALUES SHOULD BE DETERMINED FOR EACH PROPOSED PROJECT LOCATION. SHOULD SITE-SPECIFIC VALUES EXCEED THOSE NOTED ABOVE, THE ENGINEER OF RECORD SHOULD BE CONTACTED IMMEDIATELY.

STRUCTURAL NOTES | SCALE N.T.S. | 1



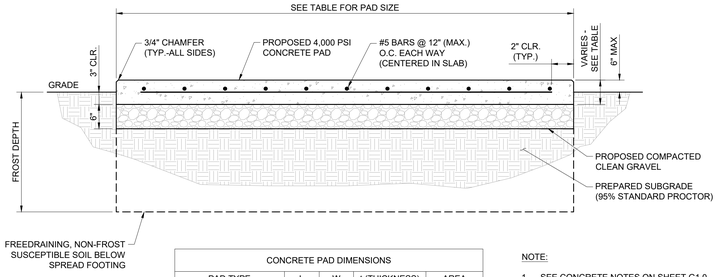
NOTE:
CONTRACTOR TO VERIFY DIMENSIONS WITH EQUIPMENT SUPPLIER PRIOR TO CONSTRUCTION.

EV CHARGER CLEARANCE DETAIL | SCALE N.T.S. | 2



NOTE:
CONTRACTOR TO VERIFY DIMENSIONS WITH EQUIPMENT SUPPLIER PRIOR TO CONSTRUCTION.

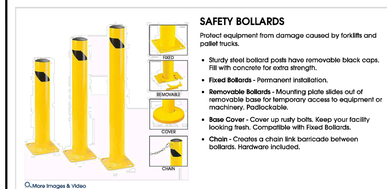
EV CHARGER OPENINGS DETAIL | SCALE N.T.S. | 3



CONCRETE PAD DIMENSIONS				
PAD TYPE	L	W	t (THICKNESS)	AREA
CHARGER (5x5)	5'-0"	5'-0"	12"	25.00 S.F.
CHARGER (7x7.25)	7'-0"	7'-3"	8"	50.75 S.F.
SWITCHBOARD (3 BAY)	12'-6"	5'-6"	10"	68.75 S.F.
SWITCHBOARD (4 BAY)	15'-6"	5'-0"	12"	77.50 S.F.

NOTE:
1. SEE CONCRETE NOTES ON SHEET G1.0
2. TOP OF EQUIPMENT PAD IS INTENDED TO BE LEVEL. GC TO COORDINATE PAD EMBEDMENT DEPTH WITH ACTUAL SITE GRADING PLANS.
3. CONTRACTOR SHALL VERIFY FROST DEPTH PRIOR TO CONSTRUCTION.

EQUIPMENT PAD | SCALE N.T.S. | 4



SAFETY BOLLARDS

Protect equipment from damage caused by forklifts and pallet trucks.

- Sturdy steel bollard posts have removable black caps. Fill with concrete for extra strength.
- **Fixed Bollards** - Permanent installation.
- **Removable Bollards** - Mounting plate slides out of removable base for temporary access to equipment or machinery. Padlockable.
- **Base Cover** - Cover up rusty bolts. Keep your facility looking fresh. Compatible with Fixed Bollards.
- **Chain** - Creates a chain link barricade between bollards. Hardware included.

FIXED | REMOVABLE | COVER | CHAIN

More Images & Video

STANDARD SAFETY BOLLARDS - 11 Gauge

MODEL NO.	DIAM.	HEIGHT	MOUNTING PLATE DIM.	WT. (LBS.)	FIXED PRICE EACH 1	FIXED PRICE EACH 4+	FIXED ADD TO CART	REMOVABLE PRICE EACH 1	REMOVABLE PRICE EACH 4+	REMOVABLE ADD TO CART
H-5555		24"		18	$90	$85	1 ADD	$110	$105	1 ADD
H-2118		36"		22	95	90	1 ADD	115	110	1 ADD
H-2119	4.5"	42"	8 x 8"	24	110	105	1 ADD	130	125	1 ADD
H-5556		48"		26	120	115	1 ADD	140	135	1 ADD
H-6290		60"		34	140	135	1 ADD	160	150	1 ADD

SHIPS VIA UPS

HEAVY DUTY SAFETY BOLLARDS - 9 Gauge

MODEL NO.	DIAM.	HEIGHT	MOUNTING PLATE DIM.	WT. (LBS.)	FIXED PRICE EACH 1	FIXED PRICE EACH 4+	FIXED ADD TO CART	REMOVABLE PRICE EACH 1	REMOVABLE PRICE EACH 4+	REMOVABLE ADD TO CART
H-4970	5.5"	36"	8 x 8"	27	$110	$105	1 ADD	$130	$125	1 ADD
H-4971		42"		43	125	120	1 ADD	145	140	1 ADD
H-6291		48"		51	140	135	1 ADD	165	155	1 ADD
H-6292		60"		67	170	160	1 ADD	190	180	1 ADD
H-11153*	6.5"	42"	8 x 8"	52	155	145	1 ADD	180	170	1 ADD
H-11154*		48"		59	175	165	1 ADD	200	190	1 ADD

SHIPS VIA UPS

* 7 Gauge

BOLLARD BASE COVERS - Compatible with Fixed Bollards

MODEL NO.	DIMENSIONS DIAM. x H	FITS BOLLARD DIAMETER	WT. (LBS.)	PRICE EACH 1	PRICE EACH 4+	ADD TO CART
H-10463	14 x 3"	4.5"				1 ADD
H-10464	14 x 3"	5.5"	9	$45	$42	1 ADD
H-11155	14 x 3"	6.5"				1 ADD

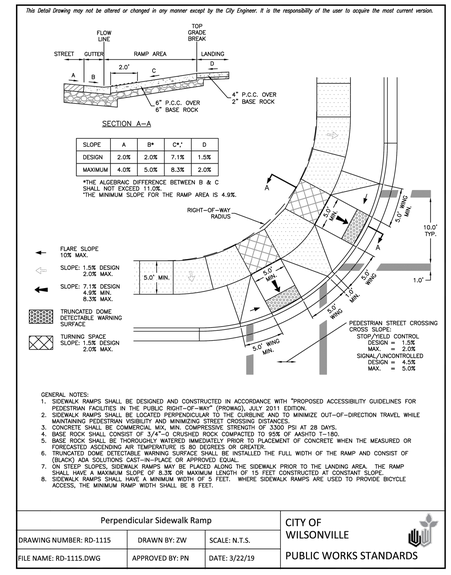
SAFETY BOLLARD ACCESSORIES

MODEL NO.	DESCRIPTION	WT. (LBS.)	PRICE EACH 1	PRICE EACH 4+	ADD TO CART
H-2121	Concrete Installation Kit (4 Anchors/Kit)	3	$23	$21	1 ADD
H-6289	10' Steel Chain	5	18	17	1 ADD

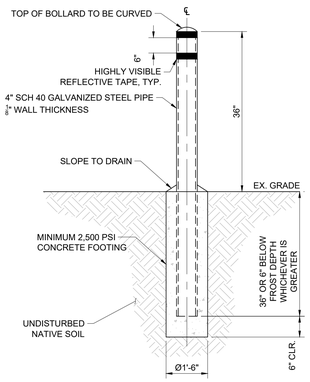
SHIPS VIA UPS

SURFACE MOUNTED BOLLARD DETAIL | SCALE N.T.S. | 5

BOLLARD BASE COVER DETAIL | SCALE N.T.S. | 6

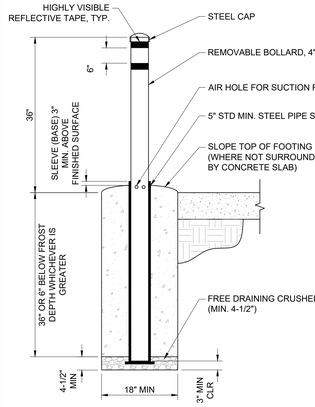


PERPENDICULAR SIDEWALK RAMP RD-1115 | SCALE N.T.S. | 7



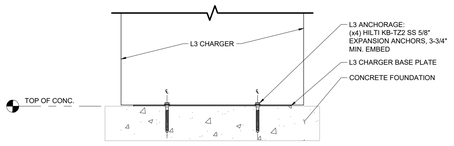
NOTES:
1. **THIS BOLLARD IS NOT RATED FOR VEHICULAR IMPACT.**

4" FIXED BOLLARD | SCALE N.T.S. | 8



NOTES
1. 1. 4" STD PAINTED STEEL PIPE
2. 2. 36" MIN EMBED IN CONC FOOTING
3. 3. 18" MIN DIA CONCRETE FOOTING
4. 4. SET POST NOT LESS THAN 36" ABOVE GRADE
5. 5. LUBRICATED IN-GROUND PORTION OF THE PIPE TO PREVENT ADHESION TO THE SLEEVE

4" REMOVABLE BOLLARD | SCALE N.T.S. | 9

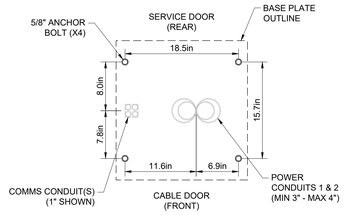


L3 ANCHORAGE

NOTE:
1. L3 ANCHORS MUST BE A MINIMUM OF 6" FROM EDGE OF EXISTING CONCRETE.
2. SEE DETAIL 4, SHEET C6.0 FOR CONCRETE FOUNDATION DIMENSIONS.

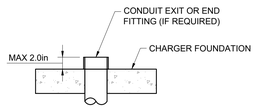
L3 CHARGER ANCHORAGE | SCALE N.T.S. | 10

HYC400 BASEPLATE DIMENSION AND CONDUIT ENTRY LOCATION



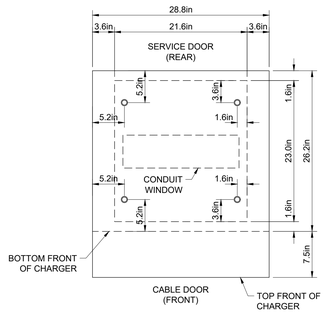
NOTE: TO MEET EQUIPMENT SPACE AND WIRE REQUIREMENTS, POWER CONDUITS MUST BE CENTERED EXACTLY TO THE B-PHASE AS SHOWN.

CONDUIT HEIGHT REQUIREMENT



NOTE: TO MEET BEND RADIUS REQUIREMENTS, TOP OF CONDUIT SHALL BE LESS THAN 2" ABOVE CHARGER FOUNDATION. IF REQUIRED, CONDUIT END FITTING SHOULD BE FLUSH WITH CONCRETE

HYC400 BASEPLATE DIMENSION INSIDE CHARGER HOUSING



HYC400 BASEPLATE DIMENSIONS AND CONDUIT WINDOW DETAILS | SCALE N.T.S. | 11

Kimley»Horn
1 SW COLUMBIA ST #650, PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER 97880 OREGON NOV 15, 2023 QUINN A. DUFFY
EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
1			
2			
3			
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DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C6.0

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GENERAL NOTES

SCALE: N.T.S. | 1

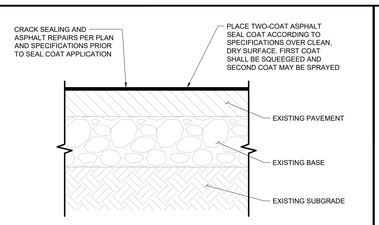
UNLESS NOTED OTHERWISE, THE FOLLOWING NOTES RELATING TO THE "SITE DETAILS" SHEETS SHALL GOVERN.

1. COMPRESSIVE STRENGTH OF CONCRETE FOUNDATION SHALL BE A MINIMUM OF 4,000 PSI AT 28 DAYS WITH MAXIMUM W/CM RATIO OF 0.45 AND AIR-CONTENT OF 6% +/- 1.5%.
2. MINIMUM YIELD STRENGTH OF REINFORCEMENT TO BE 60,000 PSI (ASTM-A615).
3. REFERENCE CIVIL AND ELEC. DRAWING FOR EQUIPMENT LAYOUT, LOCATION OF CONDUIT, ETC.
4. FINAL ANCHOR BOLT AND POLE DESIGN INCLUDING SIZE AND CONFIGURATION ARE BY MFR.
5. BEFORE STARTING ANY WORK, THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS ON THE SITE AND REPORT ANY DISCREPANCIES IMMEDIATELY TO THE ENGINEER.
6. NO GEOTECHNICAL ENGINEERING REPORT WAS PROVIDED BY THE OWNER. FOUNDATION DESIGN IS BASED ON A MINIMUM OF 1,500 PSF NET ALLOWABLE BEARING PRESSURE ON UNDISTURBED NATURAL SOIL OR COMPACTED FILL UNLESS OTHERWISE NOTED.
7. UNLESS OTHERWISE DIRECTED BY THE OWNER, ALL FOUNDATION WORK RELATED TO INSTALLATION OF REBAR SHALL BE INSPECTED BY OTHERS.
8. KIMLEY-HORN AND ASSOCIATES, INC. IS NOT RESPONSIBLE FOR THE DESIGN OF THE EQUIPMENT OR ANCHORAGE TO THE FOUNDATION. MANUFACTURER SHALL SUBMIT LOADS TO ENGINEER FOR RECORD KEEPING PURPOSES ONLY.
9. DESIGN IS BASED ON THE SPECIFIC EQUIPMENT SHOWN IN THESE DRAWINGS AND ILLUSTRATED ON THE CUT SHEETS.
10. ALL MATERIALS SHALL BE IN ACCORDANCE WITH THE LOCAL DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
11. ALL FOUNDATIONS ARE TO INCLUDE COMPACTED SUBGRADE AND MINIMUM 6" COMPACTED STONE BASE UNLESS OTHERWISE SPECIFIED.

NOTE: BOLLARDS ARE NOT DESIGNED FOR FULL 6 KIP IMPACT LOADS UNLESS OTHERWISE NOTED AS "VEHICULAR RATED".

ASPHALT - SEAL COAT

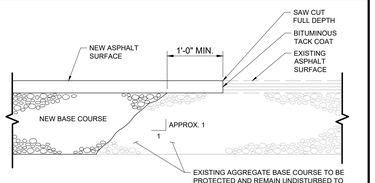
SCALE: N.T.S. | 2



SECTION VIEW

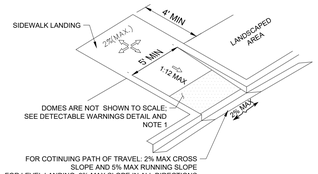
ASPHALT PAVEMENT JOINT

SCALE: N.T.S. | 3



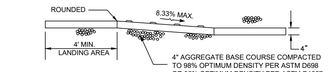
ACCESSIBLE RAMP

SCALE: N.T.S. | 4



NOTES:

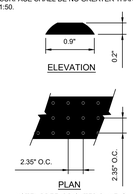
1. ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH THE LOCAL, STATE, AND FEDERAL REGULATIONS WHICHEVER ARE MORE STRINGENT.
2. CURB RAMPS SHALL HAVE A DETECTABLE WARNING EXTENDING THE FULL WIDTH OF THE CURB RAMP AND 3' DEEP OR AS REQUIRED BY THE LOCAL JURISDICTION/ GOVERNING AUTHORITIES
3. PUBLIC SIDEWALK CURB RAMPS CONSTRUCTED WITHIN A PUBLIC RIGHT- OF -WAY, IN ABSENCE OF LOCAL ROADWAY GUIDELINES, SHALL MEET OR EXCEED LOCAL REGULATIONS.
4. INSTALL 1/4" EXPANSION JOINT FILLER MATERIAL BETWEEN A NEW CURB RAMP AND THE EXISTING SIDEWALKS.
5. WATER PONDING WITHIN THE CURB RAMP LIMITS IS NOT ALLOWED.
6. NO GRADE BREAK IS ALLOWED ALONG THE RAMP SURFACE.
7. CROSS SLOPE OF THE CURB RAMP SURFACE SHALL BE LESS THAN 2%.
8. TRANSITION CHANGE IN ELEVATION IS NOT TO EXCEED 1/2" WITHIN AN ACCESSIBLE ROUTE.



SECTION A-A'

NOTES:

1. THE SURFACE OF RAMP SHALL HAVE DETECTABLE WARNINGS AS SHOWN. DETECTABLE WARNINGS SHALL CONSIST OF RAISED TRUNCATED DOMES. SEE DETECTABLE WARNINGS DETAIL.
2. RAMP SIDE SLOPE VARIES UNIFORMLY FROM A MAXIMUM OF UP TO 10% AT CURB TO CONFORM WITH LONGITUDINAL SIDEWALK SLOPE ADJACENT TO TOP OF THE RAMP.
3. CONSTRUCT PER A.D.A. STANDARDS.
4. REFER TO PLANS FOR ADJACENT SLOPES.
5. THE CROSS SLOPE OF THE RAMP SURFACE SHALL BE NO GREATER THAN 1:50.

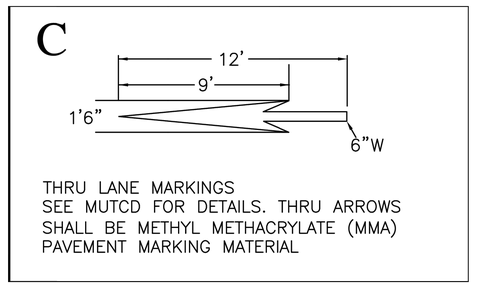


NOTE: PREFABRICATED PANELS PER A.D.A. ACCESSIBILITY GUIDELINES SECTION 4.29.2 & A4.29.2 SHALL BE USED.

DETECTABLE WARNINGS DETAIL

CITY OF WILSONVILLE PAVEMENT MARKINGS RD-1265

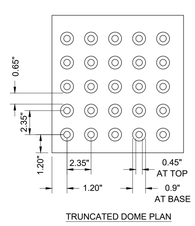
SCALE: N.T.S. | 5



THRU LANE MARKINGS
SEE MUTCD FOR DETAILS. THRU ARROWS SHALL BE METHYL METHACRYLATE (MMA) PAVEMENT MARKING MATERIAL

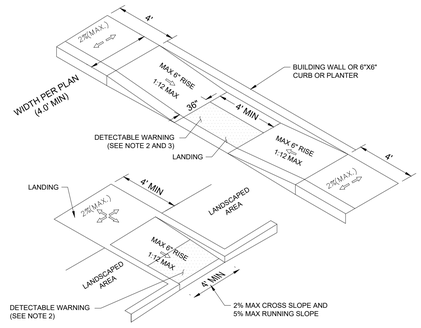
DETECTABLE WARNING

SCALE: N.T.S. | 6



NOTES:

1. CONTRACTOR TO REFERENCE MANUFACTURERS GUIDELINES FOR INSTALLATION OF TRUNCATED DOMES.
2. COLOR TO BE YELLOW UNLESS NOTED OTHERWISE



NOTES:

1. ALL ACCESSIBLE COMPONENTS CONSTRUCTED AS PART OF THESE PLANS SHALL COMPLY WITH THE LOCAL, STATE, AND FEDERAL REGULATIONS WHICHEVER ARE MORE STRINGENT.
2. CURB RAMPS SHALL HAVE A DETECTABLE WARNING EXTENDING THE FULL WIDTH OF THE CURB RAMP AND 3' DEEP. GROOVED SURFACES ON OUTDOOR CURB RAMPS ARE NOT PERMITTED. VERIFY LOCAL REQUIREMENTS WITH THE BUILDING DEPARTMENT. REFER TO TRUNCATED DOMES DETAIL AND REQUIREMENTS IN THE CALIFORNIA BUILDING CODE.
3. PARALLEL CURB RAMPS SHALL HAVE A DETECTABLE WARNING EXTENDING 36" DEEP ALONG THE FLUSH TRANSITION BETWEEN STREET AND SIDEWALK. REFER TO TRUNCATED DOMES DETAIL.
4. PUBLIC SIDEWALK CURB RAMPS CONSTRUCTED WITHIN A PUBLIC RIGHT- OF -WAY, IN ABSENCE OF LOCAL ROADWAY GUIDELINES, SHALL MEET OR EXCEED LOCAL REGULATIONS.
5. CURB RAMP SURFACES (FLARES AND RAMP) SHALL HAVE A DIFFERENT TEXTURE FROM THE SURROUNDING PAVEMENT.
6. CURB RAMPS SHALL BE CONCRETE WITH STRENGTH OF 4000 PSI.
7. INSTALL 1/4" EXPANSION JOINT FILLER MATERIAL BETWEEN A NEW CURB RAMP AND THE EXISTING SIDEWALKS.
8. WATER PONDING WITHIN THE CURB RAMP LIMITS IS NOT ALLOWED.
9. NO GRADE BREAK IS ALLOWED ALONG THE RAMP SURFACE.
10. CROSS SLOPE OF THE CURB RAMP SURFACE SHALL BE LESS THAN 2%.
11. TRANSITION CHANGE IN ELEVATION IS NOT TO EXCEED 1/2" WITHIN AN ACCESSIBLE ROUTE.

ACCESSIBLE VAN STALL SIGNAGE DETAIL

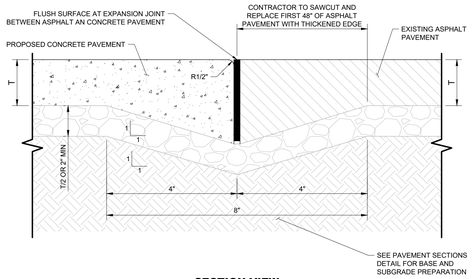
SCALE: N.T.S. | 7

NOTES:

1. SIGN SHALL COMPLY WITH CBC 11B-812.8.
2. STALL SIGNAGE SHALL BE RETROFLECTORIZED WITH A MINIMUM AREA OF 70 SQ. INCHES.
3. SIGN SHALL BE VISIBLE FROM THE EVCS IT SERVES.
4. SIGN SHALL BE PERMANENTLY POSTED EITHER IMMEDIATELY ADJACENT OR WITHIN THE PROJECTED VEHICLE SPACE.
5. SIGN SHALL BE LOCATED AT THE END OF THE VEHICLE SPACE.
6. SIGN SHALL BE 60 INCHES MINIMUM ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED TO THE BOTTOM OF THE SIGN.
7. SIGNS LOCATED WITHIN AN ACCESSIBLE ROUTE SHALL BE 80 INCHES MINIMUM ABOVE THE FINISHED FLOOR OR GROUND SURFACE MEASURED TO THE BOTTOM OF THE SIGN.
8. SIGNS MAY ALSO BE PERMANENTLY POSTED ON WALL AT THE INTERIOR END OF THE VEHICLE SPACE.
9. IONNA SHALL SUPPLY THE VEHICLE STALL SIGNAGE.

THICKENED EDGE AT ASPHALT & CONCRETE

SCALE: N.T.S. | 8



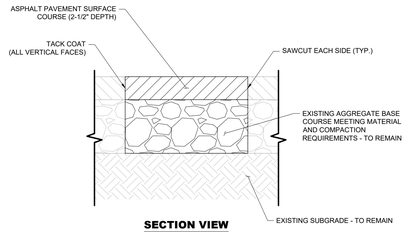
SECTION VIEW

NOTES:

1. SEE PREVIOUS DESIGN OR GEOTECH REPORTS FOR PAVEMENT SECTION AND THICKNESS (T). IF NOT AVAILABLE CONTRACTOR TO FIELD VERIFY.
2. DETAIL APPLIES AT ALL PAVEMENT EDGE CONDITIONS AND PAVEMENT TRANSITIONS FROM ASPHALT TO CONCRETE.

ASPHALT PAVEMENT - CUT & PATCH

SCALE: N.T.S. | 9



SECTION VIEW

NOTES:

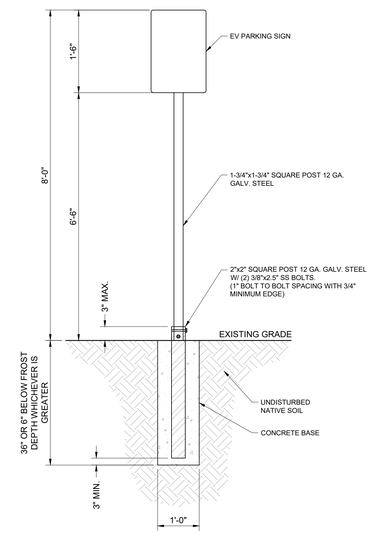
1. CUT AND PATCH AREAS SHOWN ON THE PLANS ARE APPROXIMATE IN SIZE AND LOCATION AND MAY BE ADJUSTED AT THE TIME OF CONSTRUCTION.
2. SURFACE COURSE SHALL BE INSTALLED AT THE SAME TIME AS ADJACENT PAVEMENT REPAIR SURFACE COURSES.
3. IF AGGREGATE BASE COURSE IS NOT PRESENT CONTRACTOR TO NOTIFY ENGINEER OF RECORD IMMEDIATELY.
4. THE AGGREGATE BASE COURSE SHALL BE INSPECTED BY THE TESTING AGENCY, OWNER, OR DESIGN CONSULTANT AFTER ASPHALT REMOVAL AND BASE PREPARATION, PRIOR TO ASPHALT REPLACEMENT.

ACCESSIBLE CURB RAMP

SCALE: N.T.S. | 10

SIGN POST

SCALE: N.T.S. | 11

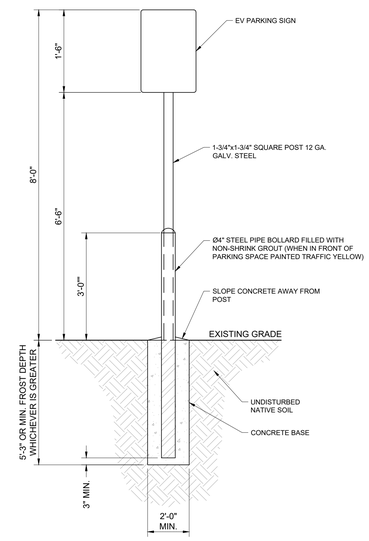


NOTES:

1. TO BE PLACED AT HEAD OF PARKING STALL.
2. POST MOUNTED OBJECTS PER ADA CODE SECTION 11B-307.3.
3. THIS DETAIL SHALL ONLY BE USED WHEN SIGN POST IS LOCATED OUTSIDE OF PARKING LOT PAVEMENT AND 2' MIN. CAR OVERHANG ZONE.

SIGN POST W/ BOLLARD

SCALE: N.T.S. | 12



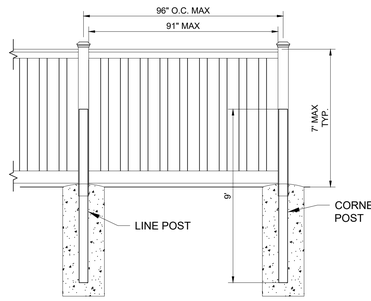
NOTES:

1. TO BE PLACED AT HEAD OF PARKING STALL.
2. POST MOUNTED OBJECTS PER ADA CODE SECTION 11B-307.3.
3. THIS DETAIL SHALL BE USED WHEN SIGN POST IS LOCATED IN PARKING LOT PAVEMENT, OR WITHIN 2' CAR OVERHANG ZONE.
4. REFER TO NOTES FOR ASSUMED GEOTECHNICAL 164 PARAMETERS. THIS SIGN DESIGN ASSUMES ASCE 7-22 WIND SPEED AND AN EXPOSURE CATEGORY C. IF EITHER OF THESE GEOTECHNICAL PROPERTIES OR ASCE 7-22 WIND PARAMETERS DIFFER BASED ON LOCATION THE DESIGN MUST BE UPDATED BY A STRUCTURAL ENGINEER.

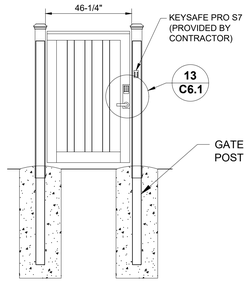
TREX SECLUSION FENCE DETAIL

SCALE: N.T.S. | 13

FENCE SECTION



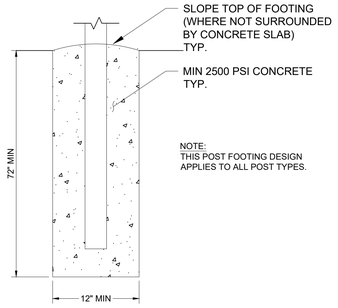
SINGLE GATE OPENING



NOTES:
CONTRACTOR TO FOLLOW MANUFACTURER'S INSTALLATION GUIDE AND REQUIREMENTS. REFER TO MANUFACTURER'S INSTALLATION GUIDE FOR ADDITIONAL INSTALLATION DETAILS.

ALL POSTS REQUIRE AN INTERNAL GALV STEEL POST STIFFENER.

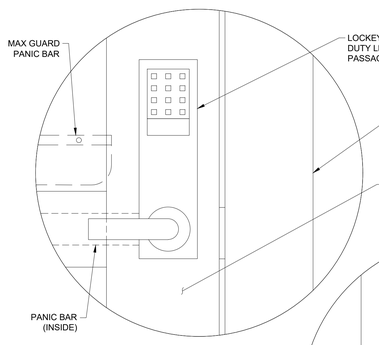
- LINE & CORNER - 3.5" x 3.5" x 3/16" x 9'
- GATE - 3.5" x 3.5" x 3/16" x 12'
- COLOR - WINCHESTER GREY OR SUBSTITUTE
- CAP - FLAT OR SUBSTITUTE
- PANIC DOOR HARDWARE FOR GATE
- EXTERIOR TREX ENCLOSURE SHALL BE PAINTED WITH EXTERIOR GRADE PAIN; COLOR SHALL BE GLIDDEN PPG1026-4 (KARMA) OR COLOR MATCHED EQUIVALENT FROM ANOTHER BRAND.



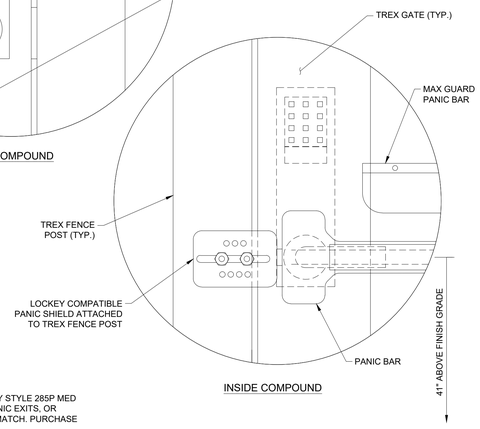
NOTE:
THIS POST FOOTING DESIGN APPLIES TO ALL POST TYPES.

LOCK WITH KEYPAD DETAIL

SCALE: N.T.S. | 14



OUTSIDE COMPOUND



INSIDE COMPOUND

NOTE:

CONTRACTOR SHALL UTILIZE LOCKEY STYLE 285P MED DUTY LEVER WITH PASSAGE FOR PANIC EXITS, OR APPROVED EQUAL WITH COLOR TO MATCH. PURCHASE ACCESSORIES AS NECESSARY.

Kimley»Horn
1 SW COLUMBIA ST #650,
PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com

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9025 SW BARBER ST
WILSONVILLE, OR 97070
STORE NO.: 0005

KIMLEY-HORN PROJECT NO.: 189500

PUBLIC EV

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97888PE
OREGON
NOV. 15, 2023
QUINN A. DUFF

EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

EV STALLS: 16

DESIGNED BY:	QD
DRAWN BY:	DB
CHECKED BY:	JF
DOCUMENT DATE:	02/26/2026

SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C6.1

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This PDF was plotted by BATTAGLINO, DAGNY on Thursday, February 26, 2026 8:22:41 PM at the file path: K:\RAL_LDEV\000000000_Ionna EV\OR-0005_9025 SW Barber St, Wilsonville OR\07_CAD Files\PlanSheets

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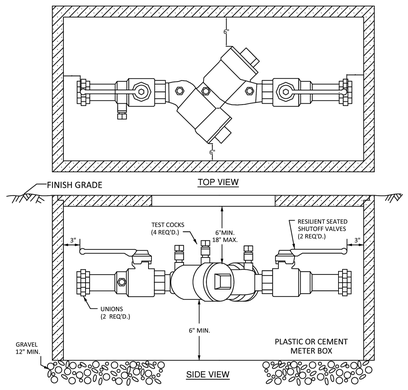
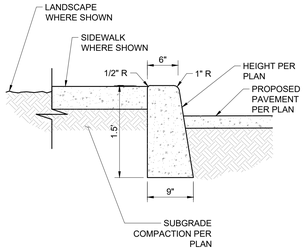


NOTES:
1 APPROVED DOUBLE CHECK VALVE ASSEMBLY TO LAY HORIZONTAL WITH GROUND. (VERTICAL IF D.O.H. APPROVED)
2 DESIGNED FOR BACK SIPHONAGE AND BACK PRESSURE.
3 TEST COCKS TO EITHER FACE OUTWARDS OR UPWARDS FROM ASSEMBLY.
4 THOROUGHLY FLUSH LINES PRIOR TO INSTALLATION OF BACKFLOW PREVENTER.
5 THE DCVA MAY BE INSTALLED ABOVE OR BELOW GROUND PROVIDED ALL CLEARANCES ARE MET.
6 DO NOT INSTALL IN AN AREA SUBJECT TO FLOODING.
7 MUST BE ACCESSIBLE.
8 MUST BE PROTECTED FROM FREEZING CONDITIONS.
9 THE BACKFLOW ASSEMBLY SHALL BE A STATE APPROVED MODEL.
10 A PLUMBING PERMIT IS REQUIRED - PLEASE CONTACT CITY OF WILSONVILLE BUILDING DIVISION.
11 MUST BE TESTED AFTER INSTALLATION AND YEARLY THEREAFTER BY AN OREGON STATE CERTIFIED BACKFLOW ASSEMBLY TESTER. TEST RESULTS SHALL BE SENT TO THE CITY OF WILSONVILLE PUBLIC WORKS DEPARTMENT.

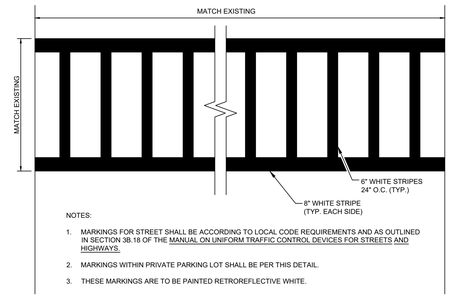
Standard Double Check Valve Assembly 2" & Smaller			CITY OF WILSONVILLE
DRAWING NUMBER: B-4000	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: B-4000.dwg	APPROVED BY: NK	DATE: 03/21/06	

STANDARD DOUBLE CHECK VALVE ASSEMBLY 2" & SMALLER — SCALE N.T.S. — 1



NOTES:
1. CONCRETE SHALL BE 4000 PSI.
2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED
3. CONTRACTION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 15' INTERVALS O.C.
4. WHERE A WALK IS ADJACENT TO THE CURB THE JOINTS SHALL ALIGN WITH JOINTS IN THE WALK.

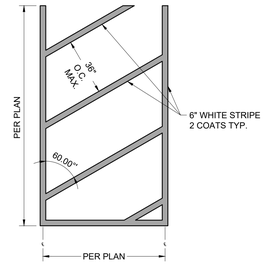
CONCRETE CURB — SCALE N.T.S. — 2



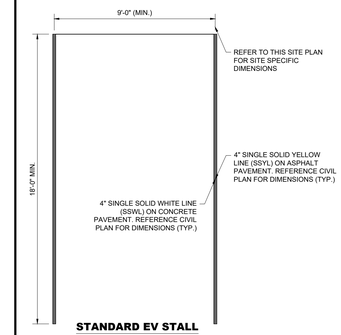
NOTES:
1. MARKINGS FOR STREET SHALL BE ACCORDING TO LOCAL CODE REQUIREMENTS AND AS OUTLINED IN SECTION 3B.18 OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS.
2. MARKINGS WITHIN PRIVATE PARKING LOT SHALL BE PER THIS DETAIL.
3. THESE MARKINGS ARE TO BE PAINTED RETROREFLECTIVE WHITE.

(MODIFIED)

CROSSWALK MARKING W/ LONGITUDINAL STRIPES — SCALE N.T.S. — 3

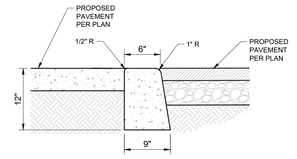


ACCESS AISLE STRIPING — SCALE N.T.S. — 4



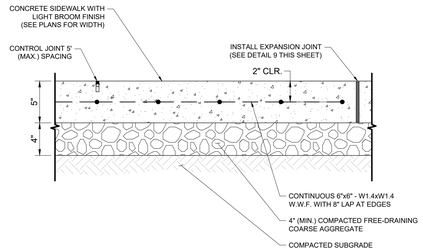
STANDARD EV STALL

EV PARKING STRIPING — SCALE N.T.S. — 5



NOTES:
1. CONCRETE SHALL BE 4000 PSI.
2. ISOLATION JOINTS SHALL BE PLACED ONLY AS SPECIFIED
3. CONTRACTION JOINTS CONSISTING OF 1" DEEP SCORES SHALL BE PLACED AT 15' INTERVALS O.C.
4. WHERE A WALK IS ADJACENT TO THE CURB THE JOINTS SHALL ALIGN WITH JOINTS IN THE WALK.

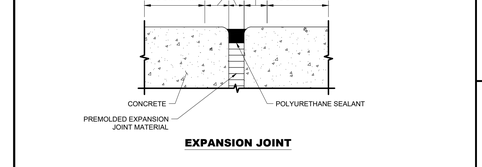
0" CONCRETE CURB — SCALE N.T.S. — 6



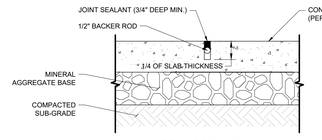
SECTION VIEW

NOTES:
1. ALL SIDEWALK SHALL BE CONSTRUCTED WITH CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI AT 28 DAYS.
2. PROVIDE 1/2" EXPANSION JOINTS AT 20', MAXIMUM, SPACING AND FILLED WITH PREMOLDED BITUMINOUS EXPANSION JOINT FILLER MATERIAL OR REDWOOD. EXPANSION JOINTS SHALL HAVE #4 DOWELS, LUBRICATED, 18" LONG, AT 12" CENTERS, 6" FROM EDGE.
3. PROVIDE 3/8" GROOVED CONTROL JOINTS AT 5' CENTERS.
4. WELDED WIRE FABRIC (6X6-6X6) SHALL BE INSTALLED THROUGH DRIVEWAYS AT 2" ABOVE SLAB BOTTOM.
5. PROVIDE 1/2" BITUMINOUS EXPANSION JOINT FILLER MATERIAL WHERE WALK ABUTS EXISTING IMPROVEMENTS AND AT ALL CHANGES IN GRADE.
6. USE 2-#4 REINFORCING BARS, 10' LONG OVER ALL UTILITY TRENCHES FOR NEW SIDEWALK AND CONNECTIONS TO EXISTING SIDEWALK.
7. AT DRIVE APPROACHES, SIDEWALK PCC AND BASE THICKNESS SHALL MATCH THAT OF THE DRIVE.

CONCRETE SIDEWALK SECTION — SCALE N.T.S. — 8



EXPANSION JOINT



CONTROL JOINT

NOTES:
1. INSTALL SAWCUT JOINTS WITHIN 24 HOURS OF FINISHING CONCRETE.
2. INSTALL CONSTRUCTION JOINTS WHEN CONTINUOUS POUR OPERATIONS ARE SUSPENDED FOR MORE THAN 30 MINUTES.
3. INSTALL EXPANSION JOINTS @ 15' O.C. (225 S.F.) IN EACH DIRECTION AND AGAINST ASPHALT PAVEMENT AND STRUCTURES.

CONCRETE JOINTS — SCALE N.T.S. — 9

This Detail Drawing may not be altered or changed in any manner except by the City Engineer. It is the responsibility of the user to acquire the most current version.

NOTES:
1. THE SIDEWALK AND PLANTER STRIP WIDTH SHALL BE DETERMINED BY THE CITY ENGINEER. THE COMBINATION OF THE SIDEWALK WIDTH AND PLANTER STRIP WIDTH SHALL NOT BE LESS THAN 13.5'
2. MEDIAN/TURN LANE MAY BE ELIMINATED IF NOT WARRANTED AS DETERMINED BY THE CITY ENGINEER.
3. THIS CROSS SECTION WITHOUT ON-STREET PARKING IN CROSS-SECTION IS A SPECIAL APPLICATION AND MAY ONLY BE USED WHERE SHOWN ON THE CITY'S TRANSPORTATION SYSTEM PLAN.
4. WIDTH OF SIDEWALK AND PLANTING STRIP MAY BE COMBINED IN COMMERCIAL/RETAIL AREAS. STREET TREES SHALL BE 16' 6" WIDE TREE WELLS ONLY AND ADJACENT TO CURB, WITH A MINIMUM OF 7' CLEAR SIDEWALK.
5. WIDTH OF CURB IS INCLUDED IN SIDEWALK OR PLANTER STRIP WIDTH.
6. STREET LIGHTS SHALL BE LOCATED WITHIN PLANTER STRIP, MEDIAN OR, IF COMMERCIAL/RETAIL AREA, SIDEWALK ZONE.
7. STRIPING AND SIGNAGE AS REQUIRED.
8. TRANSIT STOP LOCATIONS TO BE DETERMINED BY TRANSIT DIRECTOR.
9. MEDIAN SHALL BE LANDSCAPED WHEN NOT NEEDED AS A LEFT-TURN LANE.
10. STREET TREES IN PLANTER STRIP/MEDIAN/CURB BULBOUTS SHALL BE 1000 FEET WITH THREE FLOW THRU INLETS EVENLY SPACED BETWEEN EACH MANHOLE.
11. THE MINIMUM PLANTER STRIP WIDTH THAT INCORPORATES A WATER QUALITY SWALE IS 6.5' WIDE.
12. BICYCLE FACILITY DESIGN OPTIONS, SUCH AS BUFFERED BIKE LANES AND CYCLE TRACKS, SHALL BE DETERMINED BY THE CITY ENGINEER.

Collector Without On-street Parking			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1025	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1025.DWG	APPROVED BY: NK	DATE: 1/31/17	

COLLECTOR WITHOUT ON-STREET PARKING — SCALE N.T.S. — 7

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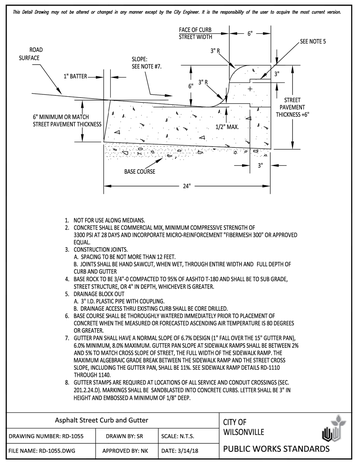
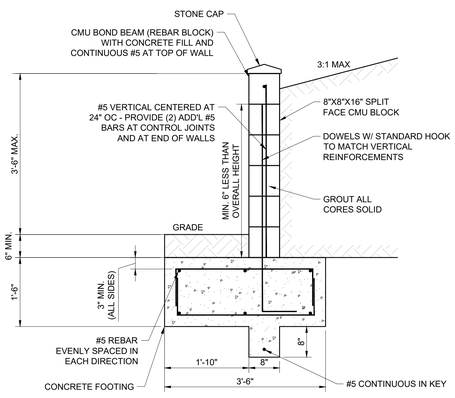


1. NOT FOR USE ALONG MEDIANS.
2. CONCRETE SHALL BE COMMERCIAL MIX, MINIMUM COMPRESSIVE STRENGTH OF 3300 PSI AT 28 DAYS AND INCORPORATE MICRO-REINFORCEMENT "FIBERMESH 300" OR APPROVED EQUAL.
3. CONSTRUCTION JOINTS.
   A. SPACING TO BE NOT MORE THAN 12 FEET.
   B. JOINTS SHALL BE HAND SAWCUT, WHEN WET, THROUGH ENTIRE WIDTH AND FULL DEPTH OF CURB AND GUTTER.
4. BASE ROCK TO BE 3/4"-0 COMPACTED TO 95% OF AASHTO T-180 AND SHALL BE TO SUB GRADE, STREET STRUCTURE, OR 4" IN DEPTH, WHICHEVER IS GREATER.
5. DRAINAGE BLOCK OUT
   A. 3" I.D. PLASTIC PIPE WITH COUPLING.
   B. DRAINAGE ACCESS THRU EXISTING CURB SHALL BE CORE DRILLED.
6. BASE COURSE SHALL BE THOROUGHLY WATERED IMMEDIATELY PRIOR TO PLACEMENT OF CONCRETE WHEN THE MEASURED OR FORECASTED ASCENDING AIR TEMPERATURE IS 80 DEGREES OR GREATER.
7. GUTTER PAN SHALL HAVE A NORMAL SLOPE OF 6.7% DESIGN (1" FALL OVER THE 15" GUTTER PAN), 6.0% MINIMUM, 8.0% MAXIMUM. GUTTER PAN SLOPE AT SIDEWALK RAMPS SHALL BE BETWEEN 2% AND 5% TO MATCH CROSS SLOPE OF STREET, THE FULL WIDTH OF THE SIDEWALK RAMP. THE MAXIMUM ALGEBRAIC GRADE BREAK BETWEEN THE SIDEWALK RAMP AND THE STREET CROSS SLOPE, INCLUDING THE GUTTER PAN, SHALL BE 11%. SEE SIDEWALK RAMP DETAILS RD-1110 THROUGH 1140.
8. GUTTER STAMPS ARE REQUIRED AT LOCATIONS OF ALL SERVICE AND CONDUIT CROSSINGS (SEC. 201.2.4.O), MARKINGS SHALL BE SANDBLASTED INTO CONCRETE CURBS. LETTER SHALL BE 3" IN HEIGHT AND EMBOSSED A MINIMUM OF 1/8" DEEP.

Asphalt Street Curb and Gutter			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1055	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1055.DWG	APPROVED BY: NK	DATE: 3/14/18	

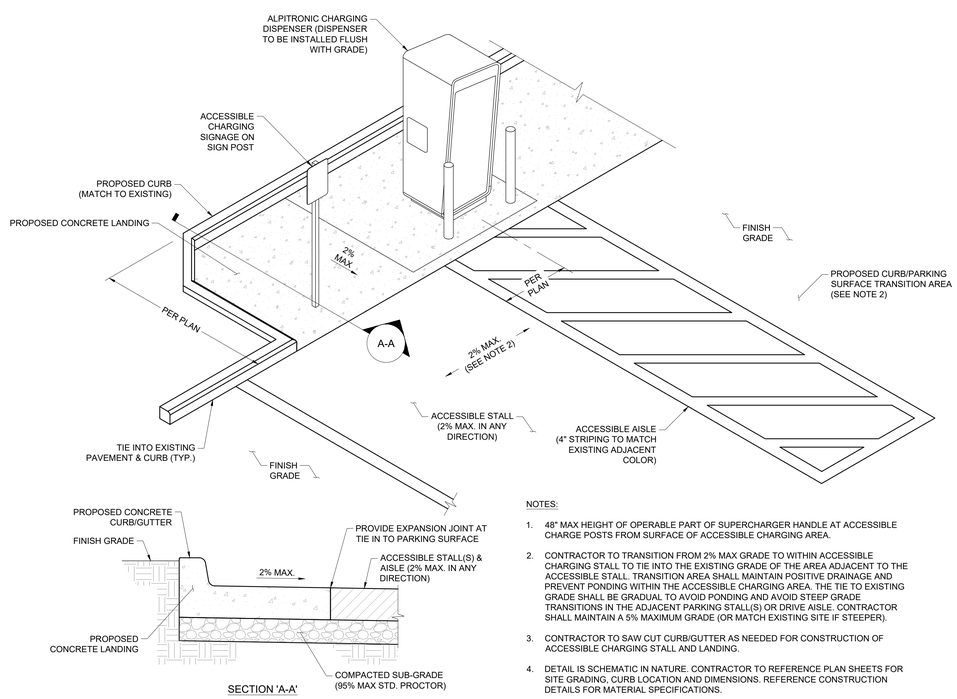
ASPHALT STREET CURB AND GUTTER — SCALE N.T.S. — 12



MASONRY NOTES:

1. CONCRETE MASONRY MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE (ACI) 530.
2. CONCRETE MASONRY UNITS SHALL CONFORM TO ASTM C 90 AND SHALL BE MADE WITH LIGHTWEIGHT AGGREGATE. MINIMUM NET AREA COMPRESSIVE STRENGTH OF MASONRY UNITS SHALL BE 1,900 PSI AT 28 DAYS. COMPRESSIVE STRENGTH OF MASONRY SHALL BE DETERMINED BY THE UNIT STRENGTH METHOD AS SET FORTH IN ACI 530.1.
3. COMPRESSIVE STRENGTH OF MASONRY, f'm, SHALL BE AT 1,500 PSI AT 28 DAYS.
4. MORTAR SHALL BE TYPE M OR S AND SHALL COMPLY WITH ASTM C270, PROPORTIONS OR PROPERTIES SPECIFICATION.
5. GROUT SHALL COMPLY WITH ASTM C 476 PROPERTIES SPECIFICATION, OR SHALL BE PROPORTIONED TO OBTAIN A DOCUMENTED 28 DAY COMPRESSIVE STRENGTH OF 2,000 PSI.
6. REINFORCING STEEL SHALL COMPLY WITH ASTM A 615, GRADE 60. SHOP FABRICATE REINFORCING BARS WHICH ARE SHOWN TO BE BENT OR HOOKED.
7. ALL BOND BEAMS, REINFORCED CELLS AND CELLS WITH EXPANSION BOLTS, EMBED PLATES OR OTHER ANCHORS AND ALL CELLS BELOW GRADE SHALL BE GROUTED SOLID. GROUT PROCEDURE SHALL COMPLY WITH ACI 530.1.
8. PROVIDE REINFORCING BARS OF THE GIVEN SIZE AND SPACING SHOWN. LAP CONTINUOUS REINFORCING STEEL 40 BAR DIAMETERS UNLESS NOTED. PROVIDE MECHANICAL SPLICES FOR ALL BARS AT CONTRACTOR'S OPINION.
9. PROVIDE REINFORCING STEEL DOWELS OF THE SAME SIZE AND SPACING AS VERTICAL REINFORCING FROM THE SUPPORTING STRUCTURE. DOWELS SHALL HAVE STANDARD ACI HOOKS. LAP LENGTH DOWNS FROM FOUNDATION NOT OTHERWISE NOTED MAY BE 36 X BAR DIAMETER.

CMU RETAINING WALL DETAIL — SCALE N.T.S. — 10



SECTION 'A-A'

NOTES:
1. 48" MAX HEIGHT OF OPERABLE PART OF SUPERCHARGER HANDLE AT ACCESSIBLE CHARGE POSTS FROM SURFACE OF ACCESSIBLE CHARGING AREA.
2. CONTRACTOR TO TRANSITION FROM 2% MAX GRADE TO WITHIN ACCESSIBLE CHARGING STALL TO TIE INTO THE EXISTING GRADE OF THE AREA ADJACENT TO THE ACCESSIBLE STALL. TRANSITION AREA SHALL MAINTAIN POSITIVE DRAINAGE AND PREVENT PONDING WITHIN THE ACCESSIBLE CHARGING AREA. THE TIE TO EXISTING GRADE SHALL BE GRADUAL TO AVOID PONDING AND AVOID STEEP GRADE TRANSITIONS IN THE ADJACENT PARKING STALL(S) OR DRIVE AISLE. CONTRACTOR SHALL MAINTAIN A 5% MAXIMUM GRADE (OR MATCH EXISTING SITE IF STEEPER).
3. CONTRACTOR TO SAW CUT CURB/GUTTER AS NEEDED FOR CONSTRUCTION OF ACCESSIBLE CHARGING STALL AND LANDING.
4. DETAIL IS SCHEMATIC IN NATURE. CONTRACTOR TO REFERENCE PLAN SHEETS FOR SITE GRADING, CURB LOCATION AND DIMENSIONS. REFERENCE CONSTRUCTION DETAILS FOR MATERIAL SPECIFICATIONS.

ADA LANDING DETAIL — SCALE N.T.S. — 11

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER 79788 OREGON NOV 15, 2023 QUINN A. DUFFY
EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
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DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C6.2

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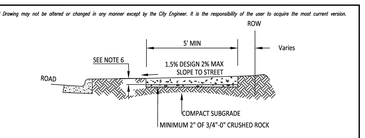
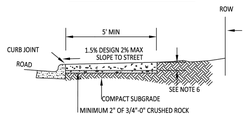


OFFSET SIDEWALK



CURB TIGHT SIDEWALK

NOTES
1. SIDEWALK SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH "PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY" (PROWAG) JULY, 2011 EDITION.
2. CONCRETE SHALL BE NATURAL IN COLOR, WITH NO COLORING EITHER ADDED TO THE MIX OR APPLIED TO THE FINISH.
3. CURB TIGHT SIDEWALK MAY ONLY BE USED WITH PRIOR APPROVAL FROM THE CITY ENGINEER.
4. SIDEWALKS SHALL HAVE A LIGHT BROOM FINISH TRANSVERSE TO THE LINE OF TRAVEL AND ALL EDGES TOOL ROUNDED.
   -NEW SIDEWALK, 6 FEET OR LESS IN WIDTH, SHALL HAVE ALL EDGES 3" WIDE SHINED AFTER BROOMING
   -INFILL & REPLACEMENT SIDEWALK SHALL BE FINISHED TO MATCH THE EXISTING SIDEWALK.
5. FOR SIDEWALKS ADJACENT TO THE CURB AND POURED AT SAME TIME AS THE CURB, THE JOINT BETWEEN THEM SHALL BE A TROWELED JOINT WITH A MINIMUM 1/2" RADIUS.
6. SIDEWALK SHALL HAVE A MINIMUM THICKNESS OF 6 INCHES CONCRETE OVER 6" OF CRUSHED ROCK AT:
   - CURBTIGHT SIDEWALK AT INTERSECTION RADIUS.
   - A MINIMUM OF ONE PANEL BEYOND EDGES OF DRIVEWAYS.
   OTHERWISE SIDEWALK SHALL HAVE A MINIMUM THICKNESS OF 4" CONCRETE OVER 2" CRUSHED ROCK.
7. DRAIN BLOCKOUTS IN CURBS SHALL BE EXTENDED TO BACK OF SIDEWALK WITH 3" DIA. PLASTIC PIPE AT 2% SLOPE. CONSTRUCTION JOINT TO BE PLACED OVER PIPE.
8. CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3300 PSI AT 28 DAYS.
9. BASE ROCK SHALL BE COMPACTED TO PROVIDE A FIRM BASE FOR CONCRETE.
10. SIDEWALK PANELS SHOULD BE SQUARE AND OF CONSISTANT DIMENSION ALONG A BLOCK FACE. THE LENGTH OF A SIDEWALK PANEL SHALL BE ADJUSTED AS NECESSARY TO ALIGN WITH CURB JOINTS.
11. WIDE SIDEWALKS SHALL BE SCORED PER CITY AUTHORIZED REPRESENTATIVE.
12. BASE COURSE SHALL BE THOROUGHLY WATERED IMMEDIATELY PRIOR TO PLACEMENT OF CONCRETE WHEN THE MEASURED OR FORECASTED ASCENDING AIR TEMPERATURE IS 80 DEGREES OR GREATER.

Concrete Sidewalk			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1075	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1075.DWG	APPROVED BY: NK	DATE: 1/4/18	

CONCRETE SIDEWALK

SCALE N.T.S. 13

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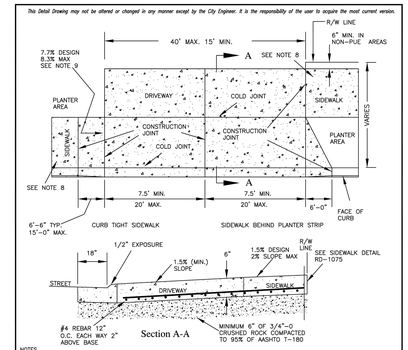

NOTES
1. DRIVEWAYS SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH "PROPOSED ACCESSIBILITY GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY" (PROWAG) JULY, 2011 EDITION.
2. CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3300 PSI AT 28 DAYS.
3. BASE COURSE SHALL BE THOROUGHLY WATERED IMMEDIATELY PRIOR TO PLACEMENT OF CONCRETE WHEN THE MEASURED OR FORECASTED ASCENDING AIR TEMPERATURE IS 80 DEGREES OR GREATER.
4. CURB JOINT SHALL BE A TROWELED JOINT WITH A MIN. 1/2" RADIUS ALONG THE BACK OF CURB.
5. CONTRACTION JOINT SPACING SHALL NOT EXCEED 12 FEET.
6. USE EXISTING CURB EXPANSION JOINT OR SAW CUT AND PLACE COLD JOINT.
7. SPACING OF 2" CONCRETE SUPPORT BLOCKS SHALL BE NO GREATER THAN 3' AND BLOCKS SHALL BE TIED TO #4 REBAR WITH WIRE.
8. SIDEWALK THICKNESS SHALL BE 6 INCHES MINIMUM, REINFORCED, AND EXTEND TO AT LEAST ONE PANEL BEYOND DRIVEWAY APRON.
9. ON STEEP SLOPES, SIDEWALK RAMPS SHALL HAVE A MAXIMUM SLOPE OF 8.3% OR MAXIMUM LENGTH OF 15 FEET CONSTRUCTED AT A CONSTANT SLOPE.
10. THE CROSS SLOPE OF THE PEDESTRIAN ACCESS ROUTE SHALL BE DESIGNED AT 1.5% AND NOT EXCEED 2%.
11. DRIVEWAYS SHALL NOT BE WIDER THAN NECESSARY TO SAFELY ACCOMMODATE PROJECTED PEAK HOUR TRIPS AND TURNING MOVEMENTS AND SHALL BE DESIGNED TO MINIMIZE PEDESTRIAN CROSSING DISTANCES.

Commercial Driveway - Type I			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1095	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1095.DWG	APPROVED BY: PN	DATE: 4/8/19	

COMMERCIAL DRIVEWAY - TYPE 1

SCALE N.T.S. 14

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GENERAL NOTES:
1. **PROVIDE PROTECTION** FROM ALL VEHICLE TRAFFIC, EQUIPMENT STAGING, AND FOOT TRAFFIC IN PROPOSED INFILTRATION AREAS PRIOR TO, DURING AND AFTER CONSTRUCTION.
2. **DIMENSIONS:**
   -WIDTH: 30" MINIMUM
   -DEPTH OF PLANTER (FROM TOP OF GROWING MEDIUM TO OVERFLOW WEIR ELEVATION): 12"
   -SLOPE OF PLANTER: 0.5% OR LESS
3. **SETBACKS:**
   -PLANTERS SHALL BE LESS THAN 30" IN HEIGHT ABOVE SURROUNDING AREA
   -PLANTERS SHALL BE MINIMUM OF 5 FEET FROM PROPERTY LINE
4. **OVERFLOW:**
   -WEIR ELEVATION SHALL ALLOW FOR 4" OF FREEBOARD, MINIMUM
   -SIZE OVERFLOW WEIR FOR 100 YEAR DESIGN STORM. IDENTIFY EMERGENCY OVERFLOW ROUTE ON STORMWATER MANAGEMENT PLAN.
5. **DRAIN ROCK:**
   -SIZE: 1 1/2" - 3/4" WASHED
   -DEPTH: 28" MINIMUM
6. **SEPARATION** BETWEEN DRAIN ROCK AND GROWING MEDIUM: SHALL BE A 3" LAYER OF 3/4" - 1/4" OPEN GRADED AGGREGATE.
7. **GROWING MEDIUM:**
   -DEPTH: 18" MINIMUM
   -SEE APPENDIX A FOR SPECIFICATION OR USE SAND/LOAM/COMPOST 3-WAY MIX.
   -FACILITY SURFACE AREA MAY BE REDUCED BY 25% WHEN GROWING MEDIA DEPTH IS INCREASED TO 30" OR MORE.
8. **PLANTING:** SHALL FOLLOW LANDSCAPE PLANS OR REFER TO PLANTING REQUIREMENTS IN APPENDIX A.
9. **PLANTER WALL:**
   -MATERIALS: SHALL BE STONE, BRICK, CONCRETE OR OTHER DURABLE MATERIAL.
   -CONCRETE, BRICK, OR STONE WALLS SHALL BE INCLUDED ON FOUNDATION PLANS.
   -INSTALL INVERTED CURB AS NEEDED BETWEEN PLANTERS AND ROAD SUBGRADE.
   -SUBMIT RETAINING WALL DESIGN IN ACCORDANCE WITH APPLICABLE STRUCTURAL CODES FOR REVIEW AND APPROVAL.
10. **WATERPROOF LINER:**
    -LINER SHALL BE 30 MIL PVC OR EQUIVALENT, FOR FLOW THROUGH FACILITIES.
    -A WATERPROOF LINER IS NOT REQUIRED IF THE FOUNDATION OR WALL MATERIAL IS WATERPROOF REINFORCED CONCRETE OR APPROVED EQUAL.
11. **INSTALL RIVER ROCK** SPLASH PAD OVER A NON WOVEN GEO TEXTILE FABRIC TO TRANSITION FROM INLETS TO GROWING MEDIUM. SIZE OF ROCK SHALL BE 1" - 3", 4 SQUARE FEET, 6" DEEP.
12. **SEASONAL HIGH GROUNDWATER SEPARATION:**
    -SEPARATION DISTANCE AS REQUIRED BY CITY.

Stormwater Planter - Infiltration			CITY OF WILSONVILLE
DRAWING NUMBER: ST-6010	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: ST-6010.DWG	APPROVED BY: NK	DATE: 6/3/16	

STORMWATER PLANTER - INFILTRATION

SCALE N.T.S. 15

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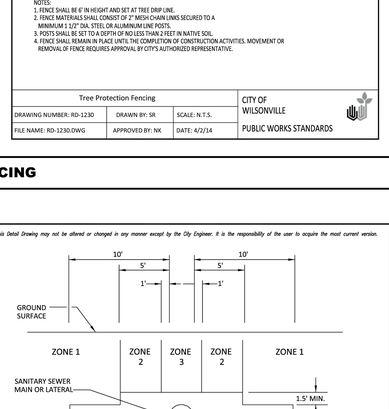

NOTES:
1. FENCE SHALL BE 6' IN HEIGHT AND SET AT TREE DRIP LINE.
2. FENCE MATERIALS SHALL CONSIST OF 2" MESH CHAIN LINKS SECURED TO A MINIMUM 1 1/2" DIA. STEEL OR ALUMINUM LINE POSTS.
3. POSTS SHALL BE SET TO A DEPTH OF NO LESS THAN 2 FEET IN NATIVE SOIL.
4. FENCE SHALL REMAIN IN PLACE UNTIL THE COMPLETION OF CONSTRUCTION ACTIVITIES. MOVEMENT OR REMOVAL OF FENCE REQUIRES APPROVAL BY CITY'S AUTHORIZED REPRESENTATIVE.

Tree Protection Fencing			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1230	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1230.DWG	APPROVED BY: NK	DATE: 4/2/14	

TREE PROTECTION FENCING

SCALE N.T.S. 16

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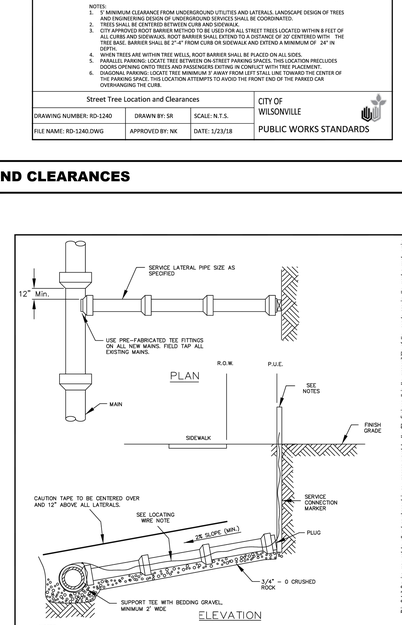

NOTES:
1. 5' MINIMUM CLEARANCE FROM UNDERGROUND UTILITIES AND LATERALS. LANDSCAPE DESIGN OF TREES AND ENGINEERING DESIGN OF UNDERGROUND SERVICES SHALL BE COORDINATED.
2. TREES SHALL BE CENTERED BETWEEN CURB AND SIDEWALK.
3. CITY APPROVED ROOT BARRIER METHOD TO BE USED FOR ALL STREET TREES LOCATED WITHIN 8 FEET OF ALL CURBS AND SIDEWALKS. ROOT BARRIER SHALL EXTEND TO A DISTANCE OF 20' CENTERED WITH THE TREE BASE. BARRIER SHALL BE 2'-4" FROM CURB OR SIDEWALK AND EXTEND A MINIMUM OF 24" IN DEPTH.
4. WHEN TREES ARE WITHIN TREE WELLS, ROOT BARRIER SHALL BE PLACED ON ALL SIDES.
5. PARALLEL PARKING: LOCATE TREE BETWEEN ON-STREET PARKING SPACES. THIS LOCATION PRECLUDES DOORS OPENING ONTO TREES AND PASSENGERS EXITING IN CONFLICT WITH TREE PLACEMENT.
6. DIAGONAL PARKING: LOCATE TREE MINIMUM 3' AWAY FROM LEFT STALL LINE TOWARD THE CENTER OF THE PARKING SPACE. THIS LOCATION ATTEMPTS TO AVOID THE FRONT END OF THE PARKED CAR OVERHANGING THE CURB.

Street Tree Location and Clearances			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1240	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1240.DWG	APPROVED BY: NK	DATE: 1/23/18	

STREET TREE LOCATION AND CLEARANCES

SCALE N.T.S. 17

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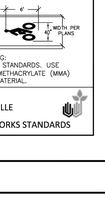
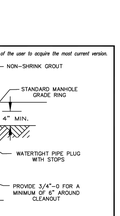


TWO WAY LEFT TURN STRIPE:
4" YELLOW LINES WITH TYPE I BI-DIRECTIONAL YELLOW RAISED PAVEMENT MARKERS AT 40' O.C. OUTSIDE LINE IS SOLID INSIDE AT 10'/30' PATTERN.

CENTERLINES:
TWO 4" YELLOW LINES WITH BI-DIRECTIONAL YELLOW TYPE I MARKERS AT 40' O.C.



BICYCLE LANE ARROW:
SEE ODOT BIKE LANE STANDARDS. USE PREFORMED METHYL METHACRYLATE (MMA) PAVEMENT MARKING MATERIAL.

MEDIAN STRIPE:
TWO 4" YELLOW LINES WITH TYPE I BI-DIRECTIONAL YELLOW RAISED PAVEMENT MARKERS AT 40' O.C.

LANE LINE:
4" WHITE WITH CRYSTAL TYPE I WHITE MONO-DIRECTIONAL MARKERS AT 40' O.C.

FOG LINE:
4" WHITE LINE AS SHOWN ON PLANS

BIKE LANE LINE – 8" WIDE WHITE LINE

BICYCLE LANE MARKING:
SEE ODOT BIKE LANE STANDARDS. USE PREFORMED METHYL METHACRYLATE (MMA) PAVEMENT MARKING MATERIAL.

Pavement Markings Page 2			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1270	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1270.DWG	APPROVED BY: PN	DATE: 5/16/19	

PAVEMENT MARKINGS PAGE 2

SCALE N.T.S. 18

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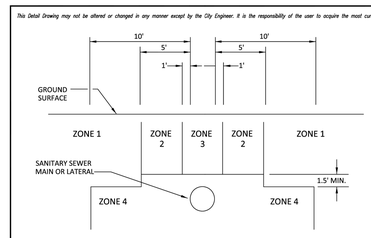

PARALLEL CONSTRUCTION:

ZONE 1: ONLY CROSSING RESTRICTIONS APPLY

ZONE 2: CONSTRUCT SEWER OF PRESSURE PIPE WITH WATERTIGHT JOINTS WHEN ZONE 1 IS NOT FEASIBLE.

ZONE 3: PARALLEL WATER LINE PROHIBITED

ZONE 4: PARALLEL WATER LINE PROHIBITED

CROSSING CONSTRUCTION:
1. SANITARY SEWER AND WATER LINE SHALL CROSS AT APPROXIMATELY 90 DEGREES.
2. WHEREVER POSSIBLE, THE BOTTOM OF THE WATER LINE SHALL BE 1.5 FEET ABOVE THE TOP OF THE SEWER LINE, AND ONE FULL LENGTH OF WATER LINE SHALL BE CENTERED AT THE CROSSING.
3. WHERE THE BOTTOM OF THE WATER LINE IS LESS THAN 1.5 FEET ABOVE THE TOP OF THE SEWER LINE, THE WATER LINE SHALL BE REPLACED WITH ONE FULL LENGTH OF WATER PIPE CENTERED AT THE CROSSING. THE SEWER LINE SHALL BE:
   ENCASED IN A REINFORCED CONCRETE JACKET 10 FEET ON EACH SIDE OF THE CROSSING
   OR
   REPLACED WITH ONE FULL LENGTH OF PRESSURE PIPE WITH WATERTIGHT JOINTS, CENTERED ON THE CROSSING.

Sanitary Sewer Crossing			CITY OF WILSONVILLE
DRAWING NUMBER: S-2150	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2150.DWG	APPROVED BY: NK	DATE: 6/4/14	

SANITARY SEWER CROSSING

SCALE N.T.S. 19

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NOTES:
1. SERVICE CONNECTION MARKER SHALL BE 2X4 PLACED AGAINST PLUG TO PREVENT BLOWOFF AND SECURED WITH TRENCH BACKFILL.
2. MARKER SHALL EXTEND AT LEAST 2 FEET ABOVE FINISHED GRADE AND PAINTED GREEN FOR SANITARY OR WHITE FOR STORM.
3. MINIMUM SIZE TO BE 6" FOR STORM LATERALS AND 4" FOR SANITARY LATERALS.
4. USE 4"-0" PVC, 4"-30.1" BEND OR LADDER COUPLINGS FOR 4" D.I. LATERALS.
5. 12 GA. TRACER WIRE SHALL BE 12 GAUGE, COPPER, CONTINUOUS, AND TIED TO MAIN AND TO CONNECTION MARKER. WIRE SHALL BE PLACED ALONG THE SPRING-LINE OF LATERAL WITH EXTRA 2' LENGTH PROVIDED AT THE MARKER. CONNECT TO MAIN LINE TRACER WIRE USING SOLDERLESS CONNECTION KIT SUITABLE FOR DIRECT BURIAL THAT JOINS WIRES MECHANICALLY AND ELECTRICALLY AND SEALS OUT MOISTURE. GELCAP OR APPROVED EQUAL. USE GREEN WIRE FOR SANITARY AND WHITE WIRE FOR STORM.

Service Lateral			CITY OF WILSONVILLE
DRAWING NUMBER: S-2175	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2175.DWG	APPROVED BY: NK	DATE: 6/4/14	

SERVICE LATERAL

SCALE N.T.S. 20

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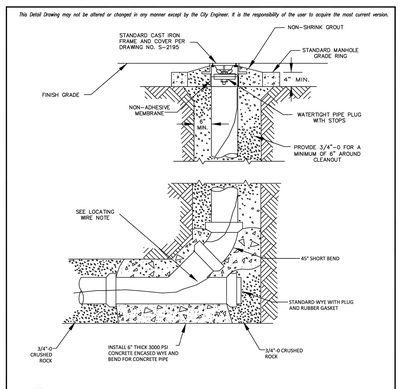

NOTE:
1. CLEANOUT INSTALLATIONS ARE LIMITED TO EASEMENT AREAS OR MAY BE ALLOWED ON A TEMPORARY BASIS IN RIGHT-OF-WAYS.
2. CONCRETE ENCASE ENTIRE WYE SECTION AND 45° BEND IF CONCRETE PIPE.
3. CLEANOUTS SHALL BE PLACED OUTSIDE OF SIDEWALKS AND DRIVEWAYS.
4. CLEANOUTS IN PLANTER STRIPS SHALL BE LOCATED NEXT TO SIDEWALK.
5. LOCATING WIRE SHALL BE 12 GUAGE, HWA-PE CONTINUOUS, AND TIED TO MAIN AND TO CLEANOUT PLUG. WIRE SHALL BE PLACED ALONG THE SPRING-LINE OF LATERAL WITH EXTRA 2' LENGTH PROVIDED AT THE CLEANOUT. USE GREEN WIRE FOR SANITARY AND WHITE FOR STORM.

Standard Cleanout			CITY OF WILSONVILLE
DRAWING NUMBER: S-2180	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2180.DWG	APPROVED BY: NK	DATE: 6/4/14	

STANDARD CLEANOUT

SCALE N.T.S. 21

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CONSULTANTS

SIGNED: 2026-02-26
REGISTERED PROFESSIONAL ENGINEER OREGON 97881PE NOV. 15, 2023 QUINN A. DUFF
EXPIRES: 12/31/2027

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DESIGNED BY: QD
DRAWN BY: DB
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DOCUMENT DATE: 02/26/2026

SHEET TITLE
CIVIL DETAILS

SHEET NUMBER
C6.3

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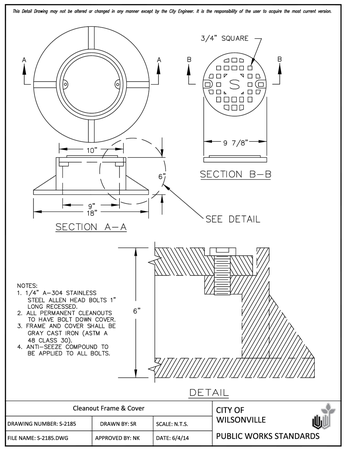

Cleanout Frame & Cover			CITY OF WILSONVILLE
DRAWING NUMBER: S-2185	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2185.DWG	APPROVED BY: NK	DATE: 6/4/14	

CLEANOUT AND FRAME COVER

SCALE N.T.S. 22

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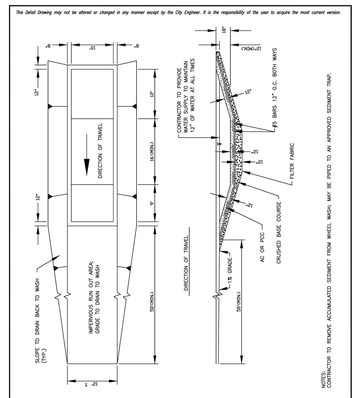

Wheel Wash			CITY OF WILSONVILLE
DRAWING NUMBER: S-2235	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2235.DWG	APPROVED BY: NK	DATE: 9/17/14	

WHEEL WASH

SCALE N.T.S. 23

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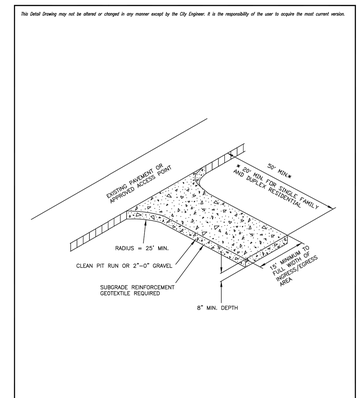

Gravel Construction Entrance			CITY OF WILSONVILLE
DRAWING NUMBER: S-2240	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2240.DWG	APPROVED BY: NK	DATE: 9/17/14	

GRAVEL CONSTRUCTION ENTRANCE

SCALE N.T.S. 24

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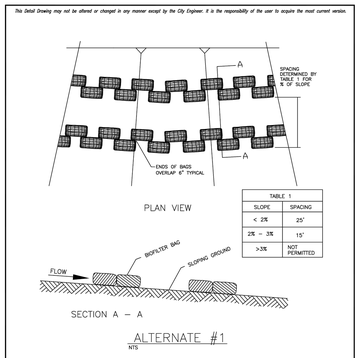

NOTE:
STAKING OF BAGS SHALL BE REQUIRED USING (2) 1"x 2" WOOD STAKES OR APPROVED EQUAL PER BAG.

Biofilter Bag Overland Flow			CITY OF WILSONVILLE
DRAWING NUMBER: S-2250	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: S-2250.DWG	APPROVED BY: NK	DATE: 9/17/14	

BIOFILTER BAG OVERLAND FLOW

SCALE N.T.S. 25

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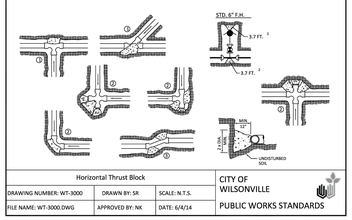
FITTING SIZE (inches)	TEE, WYE, & ① HYDRANTS	90° BEND ② PLUGGED CROSS TEE PLUGGED-RUNS	45° BEND ②	22 1/2° BEND ②	11 1/4° BEND ②
2	*	*	*	*	*
4	1.7	2.4	1.3	*	*
6	3.7	5.3	2.9	1.5	*
8	6.7	9.5	5.1	2.7	1.3
10	10.5	14.8	8	4.1	2
12	15.1	21.3	11.6	5.9	2.9
16	33.9	47.9	25.9	12.8	6.7
LARGER	* *	* *	* *	* *	* *

BEARING AREA OF THRUST BLOCKS (sq. ft.)

1. THRUST BLOCKS SHALL BE PROVIDED AT FIRE HYDRANTS, WET TAPS, AND ALL UN-RESTRAINED WATER SYSTEM APPURTENANCES ONLY, UNLESS OTHERWISE DIRECTED BY THE CITY'S AUTHORIZED REPRESENTATIVE.
2. ALL VALUES ARE BASED ON THE FOLLOWING ASSUMPTIONS:
   - AVG. PRESSURE = 100 PS X 2 (SAFETY FACTOR)
   - 1500 PSF SOIL BEARING CAPACITY
3. ALL FITTINGS SHALL BE WRAPPED IN PLASTIC (8 MIL. MINIMUM) PRIOR TO PLACEMENT OF CONCRETE.
4. BEARING SURFACE OF THRUST BLOCKING SHALL BE AGAINST UNDISTURBED SOIL.
5. CONCRETE SHALL BE COMMERCIAL MIX, MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS.
6. ALL PIPE ZONES SHALL BE GRAVEL FILLED AND COMPACTED.
7. THRUST BLOCKS FOR PLUGGED CROSS AND PLUGGED TEE SHALL HAVE #4 REBAR LIFTING LOOPS INSTALLED AS SHOWN.
8. VERTICAL THRUST DETAILS-SEE DWG. WT-3005.
9. STRADDLE BLOCK DETAILS-SEE DWG. WT-3010.

* BLOCK TO UNDISTURBED TRENCH WALLS
** THRUST BLOCKS WILL BE INDIVIDUALLY DESIGNED AND STAMPED BY THE ENGINEER.



Horizontal Thrust Block			CITY OF WILSONVILLE
DRAWING NUMBER: WT-3000	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: WT-3000.DWG	APPROVED BY: NK	DATE: 6/4/14	

HORIZONTAL THRUST BLOCK

SCALE N.T.S. 26

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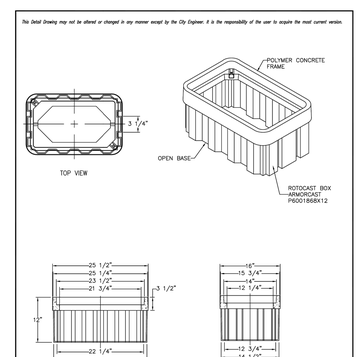

Meter Box - 3/4" & 1" Meter			CITY OF WILSONVILLE
DRAWING NUMBER: WT-3035	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: W-3035.DWG	APPROVED BY: NK	DATE: 6/4/14	

METER BOX - 3/4" AND 1" METER

SCALE N.T.S. 27

GENERAL NOTES FOR ALL DETAILS ON THIS SHEET:
1. Where precast inlets are used as an alternate to cast-in-place inlets, a 4" compacted leveling bed of sand or ¼"-0 crushed aggregate shall be provided. All precast inlets shall conform to requirements of ASTM C913.
2. Graphics show CG-1 inlet with Type 2 grate. See Table A for inlet dimensions. Type 1 grate allowed only in locations not subject to bicycle or pedestrian use. For frame and grate details, see Std. Dwg. RD365.
3. Provide sump only where shown on plans, and allowed by jurisdiction. See Detail B for inlet without sump.
4. For curb details, see Std. Dwgs. RD700 & RD701.
5. See Std. Dwg. RD336 for tracer wire details, or approved alternate.
6. Max. pipe diameter varies with pipe material.
7. Location, elevation, diameter, slope, and number of pipe(s) varies, see project plans.
8. All concrete shall be commercial grade concrete.
9. ½" preformed filler (in concrete pavement or gutter only) to extend through thickness of concrete.
10. See Std. Dwg. RD363 for gutter transition section, when curb and gutter are required. (Pay limit for inlet is expanded when curb and gutter are monolithic)
11. See Std. Dwg. RD339 for pipe to structure connections.

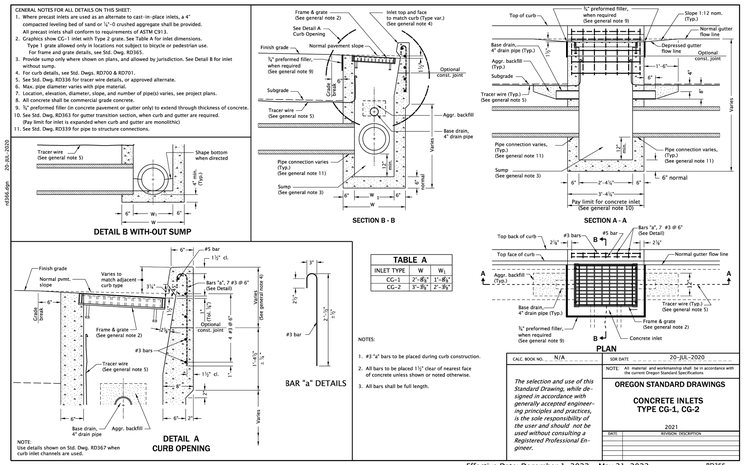

TABLE A		
INLET TYPE	W	W_1
CG-1	2'-8½"	1'-8½"
CG-2	3'-9½"	2'-8½"

NOTES:
1. #3 "a" bars to be placed during curb construction.
2. All bars to be placed 1½" clear of nearest face of concrete unless shown or noted otherwise.
3. All bars shall be full length.

NOTE: Slot details shown on Std. Dwg. RD367 when curb inlet channels are used.

CALC. BOOK NO.	N/A	SDR DATE	20-JUL-2020

NOTE: All material and workmanship shall be in accordance with the current Oregon Standard Specifications.

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without consulting a Registered Professional Engineer.

OREGON STANDARD DRAWINGS

CONCRETE INLETS TYPE CG-1, CG-2

2021

DATE	REVISION DESCRIPTION

Effective Date: December 1, 2022 – May 31, 2023 RD366

CONCRETE INLETS TYPE CG-1, CG-2

SCALE N.T.S. 28

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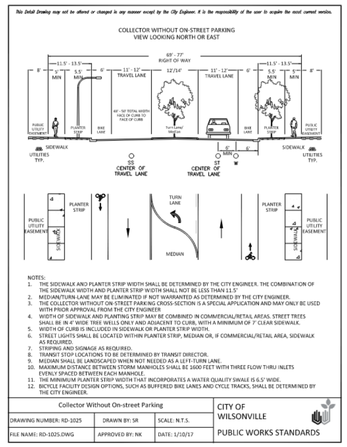

NOTES:
1. THE SIDEWALK AND PLANTER STRIP WIDTH SHALL BE DETERMINED BY THE CITY ENGINEER. THE COMBINATION OF THE SIDEWALK WIDTH AND PLANTER STRIP WIDTH SHALL NOT BE LESS THAN 13.5'.
2. MEDIAN/TURN LANE MAY BE ELIMINATED IF NOT WARRANTED AS DETERMINED BY THE CITY ENGINEER.
3. THE COLLECTOR WITHOUT ON-STREET PARKING CROSS-SECTION IS A SPECIAL APPLICATION AND MAY ONLY BE USED WITH PRIOR APPROVAL FROM THE CITY ENGINEER.
4. WIDTH OF SIDEWALK AND PLANTING STRIP MAY BE COMBINED IN COMMERCIAL/RETAIL AREAS. STREET TREES SHALL BE IN 4' WIDE TREE WELLS ONLY AND ADJACENT TO CURB, WITH A MINIMUM OF 7' CLEAR SIDEWALK.
5. STREET LIGHTING IS INCLUDED IN SIDEWALK OR PLANTER STRIP WIDTH.
6. STREET LIGHTS SHALL BE LOCATED WITHIN PLANTER STRIP, MEDIAN OR, IF COMMERCIAL/RETAIL AREA, SIDEWALK AS REQUIRED.
7. STRIPING AND SIGNAGE AS REQUIRED.
8. TRANSIT STOP LOCATIONS TO BE DETERMINED BY TRANSIT DIRECTOR.
9. MEDIAN SHALL BE LANDSCAPED WHEN NOT NEEDED AS A LEFT-TURN LANE.
10. MAXIMUM DISTANCE BETWEEN STORM MANHOLES SHALL BE 1600 FEET WITH THREE FLOW THRU INLETS EVENLY SPACED BETWEEN EACH MANHOLE.
11. THE MINIMUM PLANTER STRIP WIDTH THAT INCORPORATES A WATER QUALITY SWALE IS 6.5' WIDE.
12. BICYCLE FACILITY DESIGN OPTIONS, SUCH AS BUFFERED BIKE LANES AND CYCLE TRACKS, SHALL BE DETERMINED BY THE CITY ENGINEER.

Collector Without On-street Parking			CITY OF WILSONVILLE
DRAWING NUMBER: RD-1025	DRAWN BY: SR	SCALE: N.T.S.	PUBLIC WORKS STANDARDS
FILE NAME: RD-1025.DWG	APPROVED BY: NK	DATE: 1/10/17	

COLLECTOR STREET DETAIL

SCALE N.T.S. 29

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PORTLAND, OR 97258
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STORE NO.: 0005

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EV STALLS: 16

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CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
OREGON
97881PE
NOV. 15, 2023
QUINN A. DUFF

EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
1			
2			
3			
4			
5			
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9			
10			

DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE

CIVIL DETAILS

SHEET NUMBER

C6.4

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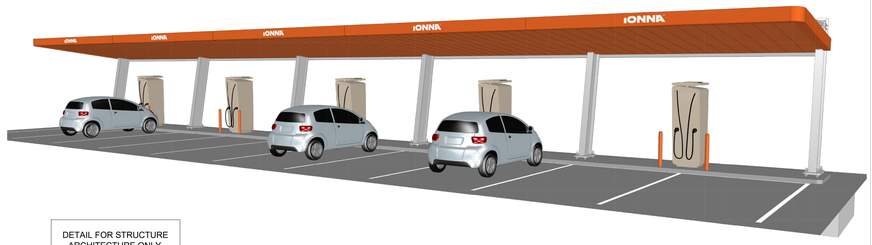
iONNA LIGHTWEIGHT MODULAR CANOPY CONCEPT

PROJECT MANAGER

DESIGN SPECIALIST
BEN WEIENETH

SHEET INDEX

C01	COVER
E01-E04	PLANS/ELEVATIONS
S01-S04	SECTIONS/DETAILS



DETAIL FOR STRUCTURE ARCHITECTURE ONLY.
FOR COLOR AND SIGNAGE SEE SHEET C6.6

APPROVAL

NAME

ORGANIZATION

TITLE

- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

NOTES:

OTHER MATERIALS

- ☐ PLYWOOD (3/4" CDX)
- ☐ VAPROSHIELD - IT / SA
- ☐ SHEET METAL (TRIM)
- ☐ NON STD. SCREW
- ☐ SIGNAGE
- ☐ OTHER - SEE NOTES

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PROJECT: iONNA LIGHTWEIGHT MODULAR CANOPY CONCEPT
ARCHITECT: ...
DRAWN BY: BJW
JOB #: ...
DATE: 9/9/24

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Date Approved:

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SHEET NUMBER: C01

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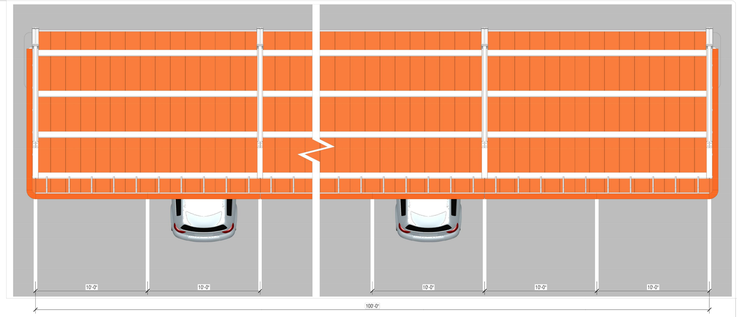

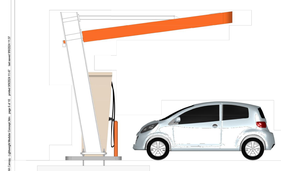

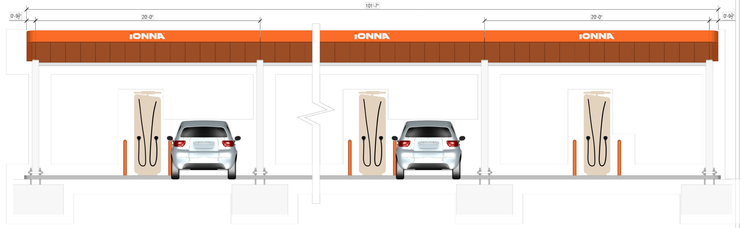

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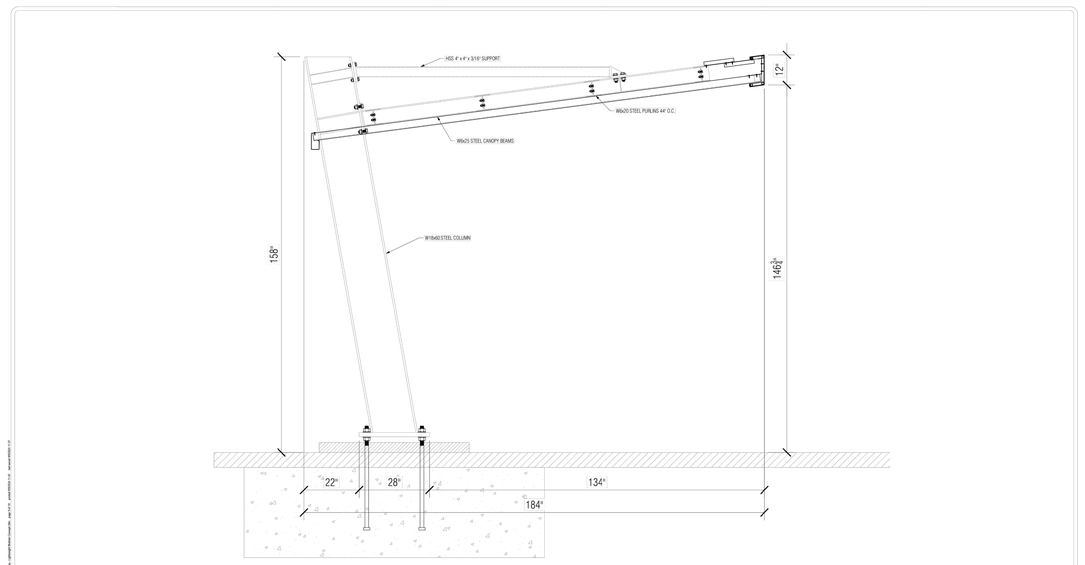

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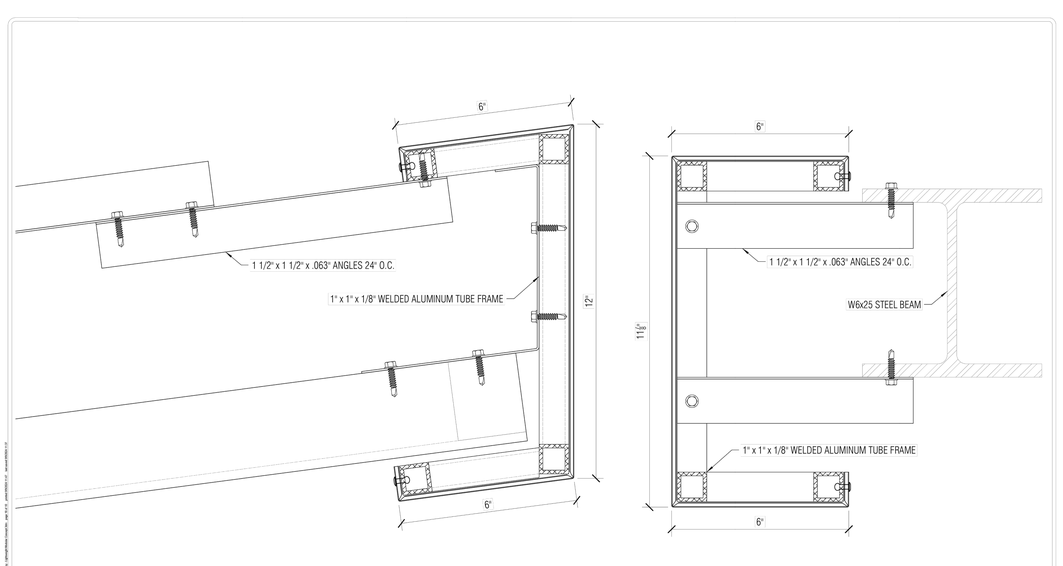

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CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97788
OREGON
NOV. 15, 2023
QUINN A. DUFFY

EXPIRES: 12/31/2027

ISSUE BLOCK

No.	ISSUE	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
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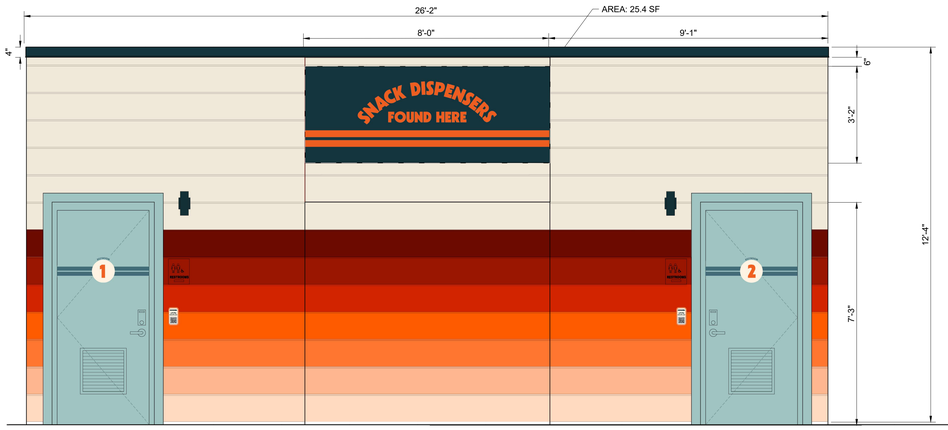
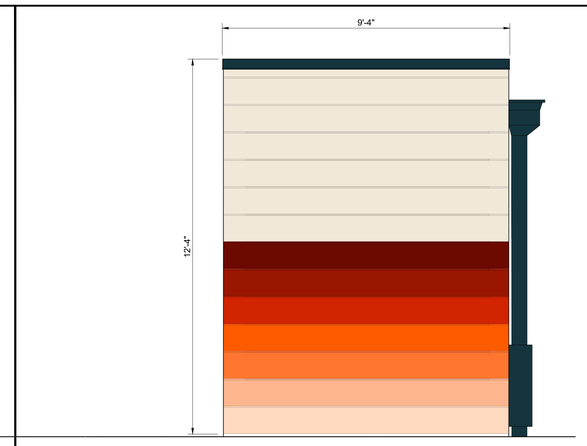


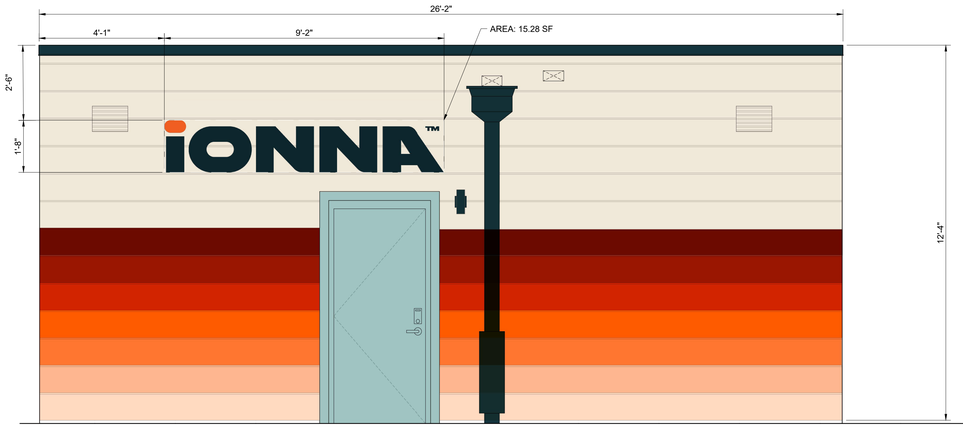
EXTERIOR ELEVATION (FRONT)

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



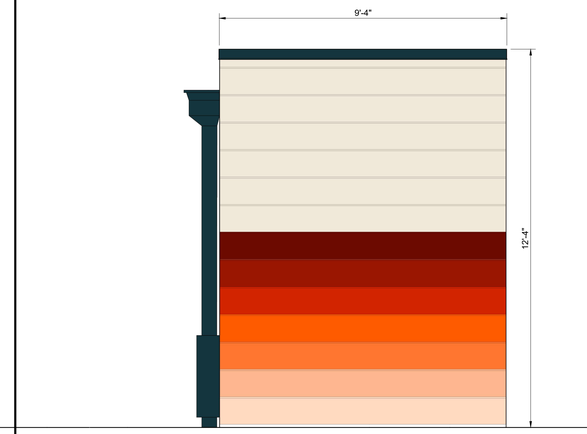
EXTERIOR ELEVATION (RIGHT)

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



EXTERIOR ELEVATION (REAR)

SCALE 1/2"=1'-0" | 3



EXTERIOR ELEVATION (LEFT)

SCALE 1/2"=1'-0" | 4

PAINT SCHEDULE		
COLOR/PMS	CODE	DESCRIPTION
PANTONE 021 C	P1	PAINTED MAP TO MATCH PANTONE 021 C 'ION ORANGE'
PANTONE 5395 C	P2	PAINTED MAP TO MATCH PANTONE 5395 C 'SOFT DARK'
PANTONE 9224 C	P3	PAINTED MAP TO MATCH PANTONE 9224 C 'SOFT LIGHT'
PANTONE 7464 C	P4	PAINTED MAP TO MATCH PANTONE 7464 C 'ROBIN'S EGG 1'
PANTONE 5483 C	P5	PAINTED MAP TO MATCH PANTONE 5483 C 'ROBIN'S EGG 2'
PANTONE 311 C	P6	PAINTED MAP TO MATCH PANTONE 311 C 'ION BLUE 1'
PANTONE 655 C	P7	PAINTED MAP TO MATCH PANTONE 655 C 'ION BLUE 2'
WHITE	P8	MATTHEWS WHITE
BLACK	P9	MATTHEWS BLACK

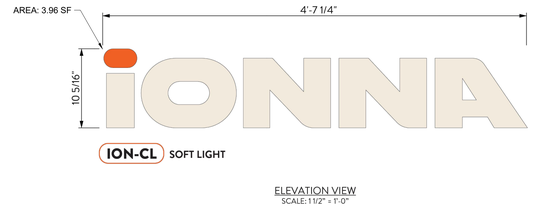
DIGITAL PRINT VINYL SCHEDULE		
COLOR/PMS	CODE	DESCRIPTION
PANTONE 021 C	V1	CMYK: 0 / 78 / 100 / 0
PANTONE 5395 C	V2	CMYK: 89 / 66 / 59 / 65
PANTONE 9224 C	V3	CMYK: 0 / 4 / 10 / 0
PANTONE 7464 C	V4	CMYK: 37 / 10 / 24 / 0
PANTONE 5483 C	V5	CMYK: 78 / 46 / 43 / 14
PANTONE 311 C	V6	CMYK: 64 / 0 / 13 / 0
PANTONE 655 C	V7	CMYK: 100 / 86 / 36 / 27
WHITE	V8	3M 7725-20 WHITE; CMYK: 0 / 0 / 0 / 0
BLACK	V9	3M 7725-22 BLACK; CMYK: 60 / 40 / 40 / 100

MATERIAL SCHEDULE		
COLOR	CODE	DESCRIPTION
WHITE	A1	7328 WHITE ACRYLIC
WHITE	A2	7328 WHITE POLYCARBONATE
BLACK	M1	3/4" JEWELITE TRIM CAP
BLACK	M2	3" PRE-FINISH BLACK COIL RETURN

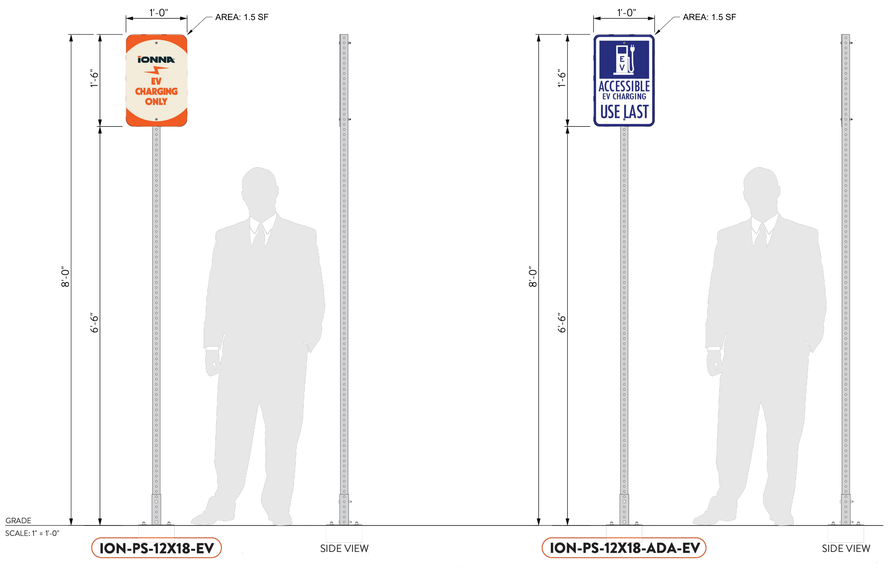
LED SCHEDULE			
COLOR	MFG.	PART NO.	DESCRIPTION / APPLICATION
65K WHITE	PRINCIPAL	PL-SY2-MN2-P	PRISM SYNERGY MINI - STANDARD CHANNEL LETTERS
65K WHITE	PRINCIPAL	PL-SY4-SP2-P	PRISM SYNERGY SPEC - D/F CANOPY SIGN
65K WHITE	PRINCIPAL	PL-SY4-HO1-P	PRISM SYNERGY HO - S/F CANOPY SIGN
65K WHITE	PRINCIPAL	B-SY-D04-0XX65-HO	SYNERGY STIK HO DS - MONUMENT AND PYLONS

COLOR SPECIFICATIONS

SCALE N.T.S. | 5

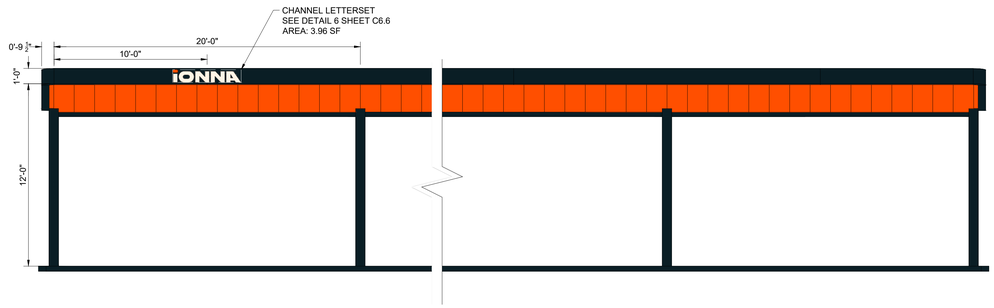


ELEVATION VIEW
SCALE: 1 1/2" = 1'-0"



INFORMATIONAL SIGNS

SCALE 1"=1'-0" | 7



CHANNEL LETTERSET

SCALE 1½"=1'-0" | 6

CANOPY EXTERIOR ELEVATION (FRONT)

SCALE 1/4"=1'-0" | 8

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CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97881
OREGON
NOV. 15, 2023
QUINN A. DUFFY

EXPIRES: 12/31/2027

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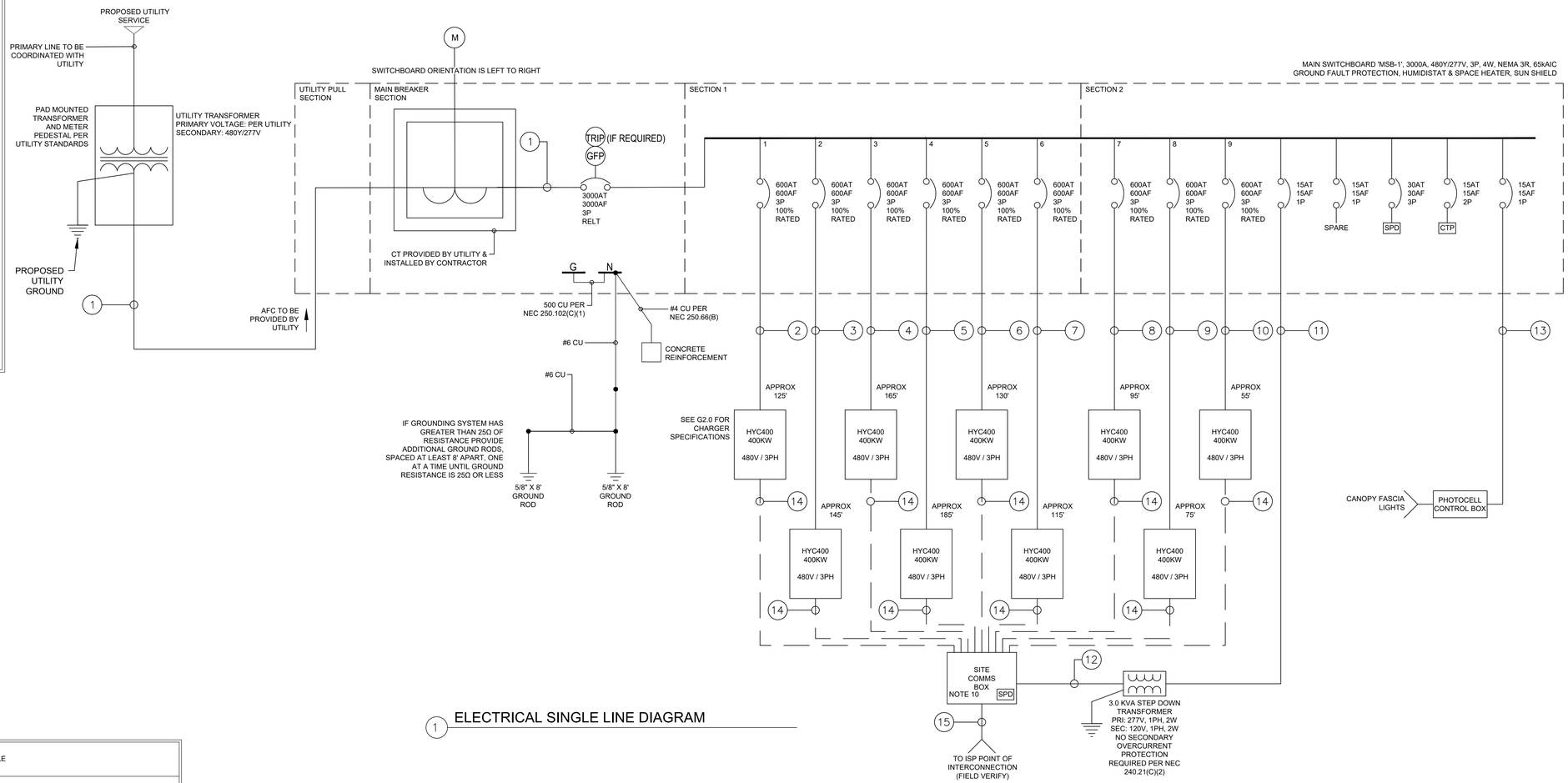
SINGLE LINE DIAGRAM NOTES

1. METER PLACEMENT, CT CABINET, AND FINAL SWITCH BOARD/DISTRIBUTION DESIGN TO BE COORDINATED ACCORDING TO UTILITY REQUIREMENTS. CONTRACTOR TO PROVIDE METER SOCKET (METER ENCLOSURE) PER LISTED ON THE UTILITY'S APPROVED METER ENCLOSURE LIST.
2. THE MAIN CIRCUIT BREAKER IN THIS SWITCHBOARD SHALL BE 100% RATED.
3. PROVIDE GROUND FAULT PROTECTION (GFP) FOR EQUIPMENT PER NEC ARTICLE 230.95.
4. SEE UTILITY POWER MANUAL FOR ADDITIONAL INFORMATION.
5. THIS SERVICE EQUIPMENT SHALL BE FIELD MARKED IN COMPLIANCE WITH ALL REQUIREMENTS STATED IN NEC ARTICLES 110.24(A) AND 230.70(B).
6. WHEN REQUIRED BY LOCAL AHJ "BREAK GLASS IN CASE OF FIRE" SWITCH IS TO BEPROVIDED BY EC. SWITCH SHALL BE EQUIVALENT TO PILLA ST120SN3RSL-EMERGENCY SHUT DOWN EMERGENCY BREAK GLASS STATION, LEGEND: "EMERGENCY SHUT-DOWN", NO PUSH BUTTON, AUTO-RELEASE WHEN GLASS BROKEN, SURFACE MOUNT NEMA 3R ENCLOSURE, FITS 1-6 CONTACT BLOCKS OR EQUIVALENT. HTTP://PILLAELECTRICALPRODUCTS.COM/PILLAX.HTM
7. PER NEC 625.42 IONNA IS SUPPLYING AUTOMATIC LOAD MANAGEMENT SYSTEM FOR THIS SITE.
8. ALL CONDUITS ABOVE GROUND OR SUBJECT TO DAMAGE SHALL BE RIGID GALVANIZED STEEL. ALL CONDUITS UNDERGROUND SHALL BE PVC SCHEDULE 40.
9. INSTALLATION SHALL BE IN ACCORDANCE WITH LATEST ADOPTED NATIONAL ELECTRICAL CODE AND BUILDING CODE, CHAPTER 27. THE AHJ HAS FINAL JURISDICTIONAL AUTHORITY ON CODE APPLICATION AND COMPLIANCE.
10. ALL EQUIPMENT SHALL BE INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED. ALL MATERIAL SHALL BE IN NEW CONDITION AND APPROVED BY THE ENGINEER.
11. ALL EQUIPMENT SHALL BE UL LISTED.
12. ALL SWITCHBOARDS AND PANELBOARDS SHALL HAVE ARC FLASH WARNING LABELS WITH APPLICABLE INCIDENT ENERGY LEVELS, WORKING DISTANCES, AND REQUIRED PPE IN ACCORDANCE WITH NFPA 70E.
13. EXPOSED NON-CURRENT CARRYING METAL PARTS OF EQUIPMENT AND ENCLOSURES SHALL BE GROUNDED IN ACCORDANCE WITH NEC 250.134 AND 250.136.



1 ELECTRICAL SINGLE LINE DIAGRAM

CONDUIT AND WIRING SCHEDULE

ID	FROM	TO	CONDUCTORS
①	PROPOSED UTILITY TRANSFORMER (BY OTHERS)	PROPOSED 480V SWITCHBOARD	(3) 600 KCMIL AL (THWN-2) + (1) #1/0 AWG NEUTRAL AL (THWN-2) IN EACH OF (9) 4" SCH 40 PVC CONDITS APPROX 45'
②	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 125'
③	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 145'
④	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 165'
⑤	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 185'
⑥	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 130'
⑦	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 115'
⑧	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 95'
⑨	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 75'
⑩	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 POWER CABINET	(3) 500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) GROUNDING IN EACH OF (2) 3" SCH 40 PVC APPROX 55'
⑪	PROPOSED 480V SWITCHBOARD	3.0 KVA STEP DOWN TRANSFORMER	(2) #12 AWG CU (THWN-2) + (1) #12 AWG CU (THWN-2) GROUNDING IN (1) 3/4" SCH 40 PVC
⑫	3.0 KVA STEP DOWN TRANSFORMER	SITE COMMS BOX	(2) #10 AWG CU (THWN-2) + (1) #10 AWG CU (THWN-2) JUMPER IN (1) 3/4" SCH 40 PVC
⑬	PROPOSED 480V SWITCHBOARD	CANOPY LIGHTING	(2) #12 AWG CU (THWN-2) + (1) #12 AWG CU (THWN-2) GROUNDING IN (1) 1" SCH 40 PVC
⑭	PROPOSED HYC400 POWER CABINET	SITE COMMS BOX	(1) 3/4" SCH 40 PVC CONDUIT FOR OCPP CAT 6
⑮	ISP POINT OF CONNECTION (FIELD LOCATE)	SITE COMMS BOX	(1) 1" SCH 40 PVC CONDUIT FOR ISP FIBER OPTIC CABLE

WIRE AND CONDUIT SCHEDULE NOTES

1. CONDUIT SIZE INDICATED ON SCHEDULE ARE MINIMUM REQUIRED SIZES. LARGER SIZES MAY BE INSTALLED AS NEEDED.

2 WIRE AND CONDUIT SCHEDULE

IONNA SITE ELECTRICAL INFORMATION		
SITE ZIP CODE:	97070	
UTILITY NAME:	PORTLAND GENERAL ELECTRIC	
UTILITY CONTACT:	LUKE WHITTEMORE	
UTILITY CONTACT (PN):	(541) 740-9378	
UTILITY CONTACT (EM):	LUKE.WHITTEMORE@PGN.COM	
IONNA QUANTITY OF CHARGERS:	9	
IONNA LOAD PLA:	4330	
IONNA LOAD (60% MANAGED):	2598	
UTILITY XFMR SIZING (KVA):	2500	
UTILITY XFMR CONFIGURATION	DELTA-WYE	
UTILITY SCA:	ESTIMATED @ 5% Z= 60,140	
UTILITY METERING SEQUENCE:	HOT	
UTILITY XFMR SEC CONDCUTOR:	9 SETS OF 600 KCMIL AL	
UTILITY XFMR SEC CONDUIT:	4"	
CHARGER FEEDER CONDUCTOR:	2 SETS OF 500 KCMIL AL	
CHARGER FEEDER CONDUIT:	3"	

3 UTILITY INFORMATION

Panel Schedule													
Panel 'MSB-1', Location: Wilsonville, Voltage: 480Y/277, Phase: 3, Wire: 4, Hertz: 60													
Main AIC: 65K, Branch AIC: 65K, Enclosure: (NEMA 3R)													
3000 Amp Frame, Ground Fault Protection, Humidstat, Space Heater, Sun Shield													
Description of Load Served	Breaker		A/Phase			CKT No.	CKT No.	A/Phase			Breaker		Description of Load Served
	Amp	Pole	A	B	C			A	B	C	Amp	Pole	
EVCS DUAL PORT DISPENSER #1	600	3	480.0			1	2	480.0					
				480.0		3	4		480.0		600	3	EVCS DUAL PORT DISPENSER #2
					480.0	5	6			480.0			
EVCS DUAL PORT DISPENSER #3	600	3	480.0			7	8	480.0					
				480.0		9	10		480.0		600	3	EVCS DUAL PORT DISPENSER #4
					480.0	11	12			480.0			
EVCS DUAL PORT DISPENSER #5	600	3	480.0			13	14	480.0					
				480.0		15	16		480.0		600	3	EVCS DUAL PORT DISPENSER #6
					480.0	17	18			480.0			
EVCS DUAL PORT DISPENSER #7	600	3	480.0			19	20	480.0					
				480.0		21	22		480.0		600	3	EVCS DUAL PORT DISPENSER #8
					480.0	23	24			480.0			
EVCS DUAL PORT DISPENSER #9	600	3	480.0			25	26	10.8			15	1	3.0 KVA XFMR
				480.0		27	28		-				
					480.0	29	30			-	30	3	SPD
						31	32	-					
						33	34		-		15	1	SPARE
						35	36			-	15	1	PHOTOCELL CONTROL BOX
	Total A/Phase:		4,330.8	4,320.0	4,320.0								

NOTES:
1. CONNECTED KVA (NEW): 3600.6
2. DEMAND KVA (NEW): 2160.3 SEE NOTE 1 BELOW

LOAD SUMMARY NOTE

1. ELECTRIC VEHICLE CHARGING LOADS ARE PART OF AUTOMATIC LOAD MANAGEMENT SYSTEM PER NEC 625.42. CHARGING LOADS WILL BE LIMITED TO THE VALUES SHOWN IN THE PANEL SCHEDULE AND THE TOTAL LOAD SHALL NOT EXCEED MAIN CIRCUIT BREAKER LONG TIME SETTING RATING OF SWITCHBOARD 'EV' NOR THE UTILITY TRANSFORMER.

4 SWITCHBOARD LOAD SCHEDULE

PENDING UTILITY DESIGN

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STORE NO.: 0005

KIMLEY-HORN PROJECT NO.: 168950

EV STALLS: 16

PUBLIC EV

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CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97881
OREGON
NOV 15, 2023
QUINN A. DUFT

EXPIRES: 12/31/2027

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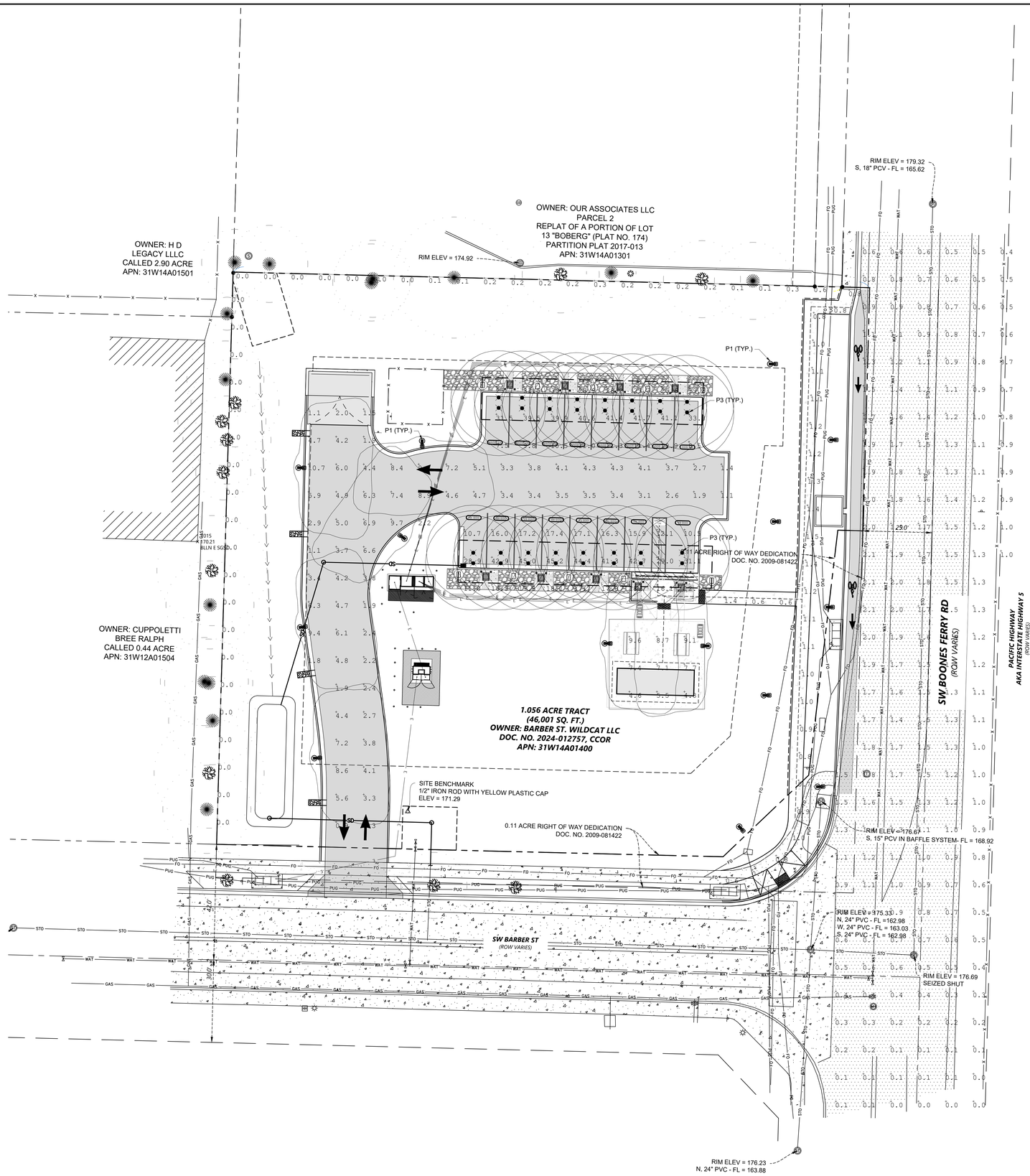

LUMINAIRE SCHEDULE

SYMBOL	LABEL	QTY	ARRANGEMENT	DESCRIPTION	TOTAL ARR. WATTS	TOTAL ARR. LUMENS	LLF	BUG RATING
	P1	7	Single	VSR-1-T4-32L-1-30K-HSS @ 10'	106	6,042	0.85	B0-U0-G2
	P2	7	Single	VSR-1-T4-32L-1-30K-HSS @ 40'	106	6,042	0.85	B0-U0-G2
	P3	32	Single	LED Square Canopy Light Fixture @ 11'	40	5,673	0.85	B2-U2-G1

LABEL	CALC TYPE	UNITS	AVERAGE	MAX	MIN	TARGET MIN	AVG/MIN	MAX/MIN	TARGET MAX/MIN
DRIVEWAY	ILLUMINANCE	FC	4.3	10.7	0.9	**0.2**	4.8	11.9	**20.0**
IONNA CHARGERS NORTH	ILLUMINANCE	FC	25.3	41.7	7.5	**0.2**	3.4	5.6	**20.0**
IONNA CHARGERS SOUTH	ILLUMINANCE	FC	23.3	45.2	10.5	**0.2**	2.2	4.3	**20.0**
PEDESTRIAN AREAS	ILLUMINANCE	FC	7.2	9.6	4.6	**0.5**	1.6	2.1	**20.0**
PROPERTY LINE	ILLUMINANCE	FC	0.1	0.6	0.0	**N/A**	N.A.	N.A.	**N/A**
ROW	ILLUMINANCE	FC	1.0	2.1	0.0	**N/A**	N.A.	N.A.	**N/A**
SIDEWALK	ILLUMINANCE	FC	1.0	1.5	0.6	**0.5**	1.7	2.5	**4.0**

PER CITY OF WILSONVILLE ENGINEERING & DESIGN STANDARDS 2019 SECTION 906 IESNA RP-8-00 SECTION 3.5 TABLE 2
PER CITY OF WILSONVILLE ENGINEERING & DESIGN STANDARDS 2019 SECTION 906 IESNA RP-8-00 SECTION 3.6 TABLE 6
PER CITY OF WILSONVILLE ENGINEERING & DESIGN STANDARDS 2019 SECTION 906 IESNA RP-8-21 TABLE 17-2

GRAPHIC SCALE IN FEET
0 8 16 32
SCALE: 1" = 16'
WHEN PRINTED AT FULL SIZE (30"x42")

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QUINN A. DUFF

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NLS LIGHTING

VSR-1

SITE LIGHTING

LED WATTAGE CHART

Drive Current	32L	48L	64L
120 milliamps	44W	66W	88W
1000 milliamps	109W	164W	218W

FORM AND FUNCTION
- Sleek, low profile housing
- Engineered for optimum thermal management
- Low depreciation rate
- Optical system designed for:
  - Parking Lots
  - Commercial Applications

CONSTRUCTION
- Die Formed heavy duty Aluminum
- Corrosion resistant, external hardware
- One-piece silicone gasket ensures IP-65 seal for electronics compartment
- Two-piece silicone Micro Optic system ensures IP-67 level seal around each PCB

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REV 04.10.25

1

Project Name: Type:

VSR-1 ORDERING GUIDE

Cat#	Light Dist.	# of LEDs	Drive Current	Color Temp./CRI	Voltage
Value Series Round 1 **(VSR-1)**	**Standard Silicone Micro Optics** Type 2 **(T2)** Type 3 **(T3)** Type 4 **(T4)** Type 5 **(T5)** **Performance Silicone Micro Optics** Type 4 Forward Throw Wide (For Perimeters) **(T4FTW)** Type 5 Wide (for Improved Uniformity & Wider Pole Spacing) **(T5W)**	**Standard Configurations** 32 LED (32L) 350 mA **(7)** 48 LED (48L) 1050 mA **(1)** 64 LED (64L) **Standard Configurations** 32 LED (32L) 700 mA **(7)** 48 LED (48L) 1050 mA **(1)** 64 LED (64L) **Performance Plus Configurations*** 64 LED (64L) 350 mA **(7)** * 530 mA **(11)** *	Amber LED 590nm (Dominant Wavelength) Standard Turtle Friendly **(AMBER)** * 4, 5, 11 Amber LED (Phosphor Converted) **(AMBER/PC)** 1, 4, 5, 11 2700K, 70 CRI **(27K7)** * 2700K, 80 CRI **(27K8)** * 3000K, 70 CRI **(30K7)** * 3000K, 80 CRI **(30K8)** * 3500K, 80 CRI **(35K8)** * 4000K, 70 CRI **(40K7)** * 4000K, 80 CRI **(40K8)** * 5000K, 70 CRI **(50K7)*** 5000K, 80 CRI **(50K8)** *	120 VAC **(1)** 347V-480V **(HV)**

* Performance Plus configurations without Nine Performance Silicone Optics. (For the ultimate performance of the Nine Performance Silicone Optics combine highest drive current with High Efficacy (Amber Turtle) fixture)

Mounting	Color	Controls Options	Options
Round Pole (4" Arm) Single **(SP5)** 2 @ 180 **(SP5A)** 4 @ 90 **(SP5B)** 3 @ 90 **(SP5C)** 3 @ 120 **(SP5D)** 4 @ 90 **(SP5E)** 4 @ 120 **(SP5F)** 4 @ 180 **(SP5G)** 4 @ 120 **(SP5H)** 4 @ 180 **(SP5J)** 4 @ 120 **(SP5K)** 4 @ 180 **(SP5L)** 4 @ 120 **(SP5M)** 4 @ 180 **(SP5N)** 4 @ 120 **(SP5P)** 4 @ 180 **(SP5Q)** 4 @ 120 **(SP5R)** 4 @ 180 **(SP5S)** 4 @ 120 **(SP5T)** 4 @ 180 **(SP5U)** 4 @ 120 **(SP5V)** 4 @ 180 **(SP5W)** 4 @ 120 **(SP5X)** 4 @ 180 **(SP5Y)** 4 @ 120 **(SP5Z)** 4 @ 180 **(SP5AA)** 4 @ 120 **(SP5AB)** 4 @ 180 **(SP5AC)** 4 @ 120 **(SP5AD)** 4 @ 180 **(SP5AE)** 4 @ 120 **(SP5AF)** 4 @ 180 **(SP5AG)** 4 @ 120 **(SP5AH)** 4 @ 180 **(SP5AJ)** 4 @ 120 **(SP5AK)** 4 @ 180 **(SP5AL)** 4 @ 120 **(SP5AM)** 4 @ 180 **(SP5AN)** 4 @ 120 **(SP5AP)** 4 @ 180 **(SP5AQ)** 4 @ 120 **(SP5AR)** 4 @ 180 **(SP5AS)** 4 @ 120 **(SP5AT)** 4 @ 180 **(SP5AU)** 4 @ 120 **(SP5AV)** 4 @ 180 **(SP5AW)** 4 @ 120 **(SP5AX)** 4 @ 180 **(SP5AY)** 4 @ 120 **(SP5AZ)** 4 @ 180 **(SP5BA)** 4 @ 120 **(SP5BB)** 4 @ 180 **(SP5BC)** 4 @ 120 **(SP5BD)** 4 @ 180 **(SP5BE)** 4 @ 120 **(SP5BF)** 4 @ 180 **(SP5BG)** 4 @ 120 **(SP5BH)** 4 @ 180 **(SP5BJ)** 4 @ 120 **(SP5BK)** 4 @ 180 **(SP5BL)** 4 @ 120 **(SP5BM)** 4 @ 180 **(SP5BN)** 4 @ 120 **(SP5BP)** 4 @ 180 **(SP5BQ)** 4 @ 120 **(SP5BR)** 4 @ 180 **(SP5BS)** 4 @ 120 **(SP5BT)** 4 @ 180 **(SP5BU)** 4 @ 120 **(SP5BV)** 4 @ 180 **(SP5BW)** 4 @ 120 **(SP5BX)** 4 @ 180 **(SP5BY)** 4 @ 120 **(SP5BZ)** 4 @ 180 **(SP5CA)** 4 @ 120 **(SP5CB)** 4 @ 180 **(SP5CC)** 4 @ 120 **(SP5CD)** 4 @ 180 **(SP5CE)** 4 @ 120 **(SP5CF)** 4 @ 180 **(SP5CG)** 4 @ 120 **(SP5CH)** 4 @ 180 **(SP5CJ)** 4 @ 120 **(SP5CK)** 4 @ 180 **(SP5CL)** 4 @ 120 **(SP5CM)** 4 @ 180 **(SP5CN)** 4 @ 120 **(SP5CP)** 4 @ 180 **(SP5CQ)** 4 @ 120 **(SP5CR)** 4 @ 180 **(SP5CS)** 4 @ 120 **(SP5CT)** 4 @ 180 **(SP5CU)** 4 @ 120 **(SP5CV)** 4 @ 180 **(SP5CW)** 4 @ 120 **(SP5CX)** 4 @ 180 **(SP5CY)** 4 @ 120 **(SP5CZ)** 4 @ 180 **(SP5DA)** 4 @ 120 **(SP5DB)** 4 @ 180 **(SP5DC)** 4 @ 120 **(SP5DD)** 4 @ 180 **(SP5DE)** 4 @ 120 **(SP5DF)** 4 @ 180 **(SP5DG)** 4 @ 120 **(SP5DH)** 4 @ 180 **(SP5DJ)** 4 @ 120 **(SP5DK)** 4 @ 180 **(SP5DL)** 4 @ 120 **(SP5DM)** 4 @ 180 **(SP5DN)** 4 @ 120 **(SP5DP)** 4 @ 180 **(SP5DQ)** 4 @ 120 **(SP5DR)** 4 @ 180 **(SP5DS)** 4 @ 120 **(SP5DT)** 4 @ 180 **(SP5DU)** 4 @ 120 **(SP5DV)** 4 @ 180 **(SP5DW)** 4 @ 120 **(SP5DX)** 4 @ 180 **(SP5DY)** 4 @ 120 **(SP5DZ)** 4 @ 180 **(SP5EA)** 4 @ 120 **(SP5EB)** 4 @ 180 **(SP5EC)** 4 @ 120 **(SP5ED)** 4 @ 180 **(SP5EE)** 4 @ 120 **(SP5EF)** 4 @ 180 **(SP5EG)** 4 @ 120 **(SP5EH)** 4 @ 180 **(SP5EJ)** 4 @ 120 **(SP5EK)** 4 @ 180 **(SP5EL)** 4 @ 120 **(SP5EM)** 4 @ 180 **(SP5EN)** 4 @ 120 **(SP5EP)** 4 @ 180 **(SP5EQ)** 4 @ 120 **(SP5ER)** 4 @ 180 **(SP5ES)** 4 @ 120 **(SP5ET)** 4 @ 180 **(SP5EU)** 4 @ 120 **(SP5EV)** 4 @ 180 **(SP5EW)** 4 @ 120 **(SP5EX)** 4 @ 180 **(SP5EY)** 4 @ 120 **(SP5EZ)** 4 @ 180 **(SP5FA)** 4 @ 120 **(SP5FB)** 4 @ 180 **(SP5FC)** 4 @ 120 **(SP5FD)** 4 @ 180 **(SP5FE)** 4 @ 120 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**(SP5HH)** 4 @ 180 **(SP5HJ)** 4 @ 120 **(SP5HK)** 4 @ 180 **(SP5HL)** 4 @ 120 **(SP5HM)** 4 @ 180 **(SP5HN)** 4 @ 120 **(SP5HP)** 4 @ 180 **(SP5HQ)** 4 @ 120 **(SP5HR)** 4 @ 180 **(SP5HS)** 4 @ 120 **(SP5HT)** 4 @ 180 **(SP5HU)** 4 @ 120 **(SP5HV)** 4 @ 180 **(SP5HW)** 4 @ 120 **(SP5HX)** 4 @ 180 **(SP5HY)** 4 @ 120 **(SP5HZ)** 4 @ 180 **(SP5JA)** 4 @ 120 **(SP5JB)** 4 @ 180 **(SP5JC)** 4 @ 120 **(SP5JD)** 4 @ 180 **(SP5JE)** 4 @ 120 **(SP5JF)** 4 @ 180 **(SP5JG)** 4 @ 120 **(SP5JH)** 4 @ 180 **(SP5JJ)** 4 @ 120 **(SP5JK)** 4 @ 180 **(SP5JL)** 4 @ 120 **(SP5JM)** 4 @ 180 **(SP5JN)** 4 @ 120 **(SP5JP)** 4 @ 180 **(SP5JQ)** 4 @ 120 **(SP5JR)** 4 @ 180 **(SP5JS)** 4 @ 120 **(SP5JT)** 4 @ 180 **(SP5JU)** 4 @ 120 **(SP5JV)** 4 @ 180 **(SP5JW)** 4 @ 120 **(SP5JX)** 4 @ 180 **(SP5JY)** 4 @ 120 **(SP5JZ)** 4 @ 180 **(SP5KA)** 4 @ 120 **(SP5KB)** 4 @ 180 **(SP5KC)** 4 @ 120 **(SP5KD)** 4 @ 180 **(SP5KE)** 4 @ 120 **(SP5KF)** 4 @ 180 **(SP5KG)** 4 @ 120 **(SP5KH)** 4 @ 180 **(SP5KJ)** 4 @ 120 **(SP5KK)** 4 @ 180 **(SP5KL)** 4 @ 120 **(SP5KM)** 4 @ 180 **(SP5KN)** 4 @ 120 **(SP5KP)** 4 @ 180 **(SP5KQ)** 4 @ 120 **(SP5KR)** 4 @ 180 **(SP5KS)** 4 @ 120 **(SP5KT)** 4 @ 180 **(SP5KU)** 4 @ 120 **(SP5KV)** 4 @ 180 **(SP5KW)** 4 @ 120 **(SP5KX)** 4 @ 180 **(SP5KY)** 4 @ 120 **(SP5KZ)** 4 @ 180 **(SP5LA)** 4 @ 120 **(SP5LB)** 4 @ 180 **(SP5LC)** 4 @ 120 **(SP5LD)** 4 @ 180 **(SP5LE)** 4 @ 120 **(SP5LF)** 4 @ 180 **(SP5LG)** 4 @ 120 **(SP5LH)** 4 @ 180 **(SP5LJ)** 4 @ 120 **(SP5LK)** 4 @ 180 **(SP5LL)** 4 @ 120 **(SP5LM)** 4 @ 180 **(SP5LN)** 4 @ 120 **(SP5LP)** 4 @ 180 **(SP5LQ)** 4 @ 120 **(SP5LR)** 4 @ 180 **(SP5LS)** 4 @ 120 **(SP5LT)** 4 @ 180 **(SP5LU)** 4 @ 120 **(SP5LV)** 4 @ 180 **(SP5LW)** 4 @ 120 **(SP5LX)** 4 @ 180 **(SP5LY)** 4 @ 120 **(SP5LZ)** 4 @ 180 **(SP5MA)** 4 @ 120 **(SP5MB)** 4 @ 180 **(SP5MC)** 4 @ 120 **(SP5MD)** 4 @ 180 **(SP5ME)** 4 @ 120 **(SP5MF)** 4 @ 180 **(SP5MG)** 4 @ 120 **(SP5MH)** 4 @ 180 **(SP5MJ)** 4 @ 120 **(SP5MK)** 4 @ 180 **(SP5ML)** 4 @ 120 **(SP5MM)** 4 @ 180 **(SP5MN)** 4 @ 120 **(SP5MP)** 4 @ 180 **(SP5MQ)** 4 @ 120 **(SP5MR)** 4 @ 180 **(SP5MS)** 4 @ 120 **(SP5MT)** 4 @ 180 **(SP5MU)** 4 @ 120 **(SP5MV)** 4 @ 180 **(SP5MW)** 4 @ 120 **(SP5MX)** 4 @ 180 **(SP5MY)** 4 @ 120 **(SP5MZ)** 4 @ 180 **(SP5NA)** 4 @ 120 **(SP5NB)** 4 @ 180 **(SP5NC)** 4 @ 120 **(SP5ND)** 4 @ 180 **(SP5NE)** 4 @ 120 **(SP5NF)** 4 @ 180 **(SP5NG)** 4 @ 120 **(SP5NH)** 4 @ 180 **(SP5NJ)** 4 @ 120 **(SP5NK)** 4 @ 180 **(SP5NL)** 4 @ 120 **(SP5NM)** 4 @ 180 **(SP5NN)** 4 @ 120 **(SP5NP)** 4 @ 180 **(SP5NQ)** 4 @ 120 **(SP5NR)** 4 @ 180 **(SP5NS)** 4 @ 120 **(SP5NT)** 4 @ 180 **(SP5NU)** 4 @ 120 **(SP5NV)** 4 @ 180 **(SP5NW)** 4 @ 120 **(SP5NX)** 4 @ 180 **(SP5NY)** 4 @ 120 **(SP5NZ)** 4 @ 180 **(SP5PA)** 4 @ 120 **(SP5PB)** 4 @ 180 **(SP5PC)** 4 @ 120 **(SP5PD)** 4 @ 180 **(SP5PE)** 4 @ 120 **(SP5PF)** 4 @ 180 **(SP5PG)** 4 @ 120 **(SP5PH)** 4 @ 180 **(SP5PJ)** 4 @ 120 **(SP5PK)** 4 @ 180 **(SP5PL)** 4 @ 120 **(SP5PM)** 4 @ 180 **(SP5PN)** 4 @ 120 **(SP5PP)** 4 @ 180 **(SP5PQ)** 4 @ 120 **(SP5PR)** 4 @ 180 **(SP5PS)** 4 @ 120 **(SP5PT)** 4 @ 180 **(SP5PU)** 4 @ 120 **(SP5PV)** 4 @ 180 **(SP5PW)** 4 @ 120 **(SP5PX)** 4 @ 180 **(SP5PY)** 4 @ 120 **(SP5PZ)** 4 @ 180 **(SP5QA)** 4 @ 120 **(SP5QB)** 4 @ 180 **(SP5QC)** 4 @ 120 **(SP5QD)** 4 @ 180 **(SP5QE)** 4 @ 120 **(SP5QF)** 4 @ 180 **(SP5QG)** 4 @ 120 **(SP5QH)** 4 @ 180 **(SP5QJ)** 4 @ 120 **(SP5QK)** 4 @ 180 **(SP5QL)** 4 @ 120 **(SP5QM)** 4 @ 180 **(SP5QN)** 4 @ 120 **(SP5QP)** 4 @ 180 **(SP5QQ)** 4 @ 120 **(SP5QR)** 4 @ 180 **(SP5QS)** 4 @ 120 **(SP5QT)** 4 @ 180 **(SP5QU)** 4 @ 120 **(SP5QV)** 4 @ 180 **(SP5QW)** 4 @ 120 **(SP5QX)** 4 @ 180 **(SP5QY)** 4 @ 120 **(SP5QZ)** 4 @ 180 **(SP5RA)** 4 @ 120 **(SP5RB)** 4 @ 180 **(SP5RC)** 4 @ 120 **(SP5RD)** 4 @ 180 **(SP5RE)** 4 @ 120 **(SP5RF)** 4 @ 180 **(SP5RG)** 4 @ 120 **(SP5RH)** 4 @ 180 **(SP5RJ)** 4 @ 120 **(SP5RK)** 4 @ 180 **(SP5RL)** 4 @ 120 **(SP5RM)** 4 @ 180 **(SP5RN)** 4 @ 120 **(SP5RP)** 4 @ 180 **(SP5RQ)** 4 @ 120 **(SP5RR)** 4 @ 180 **(SP5RS)** 4 @ 120 **(SP5RT)** 4 @ 180 **(SP5RU)** 4 @ 120 **(SP5RV)** 4 @ 180 **(SP5RW)** 4 @ 120 **(SP5RX)** 4 @ 180 **(SP5RY)** 4 @ 120 **(SP5RZ)** 4 @ 180 **(SP5SA)** 4 @ 120 **(SP5SB)** 4 @ 180 **(SP5SC)** 4 @ 120 **(SP5SD)** 4 @ 180 **(SP5SE)** 4 @ 120 **(SP5SF)** 4 @ 180 **(SP5SG)** 4 @ 120 **(SP5SH)** 4 @ 180 **(SP5SJ)** 4 @ 120 **(SP5SK)** 4 @ 180 **(SP5SL)** 4 @ 120 **(SP5SM)** 4 @ 180 **(SP5SN)** 4 @ 120 **(SP5SP)** 4 @ 180 **(SP5SQ)** 4 @ 120 **(SP5SR)** 4 @ 180 **(SP5SS)** 4 @ 120 **(SP5ST)** 4 @ 180 **(SP5SU)** 4 @ 120 **(SP5SV)** 4 @ 180 **(SP5SW)** 4 @ 120 **(SP5SX)** 4 @ 180 **(SP5SY)** 4 @ 120 **(SP5SZ)** 4 @ 180 **(SP5TA)** 4 @ 120 **(SP5TB)** 4 @ 180 **(SP5TC)** 4 @ 120 **(SP5TD)** 4 @ 180 **(SP5TE)** 4 @ 120 **(SP5TF)** 4 @ 180 **(SP5TG)** 4 @ 120 **(SP5TH)** 4 @ 180 **(SP5TJ)** 4 @ 120 **(SP5TK)** 4 @ 180 **(SP5TL)** 4 @ 120 **(SP5TM)** 4 @ 180 **(SP5TN)** 4 @ 120 **(SP5TP)** 4 @ 180 **(SP5TQ)** 4 @ 120 **(SP5TR)** 4 @ 180 **(SP5TS)** 4 @ 120 **(SP5TT)** 4 @ 180 **(SP5TU)** 4 @ 120 **(SP5TV)** 4 @ 180 **(SP5TW)** 4 @ 120 **(SP5TX)** 4 @ 180 **(SP5TY)** 4 @ 120 **(SP5TZ)** 4 @ 180 **(SP5UA)** 4 @ 120 **(SP5UB)** 4 @ 180 **(SP5UC)** 4 @ 120 **(SP5UD)** 4 @ 180 **(SP5UE)** 4 @ 120 **(SP5UF)** 4 @ 180 **(SP5UG)** 4 @ 120 **(SP5UH)** 4 @ 180 **(SP5UJ)** 4 @ 120 **(SP5UK)** 4 @ 180 **(SP5UL)** 4 @ 120 **(SP5UM)** 4 @ 180 **(SP5UN)** 4 @ 120 **(SP5UP)** 4 @ 180 **(SP5UQ)** 4 @ 120 **(SP5UR)** 4 @ 180 **(SP5US)** 4 @ 120 **(SP5UT)** 4 @ 180 **(SP5UU)** 4 @ 120 **(SP5UV)** 4 @ 180 **(SP5UW)** 4 @ 120 **(SP5UX)** 4 @ 180 **(SP5UY)** 4 @ 120 **(SP5UZ)** 4 @ 180 **(SP5VA)** 4 @ 120 **(SP5VB)** 4 @ 180 **(SP5VC)** 4 @ 120 **(SP5VD)** 4 @ 180 **(SP5VE)** 4 @ 120 **(SP5VF)** 4 @ 180 **(SP5VG)** 4 @ 120 **(SP5VH)** 4 @ 180 **(SP5VJ)** 4 @ 120 **(SP5VK)** 4 @ 180 **(SP5VL)** 4 @ 120 **(SP5VM)** 4 @ 180 **(SP5VN)** 4 @ 120 **(SP5VP)** 4 @ 180 **(SP5VQ)** 4 @ 120 **(SP5VR)** 4 @ 180 **(SP5VS)** 4 @ 120 **(SP5VT)** 4 @ 180 **(SP5VU)** 4 @ 120 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**(SP5XX)** 4 @ 180 **(SP5XY)** 4 @ 120 **(SP5XZ)** 4 @ 180 **(SP5YA)** 4 @ 120 **(SP5YB)** 4 @ 180 **(SP5YC)** 4 @ 120 **(SP5YD)** 4 @ 180 **(SP5YE)** 4 @ 120 **(SP5YF)** 4 @ 180 **(SP5YG)** 4 @ 120 **(SP5YH)** 4 @ 180 **(SP5YJ)** 4 @ 120 **(SP5YK)** 4 @ 180 **(SP5YL)** 4 @ 120 **(SP5YM)** 4 @ 180 **(SP5YN)** 4 @ 120 **(SP5YP)** 4 @ 180 **(SP5YQ)** 4 @ 120 **(SP5YR)** 4 @ 180 **(SP5YS)** 4 @ 120 **(SP5YT)** 4 @ 180 **(SP5YU)** 4 @ 120 **(SP5YV)** 4 @ 180 **(SP5YW)** 4 @ 120 **(SP5YX)** 4 @ 180 **(SP5YY)** 4 @ 120 **(SP5YZ)** 4 @ 180 **(SP5ZA)** 4 @ 120 **(SP5ZB)** 4 @ 180 **(SP5ZC)** 4 @ 120 **(SP5ZD)** 4 @ 180 **(SP5ZE)** 4 @ 120 **(SP5ZF)** 4 @ 180 **(SP5ZG)** 4 @ 120 **(SP5ZH)** 4 @ 180 **(SP5ZJ)** 4 @ 120 **(SP5ZK)** 4 @ 180 **(SP5ZL)** 4 @ 120 **(SP5ZM)** 4 @ 180 **(SP5ZN)** 4 @ 120 **(SP5ZP)** 4 @ 180 **(SP5ZQ)** 4 @ 120 **(SP5ZR)** 4 @ 180 **(SP5ZS)** 4 @ 120 **(SP5ZT)** 4 @ 180 **(SP5ZU)** 4 @ 120 **(SP5ZV)** 4 @ 180 **(SP5ZW)** 4 @ 120 **(SP5ZX)** 4 @ 180 **(SP5ZY)** 4 @ 120 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4 @ 180 **(SP5AFY)** 4 @ 120 **(SP5AFZ)** 4 @ 180 **(SP5AGA)** 4 @ 120 **(SP5AGB)** 4 @ 180 **(SP5AGC)** 4 @ 120 **(SP5AGD)** 4 @ 180 **(SP5AGE)** 4 @ 120 **(SP5AGF)** 4 @ 180 **(SP5AGG)** 4 @ 120 **(SP5AGH)** 4 @ 180 **(SP5AGJ)** 4 @ 120 **(SP5AGK)** 4 @ 180 **(SP5AGL)** 4 @ 120 **(SP5AGM)** 4 @ 180 **(SP5AGN)** 4 @ 120 **(SP5AGP)** 4 @ 180 **(SP5AGQ)** 4 @ 120 **(SP5AGR)** 4 @ 180 **(SP5AGS)** 4 @ 120 **(SP5AGT)** 4 @ 180 **(SP5AGU)** 4 @ 120 **(SP5AGV)** 4 @ 180 **(SP5AGW)** 4 @ 120 **(SP5AGX)** 4 @ 180 **(SP5AGY)** 4 @ 120 **(SP5AGZ)** 4 @ 180 **(SP5AHA)** 4 @ 120 **(SP5AHB)** 4 @ 180 **(SP5AHC)** 4 @ 120 **(SP5AHD)** 4 @ 180 **(SP5AHE)** 4 @ 120 **(SP5AHF)** 4 @ 180 **(SP5AHG)** 4 @ 120 **(SP5AHH)** 4 @ 180 **(SP5AHJ)** 4 @ 120 **(SP5AHK)** 4 @ 180 **(SP5AHL)** 4 @ 120 **(SP5AHM)** 4 @ 180 **(SP5AHN)** 4 @ 120 **(SP5AHP)** 4 @ 180 **(SP5AHQ)** 4 @ 120 **(SP5AHR)** 4 @ 180 **(SP5AHS)** 4 @ 120 **(SP5AHT)** 4 @ 180 **(SP5AHU)** 4 @ 120 **(SP5AHV)** 4 @ 180 **(SP5AHW)** 4 @ 120 **(SP5AHX)** 4 @ 180 **(SP5AHY)** 4 @ 120 **(SP5AHZ)** 4 @ 180 **(SP5AJA)** 4 @ 120 **(SP5AJB)** 4 @ 180 **(SP5AJC)** 4 @ 120 **(SP5AJD)** 4 @ 180 **(SP5AJE)** 4 @ 120 **(SP5AJF)** 4 @ 180 **(SP5AJG)** 4 @ 120 **(SP5AJH)** 4 @ 180 **(SP5AJJ)** 4 @ 120 **(SP5AJK)** 4 @ 180 **(SP5AJL)** 4 @ 120 **(SP5AJM)** 4 @ 180 **(SP5AJN)** 4 @ 120 **(SP5AJP)** 4 @ 180 **(SP5AJQ)** 4 @ 120 **(SP5AJR)** 4 @ 180 **(SP5AJS)** 4 @ 120 **(SP5AJT)** 4 @ 180 **(SP5AJU)** 4 @ 120 **(SP5AJV)** 4 @ 180 **(SP5AJW)** 4 @ 120 **(SP5AJX)** 4 @ 180 **(SP5AJY)** 4 @ 120 **(SP5AJZ)** 4 @ 180 **(SP5AKA)** 4 @ 120 **(SP5AKB)** 4 @ 180 **(SP5AKC)** 4 @ 120 **(SP5AKD)** 4 @ 180 **(SP5AKE)** 4 @ 120 **(SP5AKF)** 4 @ 180 **(SP5AKG)** 4 @ 120 **(SP5AKH)** 4 @ 180 **(SP5AKJ)** 4 @ 120 **(SP5AKK)** 4 @ 180 **(SP5AKL)** 4 @ 120 **(SP5AKM)** 4 @ 180 **(SP5AKN)** 4 @ 120 **(SP5AKP)** 4 @ 180 **(SP5AKQ)** 4 @ 120 **(SP5AKR)** 4 @ 180 **(SP5AKS)** 4 @ 120 **(SP5AKT)** 4 @ 180 **(SP5AKU)** 4 @ 120 **(SP5AKV)** 4 @ 180 **(SP5AKW)** 4 @ 120 **(SP5AKX)** 4 @ 180 **(SP5AKY)** 4 @ 120 **(SP5AKZ)** 4 @ 180 **(SP5ALA)** 4 @ 120 **(SP5ALB)** 4 @ 180 **

KEYSTONE LIGHT MADE EASY | XFiT | POWER SELECT | COLOR SELECT

KT-CLEDXXPS-X1-8CSB-VDIM-X
LED SQUARE CANOPY LIGHT FIXTURE

DESCRIPTION
General Purpose LED Square Canopy Light | Power Select | Color Select | 120–277V Input | Bronze or White Housing

APPLICATION
Ceiling mounted outdoor illumination needs, such as parking garages, covered walkways, entrance areas, etc.

10 YEAR LIMITED WARRANTY

PRODUCT FEATURES
- Keystone Power Select technology (*See Performance Specifications chart below*)
- Keystone Color Select technology (3000/4000/5000K)
- Familiar, low profile design ideal for a wide range of new and replacement installations
- Heavy-duty die-cast aluminum housing with a modern aesthetic and (3) 1/2" NPT threaded conduit hubs
- Suitable for standard junction box mounting or 3/4" NPT pendant mounting
- Built-in dusk-to-dawn photocell behind translucent 3/4" threaded plug with anti-yellowing agent
- Impact-resistant, polycarbonate diffuser with 160° parking garage distribution. Perfect for low mounting applications
- Optional 110° canopy distribution diffuser available. Perfect for high mounting applications
- Optional recessed plate accessory available.
- Compatible with KTS-MW3-12V-PKO, quick install bi-level occupancy sensor accessory available
- Compatible with KTSL-FC4-12V-PKO, SmartLoop Bluetooth wireless controller accessory available
- Powered by Keystone LED 0–10V dimming driver
- Ambient operating temperature: –40°C/–40°F to 50°C/122°F
- UL certified for wet locations, IP65 rated
- Power Factor: > 0.95
- THD: < 20%
- L70 @ > 100,000 hrs @ 25°C/77°F ambient fixture temperature
- Meets FCC Part 15, Part B, Class A standards for conducted and radiated emissions

PRODUCT IMAGES

KT-CLED40PS-S1-8CSB-VDIM
KT-CLED25PS-S1-8CSB-VDIM

KT-CLED40PS-S1-8CSB-VDIM-W

KT-CLED60PS-M1-8CSB-VDIM

KT-CLED60PS-M1-8CSB-VDIM-W

KEYSTONE LIGHT MADE EASY | XFiT | POWER SELECT | COLOR SELECT

KT-CLEDXXPS-X1-8CSB-VDIM-X
LED SQUARE CANOPY LIGHT FIXTURE

PERFORMANCE SPECIFICATIONS

Catalog Number	Selectable Wattage	Selectable CCT	Lumens	Efficacy	Input Voltage	Dimming	CRI	Distribution Pattern	Photocell Included	Nominal Size	Housing Color	Legacy Equivalent
KT-CLED60PS-M1-8CSB-VDIM KT-CLED60PS-M1-8CSB-VDIM-W	60W	3000K	7,500	125 lm/W	120–277V	0–10V	> 80	160° installed, 110° sold separately	Yes	10" square	Bronze or white	250W MH
		4000K	8,400	140 lm/W								
		5000K	7,800	130 lm/W								
	50W	3000K	6,250	125 lm/W								
		4000K	7,000	140 lm/W								
		5000K	6,500	130 lm/W								
	40W	3000K	5,000	125 lm/W								
		4000K	5,600	140 lm/W								
		5000K	5,200	130 lm/W								
KT-CLED40PS-S1-8CSB-VDIM KT-CLED40PS-S1-8CSB-VDIM-W	40W	3000K	5,000	125 lm/W								
		4000K	5,600	140 lm/W								
		5000K	5,200	130 lm/W								
	30W	3000K	3,750	125 lm/W								
		4000K	4,200	140 lm/W								
		5000K	3,900	130 lm/W								
KT-CLED25PS-S1-8CSB-VDIM	20W	3000K	2,500	125 lm/W								
		4000K	2,800	140 lm/W								
		5000K	2,600	130 lm/W								
	25W	3000K	3,125	125 lm/W								
		4000K	3,500	140 lm/W								
		5000K	3,250	130 lm/W								
	20W	3000K	2,500	125 lm/W								
		4000K	2,800	140 lm/W								
		5000K	2,600	130 lm/W								
		3000K	1,875	125 lm/W								
	15W	4000K	2,100	140 lm/W								
		5000K	1,950	130 lm/W								

Note: Preset to highest wattage and 5000K
Note: Color uniformity: CCT (Correlated Color Temperature) range as per guidelines outlined in ANSI C78.377-2017

KEYSTONE LIGHT MADE EASY | XFiT | POWER SELECT | COLOR SELECT

KT-CLEDXXPS-X1-8CSB-VDIM-X
LED SQUARE CANOPY LIGHT FIXTURE

PHOTOMETRIC SPECIFICATIONS

KT-CLED60PS-M1-8CSB-VDIM | KT-CLED60PS-M1-8CSB-VDIM-W | 160°

ISOCANDELA PLOT

Cd: 2,158; 90%
Cd: 1,798; 75%
Cd: 1,439; 60%
Cd: 1,199; 50%
Cd: 959; 40%
Cd: 719; 30%
Cd: 480; 20%
Cd: 240; 10%
Point of Max Cd: 2,403.6

POLAR CANDELA DISTRIBUTION

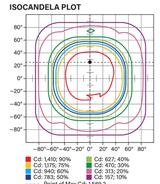
Max Cd: 112.5° H
0° H
90° H
22.5° H
45° H
67.5° H

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1,903.5	24.7%
0–40	3,296.9	42.8%
0–60	5,945.7	77.2%
60–90	1,530.4	19.9%
70–100	887.7	11.5%
90–120	180.4	2.3%
0–90	7,476.1	97.0%
90–180	229.2	3.0%
0–180	7,705.3	100%

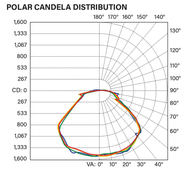
KT-CLED40PS-S1-8CSB-VDIM | KT-CLED40PS-S1-8CSB-VDIM-W | 160°

ISOCANDELA PLOT



Cd: 1,410; 90%
Cd: 1,175; 75%
Cd: 941; 60%
Cd: 783; 50%
Cd: 627; 40%
Cd: 470; 30%
Cd: 313; 20%
Cd: 157; 10%
Point of Max Cd: 1,569.2

POLAR CANDELA DISTRIBUTION



0° H
90° H
22.5° H
45° H
67.5° H

ZONAL LUMEN SUMMARY

Zone	Lumens	% Luminaire
0–30	1,238.1	23.2%
0–40	2,137.9	40.1%
0–60	3,992.1	74.9%
60–90	1,137.1	21.3%
70–100	702.5	13.2%
90–120	153.9	2.9%
0–90	5,129.2	96.2%
90–180	200.4	3.8%
0–180	5,329.6	100%

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PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com
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WILSONVILLE, OR 97070
STORE NO.: 0005

KIMLEY-HORN PROJECT NO.: 196950163

PUBLIC EV

EV STALLS: 16

DOCUMENTS WITHOUT SIGNATURE AND REQUIRED SEAL OF AOR / EOR ARE NOT FOR CONSTRUCTION

CONSULTANTS

SIGNED: 2026-02-26

REGISTERED PROFESSIONAL ENGINEER
97881
OREGON
NOV 15, 2023
QUINN A. DUFFY

EXPIRES: 12/31/2027

No.	ISSUE BLOCK	DATE	BY
0	PLANNING APPLICATION COMPLETENESS REVIEW	02/26/26	DB
1			
2			
3			
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10			

DESIGNED BY: QD
DRAWN BY: DB
CHECKED BY: JF
DOCUMENT DATE: 02/26/2026

SHEET TITLE

LIGHTING DETAILS

SHEET NUMBER

E5.3

P3 CANOPY DETAILS

SCALE
N.T.S.

1

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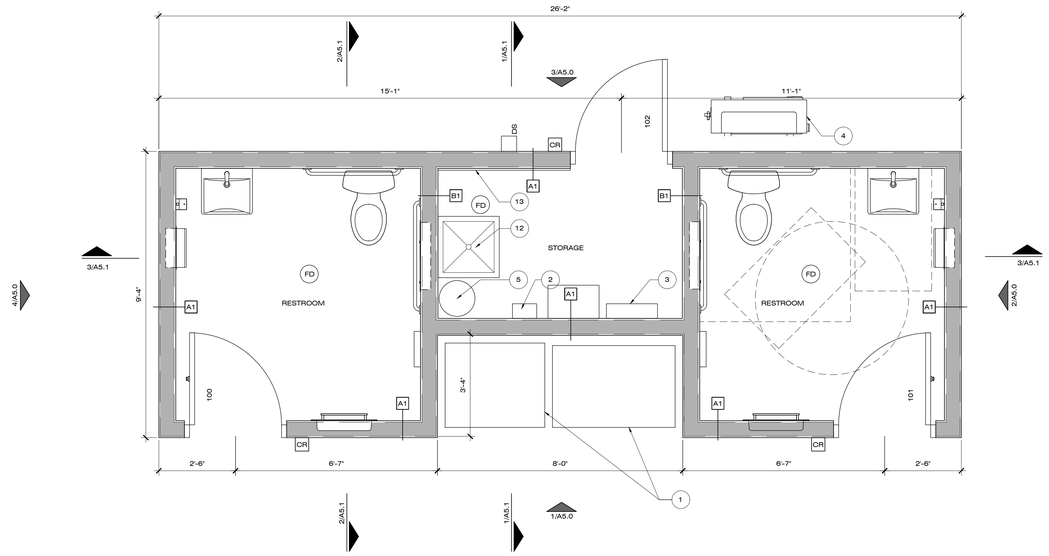
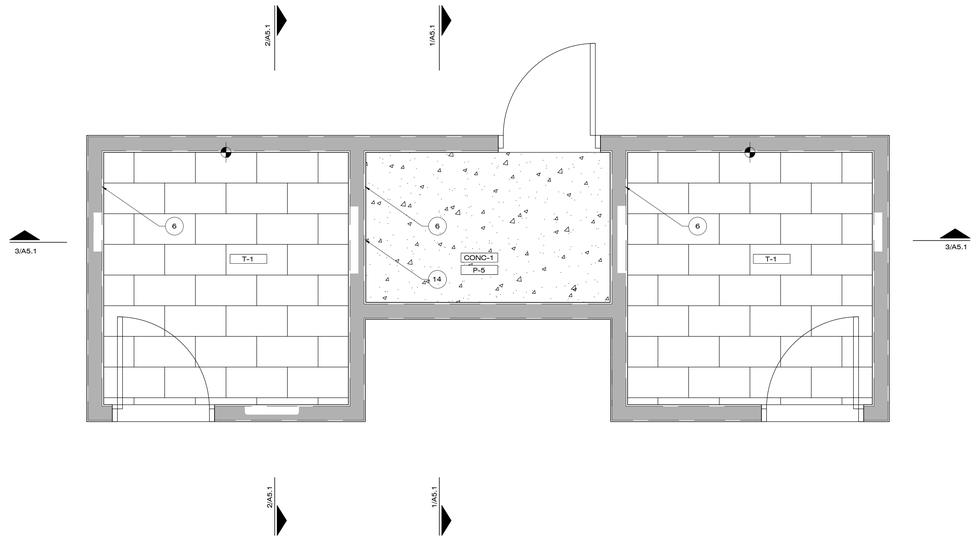
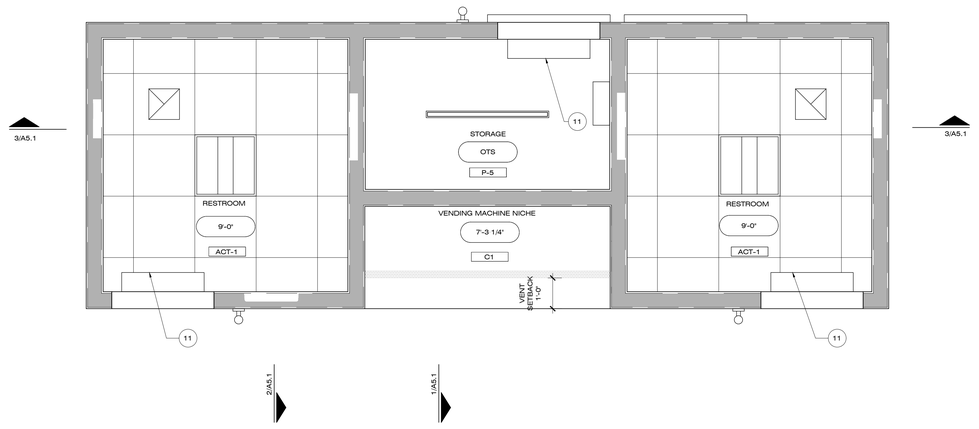


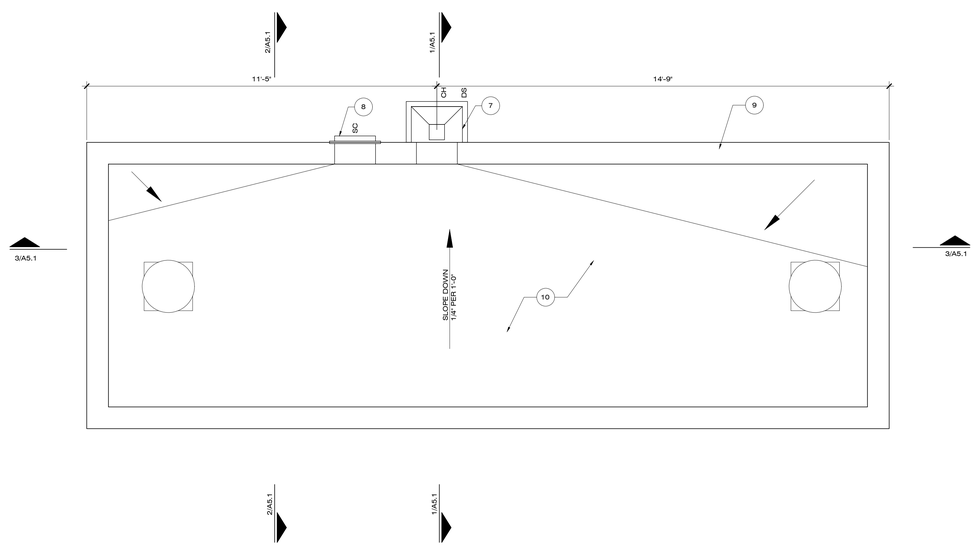
1 FIRST FLOOR - CONSTRUCTION PLAN
SCALE: 1/2" = 1'-0"



2 FIRST FLOOR - FINISH PLAN
SCALE: 1/2" = 1'-0"



3 FIRST FLOOR - REFLECTED CEILING PLAN
SCALE: 1/2" = 1'-0"



4 ROOF PLAN
SCALE: 1/2" = 1'-0"

CONSTRUCTION KEY NOTES

1	VENDING MACHINES, TO BE PROVIDED BY OWNER. VENDING MACHINE USER INTERFACE IS TO BE MOUNTED WITHIN REQUIRED REACH RANGES OF ANSI A117.1 SECTION 308. MACHINES SHALL SELL ONLY PRE-PACKAGED FOODS AND NOT UTILIZE REFRIGERATION.	8	OVERFLOW SCUPPER, SEE DETAIL 1/A8.0.
2	ELECTRICAL DISCONNECT, SEE ELECTRICAL SHEETS	9	PREFINISHED ALUMINUM PARAPET COPING. REFER TO EXTERIOR ELEVATIONS A5.0 FOR MORE INFORMATION. SLOPE TOWARD ROOF.
3	ELECTRICAL PANELS, SEE ELECTRICAL SHEETS	10	MECHANICALLY FASTENED CLASS 'A' 60 MIL. SINGLE-PLY TPO ROOFING WITH WHITE FACE. JOHNS MANVILLE OR EQUIVALENT. PROVIDE A MINIMUM 3-YEAR AGED SOLAR REFLECTIVE INDEX OF 64.
4	OUTDOOR UNIT, SEE MECHANICAL PLANS	11	SPLIT ZONE SYSTEM, SEE MECH.
5	WATER HEATER, SEE PLUMBING DRAWINGS	12	SQUARE FLOOR MOUNTED MOP SINK, SEE PLUMBING DRAWINGS FOR MORE DETAILS.
6	WATER RESISTANT GYP BOARD ON FRAMED WALLS	13	PLYWOOD TELEPHONE BACKER BOARD, SEE ELECTRICAL DRAWINGS
7	DOWNSPOUT WITH COLLECTOR, SEE DETAIL 2/A8.0.	14	4' WIDE FRP PANEL CENTERED ON MOP SINK. P-199 'BRIGHT WHITE' PEBBLED FINISH BY MARLITE.

CODE INFO

2022 OREGON STRUCTURAL SPECIALTY CODE
BUILDING CODE SUMMARY FOR ALL COMMERCIAL PROJECTS

A. PROJECT INFORMATION

NAME OF PROJECT: IONNA RECHARGERY - INTEGRATED VENDING ENCLOSURE
ADDRESS: 9025 SW BARBERST, WILSONVILLE, OR ZIP CODE: 97070
OWNER/AUTHORIZED AGENT: ANDRES VILLACRES PHONE: 213.393.0869 EMAIL: ANDRES.VILLACRES@IONNA.COM

B. CODE DATA

■ NEW BUILDING

RISK CATEGORY (TABLE 1604.5) PROPOSED (SELECT ONE): ☐ N/A ☐ III ☐ I ☐ IV ■ II

C. BASIC BUILDING DATA

CONSTRUCTION TYPE (SELECT ONE): ☐ I-A ☐ I-B ☐ II-A ☐ II-B ☐ III-A ☐ III-B ☐ IV(HT) ☐ V-A ■ V-B

SPRINKLERS: (SELECT ONE) ☐ N/A ☐ YES ■ NO ☐ PARTIAL (SELECT ONE) ■ N/A ☐ NFPA 13 ☐ NFPA 13R ☐ NFPA 13D

STANDPIPES (SELECT ONE): ☐ N/A ■ NO ☐ CLASS I - WET ☐ CLASS I - DRY ☐ CLASS II - WET ☐ CLASS II - DRY ☐ CLASS III - WET ☐ CLASS III - DRY ☐

FLOOD HAZARD AREA (SELECT ONE): ☐ YES ■ NO

SPECIAL INSPECTIONS REQUIRED: ☐ YES (CONTACT THE LOCAL INSPECTION JURISDICTION FOR ADDITIONAL PROCEDURES AND REQUIREMENTS). ■ NO

GROSS BUILDING AREA TABLE

FLOOR	NEW OCCUPIABLE (S.F.)	EXTERIOR COVERED AREA (S.F.)	SUB-TOTAL
1ST FLOOR	217.55 SF	26.68 SF	244.23 SF
TOTALS	217.55 SF	26.68 SF	244.23 SF

D. ALLOWABLE AREA

PRIMARY OCCUPANCY CLASSIFICATION(S):
OCCUPANCY = B (BUSINESS)

ALLOWABLE AREA PER 506.2:
OCCUPANCY B, TYPE V-B CONSTRUCTION UNSPRINKLERED = 9,000 SF

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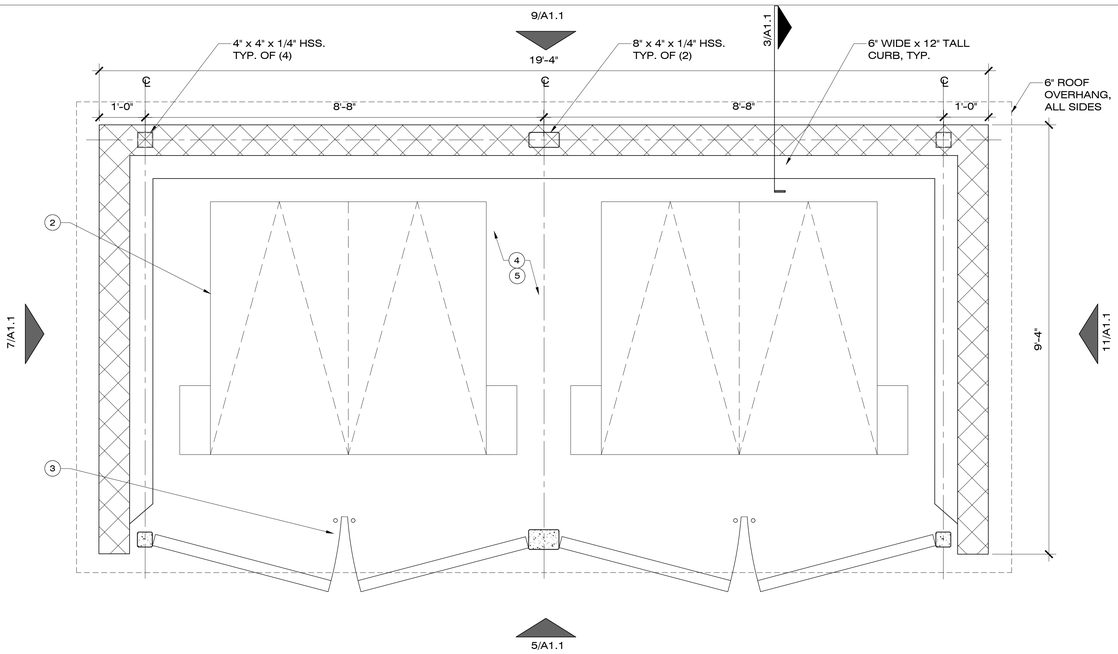
OWNER PROJECT CODE OR-0005
ARCH PROJECT # RDU 26-069

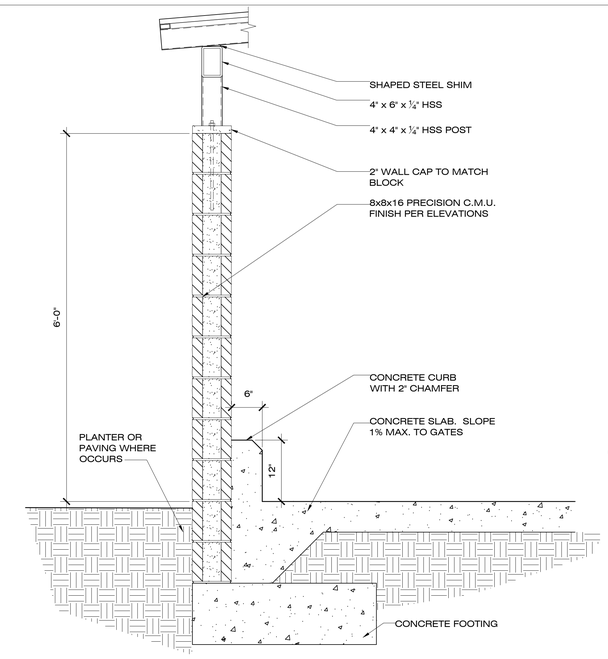
CONSTRUCTION PLANS

SCALE: AS NOTED

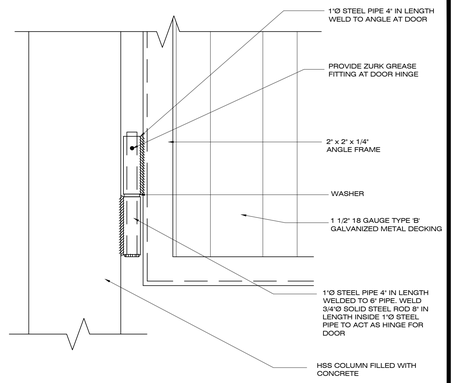
SHEET # **A1.0**



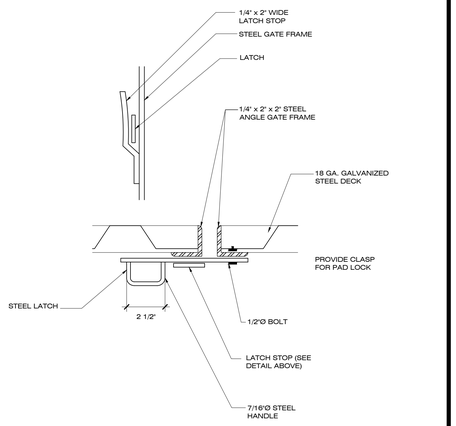
1 TRASH ENCLOSURE - PLAN
SCALE: 3/4" = 1'-0"



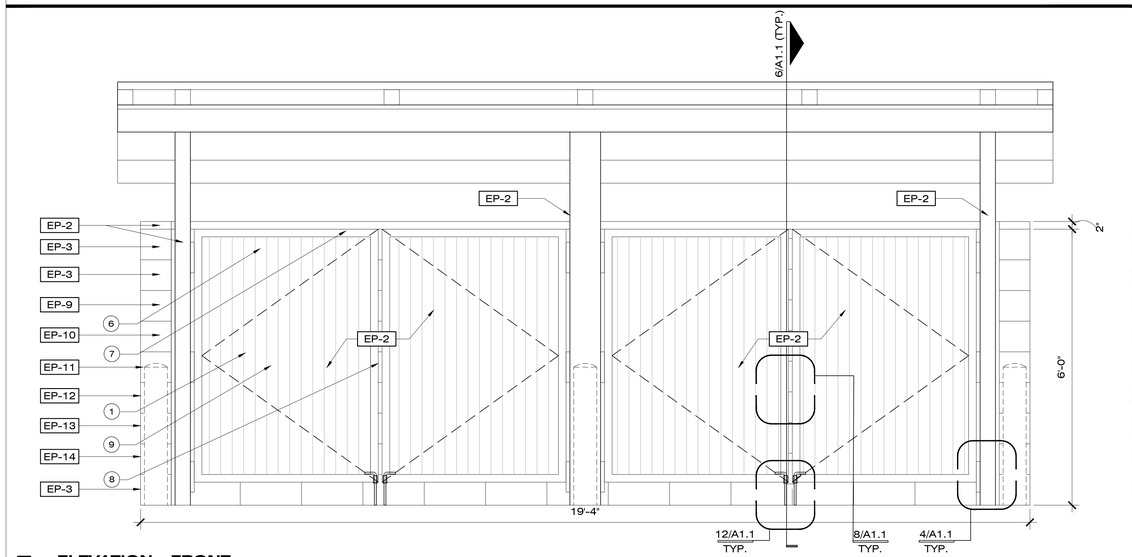
3 WALL SECTION
SCALE: 3/4" = 1'-0"



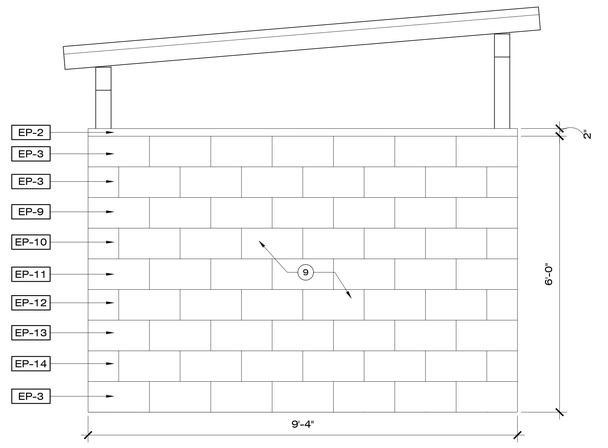
4 DETAIL @ HINGE
SCALE: 3" = 1'-0"



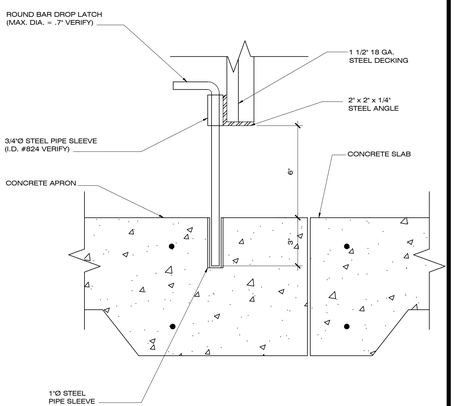
8 DETAIL @ LATCH
SCALE: 3" = 1'-0"



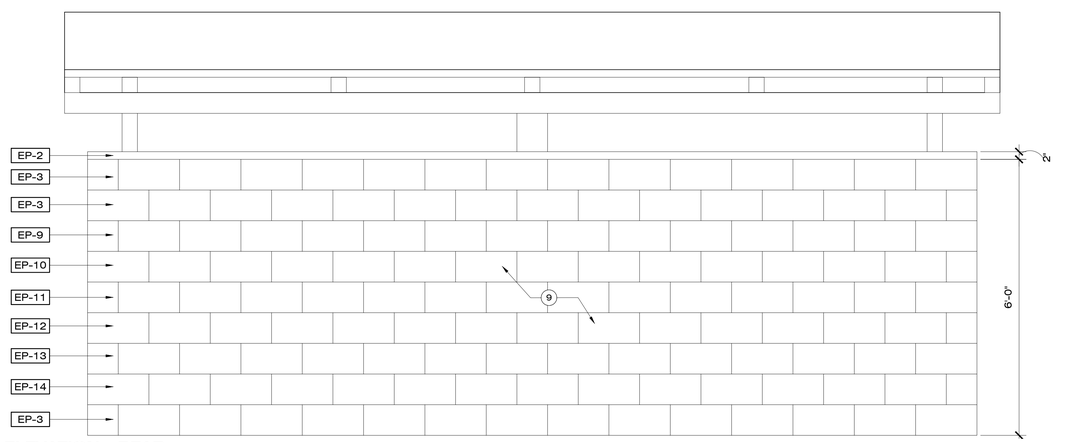
5 ELEVATION - FRONT
SCALE: 3/4" = 1'-0"



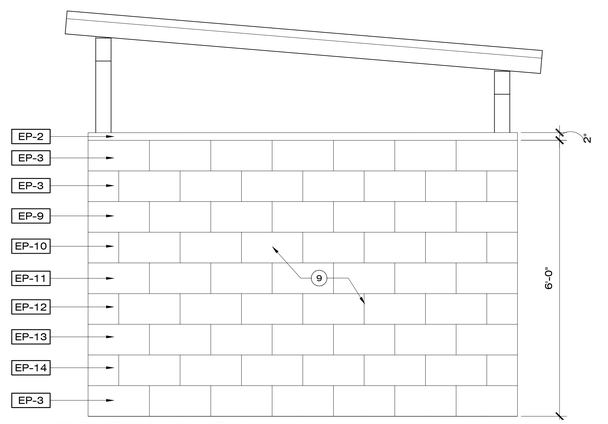
7 ELEVATION - LEFT
SCALE: 3/4" = 1'-0"



12 DETAIL @ CANE BOLT
SCALE: 3" = 1'-0"



9 ELEVATION - REAR
SCALE: 3/4" = 1'-0"



11 ELEVATION - RIGHT
SCALE: 3/4" = 1'-0"

TRASH ENCLOSURE KEY NOTES

1	STEEL TRASH ENCLOSURE GATES.
2	DUMPSTERS, TO BE PROVIDED BY TRASH HAULER
3	PROVIDE CANE BOLT SLEEVES AT FULLY CLOSED AND OPEN POSITIONS.
4	TRASH ENCLOSURE PAD SHALL BE SEALED WITH A 'NON-PIGMENTED' CLEAR CONCRETE SEALER.
5	ALL CONCRETE BLOCK MORTAR JOINTS WITHIN TRASH ENCLOSURE AREA SHALL BE FLUSH AND SMOOTH ON INSIDE FACE.
6	1-1/2" 18 GA. TYPE "B" GALVANIZED METAL DECKING. CONTINUOUS WELD AND GRIND SMOOTH ALL JOINTS THAT ARE VISIBLE FROM OUTSIDE ENCLOSURE.
7	2"X2"X1/4" ANGLE, MITER JOINT AND WELD AT CORNERS.
8	BOLT "J" STRAPS TO DOORS. LOCATE TO HOLD CANE BOLTS WHEN DOORS ARE IN USE.
9	PAINT ALL EXPOSED MASONRY AND STEEL. COLOR TBD.

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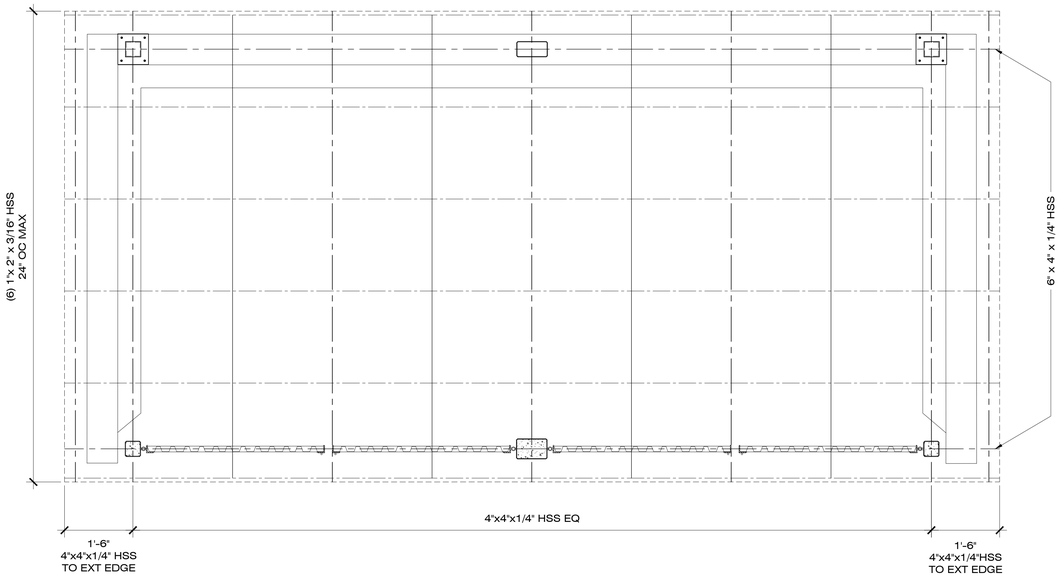
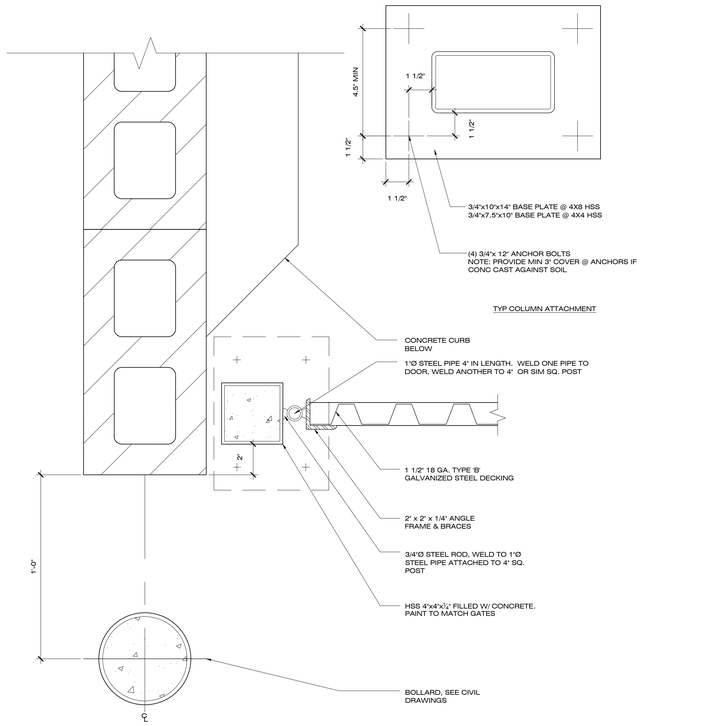
ARCH PROJECT # RDU 26-069

TRASH ENCLOSURE - PLAN, ELEVATIONS & DETAILS
SCALE: AS NOTED

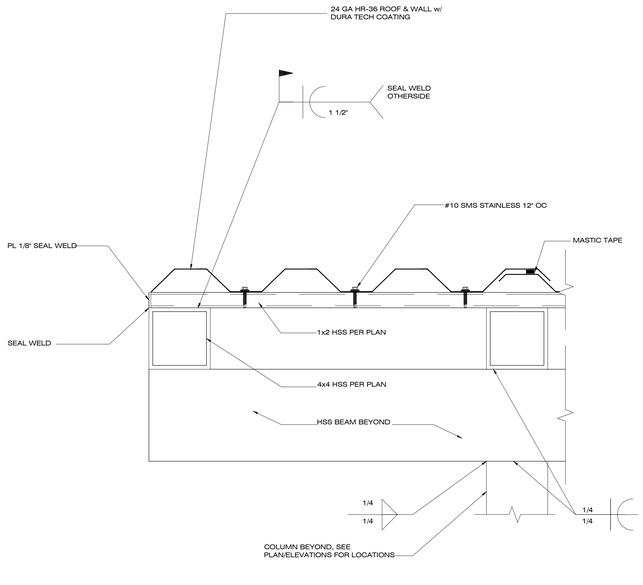
SHEET # A1.1



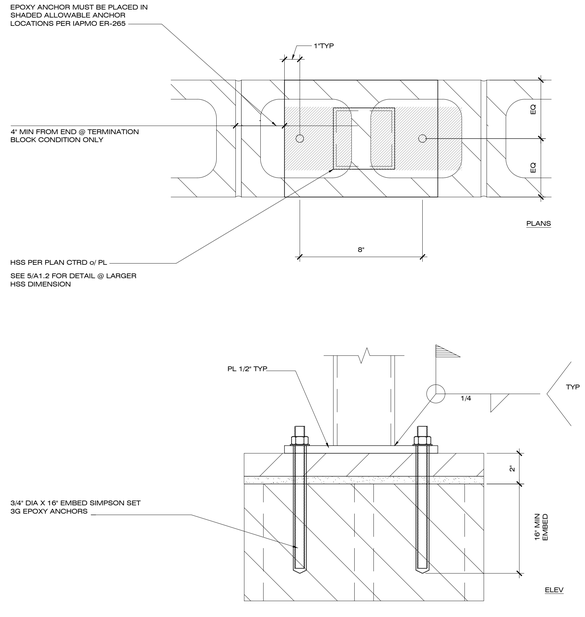
1 ROOF FRAMING PLAN
SCALE: 3/4" = 1'-0"



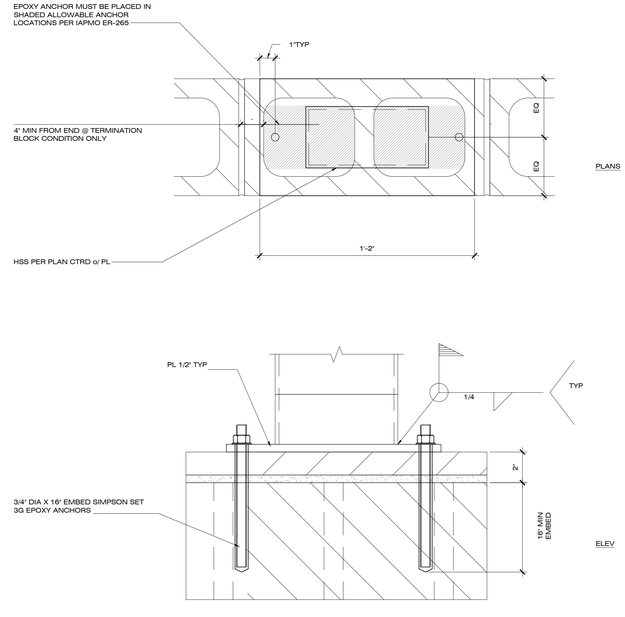
2 COLUMN & HINGE AT GATE
SCALE: 3" = 1'-0"



3 ROOF DETAIL
SCALE: 3" = 1'-0"



4 POST INSTALLED EMBEDED PLATES
SCALE: 3" = 1'-0"



5 POST INSTALLED EMBEDED PLATES
SCALE: 3" = 1'-0"

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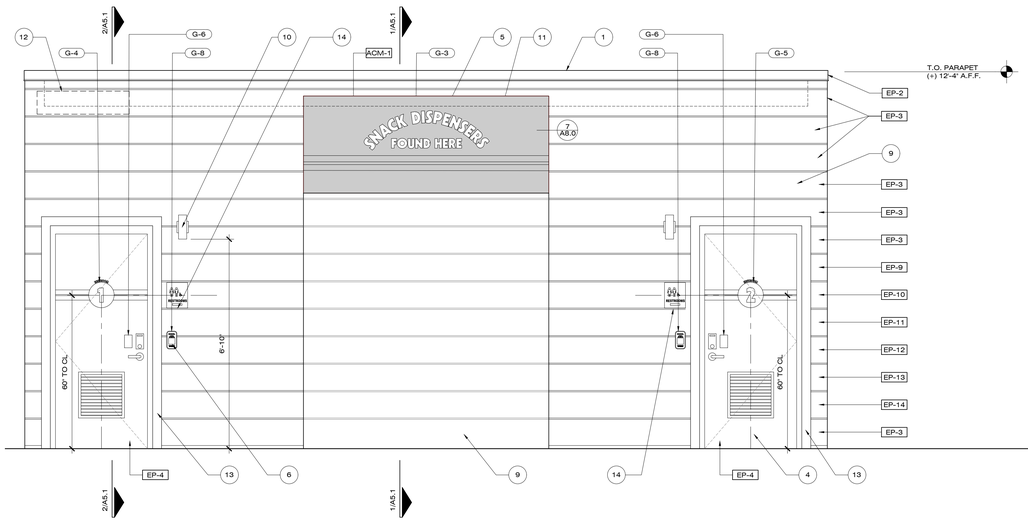
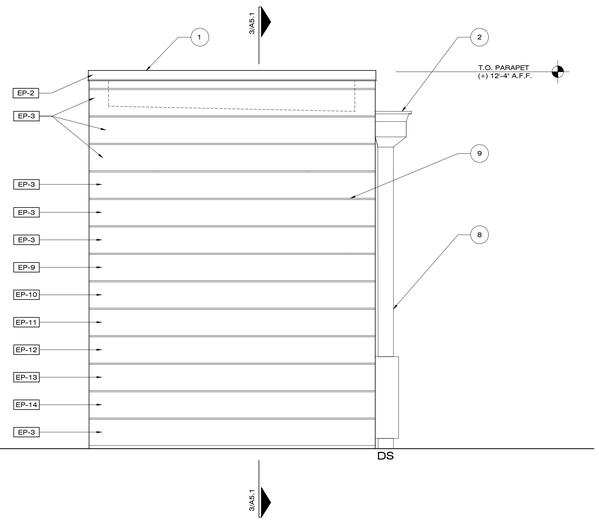
TRASH ENCLOSURE - FRAMING PLAN & DETAILS
SCALE: AS NOTED

SHEET # **A1.2**



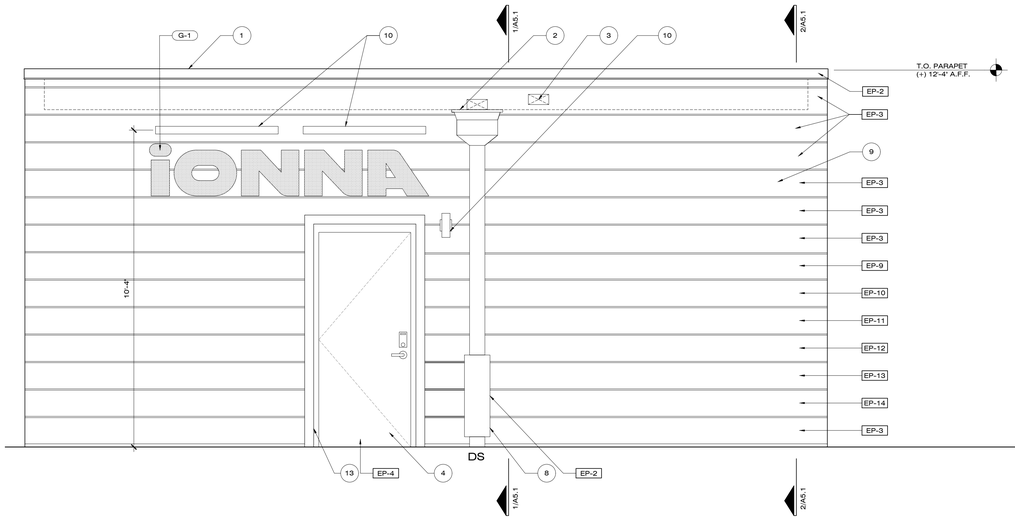
1 EXTERIOR ELEVATION (FRONT)

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



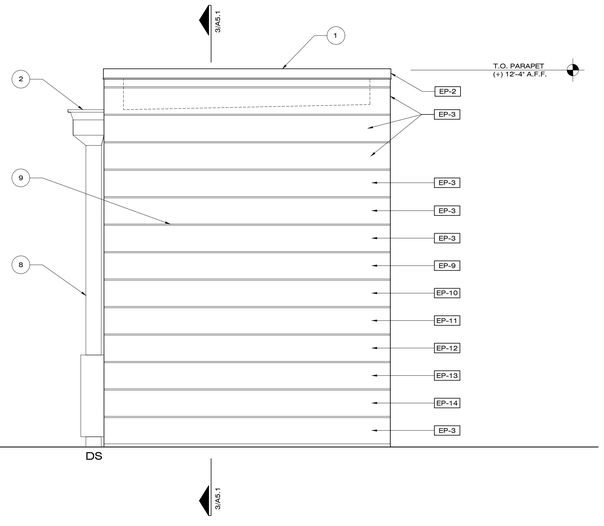
2 EXTERIOR ELEVATION (RIGHT)

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



3 EXTERIOR ELEVATION (REAR)

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



4 EXTERIOR ELEVATION (LEFT)

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

EXT. ELEVATION KEY NOTES

1	G.S.M. PARAPET COPING. SEE ROOF PLAN FOR EXTENTS. SLOPE TOWARD ROOF, TYP. PAINT PER ELEVATION KEYNOTES
2	METAL THROUGH-WALL SCUPPER, CONDUCTOR HEAD & 6'x6' DOWNSPOUT. COLOR TO MATCH EP-2 WALL COLOR.
3	METAL THROUGH-WALL OVERFLOW SCUPPER. COLOR TO MATCH EP-2 WALL COLOR.
4	HOLLOW METAL DOOR, SEE DOOR SCHEDULE.
5	SIGNAGE PROVIDED BY IONNA VENDER TYPICAL.
6	ACCESS CONTROL PLAQUE PER IONNA
7	VENDING MACHINES, TO BE PROVIDED BY OWNER
8	6'x6' METAL DOWNSPOUT. COLOR TO MATCH PARAPET COPING.
9	10 1/4" SHIPLAP PLANK SIDING WITH 1/2" REVEAL: HARDIE, ARTISAN SIDING, SQUARE CHANNEL, PRIMED FOR PAINT
10	EXTERIOR WALL LIGHT: SEE ELECTRICAL DRAWINGS
11	ACM PANEL SYSTEM, MAXIMUM 1/2" DRY JOINT. PAINT TO MATCH RAL #5008.
12	ILLUMINATED ADDRESS SIGNAGE, SEE ELECTRICAL DRAWINGS
13	3 1/2" HARDIE TRIM BOARD AT HEAD AND JAMB. TO MATCH DOOR COLOR
14	ACCESSIBLE RESTROOM SIGNAGE PER ANSI A117.1 SECTION 703.

LEGEND

1	NOTE DESIGNATOR - REFER TO DRAWING NOTES ON THIS SHEET
EG-X	GRAPHICS DESIGNATOR - REFER TO NOTES ON THIS SHEET
X-?	FINISH DESIGNATOR - REFER TO NOTES ON THIS SHEET

EXTERIOR GRAPHICS SCHEDULE

G-1	NAME: FURNISHED BY: INSTALLED BY:	IONNA LOGO - PAINTED IONNA VENDOR IONNA VENDOR
G-3	NAME: FURNISHED BY: INSTALLED BY:	SNACK DISPENSERS IONNA VENDOR IONNA VENDOR
G-4	NAME: FURNISHED BY: INSTALLED BY:	RESTROOM 1 IONNA VENDOR IONNA VENDOR
G-5	NAME: FURNISHED BY: INSTALLED BY:	RESTROOM 2 IONNA VENDOR IONNA VENDOR
G-6	NAME: FURNISHED BY: INSTALLED BY:	PUSH/PULL DOOR IONNA VENDOR IONNA VENDOR
G-8	NAME: FURNISHED BY: INSTALLED BY:	DOOR ACCESS QR - ACRYLIC IONNA VENDOR IONNA VENDOR
G-9	NAME: FURNISHED BY: INSTALLED BY:	RESTROOM CSR QR CODE IONNA VENDOR IONNA VENDOR
G-10	NAME: FURNISHED BY: INSTALLED BY:	DO NOT FLUSH WASTE - ACRYLIC IONNA VENDOR IONNA VENDOR

EXTERIOR PAINT SPECIFICATIONS

ID	NAME	MFGR.	COLOR
EP-1	PAINT-ION ORANGE	SHERWIN WILLIAMS	SW 6886 INVIGORATE
EP-2	PAINT-SOFT DARK	SHERWIN WILLIAMS	SW 7605 GALE FORCE
EP-3	PAINT- SOFT LIGHT	SHERWIN WILLIAMS	SW 7563 RESTFUL WHITE
EP-4	PAINT- ROBINSEGG1	SHERWIN WILLIAMS	SW 0063 BLUE SKY
EP-6	PAINT-BLACK	SHERWIN WILLIAMS	SW 6258 TRICORN BLACK
EP-8	PAINT-DUSTYBLUE	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS5483 C
EP-9	PAINT-IO2	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS7630 C
EP-10	PAINT-IO3	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS484 C
EP-11	PAINT-IO4	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS2349 C
EP-12	PAINT-IO5	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS165 C
EP-13	PAINT-IO6	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS148 C
EP-14	PAINT-IO7	SHERWIN WILLIAMS	CLOSEST MATCH TO PMS475 C
ACM-1	PAINT-AUB BLUE	SHERWIN WILLIAMS	CLOSEST MATCH TO RAL 5008

GENERAL EXT. ELEVATION NOTES

1	DS - INDICATES LOCATION OF DOWNSPOUT. COORDINATE WITH CIVIL DRAWINGS TO DETERMINE WHETHER OR NOT THE DOWNSPOUTS DUMP OUT ONTO GRADE OR TIE INTO THE STORM SEWER SYSTEM.
2	ALL PARAPET COPING SHALL BE PREFINISHED (KYNAR 500) ALUMINUM FINISH. COLOR SHALL BE PER THE FINISH SCHEDULE. COPING DETAIL EQUAL TO PAC-CLAD 'PAC-CONTINUOUS CLEAT COPING' W/ INTEGRAL SPLICE PLATES.
3	GENERAL CONTRACTOR TO ENSURE THAT OPENINGS WITHIN EXTERIOR WALLS ARE PROPERLY TAPED/FLASHED TO PREVENT WATER INFILTRATION INTO THE BUILDING.
4	GC SHALL ENSURE THAT THE ENTIRE STRUCTURE IS 'DRIED-IN' PRIOR TO INSTALLATION OF INSULATION AND DRYWALL.
5	ALL EXTERIOR EXPOSED PAINTED STEEL SHALL RECEIVE INDUSTRIAL GRADE URETHANE ALKYD ENAMEL (SEMI-GLOSS). COLOR SHALL BE PER EXT. FINISH SCHEDULE.
6	GC SHALL ENSURE POSITIVE SLOPE AWAY FROM BUILDING PERIMETER FOR PROPER DRAINAGE. GC SHALL TAKE MEASURES TO PROTECT NEW EXTERIOR MATERIALS FROM DIRT MIGRATION DURING RAINS @ PERIMETER (STRAW, DRAINAGE MATTING, ETC.)
7	PRIOR TO APPLICATION, PROVIDE ACM SAMPLES TO ARCHITECT FOR APPROVAL OF COLOR AND FINISH.
8	SIGNAGE WILL BE PERMITTED SEPARATELY.

REDLINE

6601 Six Forks Rd
Suite 130
Raleigh, NC 27615

919.878.1660

iONNA™

IONNA RECHARGERY

INTEGRATED VENDING ENCLOSURE

9025 SW BARBER ST.
WILSONVILLE, OR 97070

#	△	DESCRIPTION	DATE
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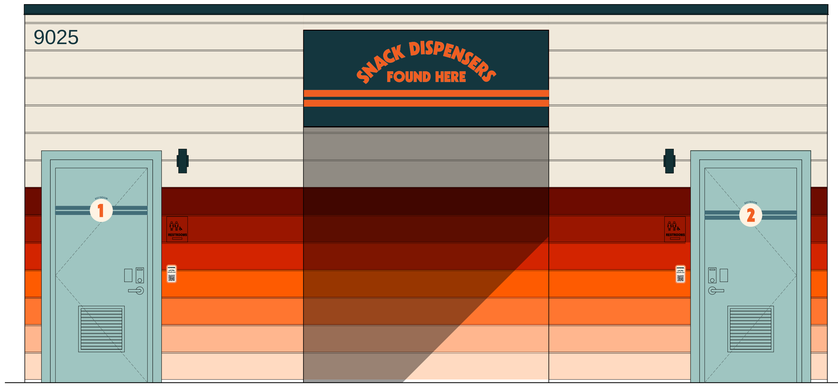
OWNER PROJECT CODE OR-0005
ARCH PROJECT # RDU 26-069

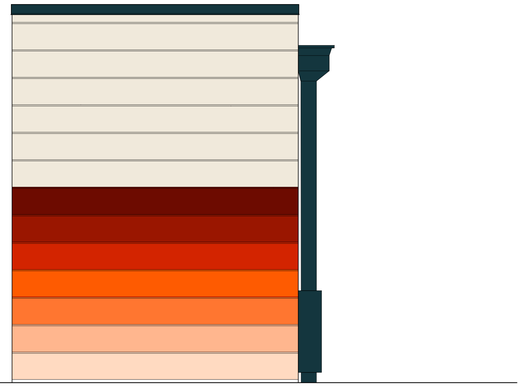
EXTERIOR ELEVATIONS

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

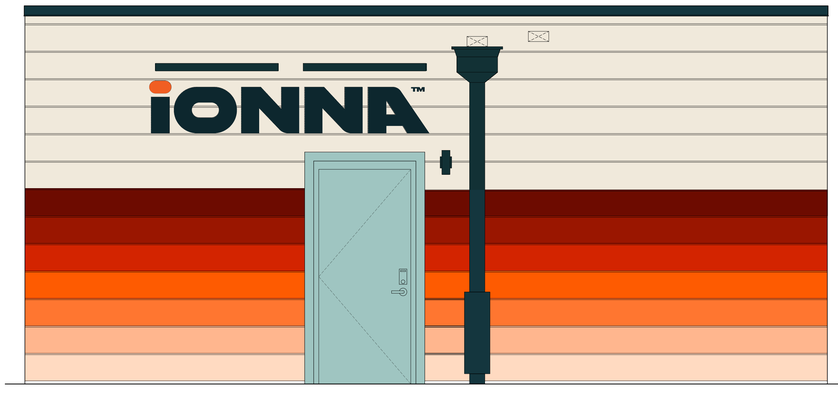
SHEET # A5.0



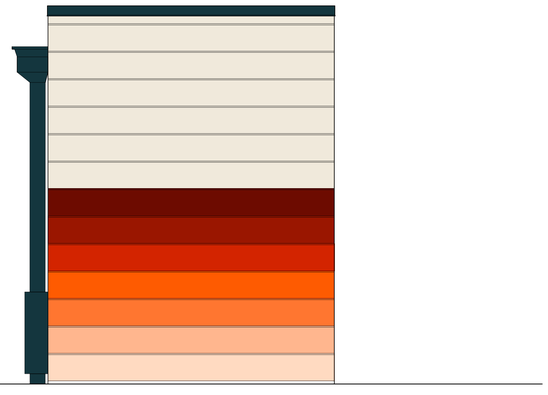
1 **EXTERIOR ELEVATION (FRONT)**
SCALE: 1/2" = 1'-0"



2 **EXTERIOR ELEVATION (RIGHT)**
SCALE: 1/2" = 1'-0"



3 **EXTERIOR ELEVATION (REAR)**
SCALE: 1/2" = 1'-0"



4 **EXTERIOR ELEVATION (LEFT)**
SCALE: 1/2" = 1'-0"

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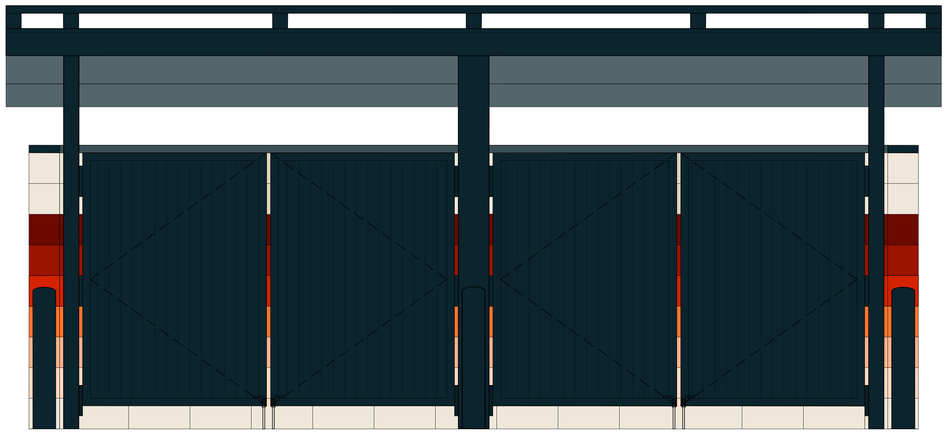
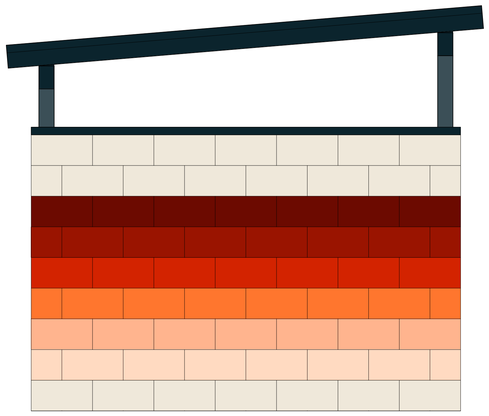
AMENITY BUILDING - COLORED ELEVATIONS
SCALE: 1/2" = 1'-0"

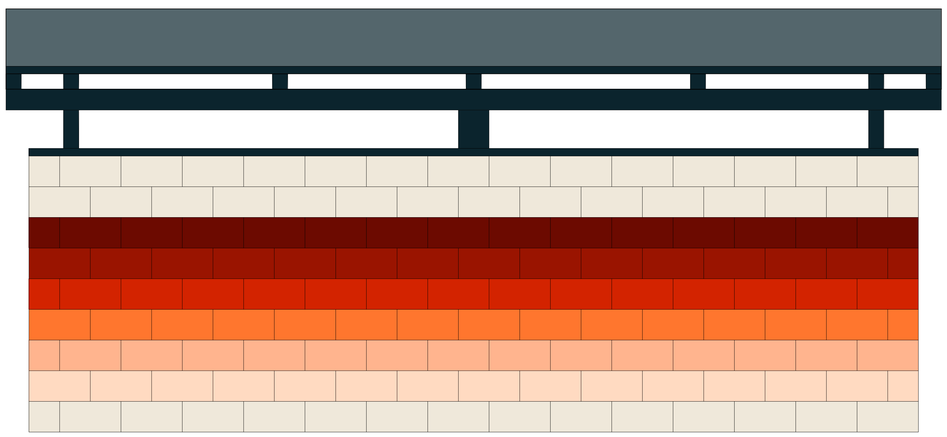
SHEET # **A5.1**



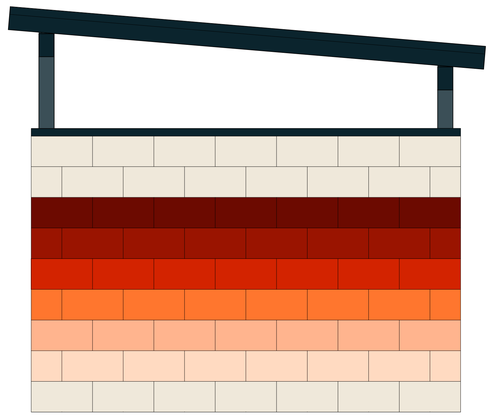
1 ELEVATION - FRONT
SCALE: 3/4" = 1'-0"



2 ELEVATION - LEFT
SCALE: 3/4" = 1'-0"



3 ELEVATION - REAR
SCALE: 3/4" = 1'-0"



4 ELEVATION - RIGHT
SCALE: 3/4" = 1'-0"

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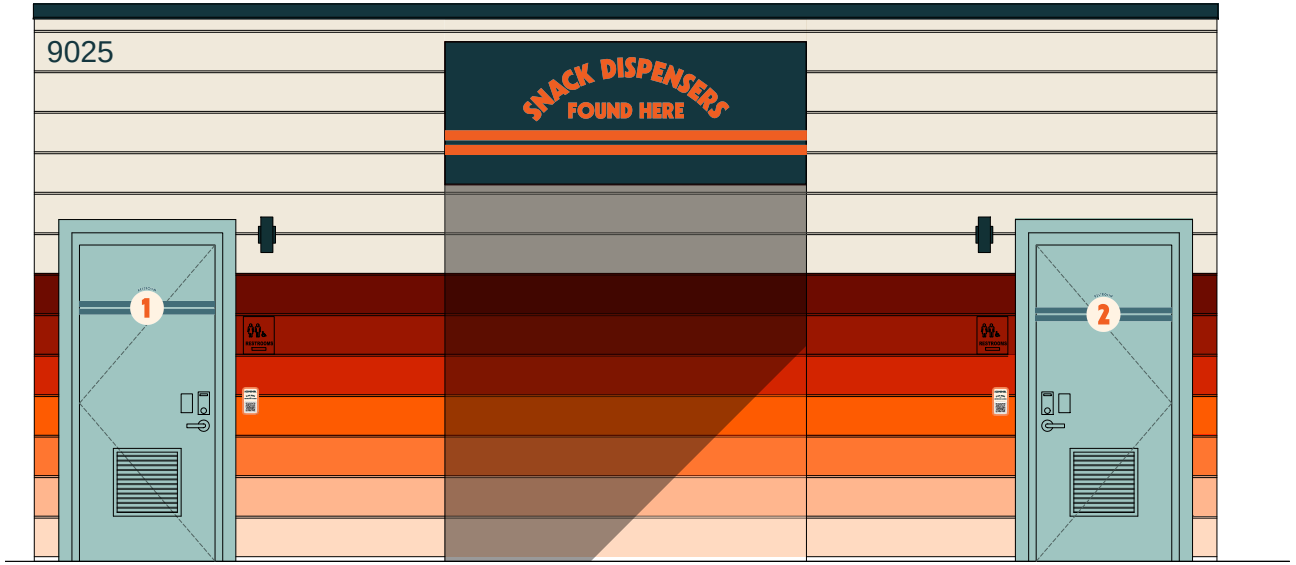
TRASH ENCLOSURE - COLORED ELEVATIONS
SCALE: AS NOTED

SHEET # **A5.2**



EP-2 SW 7605
GALE FORCE

EP-3 SW 7563
RESTFUL WHITE

EP-4 SW 0062
BLUE SKY

EP-9 PMS7630C

EP-10 PMS484C

EP-11 PMS2349C

EP-12 PMS165C

EP-13 PMS148C

EP-14 PMS475C

ACM-1 RAL 5008

HARDIE PLANK SIDING

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IONNA SITE NUMBER: OR-0005

LANDSCAPE PLANS FOR ELECTRIC VEHICLE CHARGING INFRASTRUCTURE

9025 SW BARBER ST

WILSONVILLE, CLACKAMAS COUNTY, OREGON 97070

SITE INFORMATION

PROPERTY OWNER:
BARBER ST WILDCAT LLC
CONTACT: DAVID WALES
PHONE: (503) 718-6680
EMAIL: DWALES@WALEN.COM

POWER COMPANY:
PORTLAND GENERAL ELECTRIC
CONTACT: N/A
PHONE: (503) 228-6322
EMAIL: N/A

PROGRAM CONTACT:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: JESS CAIN
PHONE: (984) 358-6005
EMAIL: JESS.CAIN@KIMLEY-HORN.COM

SURVEYOR:
WESTWOOD PROFESSIONAL SERVICES, NC.
CONTACT: CHRISTOPHER FOLEY, PLS
PHONE: (210) 265-8300
EMAIL: CHRIS.FOLEY@WESTWOODPS.COM

EV SITE ADDRESS:
9025 AW BARBER ST
WILSONVILLE, OREGON 97070

ASSESSOR PARCEL NUMBER (APN):
31W25A01400

COUNTY:
CLACKAMAS

LATITUDE (NAD83):
45.31037

LONGITUDE (NAD83):
-122.77156

BENCHMARK & BASIS OF BEARING

BENCHMARK: 171.29' (NAD 88)

BASIS OF BEARING:
THE VERTICAL DATUM FOR THIS PROJECT SHALL BE THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD-88) AND THE HORIZONTAL DATUM SHALL BE THE NORTH AMERICAN DATUM OF 1983 (NAD-83) IN THE NORTH STATE PLANE OF OREGON STATE PLANE, ZONE 18, US FOOT.

ZONING INFORMATION

PERMITTING JURISDICTION:	CITY OF WILSONVILLE, OREGON
ZONING CLASS:	PDI (PLANNING DEVELOPMENT INDUSTRIAL)
CURRENT USE:	VACANT
PROPOSED USE:	EV CHARGING STATION
OVERLAY DISTRICT:	N/A

FLOOD HAZARD AREA NOTE

THE PROPERTY SHOWN HEREON IS LOCATED IN ZONE X, AN AREA DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN, AS GRAPHICALLY SHOWN ON FEMA FIRM MAP COMMUNITY PANEL NUMBER 41005C0242D, EFFECTIVE DATE JUNE 17, 2008.

APPLICABLE CODES

ALL WORK SHALL COMPLY WITH THE FOLLOWING APPLICABLE CODES FOR THE CITY OF WILSONVILLE, OREGON:
- SECTION 4.176.XX - LANDSCAPING, SCREENING, AND BUFFERING
- SECTION 4.177.XX - STREET IMPROVEMENT STANDARDS
- SECTION 4.600.XX - TREE PRESERVATION AND PROTECTION

NOTE:
IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CODE SHALL PREVAIL.

CONTRACTOR NOTE

- CONTRACTOR SHALL COMPLETE INSTALL PER THE SIGNED AND THE SEALED SET OF DRAWINGS. ANY NECESSARY DEVIATIONS FROM THE DRAWINGS MUST BE SUBMITTED THROUGH AN RFI REQUEST PROCESS WITH ENGINEERING FOR AN APPROVAL PRIOR TO CONTRACTOR PROCEEDING WITH A DEVIATION OF THE SIGNED AND SEALED SET OF DRAWINGS.
- CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE THEN IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

811 Know what's below. Call before you dig.

CAUTION!!
CONTRACTOR IS TO VERIFY PRESENCE AND EXACT LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.

LANDSCAPE REQUIREMENTS & CALCULATIONS

Wilsonville, Oregon Landscape Standards per Zoning Code

AREA TO BE LANDSCAPED	CODE REQUIREMENT	LOCATION	MEASUREMENT	TOTAL QUANTITY REQUIRED	TOTAL QUANTITY PROVIDED	CODE SECTION
ENTIRE LOT	NO LESS THAN 15% OF THE TOTAL LOT AREA SHALL BE LANDSCAPED (DOES NOT EXCLUDE PARKING AREA LANDSCAPING)	SITE	**15% OF LOT AREA**	.98 AC (42,869 SF) x 0.15 = **0.148 AC (6,430 SF) AREA TO BE LANDSCAPED**	**0.64 ACRES (28,079 SF) (46.4% PROVIDED) [NO MORE THAN 10% OF LANDSCAPE AREA MAY BE TURFGRASS]**	*4.176.03*
ENTIRE LOT	NO MORE THAN 10% OF THE TOTAL LANDSCAPED AREA SHALL BE TURF/GRASS	SITE	**NO MORE THAN10% OF LANDSCAPED AREA**	**NOT TO EXCEED** 28,079 x 0.10 = **2,808 SF AREA**	**580 SF [NO MORE THAN 10% OF LANDSCAPE AREA MAY BE TURFGRASS]**	*4.176.06.A.3*
SITE	GENERAL LANDSCAPING REQUIREMENT(LESS THAN 30' DEEP): ONE TREE FOR EVERY 30 LINEAR FEET	SITE	**N/A**	PER PLAN, SEE PLANTING PLAN SHEET L4.1	**COMPLIES**	*4.176.02.C.2*
SITE	GENERAL LANDSCAPING REQUIREMENT(MORE THAN 30' DEEP): ONE TREE FOR EVERY 800 SQUARE FEET, TWO HIGH OR THREE LOW SHRUBS FOR EVERY 400 SF	SITE	**N/A**	PER PLAN, SEE PLANTING PLAN SHEET L4.1	**COMPLIES**	*4.176.02.C.2*
PARKING AREA	10% OF THE PARKING AREA IS REQUIRED TO BE SCREENED FROM PUBLIC RIGHT-OF-WAY AND ADJACENT PROPERTIES	PARKING AREA	**5,800 SF PARKING AREA**	5,800 SF PARKING AREA x 0.10 = **580 SF LANDSCAPE AREA**	**1,546 SF LANDSCAPE AREA (26.7% PROVIDED)**	*4.155.03.B.1*
PARKING AREA	ONE TREE FOR EVERY 8 PARKING SPACES	PARKING ISLANDS	**16 SPACES**	16 SPACES / 8 SPACES = **2 TREES**	**3 TREES**	*4.155.03.B.2*

LAND AREA TABULATION:

TOTAL SITE AREA: 42,869 SF
LANDSCAPED AREA: 28,079 SF
BUILDING AREA: 506 SF
PARKING AREA: 5,800 SF
PAVING AREA: 1,651 SF
PARKING AND DRIVEWAY: 9,617 SF

SHEET INDEX

SHEET NUMBER	SHEET TITLE
L0.0	LANDSCAPE COVER
L0.1	TREE INVENTORY PLAN
L1.0	MATERIAL PLAN
L2.0	SOIL PLAN
L3.0	IRRIGATION SCHEDULES AND NOTES
L3.1	IRRIGATION PLAN
L4.0	PLANTING SCHEDULE AND NOTES
L4.1	PLANTING PLAN
L5.0	IRRIGATION DETAILS
L5.1	PLANTING DETAILS

FOR REFERENCE ONLY DRAWINGS

PROPERTY SURVEY / EXISTING CONDITIONS, SEE SHEET C1.0 - ALTA SURVEY (BY OTHERS)

ENGINEER(S) OF RECORD

CIVIL ENGINEER:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: QUINN DUFFY, P.E.
PHONE: (503) 388-6349
EMAIL: QUINN.DUFFY@KIMLEY-HORN.COM

LANDSCAPE ARCHITECT:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: ALAN MCWAIN, PLA
PHONE: (206) 536-2735
EMAIL: ALAN.MCWAIN@KIMLEY-HORN.COM

ELECTRICAL ENGINEER:
KIMLEY-HORN & ASSOCIATES, INC.
CONTACT: FORREST TURNER, P.E.
PHONE: (503) 420-0645
EMAIL: FORREST.TURNER@KIMLEY-HORN.COM

STRUCTURAL ENGINEER:
AGI
CONTACT: JED CAMPBELL, DIRECTOR
PHONE: (865) 805-7442
EMAIL: JCAMPBELL@AGI.NET

Kimley»Horn
1 SW COLUMBIA ST #650,
PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com

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KIMLEY-HORN PROJECT NO.: 168500

EV STALLS: 16

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CONSULTANTS

REGISTERED LA 1126
OREGON
06/09/2026
LANDSCAPE ARCHITECT
10-28-25

ISSUE BLOCK

No.	DATE	BY
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7		
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DESIGNED BY:	GP
DRAWN BY:	GP
CHECKED BY:	AM
DOCUMENT DATE:	02/26/2026

SHEET TITLE

LANDSCAPE COVER

SHEET NUMBER

L0.0

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This PDF was plotted by ---- on Wednesday, February 25, 2026 6:21:13 PM at the file path: K:\RAL_LDEV\000000000_Ionna EVOR-0005_9025 SW Barber St, Wilsonville OR\07_CAD Files\PlanSheets

OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

OWNER: H D
LEGACY LLLC
CALLED 2.90 ACRE
APN: 31W14A01501

OWNER: CUPPOLETTI
BREE RALPH
CALLED 0.44 ACRE
APN: 31W12A01504

1.056 ACRE TRACT
(46,001 SQ. FT.)
OWNER: BARBER ST. WILDCAT LLC
DOC. NO. 2024-012757, CCOR
APN: 31W14A01400

SITE BENCHMARK
1/2" IRON ROD WITH YELLOW PLASTIC CAP
ELEV = 171.29

SW BOONES FERRY RD
(ROW VARIES)

PACIFIC HIGHWAY
AKA INTERSTATE HIGHWAY 5
(ROW VARIES)

SW BARBER ST
(ROW VARIES)

LOT 13 BOBERG PLAT NO. 174

LOT 14 BOBERG

CHAIN LINK FENCE

CHAIN LINK FENCE WITH BARB WIRE TOP

TREE INVENTORY

Tree #	Species	Scientific Name	DBH (in)[1]	Single DBH (in)[2]	Crown Radius (ft)[3]	Health[4]
1	Douglas-fir	Psuedotsuga menzeisii	18	18	15	Fair
2	Pin oak	Quercus palustrus	32	32	25	Good
3	Pine sp.	Pinus sp.	16	16	12	Fair
4	Pine sp.	Pinus sp.	11,10	10.5	10	Poor
5	Western hemlock	Tsuga heterophylla	20	20	15	Very poor
6	Pin oak	Quercus palustrus	27	27	30	Good
7	Pin oak	Quercus palustrus	7	7	10	Good
8	English laurel	Prunus laurocerasus	8,6,7,5	6.5	15	Fair
9	English laurel	Prunus laurocerasus	8	8	7	Poor
10	English laurel	Prunus laurocerasus	8,12,4,6,8	7.6	12	Fair
11	Pine sp.	Pinus sp.	16	16	10	Good
12	Pine sp.	Pinus sp.	14,15	14.5	15	Dead
13	Western red-cedar	Thuja plicata	15	15	12	Good
14	Western red-cedar	Thuja plicata	19	19	17	Good
15	Douglas-fir	Psuedotsuga menzeisii	15,9	12	15	Fair
16	Douglas-fir	Psuedotsuga menzeisii	27,20,52,19,27	29	30	Fair
17	Douglas-fir	Psuedotsuga menzeisii	36	36	35	Good
18	European beech	Fagus sylvatica	15	15	12	Good
19	Douglas-fir	Psuedotsuga menzeisii	7	7	10	Good
20	European beech	Fagus sylvatica	15	15	12	Good
21	Douglas-fir	Psuedotsuga menzeisii	20	20	17	Good
22	Saw-leaf zelkova	Zelkova sarrata	2	2	3	Poor
23	Saw-leaf zelkova	Zelkova sarrata	10	10	15	Poor
24	Saw-leaf zelkova	Zelkova sarrata	6	6	10	Fair

1 DBH is the trunk diameter in inches measured at 4.5 feet above ground level per International Society of Arboriculture
2 Single DBH is the trunk diameter in inches of a multi-stem tree converted to a single number by summing the diameter
3 Crown Radius is the approximate average crown radius in feet.
4 Health Condition and Structural Condition ratings range from dead or very poor, poor, fair, to good.
5 Location lists trees as either on-site or off-site, such as on the adjacent property(s) or in the public right of way.

DECIDUOUS TREE
CONIFEROUS TREE

NOTE: ALL EXISTING TREES INCLUDED IN THE TREE INVENTORY REPORT ARE TO REMAIN AND BE PROTECTED IN PLACE IN COMPLIANCE WITH THE CITY OF WILSONVILLE'S TREE PROTECTION REQUIREMENTS.

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE
(30"x42")

NORTH

Kimley»Horn
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PORTLAND, OR 97258
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REGISTERED
LA 1126
OREGON
06/09/2026
LANDSCAPE ARCHITECT
12-18-25

No.	ISSUE BLOCK	DATE	BY
0			
1			
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DESIGNED BY:	GP
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SHEET TITLE

TREE INVENTORY PLAN

SHEET NUMBER
L0.1

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OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

PROPOSED GRAVEL AREA BETWEEN DISPENSER PADS (TYP.)
PROPERTY LINE (TYP.)
MULCH (TYP.)
PROPOSED EV PARKING ONLY SIGNS (TYP.)
PROPOSED LEVEL 3 DUAL PORT CHARGER ON 7' X 7'-3" CONCRETE PAD, SEE CIVIL PLANS FOR DETAILS (TYP.)
PROPOSED CANOPY OVERHANG (DESIGNED BY OTHERS)
30' BUILDING SETBACK (TYP.)
PET RELIEF AREA SIGN
PROPOSED PET RELIEF AREA, SEE CIVIL PLANS FOR DETAILS
PROPOSED CANOPY FOUNDATION PAD (TYP.) (DESIGNED BY OTHERS)
PROPOSED PARKING STRIPING (TYP.)
PROPOSED ADA STRIPING
WHEEL STOPS (TYP.)
CANOPY FASCIA INTEGRATED SIGN
PROPOSED CANOPY OVERHANG (DESIGNED BY OTHERS)
METAL EDGING AT GRAVEL BED (TYP.)
MULCH (TYP.)
PROPOSED PICNIC TABLES
PROPOSED TRASH CAN
PROPOSED SWITCHBOARD ON CONCRETE PAD, SEE CIVIL PLANS FOR DETAILS
PROPOSED LIGHT POLE (TYP.)
PROPOSED BUILDING PAD
PROPOSED TRANSFORMER ON CONCRETE PAD SPECIFIED BY UTILITY COMPANY
PROPOSED BOLLARD (TYP.)
PROPOSED BIKE LANE
PROPOSED RIGHT OF WAY (TYP.)
ROOT BARRIER (TYP.)
PROPOSED SIDEWALK
PROPERTY LINE (TYP.)
CHAIN LINK FENCE
LOT 13, BOBERG PLAT NO. 174
SW BOONES FERRY RD (ROW VARIES)
SW BARBER ST (ROW VARIES)

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
32 EXTERIOR IMPROVEMENTS		
	SHREDDED BARK MULCH APPLIED AT 3" DEPTH.	132 CY
	TREE ROOT BARRIER, 36" DEPTH. NDS BLACK HDPE OR APPROVED EQUAL.	302 LF
	STEEL LANDSCAPE EDGING. 1/8" X 6" HEIGHT. COLOR: BROWN. BY PATAGONIA BUILDING SUPPLIES (OR APPROVED EQUAL)	171 LF

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE (30"x42")

NORTH

Kimley»Horn
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PORTLAND, OR 97258
Main: (503) 404-3910 | www.kimley-horn.com

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SHEET TITLE

MATERIAL PLAN

SHEET NUMBER
L1.0

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OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

EXISTING TREE TO REMAIN (TYP.)
PROPOSED GRAVEL AREA BETWEEN DISPENSER PADS (TYP.)
PROPERTY LINE (TYP.)
PROPOSED BIKE LANE
PROPOSED EV PARKING ONLY SIGNS (TYP.)
PROPOSED LEVEL 3 DUAL PORT CHARGER ON 7' X 7'-3" CONCRETE PAD, SEE CIVIL PLANS FOR DETAILS (TYP.)
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PROPOSED PICNIC TABLES
PROPOSED TRASH CAN
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EXISTING TREE TO REMAIN (TYP.)
CHAIN LINK FENCE
LOT 13, BOBERG NO. 174
SW BOONES FERRY RD (ROW VARIES)
SW BARBER ST (ROW VARIES)

REFERENCE NOTES SCHEDULE

SYMBOL	DESCRIPTION	QTY
32 EXTERIOR IMPROVEMENTS		
	SOIL PREPARATION - GRASS AREA: 6" OF IMPORTED COMPOST-AMENDED TOPSOIL AMENDED WITH NATIVE SOIL.	10.7 CY
	SOIL PREPARATION - SHRUB - 12" IMPORTED COMPOST-AMENDED TOPSOIL AMENDED WITH NATIVE SOIL	1,123 CY
	SOIL PREPARTATION - STORMWATER PLANTER: 12" IMPORTED COMPOST-AMENDED TOPSOIL AMENDED WITH NATIVE SOIL 18" MIN. COMPACTED TO 85% BY LANDSCAPE ROLLER OR OTHER APPROVED METHOD.	29.0 CY

GRAPHIC SCALE IN FEET
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SCALE: 1" = 10'
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SOIL PLAN

SHEET NUMBER
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IRRIGATION SPECIFICATIONS

1. SCOPE OF WORK

1.1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THESE PLANS.

1.2. INSTALL THE IRRIGATION SYSTEM TO PROVIDE 100% UNIFORM COVERAGE INCLUDING ANY CHANGES MADE IN THE LAYOUT DUE TO FIELD CONDITIONS. ALL FIELD CHANGES SHALL BE IN ACCORDANCE WITH THESE PLANS. ANY SYSTEMS THAT REQUIRE FIELD ADJUSTMENT TO PROVIDE FULL AND UNIFORM COVERAGE SHALL BE MADE PRIOR TO FINAL ACCEPTANCE AT THE DIRECTION OF THE OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST.

1.3. SECURE ANY AND ALL NECESSARY PERMITS FOR THE WORK PRIOR TO COMMENCEMENT OF OPERATIONS ON-SITE. SEND COPIES OF THE PERMIT(S) TO THE OWNER'S REPRESENTATIVE. FOR WORK LOCATED IN THE R.O.W., CONFORM TO THE STANDARDS AND SPECIFICATIONS OF THE AGENCY HAVING JURISDICTION.

1.4. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.

2. PROTECTION OF EXISTING AND PROPOSED SITE ELEMENTS

2.1. ALL EXISTING SITE ITEMS, ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN SHALL BE PROTECTED FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

2.2. MAINTAIN ALL NECESSARY BMP DEVICES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

2.3. WHERE APPLICABLE, SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY STANDARDS UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF DOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION.

2.4. LOCATE ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO CONSTRUCTION ACTIVITIES. THE INFORMATION AND DATA SHOWN WITH RESPECT TO UTILITIES IS APPROXIMATE. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR, REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; AND REPAIRING ANY DAMAGE RESULTING FROM THE WORK. THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. NOTIFY THE LANDSCAPE ARCHITECT IN WRITING WHEN ANY CONFLICT BETWEEN UTILITIES AND THESE PLANS EXIST PRIOR TO INSTALLATION.

3. SUBMITTALS

3.1. SUBMIT FULL AND COMPLETE SHOP DRAWINGS OF ALL IRRIGATION EQUIPMENT AS SHOWN ON THESE PLANS TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION.

3.2. SUBMIT PRODUCT DATA SHEETS FOR ALL IRRIGATION EQUIPMENT TO BE INSTALLED TO OWNER'S REPRESENTATIVE FOR APPROVAL PRIOR TO INSTALLATION. THE IRRIGATION SYSTEM, AS SHOWN ON THESE PLANS, HAS BEEN DESIGNED AND CALCULATED WITH THE EQUIPMENT AS SPECIFIED. SUBMIT ANY REQUEST FOR PRODUCT SUBSTITUTION(S) IN WRITING. IF APPROVED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY NECESSARY MODIFICATION(S) AS A RESULT OF PRODUCT SUBSTITUTIONS TO THE IRRIGATION SYSTEM IN THE SHOP DRAWINGS TO MEET THE DESIGN INTENT OF THESE PLANS.

4. EQUIPMENT LIST

4.1. ALL QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. CONFIRM ALL QUANTITIES PER PLAN PRIOR TO BIDDING AND CONSTRUCTION.

5. POINT OF CONNECTION

5.1. FIELD VERIFY ALL POINT OF CONNECTION SOURCE INFORMATION INCLUDING STATIC PSI AND GPM AVAILABLE PRIOR TO CONSTRUCTION. NOTIFY OWNER'S REPRESENTATIVE IN WRITING IF DISCREPANCIES BETWEEN THE FLOW AND PRESSURE AS LISTED IN THE CRITICAL ANALYSIS AND THE FIELD CONDITIONS EXIST.

5.2. COORDINATE INSTALLATION OF ANY METERS AND BACKFLOW ASSEMBLIES WITH THE AGENCY HAVING JURISDICTION AND OWNER'S REPRESENTATIVE.

6. MAINLINE INSTALLATION

6.1. INSTALL ALL MAINLINES AND LATERALS UNDER PAVEMENT WITHIN SLEEVES. WHERE VALVE CONTROL LINES PASS THROUGH A SLEEVE WITH OTHER MAIN OR LATERAL LINES, CONTAIN WIRES WITHIN A SEPARATE, SMALLER CONDUIT.

6.2. INSTALL COLOR CODED METAL DETECTABLE MARKING TAPE WHICH CLEARLY NOTES: "CAUTION: IRRIGATION LINE BURIED BELOW" ABOVE THE FULL LENGTH OF THE IRRIGATION MAINLINE.

6.3. WHERE MAINLINE RUNS PARALLEL TO PAVEMENT OR CURBING, OFFSET THE MAINLINE 24" FROM THE EDGE OF PAVEMENT OR CURB.

6.4. PERFORM HYDROSTATIC PRESSURE TESTING AS FOLLOWS:

6.4.1. AFTER FLUSHING, AND THE INSTALLATION OF VALVES CONDUCT THE FOLLOWING TESTS IN THE SEQUENCE LISTED BELOW. FURNISH ALL EQUIPMENT; MATERIALS AND LABOR NECESSARY TO PERFORM THE TESTS. CONDUCT ALL TESTS IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE. NOTIFY THE OWNER'S REPRESENTATIVE FORTY-EIGHT (48) HOURS IN ADVANCE OF TESTING.

6.4.2. PERFORM WATER PRESSURE TESTS ON ALL PRESSURE MAIN LINES BEFORE ANY COUPLINGS, FITTINGS, VALVES AND THE LIKE ARE CONCEALED.

6.4.3. IMMEDIATELY PRIOR TO TESTING, PURGE ALL IRRIGATION LINES OF ALL ENTRAPPED AIR OR DEBRIS BY ADJUSTING CONTROL VALVES AND INSTALLING TEMPORARY CAPS FORCING WATER AND DEBRIS TO BE DISCHARGED FROM A SINGLE OUTLET.

6.4.4. TEST ALL PRESSURE MAIN LINE AT 150 PSI FOR A MINIMUM OF FOUR (4) HOURS WITH AN ALLOWABLE LOSS OF 5 PSI. PRESSURE AND GAUGES SHALL BE READ IN PSI, AND CALIBRATED SUCH THAT ACCURATE DETERMINATION OF POTENTIAL PRESSURE LOSS CAN BE ASCERTAINED.

6.4.5. RE-TEST AS REQUIRED UNTIL THE SYSTEM MEETS THE REQUIREMENTS. REPAIR ANY LEAKS, WHICH OCCUR DURING TEST PERIOD, IMMEDIATELY FOLLOWING THE TEST.

6.4.6. PROVIDE DOCUMENTATION STATING THE WEATHER CONDITIONS, DATE, THE START TIME AND INITIAL WATER PRESSURE READINGS, THE FINISH TIME AND FINAL WATER PRESSURE READINGS AND THE TYPE OF EQUIPMENT USED TO PERFORM THE TEST. THE DOCUMENTATION MUST BE SIGNED BY A WITNESS ACCEPTABLE TO THE OWNER, VERIFYING ALL OF THE ABOVE-MENTIONED CONDITIONS.

6.4.7. SUBMIT A WRITTEN REPORT OF THE PRESSURE TESTING RESULTS WITH THE OTHER ABOVE REQUIRED INFORMATION TO THE OWNER'S REPRESENTATIVE FOR APPROVAL.

7. IRRIGATION VALVES AND WIRING

7.1. LOCATE ALL VALVES, SPLICES WITHIN CONTROL LINES, QUICK COUPLERS, AND HOSE BIBBS WITHIN VALVE BOXES. PROVIDE PURPLE VALVE BOX LIDS FOR SYSTEMS UTILIZING A NON-POTABLE WATER SOURCE.

7.2. NUMBER THE TOP OF ALL VALVE BOX LIDS WITH MINIMUM 1" HEIGHT BLACK LETTERS TO CORRESPOND TO THE VALVE DESIGNATIONS.

7.3. WHEN POSSIBLE, LOCATE ALL VALVES IN PLANTING BEDS A MINIMUM OF 24" FROM BACK OF CURB OR EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.

7.4. SEPARATE IRRIGATION ZONES FOR HIGH AND LOW WATER USE REQUIREMENTS AND OPERATED ON DIFFERENT WATERING CYCLES. AT NO TIME SHALL MULTIPLE IRRIGATION HEAD TYPES BE LOCATED ON THE SAME VALVE UNLESS NOTED OTHERWISE.

7.5. INSTALL ALL DRIP ZONES WITH A FLUSH VALVE AND AIR RELIEF VALVE. IN THE EVENT THAT A DRIP ZONE HAS MORE THAN ONE HIGH OR LOW POINT, MORE THAN ONE AIR RELIEF VALVE OR FLUSH VALVE WILL BE REQUIRED FOR THAT ZONE.

7.6. FOLLOW MANUFACTURER'S SPECIFICATIONS FOR ALL WIRING FOR CONNECTION OF THE VALVES TO THE CONTROLLER. ALL WIRE RUNS SHALL BE CONTINUOUS WITH SPLICING OCCURRING IN VALVE BOXES ONLY. WIRE CONNECTIONS SHALL BE MADE USING DBR/Y-6 CONNECTIONS OR APPROVED EQUAL.

7.7. INSTALL VALVE CONTROL WIRING IN THE SAME TRENCH AS THE MAINLINE WHERE PRACTICAL.

7.8. FOR NON TWO-WIRE SYSTEMS, RUN TWO (2) SPARE VALVE CONTROL WIRES FROM THE CONTROLLER ALONG THE ENTIRE MAINLINE TO LAST REMOTE CONTROLLED VALVE ON EACH AND EVERY LEG OF MAINLINE.

8. PIPES AND SLEEVING

8.1. DO NOT INSTALL IRRIGATION SYSTEM THROUGH PRESERVED PLANT COMMUNITIES, DRIPLINE OF EXISTING TREES, OR WITHIN WETLANDS UNLESS SPECIFICALLY NOTED OTHERWISE.

8.2. LOCATE ALL IRRIGATION LINES WITHIN LANDSCAPED AREAS WHENEVER POSSIBLE. ALL LINES UNDER PAVEMENT MUST BE SLEEVED.

8.3. SIZE ALL PIPE SLEEVES TWO PIPE SIZES GREATER THAN THE PIPE / CUMULATIVE SUM OF THE PIPES IT CARRIES.

8.4. SLEEVES UNDER EXISTING PAVEMENT MUST BE DIRECTIONAL BORE UNLESS APPROVED BY OWNER IN WRITING.

8.5. SOLVENT CEMENTS SHALL COMPLY WITH ASTM D2564.

9. CONTROLLER AND SENSORS

9.1. COORDINATE WITH OWNER'S REPRESENTATIVE FOR FINAL CONTROLLER AND RAIN SENSOR LOCATIONS. THE CONTROLLER SHALL BE PLACED IN A LOCKING CABINET APPROPRIATE FOR ITS LOCATION. (INDOOR VS. OUTDOOR USE)

9.2. LOCATE THE AUTOMATIC RAIN SENSOR SHUTOFF DEVICE IN AN AREA THAT IS UNOBSTRUCTED BY TREES, ROOF OVERHANGS, OR ANY OTHER OVERHEAD OBJECT. THE SENSOR SHALL NOT BE PLACED WITHIN THE SPRAY ZONE OF ANY SPRINKLER HEAD, INCLUDING OFF-SITE IRRIGATION. CONTRACTOR SHALL LOCATE SENSOR WITHIN CLOSE PROXIMITY TO THE IRRIGATION CONTROLLER.

10. CLEANUP

10.1. UPON COMPLETION OF ALL WORK AND BEFORE FINAL ACCEPTANCE, REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

11. AS-BUILT IRRIGATION PLANS

11.1. PROVIDE "AS-BUILT" DRAWINGS OF THE FINAL INSTALLATION TO OWNER'S REPRESENTATIVE PRIOR TO FINAL ACCEPTANCE OF WORK. INCLUDE THE FOLLOWING ON THE AS-BUILT DRAWINGS AT A MINIMUM:
- CONTROLLER LOCATION
- CONNECTION ASSEMBLY
- MAINLINE ROUTING
- PIPE SLEEVING
- VALVE(S)
- COLORIZED ZONING DIAGRAM

11.2. LOCATE ALL SLEEVES UTILIZED BY THE IRRIGATION CONTRACTOR WHETHER INSTALLED BY THE IRRIGATION CONTRACTOR OR NOT ON THE "AS-BUILT" DRAWINGS. THE DEPTH BELOW FINISH GRADE, TO THE NEAREST FOOT OF EACH END OF THE SLEEVE SHALL BE NOTED AT EACH SLEEVE LOCATION ON THE "AS-BUILT" DRAWINGS.

12. FINAL INSPECTION AND ACCEPTANCE OF WORK

12.1. MINIMIZE IRRIGATION OVERTHROW TO IMPERVIOUS AND NATURAL AREAS THROUGH FIELD ADJUSTMENTS TO INDIVIDUAL HEADS.

12.2. PROGRAM CONTROLLER TO IRRIGATE ALL ZONES WITHIN APPLICABLE WATERING WINDOWS AND PROVIDE WATERING SCHEDULE TO OWNER'S REPRESENTATIVE.

12.3. EQUIPMENT TO BE FURNISHED TO OWNER PRIOR TO ACCEPTANCE OF WORK:

- TWO (2) SETS OF KEYS FOR EACH AUTOMATIC CONTROLLER.
- TWO (2) 48 INCH TEE WRENCHES FOR OPERATING GATE VALVES (WHEN INSTALLED AS PART OF WORK).
- THREE (3) SETS OF SPECIAL TOOLS REQUIRED FOR REMOVING, DISASSEMBLING AND ADJUSTING EACH TYPE OF - SPRINKLER AND VALVE SUPPLIED ON THIS PROJECT.
- FIVE (5) EXTRA SPRINKLER HEADS, NOZZLES, SHRUB ADAPTERS, NOZZLE FILTER SCREENS, FOR EACH TYPE USED ON THE PROJECT.
- TWO (2) QUICK COUPLER KEYS TO MATCH MANUFACTURER TYPE OF QUICK COUPLER.

12.4. UPON COMPLETION OF ALL WORK, A FINAL INSPECTION SHALL BE PERFORMED BY THE OWNER AND/OR OWNER'S REPRESENTATIVE. THE IRRIGATION SYSTEM, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT SHALL BE INSPECTED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ITEMS FOUND TO NOT BE IN COMPLIANCE SHALL BE CORRECTED AT NO COST TO THE OWNER.

13. WARRANTY

13.1. THE CONTRACTOR SHALL WARRANTEE ALL WORKMANSHIP AND MATERIALS FOR A PERIOD OF 1 YEAR FOLLOWING THE ACCEPTANCE OF THE WORK.

13.2. ANY PART OF THE IRRIGATION WORK THAT FAILS OR IS DEFECTIVE SHALL BE REPLACED OR RECONSTRUCTED AT NO COST TO THE OWNER INCLUDING BUT NOT LIMITED TO: RESTORING GRADES THAT HAVE SETTLED IN TRENCHES AND EXCAVATIONS RELATED TO THE WORK. RECONSTRUCTION SHALL INCLUDE ANY PLANTINGS, SOIL, MULCH OR OTHER PARTS OF THE CONSTRUCTED LANDSCAPE THAT MAY BE DAMAGED DURING THE REPAIR OR THAT RESULTS FROM SOIL SETTLEMENT.

13.3. THE DATE OF ACCEPTANCE OF THE WORK AND START OF THE GUARANTEE PERIOD SHALL BE DETERMINED BY THE OWNER, UPON THE FINDING THAT THE ENTIRE IRRIGATION SYSTEM IS INSTALLED AS DESIGNED AND SPECIFIED, AND FOUND TO BE OPERATING CORRECTLY, SUPPLYING WATER EVENLY TO ALL PLANTING AND/OR LAWN AREAS.

13.4. NEITHER THE FINAL ACCEPTANCE NOR ANY PROVISION IN THE CONTRACT DOCUMENTS SHALL RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR FAULTY MATERIALS OR WORKMANSHIP. REMEDY ANY DEFECTS WITHIN A PERIOD OF 7 DAYS (S) FROM THE DATE OF NOTIFICATION OF A DEFECT.

14. ABBREVIATIONS

GPM -	GALLONS PER MINUTE
GPH -	GALLONS PER HOUR
PSI -	POUNDS PER SQUARE INCH

LATERAL PIPE SIZING REQUIREMENTS

MAXIMUM FLOW	MINIMUM PIPE SIZE
10 GPM	3/4"
16 GPM	1"
26 GPM	1-1/4"
35 GPM	1-1/2"
55 GPM	2"
80 GPM	2-1/2"
120 GPM	3"

PIPE SIZES ILLUSTRATED IN THE ABOVE CHART ARE MINIMUM ACCEPTABLE SIZES. PIPE SIZES INDICATED ON PLAN ARE FOR CONVENIENCE ONLY. FIELD SIZE ALL LATERAL PIPING TO KEEP ALL FRICTION LOSS VELOCITIES BELOW 5.0 FPS.

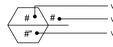
IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY	PSI
T	HUNTER MP CORNER PROS-06-PRS30-CV SHRUB ROTATOR; 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI. MP ROTATOR NOZZLE ON PRS30 BODY. T=TURQUOISE ADJ ARC 45-105.	4	30
M L O	HUNTER MP1000 PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.	18	30
W G W	HUNTER MP3000 PROS-06-PRS30-CV SHRUB ROTATOR; 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.	63	30
A A A	HUNTER MP2000 PROS-12-PRS30-CV (2) SHRUB ROTATOR, 12IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.	4	30
B V A	HUNTER MP3000 PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.	41	30
800 A 800 F	HUNTER MP800SR PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)	13	30
0.25 0.50	HUNTER RZWS-SLEEVE-18-CV 18IN. LONG RZWS WITH FILTER FABRIC SLEEVE, .25 GPM OR .50 GPM BUBBLER OPTIONS, CHECK VALVE, 1/2IN. SWING JOINT FOR CONNECTION TO 1/2IN. PIPE	43	50
0.25 0.50	HUNTER RZWS-SLEEVE-36-CV 36IN. LONG RZWS WITH FILTER FABRIC SLEEVE, .25 GPM OR .50 GPM BUBBLER OPTIONS, CHECK VALVE, 1/2IN. SWING JOINT FOR CONNECTION TO 1/2IN. PIPE	43	50

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICZ-101-25 DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.	12
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-CV-06-12 XFS-CV SUB-SURFACE AND ON-SURFACE LANDSCAPE DRIPLINE WITH A HEAVY-DUTY 4.3 PSI CHECK VALVE. 0.6 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. SPECIFY XF INSERT FITTINGS.	15,364 LF

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION	QTY
	HUNTER ICV-G (RCV) 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.	22
	HUNTER HQ-33DRC QUICK COUPLER VALVE, YELLOW RUBBER COVER, RED BRASS AND STAINLESS STEEL, WITH 3/4IN. NPT INLET, 2-PIECE BODY.	1
MV	HUNTER ICV-G (MV) 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.	1
BF	FEBCO 850 1" DOUBLE CHECK BACKFLOW PREVENTION, 1/2IN. TO 2IN.	1
C	HUNTER I2C-4000-M 40 STATION OUTDOOR MODULAR CONTROLLER. WITH FOUR ICM-800 MODULE. COMMERCIAL USE. METAL CABINET.	1
S	HUNTER WSS-SEN WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER X-CORE AND ACC CONTROLLERS, INSTALL AS NOTED. INCLUDES GUTTER MOUNT BRACKET. MODULE NOT INCLUDED.	1
FS	HUNTER HC-100-FLOW 1IN. FLOW METER FOR USE WITH HYDRAWISE ENABLED CONTROLLER TO MONITOR FLOW AND PROVIDE SYSTEM ALERTS. ALSO FUNCTIONS AS STAND ALONE FLOW TOTALIZER/SUB METER ON ANY RESIDENTIAL OR COMMERCIAL IRRIGATION SYSTEM.	1
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40	4,267 LF
	IRRIGATION MAINLINE: PVC SCHEDULE 40	990.6 LF
	PIPE SLEEVE: PVC SCHEDULE 40	69.5 LF

Valve Callout



VALVE SCHEDULE

NUMBER	MODEL	SIZE	TYPE	GPM	WIRE	PSI	PSI @ POC	PRECIP
1	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	14.33	375.7	40.8	55.4	1.13 in/h
2	HUNTER ICV-G (RCV)	1"	BUBBLER	7	378.7	58.8	67.8	2.03 in/h
3	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	8.64	381.9	35.3	45.8	0.64 in/h
4	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	7.9	385.5	35.0	45.1	0.37 in/h
5	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	3.69	408.0	34.3	41.4	0.99 in/h
6	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	15.24	405.4	42.0	54.7	1.31 in/h
7	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	12.14	402.4	35.5	46.7	0.39 in/h
8	HUNTER ICV-G (RCV)	1"	BUBBLER	5	400.3	54.2	61.3	2.01 in/h
9	HUNTER ICV-G (RCV)	1"	BUBBLER	5	358.3	55.5	62.5	2.14 in/h
10	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	10.95	355.3	37.0	46.8	0.41 in/h
11	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	13.27	352.7	35.2	45.6	0.58 in/h
12	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	11.51	277.6	40.8	50.8	1.41 in/h
13	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	13.07	280.2	37.5	48.1	0.56 in/h
14	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	12.58	283.2	37.3	47.8	0.32 in/h
15	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	10.01	285.7	37.9	47.5	0.33 in/h
16	HUNTER ICV-G (RCV)	1"	BUBBLER	8	287.8	58.3	66.9	2.03 in/h
17	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	14.63	290.2	40.9	52.1	1.17 in/h
18	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.49	77.3	40.9	57.1	1.2 in/h
19	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	10.97	81.9	36.0	49.8	0.48 in/h
20	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.33	84.5	41.2	57.4	1.36 in/h
21	HUNTER ICV-G (RCV)	1"	BUBBLER	7	87.6	57.1	66.8	2.01 in/h
22	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	15.5	89.9	41.2	60.2	1.17 in/h
23	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	0.69	182.5	32.1	38.6	0.63 in/h
24	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	7.37	185.3	38.2	48.6	1.18 in/h
25	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.23	187.6	40.3	57.7	1.13 in/h
26	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	7.78	190.4	35.2	46.2	0.46 in/h
27	HUNTER ICV-G (RCV)	1"	BUBBLER	6	193.2	55.7	64.8	2.05 in/h
28	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	12.48	195.9	41.9	58.8	1.11 in/h
29	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	9.14	198.4	37.7	50.5	1.16 in/h
30	HUNTER ICV-G (RCV)	1"	BUBBLER	5	336.6	56.0	63.9	1.98 in/h
31	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	7.22	333.8	38.6	48.6	0.63 in/h
32	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	9.85	330.9	35.4	48	0.62 in/h
33	HUNTER ICZ-101-25	1"	AREA FOR DRIPLINE	13.56	328.4	40.8	57.0	1.21 in/h
34	HUNTER ICV-G (RCV)	1"	SHRUB ROTARY	2.14	326.1	32.4	39.2	0.94 in/h
	Common Wire				990.6			

CRITICAL ANALYSIS

Generated: 2026-02-25 08:22

P.O.C. NUMBER: 01
Water Source Information:

FLOW AVAILABLE
Point of Connection Size: 1 1/2"
Flow Available 46.59 GPM

PRESSURE AVAILABLE
Static Pressure at POC: 80 PSI
Pressure Available: 80 PSI

DESIGN ANALYSIS
Maximum Station Flow: 15.5 GPM
Flow Available at POC: 46.59 GPM
Residual Flow Available: 31.09 GPM

Critical Station: 2
Design Pressure: 50 PSI
Friction Loss: 5.54 PSI
Fittings Loss: 0.55 PSI
Elevation Loss: 0 PSI
Loss through Valve: 2.7 PSI
Pressure Req. at Critical Station: 58.8 PSI
Loss for Fittings: 0.17 PSI
Loss for Main Line: 1.65 PSI
Loss for POC to Valve Elevation: 0 PSI
Loss for Backflow: 5.72 PSI
Loss for Master Valve: 1.5 PSI
Critical Station Pressure at POC: 67.8 PSI
Pressure Available: 80 PSI
Residual Pressure Available: 12.2 PSI

WATERING SCHEDULE

NUMBER	MODEL	TYPE	PRECIP	IN./WEEK	MIN./WEEK	GAL./WEEK	GAL./DAY
1	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.13 in/h	0.68	37	530	177
2	HUNTER ICV-G (RCV)	BUBBLER	2.03 in/h	1	30	210	70
3	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.64 in/h	0.68	65	562	281
4	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.37 in/h	0.68	109	861	431
5	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.99 in/h	0.68	42	155	77.5
6	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.31 in/h	0.68	32	488	163
7	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.39 in/h	0.68	105	1,274	637
8	HUNTER ICV-G (RCV)	BUBBLER	2.01 in/h	1	30	150	50
9	HUNTER ICV-G (RCV)	BUBBLER	2.14 in/h	1	29	145	48.3
10	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.41 in/h	0.68	99	1,084	542
11	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.58 in/h	0.68	71	942	471
12	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.41 in/h	0.68	29	334	111
13	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.56 in/h	0.68	74	967	483
14	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.32 in/h	0.68	130	1,636	818
15	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.33 in/h	0.68	125	1,251	626
16	HUNTER ICV-G (RCV)	BUBBLER	2.03 in/h	1	30	240	80
17	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.17 in/h	0.68	35	512	171
18	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.2 in/h	0.68	34	459	153
19	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.48 in/h	0.68	85	932	466
20	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.36 in/h	0.68	31	413	138
21	HUNTER ICV-G (RCV)	BUBBLER	2.01 in/h	1	30	210	70
22	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.17 in/h	0.68	35	543	181
23	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.63 in/h	0.68	65	44.9	22.4
24	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.18 in/h	0.68	35	258	86.0
25	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.13 in/h	0.68	37	490	163
26	HUNTER ICV-G (RCV)	SHRUB ROTARY	0.46 in/h	0.68	89	693	346
27	HUNTER ICV-G (RCV)	BUBBLER	2.05 in/h	1	30	180	60
28	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.11 in/h	0.68	37	462	154
29	HUNTER ICZ-101-25	AREA FOR DRIPLINE	1.16 in/h	0.68	36	329	110
30	HUNTER ICV-G (

OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

SW BARBER ST
(ROW VARIES)

SW BOONES FERRY RD
(ROW VARIES)

IRRIGATION SCHEDULE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
T	HUNTER MP CORNER PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. T=TURQUOISE ADJ ARC 45-105.
M L O	HUNTER MP1000 PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI. MP ROTATOR NOZZLE ON PRS30 BODY. M=MAROON ADJ ARC 90 TO 210, L=LIGHT BLUE 210 TO 270 ARC, O=OLIVE 360 ARC.
K G R	HUNTER MP2000 PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC.
A A A	HUNTER MP2000 PROS-12-PRS30-CV (2) SHRUB ROTATOR, 12IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. K=BLACK ADJ ARC 90-210, G=GREEN ADJ ARC 210-270, R=RED 360 ARC
B Y A	HUNTER MP3000 PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH FACTORY INSTALLED CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. B=BLUE ADJ ARC 90-210, Y=YELLOW ADJ ARC 210-270, A=GRAY 360 ARC.
820 A 820 F	HUNTER MP800SR PROS-06-PRS30-CV SHRUB ROTATOR, 6IN. POP-UP WITH CHECK VALVE, PRESSURE REGULATED TO 30 PSI, MP ROTATOR NOZZLE ON PRS30 BODY. ADJ=ORANGE AND GRAY (ARC 90-210), 360=LIME GREEN AND GRAY (ARC 360)
0.25 0.50	HUNTER RZWS-SLEEVE-18-CV 18IN. LONG RZWS WITH FILTER FABRIC SLEEVE, .25 GPM OR .50 GPM BUBBLER OPTIONS, CHECK VALVE, 1/2IN. SWING JOINT FOR CONNECTION TO 1/2IN. PIPE
0.25 0.50	HUNTER RZWS-SLEEVE-36-CV 36IN. LONG RZWS WITH FILTER FABRIC SLEEVE, .25 GPM OR .50 GPM BUBBLER OPTIONS, CHECK VALVE, 1/2IN. SWING JOINT FOR CONNECTION TO 1/2IN. PIPE

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICZ-101-25 DRIP CONTROL ZONE KIT. 1IN. ICV GLOBE VALVE WITH 1IN. HY100 FILTER SYSTEM. PRESSURE REGULATION: 25PSI. FLOW RANGE: 2 GPM TO 20 GPM. 150 MESH STAINLESS STEEL SCREEN.
	AREA TO RECEIVE DRIPLINE RAIN BIRD XFS-CV-06-12 XFS-CV SUB-SURFACE AND ON-SURFACE LANDSCAPE DRIPLINE WITH A HEAVY-DUTY 4.3 PSI CHECK VALVE. 0.6 GPH EMITTERS AT 12" O.C. DRIPLINE LATERALS SPACED AT 12" APART, WITH EMITTERS OFFSET FOR TRIANGULAR PATTERN. SPECIFY XF INSERT FITTINGS.

SYMBOL	MANUFACTURER/MODEL/DESCRIPTION
	HUNTER ICV-G (RCV) 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC REMOTE CONTROL VALVES, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
	HUNTER HQ-33DRC QUICK COUPLER VALVE, YELLOW RUBBER COVER, RED BRASS AND STAINLESS STEEL, WITH 3/4IN. NPT INLET, 2-PIECE BODY.
MV	HUNTER ICV-G (MV) 1-1/2" 1IN., 1-1/2IN., 2IN., AND 3IN. PLASTIC ELECTRIC MASTER VALVE, GLOBE CONFIGURATION, WITH NPT THREADED INLET/OUTLET, FOR COMMERCIAL/MUNICIPAL USE.
BF	FEBCO 850 1" DOUBLE CHECK BACKFLOW PREVENTION, 1/2IN. TO 2IN.
C	HUNTER I2C-4000-M 40 STATION OUTDOOR MODULAR CONTROLLER. WITH FOUR ICM-800 MODULE. COMMERCIAL USE. METAL CABINET.
S	HUNTER WSS-SEN WIRELESS SOLAR, RAIN FREEZE SENSOR WITH OUTDOOR INTERFACE, CONNECTS TO HUNTER X-CORE AND ACC CONTROLLERS, INSTALL AS NOTED. INCLUDES GUTTER MOUNT BRACKET. MODULE NOT INCLUDED.
FS	HUNTER HC-100-FLOW 1IN. FLOW METER FOR USE WITH HYDRAWISE ENABLED CONTROLLER TO MONITOR FLOW AND PROVIDE SYSTEM ALERTS. ALSO FUNCTIONS AS STAND ALONE FLOW TOTALIZER/SUB METER ON ANY RESIDENTIAL OR COMMERCIAL IRRIGATION SYSTEM.
	IRRIGATION LATERAL LINE: PVC SCHEDULE 40
	IRRIGATION MAINLINE: PVC SCHEDULE 40
	PIPE SLEEVE: PVC SCHEDULE 40

Valve Callout
Valve Number
Valve Flow
Valve Size

IRRIGATION NOTES:

1. SEE SHEET L5.0 FOR IRRIGATION DETAILS.
2. IRRIGATION POINT OF CONNECTION (POC), VERIFY LOCATION WITH OWNER. BASIS OF DESIGN ASSUMED 80 PSI AT THE POC. CONTRACTOR TO CONFIRM AND VERIFY PRESSURE AND GPM FLOW PRIOR TO INSTALLATION OF IRRIGATION SYSTEM. IF THERE IS A DISCREPANCY IN PSI, A RFI SHOULD BE GENERATED TO DOCUMENT THE DESIGN CHANGE.
3. MAIN LINE, LATERALS, AND VALVES SHOWN FOR CLARITY. INSTALL PIPING AND VALVES WITHIN THE PROPERTY LINE, 6" B.O.C. WHEN POSSIBLE, AND IN GREEN SPACE.
4. WATERING REQUIREMENTS ARE APPROXIMATE PER SEASON AND SHOULD BE ADJUSTED TO REFLECT SEASONAL FLUCTUATIONS IN AVERAGE PRECIPITATION.
5. ALL PLANTS TO RECEIVE APPROPRIATE ADDITIONAL 15% HIGHER WATERING DURING INSTALLATION PERIOD IN ORDER TO ESTABLISH HEALTHY AND DEEP ROOT GROWTH.

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE
(30"x42")

NORTH

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SHEET TITLE

IRRIGATION PLAN

SHEET NUMBER
L3.1

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LANDSCAPE SPECIFICATIONS

1. SCOPE OF WORK

1.1. THE WORK CONSISTS OF: FURNISHING ALL LABOR, MATERIALS, EQUIPMENT, TOOLS, TRANSPORTATION, AND ANY OTHER APPURTENANCES NECESSARY FOR THE COMPLETION OF THIS PROJECT AS SHOWN ON THESE PLANS.

1.2. WORK SHALL INCLUDE MAINTENANCE AND WATERING OF ALL CONTRACT PLANTING AREAS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER.

1.3. WORK SHALL BE COORDINATED WITH OTHER TRADES TO PREVENT CONFLICTS.

2. PROTECTION OF EXISTING AND PROPOSED SITE ELEMENTS

2.1. PROTECT ALL EXISTING SITE ITEMS, ALREADY COMPLETED OR ESTABLISHED AND DESIGNATED TO REMAIN FROM DAMAGE BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED. ALL DAMAGE RESULTING FROM THE CONTRACTOR'S WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER, AT NO COST TO THE OWNER.

2.2. MAINTAIN ALL NECESSARY BMP DEVICES THROUGHOUT THE DURATION OF ALL CONSTRUCTION ACTIVITIES.

2.3. WHERE APPLICABLE, SUBMIT A DETAILED PROJECT SPECIFIC WORK ZONE TRAFFIC CONTROL PLAN IN ACCORDANCE WITH THE APPROPRIATE REGULATORY AGENCY STANDARDS UNLESS THE WORK REQUIRES NOTHING MORE THAN A DIRECT APPLICATION OF DOT STANDARD PLANS FOR ROAD AND BRIDGE CONSTRUCTION.

2.4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UTILITIES, WHETHER PUBLIC OR PRIVATE, PRIOR TO CONSTRUCTION ACTIVITIES. THE INFORMATION AND DATA SHOWN WITH RESPECT TO EXISTING UTILITIES IS APPROXIMATE. THE OWNER AND DESIGN PROFESSIONAL SHALL NOT BE RESPONSIBLE FOR THE ACCURACY AND COMPLETENESS OF ANY SUCH INFORMATION OR DATA. THE CONTRACTOR SHALL HAVE FULL RESPONSIBILITY FOR: REVIEWING AND CHECKING ALL SUCH INFORMATION AND DATA; LOCATING ALL UTILITIES PRIOR TO CONSTRUCTION; THE SAFETY AND PROTECTION THEREOF; REPAIRING ANY DAMAGE RESULTING FROM THE WORK; THE COST OF ALL WILL BE CONSIDERED AS HAVING BEEN INCLUDED IN THE CONTRACT PRICE. THE CONTRACTOR SHALL NOTIFY ANY AFFECTED UTILITY COMPANIES OR AGENCIES IN WRITING AT LEAST 48 HOURS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT IN WRITING WHEN ANY CONFLICT BETWEEN UTILITIES AND THESE PLANS EXIST PRIOR TO PLANTING.

2.5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL UNAUTHORIZED CUTTING OR DAMAGE TO PLANT MATERIAL EXISTING OR OTHERWISE. THIS SHALL INCLUDE COMPACTION AND SPILLING OF ANY DELETERIOUS MATERIALS WITHIN THE DRIP-LINE OF EXISTING TREES TO REMAIN. PLANT MATERIAL KILLED OR DAMAGED THAT IS MISSHAPEN AND/OR UNSIGHTLY SHALL BE REPLACED WITH LIKE SIZE AND KIND TO THE SATISFACTION OF THE OWNER OR REGULATORY AGENCY AT THE COST TO THE CONTRACTOR.

2.6. SEE TREE MITIGATION PLAN AND NOTES, IF APPLICABLE.

3. SUBMITTALS

3.1. SUBMIT MATERIAL SAMPLES LISTED BELOW FOR APPROVAL, ON SITE OR AS DETERMINED BY THE OWNER. UPON APPROVAL, DELIVERY OF MATERIALS MAY COMMENCE.

MATERIAL	SAMPLE SIZE
MULCH	ONE (1) GALLON PLASTIC BAG
SOIL MIXTURE	ONE (1) GALLON PLASTIC BAG
PLANTS	ONE (1) OF EACH VARIETY (OR TAGGED IN NURSERY)

3.2. SUBMIT TESTING RESULTS OF SOIL MIXTURE AS PER SECTION 6 BELOW.

4. PLANT MATERIALS

4.1. ALL PLANT MATERIAL SHALL CONFORM TO THE SPECIFICATIONS INDICATED ON THE DRAWINGS AND SHALL BE IN ACCORDANCE WITH GRADES AND STANDARDS FOR NURSERY PLANTS. ALL MATERIALS SHALL BE SUBJECT TO APPROVAL BY THE OWNER OR OWNER'S REPRESENTATIVE. NO SUBSTITUTIONS SHALL BE MADE WITHOUT WRITTEN PERMISSION FROM THE LANDSCAPE ARCHITECT AND OWNER.

4.2. ALL TREE SPECIES INSTALLED SHALL BE MATCHED IN SIZE AND SHAPE UNLESS NOTED OTHERWISE.

4.3. PLANTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL AT THE PLACE OF GROWTH, UPON DELIVERY TO THE SITE, DURING PROGRESS OF THE WORK AND/OR AFTER COMPLETION. REJECTED PLANTS SHALL BE REMOVED AND REPLACED IMMEDIATELY

5. DIGGING AND HANDLING

5.1. PROTECT ROOTS OR ROOT BALLS OF PLANTS AT ALL TIMES FROM SUN, DRYING WINDS, WATER AND FREEZING, AS NECESSARY UNTIL PLANTING. NO PLANT MATERIAL SHALL BE HANDLED BY STEMS.

6. SOIL MIXTURE (PLANTING MEDIUM, PLANTING MIX, TOPSOIL MIX)

6.1. TEST EXISTING SOIL AND AMEND AS NECESSARY IN ACCORDANCE WITH THE GUIDELINES BELOW:

6.2. SOIL MIXTURE (PLANTING MEDIUM FOR PLANT PITS) SHALL CONSIST OF TWO PARTS OF TOPSOIL AND ONE PART SAND, AS DESCRIBED BELOW. SUBMIT SAMPLES AND PH TESTING RESULTS OF SOIL MIXTURE FOR OWNER'S REPRESENTATIVE APPROVAL PRIOR TO PLANT INSTALLATION OPERATIONS COMMENCE.

6.3. TOPSOIL FOR USE IN PREPARING SOIL MIXTURE FOR BACKFILLING PLANT PITS SHALL BE FERTILE, FRIABLE, AND OF A LOAMY CHARACTER; REASONABLY FREE OF SUBSOIL, CLAY LUMPS, BRUSH WEEDS AND OTHER LITTER; FREE OF ROOTS, STUMPS, STONES LARGER THAN 2" IN ANY DIRECTION, AND OTHER EXTRANEOUS OR TOXIC MATTER HARMFUL TO PLANT GROWTH. IT SHALL CONTAIN THREE (3) TO FIVE (5) PERCENT DECOMPOSED ORGANIC MATTER AND HAVE A PH BETWEEN 5.5 AND 7.0.

6.4. SAND SHALL BE COARSE, CLEAN, WELL-DRAINING, NATIVE SAND.

6.5. PLANT TREES IN THE EXISTING NATIVE SOIL ON SITE, UNLESS DETERMINED TO BE UNSUITABLE - AT WHICH POINT THE CONTRACTOR SHALL CONTACT OWNER'S REPRESENTATIVE TO DISCUSS ALTERNATE RECOMMENDATION PRIOR TO PLANTING.

7. WATER

7.1. PROVIDE WATER NECESSARY FOR PLANTING ESTABLISHMENT AND MAINTENANCE. WATER SHALL BE OF SATISFACTORY QUALITY TO SUSTAIN ADEQUATE PLANT GROWTH AND SHALL NOT CONTAIN HARMFUL, NATURAL OR MAN-MADE ELEMENTS DETRIMENTAL TO PLANTS.

7.2. WATERING/IRRIGATION RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

8. FERTILIZER

8.1. PROVIDE FERTILIZER APPLICATION SCHEDULE TO OWNER, AS APPLICABLE TO SOIL TYPE, PLANT INSTALLATION TYPE, AND SITE'S PROPOSED USE. SUGGESTED FERTILIZER TYPES SHALL BE ORGANIC OR OTHERWISE NATURALLY-DERIVED.

8.2. FERTILIZER RESTRICTIONS MAY APPLY - REFER TO PROPERTY'S JURISDICTIONAL AUTHORITY.

9. MULCH

9.1. MOISTEN MULCH MATERIAL AT THE TIME OF APPLICATION TO PREVENT WIND DISPLACEMENT, AND APPLIED AT A MINIMUM DEPTH OF THREE (3) INCHES. CONTRACTOR SHALL CLEAR MULCH FROM WITHIN A SIX (6) INCH RADIUS AROUND TRUNK / STEM FLARE.

9.2. PROVIDE A THREE (3) INCH MINIMUM LAYER OF SPECIFIED MULCH OVER THE ENTIRE AREA OF EACH PLANTING BED AND TREE RING (SIX (6) FOOT DIAMETER MINIMUM).

10. CONTAINER GROWN STOCK

10.1. CONTAINER GROWN PLANTS SHALL HAVE BEEN GROWN IN IT'S CONTAINER SUFFICIENTLY LONG ENOUGH FOR THE NEW FIBROUS ROOTS TO HAVE DEVELOPED SO THAT THE ROOT MASS WILL RETAIN ITS SHAPE AND HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER.

10.2. INSUFFICIENT OR POORLY STRUCTURED ROOT SYSTEMS ARE NOT ACCEPTABLE AND WILL BE REJECTED.

10.3. ROOTS PLUS GROWER (RPG) PRODUCTS SHALL BE USED WHERE SPECIFIED.

11. MATERIALS LIST

11.1. ALL QUANTITIES ARE PROVIDED FOR CONVENIENCE ONLY. CONTRACTOR SHALL CONFIRM ALL QUANTITIES PER PLAN PRIOR TO BIDDING AND CONSTRUCTION.

12. FINE GRADING

12.1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR FINE GRADING WHICH CONSISTS OF FINAL FINISHED GRADING (INCLUDING ADDITIONAL SOIL MIXTURE AS NEEDED) FOR LAWN AND PLANTING AREAS THAT HAVE BEEN ROUGH GRADED BY OTHERS. FINISH GRADE SHALL ACCOUNT FOR THICKNESS OF SOD AND/OR MULCH DEPTH.

12.2. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED FOR POSITIVE DRAINAGE TO SURFACE/SUBSURFACE STORM DRAIN SYSTEMS. AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM THE BUILDINGS. REFER TO CIVIL ENGINEER'S PLANS FOR FINAL GRADES, IF APPLICABLE.

13. PLANTING PROCEDURES

13.1. CLEAN WORK AND SURROUNDING AREAS OF ALL RUBBISH OR OBJECTIONABLE MATTER DAILY. REMOVE ALL MORTAR, CEMENT, AND TOXIC MATERIAL FROM THE SURFACE OF ALL PLANT BEDS. DO NOT MIX THESE MATERIALS WITH THE SOIL. SHOULD THE CONTRACTOR FIND SUCH SOIL CONDITIONS BENEATH THE SOIL WHICH WILL IN ANY WAY ADVERSELY AFFECT THE PLANT GROWTH, IMMEDIATELY CALL IT TO THE ATTENTION OF THE OWNER'S REPRESENTATIVE.

13.2. LOCATE, MAINTAIN AND PROTECT ALL UTILITIES ABOVE AND BELOW GROUND. CALL TO LOCATE UTILITIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION.

13.3. NOTIFY LANDSCAPE ARCHITECT IN WRITING IMMEDIATELY IF CONFLICT(S) EXIST WITH PROPOSED TREE LOCATIONS AND EXISTING OVERHEAD POWER LINES IN ACCORDANCE WITH SETBACK REQUIREMENTS.

13.4. NOTIFY LANDSCAPE ARCHITECT IN WRITING IMMEDIATELY IF CONFLICT(S) EXIST WITH PROPOSED TREE LOCATIONS AND EXISTING / PROPOSED LIGHT POLES. TREES INSTALLED IN CONFLICT WITH LIGHT POLES ARE SUBJECT TO RELOCATION AT THE EXPENSE OF THE CONTRACTOR.

13.5. REMOVE ALL EXISTING AND IMPORTED DELETERIOUS MATERIAL AND SUB-BASE FROM ALL LANDSCAPE PLANTING AREAS TO A MINIMUM DEPTH OF 36" OR TO NATIVE SOIL. CONTRACTOR IS RESPONSIBLE TO BACKFILL THESE PLANTING AREAS TO ROUGH FINISHED GRADE AS NEEDED WITH CLEAN SOIL MIXTURE.

13.6. FURNISH NURSERY'S CERTIFICATE OF COMPLIANCE WITH ALL APPLICABLE REQUIREMENTS. COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL REGULATIONS GOVERNING LANDSCAPE MATERIALS AND WORK.

13.7. EXCAVATE ALL PLANTING PITS IN ACCORDANCE WITH LANDSCAPE DETAILS PROVIDED. TEST ALL TREE PITS WITH WATER BEFORE PLANTING TO ASSURE PROPER DRAINAGE PERCOLATION IS AVAILABLE. IF POOR DRAINAGE EXISTS, NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY IN WRITING. NO ALLOWANCE WILL BE MADE FOR LOST PLANTS DUE TO IMPROPER DRAINAGE. CONTRACTOR SHALL ENSURE ELIMINATION OF ALL AIR POCKETS AROUND ROOTS.

13.8. SET TREES AND SHRUBS STRAIGHT AT AN ELEVATION THAT, AFTER SETTLEMENT, THE PLANT CROWN WILL STAND ONE (1) TO TWO (2) INCHES ABOVE GRADE. EACH PLANT SHALL BE SET IN THE CENTER OF THE PIT. PLANTING SOIL MIXTURE SHALL BE BACK FILLED, THOROUGHLY TAMPED AROUND THE BALL, AND SETTLED BY WATER (AFTER TAMPING).

13.9. DO NOT COVER TOP OF BALL WITH SOIL MIXTURE. ALL BURLAP, ROPE, WIRES, BASKETS, ETC., SHALL BE REMOVED FROM UPPER ONE THIRD (1/3) OF ROOT BALLS.

13.10. ALL SUCKER GROWTH AND BROKEN OR BADLY DAMAGED BRANCHES SHALL BE REMOVED WITH A CLEAN CUT IN ACCORDANCE WITH ANSI A-300.

13.11. SHRUBS AND GROUND COVER PLANTS SHALL BE SPACED IN ACCORDANCE WITH THE DRAWINGS, LANDSCAPE DETAILS AND AS INDICATED ON THE PLANT LIST.

13.12. TREE GUYING AND BRACING SHALL BE INSTALLED BY THE CONTRACTOR IN ACCORDANCE WITH THE PLANS TO INSURE STABILITY AND MAINTAIN TREES IN A PLUMB AND UPRIGHT POSITION.

13.13. FAILURE TO FOLLOW THE ABOVE PLANTING PROCEDURE SHALL MAKE THE CORRECTIVE MEASURES THE RESPONSIBILITY OF THE CONTRACTOR.

14. LAWN SODDING

14.1. THE WORK CONSISTS OF LAWN BED PREPARATION, SOIL PREPARATION, AND SODDING NECESSARY TO PRODUCE A TURF GRASS LAWN ACCEPTABLE TO THE OWNER.

14.2. ALL AREAS THAT ARE TO BE SODDED SHALL BE CLEARED OF ANY ROUGH GRASS, WEEDS, AND DEBRIS TO A MINIMUM DEPTH OF THREE (3) INCHES. PROVIDE ONE (1) INCH OF TOPSOIL ACROSS ENTIRE LAWN BED AND MIX THROUGHLY INTO TOP FOUR (4) INCHES OF SOIL TO BRING THE GROUND TO AN EVEN GRADE. THE ENTIRE SURFACE SHALL BE ROLLED WITH A ROLLER WEIGHING NOT MORE THAN ONE-HUNDRED (100) POUNDS PER FOOT OF WIDTH. DURING THE ROLLING, ALL DEPRESSIONS CAUSED BY SETTLEMENT SHALL BE FILLED WITH ADDITIONAL TOPSOIL AND THE SURFACE SHALL BE REGRADED AND ROLLED UNTIL PRESENTING A SMOOTH AND EVEN FINISH TO THE REQUIRED GRADE.

14.3. HAND RAKE LAWN BED UNTIL ALL BUMPS AND DEPRESSIONS ARE REMOVED. WET PREPARED AREA THOROUGHLY.

14.4. SOD ALL AREAS THAT ARE NOT PAVED OR PLANTED AS DESIGNATED ON THE DRAWINGS WITHIN THE CONTRACT LIMITS, UNLESS SPECIFICALLY NOTED OTHERWISE.

14.5. THE SOD SHALL BE CERTIFIED TO MEET FLORIDA STATE PLANT BOARD SPECIFICATIONS, ABSOLUTELY TRUE TO VARIETAL TYPE, AND FREE FROM WEEDS, FUNGUS, INSECTS AND DISEASE OF ANY KIND.

14.6. SOD PANELS SHALL BE LAID TIGHTLY TOGETHER SO AS TO MAKE A SOLID SODDED LAWN AREA. SOD SHALL BE LAID UNIFORMLY AGAINST THE EDGES OF ALL CURBS AND OTHER HARDSCAPE ELEMENTS, PAVED AND PLANTED AREAS.

14.7. IMMEDIATELY FOLLOWING SOD LAYING, ROLL LAWN AREAS WITH A LAWN ROLLER AND THEN THOROUGHLY IRRIGATED.

14.8. IF, IN THE OPINION OF THE OWNER, TOP-DRESSING IS NECESSARY AFTER ROLLING TO FILL THE VOIDS BETWEEN THE SOD PANELS AND TO EVEN OUT INCONSISTENCIES IN THE SOD, CLEAN SAND, AS APPROVED BY THE OWNER'S REPRESENTATIVE, SHALL BE UNIFORMLY SPREAD OVER THE ENTIRE SURFACE OF THE SOD AND THOROUGHLY WATERED IN. FERTILIZE INSTALLED SOD AS ALLOWED BY PROPERTY'S JURISDICTIONAL AUTHORITY.

14.9. DURING DELIVERY, PRIOR TO, AND DURING THE PLANTING OF THE LAWN AREAS, THE SOD PANELS SHALL AT ALL TIMES BE PROTECTED FROM EXCESSIVE DRYING AND UNNECESSARY EXPOSURE OF THE ROOTS TO THE SUN. ALL SOD SHALL BE STACKED SO AS NOT TO BE DAMAGED BY EXCESSIVE HEAT AND MOISTURE.

14.10. WITHIN THE CONTRACT LIMITS, PRODUCE AND MAINTAIN A DENSE, WELL ESTABLISHED LAWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR AND RE-SODDING OF ALL ERODED, SUNKEN OR BARE SPOTS UNTIL CERTIFICATION OF ACCEPTANCE BY THE OWNER'S REPRESENTATIVE. REPAIRED SODDING SHALL BE ACCOMPLISHED AS IN THE ORIGINAL WORK (INCLUDING REGRADING IF NECESSARY).

15. CLEANUP

15.1. UPON COMPLETION OF ALL PLANTING WORK AND BEFORE FINAL ACCEPTANCE, REMOVE ALL MATERIAL, EQUIPMENT, AND DEBRIS RESULTING FROM HIS WORK. ALL PAVED AREAS SHALL BE CLEANED AND THE SITE LEFT IN A NEAT AND ACCEPTABLE CONDITION AS APPROVED BY THE OWNER'S REPRESENTATIVE.

16. PLANT MATERIAL MAINTENANCE

16.1. ALL PLANT MATERIAL SHALL BE MAINTAINED BY WATERING, CULTIVATING, SPRAYING, AND ALL OTHER OPERATIONS (SUCH AS RE-STAKING OR REPAIRING GUY SUPPORTS) AS NECESSARY TO INSURE HEALTHY AND VIGOROUS GROWING CONDITIONS BY THE CONTRACTOR UPON DELIVERING TO THE SITE AND UNTIL FINAL ACCEPTANCE OF WORK.

17. FINAL INSPECTION AND ACCEPTANCE OF WORK

17.1. ALL PLANT BEDS SHALL BE KEPT FREE OF NOXIOUS WEEDS UNTIL FINAL ACCEPTANCE OF WORK. PRIOR TO FINAL INSPECTION, TREAT ALL PLANTING BEDS WITH AN APPROVED PRE-EMERGENT HERBICIDE PER MANUFACTURER RECOMMENDATIONS. (AS ALLOWED BY JURISDICTIONAL AUTHORITY)

17.2. PROVIDE WATERING/IRRIGATION SCHEDULE FOR ALL PLANT MATERIAL TO OWNER. OBSERVE ALL APPLICABLE WATERING RESTRICTIONS AS SET FORTH BY THE PROPERTY'S JURISDICTIONAL AUTHORITY.

17.3. UPON COMPLETION OF ALL WORK, A FINAL INSPECTION SHALL BE PERFORMED BY THE OWNER AND/OR OWNER'S REPRESENTATIVE. ALL PLANTING, CONSTRUCTION AND ALL OTHER INCIDENTAL WORK PERTAINING TO THIS CONTRACT SHALL BE INSPECTED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. ANY ITEMS FOUND TO NOT BE IN COMPLIANCE SHALL BE CORRECTED AT THE COST OF THE CONTRACTOR.

18. WARRANTY

18.1. THE LIFE AND SATISFACTORY CONDITION OF ALL PLANT MATERIAL INSTALLED BY THE LANDSCAPE CONTRACTOR SHALL BE WARRANTED BY THE CONTRACTOR FOR A MINIMUM OF ONE (1) CALENDAR YEAR COMMENCING AT THE TIME OF CERTIFICATION AND ACCEPTANCE OF THE WORK BY THE OWNER AND/OR OWNER'S REPRESENTATIVE.

18.2. ANY PLANT NOT FOUND IN A HEALTHY GROWING CONDITION THROUGHOUT THE WARRANTY PERIOD SHALL BE REMOVED FROM THE SITE AND REPLACED AS SOON AS WEATHER CONDITIONS PERMIT. ALL REPLACEMENTS SHALL BE PLANTS OF THE SAME KIND AND SIZE AS SPECIFIED IN THE PLANT LIST. THEY SHALL BE FURNISHED, PLANTED AND MULCHED AS SPECIFIED AT NO ADDITIONAL COST TO THE OWNER. ANY REPLACED PLANT MATERIAL SHALL BE SUBJECT TO A NEW ONE (1) YEAR WARRANTY.

18.3. IN THE EVENT THE OWNER DOES NOT CONTRACT WITH THE CONTRACTOR FOR LANDSCAPE AND IRRIGATION MAINTENANCE, THE CONTRACTOR SHOULD VISIT THE PROJECT SITE PERIODICALLY DURING THE ONE (1) YEAR WARRANTY PERIOD TO EVALUATE MAINTENANCE PROCEDURES BEING PERFORMED BY THE OWNER. CONTRACTOR SHALL NOTIFY THE OWNER IN WRITING OF MAINTENANCE PROCEDURES OR CONDITIONS WHICH THREATEN VIGOROUS AND HEALTHY PLANT GROWTH.

19. ABBREVIATIONS

B&B -	BALLED AND BURLAPPED
BR -	BARE ROOT
CAL -	CALIPER
CT -	CLEAR TRUNK
DBH -	DIAMETER AT BREAST HEIGHT
FG -	FIELD GROWN
FTG -	FULL TO GROUND
GW -	GREY WOOD
HO -	HARDENED OFF
OA -	OVERALL HEIGHT
RPG -	ROOTS PLUS GROWER

PLANT SCHEDULE

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	CONT	CAL	SIZE
TREES						
	9	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	B&B	2" CAL. MIN	10'-12' HT.
	14	CORNUS KOUSA 'MILKY WAY'	MILKY WAY KOUSA DOGWOOD	B&B	2" CAL. MIN	10'-12' HT.
	5	KOELREUTERIA PANICULATA	GOLDEN RAIN TREE	B&B	2" CAL. MIN	10'-12' HT.
	3	NYSSA SYLVATICA 'JFS-PN LEGACY1'	GUM DROP® TUPELO	B&B	2" CAL. MIN	10'-12' HT.
	4	PSEUDOTSUGA MENZIESII	DOUGLAS FIR	B&B		8` MIN.
	8	UMBELLULARIA CALIFORNICA	BAY LAUREL	B&B		8` MIN.

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING
HIGH SHRUBS					
	87	ABELIA X GRANDIFLORA 'ED GOUCHER'	GLOSSY ABELIA	5 GAL.	SEE PLAN
	66	CORNUS SERICEA `BAILEYI'	BAYLEY`S RED TWIG DOGWOOD	5 GAL.	SEE PLAN
	13	ILEX CRENATA 'SKY PENCIL'	SKY PENCIL HOLLY	3 GAL.	SEE PLAN
	109	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY	5 GAL	SEE PLAN
LOW SHRUBS					
	64	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD	3 GAL.	SEE PLAN
	63	ILEX GLABRA 'SMNIGAB17'	GEM BOX® INKBERRY HOLLY	3 GAL.	SEE PLAN
	52	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	BLUE CHIP CREEPING JUNIPER	1 GAL.	SEE PLAN
	211	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS	1 GAL.	SEE PLAN
	107	SPIRAEA BETULIFOLIA	BIRCHLEAF SPIREA	1 GAL.	SEE PLAN

SYMBOL	QTY	BOTANICAL NAME	COMMON NAME	CONT	SPACING
GROUND COVERS		--- ---			
	16,922 SF	AMERICAN MEADOWS BRAND OR OWNER APPROVED EQUAL	PACIFIC NORTHWEST WILDFLOWER SEED MIX	N/A	
	74	ACORUS GRAMINEUS 'OGON'	GOLDEN VARIEGATED SWEETFLAG	1 GAL.	18" o.c.
	280	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK	4" POT	24" o.c.
	524	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY	1 GAL.	18" o.c.
SOD/SEED					
	580 SF	BUCHLOE DACTYLOIDES 9.1% OF REQUIRED LANDSCAPE AREA	BUFFALO GRASS	SOD	

EXISTING TREES TO REMAIN - PROTECT IN PLACE (SEE TREE INVENTORY, SHEET L0.1)

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SHEET TITLE

PLANTING SCHEDULE AND NOTES

SHEET NUMBER

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OWNER: OUR ASSOCIATES LLC
PARCEL 2
REPLAT OF A PORTION OF LOT
13 "BOBERG" (PLAT NO. 174)
PARTITION PLAT 2017-013
APN: 31W14A01301

RIM ELEV = 172.54
CORRODED CLOSE, CAN NOT OPEN
PIPE RUNS WEST PER CITY GIS MAPS

CHAIN LINK FENCE

LOT 13 BOBERG PLAT NO. 174

PROPOSED RIGHT OF WAY (TYP.)

PROPERTY LINE (TYP.)

SW BOONES FERRY RD
(ROW VARIES)

SW BARBER ST
(ROW VARIES)

PLANT SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME
TREES		
	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE
	CORNUS KOUSA 'MILKY WAY'	MILKY WAY KOUSA DOGWOOD
	KOELREUTERIA PANICULATA	GOLDEN RAIN TREE
	NYSSA SYLVATICA 'JFS-PN LEGACY1'	GUM DROP® TUPELO
	PSEUDOTSUGA MENZIESII	DOUGLAS FIR
	UMBELLULARIA CALIFORNICA	BAY LAUREL
HIGH SHRUBS		
	ABELIA X GRANDIFLORA 'ED GOUCHER'	GLOSSY ABELIA
	CORNUS SERICEA 'BAILEYI'	BAYLEY'S RED TWIG DOGWOOD
	ILEX CRENATA 'SKY PENCIL'	SKY PENCIL HOLLY
	VACCINIUM OVATUM	EVERGREEN HUCKLEBERRY
LOW SHRUBS		
	BUXUS MICROPHYLLA 'WINTER GEM'	WINTER GEM BOXWOOD
	ILEX GLABRA 'SMNIGAB17'	GEM BOX® INKBERRY HOLLY
	JUNIPERUS HORIZONTALIS 'BLUE CHIP'	BLUE CHIP CREEPING JUNIPER
	PENNISETUM ALOPECUROIDES 'HAMELN'	HAMELN FOUNTAIN GRASS
	SPIRAEA BETULIFOLIA	BIRCHLEAF SPIREA
GROUND COVERS		
	AMERICAN MEADOWS BRAND OR OWNER APPROVED EQUAL	PACIFIC NORTHWEST WILDFLOWER SEED MIX
	ACORUS GRAMINEUS 'OGON'	GOLDEN VARIEGATED SWEETFLAG
	ARCTOSTAPHYLOS UVA-URSI	KINNIKINNICK
	HEMEROCALLIS X 'STELLA DE ORO'	STELLA DE ORO DAYLILY
SOD/SEED		
	BUCHLOE DACTYLOIDES 9.1% OF REQUIRED LANDSCAPE AREA	BUFFALO GRASS

EXISTING TREES TO REMAIN - PROTECT IN PLACE (SEE TREE INVENTORY, SHEET L0.1)

NOTE: FOR FULL PLANTING SCHEDULE WITH SIZE, QUANTITIES AND SPACING - SEE SHEET L4.0

GRAPHIC SCALE IN FEET
0 5 10 20
SCALE: 1" = 10'
WHEN PRINTED AT FULL SIZE
(30"x42")

NORTH

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DESIGNED BY:	GP
DRAWN BY:	GP
CHECKED BY:	AM
DOCUMENT DATE:	02/26/2026

SHEET TITLE

PLANTING PLAN

SHEET NUMBER
L4.1

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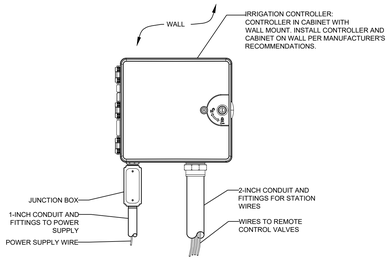
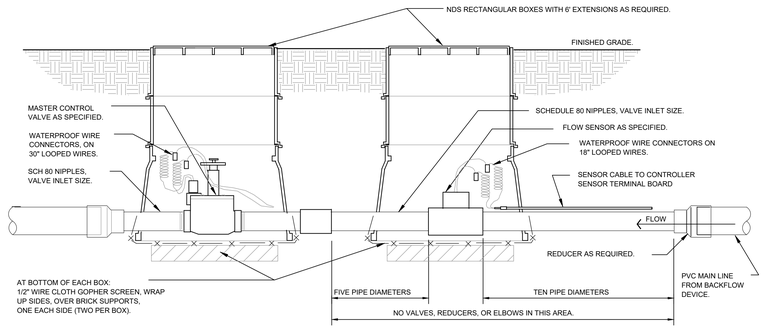


NOTES:
1. FOR EASE OF INSTALLATION INTO A CONTROLLER WITH MORE THAN 24 STATIONS, INSTALL A JUNCTION BOX AT THE BASE OF CONTROLLER AND TRANSITION LARGER VALVE AND COMMON WIRES FROM FIELD TO 18 AWG MULTI CONDUCTOR WIRE TO BE USED IN CONTROLLER.
2. USE STEEL CONDUIT FOR ABOVE GRADE AND SCH 40 PVC CONDUIT FOR BELOW GRADE CONDITIONS.
3. PROVIDE PROPER GROUNDING COMPONENTS TO ACHIEVE GROUND RESISTANCE OF 10 OHMS OR LESS.

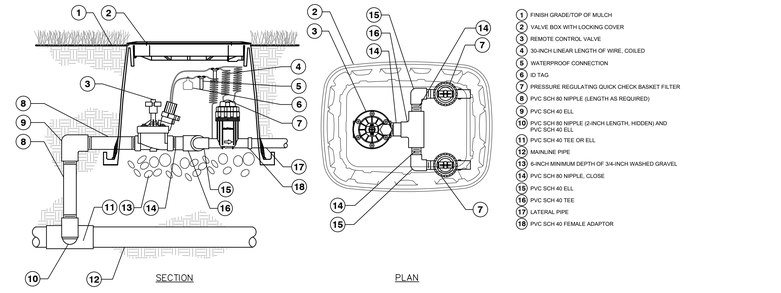
1 IRRIGATION CONTROLLER

1" = 10' KHA-IR-01



2 MASTER CONTROL VALVE / FLOW SENSOR ASSEMBLY

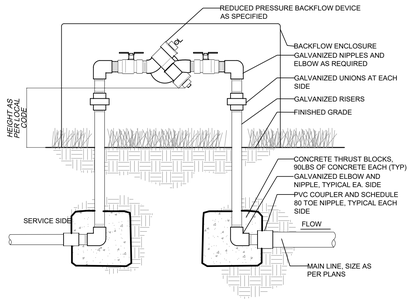
1" = 20' KHA-IR-02



1. FINISH GRADE/TOP OF MULCH
2. VALVE BOX WITH LOCKING COVER
3. REMOTE CONTROL VALVE
4. 30-INCH LINEAR LENGTH OF WIRE, COILED
5. WATERPROOF CONNECTION
6. ID TAG
7. PRESSURE REGULATING QUICK CHECK BASKET FILTER
8. PVC SCH 80 NIPPLE (LENGTH AS REQUIRED)
9. PVC SCH 40 ELL
10. PVC SCH 80 NIPPLE (2-INCH LENGTH, HIDDEN) AND PVC SCH 40 ELL
11. PVC SCH 40 TEE OR ELL
12. MAINLINE PIPE
13. 6-INCH MINIMUM DEPTH OF 3/4-INCH WASHED GRAVEL
14. PVC SCH 80 NIPPLE, CLOSE
15. PVC SCH 40 ELL
16. PVC SCH 40 TEE
17. LATERAL PIPE
18. PVC SCH 40 FEMALE ADAPTOR

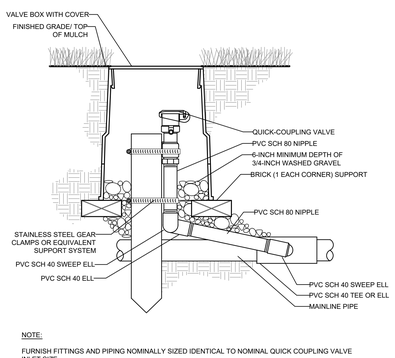
3 DRIP CONTROL VALVE

1" = 30' KHA-IR-03



4 BACKFLOW PREVENTER

1/2" = 1'-0" KHA-IR-04

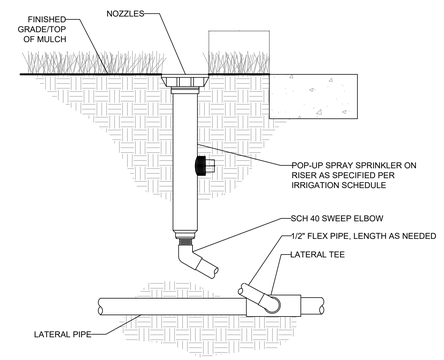


NOTE:

FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

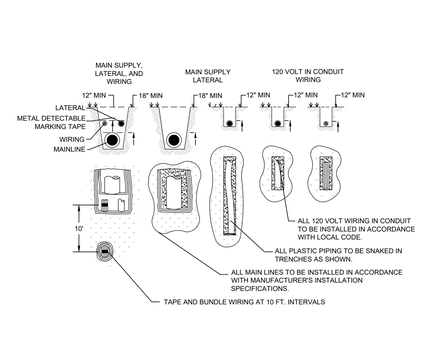
5 TYPICAL QUICK COUPLER

1/2" = 1'-0" KHA-IR-05



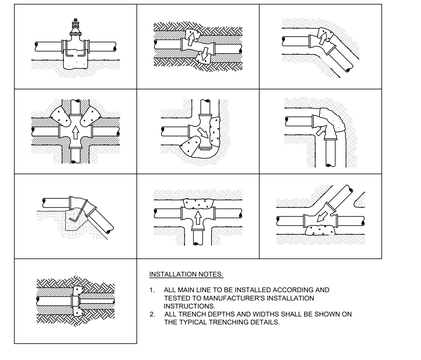
6 TYPICAL SPRAY / ROTAR HEAD

1" = 20' KHA-IR-06



7 TYPICAL TRENCHING

1/2" = 1'-0" KHA-IR-08

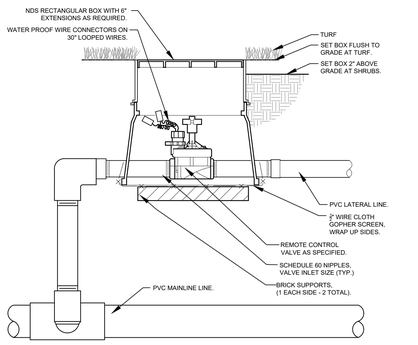


INSTALLATION NOTES:

1. ALL MAIN LINE TO BE INSTALLED ACCORDING AND TESTED TO MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. ALL TRENCH DEPTHS AND WIDTHS SHALL BE SHOWN ON THE TYPICAL TRENCHING DETAILS.

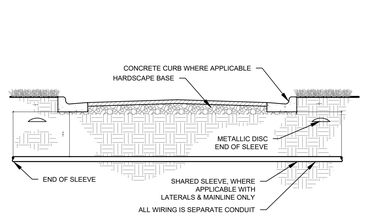
8 TYPICAL THRUST BLOCK

1/2" = 1'-0" KHA-IR-09



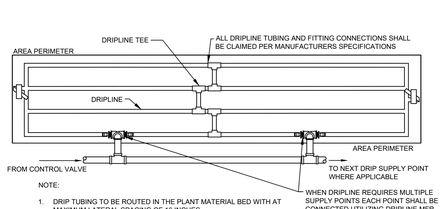
9 REMOTE CONTROL VALVE

1/2" = 1'-0" KHA-IR-10



10 TYPICAL SLEEVING

1/2" = 1'-0" KHA-IR-11

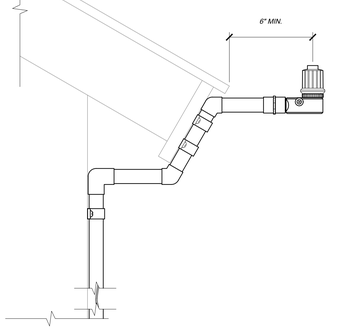


NOTE:

1. DRIP TUBING TO BE ROUTED IN THE PLANT MATERIAL BED WITH AT MAXIMUM LATERAL SPACING OF 16 INCHES.
2. DRIP TUBING TO BE INSTALLED IN A GRID PATTERN. DRIP TUBING SHALL NOT BE INSTALLED IN A LONG CONTINUOUS RUN.
3. CONTRACTOR TO REFER TO IRRIGATION PLAN FOR LOCATION OF CONTROL VALVES THAT UTILIZE MULTIPLE DRIPLINE SUPPLY CONNECTIONS.

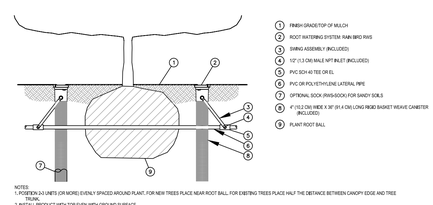
11 TYPICAL DRIPLINE

3/4" = 1'-0" KHA-IR-12



12 RAIN / FREEZE SENSOR

6" = 1'-0" KHA-IR-13

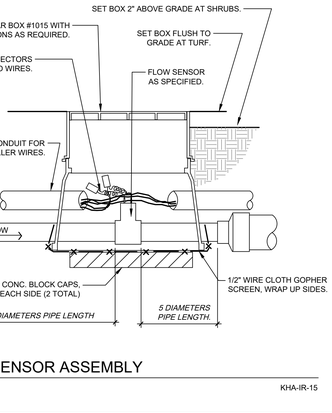


1. FINISH GRADE/TOP OF MULCH
2. ROOT WATERING SYSTEM: RAIN BIRD RWS
3. SWING ASSEMBLY (INCLUDED)
4. 1/2" (1.3 CM) MALE NPT INLET (INCLUDED)
5. PVC SCH 40 TEE OR EL
6. PVC OR POLYETHYLENE LATERAL PIPE
7. OPTIONAL SOCK (RWS-SOCK) FOR SANDY SOILS
8. 4" (10.2 CM) WIDE X 18" (51.8 CM) LONG RIGID BASKET WEAVE CANISTER (INCLUDED)
9. PLANT ROOT BALL

NOTES:
1. POSITION 2-3 UNITS (OR MORE) EVENLY SPACED AROUND PLANT. FOR NEW TREES PLACE NEAR ROOT BALL. FOR EXISTING TREES PLACE HALF THE DISTANCE BETWEEN CANOPY EDGE AND TREE TRUNK.
2. INSTALL PRODUCT WITH TOP EVEN WITH GROUND SURFACE.
3. RWS SERIES AVAILABLE IN THE FOLLOWING MODELS:
   RWS-B-O-HAT: 0.25 GPH (0.95 LM); CHECK VALVE
   RWS-B-HAT: 0.25 GPH (0.95 LM)
   RWS-B-O-HAT-12: 0.25 GPH (0.95 LM); 18" (45.7 CM) SWING ASSEMBLY
   RWS-B-O-HAZ: 0.5 GPH (1.9 LM); CHECK VALVE
   RWS-B-HAZ: 0.5 GPH (1.9 LM);
   RWS-B-O-HJK: 1.0 GPH (3.8 LM); CHECK VALVE
4. WHEN INSTALLING IN EXTREMELY HARD OR CLAY SOILS, ADD 3/4" (1.9 CM) GRAVEL UNDER AND AROUND THE UNIT TO ALLOW FASTER WATER INFILTRATION AND ROOT PENETRATION.
5. ONCE RWS HAS BEEN INSTALLED ALL THE BASKET WITH PEA GRAVEL BEFORE LOOKING LID.
6. OPTIONAL RWS-SOCK FOR USE IN SANDY SOILS.

13 TYPICAL ROOT WATER SYSTEM

1" = 1" KHA-IR-14



14 FLOW SENSOR ASSEMBLY

1 1/2" = 1'-0" KHA-IR-15

Kimley»Horn
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PORTLAND, OR 97258
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CONSULTANTS

REGISTERED LA 1126 OREGON 06/09/2026 LANDSCAPE ARCHITECT 12-28-25

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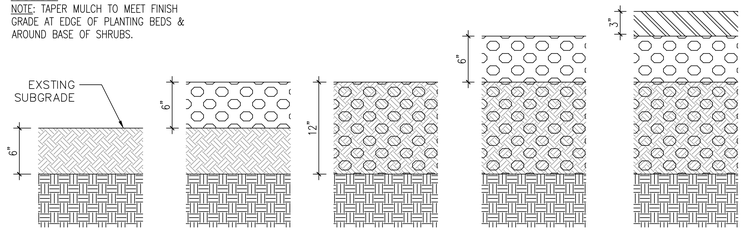
SECTION
NOTE: TAPER MULCH TO MEET FINISH GRADE AT EDGE OF PLANTING BEDS & AROUND BASE OF SHRUBS.



STEP 1: RIP, DISC OR SCARIFY SUBGRADE TO MIN. 6" DEPTH.

STEP 2: ADD FIRST LIFT OF COMPOST-AMENDED PLANTING SOIL.

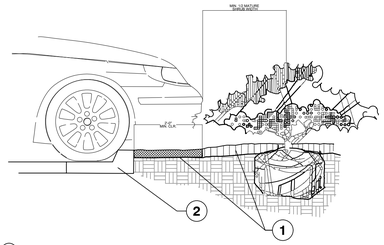
STEP 3: ROTOTILL FIRST LIFT OF COMPOST-AMENDED PLANTING SOIL INTO SCARIFIED SUBGRADE.

STEP 4: ADD SECOND LIFT OF COMPOST-AMENDED PLANTING SOIL.

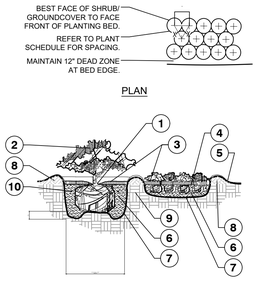
STEP 5: ADD WOOD CHIP MULCH TOP DRESSING ABOVE FINISH GRADE. 3" IN SHRUB AREAS, TYP.

1 SOIL PREPARATION - SHRUB AREAS

1/8" = 1'-0" SEA-IO-168-03



1. INSTALL CONTINUOUS MULCH BED ADJACENT TO PARKING SPACES AS SHOWN. MULCH SHALL BE MIN. 3" DEEP. NO POP-UP IRRIGATION HEADS SHALL BE LOCATED WITHIN 24" OF A PARKING SPACE ON ANY SIDE.
2. CURB / PARKING LOT EDGE.



1. TOP OF ROOTBALLS TO BE PLANTED AT GRADE OR SLIGHTLY ABOVE SURROUNDING SOIL. 2" DIA. CLEAR OF MULCH AT TRUNK FLARE.
2. PRUNE ALL SHRUBS TO ACHIEVE A UNIFORM MASS/HEIGHT.
3. 3" MULCH LAYER AS SPECIFIED.
4. EXCAVATE ENTIRE BED SPECIFIED FOR GROUNDCOVER BED.
5. FOR CONDITIONS WITH FINISHED GRADE OF 4:1 MAX SLOPE ON ALL SIDES (SEE GRADING PLAN).
6. PREPARED PLANTING SOIL AS SPECIFIED. (SEE LANDSCAPE NOTES). NOTE: WHEN GROUND- COVERS AND SHRUBS USED IN MASSES, ENTIRE BED TO BE AMENDED WITH PLANTING SOIL MIX AS SPECIFIED.
7. SCARIFY PLANT OPENING SIDES AND BOTTOM.
8. 4" HIGH BERM FIRMLY COMPACTED.
9. UNDISTURBED NATIVE SOIL.
10. FERTILIZER TABLETS (MAX 3" DEEP)

NOTES:

A. CONTRACTOR SHALL ASSURE PERCOLATION OF ALL PLANTING AREAS PRIOR TO INSTALLATION.

B. WHEN SHRUBS ARE PRUNED IN MASSES, PRUNE ALL SHRUBS TO ACHIEVE UNIFORM MASS / HEIGHT.

C. ALL SHRUBS AND GROUNDCOVERS SHALL BE PLUMB VERTICALLY, UNLESS OTHERWISE DIRECTED BY PROJECT LANDSCAPE ARCHITECT.

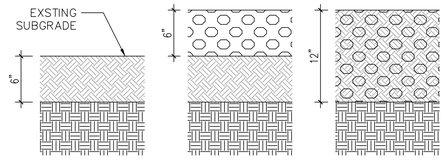
4 PARKING SPACE PLANTING

1" = 20' KHA-PLT-03

5 SHRUB/GROUNDCOVER PLANTING

1" = 20' KHA-PLT-04

SECTION
NOTE: TAPER MULCH TO MEET FINISH GRADE AT EDGE OF PLANTING BEDS & AROUND BASE OF SHRUBS.



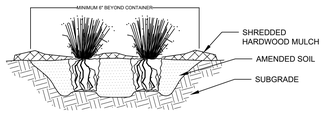
STEP 1: RIP, DISC OR SCARIFY SUBGRADE TO MIN. 6" DEPTH.

STEP 2: ADD 6" LIFT OF COMPOST-AMENDED PLANTING SOIL.

STEP 3: ROTOTILL 6" LIFT OF COMPOST-AMENDED PLANTING SOIL INTO SCARIFIED SUBGRADE.

2 SOIL PREPARATION - GRASS

1/8" = 1'-0" SEA-IO-168-04

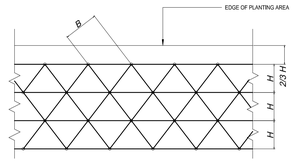


NOTES:

1. APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL OR CONTAINER ON UNEXCAVATED OR TAMPED SOIL. TOP OF CONTAINER SHALL BE ONE INCH ABOVE SURROUNDING GRADE.
3. SYNTHETIC MATERIAL SHALL BE REMOVED FROM PLANTING BED. FOR CONTAINER GROWN GRASSES, REMOVE CONTAINER AND LOOSEN ROOTS PRIOR TO INSTALLATION.
4. REMOVE OR CORRECT GIRDLING ROOTS.
5. PLUMB AND BACKFILL WITH AMENDED SOIL PER LANDSCAPE NOTES. WATER THOROUGHLY WITHIN TWO HOURS.
6. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE. MULCH LIMITS FOR GRASS EXTEND TO ALL LIMITS OF PLANTING BED, SEE PLANS FOR BED LAYOUTS.

6 ORNAMENTAL GRASS PLANTING

SCALE: N.T.S. KHA-PLT-14



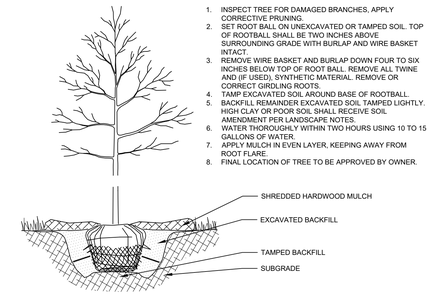
TRIANGULAR SPACING = D	DISTANCE BETWEEN ROWS = H	TOTAL AREA (SF) PER PLANT
6"	5"	0.21
8"	7"	0.39
9"	8"	0.50
10"	8 1/2"	0.59
12"	10 1/2"	0.88
15"	13"	1.35
18"	15 1/2"	1.94
21"	18"	2.63
24"	21"	3.50
30"	26"	5.42
36"	31"	7.80
48"	42"	13.84

7 PLANT SPACING DIAGRAM

1" = 10' KHA-PLT-07

NOTES:

1. INSPECT TREE FOR DAMAGED BRANCHES, APPLY CORRECTIVE PRUNING.
2. SET ROOT BALL ON UNEXCAVATED OR TAMPED SOIL. TOP OF ROOTBALL SHALL BE TWO INCHES ABOVE SURROUNDING GRADE WITH BURLAP AND WIRE BASKET INTACT.
3. REMOVE WIRE BASKET AND BURLAP DOWN FOUR TO SIX INCHES BELOW TOP OF ROOT BALL. REMOVE ALL TWINE AND (IF USED), SYNTHETIC MATERIAL. REMOVE OR CORRECT GIRDLING ROOTS.
4. TAMP EXCAVATED SOIL AROUND BASE OF ROOTBALL.
5. BACKFILL REMAINDER EXCAVATED SOIL TAMPED LIGHTLY. HIGH CLAY OR POOR SOIL SHALL RECEIVE SOIL AMENDMENT PER LANDSCAPE NOTES.
6. WATER THOROUGHLY WITHIN TWO HOURS USING 10 TO 15 GALLONS OF WATER.
7. APPLY MULCH IN EVEN LAYER, KEEPING AWAY FROM ROOT FLARE.
8. FINAL LOCATION OF TREE TO BE APPROVED BY OWNER.



3 TREE PLANTING

1" = 20' KHA-PLT-01

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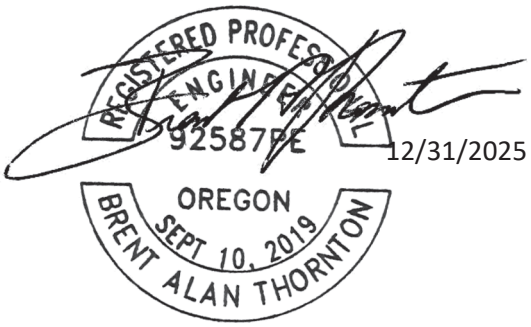
iONNA 8-Plug Pull-In Canopy

9025 SW Barber Street
Wilsonville, Oregon 97070

RBA Job No. 24 45149

CALCULATIONS FOR:
8-Plug Typical Pull-In Canopy (20' + 32' Bays)

Designed in accordance with:
2021 International Building Code
ASCE 7-16
Wind Velocity = 130 mph, Exp. C
Ground Snow Load = 30 psf
Risk Category II



12/31/2025

EXPIRES: 06/30/26

FABRICATOR
Architectural Graphics, Inc.
2655 International Parkway
Virginia Beach, Virginia 23452

DESIGN ENGINEER
RBA Structural Engineering, LLC
1 Vantage Way, Suite B-400
Nashville, Tennessee 37228

SUBJECT IONNA CANOPY
20-25-32 130 PULL-IN
FOR AGI BY JRH

RBA STRUCTURAL ENGINEERING, LLC
A Subsidiary of Ross Bryan Associates, Inc.

SHEET NO. 1 OF
JOB NO.
DATE 11/25/24

2021 INT'L BUILDING CODE
ASCE 7-16

CANOPY LOADS:

DEAD LOADS: DECK PANS + FASCIA PANELS : 2.1 PSF MAX
STRUCTURAL MEMBERS : SELF-WEIGHT

SNOW LOAD: p_g = 30 PSF MAX.

$p_f = 0.7 C_e C_t I_s p_g = (0.7)(1.1)(1.2)(1.0)(30\ PSF) = 27.72\ PSF$

$C_e \leq 1.1$

$C_t \leq 1.2$

$I_s = 1.0$

$p_s = C_s p_f = (1.0)(27.72\ PSF) = 27.72\ PSF$

$C_s \leq 1.0$

$\gamma = 0.13 p_g + 14 = (0.13)(30\ PSF) + 14 = 17.9\ PCF$

$27.72\ PSF / 17.9\ PCF = 1.55'$ EXCEEDS 1'-0" CANOPY HEIGHT ∴ NO DRIFT LOADING

$p_m = 20 I_s = (20)(1.0) = 20\ PSF < 27.72\ PSF \Rightarrow$ USE p_s

WIND LOAD: $V \leq 130$ MPH

$q_z = 0.00256 K_z K_{zt} K_d V^2 = 31.26\ PSF$

$K_z = 0.85$ (EXP C, $h \leq 15'\text{-}0"$)

$K_{zt} = 1.0$

$K_d = 0.85$

VERTICAL WIND:

$p = q_h G C_N = +42.51\ PSF, -45.17\ PSF$

$G = 0.85$

$C_N = +1.6, -1.7$

HORIZONTAL WIND:

SEE SHEET 2

SERVICE LOADS:

1.) $D + S = 2.1\ PSF + 27.72\ PSF = 29.8\ PSF \downarrow$

2) $D + 0.6W = 2.1\ PSF + (0.6)(42.51\ PSF) = 27.6\ PSF \downarrow$

3.) $D + 0.75(0.6W) + 0.75S = 2.1\ PSF + (0.75)(0.6)(42.51\ PSF) + (0.75)(27.72\ PSF)$

4.) $0.6D + 0.6W = (0.6)(2.1\ PSF) - (0.6)(45.17\ PSF) = -42.0\ PSF \downarrow$ $= 25.8\ PSF \uparrow$

Project	iONNA Canopy	ROSS BRYAN ASSOCIATES, INC.	Sheet No.	2	of
Model	10-PLUG TYP. PULL-IN	CONSULTING ENGINEERS	Job No.		
By	JRH	NASHVILLE, TN	Date	11/25/2024	

CODES:

Wind Loads per provisions of ASCE 7-16, Chapter 29

SIGN DIMENSIONS:

Length, B = **116.6** ft. Height, s = **1.0** ft. OAH Above Grade, h = **15.0** ft.

Depth, t = **16.50** ft. A_{sign} = **100.0** ft^2 Ground Elevation, z_g = **0** ft.

WIND LOADS:

Natural Frequency = **1** **RIGID STRUCTURE**

Exposure Category = **C** Risk Category = **II**

$q_h = 0.00256 * K_z * K_{zt} * K_d * K_e * V^2$ Velocity Pressure, ASCE 7-16, Section 26.10.2

K_z = 0.85 Velocity Pressure Exposure Coefficient, ASCE 7-16, Table 26.10-1

K_{zt} = 1.0 Topographic Factor, ASCE 7-16, Section 26.8.2

K_d = 0.85 Wind Directionality Factor, ASCE 7-16, Table 26.6-1

K_e = 1.00 Ground Elevation Factor, ASCE 7-16, Table 26.9-1

V = **130** Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 31.22 lb/ft^2

$F/A = q_h * G * C_f$ Design Wind Loads, ASCE 7-16, Section 29.3.1

G = 0.85 Gust Effect Factor, ASCE 7-16, Section 26.11

B/s = 100.00 Length of Sign/Depth of Sign

s/h = 0.07 Depth of Sign/Overall Height

C_f = 1.91 Force Coefficient, ASCE 7-16, Figure 29.3-1

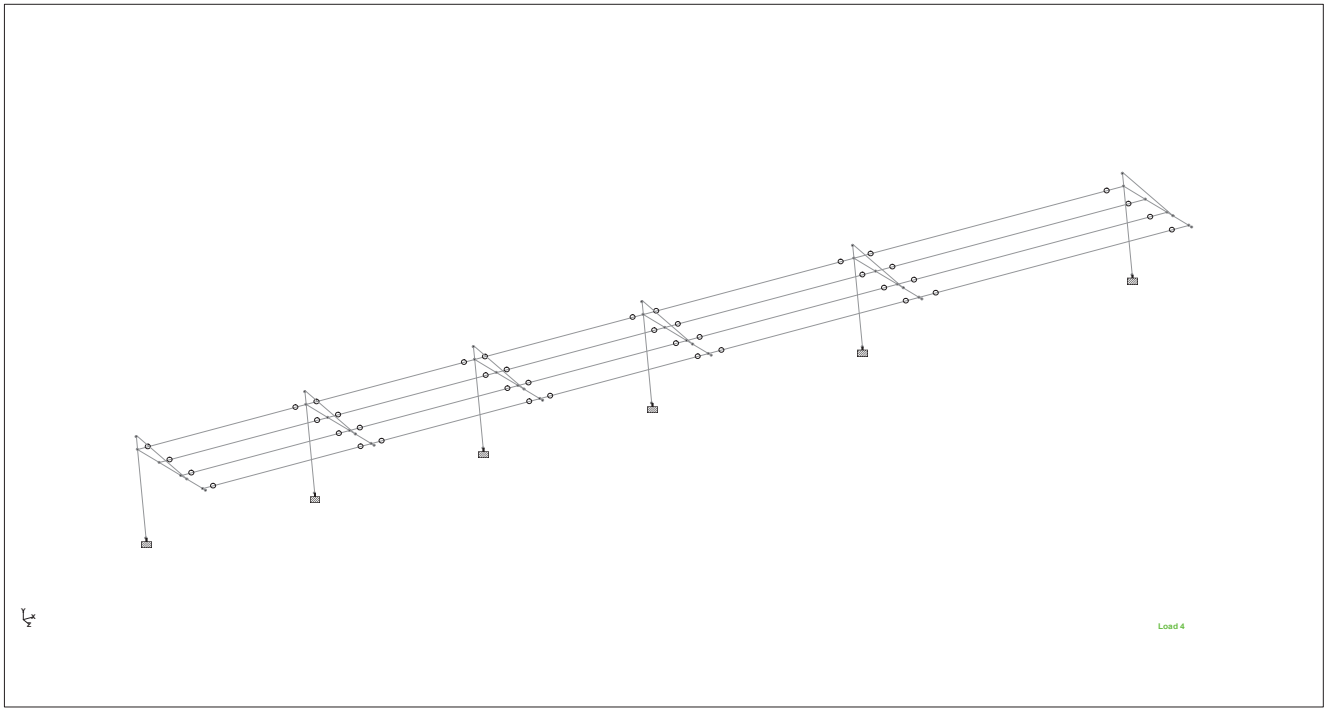
F/A = 50.61 lb/ft^2 CASE A: resultant acts normal to sign face through the geometric center

LRFD Loading:

Use wind pressure = 50.61 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 30.36 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1



Whole Structure

Basic Load Cases

Primary Load Cases

Number	Name	Type
1	SERVICE DEAD LOAD	Dead
2	SERVICE SNOW LOAD	Snow
3	SERVICE WIND LOAD - DOWNWARD	Wind
4	SERVICE WIND LOAD - UPLIFT	Wind

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
5	D + S	1	SERVICE DEAD LOAD	1.000
		2	SERVICE SNOW LOAD	1.000
6	D + 0.6WD	1	SERVICE DEAD LOAD	1.000
		3	SERVICE WIND LOAD - DOWNWARD	1.000
7	D + 0.75S + 0.75 (0.6WD)	1	SERVICE DEAD LOAD	1.000
		2	SERVICE SNOW LOAD	0.750

Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
7	D + 0.75S + 0.75 (0.6WD)	3	SERVICE WIND LOAD - DOWNWARD	0.750
8	0.6D + 0.6WU	1	SERVICE DEAD LOAD	0.600
		4	SERVICE WIND LOAD - UPLIFT	1.000

Max Forces by Property

			Axial	Shear		Torsion	Bending	
Ref	Section	Type	Max Fx (lb)	Max Fy (lb)	Max Fz (lb)	Max Mx (kip-in)	Max My (kip-in)	Max Mz (kip-in)
1	W6X25	+ve	47,381.449	4,335.186	0.000	0.000	0.000	296.147
		-ve	-26,118.816	-4,286.592	0.000	0.000	0.000	-166.020
2	W6X20	+ve	0.000	2,091.965	656.040	0.054	39.362	72.607
		-ve	0.000	-2,091.965	-656.040	-0.089	-38.495	-125.518
3	W18X60	+ve	15,286.175	26,613.127	0.000	0.000	0.000	744.160
		-ve	-8,172.943	-46,658.441	0.000	0.000	0.000	-1,242.698
4	HSST4X4X0.188	+ve	27,140.910	45.634	0.000	0.000	0.000	0.000
		-ve	-47,639.387	-45.634	0.000	0.000	0.000	0.000
5	W8X28	+ve	49,857.535	5,753.351	0.000	0.000	0.000	436.799
		-ve	-26,753.074	-4,144.927	0.000	0.000	0.000	-239.836
6	W8X28	+ve	0.000	2,715.208	827.569	0.005	62.068	113.449
		-ve	0.000	-2,715.208	-827.569	-0.022	-60.148	-203.641
7	W18X76	+ve	17,720.539	27,339.191	0.000	0.000	0.000	843.291
		-ve	-9,208.240	-49,036.422	0.000	0.000	0.000	-1,431.574
8	HSST5X5X0.188	+ve	27,867.879	58.015	0.000	0.000	0.000	0.000

Max Forces by Property Cont...

			Axial	Shear		Torsion	Bending	
Ref	Section	Type	Max Fx (lb)	Max Fy (lb)	Max Fz (lb)	Max Mx (kip-in)	Max My (kip-in)	Max Mz (kip-in)
8	HSST5X5X0.188	-ve	-50,063.156	-58.015	0.000	0.000	0.000	0.000
9	W8X48	+ve	58,498.934	9,487.821	0.000	0.000	0.000	797.366
		-ve	-28,753.984	-4,789.106	0.000	0.000	0.000	-406.594
10	W8X48	+ve	0.000	3,790.877	1,082.944	0.325	103.963	185.874
		-ve	0.000	-3,790.877	-1,082.945	-0.188	-98.547	-363.924
11	W18X86	+ve	24,114.195	29,523.146	0.000	0.000	0.000	1,060.616
		-ve	-11,648.027	-57,315.176	0.000	0.000	0.000	-1,959.974
12	HSST5X5X0.188	+ve	30,097.680	58.015	0.000	0.000	0.000	0.000
		-ve	-58,518.297	-58.015	0.000	0.000	0.000	0.000

Utilization Ratio

Beam	Analysis	Design	Actual Ratio	Allowable Ratio	Normalized Ratio (Actual/Allowable)	Clause	L/C
1	W18X60	W18X60	0.390	1.000	0.390	DEFLECTION	7
3	W18X60	W18X60	0.178	1.000	0.178	SHEAR-Y	7
4	W6X25	W6X25	0.402	1.000	0.402	AISC-H1-3	7
6	W6X25	W6X25	0.121	1.000	0.121	AISC-H2-1	7
7	HSST4X4X0.188	HSST4X4X0.188	0.316	1.000	0.316	TENSION	7
8	W6X25	W6X25	0.185	1.000	0.185	AISC-H1-3	7
9	W6X25	W6X25	0.231	1.000	0.231	AISC-H1-3	7
10	W6X25	W6X25	0.001	1.000	0.001	DEFLECTION	3
11	W18X60	W18X60	0.758	1.000	0.758	DEFLECTION	7

Utilization Ratio Cont...

Beam	Analysis	Design	Actual Ratio	Allowable Ratio	Normalized Ratio (Actual/Allowable)	Clause	L/C
12	W18X60	W18X60	0.346	1.000	0.346	SHEAR-Y	7
13	W6X25	W6X25	0.751	1.000	0.751	AISC-H1-2	7
14	W6X25	W6X25	0.238	1.000	0.238	AISC-H2-1	7
15	HSST4X4X0.188	HSST4X4X0.188	0.615	1.000	0.615	TENSION	7
16	W6X25	W6X25	0.344	1.000	0.344	AISC-H1-1	7
17	W6X25	W6X25	0.445	1.000	0.445	AISC-H1-2	7
18	W6X25	W6X25	0.001	1.000	0.001	DEFLECTION	1
19	W18X60	W18X60	0.758	1.000	0.758	DEFLECTION	7
20	W18X60	W18X60	0.346	1.000	0.346	SHEAR-Y	7
21	W6X25	W6X25	0.751	1.000	0.751	AISC-H1-2	7
22	W6X25	W6X25	0.238	1.000	0.238	AISC-H2-1	7
23	HSST4X4X0.188	HSST4X4X0.188	0.615	1.000	0.615	TENSION	7
24	W6X25	W6X25	0.345	1.000	0.345	AISC-H1-1	7
25	W6X25	W6X25	0.445	1.000	0.445	AISC-H1-2	7
26	W6X25	W6X25	0.001	1.000	0.001	DEFLECTION	1
27	W18X76	W18X76	0.644	1.000	0.644	DEFLECTION	7
28	W18X76	W18X76	0.350	1.000	0.350	SHEAR-Y	7
29	W8X28	W8X28	0.746	1.000	0.746	AISC-H1-2	7
30	W8X28	W8X28	0.190	1.000	0.190	AISC-H2-1	7
31	HSST5X5X0.188	HSST5X5X0.188	0.509	1.000	0.509	TENSION	7
32	W8X28	W8X28	0.362	1.000	0.362	AISC-H1-1	7
33	W8X28	W8X28	0.384	1.000	0.384	AISC-H1-2	7
34	W8X28	W8X28	0.001	1.000	0.001	DEFLECTION	1
35	W6X20	W6X20	0.500	1.000	0.500	DEFLECTION	7

Utilization Ratio Cont...

Beam	Analysis	Design	Actual Ratio	Allowable Ratio	Normalized Ratio (Actual/Allowable)	Clause	L/C
36	W6X20	W6X20	0.500	1.000	0.500	DEFLECTION	7
37	W6X20	W6X20	0.500	1.000	0.500	DEFLECTION	7
38	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
39	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
40	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
41	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
42	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
43	W6X20	W6X20	0.837	1.000	0.837	DEFLECTION	7
44	W6X20	W6X20	0.833	1.000	0.833	DEFLECTION	6
45	W6X20	W6X20	0.833	1.000	0.833	DEFLECTION	6
46	W6X20	W6X20	0.833	1.000	0.833	DEFLECTION	6
47	W18X86	W18X86	0.760	1.000	0.760	DEFLECTION	7
48	W18X86	W18X86	0.361	1.000	0.361	SHEAR-Y	7
49	W8X48	W8X48	0.696	1.000	0.696	AISC-H1-2	7
50	W8X48	W8X48	0.147	1.000	0.147	AISC-H2-1	7
51	HSST5X5X0.188	HSST5X5X0.188	0.595	1.000	0.595	TENSION	7
52	W8X48	W8X48	0.352	1.000	0.352	AISC-H1-3	7
53	W8X48	W8X48	0.282	1.000	0.282	AISC-H1-3	7
54	W8X48	W8X48	0.001	1.000	0.001	DEFLECTION	1
55	W8X28	W8X28	0.470	1.000	0.470	DEFLECTION	7
56	W8X28	W8X28	0.767	1.000	0.767	DEFLECTION	7
57	W8X28	W8X28	0.767	1.000	0.767	DEFLECTION	7
58	W8X28	W8X28	0.948	1.000	0.948	DEFLECTION	8
59	W18X86	W18X86	0.454	1.000	0.454	DEFLECTION	7

Utilization Ratio Cont...

Beam	Analysis	Design	Actual Ratio	Allowable Ratio	Normalized Ratio (Actual/Allowable)	Clause	L/C
60	W18X86	W18X86	0.216	1.000	0.216	SHEAR-Y	7
61	W8X48	W8X48	0.424	1.000	0.424	AISC-H1-3	7
62	W8X48	W8X48	0.088	1.000	0.088	AISC-H2-1	7
63	HSST5X5X0.188	HSST5X5X0.188	0.357	1.000	0.357	TENSION	7
64	W8X48	W8X48	0.212	1.000	0.212	AISC-H1-3	7
65	W8X48	W8X48	0.169	1.000	0.169	AISC-H1-3	7
66	W8X48	W8X48	0.001	1.000	0.001	DEFLECTION	1
67	W8X48	W8X48	0.561	1.000	0.561	DEFLECTION	7
68	W8X48	W8X48	0.870	1.000	0.870	DEFLECTION	7
69	W8X48	W8X48	0.870	1.000	0.870	DEFLECTION	7
70	W8X48	W8X48	0.780	1.000	0.780	DEFLECTION	6

Reaction Summary

			Horizontal	Vertical	Horizontal	Moment		
	Node	L/C	FX (lb)	FY (lb)	FZ (lb)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
Max FX	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
Min FX	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
Max FY	37	7	0.000	24,134.670	-1,872.893	-1,683.886	0.000	0.000
Min FY	37	4	0.000	-11,392.499	2,497.190	1,060.616	0.000	0.000
Max FZ	37	4	0.000	-11,392.499	2,497.190	1,060.616	0.000	0.000
Min FZ	37	3	0.000	10,722.386	-2,497.191	-1,018.121	0.000	0.000
Max MX	37	4	0.000	-11,392.499	2,497.190	1,060.616	0.000	0.000

Reaction Summary Cont...

	Node	L/C	Horizontal FX (lb)	Vertical FY (lb)	Horizontal FZ (lb)	Moment MX (kip-in)	MY (kip-in)	MZ (kip-in)
Min MX	37	7	0.000	24,134.670	-1,872.893	-1,683.886	0.000	0.000
Max MY	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
Min MY	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
Max MZ	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
Min MZ	1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000

Reactions

Node	L/C	Horizontal FX (lb)	Vertical FY (lb)	Horizontal FZ (lb)	Moment MX (kip-in)	MY (kip-in)	MZ (kip-in)
1	1	0.000	2,336.281	0.000	-87.732	0.000	0.000
	2	0.000	4,088.700	0.000	-259.615	0.000	0.000
	3	0.000	3,762.240	-995.455	-366.161	0.000	0.000
	4	0.000	-3,997.368	995.455	381.091	0.000	0.000
	5	0.000	6,424.981	0.000	-347.347	0.000	0.000
	6	0.000	6,098.521	-995.455	-453.894	0.000	0.000
	7	0.000	8,224.486	-746.591	-557.064	0.000	0.000
	8	0.000	-2,595.600	995.455	328.451	0.000	0.000
13	1	0.000	3,502.411	0.000	-158.398	0.000	0.000
	2	0.000	8,177.400	0.000	-518.809	0.000	0.000
	3	0.000	7,524.480	-1,745.653	-714.225	0.000	0.000
	4	0.000	-7,994.737	1,745.653	744.060	0.000	0.000
	5	0.000	11,679.812	0.000	-677.207	0.000	0.000
	6	0.000	11,026.892	-1,745.653	-872.624	0.000	0.000
	7	0.000	15,278.822	-1,309.240	-1,083.174	0.000	0.000
	8	0.000	-5,893.290	1,745.653	649.021	0.000	0.000
21	1	0.000	3,502.411	0.000	-158.432	0.000	0.000
	2	0.000	8,177.400	0.000	-518.900	0.000	0.000
	3	0.000	7,524.480	-1,745.653	-714.321	0.000	0.000

Reactions Cont...

		Horizontal	Vertical	Horizontal	Moment		
Node	L/C	FX (lb)	FY (lb)	FZ (lb)	MX (kip-in)	MY (kip-in)	MZ (kip-in)
21	4	0.000	-7,994.737	1,745.653	744.160	0.000	0.000
	5	0.000	11,679.812	0.000	-677.333	0.000	0.000
	6	0.000	11,026.892	-1,745.653	-872.753	0.000	0.000
	7	0.000	15,278.822	-1,309.240	-1,083.348	0.000	0.000
	8	0.000	-5,893.290	1,745.653	649.101	0.000	0.000
29	1	0.000	4,460.626	0.000	-201.560	0.000	0.000
	2	0.000	9,199.576	0.000	-583.868	0.000	0.000
	3	0.000	8,465.041	-2,047.072	-809.715	0.000	0.000
	4	0.000	-8,994.079	2,047.072	843.291	0.000	0.000
	5	0.000	13,660.203	0.000	-785.429	0.000	0.000
	6	0.000	12,925.668	-2,047.072	-1,011.276	0.000	0.000
	7	0.000	17,709.090	-1,535.304	-1,246.748	0.000	0.000
	8	0.000	-6,317.702	2,047.072	722.355	0.000	0.000
37	1	0.000	7,353.285	0.000	-366.063	0.000	0.000
	2	0.000	11,652.796	0.000	-738.977	0.000	0.000
	3	0.000	10,722.386	-2,497.191	-1,018.121	0.000	0.000
	4	0.000	-11,392.499	2,497.190	1,060.616	0.000	0.000
	5	0.000	19,006.080	0.000	-1,105.039	0.000	0.000
	6	0.000	18,075.670	-2,497.191	-1,384.184	0.000	0.000
	7	0.000	24,134.670	-1,872.893	-1,683.886	0.000	0.000
	8	0.000	-6,980.527	2,497.190	840.979	0.000	0.000
45	1	0.000	5,491.499	0.000	-254.075	0.000	0.000
	2	0.000	6,541.921	0.000	-415.682	0.000	0.000
	3	0.000	6,019.584	-1,559.443	-583.774	0.000	0.000
	4	0.000	-6,395.789	1,559.443	607.678	0.000	0.000
	5	0.000	12,033.420	0.000	-669.756	0.000	0.000
	6	0.000	11,511.083	-1,559.443	-837.849	0.000	0.000

Reactions Cont...

		Horizontal	Vertical	Horizontal	Moment		
Node	**L/C**	**FX** (lb)	**FY** (lb)	**FZ** (lb)	**MX** (kip-in)	**MY** (kip-in)	**MZ** (kip-in)
45	7	0.000	14,912.628	-1,169.583	-1,003.667	0.000	0.000
	8	0.000	-3,100.890	1,559.443	455.234	0.000	0.000

HSS 4"×4"×3/16" TIES: GLOBAL DESIGN OK PER STAAD DESIGN

MAX TENSION = 47.7 K
MAX COMPRESSION = 22.0 K

CONNECTION TO W6×25 MAIN BEAM:

- 1/4" FILLET ALL AROUND: $A_W \simeq (4)(4")(0.707)(1/4") = 2.828\ in^2$
  $R_{nw}/\Omega = (0.60)(70ksi)(2.828\ in^2)/2.0 = 59.4\ k > 47.7\ k$ OK
- ANGLE/STIFFENER: $M_{MAX} \leq 47.7\ k \times 2" = 95.4\ k\text{-}in$
  STIFFENER: $Z_s \geq (3/4")(4")^2/4 = 3.00\ in^3$
  ANGLE LEG: $Z_a \geq (6")(3/4")^2/4 = 0.844\ in^3$
  $M_n/\Omega \geq (50ksi)(3.00\ in^3 + 0.844\ in^3)/1.67 = 115\ k\text{-}in > 95.4\ k\text{-}in$ OK
- BOLTS: (4) 1"ϕ A325 BOLTS:
  $R_{nv}/\Omega = (4)(21.2\ k) = 84.8\ k > 47.7\ k$ OK

CONNECTION TO W18×60 COLUMN:

- 1/4" FILLET ALL AROUND: $R_{nw}/\Omega = 59.4\ k > 47.7\ k$ OK
- BOLTS: (4) 3/4"ϕ A325 BOLTS: $T_b \leq 47.7\ k/4\ BOLTS = 12.0\ k/BOLT$
  $R_{nt}/\Omega = 19.9\ k > 12.0\ k$ OK
- PLATE: PL 7 1/2"×8"×1" A572 GR. 50
  $M_{PL} \leq (12.0\ k)(2\ BOLTS)\left(\frac{6"-4"}{2} + (0.10)(4")\right) = 33.6\ k$
  $t_{MIN} = \sqrt{\frac{(4)(33.6\ k)}{(50ksi/1.67)(7\frac{1}{2}")}} = 0.774" < 1"$ OK

W6×20 PURLINS: GLOBAL DESIGN OK PER STAAD DESIGN

END SHEAR: 2.1 K MAX.

CONNECTION TO W6×25 MAIN BEAMS:

- 1/4" FILLET WELD - CLIP ANGLE TO PURLINS: $A_W \geq (1" + 1" + 4")(0.707)(1/4") = 1.06\ in^2$
  $R_{nw}/\Omega = (0.60)(70ksi)(1.06\ in^2)/2.0 = 22.2\ k > 2.1\ k$ OK
- ANGLE: $M_{MAX} \leq (2.1\ k)(6") = 12.6\ k\text{-}in$
  $Z_a \geq (3/8")(4")^2/4 = 1.5\ in^3$
  $M_n/\Omega \geq (36ksi)(1.5\ in^3)/1.67 = 32.3\ k\text{-}in > 12.6\ k\text{-}in$
- BOLTS: (2) 5/8"ϕ A325 BOLTS:
  $T_{BOLT} \leq 12.6\ k\text{-}in/2" = 6.3\ k$; $R_{nt}/\Omega \geq 13.8\ k > 6.3\ k$ OK
  $V_{BOLT} \leq 2.1\ k/2\ BOLTS = 1.1\ k$; $R_{nv}/\Omega \geq 8.29\ k > 1.1\ k$ OK

W6x25 MAIN BEAMS:

MAX. COMPRESSION = 47.4^K
CONCURRENT MOMENT = 297 K-IN

MAX. TENSION = 20.9^K
CONCURRENT MOMENT = 135 K-IN

- 1/4" FILLET ALL AROUND - $A_{FLANGE} \approx (2)(6")(0.707)(1/4") = 2.121^{IN^2}$

$T_1 \approx 297^{K\text{-}IN}/6" - 47.4^K/2 \text{ FLANGES} = 25.8^K/\text{FLANGE}$

$T_2 \approx 135^{K\text{-}IN}/6" + 20.9^K/2 \text{ FLANGES} = 33.0^K/\text{FLANGE} \Leftarrow \text{CONTROLS}$

$R_{nw}/\Omega = (0.60)(70^{KSI})(2.121^{IN^2})/2.0 = 44.5^K > 33.0^K$

- BOLTS: (4) 3/4" ϕ A325 BOLTS

$$T_{b1} \le \frac{297^{K\text{-}IN}}{(9")(2 \text{ BOLTS})} - \frac{47.4^K}{4 \text{ BOLTS}} = 4.65^K/\text{BOLT}$$

$$T_{b2} \le \frac{135^{K\text{-}IN}}{(9")(2 \text{ BOLTS})} + \frac{20.9^K}{4 \text{ BOLTS}} = 12.8^K/\text{BOLT} \Leftarrow \text{CONTROLS}$$

$R_{nt}/\Omega = 19.9^K > 12.8^K$ OK

- PLATE: PL 7 1/2" x 11" x 1" A572 GR. 50

$$M_{PL} \le (12.8^K)(2 \text{ BOLTS})\left(\frac{9" - 6\,3/8"}{2} + (0.05)(6\,3/8")\right) = 41.8^{K"}$$

$$t_{MIN} = \sqrt{\frac{(4)(41.8^{K"})}{(50^{KSI})/1.67)(7\,1/2")}} = 0.862" < 1" \text{ OK}$$

Project	**iONNA CANOPY**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**14** of
Model	**20-130 Bay Design**		**CONSULTING ENGINEERS**	**Job No.**	
By	**JRH**		**NASHVILLE, TN**	**Date**	**4/25/25**

CHECK WELD OF COLUMN TO BASE PLATE: W18x60 Column (See Detail 1/S03)

Resistance Factor for Welds: Φ = 0.75 AISC Specification J2

Fillet weld size = **1/2** S_{weld} = 110.19 in^3

Wind Load and Moment: M_u = 136.7 k-ft P_{wu} = 2.91 kips

Transverse Load In Weld = (M_u/S_{weld})*(effective throat) = 5.26 kips/in

Longitudinal Load In Weld = $P_u/(2* L_{weld})$ = 0.09 kips/in

Total Load In Weld = Transverse / $(1+0.5*\sin^{1.5}\Phi)$ + Longitudinal / $(1+0.5*\sin 1.5\Phi)$ = 3.60 kips/in AISC Specification J2-5

Weld Design Strength, ΦR_n = 0.75*(0.6*F_{exx})*(Effective Throat) AISC Specification J2

ΦR_n = 11.14 kips/in > 3.60 kips/in **O.K.**

CHECK BASE PLATE AND ANCHOR BOLTS:

LRFD Load Combinations: 1.2D + 1.0W ASCE 7-16, Section 2.3

Resistance Factors: Φ_b = 0.9 AISC Specification F1

Φ_c = 0.65 ACI 318

Φ_{anchor} = 0.75 ACI 318

Base Plate Size: Length, N = **24** in. Width, B = **16** in. F_y = **50** ksi

Anchor Rods: No. of Bolts = **4** Anchor Spacing, B-dir. = **12** in.

Size of Bolts = **1 1/2** in. Anchor Spacing, N-dir. = **20** in.

ASTM Designation = **A36** Edge Distance = **2** in.

Tensile Stress, F_u = 58 ksi Embedment = **36** in.

Base Moment: M_u = 136.7 k-ft **Gravity Load at Base:** P_g = 23.6 kips

Equivalent Eccentricity $e = M_u/P_{du}$ = 69.63 in. AISC Steel Design Guide 1 (3.3.6)

Critical Eccentricity: $e_{crit} = (N/2)-(P_u/(2*q_{max}))$ AISC Steel Design Guide 1 (3.3.7)

$f_{p(max)} = \Phi_c*0.85*f'_c*(A_2/A_1)^{1/2}$ = 2.76 ksi ACI 318

$q_{max} = f_{p(max)}*B$ = 44.20 kips/in AISC Steel Deisgn Guide 1 (3.3.4)

e_{crit} = 11.73 in. < e = 69.63 in. DESIGN PLATE FOR LARGE MOMENT

Bearing Length: Y = 2.02 in. AISC Steel Design Guide 1 (3.4.4)

Plate Thickness: $t_{p(req)}$ = 1.40 in. AISC Steel Design Guide 1 (3.3.15a)

Total Tension in Anchors, T_u = 65.81 kips AISC Steel Design Guide 1 (3.4.2)

T_u per anchor = 32.91 kips

$\Phi_{anchor}*R_n = \Phi*0.75*F_u*A_{ts}$ = 57.65 kips > 32.91 kips **O.K.**

USE 24 in. x 16 in. x 1 3/4 in. plate with 4 - 1 1/2 in. diameter A36 bolts.

Project	**iONNA CANOPY**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**15** of
Model	**20-130 Bay Design**		**CONSULTING ENGINEERS**	**Job No.**	
By	**JRH**		**NASHVILLE, TN**	**Date**	**4/25/25**

CHECK FOUNDATIONS:

LRFD Load Combinations: 1.2D + 1.0W ASCE 7-16, Section 2.3

Resistance Factors:

Φ_{plain} =	0.6	ACI 318
Φ_v =	0.75	ACI 318
Φ_b =	0.9	ACI 318

f'_c =	**2500**	psi	Pedestal Width =	**0**	ft	
p_a =	**150**	psf/ft	Pedestal Length =	**0**	ft	
q_a =	**2000**	psf	Overburden =	**0.5**	ft	(Includes Pedestal <= 3'-0")

Total Service Wind Load: P_w = 1.75 kips

Total Service Moment at Base: M = 90.29 k-ft

Rectangular Spread Foundation:

Length = **9.5** ft. Width = **6** ft. Depth = **4** ft.

Dead Load, P_d =	53.75	kips					
Overturning Moment, M_o =	103.4	k-ft					
Resistive Moment, M_r =	255.3	k-ft	M_r/M_o =	2.47	>	1.5	**O.K.**
Eccentricity, e = M/P_d =	1.68	ft.	kern, k =	1.58	ft.		**e > k**
Bearing Pressure, q_{max} =	1945.2	psf	<	q_a =	2000	psf	**O.K.**
Moment in Footing M_u =	138.2	k-ft					
Use **6** No.	**7**	Bars Top and Bottom - Length.					
Use **9** No.	**7**	Bars Top and bottom - Width.					
Moment Capacity, ΦM_n =	712.0	k-ft	>	M_u =	138.2	k-ft	**O.K.**
Check Shear, V_u =	3.04	kips/ft					
Shear Capacity, $\Phi * V_u$ =	40.11	kips/ft	>	Vu =	3.04	kips/ft	**O.K.**

Project	**iONNA CANOPY**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**16** of
Model	**20-130 Bay Design**		**CONSULTING ENGINEERS**	**Job No.**	
By	**JRH**		**NASHVILLE, TN**	**Date**	**4/25/25**

CHECK FOUNDATIONS:

LRFD Load Combinations: 1.2D + 1.0W ASCE 7-16, Section 2.3

Resistance Factors:
Φ = 0.6 ACI 318
Φ = 0.75 ACI 318
Φ = 0.9 ACI 318

f'_c = 2500 psi

P_a = 150 psf/ft

q_a = 2000 psf Pedestal = 3.5 ft

Total Wind Load: P_w = 1.75 kips

Total Service Moment at base: M = 90.29 k-ft

Circular Caisson Foundation:

No. of Caissons= 1 Diameter = 3 ft. Depth = 10 ft.

$M_{(top\ of\ caisson)}$ = 96.40 k-ft

Height to P_w, h = 55.22 ft.

Required Depth, d = 9.76 ft. **O.K.** IBC 2021, Section 1807.3.2.1

Moment in Footing, M_u = 154.23 k-ft

Use 12 No. 7 Vertical Bars

Use No. 3 Ties at 14 inches o.c max.

Moment Capacity, ΦM_n = 394.80 k-ft > M_u = 154.23 k-ft **O.K.**

Vertical Slab Foundation:

Length = 3 ft. Width = 6 ft. Depth = 7.5 ft.

$M_{(top\ of\ slab)}$ = 91.59 k-ft

Height to P_w, h = 52.47 ft.

Required Depth, d = 7.23 ft. **O.K.** IBC 2021, Section 1807.3.2.1

Moment in Footing, M_u = 146.55 k-ft

Use 6 No. 6 Veritcal Bars on Each Face

Use 8 No. 6 Horizontal Bars on Each Face

Moment Capacity, ΦM_n = 382.96 k-ft > M_u = 146.55 k-ft **O.K.**

CALCULATION SHEETS 17-21
OMITTED INTENTIONALLY

32'-BAY COLUMNS

HSS 5"x5"x3/16" TIES : GLOBAL DESIGN OK PER STAAD DESIGN

MAX. TENSION = 53.1^K

MAX. COMPRESSION = 19.3^K

CONNECTION TO W8x48 MAIN BEAM:

- 1/4" FILLET ALL AROUND : $A_W \simeq (4)(5")(0.707)(1/4") = 3.535\ in^2$

  $R_{nw}/\Omega = (0.60)(70\ ksi)(3.535\ in^2)/2.0 = 74.2^K > 53.1^K$ OK

- ANGLE/STIFFENER : $M_{max} \leq 53.1^K * 2\frac{1}{2}" = 132.8^{K\text{-}in}$

  STIFFENER : $Z_S \geq (3/4")(5")^2/4 = 4.6875\ in^3$

  ANGLE LEG : $Z_a \geq (6")(3/4")^2/4 = 0.844\ in^3$

  $M_n/\Omega \geq (50\ ksi)(4.6875\ in^3 + 0.844\ in^3)/1.67 = 165.6^{K\text{-}in} > 132.8^{K\text{-}in}$ OK

- BOLTS : (4) 1"ϕ A325 BOLTS:

  $R_{nv}/\Omega = (4)(21.2^K) = 84.8^K > 53.1^K$ OK

CONNECTION TO W18x86 COLUMN:

- 1/4" FILLET ALL AROUND : $R_{nw}/\Omega = 74.2^K > 53.1^K$ OK
- BOLTS : (4) 3/4"ϕ A325 BOLTS : $T_b \leq 53.1^K/4\ BOLTS = 13.3^K/BOLT$

  $R_{nt}/\Omega = 19.9^K > 13.3^K$ OK

- PLATE : PL 8½"x9"x1" A572 GR. 50

  $M_R \leq (13.3^K)(2\ BOLTS)\left(\frac{7"-5"}{2} + (0.10)(5")\right) = 39.9^{K"}$

  $t_{MIN} = \sqrt{\frac{(4)(39.9^{K"})}{(50\ ksi/1.67)(8\frac{1}{2}")}} = 0.791" < 1"$ OK

W8x48 PURLINS: GLOBAL DESIGN OK PER STAAD DESIGN

END SHEAR = 3.8^K MAX.

CONNECTION TO W8x48 MAIN BEAMS:

- 1/4" FILLET WELD - CLIP ANGLE TO PURLINS : $A_W \geq (1"+1"+5\frac{1}{2}")(0.707)(1/4") = 1.32\ in^2$

  $R_{nw}/\Omega = (0.60)(70\ ksi)(1.32\ in^2)/2.0 = 27.8^K > 3.8^K$ OK

- ANGLE : $M_{max} \leq (3.8^K)(8") = 30.4^{K\text{-}in}$

  $Z_a \geq (3/8")(5\frac{1}{2}")^2/4 = 2.836\ in^3$

  $M_n/\Omega \leq (36\ ksi)(2.836\ in^3)/1.67 = 61.1^{K\text{-}in} > 30.4^{K\text{-}in}$

- BOLTS: (2) 5/8"ϕ A325 BOLTS:

  $T_{BOLT} \leq 30.4^{K\text{-}in}/3\frac{1}{2}" = 8.69^K$; $R_{nt}/\Omega \geq 13.8^K > 8.69^K$ OK

  $V_{BOLT} \leq 3.8^K/2\ BOLTS = 1.9^K$; $R_{nv}/\Omega \geq 8.29^K > 1.9^K$ OK

W8x48 MAIN BEAMS: GLOBAL DESIGN OK PER STAAD DESIGN

MAX. COMPRESSION = 53.1^K
CONCURRENT MOMENT = 723 K-IN

MAX. TENSION = 17.9^K
CONCURRENT MOMENT = 261 K-IN

- 3/8" FILLET ALL AROUND – $A_{FLANGE} \approx (2)(8")(0.707)(3/8") = 4.242\ in^2$

$T_1 \approx 723^{K\text{-}IN}/8" - 53.1^K/2\ FLANGES = 63.8^K/FLANGE \Leftarrow$ CONTROLS

$T_2 \approx 261^{K\text{-}IN}/8" + 17.9^K/2\ FLANGES = 41.6^K/FLANGE$

$R_{NW}/\Omega = (0.60)(70\ KSI)(4.242\ in^2)/2.0 = 89.0^K > 63.8^K$ OK

- BOLTS: (4) 3/4"ϕ A325 BOLTS

$$T_{b1} \le \frac{723^{K\text{-}IN}}{(11\frac{1}{2}")(2\ BOLTS)} - \frac{53.1^K}{4\ BOLTS} = 18.2^K/BOLT \Leftarrow \text{CONTROLS}$$

$$T_{b2} \le \frac{261^{K\text{-}IN}}{(11\frac{1}{2}")(2\ BOLTS)} + \frac{17.9^K}{4\ BOLTS} = 15.9^K/BOLT$$

$R_{nt}/\Omega = 19.9^K > 18.2^K$ OK

- PLATE: PL 11" x 14" x 1¼" A572 GR. 50

$$M_R \le (18.2^K)(2\ BOLTS)\left(\frac{11\frac{1}{2}" - 8\frac{1}{2}"}{2} + (0.05)(8\frac{1}{2}")\right) = 70.1^{K"}$$

$$t_{MIN} = \sqrt{\frac{(4)(70.1^{K"})}{(50\ KSI/1.67)(11")}} = 0.923" < 1\frac{1}{4}"\ OK$$

Project	**iONNA CANOPY**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**24** of
Model	**32-130 Bay Design**		**CONSULTING ENGINEERS**	**Job No.**	
By	**JRH**		**NASHVILLE, TN**	**Date**	**4/25/25**

CHECK WELD OF COLUMN TO BASE PLATE: W18x86 Column (See Detail 1/S05)

Resistance Factor for Welds: Φ = 0.75 AISC Specification J2

Fillet weld size = **1/2** S_{weld} = 150.88 in^3

Wind Load and Moment: M_u = 240.2 k-ft P_{wu} = 4.60 kips

Transverse Load In Weld = (M_u/S_{weld})*(effective throat) = 6.75 kips/in

Longitudinal Load In Weld = $P_u/(2* L_{weld})$ = 0.15 kips/in

Total Load In Weld = Transverse / $(1+0.5*\sin^{1.5}\Phi)$ + Longitudinal / $(1+0.5*\sin 1.5\Phi)$ = 4.65 kips/in AISC Specification J2-5

Weld Design Strength, ΦR_n = 0.75*(0.6*F_{exx})*(Effective Throat) AISC Specification J2

ΦR_n = 11.14 kips/in > 4.65 kips/in **O.K.**

CHECK BASE PLATE AND ANCHOR BOLTS:

LRFD Load Combinations: 1.2D + 1.0W ASCE 7-16, Section 2.3

Resistance Factors: Φ_b = 0.9 AISC Specification F1

Φ_c = 0.65 ACI 318

Φ_{anchor} = 0.75 ACI 318

Base Plate Size: Length, N = **24** in. Width, B = **20** in. F_y = **50** ksi

Anchor Rods: No. of Bolts = **4** Anchor Spacing, B-dir. = **16** in.

Size of Bolts = **1 3/4** in. Anchor Spacing, N-dir. = **20** in.

ASTM Designation = **A36** Edge Distance = **2** in.

Tensile Stress, F_u = 58 ksi Embedment = **42** in.

Base Moment: M_u = 240.2 k-ft **Gravity Load at Base:** P_g = 41.9 kips

Equivalent Eccentricity $e = M_u/P_{du}$ = 68.72 in. AISC Steel Design Guide 1 (3.3.6)

Critical Eccentricity: $e_{crit} = (N/2)-(P_u/(2*q_{max}))$ AISC Steel Design Guide 1 (3.3.7)

$f_{p(max)} = \Phi_c*0.85*f'_c*(A_2/A_1)^{1/2}$ = 2.76 ksi ACI 318

$q_{max} = f_{p(max)}*B$ = 55.25 kips/in AISC Steel Deisgn Guide 1 (3.3.4)

e_{crit} = 11.62 in. < e = 68.72 in. DESIGN PLATE FOR LARGE MOMENT

Bearing Length: Y = 2.91 in. AISC Steel Design Guide 1 (3.4.4)

Plate Thickness: $t_{p(req)}$ = 1.71 in. AISC Steel Design Guide 1 (3.3.15a)

Total Tension in Anchors, T_u = 118.76 kips AISC Steel Design Guide 1 (3.4.2)

T_u per anchor = 59.38 kips

$\Phi_{anchor}*R_n = \Phi*0.75*F_u*A_{ts}$ = 78.47 kips > 59.38 kips **O.K.**

USE 24 in. x 20 in. x 2 in. plate with 4 - 1 3/4 in. diameter A36 bolts.

Project	**iONNA CANOPY**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**25** of
Model	**32-130 Bay Design**		**CONSULTING ENGINEERS**	**Job No.**	
By	**JRH**		**NASHVILLE, TN**	**Date**	**4/25/25**

CHECK FOUNDATIONS:

LRFD Load Combinations: 1.2D + 1.0W ASCE 7-16, Section 2.3

Resistance Factors:

Φ_{plain} =	0.6	ACI 318
Φ_v =	0.75	ACI 318
Φ_b =	0.9	ACI 318

f'_c =	**2500**	psi	Pedestal Width =	**0**	ft	
p_a =	**150**	psf/ft	Pedestal Length =	**0**	ft	
q_a =	**2000**	psf	Overburden =	**0.5**	ft	(Includes Pedestal <= 3'-0")

Total Service Wind Load: P_w = 2.76 kips

Total Service Moment at Base: M = 162.51 k-ft

Rectangular Spread Foundation:

Length = **12** ft. Width = **7** ft. Depth = **4** ft.

Dead Load, P_d =	84.69	kips				
Overturning Moment, M_o =	183.2	k-ft				
Resistive Moment, M_r =	508.1	k-ft	M_r/M_o =	2.77	> 1.5	**O.K.**
Eccentricity, e = M/P_d =	1.92	ft.	kern, k =	2.00	ft.	**e < k**
Bearing Pressure, q_{max} =	1975.5	psf	<	q_a = 2000	psf	**O.K.**
Moment in Footing M_u =	268.26	k-ft				
Use **7** No.	**7**	Bars Top and Bottom - Length.				
Use **11** No.	**7**	Bars Top and bottom - Width.				
Moment Capacity, ΦM_n =	830.7	k-ft	>	M_u = 268.3	k-ft	**O.K.**
Check Shear, V_u =	6.55	kips/ft				
Shear Capacity, $\Phi * V_u$ =	40.11	kips/ft	>	Vu = 6.55	kips/ft	**O.K.**

Project	iONNA CANOPY	ROSS BRYAN ASSOCIATES, INC.	Sheet No.	26	of
Model	32-130 Bay Design	CONSULTING ENGINEERS	Job No.		
By	JRH	NASHVILLE, TN	Date	4/25/25	

CHECK FOUNDATIONS:

LRFD Load Combinations: 1.2D + 1.0W — ASCE 7-16, Section 2.3

Resistance Factors:

Φ =	0.6	ACI 318
Φ =	0.75	ACI 318
Φ =	0.9	ACI 318

f'_c = 2500 psi

P_a = 150 psf/ft

q_a = 2000 psf — Pedestal = 3.5 ft

Total Wind Load: P_w = 2.76 kips

Total Service Moment at base: M = 162.51 k-ft

Circular Caisson Foundation:

No. of Caissons= 1 — Diameter = 3 ft. — Depth = 12 ft.

$M_{(top\ of\ caisson)}$ = 172.17 k-ft

Height to P_w, h = 62.36 ft.

Required Depth, d = 11.98 ft. **O.K.** — IBC 2021, Section 1807.3.2.1

Moment in Footing, M_u = 275.48 k-ft

Use 12 No. 7 Vertical Bars

Use No. 3 Ties at 14 inches o.c max.

Moment Capacity, ΦM_n = 394.80 k-ft > M_u = 275.48 k-ft **O.K.**

Vertical Slab Foundation:

Length = 3 ft. — Width = 7 ft. — Depth = 9 ft.

$M_{(top\ of\ slab)}$ = 164.58 k-ft

Height to P_w, h = 59.61 ft.

Required Depth, d = 8.31 ft. **O.K.** — IBC 2021, Section 1807.3.2.1

Moment in Footing, M_u = 263.33 k-ft

Use 7 No. 6 Veritcal Bars on Each Face

Use 9 No. 6 Horizontal Bars on Each Face

Moment Capacity, ΦM_n = 446.79 k-ft > M_u = 263.33 k-ft **O.K.**

OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

WILSONVILLE, OR

WINDLOAD REQUIREMENT: 130 MPH/30 PSF

PROJECT MANAGER

·IONNA REVIEW WILL ONLY COVER DESIGN INTENT AND FINISHES.
·AGI IS 100% RESPONSIBLE FOR ANY AND ALL STRUCTURAL. CIVIL, MEP, COORDINATION AND ALIGNMENT.
·AGI TO COVER ALL SCOPE BEYOND THE FOLLOWING : GC SITE, MEP, LV, AND CIVIL SCOPE
·ELECTRICAL CONDUIT IN CANOPY SUPPLIED BY AGI. ROUTING AND FINAL CONNECTIONS DETERMINED BY SITE ENGINEER AND ELECTRICAL CONTRACTOR
·AGI DRAINAGE SCOPE ENDS AT GRADE. DRAINAGE ROUTING AND CONNECTIONS TO BE DETERMINED BY SITE SPECIFIC ENGINEER AND GC

CANOPY OUTSIDE WRAP

MP-1	AUB BLUE ACM ALPOLIC (OR EQUAL) 50 X 196	JOINT SIZE: HAIRLINE SYSTEM DEPTH: VARIES	305 FT² 23 PNLS

METALWORKS P16 SOFFIT DECK PANS

MP-2	WAO ORANGE 22GA PAINTED GALVANIZED 16 X 180	JOINT SIZE: HAIRLINE SYSTEM DEPTH: 3"	4230 FT² 71 PNLS

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE ASCE 7-16

"SEALED FOR STRUCTURAL COMPONENTS ONLY"
It is unlawful to alter this document as sealed by a professional engineer.

DESIGN SPECIALIST
DAVID KNUDTSON

SHEET INDEX

C01-C05	COVER
P01	PLAN/RCP
E01-E04	PLANS/ELEVATIONS
S01-S04	STRUCT. DETAILS
D01-D04	CANOPY DETAILS
D05	FOOTING DETAILS
D06	SIGNAGE DETAILS

APPROVAL

NAME

ORGANIZATION

TITLE

- ☐ APPROVED
- ☐ APPROVED AS NOTED
- ☐ REVISE & RESUBMIT

NOTES:

WORK SCOPE:

·DESIGN, FABRICATE AND INSTALL
·SHOP DRAWINGS
·FABRICATION OF PANELS AND ASSOCIATED TRIMS
·MOUNTING HARDWARE
·CRATING AND SHIPPING BASED ON FULL TRUCK LOADS
·INSTALLATION

REGISTERED PROFESSIONAL ENGINEER
92587PE 12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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www.AGI.net

PROJECT: OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2
ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

REV #	DATE	COMMENTS
0	12/18/25	FIRST SUBMITTAL DRAWINGS
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Date Approved _____

SHEET NUMBER
1 of 20
SHEET NUMBER
C01

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RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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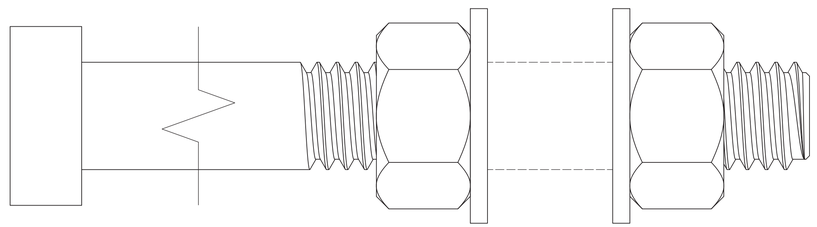
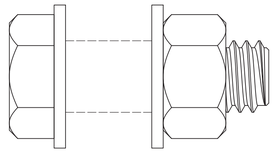
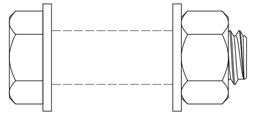
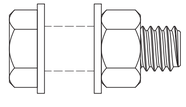
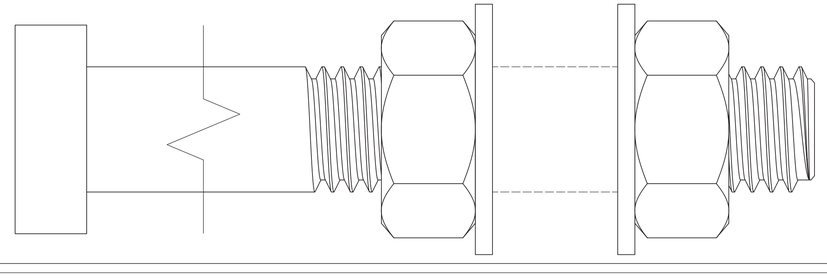
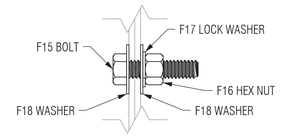
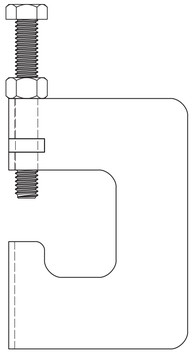
HARDWARE SCHEDULE

PART	PART NUMBER	PART DESCRIPTION	PART IDENTIFICATION
F14	5-2121-00S	#12 X 1" HWH screws EcoGuard Stainless Bi-Metal	
F15	5-1141-25	1/4-20 X 1 1/4" Bolt	
F16	5-1140-03	1/4"-20 Hex Head Nut	
F17	5-1140-02	1/4" Lock Washer	
F18	5-1140-01	1/4" Flat Washer	
-	-	1 1/2"Ø A36 Anchor Rods 1 1/2"Ø Hex Head Nut 1 1/2"Ø Flat Washer	
-	-	1"Ø A325 Bolts 1"Ø Hex Head Nut 1"Ø Flat Washer	
-	-	3/4"Ø A325 Bolts 3/4"Ø Hex Head Nut 3/4"Ø Flat Washer	
-	-	5/8"Ø A325 Bolts 5/8"Ø Hex Head Nut 5/8"Ø Flat Washer	
-	-	1 3/4"Ø A36 Anchor Rods 1 3/4"Ø Hex Head Nut 1 3/4"Ø Flat Washer	

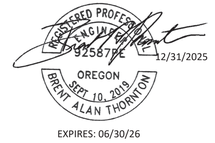
TYPICAL F15-F18 ASSEMBLY



F100



Beam Clamp w/ Included Bolt and Locknut



12/31/2025

EXPIRES: 06/30/26

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Knoxville, TN 37923
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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

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C02

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Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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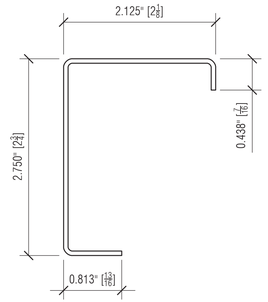
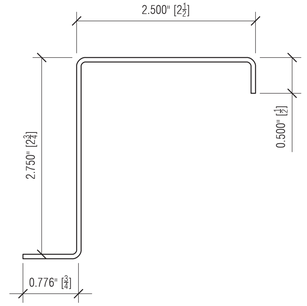
Type:	BM-1 SUPPORT ANGLE	Length:	120"
Mat:	16 GA GALVANIZED	Girth:	6 1/8"
Finish:	MILL		



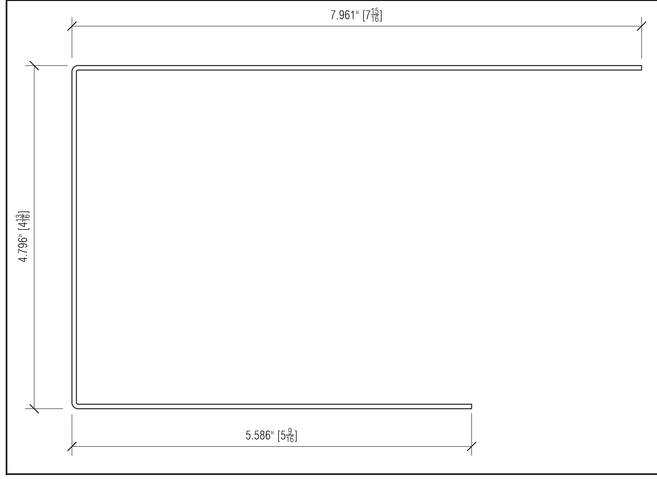
1 / C03 ACM SOFFIT SUPPORT - INSIDE HANGER
REF: N/A 12" = 1'-0"

Type:	BM-2 SUPPORT ANGLE	Length:	120"
Mat:	16 GA GALVANIZED	Girth:	6 1/2"
Finish:	MILL		



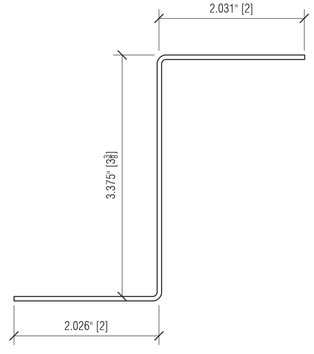
2 / C03 ACM SOFFIT SUPPORT - OUTSIDE HANGER
REF: N/A 12" = 1'-0"

Type:	BM-3 SUPPORT ANGLE	Length:	22"
Mat:	16 GA GALVANIZED	Girth:	19 1/2"
Finish:	MILL		



3 / C03 ACM WRAP LOWER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type:	BM-6 SUPPORT ANGLE	Length:	22"
Mat:	16 GA GALVANIZED	Girth:	7 3/8"
Finish:	MILL		



6 / C03 ACM SOFFIT END SUPPORT
REF: N/A 12" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
92587PE
12/31/2025
OREGON
SEPT 10, 2015
BRENT ALAN THORNTON
EXPIRES: 06/30/26

Architectural Branding - Atlanta

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Knoxville, TN 37923
800-877-7868
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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

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C03

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Engineers
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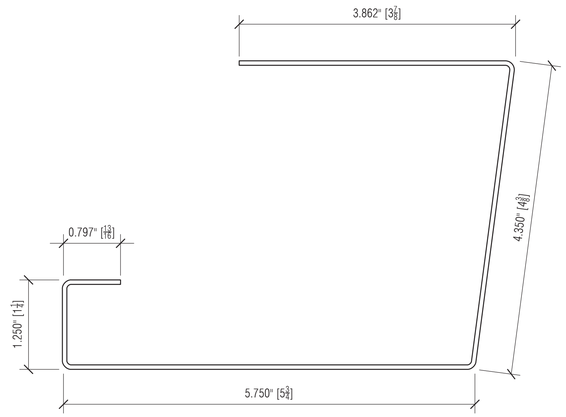
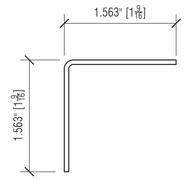
Type: BM-8 SUPPORT ANGLE Length: 94"
Mat: 16 GA GALVANIZED Girth: 16 1/16"
Finish: MILL



8 / C04 ACM WRAP LOWER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

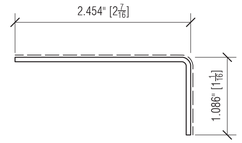
Type: BM-10 SUPPORT ANGLE Length: VARIES
Mat: 16 GA GALVANIZED Girth: 3 1/8"
Finish: MILL

BM-10-8 ARE 8" LENGTHS FOR 20' MODULES
BM-10-10 ARE 10" LENGTHS FOR ADA MODULES
BM-10-22 ARE 22" LENGTHS



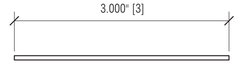
10 / C04 SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type: BM-13 SUPPORT ANGLE Length: VARIES
Mat: 16 GA GALVANIZED Girth: 3 1/2"
Finish: PAINTED AUB BLUE



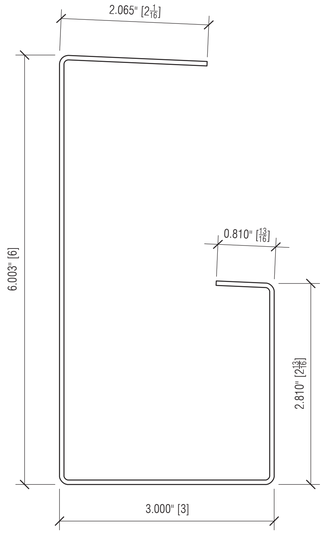
13 / C04 SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type: BM-14 SUPPORT ANGLE Length: VARIES
Mat: 16 GA GALVANIZED Girth: 113 1/2"
Finish: MILL



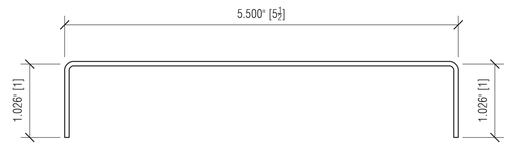
14 / C04 SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type: BM-11 GUTTER Length: 2"
Mat: 16 GA GALVANIZED Girth: 14 11/16"
Finish: AUB BLUE



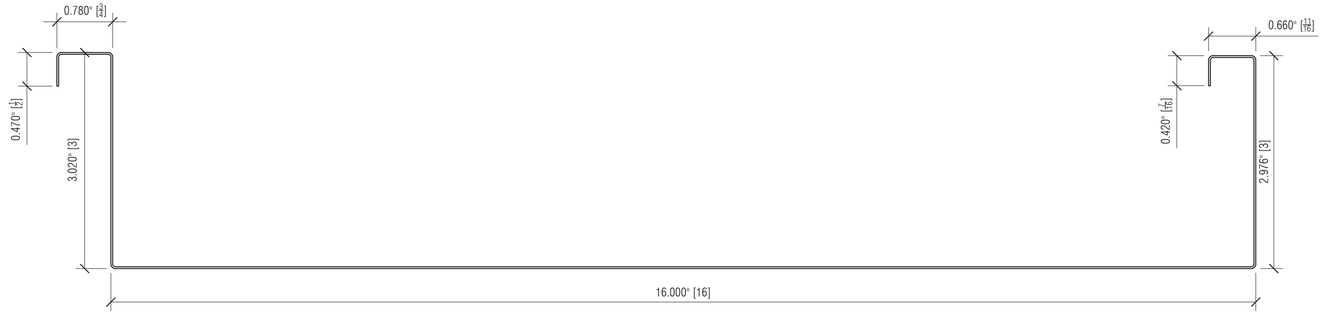
11 / C04 GUTTER
REF: N/A 12" = 1'-0"

Type: BM-12 CLIP Length: 2"
Mat: 16 GA GALVANIZED Girth: 7 1/2"
Finish: MILL



12 / C04 DOWNSPOUT SUPPORT CLIPS
REF: N/A 12" = 1'-0"

Type: METALWORKS P16 Length: 180"
Mat: 22 GA GALVANIZED Girth: 27 1/4"
Finish: WAO ORANGE



16 / C04 METALWORKS P16 SOFFIT DECK PAN
REF: N/A 12" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
25587PE
OREGON
SEPT. 10, 2015
BRENT ALAN THORNTON
12/31/2025

EXPIRES: 06/30/26

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
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ARCHITECT
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DRAWN BY
DLK

JOB #
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Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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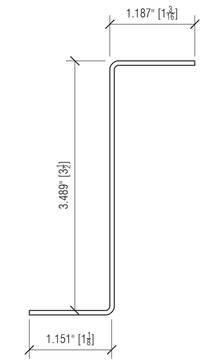
Type:	BM-5A SUPPORT ANGLE	Length:	120"
Mat:	16 GA GALVANIZED	Girth:	15 15/16"
Finish:	MILL		

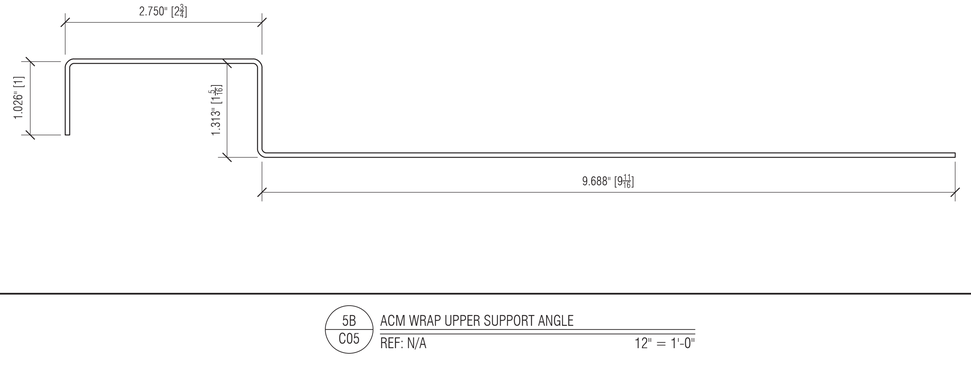
5A / C05 ACM WRAP UPPER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type:	BM-9A SUPPORT ANGLE	Length:	94"
Mat:	16 GA GALVANIZED	Girth:	5 13/16"
Finish:	MILL		



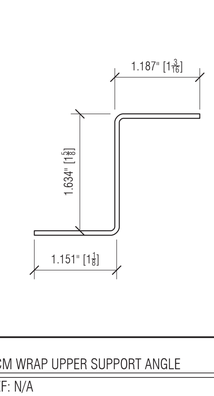
9A / C05 ACM WRAP UPPER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type:	BM-5B SUPPORT ANGLE	Length:	120"
Mat:	16 GA GALVANIZED	Girth:	14"
Finish:	MILL		



5B / C05 ACM WRAP UPPER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

Type:	BM-9B SUPPORT ANGLE	Length:	94"
Mat:	16 GA GALVANIZED	Girth:	3 15/16"
Finish:	MILL		



9B / C05 ACM WRAP UPPER SUPPORT ANGLE
REF: N/A 12" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
STATE OF OREGON
92587PE
12/31/2025
OREGON
SEPT. 10, 2015
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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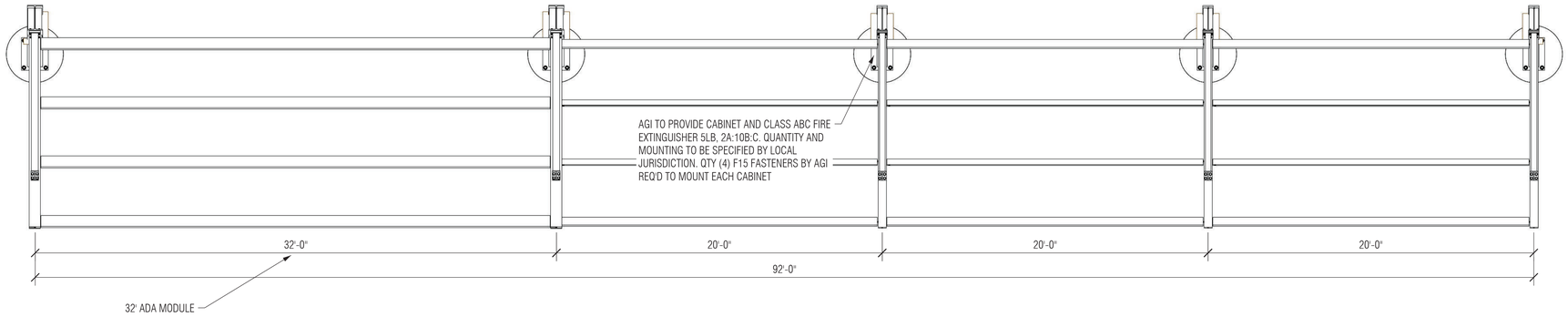
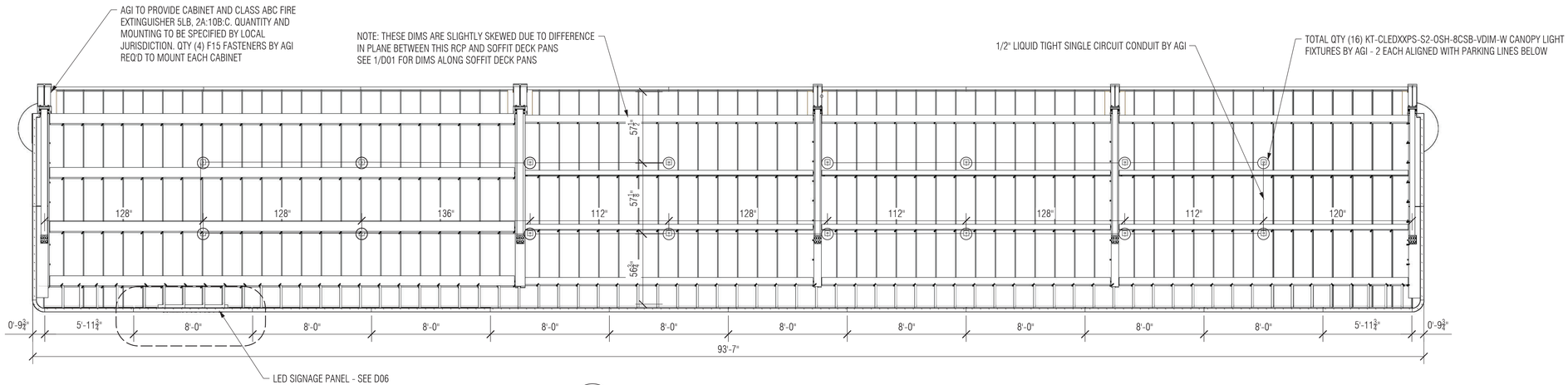
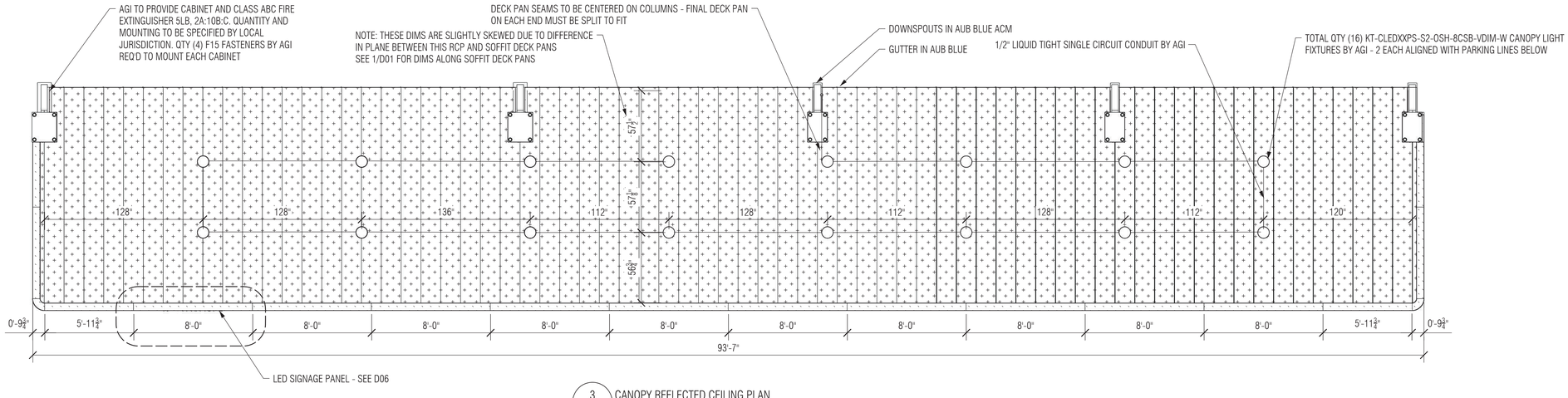


1 / P01 STRUCTURE PLAN VIEW
REF: 1/4" = 1'-0"



2 / P01 CANOPY ROOF PLAN
REF: 1/4" = 1'-0"



3 / P01 CANOPY REFLECTED CEILING PLAN
REF: 1/4" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
92587PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

COLOR CHART	
AUB BLUE	
WAO ORANGE	

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ARCHITECT: -

DRAWN BY: DLK
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SHEET NUMBER
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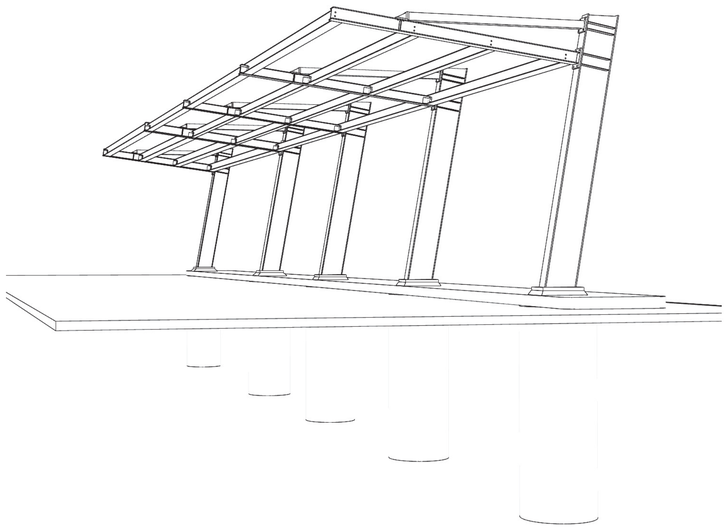
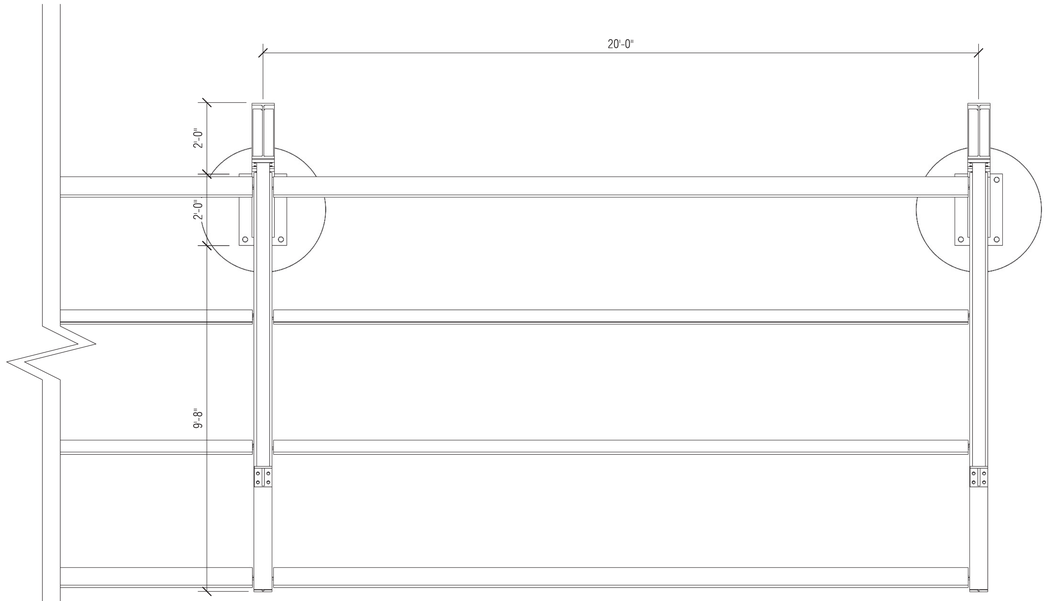
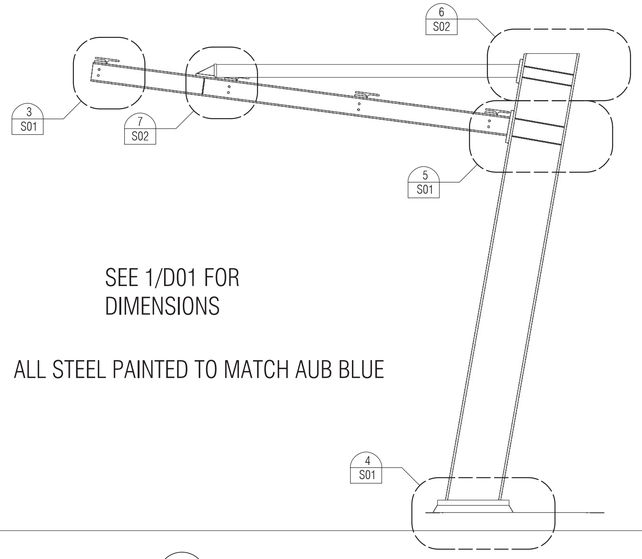


1 / E01 PERSPECTIVE VIEW
REF: NTS



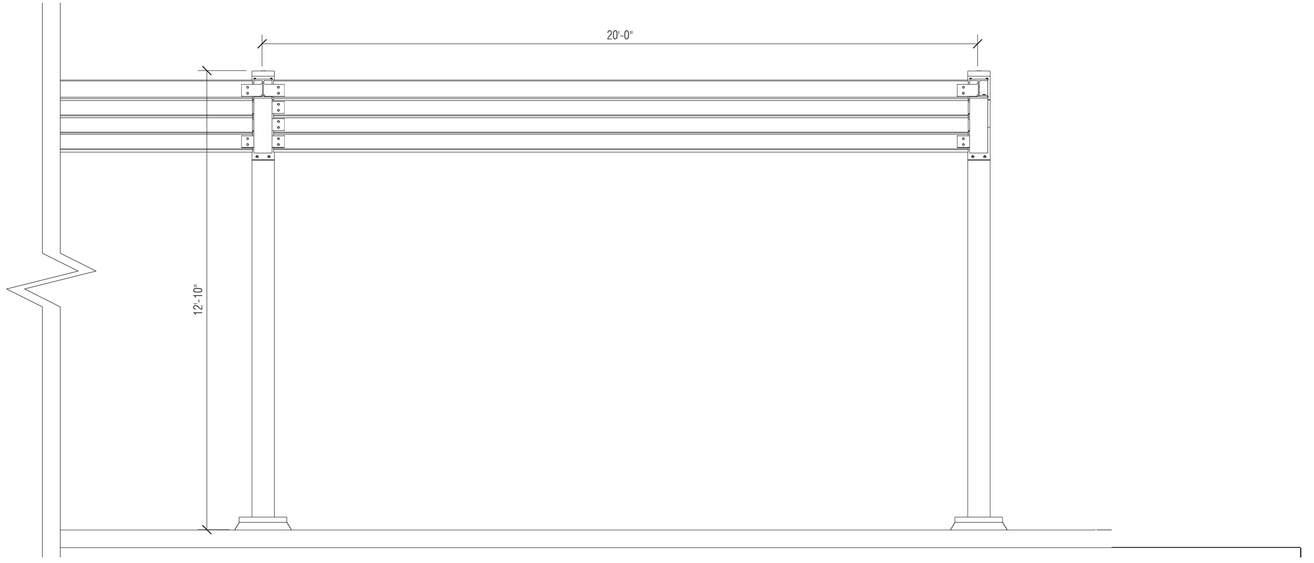
2 / E01 TOP VIEW
REF: 1/2" = 1'-0"



SEE 1/D01 FOR DIMENSIONS

ALL STEEL PAINTED TO MATCH AUB BLUE

3 / E01 SIDE VIEW
REF: 1/2" = 1'-0"



4 / E01 FRONT VIEW
REF: 1/2" = 1'-0"

EXPIRES: 06/30/26

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

REV #	DATE	COMMENTS
0	12/18/25	FIRST SUBMITTAL DRAWINGS
1		
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7 of 20

SHEET NUMBER
E01

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RBA Structural Engineering, LLC
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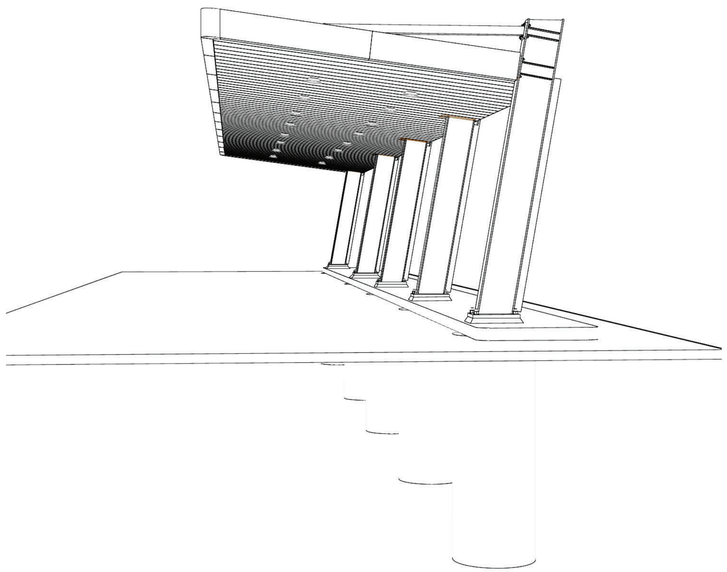

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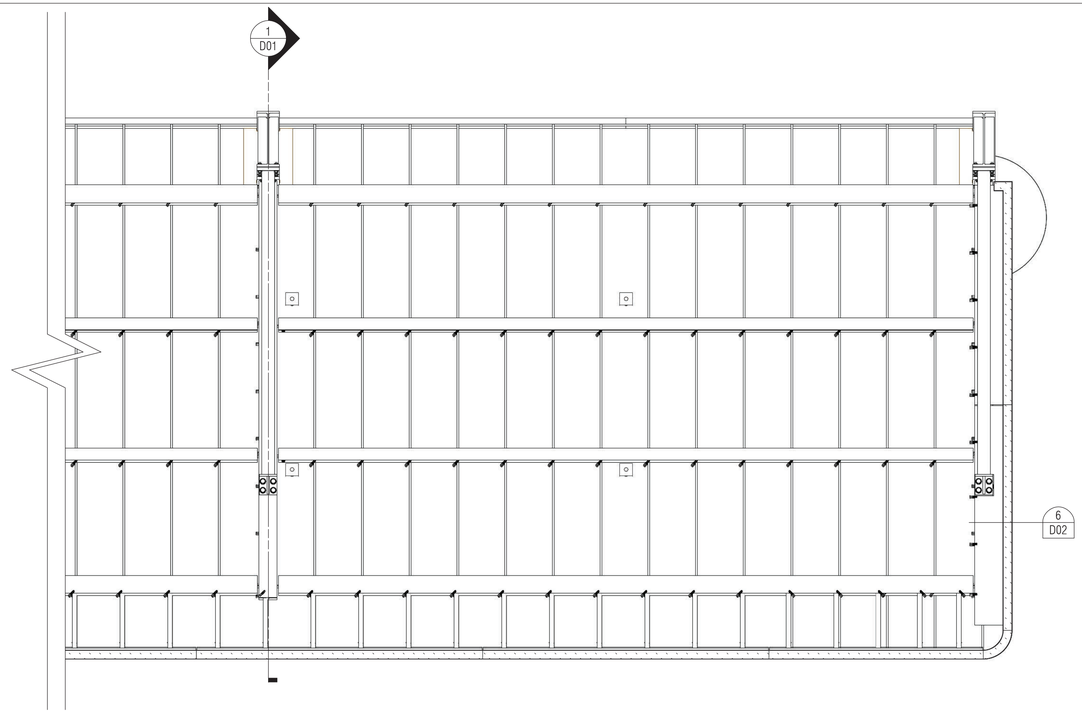
REF: NTS



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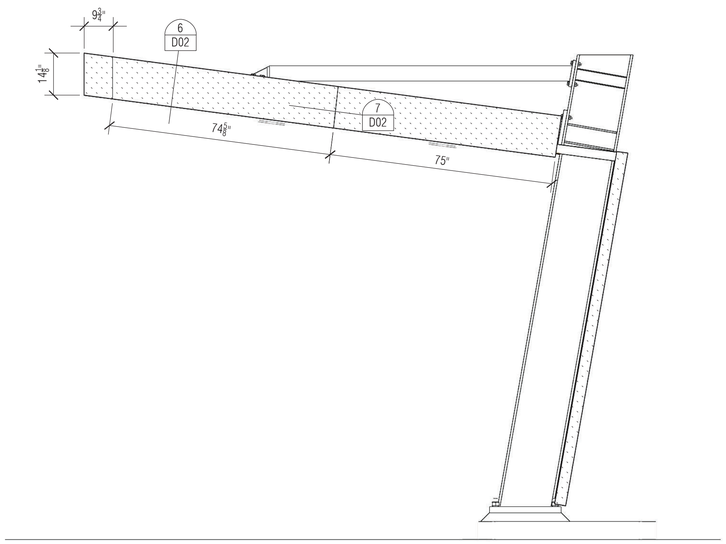
REF: 1/2" = 1'-0"



3 / E02 SIDE VIEW
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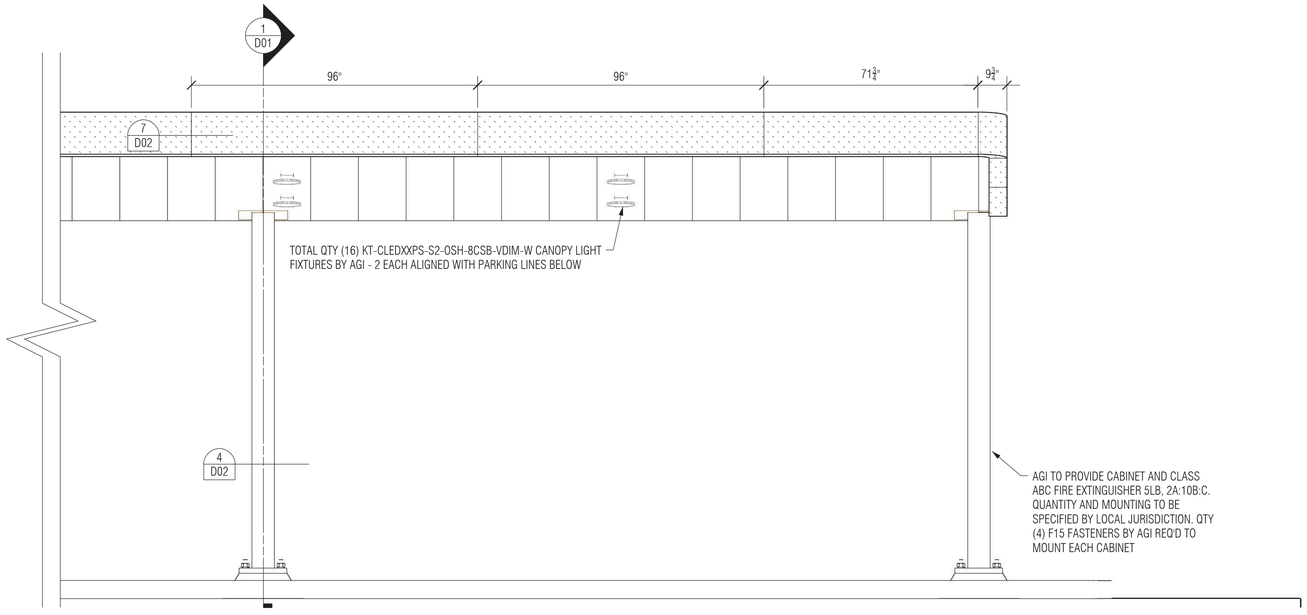

4 / E02 FRONT VIEW
REF: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
92567PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON

EXPIRES: 06/30/26

COLOR CHART	
AUB BLUE	
WAO ORANGE	

Architectural Branding - Atlanta

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

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8 of 20

SHEET NUMBER
E02

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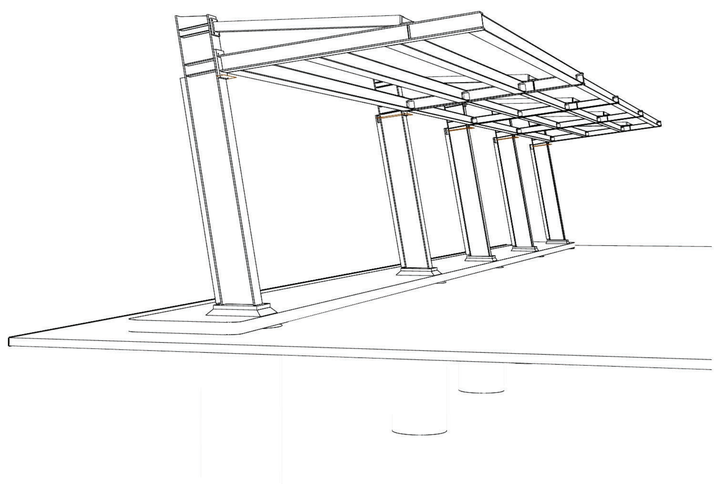
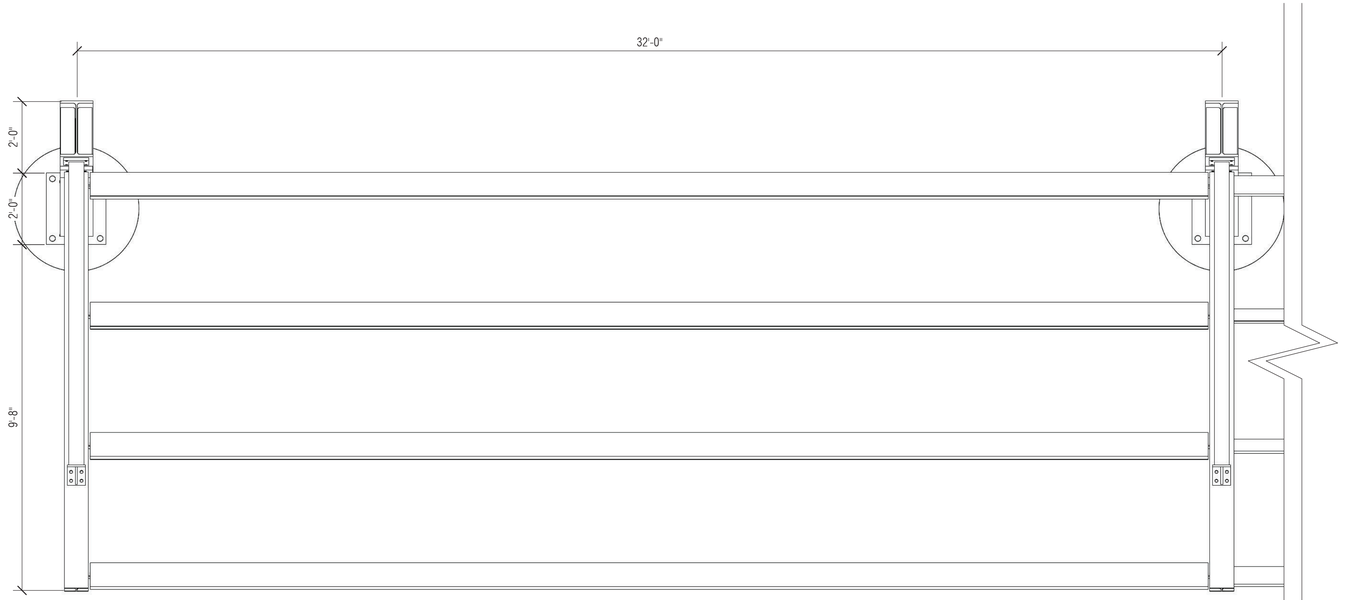
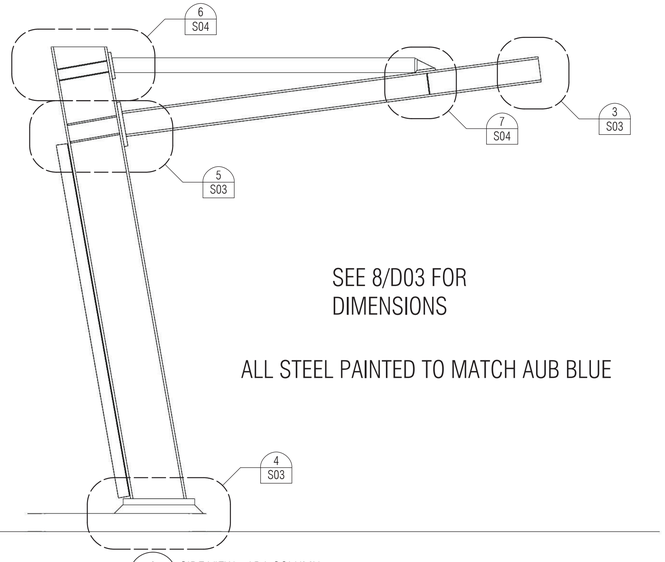


1 / E03 PERSPECTIVE VIEW
REF: NTS



2 / E03 TOP VIEW - ADA MODULE
REF: 1/2" = 1'-0"



SEE 8/D03 FOR DIMENSIONS

ALL STEEL PAINTED TO MATCH AUB BLUE

3 / E03 SIDE VIEW - ADA COLUMN
REF: 1/2" = 1'-0"

4 / E03 FRONT VIEW - ADA MODULE
REF: 1/2" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
92587PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
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DATE
12/18/25

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SHEET NUMBER
E03

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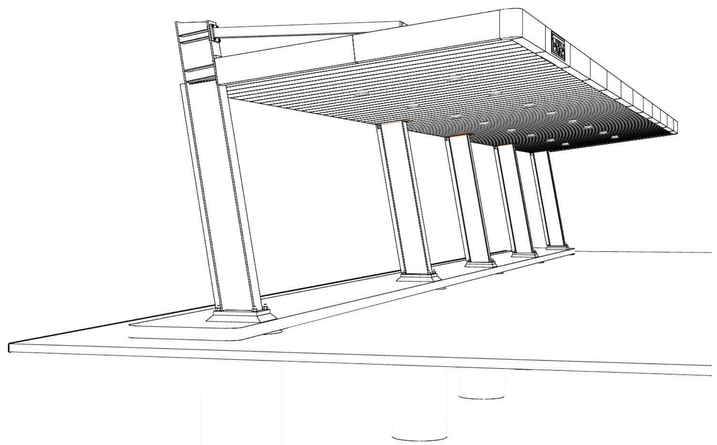
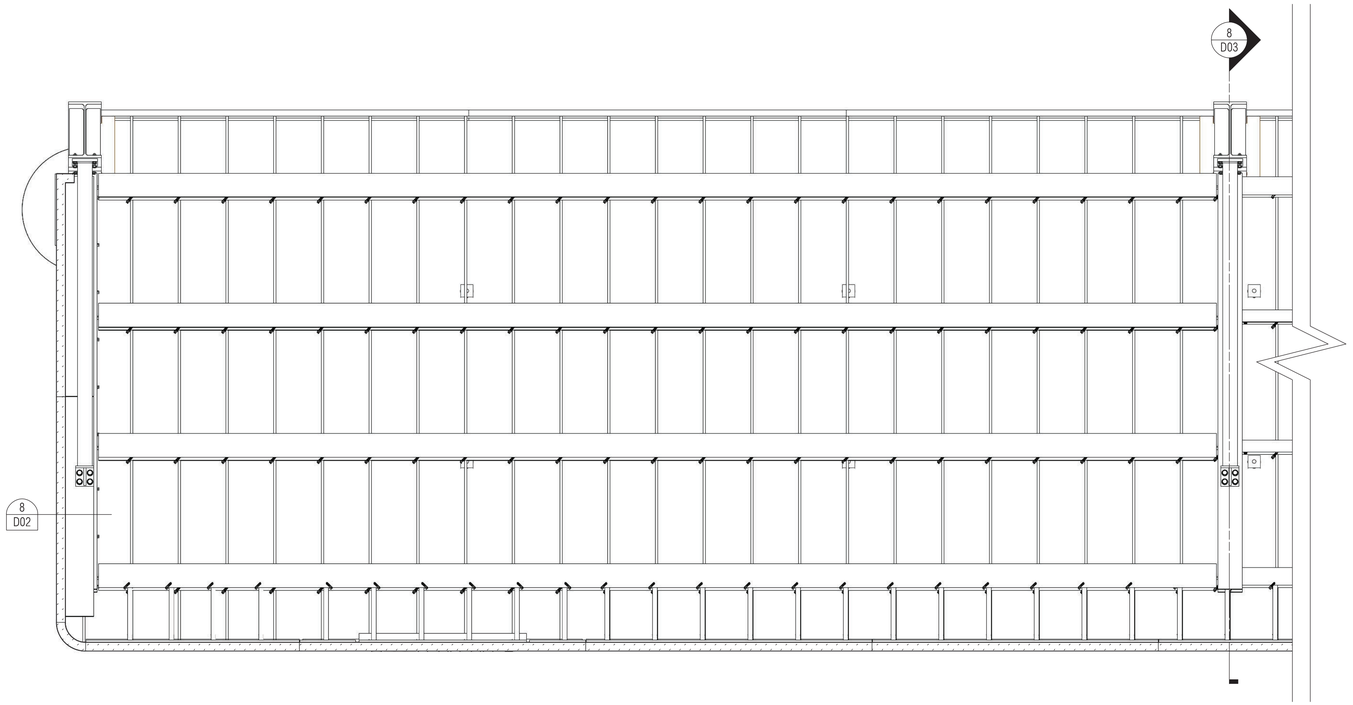
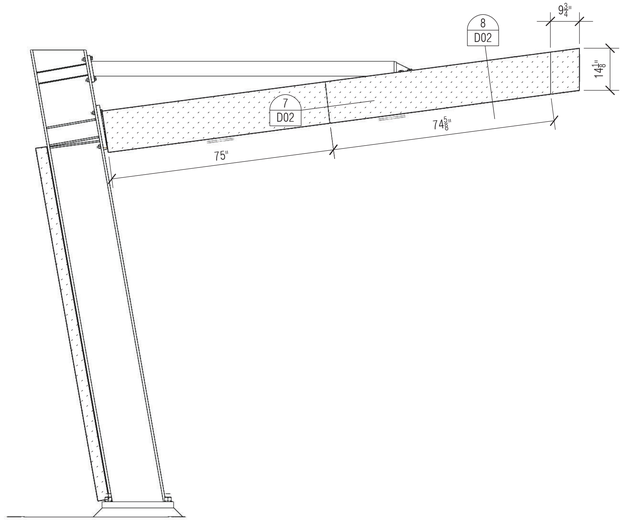


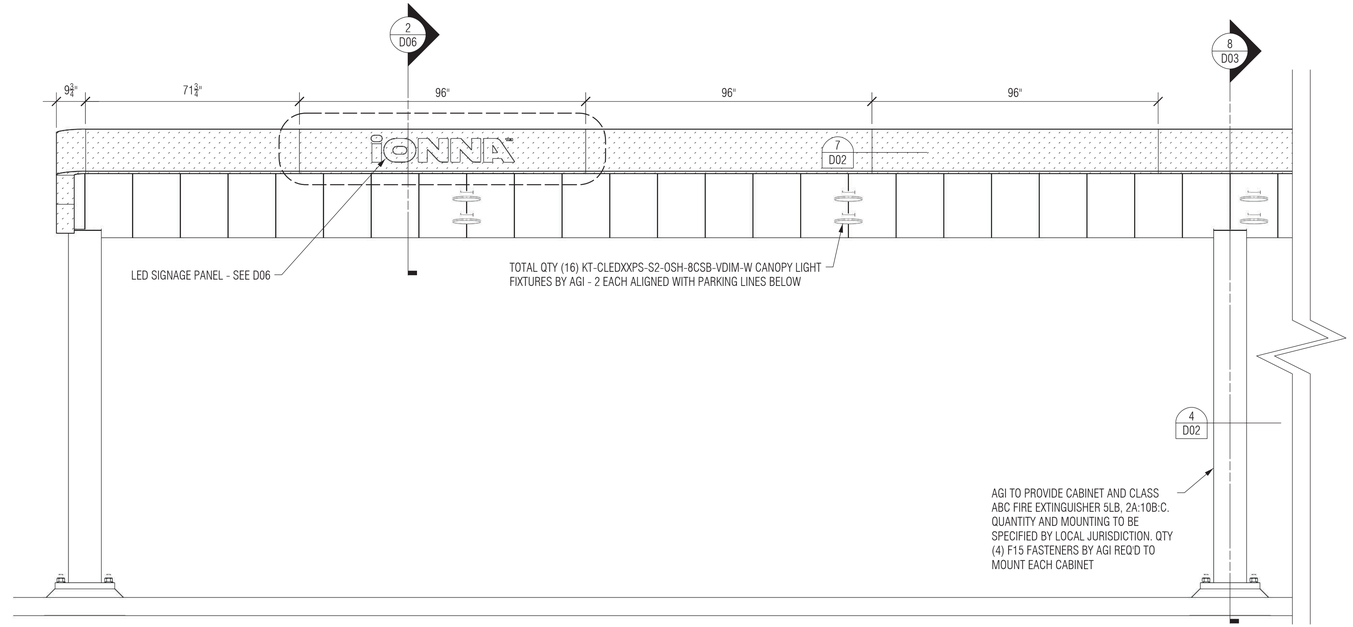
1 / E04 PERSPECTIVE VIEW
REF: NTS



2 / E04 TOP VIEW - ADA MODULE
REF: NTS



3 / E04 SIDE VIEW - ADA MODULE
REF: 1/2" = 1'-0"



4 / E04 FRONT VIEW - ADA MODULE
REF: 1/2" = 1'-0"

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OREGON
SEPT 10, 2015
BRENT ALAN THORNTON
EXPIRES: 06/30/26

COLOR CHART	
AUB BLUE	
WAO ORANGE	

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PROJECT: OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2
ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

REV #	DATE	COMMENTS
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SHEET NUMBER: E04

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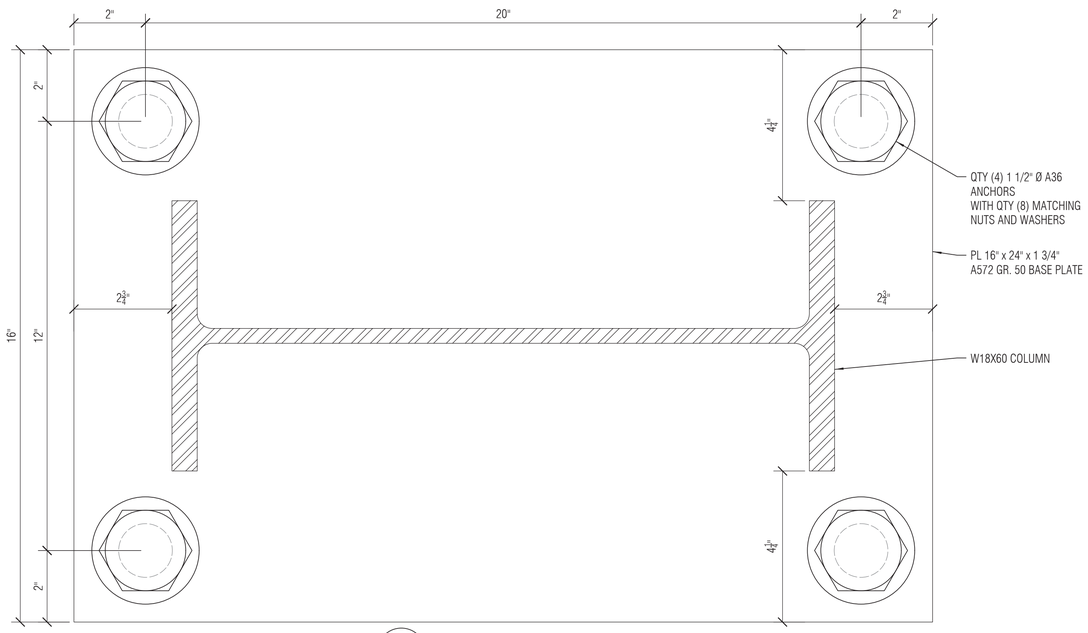
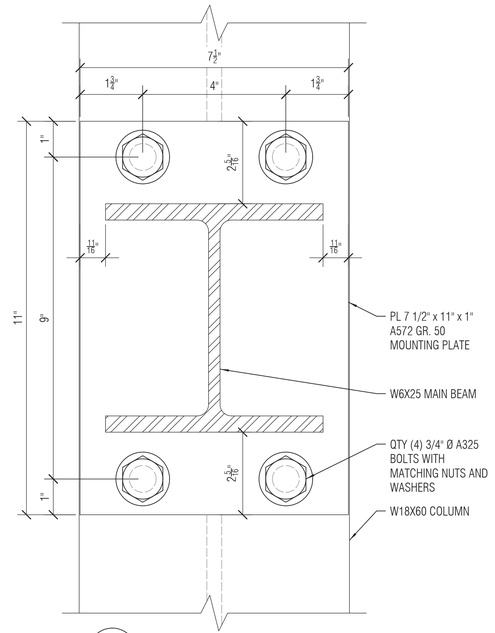
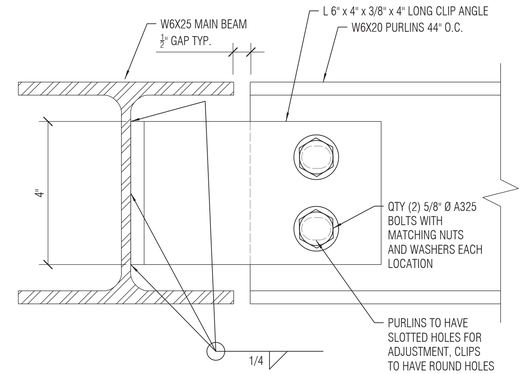


1 / S01 COLUMN BASE PLATE DETAIL
REF: 6" = 1'-0"



2 / S01 MAIN BEAM CONNECTION TO COLUMN DETAIL
REF: 6" = 1'-0"



3 / S01 PURLIN CONNECTION TO MAIN BEAM DETAIL
REF: 6" = 1'-0"

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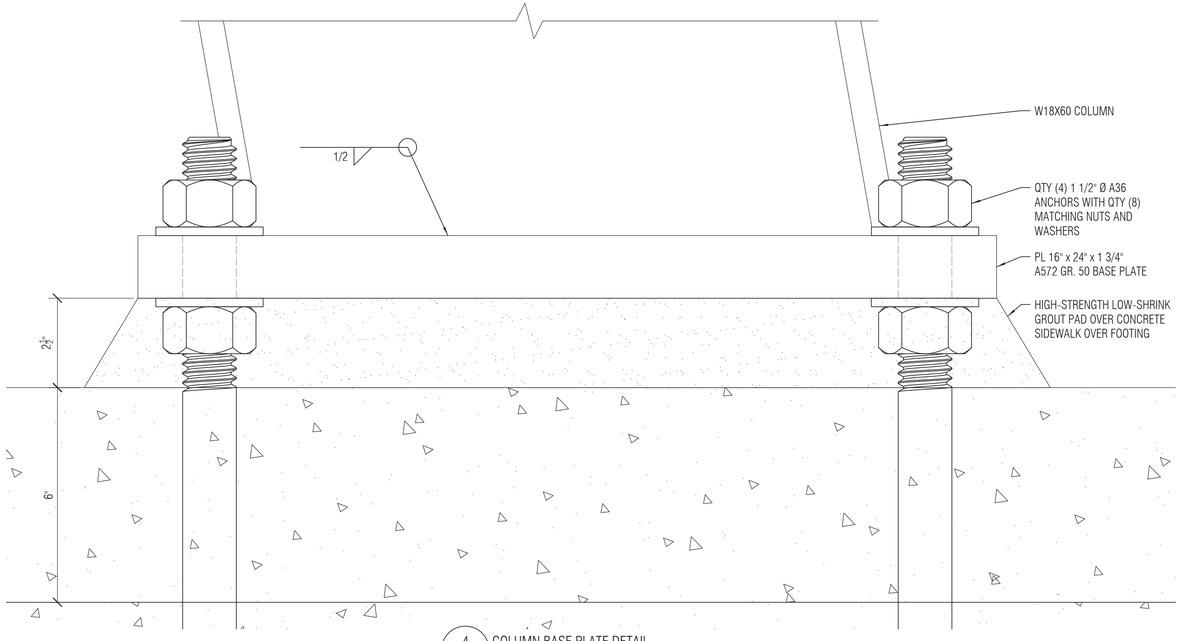
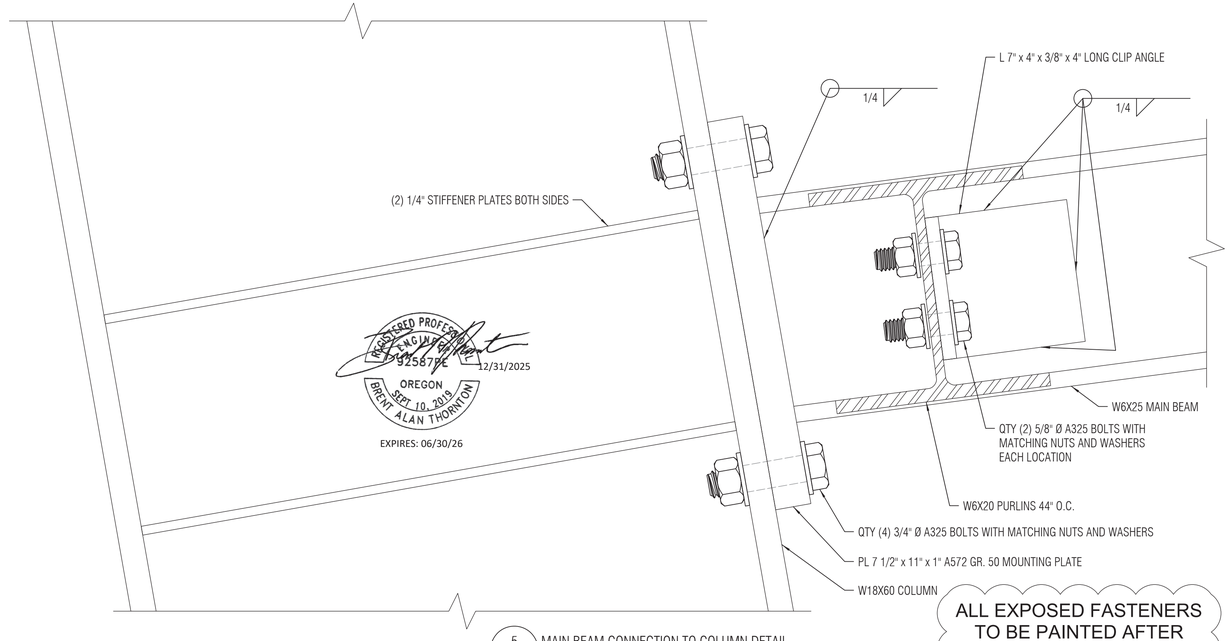
REFER TO STRUCTURAL STEEL DRAWINGS FOR BOLT PART NUMBERS AND LENGTHS



4 / S01 COLUMN BASE PLATE DETAIL
REF: 6" = 1'-0"



REGISTERED PROFESSIONAL ENGINEER
92587PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

5 / S01 MAIN BEAM CONNECTION TO COLUMN DETAIL
REF: 6" = 1'-0"

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

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SHEET NUMBER
S01

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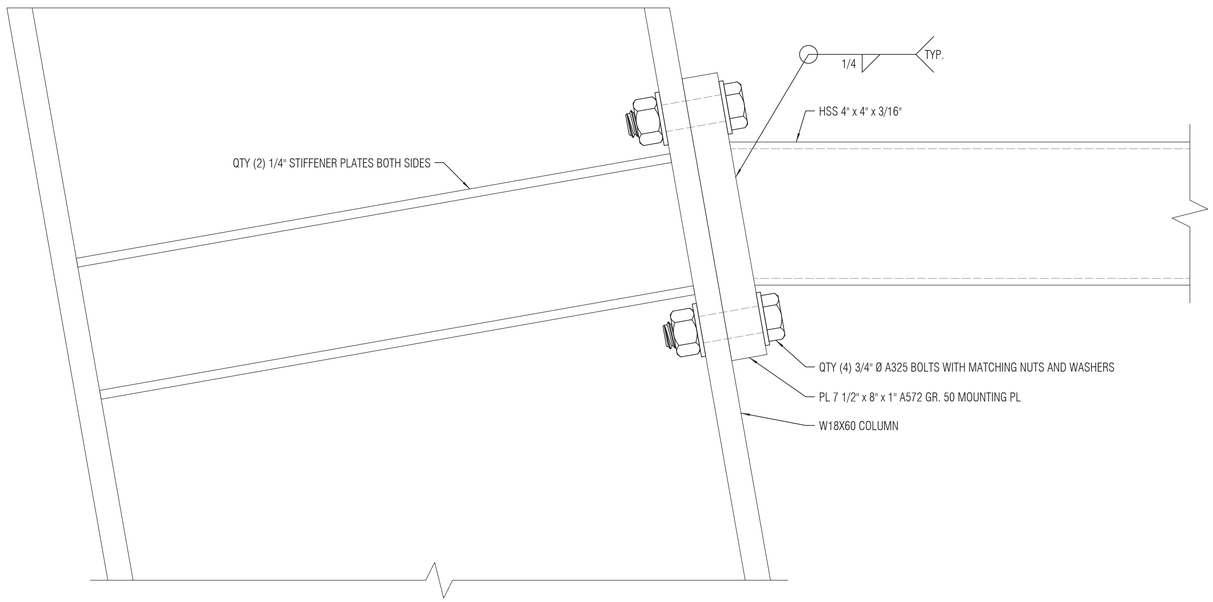

6 / S02 HSS CONNECTION TO COLUMN DETAIL
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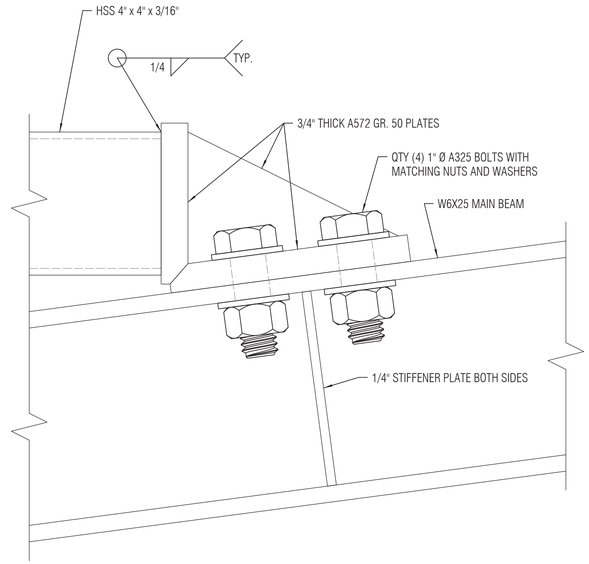

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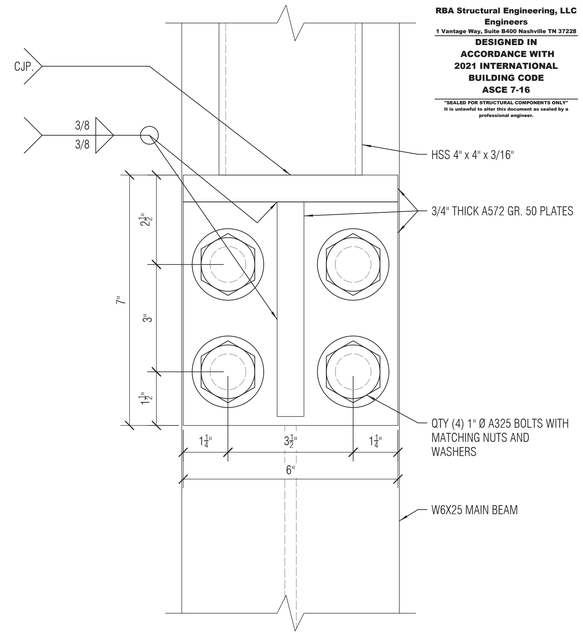
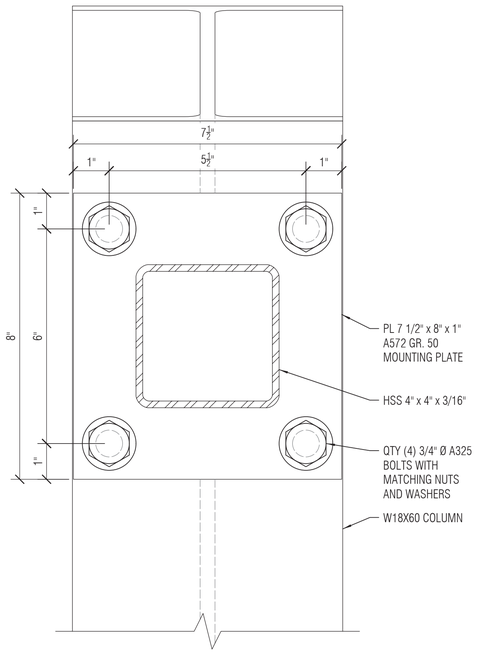
REF: 6" = 1'-0"



8 / S02 HSS CONNECTION TO MAIN BEAM DETAIL
REF: 6" = 1'-0"

AGI RESPONSIBLE FOR ALL STRUCTURAL WELDS AND CONNECTIONS

REFER TO STRUCTURAL STEEL DRAWINGS FOR BOLT PART NUMBERS AND LENGTHS



9 / S02 HSS CONNECTION TO COLUMN DETAIL
REF: 6" = 1'-0"

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OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON

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PROJECT: OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2
ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

REV #	DATE	COMMENTS
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SHEET NUMBER
S02

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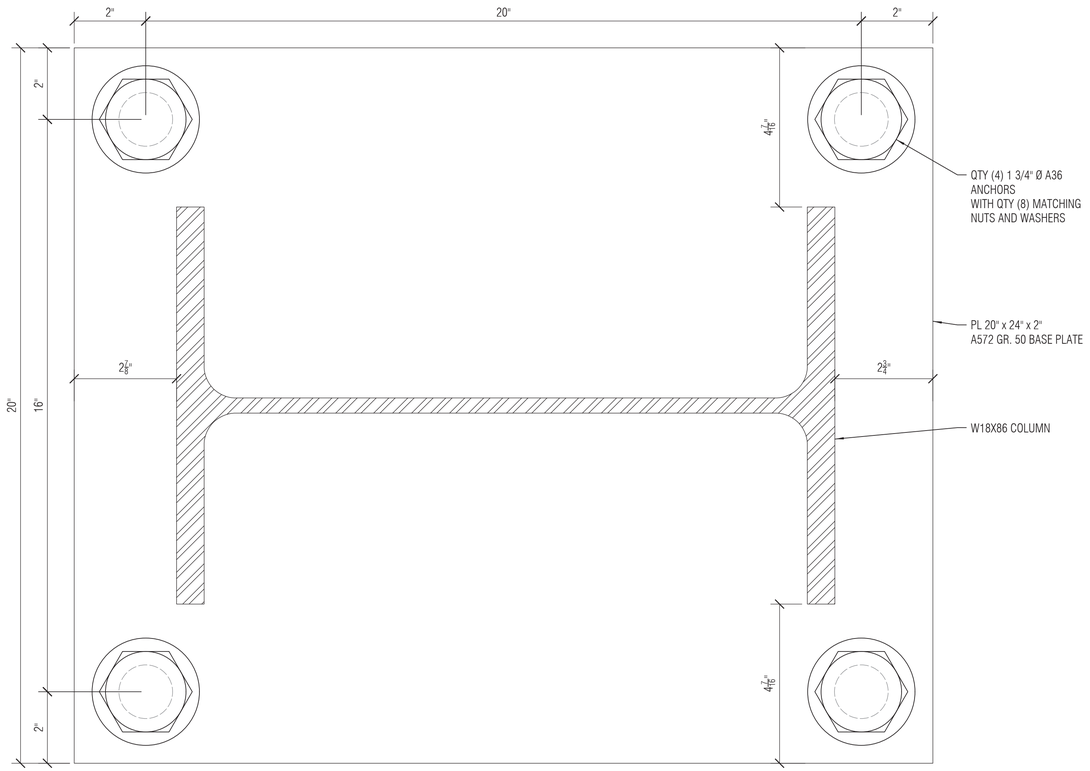
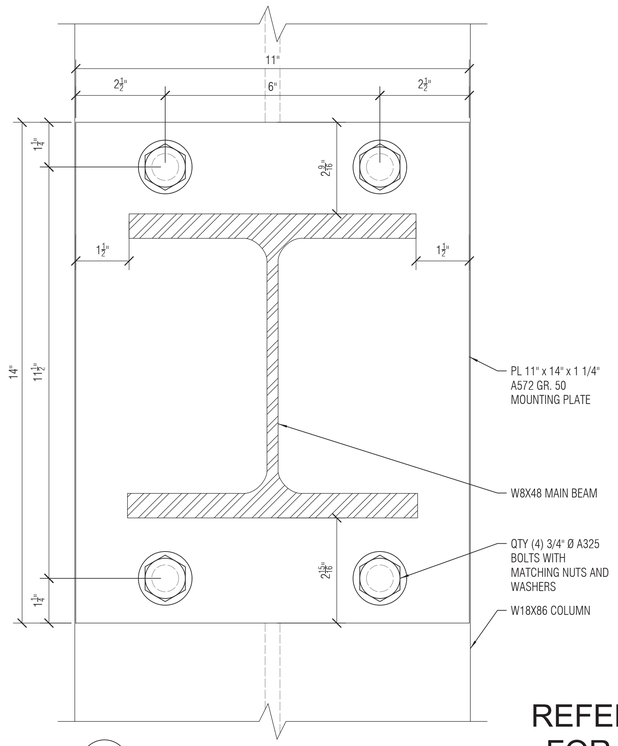
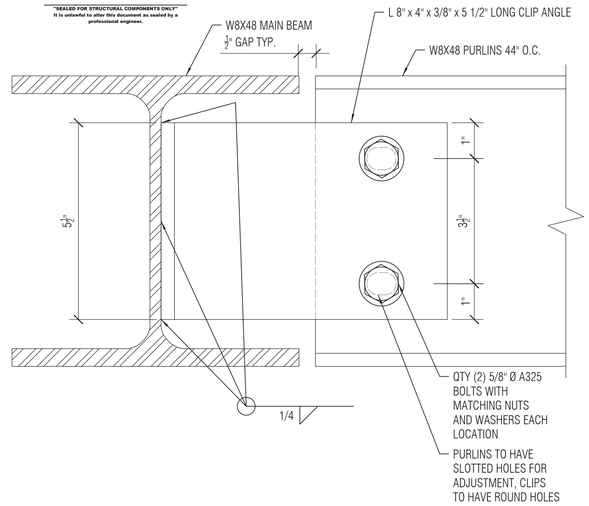


1 / S03 COLUMN BASE PLATE DETAIL - ADA MODULE
REF: 6" = 1'-0"



2 / S03 MAIN BEAM CONNECTION TO COLUMN DETAIL - ADA MODULE
REF: 6" = 1'-0"



3 / S03 PURLIN CONNECTION TO MAIN BEAM DETAIL - ADA MODULE
REF: 6" = 1'-0"

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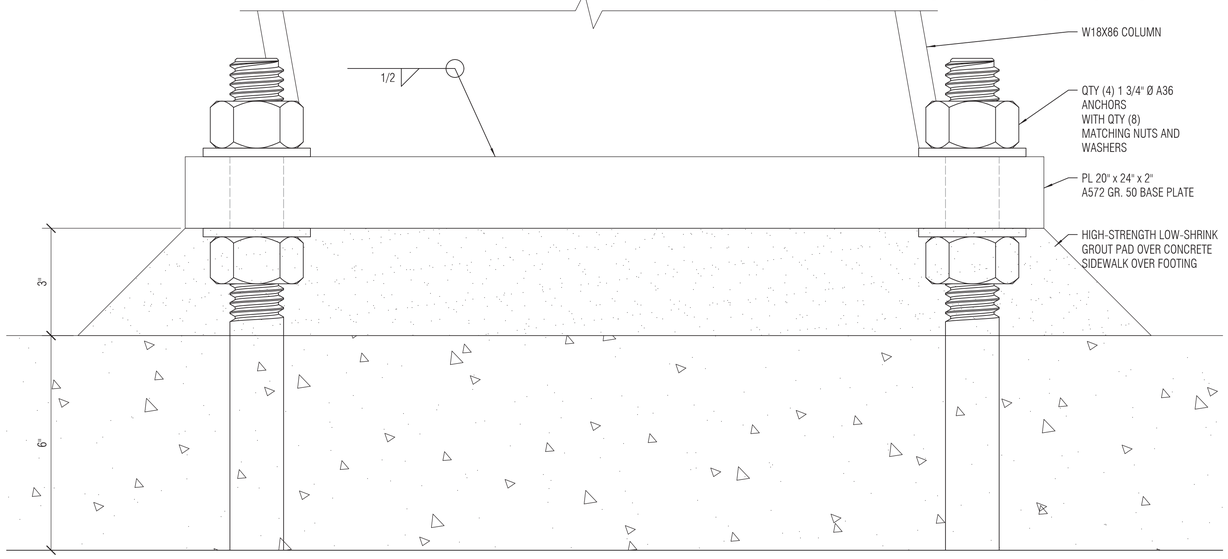
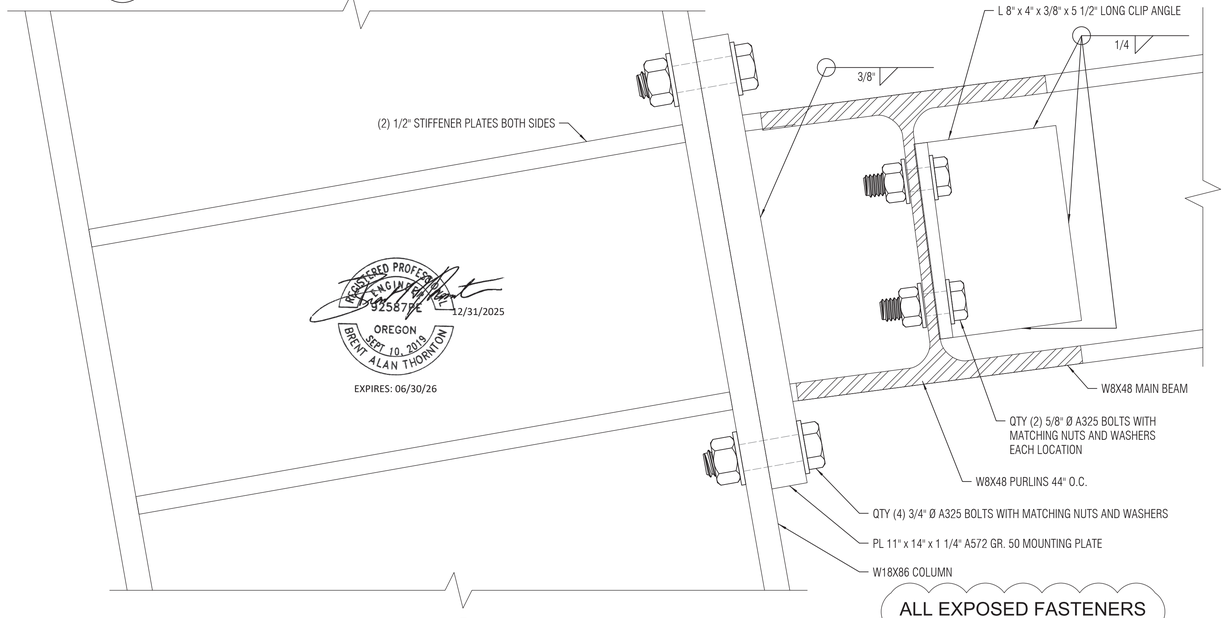
REFER TO STRUCTURAL STEEL DRAWINGS FOR BOLT PART NUMBERS AND LENGTHS



4 / S03 COLUMN BASE PLATE DETAIL - ADA MODULE
REF: 6" = 1'-0"



5 / S03 MAIN BEAM CONNECTION TO COLUMN DETAIL - ADA MODULE
REF: 6" = 1'-0"

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92587PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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412 N. Cedar Bluff Road, Suite 306
Knoxville, TN 37923
800-877-7868
www.AGI.net

PROJECT: OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2
ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

REV #	DATE	COMMENTS
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SHEET NUMBER: 13 of 20
SHEET NUMBER: S03

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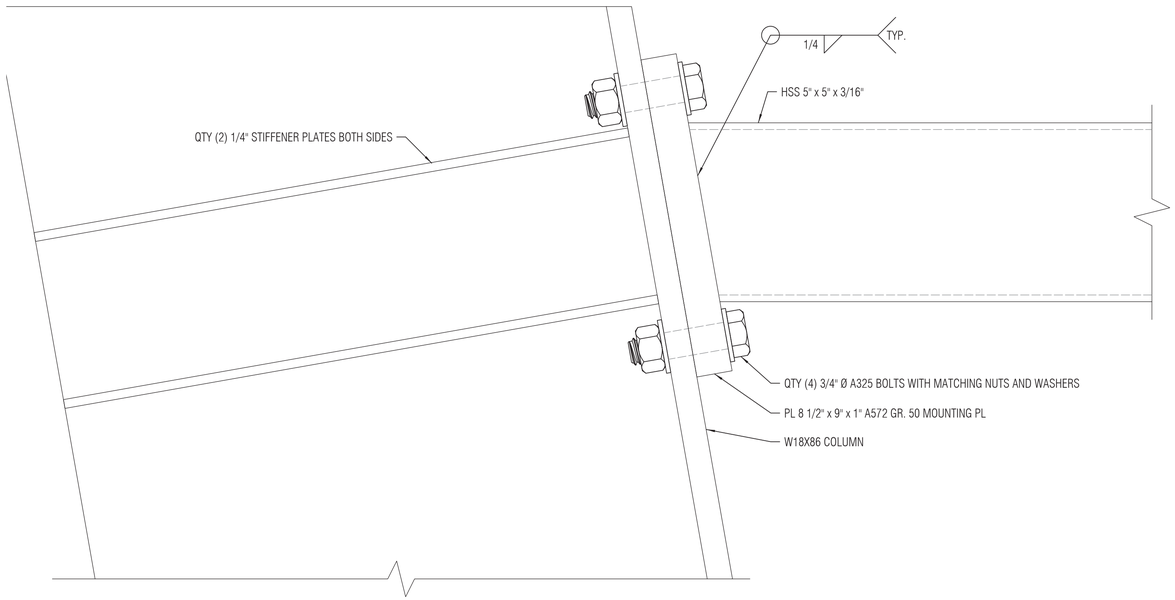
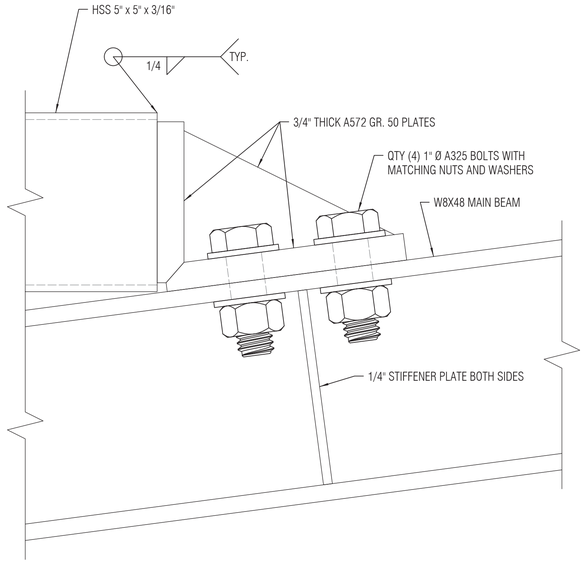
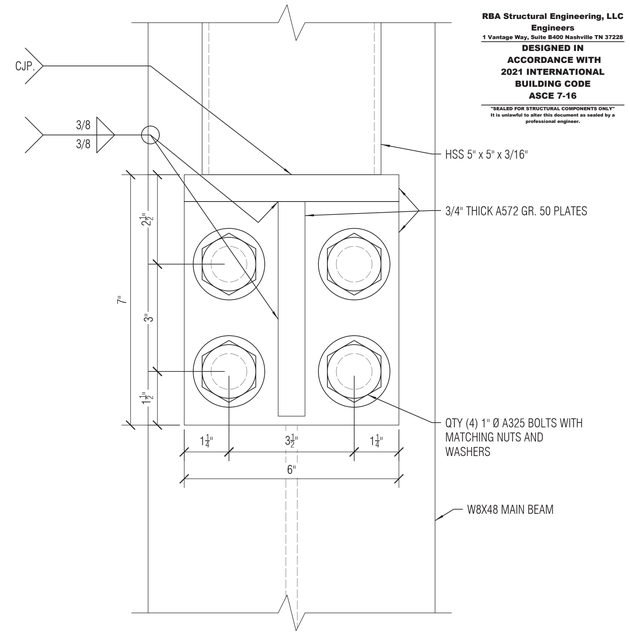


6 / S04 HSS CONNECTION TO COLUMN DETAIL - ADA MODULE
REF: 6" = 1'-0"



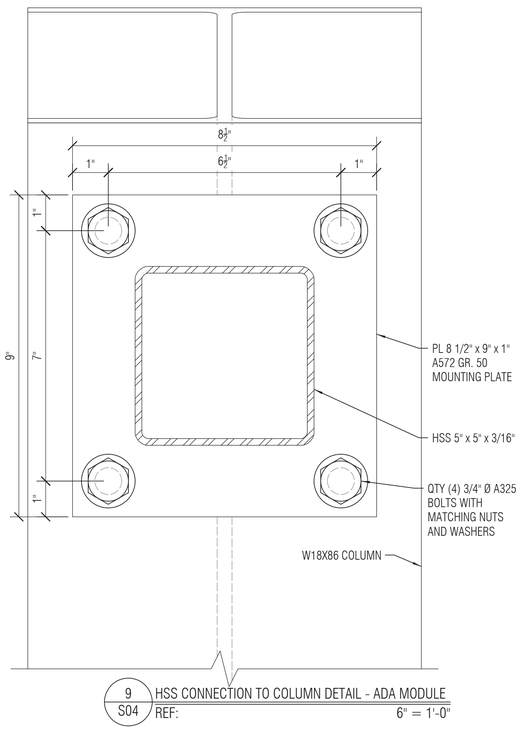
7 / S04 HSS CONNECTION TO MAIN BEAM DETAIL - ADA MODULE
REF: 6" = 1'-0"



8 / S04 HSS CONNECTION TO MAIN BEAM DETAIL - ADA MODULE
REF: 6" = 1'-0"

AGI RESPONSIBLE FOR ALL STRUCTURAL WELDS AND CONNECTIONS

REFER TO STRUCTURAL STEEL DRAWINGS FOR BOLT PART NUMBERS AND LENGTHS



9 / S04 HSS CONNECTION TO COLUMN DETAIL - ADA MODULE
REF: 6" = 1'-0"

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OREGON
SEPT. 10, 2010
91587PE
12/31/2025

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ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

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14 of 20
SHEET NUMBER
S04

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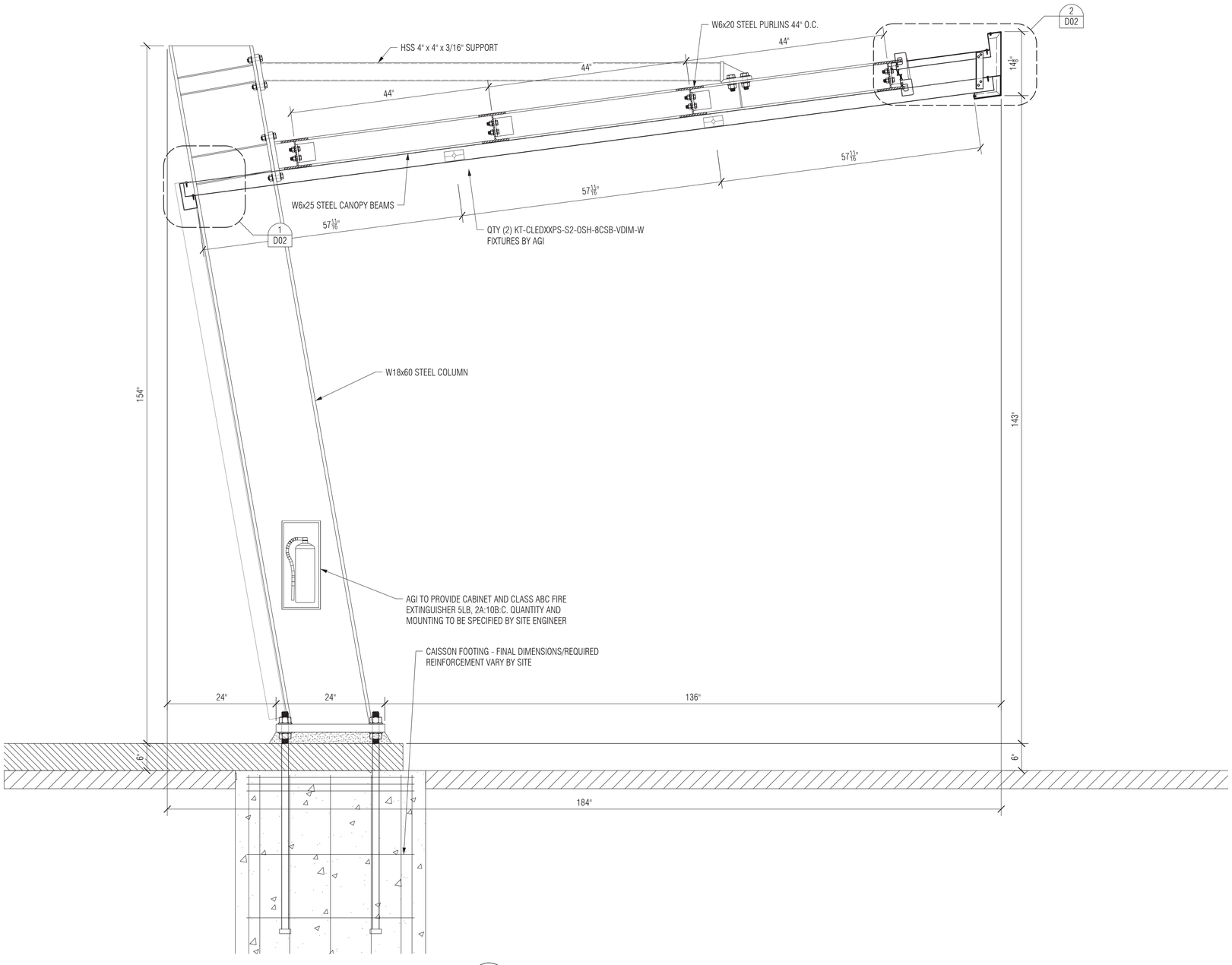

1 / D01 CANOPY SECTION - CAISSON FOUNDATION
REF: 1" = 1'-0"

REGISTERED PROFESSIONAL ENGINEER
92587PE
12/31/2025
OREGON
SEPT 10, 2015
BRENT ALAN THORNTON

EXPIRES: 06/30/26

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PROJECT: OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2
ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

DRAWN BY: DLK
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15 of 20
SHEET NUMBER
D01

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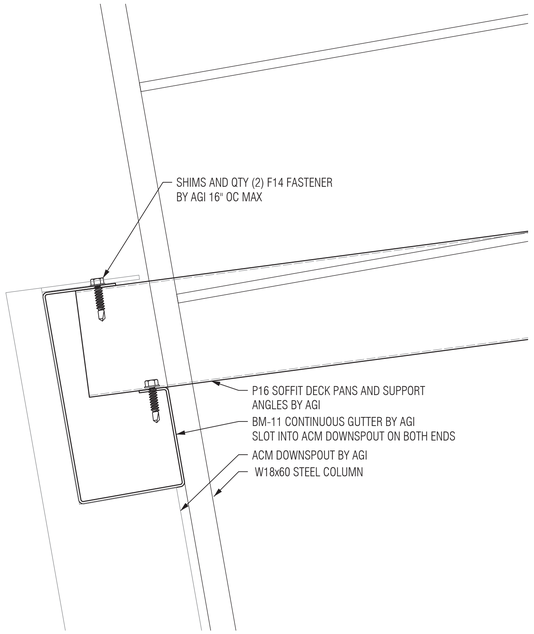
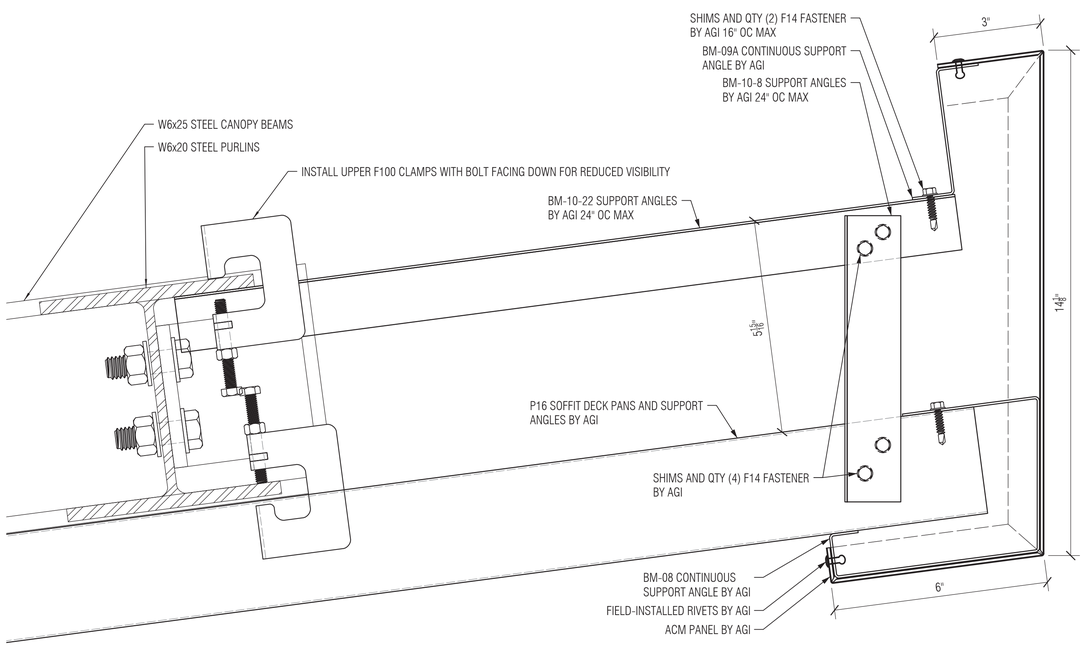
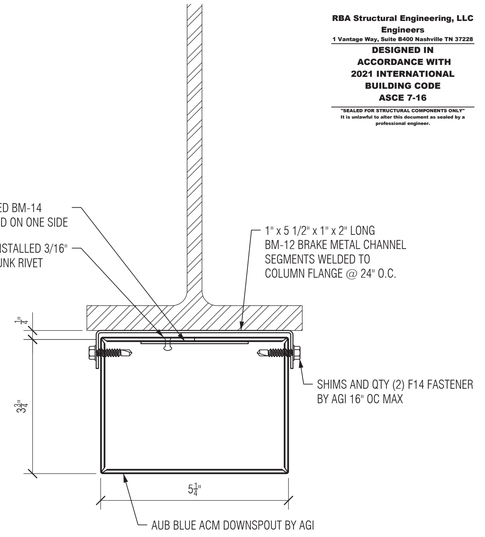


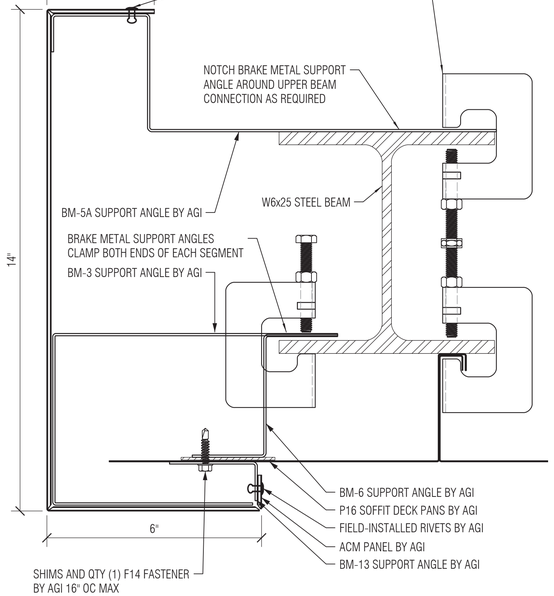
1 / D02 GUTTER DETAIL
REF: 6" = 1'-0"



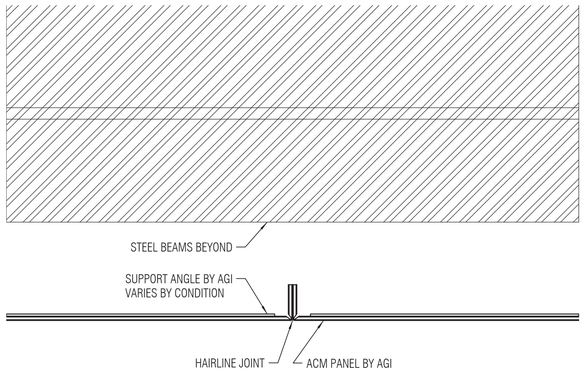
2 / D02 CANOPY FRONT TRIM DETAIL
REF: 6" = 1'-0"



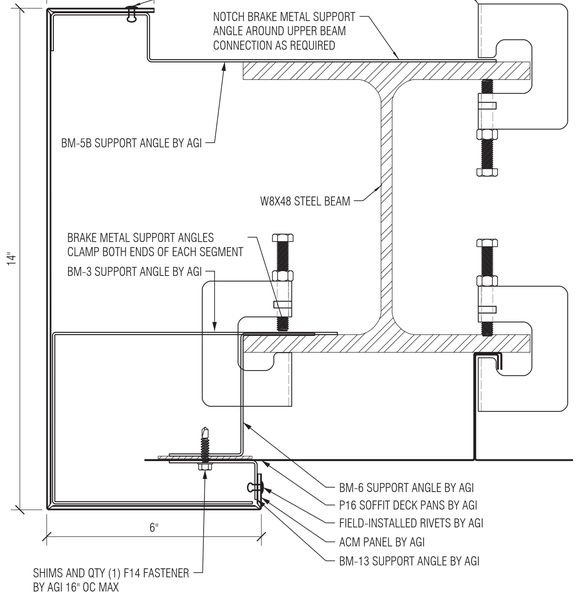
4 / D02 DOWNSPOUT CLIP DETAIL
REF: 6" = 1'-0"



6 / D02 SIDE TRIM STANDARD DETAIL
REF: 6" = 1'-0"



7 / D02 ACM HAIRLINE JOINT DETAIL
REF: 6" = 1'-0"



8 / D02 SIDE TRIM EXTENSION DETAIL FOR ADA CANOPY
REF: 6" = 1'-0"

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92567PE
12/31/2025
OREGON
SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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PROJECT
OR-009025 - iONNA 8-PLUG TYPICAL PULL-IN - WILSONVILLE - CANOPY 2

ADDRESS
9025 SW Barber Steet, Wilsonville, OR 97070

ARCHITECT
-

DRAWN BY
DLK

JOB #
28269

DATE
12/18/25

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16 of 20

SHEET NUMBER
D02

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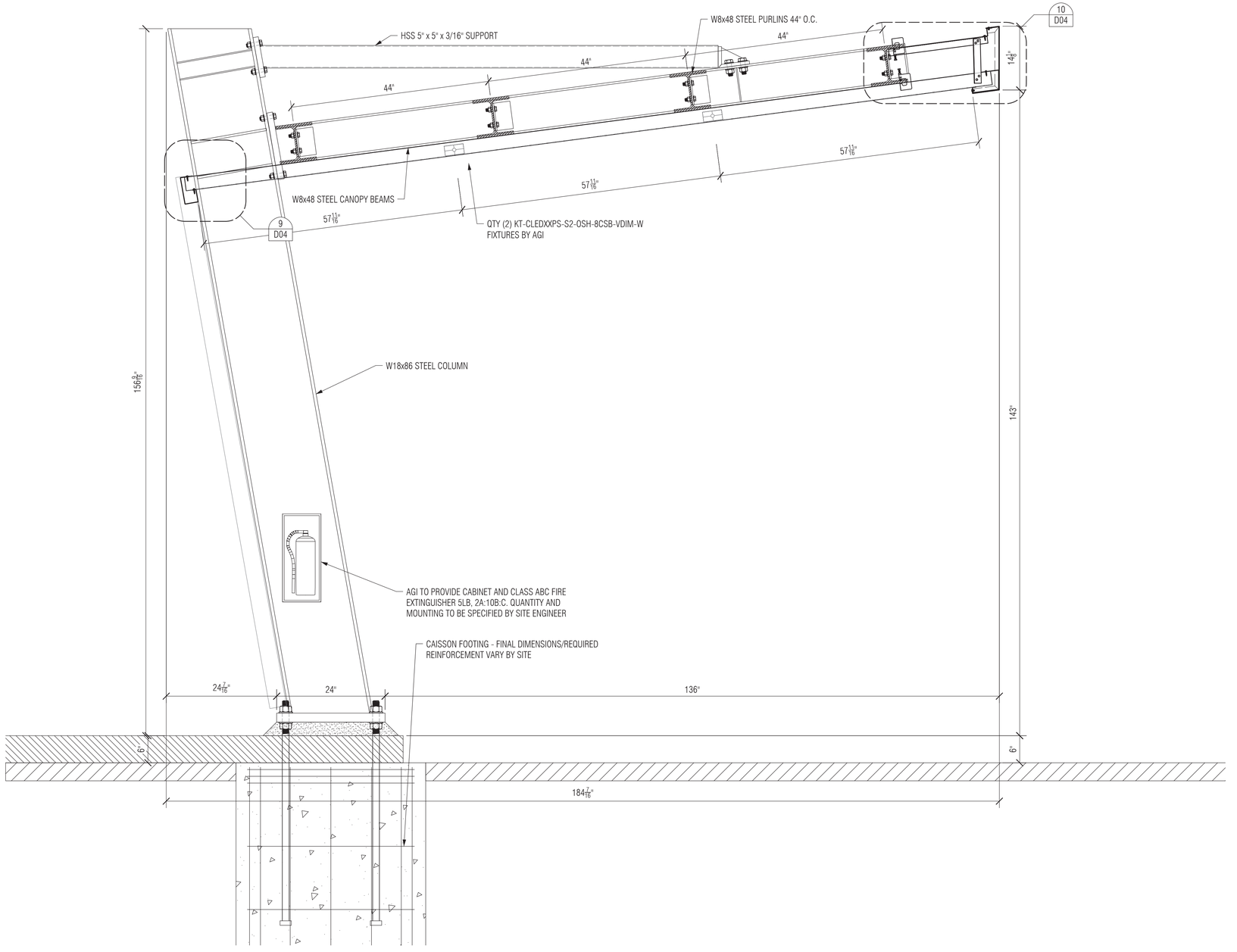

8 / D03 CANOPY SECTION - CAISSON FOUNDATION - ADA COLUMN
REF: 1" = 1'-0"

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SEPT. 10, 2015
BRENT ALAN THORNTON

EXPIRES: 06/30/26

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ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
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DRAWN BY: DLK
JOB #: 28269
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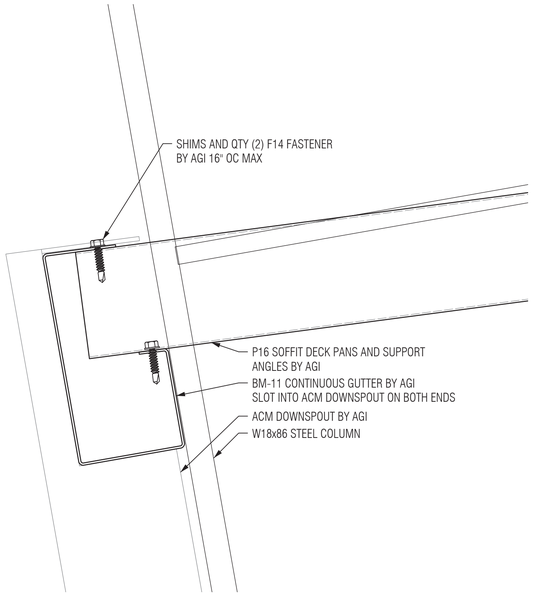
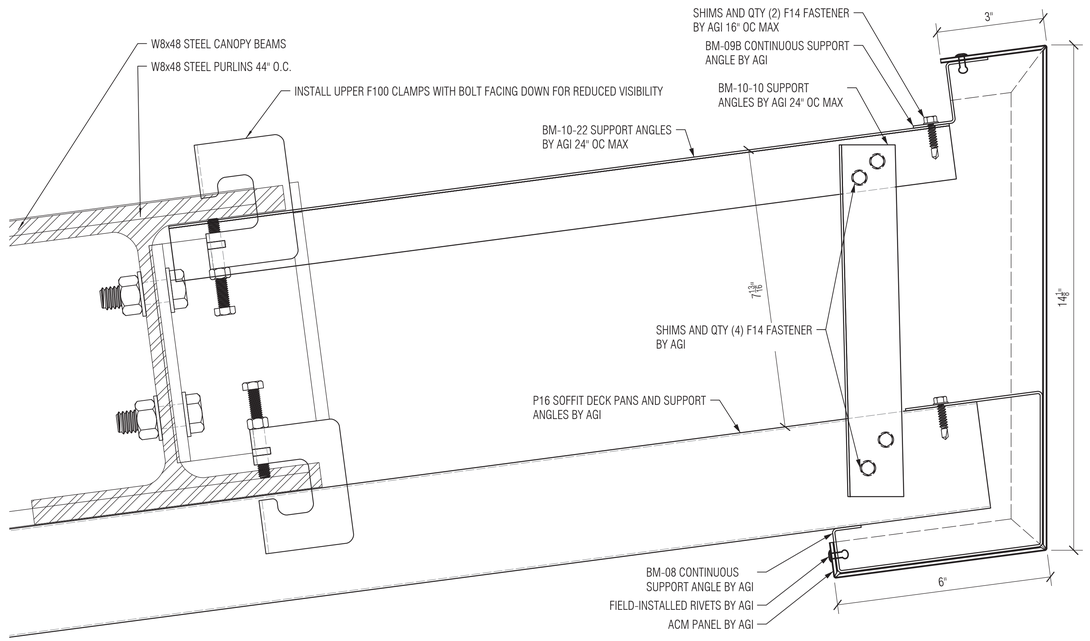


9 / D04 GUTTER DETAIL - ADA MODULE
REF: 6" = 1'-0"



10 / D04 CANOPY FRONT TRIM DETAIL - ADA MODULE
REF: 6" = 1'-0"

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BRENT ALAN THORNTON
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ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
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D04

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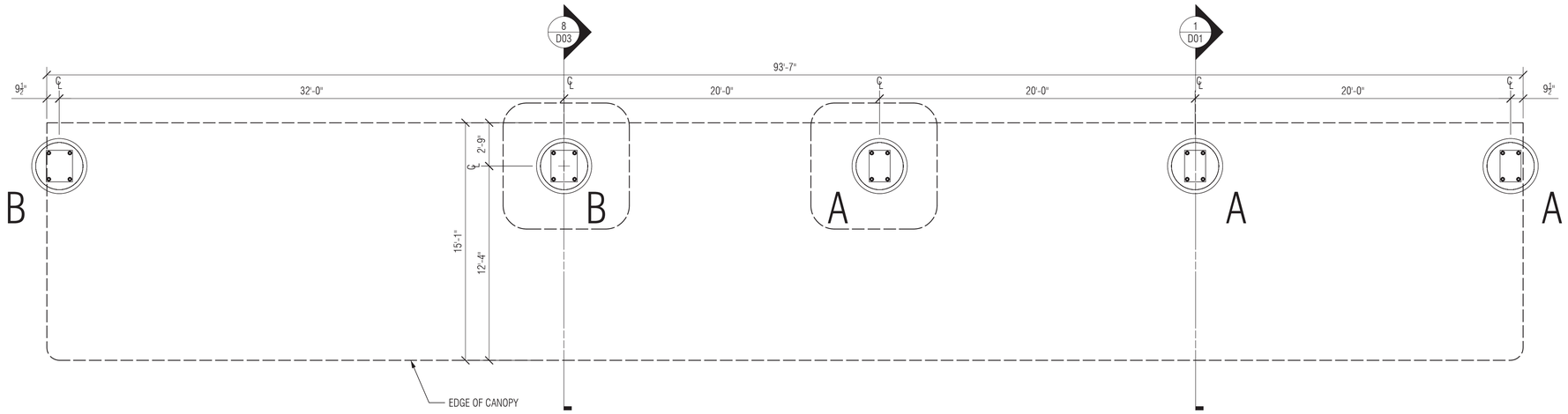

1 / D05 FOUNDATION PLAN VIEW
REF: 1/4" = 1'-0"

NOTE:
FOUNDATION TYPE A - REFERENCE 20' BAY FOUNDATION OPTIONS (SEE SHEETS S101.20.130, S102.20.130, & S103.20.130)
FOUNDATION TYPE B - REFERENCE 32' BAY FOUNDATION OPTIONS (SEE SHEETS S101.32.130, S102.32.130, & S103.32.130)

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ARCHITECT: -

DRAWN BY: DLK
JOB #: 28269
DATE: 12/18/25

REV #	DATE	COMMENTS
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SHEET NUMBER
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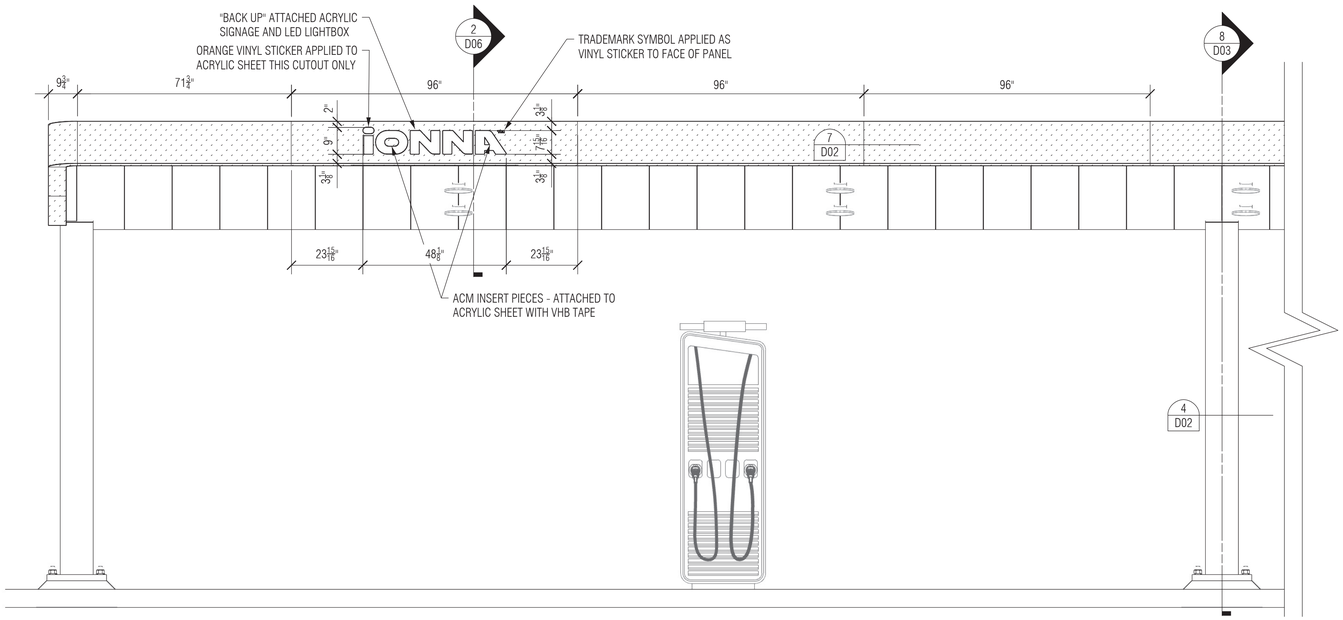
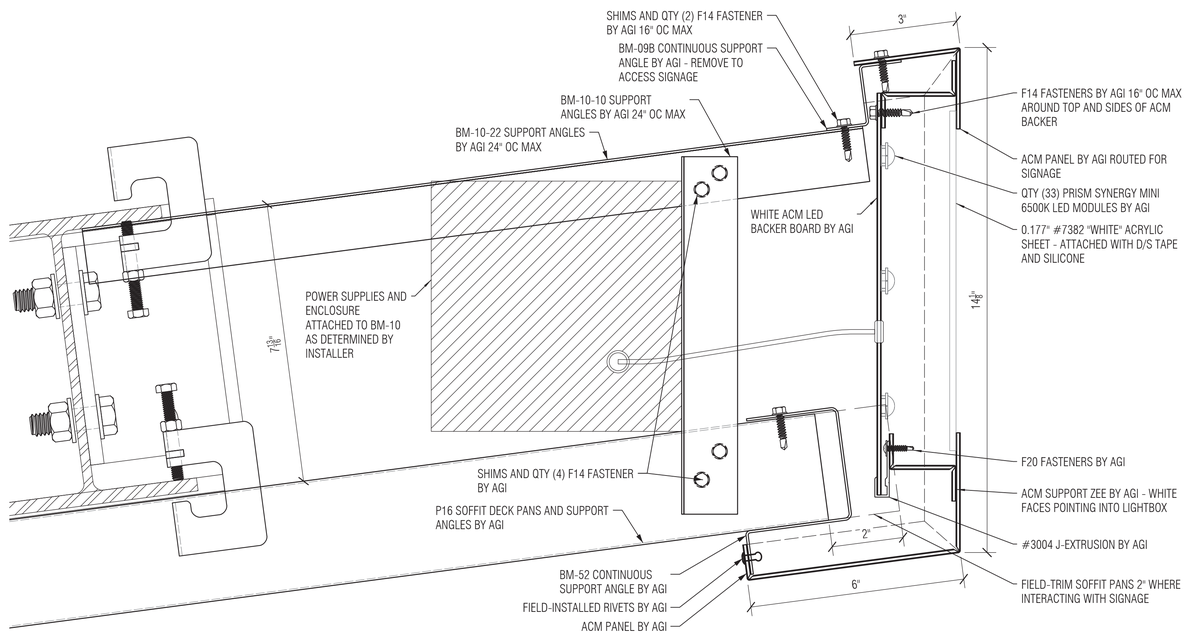
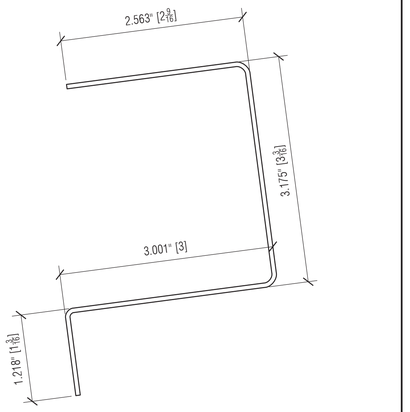


4 D06 FRONT VIEW - ADA MODULE
REF: 1/2" = 1'-0"



2 D06 CANOPY FRONT TRIM DETAIL - SIGNAGE
REF: 6" = 1'-0"

Type:	BM-52 SUPPORT	Length:	12 3/4" OR 56 1/4"
Mat:	16 GA GALVANIZED	Girth:	9 15/16"
Finish:	MILL		



52 D06 SIGNAGE SUPPORT ANGLE
REF: N/A 12" = 1'-0"

COLOR CHART	
AUB BLUE	
WAO ORANGE	

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92587PE
12/31/2025
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SEPT. 10, 2019
BRENT ALAN THORNTON
EXPIRES: 06/30/26

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ADDRESS: 9025 SW Barber Steet, Wilsonville, OR 97070
ARCHITECT: -

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Date Approved

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SHEET NUMBER: D06

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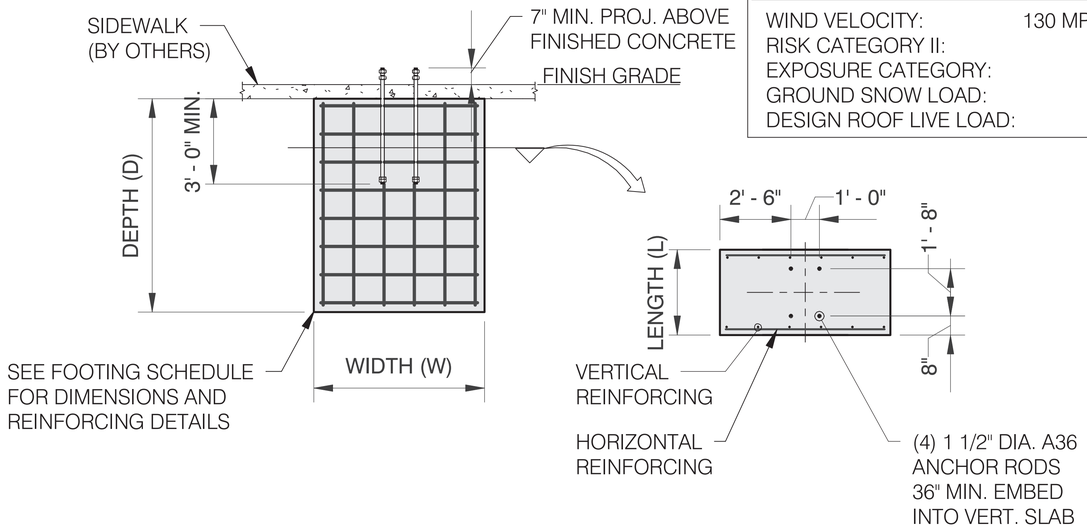
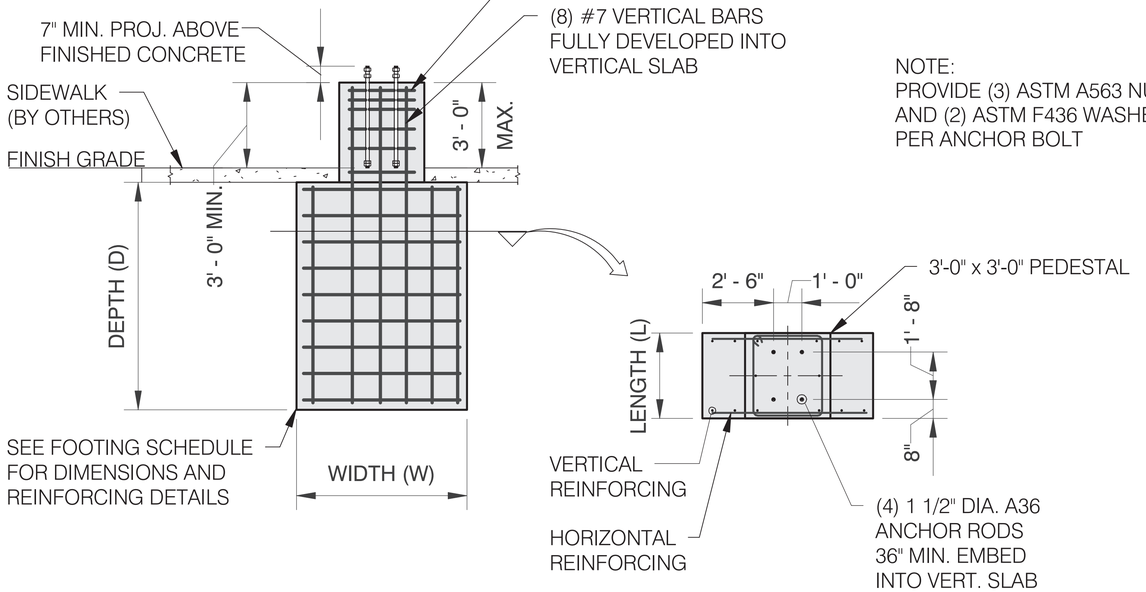


SIDE ELEVATION

PLAN VIEW

DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF



NOTE:
PROVIDE (3) ASTM A563 NUTS
AND (2) ASTM F436 WASHERS
PER ANCHOR BOLT

SIDE ELEVATION

PLAN VIEW

1 VERTICAL SLAB FOOTING OPTIONS

S101.20.130 3/16" =1'-0"

NOTES: iONNA CANOPY - 20' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
   - 2021 INTERNATIONAL BUILDING CODE
   - ASCE 7-16
   - ACI 318-19
   - ANSI/AISC 360-16
   - AWS D1.1/D1.1M: 2015
2. MATERIAL SPECIFICATION AND PROPERTIES:
   - CONCRETE: F'c = 2500 PSI AT 28-DAYS
   - CONCRETE REINFORCING STEEL: ASTM A615, GR. 60
3. REINFORCING OF CONCRETE FOUNDATIONS SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
4. FOUNDATION DESIGN IS BASED ON ASSUMPTION OF SOIL TYPE 4 (2021 IBC TABLE 1806.2):
   - ALLOWABLE BEARING PRESSURE: 2000 PSF
   - ALLOWABLE LATERAL PRESSURE: 150 PSF/FT BELOW NATURAL GRADE (FACTORED IN ACCORDANCE WITH 2021 IBC 1806.1)
5. CONTRACTOR SHALL CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT THE FOUNDATION WILL BE CONSTRUCTED ON DRY SOIL/ROCK. NO FOUNDATION SHALL BE PLACED IN WATER OR ON FROZEN SUBSURFACE.
6. IT IS THE OWNER'S RESPONSIBILITY TO CONFIRM THE ASSUMED SOIL TYPE AND ALLOWABLE DESIGN PRESSURES WITH A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
7. FOUNDATION DEPTH FOR SPREAD FOUNDATION MUST COMPLY WITH LOCAL CODES.
8. THE DEEP FOUNDATION DESIGNS ARE BASED ON A NONCONSTRAINED CONDITION AT THE TOP OF THE FOUNDATION IN ACCORDANCE WITH 2021 IBC, EQUATION 18-1.

FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
VERTICAL SLAB	3'-0" L x 6'-0" W x 7'-6" D	(6) #6 VERT., EA. FACE (8) #6 HORIZ., EA. FACE
VERTICAL SLAB w/ PEDESTAL	3'-0" L x 6'-0" W x 8'-0" D	(6) #6 VERT., EA. FACE (9) #6 HORIZ., EA. FACE

COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
+15.3 K, -5.9 K	±1.8 K	± 91 K-FT.

NOTES:

1. REACTIONS ABOVE ARE ALLOWABLE STRENGTH DESIGN (ASD).
2. REACTIONS ARE FOR EACH COLUMN.
3. AXIAL LOAD IS DUE TO GRAVITY LOADS: DEAD WEIGHT OF STRUCTURE COMBINED WITH APPLICABLE SNOW LOAD, VERTICAL WIND PRESSURE, AND ROOF LIVE LOAD.
4. SHEAR IS DUE TO WIND LOADS.
5. MOMENT IS DUE TO WIND LOADS AND ECCENTRICITY OF GRAVITY LOADS.

AGI

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www.rossbryan.com

SEAL

REGISTERED PROFESSIONAL ENGINEER 92587PE 12/31/2025 OREGON SEPT. 10, 2019 BRENT ALAN THORNTON

EXPIRES: 06/30/26

SIGN TYPE

20' BAY - 130 MPH

DRAWING TITLE

VERTICAL SLAB
FOOTING DETAILS

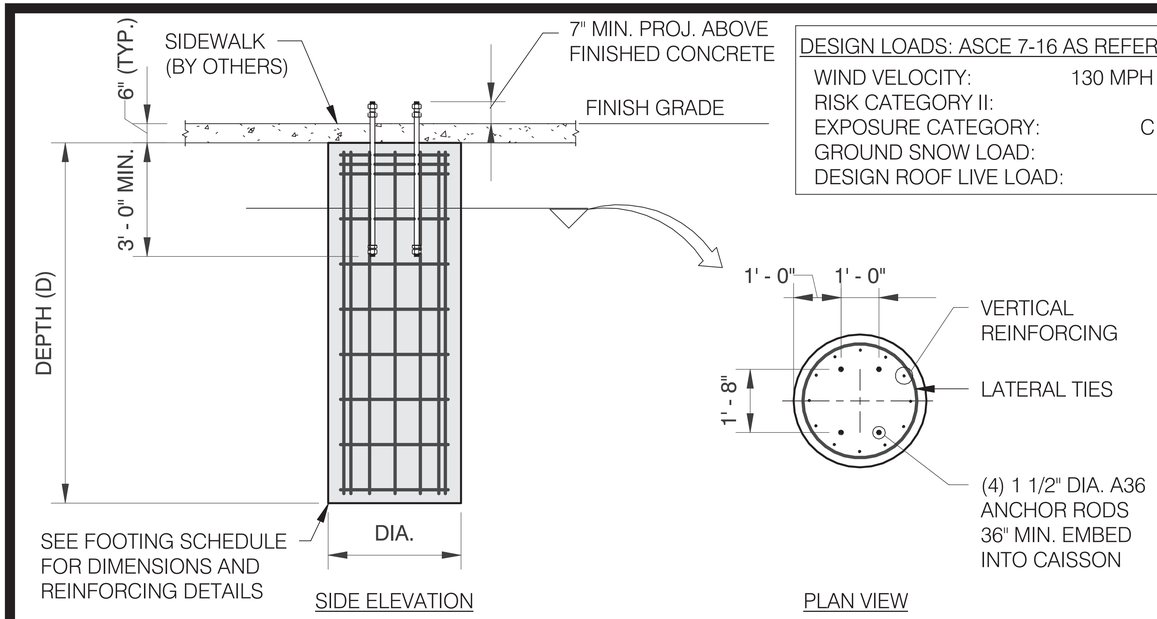
LOCATION

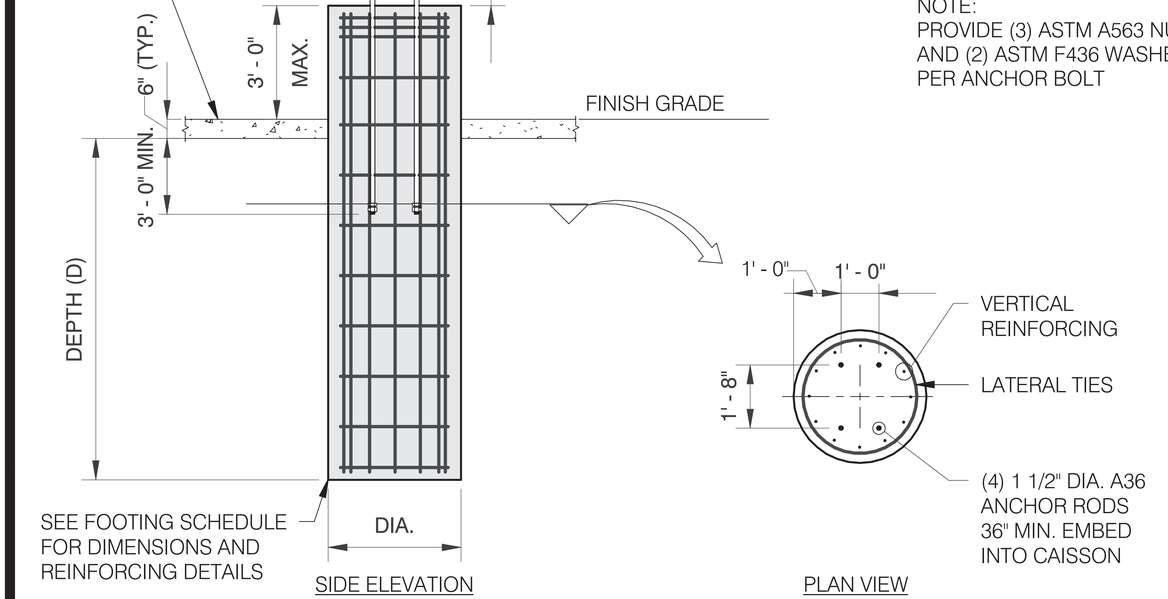
STANDARD DESIGN
20' BAY, 130 MPH

Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

S101.20.130

Sheet Number





NOTE:
PROVIDE (3) ASTM A563 NUTS
AND (2) ASTM F436 WASHERS
PER ANCHOR BOLT

DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF

NOTES: iONNA CANOPY - 20' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
   - 2021 INTERNATIONAL BUILDING CODE
   - ASCE 7-16
   - ACI 318-19
   - ANSI/AISC 360-16
   - AWS D1.1/D1.1M: 2015
2. MATERIAL SPECIFICATION AND PROPERTIES:
   - CONCRETE: F'c = 2500 PSI AT 28-DAYS
   - CONCRETE REINFORCING STEEL: ASTM A615, GR. 60
3. REINFORCING OF CONCRETE FOUNDATIONS SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER:
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   - CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
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5. CONTRACTOR SHALL CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT THE FOUNDATION WILL BE CONSTRUCTED ON DRY SOIL/ROCK. NO FOUNDATION SHALL BE PLACED IN WATER OR ON FROZEN SUBSURFACE.
6. IT IS THE OWNER'S RESPONSIBILITY TO CONFIRM THE ASSUMED SOIL TYPE AND ALLOWABLE DESIGN PRESSURES WITH A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
7. FOUNDATION DEPTH FOR SPREAD FOUNDATION MUST COMPLY WITH LOCAL CODES.
8. THE DEEP FOUNDATION DESIGNS ARE BASED ON A NONCONSTRAINED CONDITION AT THE TOP OF THE FOUNDATION IN ACCORDANCE WITH 2021 IBC, EQUATION 18-1.

FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
CAISSON	3'-0" DIA. x 10'-0" D	(12) #7 VERTICALS w/(3) #3 TIES IN TOP 5" & @ 14" O.C. AFTER
CAISSON w/ PEDESTAL	3'-0" DIA. x 10'-6" D	(12) #7 VERTICALS w/(3) #3 TIES IN TOP 5" & @ 14" O.C. AFTER

COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
+15.3 K, -5.9 K	±1.8 K	± 91 K-FT.

NOTES:

1. REACTIONS ABOVE ARE ALLOWABLE STRENGTH DESIGN (ASD).
2. REACTIONS ARE FOR EACH COLUMN.
3. AXIAL LOAD IS DUE TO GRAVITY LOADS: DEAD WEIGHT OF STRUCTURE COMBINED WITH APPLICABLE SNOW LOAD, VERTICAL WIND PRESSURE, AND ROOF LIVE LOAD.
4. SHEAR IS DUE TO WIND LOADS.
5. MOMENT IS DUE TO WIND LOADS AND ECCENTRICITY OF GRAVITY LOADS.

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S102.20.130

CAISSON FOOTING OPTIONS

1/4" =1'-0"

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SEAL

REGISTERED PROFESSIONAL ENGINEER 92587PE 12/31/2025 OREGON SEPT. 10, 2019 BRENT ALAN THORNTON

EXPIRES: 06/30/26

SIGN TYPE

20' BAY - 130 MPH

DRAWING TITLE

CAISSON
FOOTING DETAILS

LOCATION

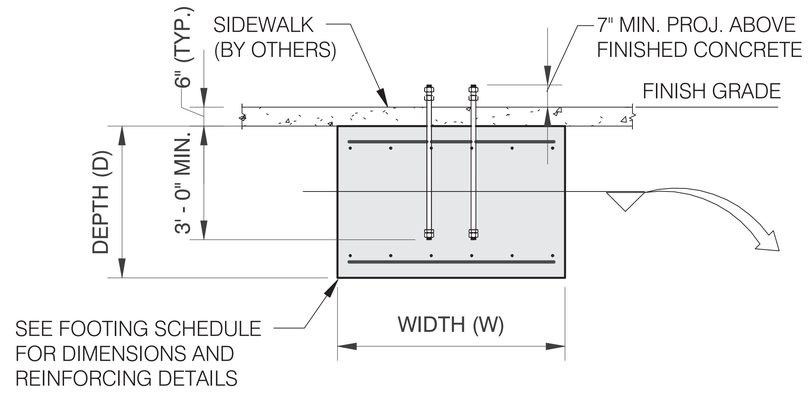
STANDARD DESIGN
20' BAY, 130 MPH

Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

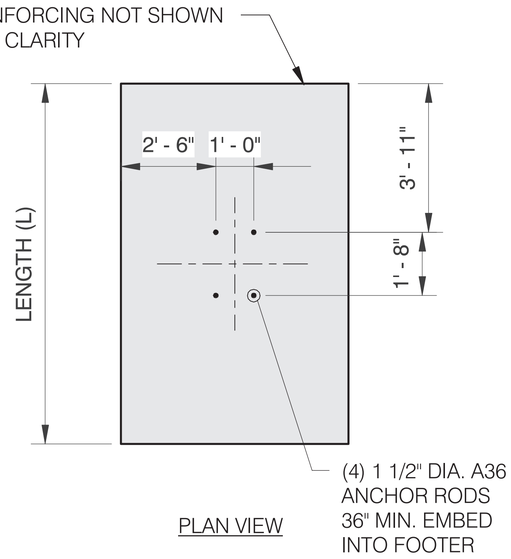
S102.20.130

Sheet Number

DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF

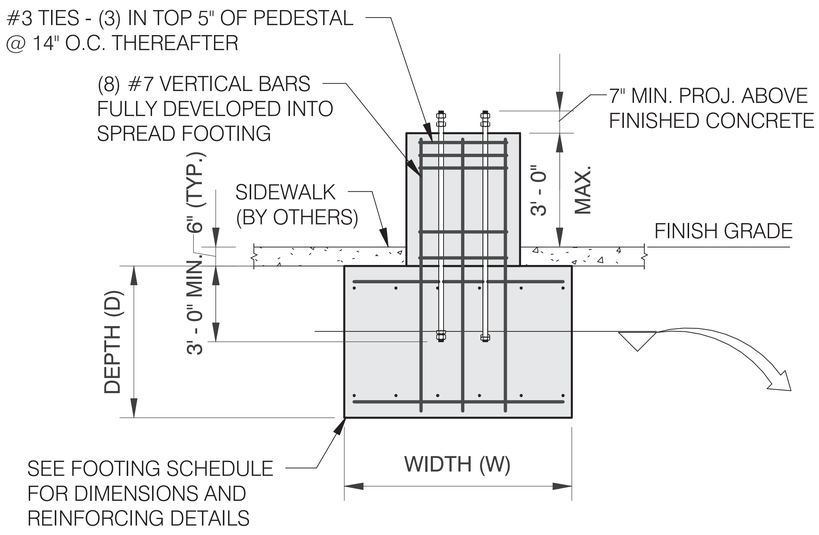


SIDE ELEVATION

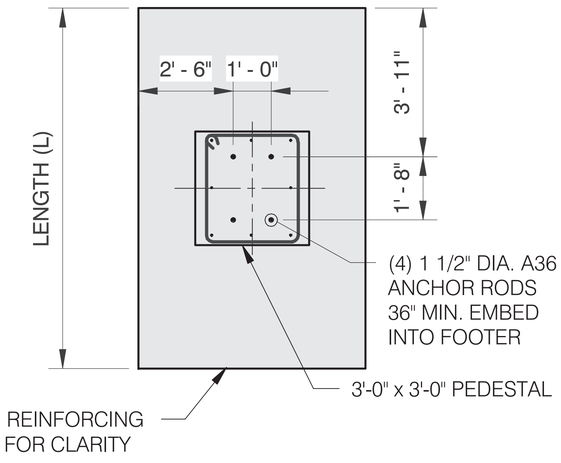


PLAN VIEW

NOTE:
PROVIDE (3) ASTM A563 NUTS
AND (2) ASTM F436 WASHERS
PER ANCHOR BOLT



SIDE ELEVATION



PLAN VIEW

1 SPREAD FOUNDATION OPTIONS

S103.20.130 1/4" =1'-0"

NOTES: iONNA CANOPY - 20' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
   - 2021 INTERNATIONAL BUILDING CODE
   - ASCE 7-16
   - ACI 318-19
   - ANSI/AISC 360-16
   - AWS D1.1/D1.1M: 2015
2. MATERIAL SPECIFICATION AND PROPERTIES:
   - CONCRETE: F'c = 2500 PSI AT 28-DAYS
   - CONCRETE REINFORCING STEEL: ASTM A615, GR. 60
3. REINFORCING OF CONCRETE FOUNDATIONS SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
4. FOUNDATION DESIGN IS BASED ON ASSUMPTION OF SOIL TYPE 4 (209521 IBC TABLE 1806.2):
   - ALLOWABLE BEARING PRESSURE: 2000 PSF
   - ALLOWABLE LATERAL PRESSURE: 150 PSF/FT BELOW NATURAL GRADE (FACTORED IN ACCORDANCE WITH 2021 IBC 1806.1)
5. CONTRACTOR SHALL CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT THE FOUNDATION WILL BE CONSTRUCTED ON DRY SOIL/ROCK. NO FOUNDATION SHALL BE PLACED IN WATER OR ON FROZEN SUBSURFACE.
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COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
+15.3 K, -5.9 K	±1.8 K	± 91 K-FT.

NOTES:
1. REACTIONS ABOVE ARE ALLOWABLE STRENGTH DESIGN (ASD).
2. REACTIONS ARE FOR EACH COLUMN.
3. AXIAL LOAD IS DUE TO GRAVITY LOADS: DEAD WEIGHT OF STRUCTURE COMBINED WITH APPLICABLE SNOW LOAD, VERTICAL WIND PRESSURE, AND ROOF LIVE LOAD.
4. SHEAR IS DUE TO WIND LOADS.
5. MOMENT IS DUE TO WIND LOADS AND ECCENTRICITY OF GRAVITY LOADS.

FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
SPREAD	9'-6" L x 6'-0" W x 4'-0" D	(6) #7 T&B IN WIDTH (9) #7 T&B IN LENGTH
SPREAD w/ PEDESTAL	9'-6" L x 6'-0" W x 4'-0" D	(6) #7 T&B IN WIDTH (9) #7 T&B IN LENGTH

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SEAL

REGISTERED PROFESSIONAL ENGINEER 92587PE 12/31/2025 OREGON SEPT. 10, 2019 BRENT ALAN THORNTON

EXPIRES: 06/30/26

SIGN TYPE

20' BAY - 130 MPH

DRAWING TITLE

SPREAD
FOOTING DETAILS

LOCATION

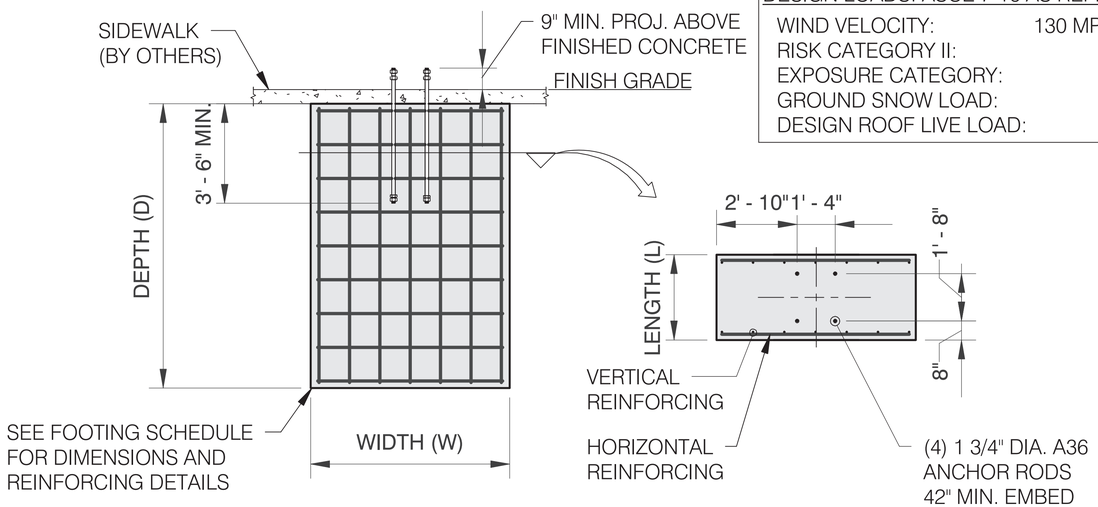
STANDARD DESIGN
20' BAY, 130 MPH

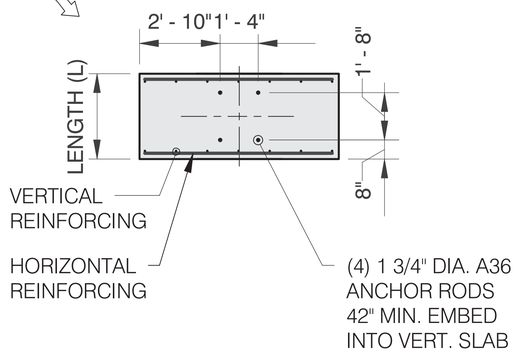
Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

S103.20.130

Sheet Number

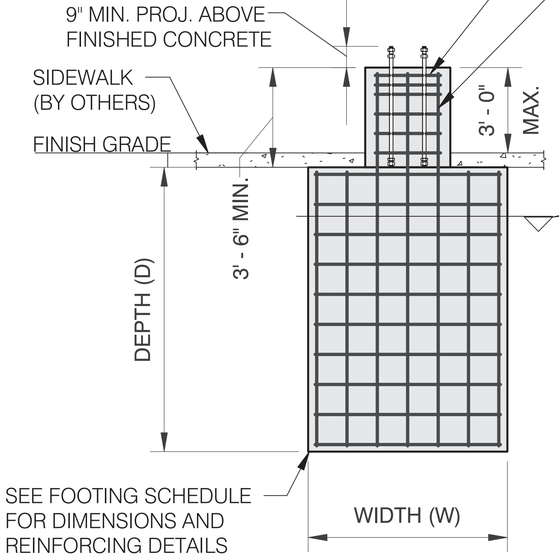
DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF



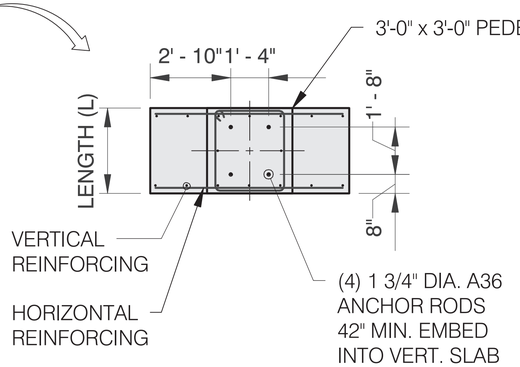


SIDE ELEVATION

PLAN VIEW



NOTE:
PROVIDE (3) ASTM A563 NUTS
AND (2) ASTM F436 WASHERS
PER ANCHOR BOLT



SIDE ELEVATION

PLAN VIEW

1
S101.32.130

VERTICAL SLAB FOOTING OPTIONS

3/16" =1'-0"

NOTES: iONNA CANOPY - 32' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
   - 2021 INTERNATIONAL BUILDING CODE
   - ASCE 7-16
   - ACI 318-19
   - ANSI/AISC 360-16
   - AWS D1.1/D1.1M: 2015
2. MATERIAL SPECIFICATION AND PROPERTIES:
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7. FOUNDATION DEPTH FOR SPREAD FOUNDATION MUST COMPLY WITH LOCAL CODES.
8. THE DEEP FOUNDATION DESIGNS ARE BASED ON A NONCONSTRAINED CONDITION AT THE TOP OF THE FOUNDATION IN ACCORDANCE WITH 2021 IBC, EQUATION 18-1.

FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
VERTICAL SLAB	3'-0" L x 7'-0" W x 9'-0" D	(7) #6 VERT., EA. FACE (9) #6 HORIZ., EA. FACE
VERTICAL SLAB w/ PEDESTAL	3'-0" L x 7'-0" W x 9'-6" D	(7) #6 VERT., EA. FACE (10) #6 HORIZ., EA. FACE

COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
+28.0 K, -7.4 K	±2.8 K	± 163 K-FT.

NOTES:

1. REACTIONS ABOVE ARE ALLOWABLE STRENGTH DESIGN (ASD).
2. REACTIONS ARE FOR EACH COLUMN.
3. AXIAL LOAD IS DUE TO GRAVITY LOADS: DEAD WEIGHT OF STRUCTURE COMBINED WITH APPLICABLE SNOW LOAD, VERTICAL WIND PRESSURE, AND ROOF LIVE LOAD.
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SEAL

REGISTERED PROFESSIONAL ENGINEER 92587PE 12/31/2025 OREGON SEPT. 10, 2019 BRENT ALAN THORNTON

EXPIRES: 06/30/26

SIGN TYPE

32' BAY - 130 MPH

DRAWING TITLE

VERTICAL SLAB
FOOTING DETAILS

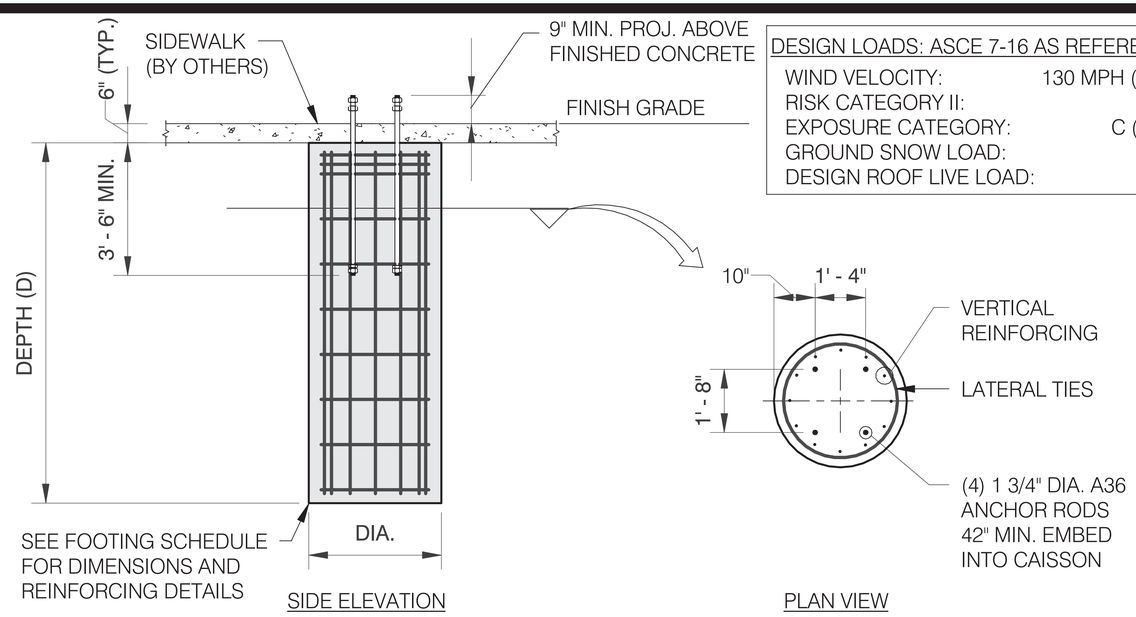
LOCATION

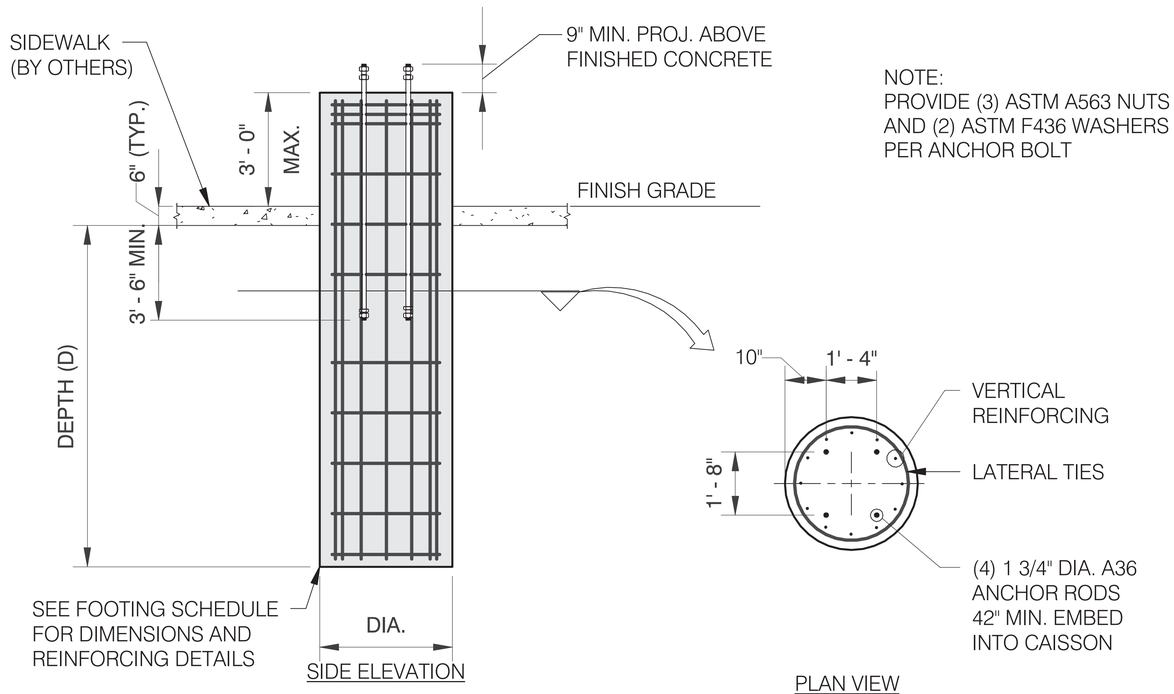
STANDARD DESIGN
32' BAY, 130 MPH

Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

S101.32.130

Sheet Number





NOTE:
PROVIDE (3) ASTM A563 NUTS AND (2) ASTM F436 WASHERS PER ANCHOR BOLT

DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF

NOTES: iONNA CANOPY - 32' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
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   - ALLOWABLE LATERAL PRESSURE: 150 PSF/FT BELOW NATURAL GRADE (FACTORED IN ACCORDANCE WITH 2021 IBC 1806.1)
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FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
CAISSON	3'-0" DIA. x 12'-0" D	(12) #7 VERTICALS w/(3) #3 TIES IN TOP 5" & @ 14" O.C. AFTER
CAISSON w/ PEDESTAL	3'-0" DIA. x 12'-6" D	(12) #7 VERTICALS w/(3) #3 TIES IN TOP 5" & @ 14" O.C. AFTER

COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
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1
S102.32.130

CAISSON FOOTING OPTIONS

1/4" =1'-0"

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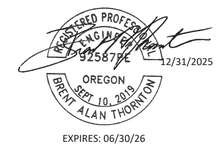


EXPIRES: 06/30/26

SIGN TYPE

32' BAY - 130 MPH

DRAWING TITLE

CAISSON
FOOTING DETAILS

LOCATION

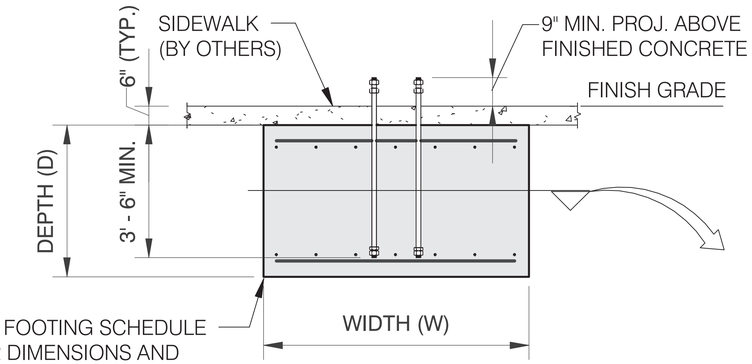
STANDARD DESIGN
32' BAY, 130 MPH

Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

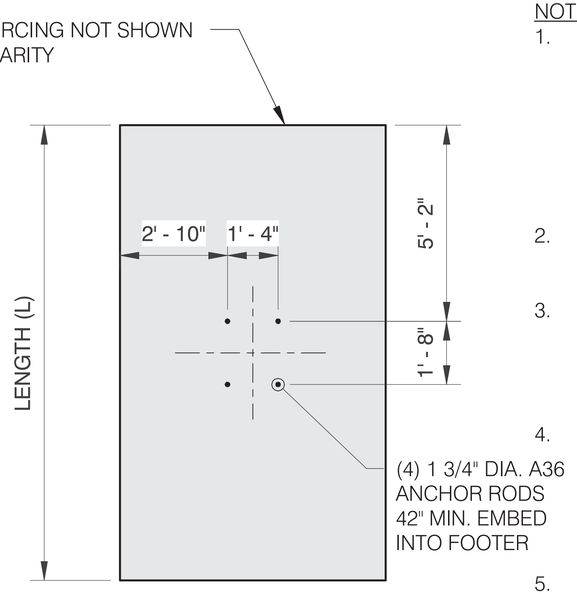
S102.32.130

Sheet Number

DESIGN LOADS: ASCE 7-16 AS REFERENCED BY 2021 IBC	
WIND VELOCITY:	130 MPH (FIGURE 26.5-1A)
RISK CATEGORY II:	TABLE 1.5-1
EXPOSURE CATEGORY:	C (SECTION 26.7.3)
GROUND SNOW LOAD:	30 PSF
DESIGN ROOF LIVE LOAD:	20 PSF

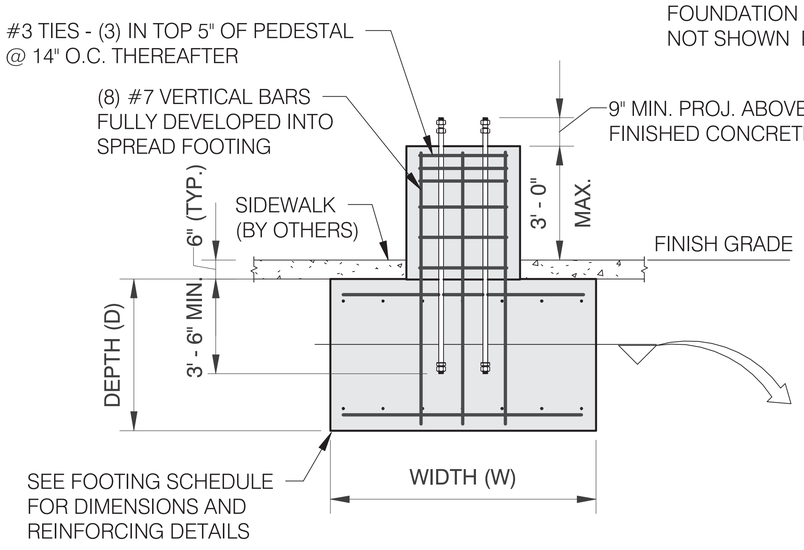


SIDE ELEVATION

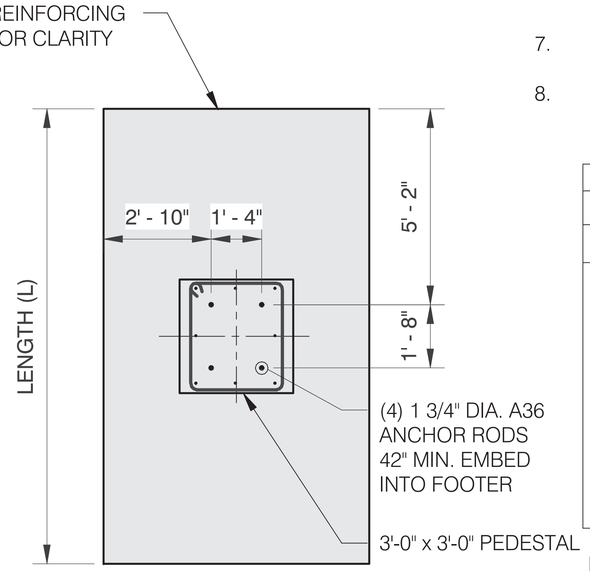


NOTE:
PROVIDE (3) ASTM A563 NUTS AND (2) ASTM F436 WASHERS PER ANCHOR BOLT

PLAN VIEW



SIDE ELEVATION



PLAN VIEW

1 SPREAD FOUNDATION OPTIONS

S103.32.130 1/4" =1'-0"

NOTES: iONNA CANOPY - 32' BAY

1. STRUCTURAL MEMBERS DESIGNED IN ACCORDANCE WITH 2021 INTERNATIONAL BUILDING CODE. DESIGN, FABRICATION AND CONSTRUCTION SHALL ALSO CONFORM TO:
   - 2021 INTERNATIONAL BUILDING CODE
   - ASCE 7-16
   - ACI 318-19
   - ANSI/AISC 360-16
   - AWS D1.1/D1.1M: 2015
2. MATERIAL SPECIFICATION AND PROPERTIES:
   - CONCRETE: F'c = 2500 PSI AT 28-DAYS
   - CONCRETE REINFORCING STEEL: ASTM A615, GR. 60
3. REINFORCING OF CONCRETE FOUNDATIONS SHALL HAVE THE FOLLOWING CONCRETE CLEAR COVER:
   - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
   - CONCRETE EXPOSED TO EARTH OR WEATHER: 2"
4. FOUNDATION DESIGN IS BASED ON ASSUMPTION OF SOIL TYPE 4 (2021 IBC TABLE 1806.2):
   - ALLOWABLE BEARING PRESSURE: 2000 PSF
   - ALLOWABLE LATERAL PRESSURE: 150 PSF/FT BELOW NATURAL GRADE (FACTORED IN ACCORDANCE WITH 2021 IBC 1806.1)
5. CONTRACTOR SHALL CONTROL SURFACE AND SUBSURFACE WATER DURING CONSTRUCTION SO THAT THE FOUNDATION WILL BE CONSTRUCTED ON DRY SOIL/ROCK. NO FOUNDATION SHALL BE PLACED IN WATER OR ON FROZEN SUBSURFACE.
6. IT IS THE OWNER'S RESPONSIBILITY TO CONFIRM THE ASSUMED SOIL TYPE AND ALLOWABLE DESIGN PRESSURES WITH A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
7. FOUNDATION DEPTH FOR SPREAD FOUNDATION MUST COMPLY WITH LOCAL CODES.
8. THE DEEP FOUNDATION DESIGNS ARE BASED ON A NONCONSTRAINED CONDITION AT THE TOP OF THE FOUNDATION IN ACCORDANCE WITH 2021 IBC, EQUATION 18-1.

COLUMN BASE REACTIONS		
AXIAL, P	SHEAR, V	MOMENT, M
+28.0 K, -7.4 K	±2.8 K	± 163 K-FT.

NOTES:
1. REACTIONS ABOVE ARE ALLOWABLE STRENGTH DESIGN (ASD).
2. REACTIONS ARE FOR EACH COLUMN.
3. AXIAL LOAD IS DUE TO GRAVITY LOADS: DEAD WEIGHT OF STRUCTURE COMBINED WITH APPLICABLE SNOW LOAD, VERTICAL WIND PRESSURE, AND ROOF LIVE LOAD.
4. SHEAR IS DUE TO WIND LOADS.
5. MOMENT IS DUE TO WIND LOADS AND ECCENTRICITY OF GRAVITY LOADS.

FOOTING SCHEDULE		
TYPE	SIZE	REINFORCING
SPREAD	12'-0" L x 7'-0" W x 4'-0" D	(7) #7 T&B IN WIDTH (11) #7 T&B IN LENGTH
SPREAD w/ PEDESTAL	12'-0" L x 7'-0" W x 4'-0" D	(7) #7 T&B IN WIDTH (11) #7 T&B IN LENGTH

AGI

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SEAL

REGISTERED PROFESSIONAL ENGINEER 92587PE 12/31/2025 OREGON SEPT. 10, 2019 BRENT ALAN THORNTON

EXPIRES: 06/30/26

SIGN TYPE

32' BAY - 130 MPH

DRAWING TITLE

SPREAD
FOOTING DETAILS

LOCATION

STANDARD DESIGN
32' BAY, 130 MPH

Project Number:	2445149
Project Status:	
Issue Date:	
Checked By:	JRH
Drawn By:	DLP

S103.32.130

Sheet Number