November 15, 2024

City of Portsmouth, NH
Planning Department
1 Junkins Ave., 3rd Floor
Portsmouth, NH 03801

RE: Application for Conditional Use Permit for EV Charging Level B
EV Charging Station in existing Whole Foods Parking Lot
Address: 1600 Woodbury Ave.

To Whom It May Concern,

Please accept this letter as a narrative describing the proposed application and how it addresses the approval criteria in Section 10.243 of the Zoning Ordinance for Conditional Use Permits.

AGI proposes to install new EV charging equipment in the existing Whole Foods parking lot at 1600 Woodbury Ave. The property is owned by Durgin Square, LLC, and it is zoned G1 – Gateway Neighborhood Mixed Use Corridor. Adding the availability of EV charging to this area will be in keeping with the intent of the G1 zoning district to facilitate a high-quality pedestrian environment.

Being installed are (6) dual L3 EV Charging dispensers for a total of (12) EV charging stalls. Also proposed are (3) 16.5'x5' canopy structures to provide coverage for the dispensers. The supporting equipment will consist of (1) switchboard, (1) CT cabinet with meter socket, (1) utility rack, and (1) new transformer (by Utility).

The following addresses the approval criteria in Section 10.243 of the Zoning Ordinance:

10.243.21 The proposed EV charging equipment will be compatible with the existing site's surroundings, as well as the adjacent and nearby properties. The proposed use will be an accessory to the existing principal use of the parking lot and surrounding commercial retail business. The availability of EV charging in this location will complement and enhance the character of surrounding development.

10.243.22 New electric service is being installed by the Utility to serve the proposed EV charging equipment.

10.243.23 The existing site and surrounding streets will maintain adequate vehicular and pedestrian infrastructure to serve the proposed use consistent with the City's Master Plan.

10.243.24 The proposed EV charging station will not have significant adverse impacts on abutting and surrounding properties. There will not be any additional traffic, noise, odors, vibrations, dust, or fumes due to the proposed use. There will be

7171 WEST 95TH STREET, SUITE 600
OVERLAND PARK, KANSAS 66212
p 913.438.7700
f 913.438.7777
ssc.us.com

lighting added, but it will have minimal impacts on surrounding properties. A photometric plan has been completed and submitted with the plans.

10.243.25 The proposed EV charging station will not have significant adverse impacts on any natural or scenic resources surrounding the site.

10.243.26 The proposed EV charging station will not cause or contribute to a significant decline in property values of adjacent properties.

I respectfully request the Planning Board to approve this Conditional Use Permit based on the criteria above and the demonstrated benefits to the community. Please contact me if you have any questions or concerns.

Thank you,

Emily Roseberry
Permitting Coordinator
SSC, Inc.
7171 W. 95th Street, Suite 600
Overland Park, KS 66212
O: 913-438-7700 ext. 2272
eroseberry@ssc.us.com

APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

PROJECT:

CHARGING STATION ADDITION

DRAWING DESCRIPTION:

FINAL CD100

AERIAL MAP

SITE INFORMATION

SITE ADDRESS: 1600 WOODBURY AVE
PORTSMOUTH, NH 03801

COUNTY: ROCKINGHAM

PROPERTY OWNER: DURGIN SQUARE, LLC.
CLIFFORD LONG
1600 WOODBURY AVE.
PORTSMOUTH, NH 03801
(617) 462-1200

SITE INFORMATION:
LATITUDE: 43° 05' 23.05" N (NAD 83)
LONGITUDE: 70° 47' 33.07" W (NAD 83)
GROUND ELEV: 63.0' AMSL

APPLICANT: AGI
5514 RIO VISTA DRIVE
CLEARWATER, FL 33760
(800) 877-7868 ex. 4520

UTILITY COMPANY: UNITIL

APN: 08178-0238-0016-0000

CONSULTING TEAM

ENGINEERING:
SSC, INC.
7171 WEST 95TH STREET, SUITE 600
OVERLAND PARK, KANSAS 66212
PHONE: (913) 438-7700
FAX: (913) 438-7777

SURVEY:
ODONE SURVEY & MAPPING
291 MAIN STREET, SUITE 5
NORTHBOROUGH, MA 01532
PHONE: (508) 351-6022
FAX: (508) 351-6633

STRUCTURAL:
ARCHITECTURAL GRAPHICS INC.
2655 INTERNATIONAL PARKWAY
VIRGINIA BEACH, VIRGINIA 23452
PHONE: (615) 329-1300

LIGHTING:
AGI, INC.
5514 RIO VISTA DRIVE
CLEARWATER, FLORIDA 33760
PHONE: (800) 877-7868, ex. 4520

DRAWING INDEX

SHEET NO.	SHEET TITLE
T-1.0	TITLE SHEET
	SURVEY (BY OTHERS)
C-1.0	OVERALL SITE & ZONING PLAN
C-1.1	EXISTING SITE PLAN
C-1.2	ENLARGED SITE PLAN & ELEVATION
C-1.3	OPEN SPACE & VEGETATION PLAN
C-1.4	EROSION CONTROL PLAN
C-2.0	FOUNDATION PLANS (1 OF 2)
C-2.1	FOUNDATION PLANS (2 OF 2)
C-3.0	EQUIPMENT DETAILS (1 OF 3)
C-3.1	EQUIPMENT DETAILS (2 OF 3)
C-3.2	EQUIPMENT DETAILS (3 OF 3)
E-1.0	UTILITY PLAN
E-1.1	ENLARGED UTILITY PLAN
E-2.0	ELECTRICAL ONE-LINE DIAGRAM
E-2.1	PANEL SCHEDULE
E-3.0	ELECTRICAL DETAILS (1 OF 2)
E-3.0	ELECTRICAL DETAILS (2 OF 2)
G-1.0	GROUNDING DETAILS
SP-1.0	SPECIFICATIONS (1 OF 5)
SP-1.1	SPECIFICATIONS (2 OF 5)
SP-1.2	SPECIFICATIONS (3 OF 5)
SP-2.0	SPECIFICATIONS (4 OF 5)
SP-2.1	SPECIFICATIONS (5 OF 5)
	EQUIPMENT SPECIFICATIONS (BY OTHERS)
	PHOTOMETRIC SPECIFICATIONS (BY OTHERS)
	CANOPY STRUCTURAL ANALYSIS (BY OTHERS)

PROJECT DESCRIPTION

- INSTALL (6) DC400KW DISPENSERS
- INSTALL (1) UTILITY TRANSFORMER (BY UTILITY COMPANY)
- INSTALL (1) 3000A 480Y/277V SWITCHBOARD "MDP"
- INSTALL (1) 15KVA TRANSFORMER
- INSTALL (1) CT CABINET W/ METER
- INSTALL (1) MINI POWER-ZONE
- INSTALL (1) SITE COMMS BOX
- INSTALL (22) BOLLARDS
- INSTALL (2) EV SIGNAGE
- INSTALL (12) WHEELSTOPS

JURISDICTION COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. INTERNATIONAL BUILDING CODE
2. INTERNATIONAL MECHANICAL CODE
3. ANSI/TIA-222 STRUCTURAL STANDARD
4. NFPA 780 – LIGHTNING PROTECTION CODE
5. NATIONAL ELECTRICAL CODE

811 Know what's below. Call before you dig. www.call811.com

THE UTILITIES AS SHOWN ON THIS SET OF DRAWINGS WERE DEVELOPED FROM THE INFORMATION AVAILABLE. THE INFORMATION PROVIDED IS NOT IMPLIED NOR INTENDED TO BE THE COMPLETE INVENTORY OF UTILITIES IN THIS AREA. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATION OF ALL UTILITIES (WHETHER SHOWN OR NOT) AND PROTECT SAID UTILITIES FROM ANY DAMAGE CAUSED BY CONTRACTOR'S ACTIVITIES.

STAMP:

STATE OF NEW HAMPSHIRE – SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER
11/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:
THIS DRAWING HAS NOT BEEN PUBLISHED AND IS THE SOLE PROPERTY OF SSC, INC. AND IS LENT TO THE BORROWER FOR THEIR CONFIDENTIAL USE ONLY, AND IN CONSIDERATION OF THE LOAN OF THIS DRAWING, THE BORROWER PROMISES AND AGREES TO RETURN IT UPON REQUEST AND AGREES THAT IT WILL NOT BE REPRODUCED, COPIED, LENT OR OTHERWISE DISPOSED OF DIRECTLY OR INDIRECTLY, NOR USED FOR ANY PURPOSE OTHER THAN FOR WHICH IT IS FURNISHED.

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME: WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER: AGI-INA-NH-0001

SITE ADDRESS: 1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION: TITLE SHEET

SHEET #: T-1.0

GENERAL NOTES

1. CURRENT OWNER OF RECORD:
   DSQ HOLDING LLC
   DEED REFERENCE: BOOK 4894, PAGE 2646.
   PLAN REFERENCE: (D-32485)
   SITE ADDRESS: 1600-1618 WOODBURY AVE, PORTSMOUTH, NH (ROCKINGHAM COUNTY)
   ASSESSORS PARCEL: MAP 238 LOT 16 & MAP 239 LOT 2
2. THIS PLAN IS THE RESULT OF AN ON-THE-GROUND SURVEY PERFORMED BY ODONE SURVEY & MAPPING ON APRIL 15-17, 2014. THIS PLAN HAS BEEN PREPARED FOR TITLE PURPOSES ONLY. SURVEY BY TRIMBLE S6 TOTAL STATION.
3. ALL FIELD MEASUREMENTS MATCHED RECORDED DIMENSIONS WITHIN THE PRECISION REQUIREMENTS OF ALTA/ACSM SPECIFICATIONS UNLESS OTHERWISE SHOWN.
4. AS OF APRIL 17, 2014 NO RECENT EARTHWORK OR BUILDING CONSTRUCTION WAS OBSERVED ON THE SUBJECT PREMISES, NO RECENT CHANGES IN STREET RIGHT-OF-WAY LINES WAS OBSERVED OR PROPOSED TO BE ALTERED. NO EVIDENCE WAS OBSERVED THAT THE SUBJECT PREMISES WERE BEING USED AS A SOLID WASTE DUMP OR SANITARY LANDFILL, AND NO EVIDENCE WAS OBSERVED OF CEMETERIES LOCATED ON THE SUBJECT PREMISES.
5. UTILITY NOTE: LOCATION OF UTILITIES SHOWN HEREON WERE DETERMINED BY OBSERVATION OF ABOVE GROUND EVIDENCE.
   PUBLIC UTILITIES: GAS, ELECTRIC, SEWER, TELEPHONE AND WATER ACCESS THE PROPERTY VIA A PUBLIC RIGHT-OF-WAY OR EASEMENT LEADING TO A PUBLIC RIGHT-OF-WAY.
6. PROPERTY HAS DIRECT ACCESS TO ARTHUR BRADY DRIVE AND DURGIN LANE AS SHOWN AND INDIRECT ACCESS TO WOODBURY AVENUE THROUGH ACCESS EASEMENT AS NOTED.
7. NO EVIDENCE OF A STREET NUMBER LISTED ON THE BUILDINGS.
8. PLAN REFERENCES: (ROCKINGHAM COUNTY REGISTRY OF DEEDS)
   D-32485, D-21957 AND D-22028

ZONING INFORMATION

LISTED BELOW ARE SETBACK, HEIGHT, AND FLOOR SPACE AREA RESTRICTIONS AS DISCLOSED BY APPLICABLE ZONING OR BUILDING CODES (BEYOND THOSE REQUIRED UNDER PARAGRAPH 5d OF THE ALTA STANDARDS) UNLESS "NONE" IS STATED BELOW.

ZONING CLASSIFICATION: GENERAL BUSINESS (GB)
PROVIDED FROM THE CITY OF PORTSMOUTH ZONING ORDINANCE

	REQUIRED
MINIMUM LOT AREA	43,560 SQ. FT.
MINIMUM FRONTAGE	200 FT.
MAX. LOT COVERAGE	30%
MINIMUM OPEN SPACE	20%
MINIMUM SETBACKS: FRONT	30 FT.
SIDE	30 FT.
REAR	50 FT.
MAXIMUM BUILDING HEIGHT	60 FT.

PARKING REQUIREMENT: (NON-RESIDENTIAL USES)

MINIMUM: 1 SPACE PER 350 SQUARE FEET OF GROSS FLOOR AREA
MAXIMUM: 1 SPACE PER 250 SQUARE FEET OF GROSS FLOOR AREA.

PARKING TABLE	NO. OF SPACES
REGULAR PARKING	538
HANDICAP PARKING	25
TOTAL PARKING SPACES	563

FLOOD NOTE: BY GRAPHIC PLOTTING ONLY, THIS PROPERTY IS **ZONE X**, OF THE FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NO. **330229 0260 E**, WHICH BEARS AN EFFECTIVE DATE OF **MAY 17, 2005** AND **NO IMPROVEMENTS ARE** IN A SPECIAL FLOOD HAZARD AREA. AS SHOWN ON THE FEMA WEBSITE (HTTP://MSC.FEMA.GOV) BY FIRMETTE CREATED ON APRIL 23, 2014 **WE** HAVE LEARNED THIS COMMUNITY **DOES** CURRENTLY PARTICIPATE IN THE PROGRAM. NO FIELD SURVEYING WAS PERFORMED TO DETERMINE THIS ZONE AND AN ELEVATION CERTIFICATE MAY BE NEEDED TO VERIFY THIS DETERMINATION OR APPLY FOR A VARIANCE FROM THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

ITEMS CORRESPONDING TO SCHEDULE B

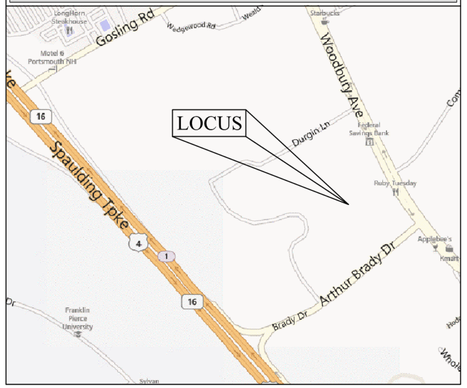
EXCEPTIONS FROM COVERAGE, SCHEDULE B, COMMITMENT FOR TITLE INSURANCE COMMITMENT NO. 14-0093KC-FN (NH) OF FIDELITY NATIONAL TITLE INSURANCE COMPANY, BEARING AN EFFECTIVE DATE OF APRIL 2, 2014.

NOTE: EXCEPTION ITEMS NOT LISTED BELOW ARE STANDARD TITLE EXCEPTIONS AND/OR ARE NOT MATTERS OR ISSUES THAT PERTAIN TO THIS SURVEY.

7. RIGHTS AND EASEMENTS SET FORTH IN SEWER EASEMENT TO THE UNITED STATES OF AMERICA SET FORTH IN JUDGMENT (CIVIL ACTION NO. 1353) RECORDED IN BOOK 1311, PAGE 322. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
8. EASEMENT FROM VASILIOS ALEXANDROPULOS AND ANGELOS KOSTROLES TO NEW HAMPSHIRE ELECTRIC COMPANY AND NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY DATED NOVEMBER 14, 1952, RECORDED IN BOOK 1267, PAGE 326.
   NOTE: THE COMPANY INSURES THAT THE ABOVE-REFERENCED EASEMENT MAY BE EXERCISED ONLY IN THE AREA OF THE EASEMENT TO THE UNITED STATES OF AMERICA REFERRED TO IN ITEM 10 BELOW. (EASEMENT IS BLANKET COVERAGE AND CANNOT BE PLOTTED)
9. EASEMENT FROM EDWARD N. EAMES TO NORTHERN NEW ENGLAND CARPENTERS' PENSION FUND DATED JULY 27, 1984, RECORDED AUGUST 28, 1984, IN BOOK 2508, PAGE 863. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
10. EASEMENT TO THE UNITED STATES OF AMERICA FOR CONSTRUCTING AND MAINTAINING WIRES FOR TRANSMISSION OF POWER, RECORDED IN BOOK 1263, PAGE 201; BOOK 1337, PAGE 277; BOOK 1340, PAGE 437; BOOK 1370, PAGE 335; BOOK 1379, PAGE 216. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
11. RIGHTS AND EASEMENT GRANTED BY DURGIN SQUARE LIMITED PARTNERSHIP TO LOUIS L. DOW, SR., AND BEVERLY DOW, ET AL. AS SET FORTH IN GRANT OF RIGHT OF WAY, DATED JULY 28, 1992 AND RECORDED IN BOOK 2939, PAGE 504. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
12. RIGHTS AND EASEMENT GRANTED TO DURGIN SQUARE LIMITED PARTNERSHIP TO THE CITY OF PORTSMOUTH AS SET FORTH IN CONSERVATION EASEMENT DEED, DATED MARCH 1993, AND RECORDED IN BOOK 2996, PAGE 782.
    NOTE: THE ABOVE REFERENCED CONSERVATION EASEMENT DEED STIPULATED THAT THE CITY OF PORTSMOUTH BE NOTIFIED IN WRITING WITHIN THIRTY (30) DAYS OF THE TRANSFER OF TITLE TO THE PROPERTY. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
13. RIGHTS AND EASEMENTS GRANTED BY DURGIN SQUARE LIMITED PARTNERSHIP TO PUBLIC SERVICE OF NEW HAMPSHIRE (PSNH) AND NEW ENGLAND TELEPHONE AND TELEGRAPH COMPANY (NET&T), DATED MARCH 2,1993 AND RECORDED IN BOOK 2977, PAGE 1753. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
14. SLOPE RELEASE GRANTED BY AGDA G. CARLSON TO THE STATE OF NEW HAMPSHIRE, DATED JULY 15, 1983 AND RECORDED IN BOOK 2456, PAGE 108. (NOT PLOTTED-LOCATION OF EASEMENT IS NOT DEFINED BY DESCRIPTION)
15. RIGHTS AND EASEMENTS GRANTED BY NELSON E. RAMSDELL, JR. AND EDITH RAMSDELL TO THE CITY OF PORTSMOUTH FOR CONSTRUCTION, MAINTENANCE, REPAIR AND REPLACEMENT OF A PUBLIC SIDEWALK, ACKNOWLEDGED AUGUST 31, 1977 AND RECORDED IN BOOK 2292, PAGE 627. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
16. RIGHTS AND EASEMENT FOR A SEWER GRANTED BY DURGIN SQUARE LIMITED PARTNERSHIP TO THE CITY OF PORTSMOUTH, RECORDED IN BOOK 2996, PAGE 767. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
17. TERMS AND PROVISIONS OF THE DEPARTMENT OF THE ARMY PERMIT (NO. 1990-00941) ISSUED TO JDC GROUP, DATED DECEMBER 19, 1991 AND RECORDED IN BOOK 2988, PAGE 1503. (PERTAINS TO MATTERS OF LAND USE AND CANNOT BE PLOTTED)
18. TERMS AND PROVISIONS OF N.H. WETLANDS BOARD PERMIT, AND WATER SUPPLY & POLLUTION CONTROL NONSITE SPECIFIC PERMIT ISSUED BY THE STATE OF NEW HAMPSHIRE WETLANDS BOARD TO DURGIN SQUARE LIMITED PARTNERSHIP, RECORDED IN BOOK 2989, PAGE 1306. (PERTAINS TO MATTERS OF LAND USE AND CANNOT BE PLOTTED)
19. RIGHTS OF THIRD PARTIES IN AND TO THE FORMER LOCATION OF DURGIN LANE, AS SHOWN ON PLAN D-21788, (PLOTTED-AFFECTS PROPERTY AS SHOWN)
    NOTE: THE COMPANY INSURES AGAINST LOSS, DAMAGE OR CLAIM AS A RESULT OF ASSERTION OF RIGHTS OR CLAIM OF USE BY SAID THIRD PARTIES OVER THE FORMER LOCATION OF DURGIN LANE.
20. RIGHTS, RESTRICTIONS AND A 30-FOOT ACCESS EASEMENT FROM DURGIN SQUARE LIMITED PARTNERSHIP TO 1650 WOODBURY AVENUE COMPANY AS SET FORTH IN THE RIGHT-OF-WAY AND EASEMENT AGREEMENT, DATED APRIL 5, 1993 AND RECORDED IN BOOK 2975, PAGE 2651. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
21. INTENTIONALLY OMITTED
22. RIGHTS OF TENANT, AS TENANT ONLY, UNDER A LEASE BETWEEN JDC PORTSMOUTH LIMITED PARTNERSHIP AS LANDLORD AND THE T JX COMPANIES, INC., SUCCESSOR IN INTEREST TO THE T JX OPERATING COMPANIES, INC., AS TENANT, DATED JUNE 28, 1991, MEMORANDUM OF WHICH IS DATED AS OF JULY 18, 1991 AND RECORDED IN BOOK 2990, PAGE 1711, WHICH LANDLORD'S INTEREST IN SAID LEASE IS ASSIGNED TO DURGIN SQUARE LIMITED PARTNERSHIP BY VIRTUE OF AN ASSIGNMENT OF LEASE DATED MAY 18, 1992 AND RECORDED IN BOOK 2990, PAGE 1718; AS FURTHER AFFECTED BY NON-DISTURBANCE AGREEMENT AT BOOK 3938, PAGE 2877 AND AMENDMENTS TO LEASE AT BOOK 3938, PAGE 2883 AND BOOK 4452, PAGE 937.
    THE ABOVE EXCEPTIONS AFFECT TRACT I OF SCHEDULE A ONLY. (NOT PLOTTED-NON-SURVEY RELATED)

    THE ABOVE EXCEPTIONS AFFECT TRACT ONE OF SCHEDULE A ONLY.
23. RIGHTS OF TENANT, AS TENANT ONLY, UNDER A LEASE BETWEEN JDC PORTSMOUTH LIMITED PARTNERSHIP AS LANDLORD AND SHAW'S SUPERMARKETS, INC., AS TENANT, DATED JULY 30, 1991, NOTICE OF WHICH IS DATED AUGUST 5, 1991 AND RECORDED IN BOOK 2890, PAGE 1795, WHICH LANDLORD'S INTEREST IN SAID LEASE IS ASSIGNED TO DURGIN SQUARE LIMITED PARTNERSHIP BY VIRTUE OF AN ASSIGNMENT OF LEASE DATED MAY 18, 1992; AS AFFECTED BY AMENDMENT OF LEASE RECORDED IN BOOK 4452, PAGE 930. (NOT PLOTTED-NON-SURVEY RELATED)

VICINITY MAP – NOT TO SCALE



EXCEPTIONS FROM COVERAGE (CONTINUED)

24. RIGHTS OF TENANT, AS TENANT AND HOLDER OF A NON-EXCLUSIVE EASEMENT TO USE THE COMMON AREAS FOR THE TERM OF LEASE ONLY, UNDER A LEASE BETWEEN JDC PORTSMOUTH LIMITED PARTNERSHIP AS LESSOR AND OFFICEMAX, INC. AS LESSEE, DATED APRIL 13, 1992, MEMORANDUM OF WHICH IS DATED AS OF APRIL 13, 1992 AND RECORDED IN BOOK 2990, PAGE 1720, WHICH LESSOR'S INTEREST IN SAID LEASE IS ASSIGNED TO DURGIN SQUARE LIMITED PARTNERSHIP BY VIRTUE OF AN ASSIGNMENT OF LEASE DATED JUNE 25, 1992 AND RECORDED IN BOOK 2990, PAGE 1725, AS AFFECTED BY AMENDMENT TO LEASE RECORDED IN BOOK 4452, PAGE 945. (NOT PLOTTED-NON-SURVEY RELATED)
25. RIGHTS OF TENANT, AS TENANT ONLY, UNDER A CERTAIN LEASE, WITH DURGIN SQUARE LIMITED PARTNERSHIP AS LANDLORD, AS REFERENCED IN MEMORANDUM OF LEASE FROM DURGIN SQUARE LIMITED PARTNERSHIP TO BOSTON MARKET CORPORATION, RECORDED IN BOOK 3592, PAGE 2455, AS AFFECTED BY AGREEMENT REGARDING RESTRICTIONS RECORDED IN BOOK 4849, PAGE 1343. (NOT PLOTTED-NON-SURVEY RELATED)
26. TERMS AND PROVISIONS OF APPURTENANT EASEMENTS AT BOOK 4452, PAGE 900, BOOK 4452, PAGE 914 AND BOOK 4453, PAGE 1631 GRANTING ACCESS RIGHTS OVER ABUTTING LOT 17 TO THE LAND. THESE RIGHTS WERE NOT SEARCHED, PLEASE INFORM THE TITLE COMPANY IF YOU WOULD LIKE THESE RIGHTS TO BE SEARCHED SO THEY CAN BE INSURED. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
27. TERMS AND PROVISIONS OF THE DEED AT BOOK 4452, PAGE 881 WHICH CONVEYS A PORTION OF LOT 17 TO THE ABUTTER AS SHOWN ON PLAN D32485. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
28. TERMS AND PROVISIONS OF APPURTENANT EASEMENTS AT BOOK 2935, PAGE 603 AND BOOK 2977, PAGE 2428. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
29. ALL NOTATIONS, FACTS, EASEMENTS AND ISSUES AS SHOWN ON PLAN #D32485. (PLOTTED-AFFECTS PROPERTY AS SHOWN)
30. LEASEHOLD RIGHTS OF VITAMIN SHOPEE INDUSTRIES, INC. IN BOOK 5091, PAGE 2199; HOMEGOODS, INC. AT BOOK 5111, PAGE 880; ZRC OPERATIONS COMPANY, INC AT BOOK 5509, PAGE 327; (NOT PLOTTED-NON-SURVEY RELATED)
31. GRANT OF RIGHT OF WAY AT BOOK 2965, PAGE 548. (PLOTTED-BENEFITS PROPERTY AS SHOWN)
32. GRANT OF RIGHT OF WAY AT BOOK 2966, PAGE 754. (PLOTTED-BENEFITS PROPERTY AS SHOWN)
33. UTILITY EASEMENT AT BOOK 4453, PAGE 1621. (BLANKET COVERAGE-DRAIN/SEWER CONNECTIONS, LOCATION IS NOT DEFINED BY DESCRIPTION)
34. INTENTIONALLY OMITTED.

****SEE SHEET 4 FOR EXCEPTIONS 35-38

RECORD DESCRIPTION

EXHIBIT A - LEGAL DESCRIPTION

TRACT ONE (1600 WOODBURY)
A CERTAIN PARCEL OF LAND, WITH THE BUILDINGS AND IMPROVEMENTS THEREON, IF ANY, SITUATE AND LYING AND BEING IN THE CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM AND STATE OF NEW HAMPSHIRE, SHOWN ON PLAN D-32485 AS MAP R-38, LOT 16, SAID TO CONTAIN 694,376 SQUARE FEET, ACCORDING TO SAID PLAN.

TOGETHER WITH THE BENEFIT OF UTILITY EASEMENT OVER MAP R-38, LOT 17, AS RESERVED IN DEED TO RICHARD P. FUSEGNI, DATED FEBRUARY 28, 2005, RECORDED IN BOOK 4452, PAGE 881, SUBJECT TO THE TERMS THEREOF.

***SEE SHEET 4 FOR TRACT TWO, THREE AND FOUR.

SURVEY DESCRIPTION (TRACT ONE):

A CERTAIN TRACT OR PARCEL OF LAND, WITH THE BUILDINGS AND IMPROVEMENTS THEREON, IF ANY, SITUATE, LYING AND BEING IN THE CITY OF PORTSMOUTH, COUNTY OF ROCKINGHAM, AND STATE OF NEW HAMPSHIRE, BOUNDED AND DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHERLY SIDELINE OF THE RELOCATED DURGIN LANE AT THE NORTHEASTERLY CORNER OF THE DESCRIBED PREMISES; THENCE S 14°16' 10" E, 178.67 FEET TO A POINT, SAID POINT BEING IN THE NORTHERLY SIDELINE OF LAND NOW OR FORMERLY OF 1618 WOODBURY AVE LLC; THENCE TURNING AND RUNNING S 73°34'44" W, 25.54 FEET TO A POINT THENCE TURNING AND RUNNING S 18°16'58" E, 79.06 FEET TO A POINT; THENCE TURNING AND RUNNING N 73°57'36" E, 145.00 FEET TO A POINT; THENCE RUNNING N 62°45'33" E, 40.48 FEET TO A POINT IN THE WESTERLY SIDELINE OF WOODBURY AVENUE; THENCE TURNING AND RUNNING IN SAID WESTERLY SIDELINE OF WOODBURY AVENUE, S 09°54'47" E, 151.50 FEET, TO AN IRON ROD AT THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF RICHARD P. FUSEGNI; THENCE TURNING AND RUNNING ALONG LAND OF SAID FUSEGNI, S 79°55'30" W, 198.01 FEET TO A POINT; THENCE TURNING AND RUNNING ALONG LAND OF SAID FUSEGNI, S 13°44'05" E, 235,81 FEET TO A RAILROAD SPIKE; THENCE TURNING AND RUNNING, STILL ALONG LAND OF SAID FUSEGNI, N 76°13'21" E, 182.80 FEET TO A RAILROAD SPIKE IN THE WESTERLY SIDELINE OF WOODBURY AVENUE; THENCE TURNING AND RUNNING ALONG SAID WESTERLY SIDELINE OF WOODBURY AVENUE; ALONG A CURVE TO THE LEFT WHICH AS A RADIUS OF 1,952.86 FEET, AN ARC DISTANCE OF 152.30 FEET, STILL IN SAID WESTERLY SIDELINE OF WOODBURY AVENUE TO A POINT, SAID POINT BEING THE NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF EAMES AND SIMPSON REAL ESTATE; THENCE TURNING AND RUNNING ALONG LAND OF SAID EAMES, S 71 °25'50" W, 167.99 FEET TO A POINT; THENCE TURNING AND RUNNING, STILL ALONG LAND OF SAID EAMES, S 13°59'50" E, 62.28 FEET TO A POINT; THENCE TURNING AND RUNNING, STILL ALONG LAND OF SAID EAMES, S 31 °48' 13" E, 51.41 FEET TO A POINT; THENCE TURNING AND RUNNING, STILL ALONG LAND OF SAID EAMES, S 12°55'05" E, 172.98 FEET TO A POINT IN THE NORTHERLY SIDELINE OF ARTHUR BRADY DRIVE; THENCE TURNING AND RUNNING IN SAID SIDELINE OF ARTHUR BRADY DRIVE, S 65°55'37" W, 269.91 FEET TO A POINT; THENCE RUNNING, STILL ALONG SAID ARTHUR BRADY DRIVE, S 65°52' 19" W, 381.02 FEET TO A POINT, SAID POINT BEING IN THE EASTERLY SIDELINE OF LAND NOW OR FORMERLY OF OCW RETAIL; THENCE TURNING AND RUNNING ALONG LAND OF SAID OCW RETAIL, N 22°36'41" W, 244.81 FEET TO A POINT; THENCE TURNING AND RUNNING, N 70°42' 09" E, 253.61 FEET TO A POINT; THENCE RUNNING, N 71 °29' 10" E, 26.54 FEET TO A DRILL HOLE IN THE CORNER OF A STONE WALL; THENCE TURNING AND RUNNING ALONG SAID STONE WALL, N 30°15'29" W, 435.26 FEET TO AN ANGLE POINT IN SAID STONE WALL; THENCE CONTINUING ALONG SAID STONE WALL, N 41 °57'49" W, 82.02 FEET TO A CORNER IN SAID STONE WALL; THENCE, N 36°05'40" W, 36.87 FEET TO A POINT; THENCE, N 31°48'24" W, 20.91 FEET TO A POINT; THENCE ALONG A STONE WALL, N 40°16'24" W, 284.68 FEET TO A POINT; THENCE RUNNING ALONG SAID STONE WALL, N 38°59'24" W, 155.91 FEET TO A POINT; THENCE, N 39°00'03" W, 44.08 FEET TO A POINT; THENCE, N 35°30'52" W, 36.82 FEET TO A POINT, WHICH POINT IS THE NORTHWESTERLY CORNER OF THE DESCRIBED PREMISES AND IN THE SOUTHERLY SIDELINE OF RELOCATED DURGIN LANE; THENCE TURNING AND RUNNING IN THE SOUTHERLY SIDELINE OF RELOCATED DURGIN LANE, ALONG A CURVE TO THE RIGHT, WHICH HAS A RADIUS OF 18.00 FEET, AN ARC DISTANCE OF 11.91 FEET TO A POINT; THENCE S 51 °01' 12" E, 42.04 FEET, STILL IN THE SOUTHERLY SIDELINE OF DURGIN LANE, TO A POINT; THENCE ALONG A CURVE TO THE LEFT, WHICH HAS A RADIUS OF 159.54 FEET, AN ARC DISTANCE OF 148.27 FEET, STILL IN THE SOUTHERLY SIDELINE OF RELOCATED DURGIN LANE, TO A POINT; THENCE CONTINUING IN THE SAID SOUTHERLY SIDELINE OF THE RELOCATED DURGIN LANE, N 75°43'50" E, 659.49 FEET TO THE POINT OF BEGINNING.

CONTAINING 694,376 SQUARE FEET OR 15.941 ACRES OF LAND/

THE PROPERTY DESCRIBED ABOVE IS THE SAME PROPERTY AS DESCRIBED IN FIDELITY NATIONAL TITLE INSURANCE COMPANY COMMITMENT FOR TITLE INSURANCE NO. 14-0093KC-FN (NH), BEARING AN EFFECTIVE DATE OF APRIL 2, 2014.

ALTA/ACSM LAND TITLE SURVEY

DPF DURGIN SQUARE

B&C PROJECT NO. 201400921- 001

1600-1618 WOODBURY AVENUE, PORTSMOUTH, NH

BASED UPON TITLE COMMITMENT NO. 14-0093KC-FN (NH)
OF FIDELITY NATIONAL TITLE INSURANCE COMPANY
BEARING AN EFFECTIVE DATE OF APRIL 2, 2014

SURVEYOR'S CERTIFICATION

TO: DPF ACQUISITIONS LLC, A DELAWARE LIMITED LIABILITY COMPANY AND ANY AFFILIATE OR ASSIGNEE; FIDELITY NATIONAL TITLE INSURANCE COMPANY AND BOCK & CLARK CORPORATION.

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2011 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ACSM LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 1, 2, 3, 4, 6B, 7A, 7B1, 7C, 8, 9, 11A, 13, 14, 16, 17, 18 AND 21 OF TABLE A THEREOF. THE FIELD WORK WAS COMPLETED ON APRIL 17, 2014.

I CERTIFY THAT THE BOUNDARY LINES AND ALL LOT LINES WITHIN AND BORDERING THE SUBJECT PARCEL, SHOWN HEREON ARE A RESULT OF AN ACTUAL FIELD SURVEY MADE ON THE GROUND, CONDUCTED ON APRIL 15-17, 2014 USING A TRIMBLE S6 TOTAL STATION, AND THE UNADJUSTED LINEAR ERROR OF CLOSURE EXCEEDS BOTH THE MINIMUM OF THE 1:10,000 AS DEFINED IN SECTION 503.04 OF THE NEW HAMPSHIRE CODE OF ADMINISTRATIVE RULES AND THE MINIMUM OF 1:15,000 AS DEFINED IN SECTION 4.2 OF THE NEW HAMPSHIRE LAND SURVEYORS ASSOCIATION ETHICS AND STANDARDS:

THIS SURVEY CONFORMS TO CATEGORY 1 CONDITION 1 AS DEFINED IN SECTION 4.3.1.1 OF THE NEW HAMPSHIRE LAND SURVEYORS ASSOCIATION ETHICS AND STANDARDS.

I CERTIFY THAT THIS PLAT IS NOT A SUBDIVISION PURSUANT TO THIS TITLE AND THAT THE LINES OF STREETS AND WAYS SHOWN ARE THOSE OF PUBLIC OR PRIVATE STREETS OR WAYS ALREADY ESTABLISHED AND THAT NO NEW WAYS ARE SHOWN. (RSA 676:18 PAR. III)

GLENN D. ODONE JR., LLS
STATE OF NEW HAMPSHIRE NO. 976

DATE OF SURVEY: APRIL 24, 2014

DATE OF LAST REVISION: MAY 15, 2014

NETWORK PROJECT NO. 201400921-001

STATE OF NEW HAMPSHIRE No. 976 GLENN D. ODONE JR. LICENSED LAND SURVEYOR
SIGNATURE

SURVEY PREPARED BY:

ODONE SURVEY & MAPPING
SURVEYING • MAPPING • PLANNING
291 Main Street, Suite 5
Northborough, MA 01532
Tel.: 508-351-6022
Fax: 508-351-6633

SHEET 1 OF 4

Bock & Clark's National Surveyors Network
National Coordinators of ALTA/ACSM Land Title Surveys
537 North Cleveland-Massillon Road, Akron, Ohio 44333
Phone: (800) SURVEYS (787-8397), Fax: (330) 666-3608 www.bockandclark.com

BOCK & CLARK Stonefield Real Estate "Above Other's" EST 1973


MATCH LINE-SEE SHEET 3
MATCH LINE-SEE SHEET 3
PLAN D-32485
ARTHUR BRADY DRIVE
(PUBLIC - VARIABLE WIDTH)
DURGIN LANE
(PUBLIC - VARIABLE WIDTH)
WOODBURY AVENUE
(PUBLIC - VARIABLE WIDTH)
"TRACT ONE"
MAP 238 LOT 16
LOT AREA
694,376 SQ. FT.
15.941 ACRES
"TJ MAXX"
EXISTING SHOPPING PLAZA
1 STORY CONCRETE BUILDING
BUILDING FOOTPRINT AREA = 126,300 SQ. FT.
"HOMEGOODS"
CONSERVATION EASEMENT BK. 2996 PG. 782
SEWER EASEMENT TO THE UNITED STATES OF AMERICA BK. 1311 PG. 322
30' SLOPE EASEMENT BK. 2508 PG. 863
20' SEWER EASEMENT TO CITY OF PORTSMOUTH BK. 2996 PG. 767
20' NET&T EASEMENT BK. 2977 PG. 1753
FORMER LOCATION OF DURGIN LANE PLAN # D-21788
"TRACT THREE" EASEMENTS
RESTRICTED AREA BK. 2975 PG. 2651
30' ACCESS EASEMENT BK. 2975 PG. 2651
GAP EASEMENT BK. 4452 PG. 900
ACCESS EASEMENT BK. 2935 PG. 603 BK. 2977 PG. 2428
"TRACT FOUR" EASEMENTS
ACCESS EASEMENT BK. 4452 PG. 914 BK. 4453 PG. 1631
PORTION OF LOT 17 CONVEYED BK. 4452 PG. 881
MAP 238 LOT 17 1574 WOODBURY AVE.
N/F FUSEGNI, RICHARD BK. 4452 PG. 881
MAP 238 LOT 17 1550 WOODBURY AVE.
N/F EAMES & SIMPSON REAL ESTATE LLC BK. 5276 PG. 2194
1 STORY CONCRETE BUILDING FOOTPRINT AREA= 5,920 SQ. FT. "QDOBA"
1 STORY CONCRETE BUILDING BLDG. AREA= 2,915 SQ. FT. VITAMIN SHOPPE
1 STORY CONCRETE BUILDING BLDG. AREA= 2,890 SQ. FT. #1618
"TRACT TWO" MAP 239 LOT 2 LOT AREA 15,111 SQ. FT. 0.347 ACRES
MAP 239 LOT 3 1650 WOODBURY AVE.
N/F FEDERAL SAVINGS BANK BK. 3140 PG. 2686
20' SIDEWALK EASEMENT BK. 2292 PG. 627
POINT OF BEGINNING "SURVEY"
SCALE: 1 INCH = 40 FEET

LEGEND OF SYMBOLS & ABBREVIATIONS

BK. PG.	DEED BOOK/PAGE
BIT. CONC.	BITUMINOUS CONCRETE
C.L.F.	CHAIN LINK FENCE
C.P.	CONCRETE PAD
BCC	BIT. CONC. CURB
CONC.	CONCRETE SURFACE
EOP	EDGE OF PAVEMENT
FP	FLAG POLE
(F)	FOUND
GC	GRANITE CURB
N/F	NOW OR FORMERLY
CC	CONCRETE CURB
O.H.	OVERHANG
P.O.B.	POINT OF BEGINNING
R.O.W.	RIGHT-OF-WAY
(S)	SET
	HANDICAP PARKING
(22)	NUMBER OF PARKING SPACES
DH	DRILLHOLE
I.P.	IRON PIN/IRON PIPE
SB/DH	STONE BOUND/ DRILLHOLE
A	ENCROACHMENT SYMBOL
8	SCHEDULE B EXCEPTION ITEM

	BUILDING
	EASEMENT LINE
	LOCUS BOUNDARY LINE
	FENCE
	OVERHEAD WIRES
B	BOLLARD
CB	CATCH BASIN
DMH	DRAIN MANHOLE
	LIGHT POLE
	FIRE HYDRANT
GW	GUY WIRE
EMH	ELECTRIC MANHOLE
TMH	TELEPHONE MANHOLE
SMH	SEWER MANHOLE
	SIGN
	UTILITY POLE
WG	WATER GATE VALVE
	POST INDICATOR VALVE
MW	MONITORING WELL
	UNIDENTIFIED MANHOLE
GG	GAS GATE VALVE
E.T.	ELECTRIC TRANSFORMER

SIGNIFICANT OBSERVATIONS

A. TRAFFIC SIGNAL POST LOCATED ON INSURED PREMISE AS SHOWN BY APPROXIMATELY 10.3 FEET.

B. BITUMINOUS CONCRETE PARKING LOT EXTENDS ON TO INSURED PREMISES AS SHOWN BY APPROXIMATELY 4.2 FEET.

ALTA/ACSM LAND TITLE SURVEY

DPF DURGIN SQUARE

DURGIN LANE AND WOODBURY AVENUE, PORTSMOUTH, NH

DATE: MAY 15, 2014 SHEET 2 OF 4

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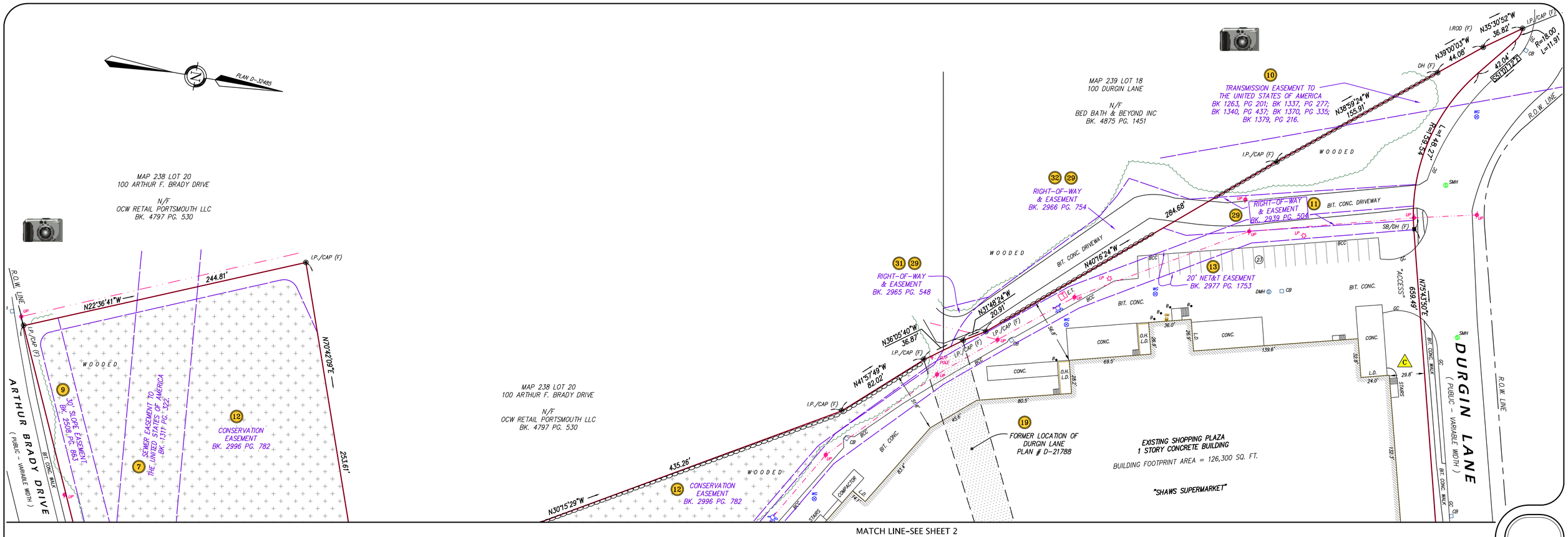
BOCK & CLARK EST 1973



SIGNIFICANT OBSERVATIONS

C APPARENT VIOLATION OF THE 30' BUILDING SETBACK REQUIREMENT.

40 0 20 40 80 120

SCALE: 1 INCH = 40 FEET

ALTA/ACSM LAND TITLE SURVEY

DPF DURGIN SQUARE

DURGIN LANE AND WOODBURY AVENUE, PORTSMOUTH, NH

DATE: MAY 15, 2014 SHEET 3 OF 4

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BOCK & CLARK
Customer 1st Real Estate
Value Difference
EST 1973

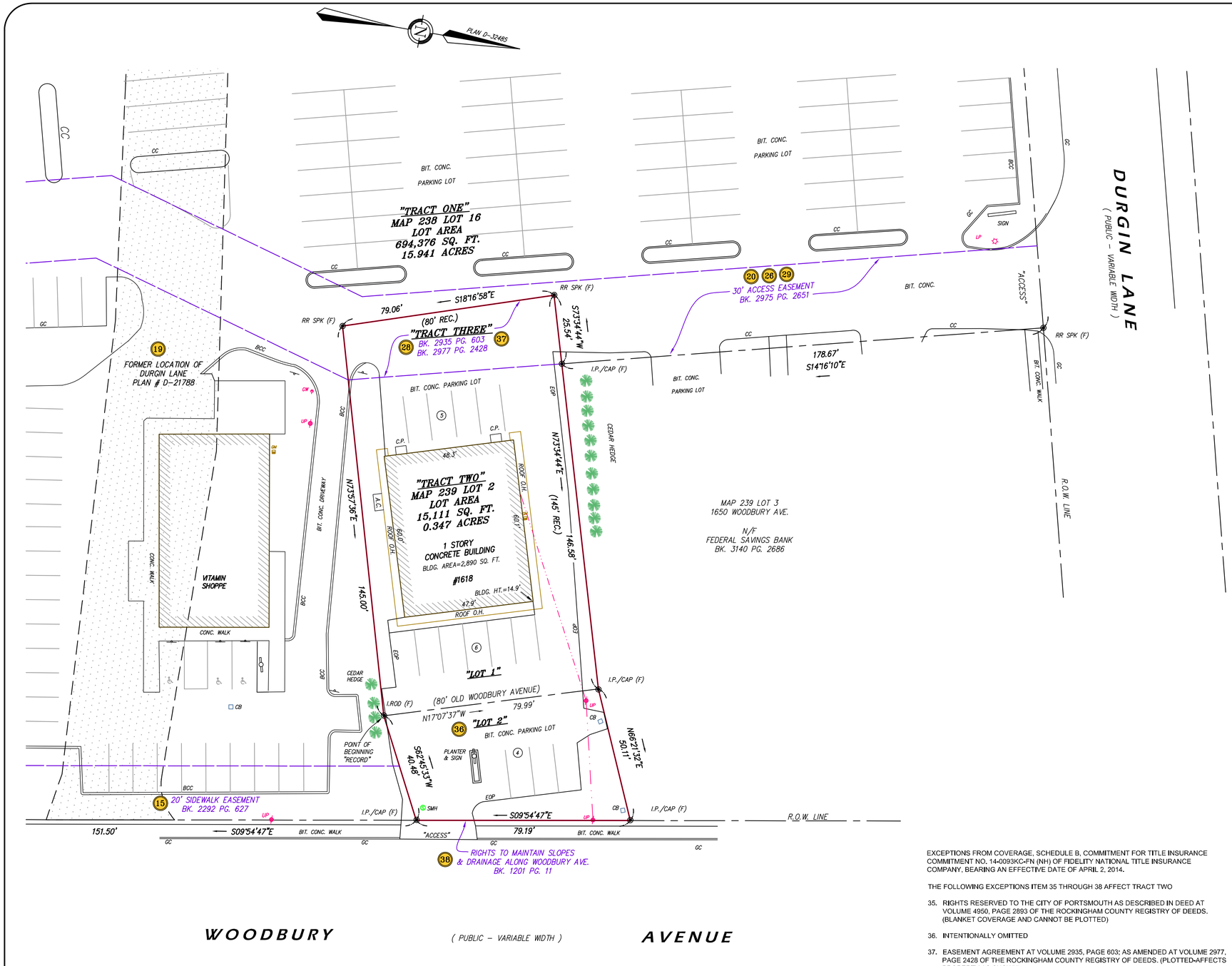

EXHIBIT A - LEGAL DESCRIPTION

TRACT TWO (1618 WOODBURY)
TWO LOTS OF LAND WITH THE BUILDINGS THEREON LOCATED ON WOODBURY AVENUE, PORTSMOUTH, COUNTY OF ROCKINGHAM AND STATE OF NEW HAMPSHIRE, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

LOT 1

A CERTAIN LOT OR PARCEL OF LAND WITH THE BUILDINGS THEREON, SITUATE ON THE WESTERLY SIDE OF WOODBURY AVENUE, IN PORTSMOUTH, COUNTY OF ROCKINGHAM AND STATE OF NEW HAMPSHIRE, BOUNDED AND DESCRIBED AS FOLLOWS:
EASTERLY BY WOODBURY AVENUE EIGHTY (80) FEET; NORTHERLY BY LAND NOW OR FORMERLY OF FRED J. ROWE, ONE HUNDRED FORTY-FIVE (145) FEET; WESTERLY BY LAND NOW OR FORMERLY OF KATHERINE T. HANSUCKER EIGHTY (80) FEET; SOUTHERLY BY LAND NOW OR FORMERLY OF KATHERINE T. HANSUCKER, ONE HUNDRED FORTY-FIVE (145) FEET.

LOT 2

A CERTAIN ADJACENT TRACT OR PARCEL OF LAND LYING EASTERLY OF THE ABOVE PREMISES AS FOLLOWS:
BEGINNING AT A CONCRETE FILLED IRON PIPE AT THE SOUTHWESTERLY CORNER OF THE DESCRIBED PARCEL AT THE SOUTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF K & M REALTY AND NORTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF AGDA C. CARLSON, SAID IRON PIPE ALSO BEING LOCATED ON THE FORMER WESTERLY SIDELINE OF OLD WOODBURY AVENUE, THENCE RUNNING ALONG LAND OF SAID K & M REALTY N 17°07'37" W, A DISTANCE OF 79.99 FEET TO AN IRON PIPE AT THE SOUTHEASTERLY CORNER OF LAND NOW OR FORMERLY OF 1650 WOODBURY AVENUE COMPANY AT THE SOUTHWESTERLY CORNER OF OTHER LAND OF THE SAID CITY OF PORTSMOUTH, SAID IRON PIPE ALSO BEING LOCATED ON THE SAID FORMER SIDELINE OF OLD WOODBURY AVENUE, THENCE TURNING AND RUNNING ALONG OTHER LAND OF SAID CITY OF PORTSMOUTH N 66°21'32" E, A DISTANCE OF 50.11 FEET TO A POINT ON THE WESTERLY SIDELINE OF WOODBURY AVENUE, THENCE TURNING AND RUNNING ALONG SAID SIDELINE OF WOODBURY AVENUE S 09°54'47" E, A DISTANCE OF 79.19 FEET TO A POINT AT THE NORTHEASTERLY CORNER OF OTHER LAND OF SAID CITY OF PORTSMOUTH, THENCE TURNING AND RUNNING ALONG OTHER LAND OF SAID CITY OF PORTSMOUTH S 62°45'33" W, A DISTANCE OF 40.48 FEET TO SAID POINT OF BEGINNING. SAID TRACT OR PARCEL OF LAND CONTAINING 3,521 SQUARE FEET, MORE OR LESS.

SAID PARCEL OF LAND BEING SHOWN ON PLAN ENTITLED "DISCONTINUANCE PLAN OF THE PUBLIC RIGHT-OF-WAY OF OLD WOODBURY AVENUE," DATED APRIL 8, 1991, BY RICHARD P. MILLET AND ASSOCIATES, AND RECORDED IN THE ROCKINGHAM COUNTY REGISTRY OF DEEDS AS PLAN NO. D-21772.

TRACT THREE (EASEMENTS)
TRACTS ONE AND TWO ARE INSURED TOGETHER WITH BENEFIT OF THE APPURTENANT EASEMENTS SET FORTH AT BOOK 2935, PAGE 603 AND BOOK 2977, PAGE 2428, SUBJECT TO THE TERMS THEREOF.

TRACT FOUR (EASEMENTS)
TRACT ONE IS INSURED TOGETHER WITH BENEFIT OF THE APPURTENANT EASEMENTS SET FORTH AT BOOK 4452, PAGE 900, BOOK 4452, PAGE 914 AND BOOK 4453, PAGE 1631 GRANTING ACCESS RIGHTS OVER ABUTTING LOT 17 TO THE LAND, SUBJECT TO THE TERMS THEREOF.

EXCEPTIONS FROM COVERAGE, SCHEDULE B, COMMITMENT FOR TITLE INSURANCE COMMITMENT NO. 14-0093KC-FN (NH) OF FIDELITY NATIONAL TITLE INSURANCE COMPANY, BEARING AN EFFECTIVE DATE OF APRIL 2, 2014.

THE FOLLOWING EXCEPTIONS ITEM 35 THROUGH 38 AFFECT TRACT TWO

35. RIGHTS RESERVED TO THE CITY OF PORTSMOUTH AS DESCRIBED IN DEED AT VOLUME 4950, PAGE 2893 OF THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. (BLANKET COVERAGE AND CANNOT BE PLOTTED)

36. INTENTIONALLY OMITTED

37. EASEMENT AGREEMENT AT VOLUME 2935, PAGE 603; AS AMENDED AT VOLUME 2977, PAGE 2428 OF THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. (PLOTTED-AFFECTS PROPERTY AS SHOWN)

38. EASEMENTS TO THE STATE OF NEW HAMPSHIRE AS CONVEYED IN DEED AT VOLUME 1201, PAGE 11 OF THE ROCKINGHAM COUNTY REGISTRY OF DEEDS. (PLOTTED-DESCRIBED AS RIGHTS TO MAINTAIN SLOPES AND DRAINAGE ALONG WOODBURY AVENUE, HOWEVER THERE IS NO DEFINED WIDTH OF EASEMENT)

LEGEND OF SYMBOLS & ABBREVIATIONS

BK. PG.	DEED BOOK/PAGE		BUILDING
BIT. CONC.	BITUMINOUS CONCRETE		EASEMENT LINE
C.L.F.	CHAIN LINK FENCE		LOCUS BOUNDARY LINE
C.P.	CONCRETE PAD		FENCE
BCC	BIT. CONC. CURB		OVERHEAD WIRES
CONC.	CONCRETE SURFACE	B	BOLLARD
EOP	EDGE OF PAVEMENT	CB	CATCH BASIN
FP	FLAG POLE	DMH	DRAIN MANHOLE
(F)	FOUND		LIGHT POLE
GC	GRANITE CURB		FIRE HYDRANT
N/F	NOW OR FORMERLY	GW	GUY WIRE
CC	CONCRETE CURB	EMH	ELECTRIC MANHOLE
O.H.	OVERHANG	TMH	TELEPHONE MANHOLE
P.O.B.	POINT OF BEGINNING	SMH	SEWER MANHOLE
R.O.W.	RIGHT-OF-WAY		SIGN
(S)	SET		UTILITY POLE
	HANDICAP PARKING	WG	WATER GATE VALVE
22	NUMBER OF PARKING SPACES		POST INDICATOR VALVE
DH	DRILLHOLE	MW	MONITORING WELL
I.P.	IRON PIN/IRON PIPE	MH	UNIDENTIFIED MANHOLE
SB/DH	STONE BOUND/ DRILLHOLE	GG	GAS GATE VALVE
A	ENCROACHMENT SYMBOL	E.T.	ELECTRIC TRANSFORMER
8	SCHEDULE B EXCEPTION ITEM		

20 0 10 20 40 60

SCALE: 1 INCH =20 FEET

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ALTA/ACSM LAND TITLE SURVEY

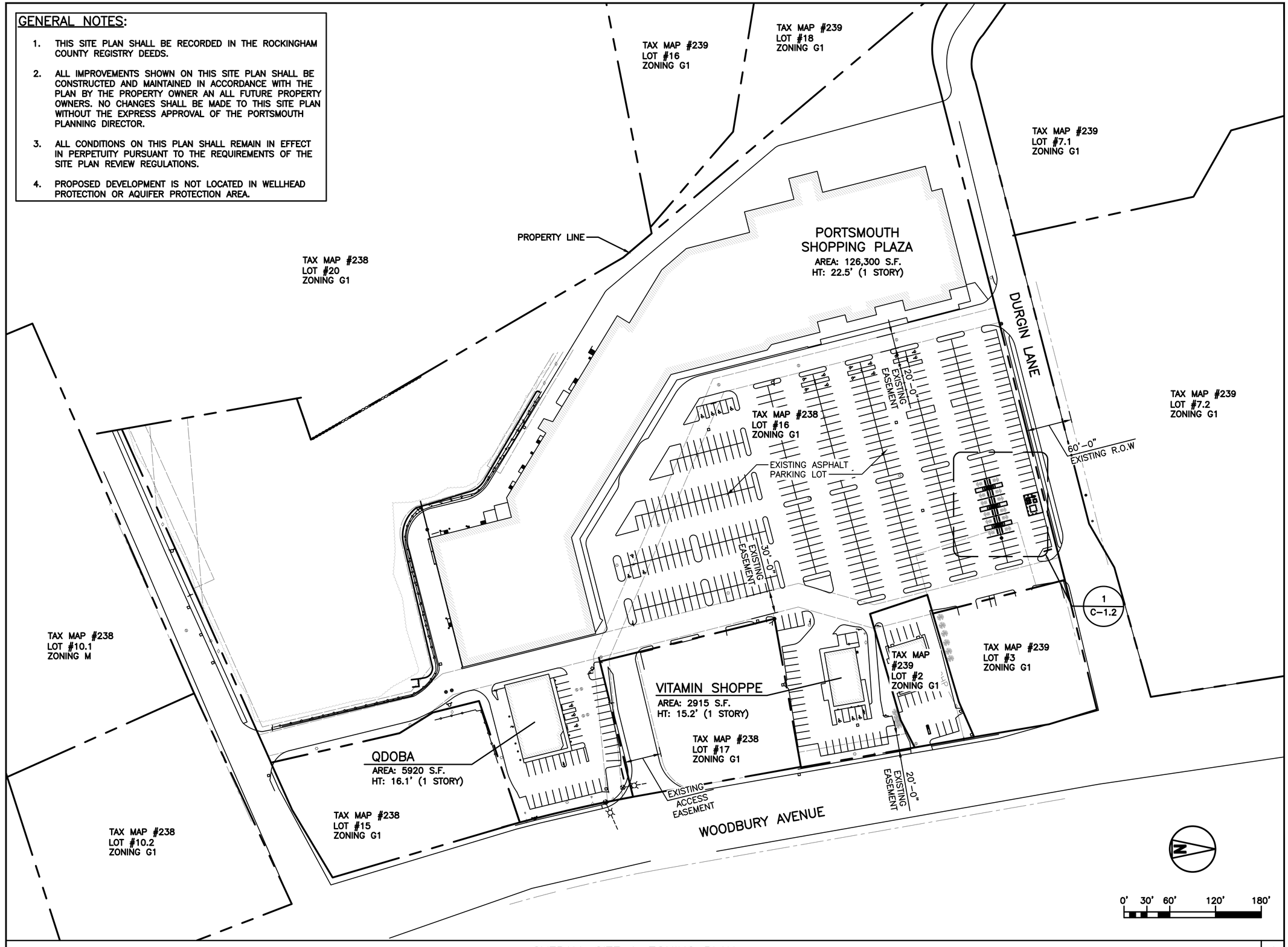
DPF DURGIN SQUARE

1618 WOODBURY AVENUE, PORTSMOUTH, NH

DATE: MAY 15, 2014

GENERAL NOTES:

1. THIS SITE PLAN SHALL BE RECORDED IN THE ROCKINGHAM COUNTY REGISTRY DEEDS.
2. ALL IMPROVEMENTS SHOWN ON THIS SITE PLAN SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE PLAN BY THE PROPERTY OWNER AN ALL FUTURE PROPERTY OWNERS. NO CHANGES SHALL BE MADE TO THIS SITE PLAN WITHOUT THE EXPRESS APPROVAL OF THE PORTSMOUTH PLANNING DIRECTOR.
3. ALL CONDITIONS ON THIS PLAN SHALL REMAIN IN EFFECT IN PERPETUITY PURSUANT TO THE REQUIREMENTS OF THE SITE PLAN REVIEW REGULATIONS.
4. PROPOSED DEVELOPMENT IS NOT LOCATED IN WELLHEAD PROTECTION OR AQUIFER PROTECTION AREA.



OVERALL SITE & ZONING PLAN | 1

STAMP:

10/18/2024

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING
No. 18260
LICENSED
PROFESSIONAL ENGINEER

Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR:

AGI

PLANS PREPARED BY:

SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

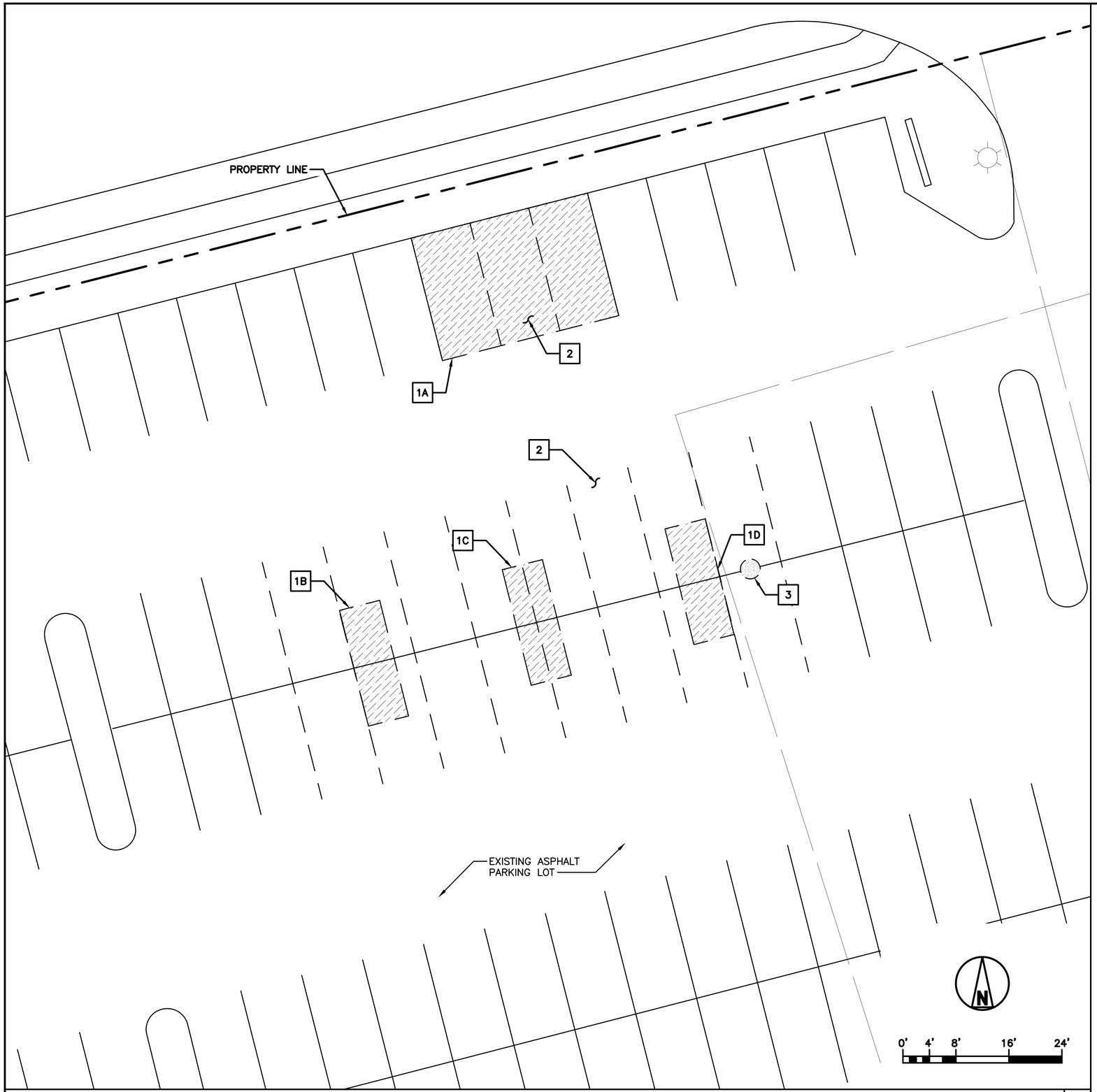
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

OVERALL SITE & ZONING PLAN

SHEET #:

C-1.0



EXISTING SITE PLAN | 1

TOTAL AREA LEGEND:

DISTURBED IMPERVIOUS AREA
870± SQ. FT

KEYED NOTES:

1A APPROX. 525 SQ. FT. DISTURBED IMPERVIOUS AREA FOR PROPOSED AGI EQUIPMENT & CONDUIT ROUTING

1B APPROX. 115 SQ. FT. DISTURBED IMPERVIOUS AREA FOR PROPOSED AGI EQUIPMENT & CONDUIT ROUTING

1C APPROX. 115 SQ. FT. DISTURBED IMPERVIOUS AREA FOR PROPOSED AGI EQUIPMENT & CONDUIT ROUTING

1D APPROX. 115 SQ. FT. DISTURBED IMPERVIOUS AREA FOR PROPOSED AGI EQUIPMENT & CONDUIT ROUTING

2 EXISTING PARKING STALL TO BE RESTRIPED (TYP OF 18)

3 EXISTING LIGHT POLE TO BE RELOCATED

STAMP:

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED
PROFESSIONAL ENGINEER
11/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

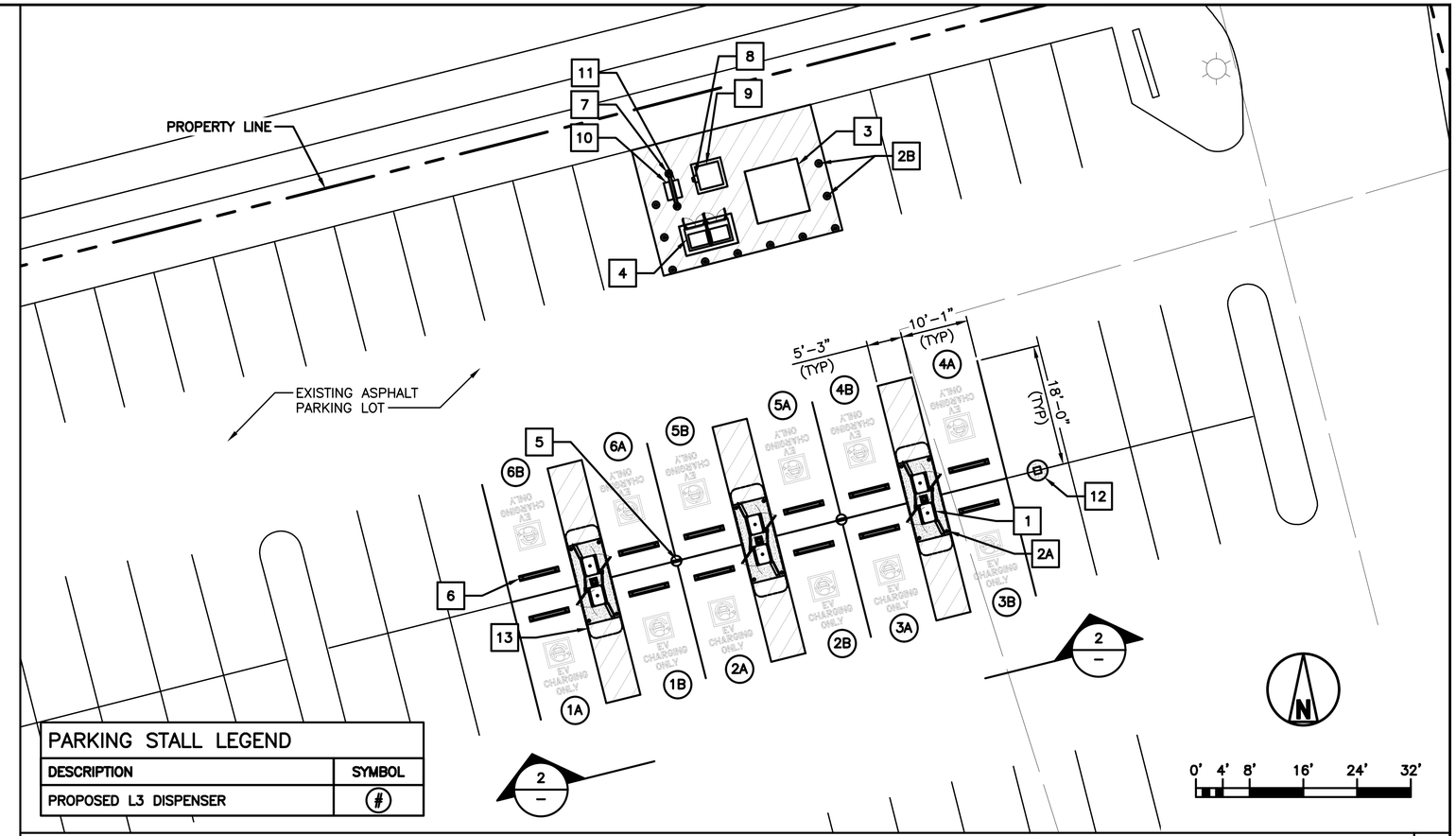
SHEET DESCRIPTION:
EXISTING SITE PLAN

SHEET #:
C-1.1

KEYED NOTES:

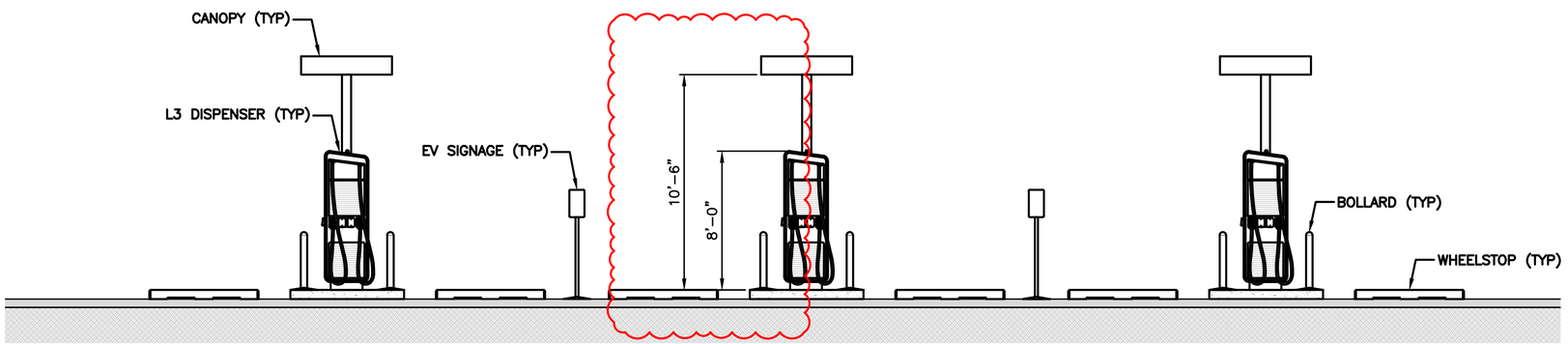
1. PROPOSED DUAL L3 DISPENSER (TYP OF 6)
2A. PROPOSED BOLLARD (FURNISH & INSTALL) (TYP OF 20) (SEE SHEET C-3.1, DETAIL 1)
2B. PROPOSED REMOVABLE BOLLARD (FURNISH & INSTALL) (TYP OF 2)
3. PROPOSED UTILITY TRANSFORMER (BY UTILITY COMPANY)
4. PROPOSED SWITCHBOARD "MDP"
5. PROPOSED EV SIGN POST (TYP OF 2) (SEE SHEET C-3.2, DETAIL 2)
6. PROPOSED WHEELSTOP (FURNISH & INSTALL) (TYP OF 12) (SEE SHEET C-3.1, DETAIL 4)
7. PROPOSED UTILITY RACK
8. PROPOSED METER SOCKET
9. PROPOSED CT CABINET
10. PROPOSED SITE COMM BOX
11. PROPOSED MINI POWER-ZONE
12. RELOCATED LIGHT POLE
13. PROPOSED 16'-6 x 5'-0" x 11'-10" CANOPY (PER CANOPY STRUCTURAL PACKAGE) (TYP OF 3)

CANOPY DATA	
CANOPY OVERHANG AREA	82.5 S.F. (16.5' x 5')
CANOPY FLOOR TO CEILING HEIGHT	10.5'
TOTAL PROJECT STRUCTURE AREA	82.5 x 3 = 247.5 S.F.



PARKING STALL LEGEND	
DESCRIPTION	SYMBOL
PROPOSED L3 DISPENSER	#

ENLARGED SITE PLAN 1



EQUIPMENT ELEVATION 2

STAMP:
STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – SHELTON DOUGLAS KEISLING No. 18260 LICENSED
9/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:	PE#:	DISCIPLINE:	
SDK SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

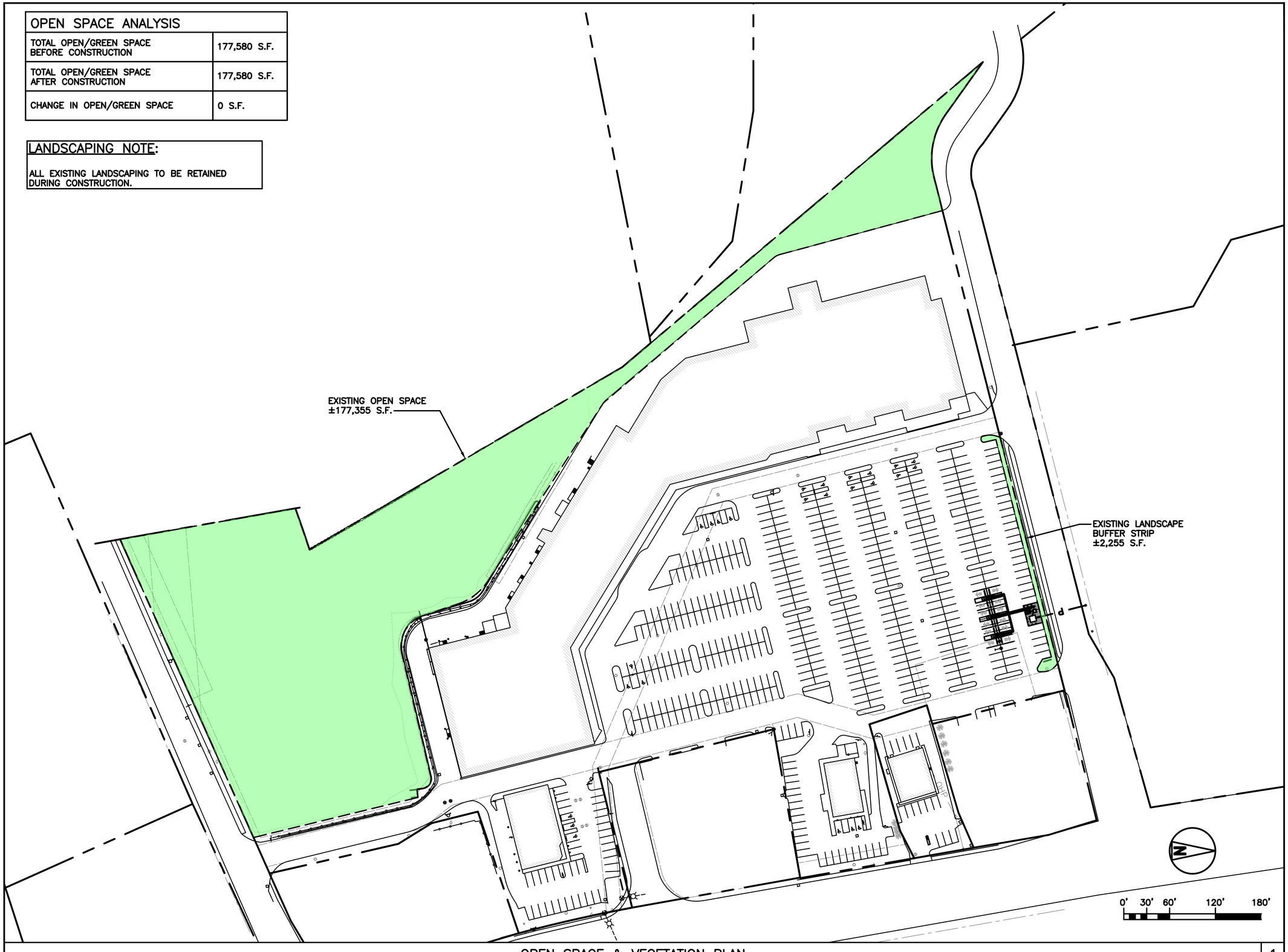
SHEET DESCRIPTION:
ENLARGED SITE PLAN & ELEVATION

SHEET #:
C-1.2

OPEN SPACE ANALYSIS	
TOTAL OPEN/GREEN SPACE BEFORE CONSTRUCTION	177,580 S.F.
TOTAL OPEN/GREEN SPACE AFTER CONSTRUCTION	177,580 S.F.
CHANGE IN OPEN/GREEN SPACE	0 S.F.

LANDSCAPING NOTE:

ALL EXISTING LANDSCAPING TO BE RETAINED DURING CONSTRUCTION.



OPEN SPACE & VEGETATION PLAN | 1

STAMP:

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING
No. 18260
LICENSED PROFESSIONAL ENGINEER
11/18/2024
Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

	ENGINEER:	PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
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ISSUED FOR PERMITTING	09/25/24	IBA	0
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APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

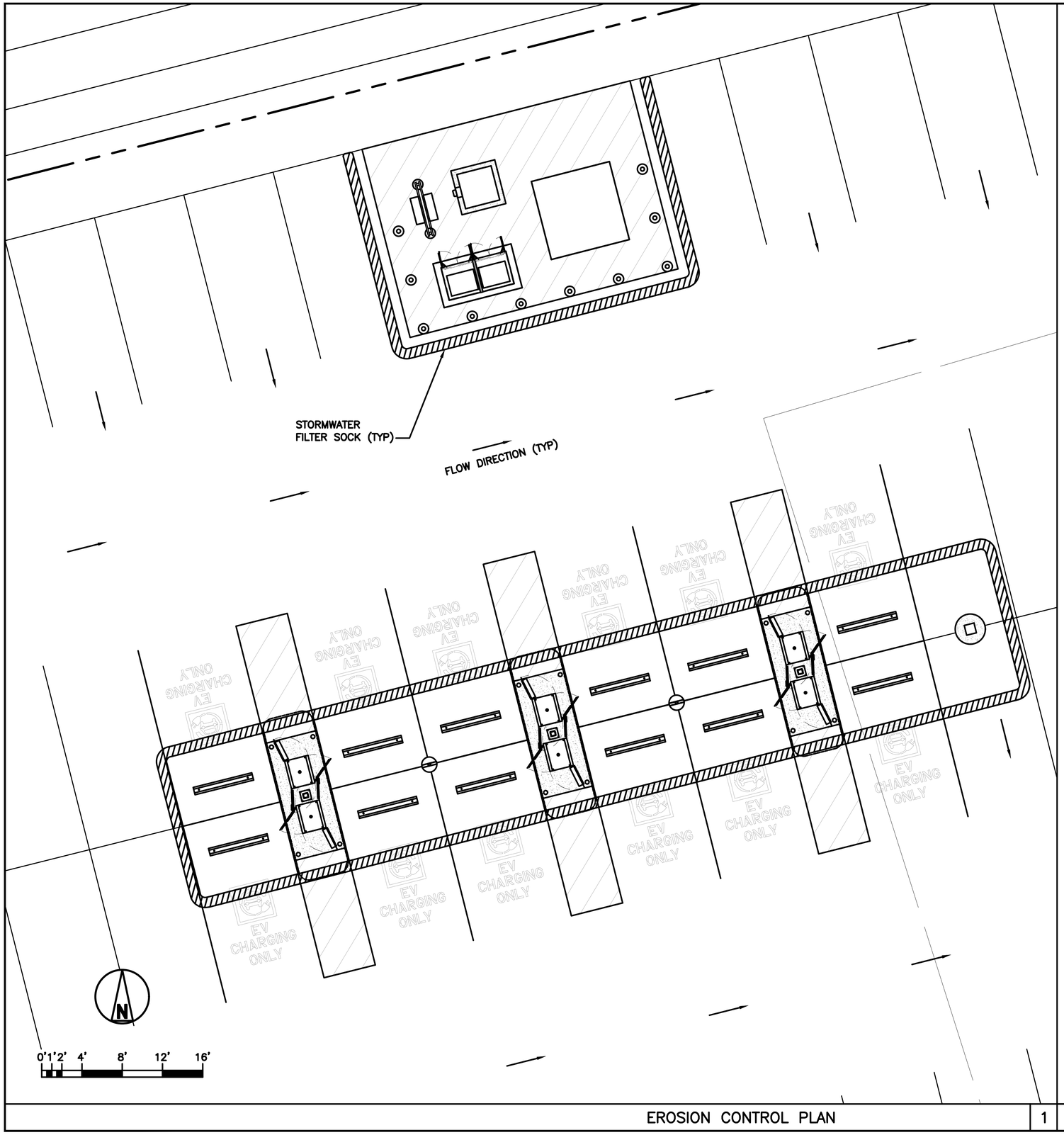
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

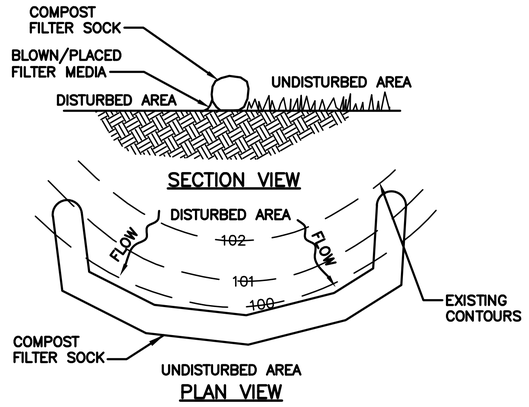
OPEN SPACE & VEGETATION PLAN

SHEET #:

C-1.3



EROSION CONTROL PLAN | 1



NOTES:

1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.
4. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 48 HOURS OF INSPECTION.
5. BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED.

STORMWATER FILTER SOCK DETAIL | 2

STAMP:

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

	ENGINEER:	PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

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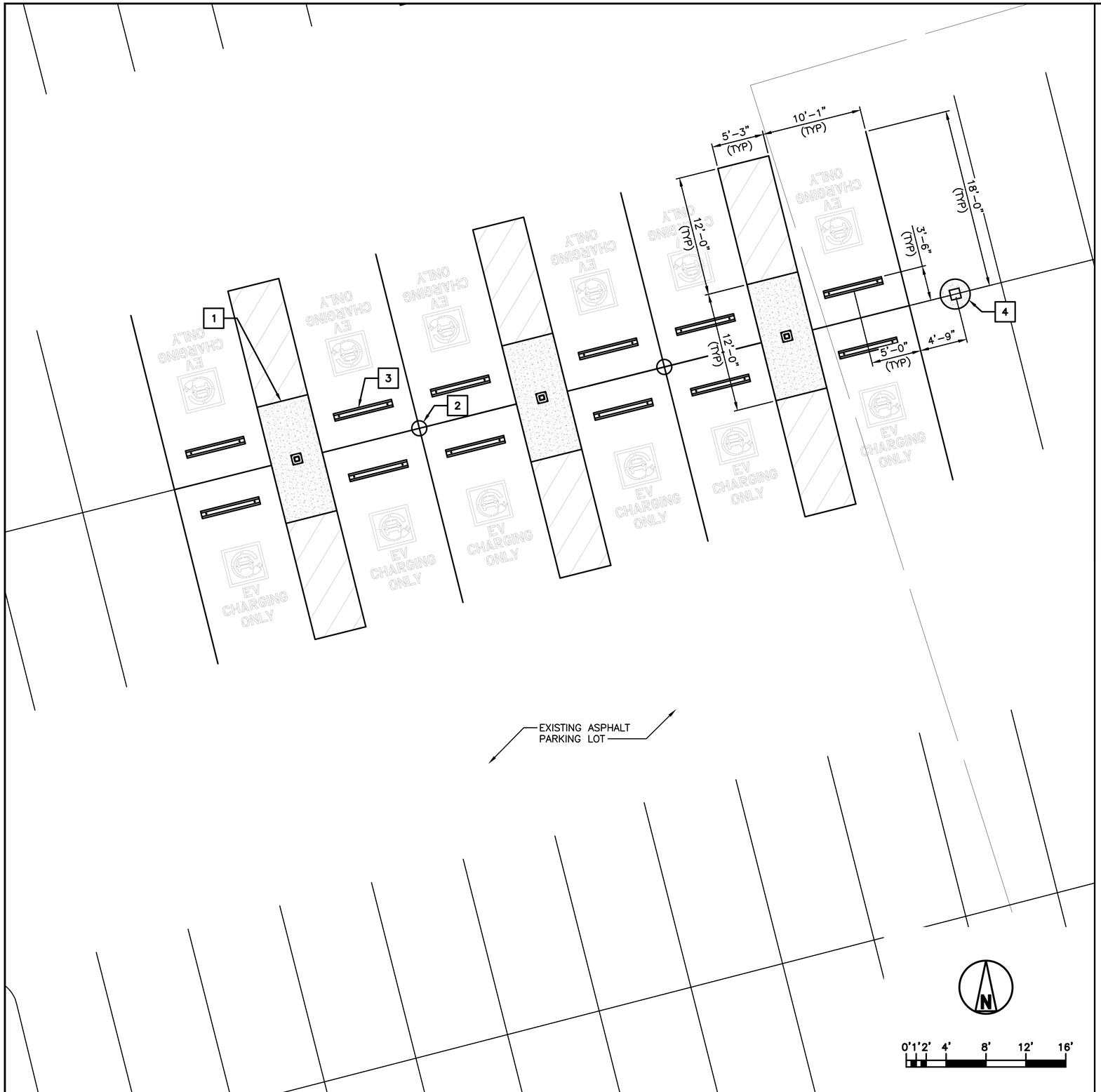
APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
EROSION CONTROL PLAN

SHEET #:
C-1.4



DISPENSER FOUNDATION PLAN | 1

GENERAL NOTE:

1. CONTRACTOR SHALL INSTALL BELL END FITTINGS ON ALL CONDUITS AFTER INSTALLATION

KEYED NOTES:

1. PROPOSED 5'-3" x 12'-0" PAD FOR L3 DISPENSER (TYP OF 3) (SEE SHEET C-3.0)
2. PROPOSED SIGN POST FOUNDATION (TYP OF 2) (SEE SHEET C-3.2, DETAIL 2)
3. PROPOSED WHEELSTOP (TYP OF 12) (SEE SHEET C-3.1, DETAIL 4)
4. RELOCATED LIGHT POLE

STAMP:

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER
11/18/2024
EF94D8A5B80B407...

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STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

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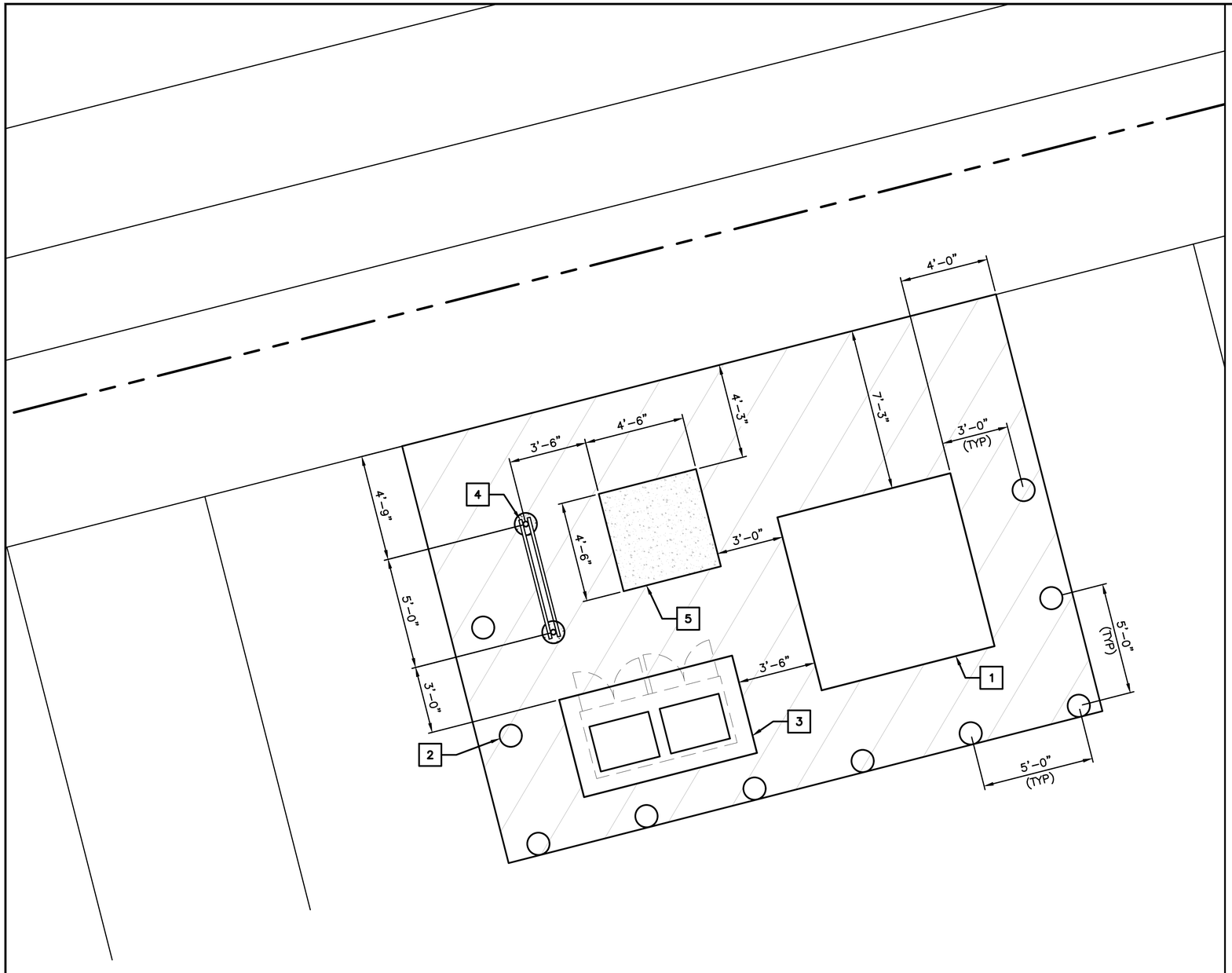
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
FOUNDATION PLANS (1 OF 2)

SHEET #:
C-2.0



KEYED NOTES:

1. UTILITY TRANSFORMER (BY UTILITY COMPANY)
2. PROPOSED BOLLARD FOUNDATION (TYP OF 10) (SEE SHEET C-3.1, DETAIL 1)
3. PROPOSED SWITCHBOARD PAD (FIELD VERIFY SIZE PER MANUFACTURER SPECIFICATIONS)
4. PROPOSED UTILITY RACK
5. PROPOSED CT CABINET FOUNDATION

N

0' 1' 2' 4' 6' 8'

EQUIPMENT FOUNDATION PLAN | 1

STAMP:

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER
11/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

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WHOLE FOOD (PORTSMOUTH)

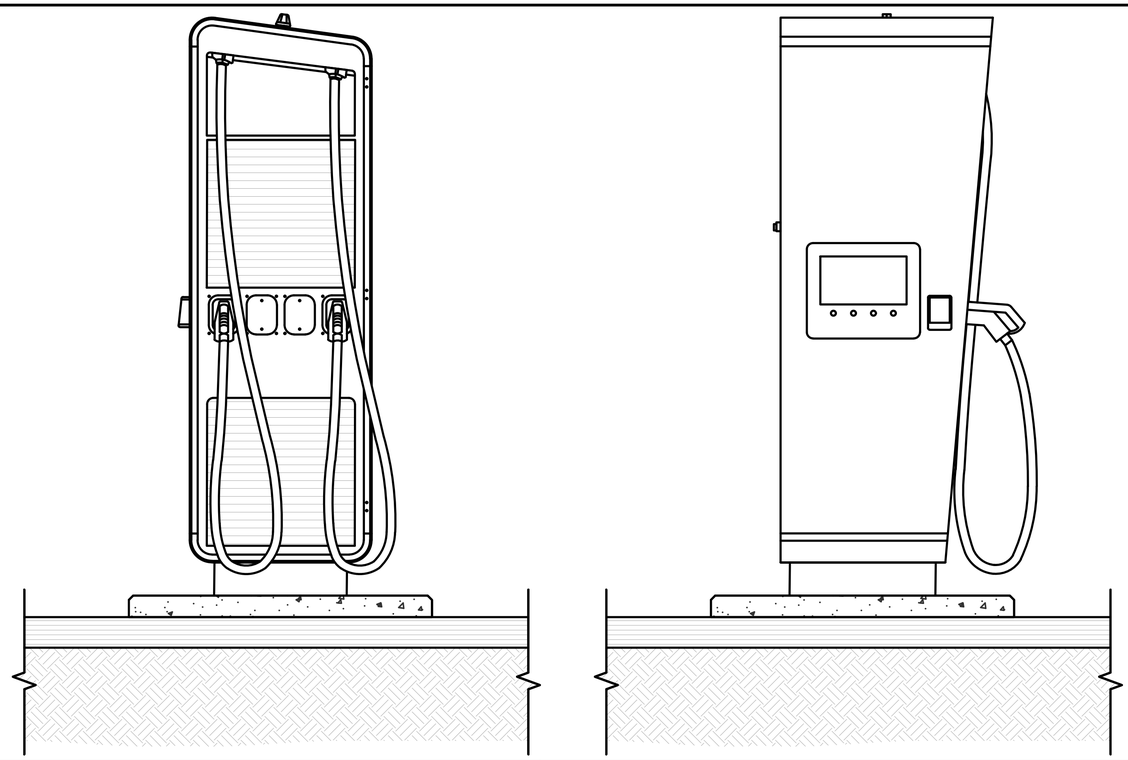
APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

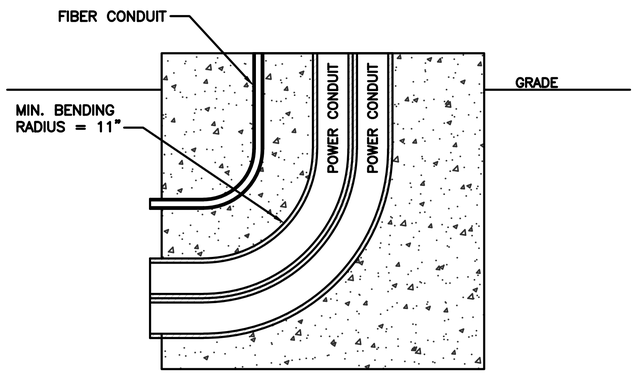
SHEET DESCRIPTION:
FOUNDATION PLANS (2 OF 2)

SHEET #:
C-2.1

CHARGER FOUNDATION & ANCHORING PER CANOPY STRUCTURAL PACKAGE



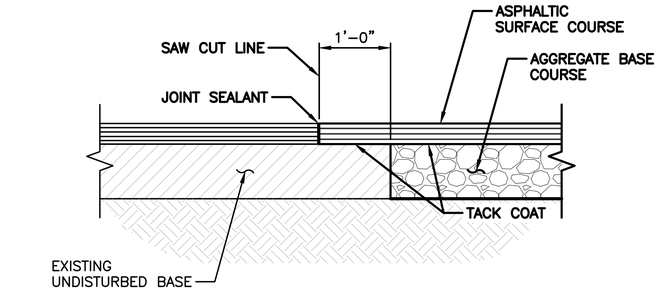
HYC 400UL DISPENSER & FOUNDATION DETAIL | 1



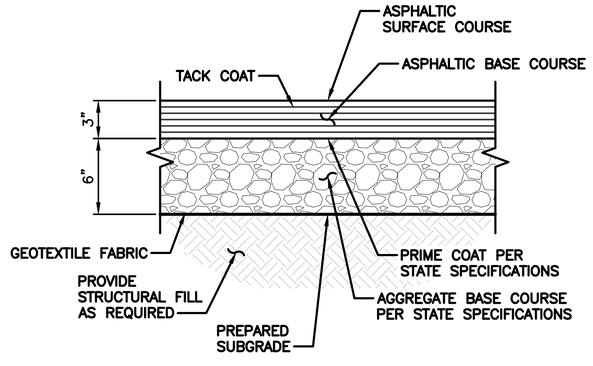
DISPENSER CONDUIT STUB UP DETAIL | 4

CHARGER FOUNDATION & ANCHORING PER CANOPY STRUCTURAL PACKAGE

HYC 400UL DC DISPENSER – ANCHORING | 3



SAW CUT SECTION



ASPHALTIC PAVING SECTION

ASPHALT REPAIR DETAIL | 2

STAMP:

STATE OF NEW HAMPSHIRE – SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER

11/18/2024

EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

	ENGINEER:	PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

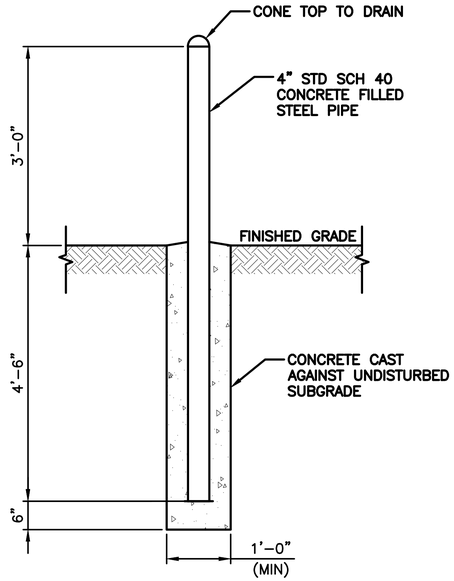
APPLICANT SITE NAME: WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER: AGI-INA-NH-0001

SITE ADDRESS: 1600 WOODBURY AVE PORTSMOUTH, NH 03801

SHEET DESCRIPTION: EQUIPMENT DETAILS (1 OF 3)

SHEET #: C-3.0



SPECIFICATIONS:

MATERIAL:	STEEL
FINISH:	PRIME AND PAINT OR INSTALL COVERS
COLORING:	WHITE, RAL 9016

BOLLARD DETAIL | 1

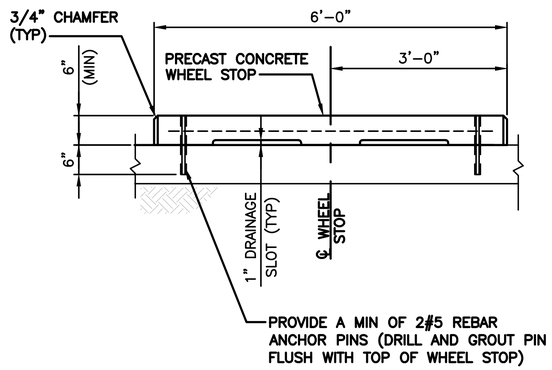
NOTE:

1. EVCS SIGN FOR REFERENCE ONLY. ACTUAL SIGN MAY BE DIFFERENT.

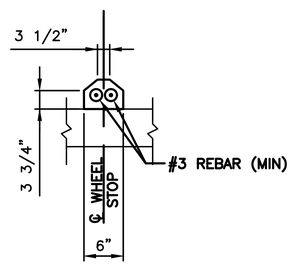
SPECIFICATIONS:

DIMENSIONS (WxH): 18" x 24" OR 12" x 18"

SIGNAGE DETAIL | 2

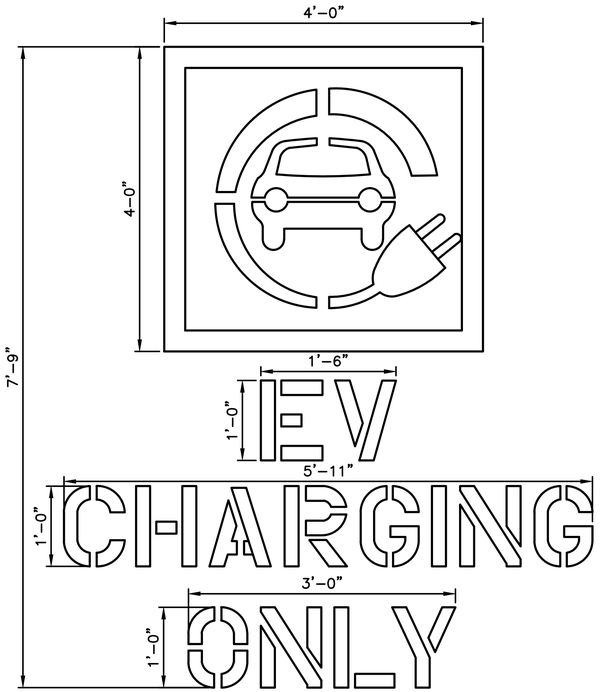


ELEVATION



END VIEW

WHEELSTOP DETAIL | 4



STENCIL NOTES:

1. USE ON ALL STANDARD & VAN ACCESSIBLE STALLS WHERE APPLICABLE
2. EVCS STALL SHALL PROVIDE SURFACE MARKING STATION "EV CHARGING ONLY" IN LETTER 12" HIGH MIN. THE CENTER LINE OF THE TEXT SHALL BE A MAX. OF 6" FROM THE CENTER LINE OF THE STALL & ITS LOWER CORNER AT, OR LOWER SIDE ALIGNED WITH, THE END OF THE STALL LENGTH.
3. BOTTOM OF STENCIL TO BE PLACE AT THE LEADING EDGE OF THE PROPOSED STALL.
4. PROVIDE 4 1/2" SPACING BETWEEN STENCILS.
5. PAVEMENT MARKING TO BE PAINTED WHITE.
6. PAINT SHALL BE WATER BORNE OR SOLVENT BORNE, COLORS AS SHOWN OR SPECIFIED HEREIN. PAVEMENT MARKING PAINTS SHALL COMPLY WITH APPLICABLE STATE AND LOCAL LAWS ENACTED TO ENSURE COMPLIANCE WITH FEDERAL CLEAN AIR STANDARDS. PAINT MATERIALS SHALL CONFORM TO THE RESTRICTIONS OF THE LOCAL AIR POLLUTION CONTROL DISTRICT.
7. WATER BORNE PAINT" PAINTS SHALL CONFORM TO FS TT-P-1952.
8. SOLVENT BORNE PAINT: PAINT SHALL CONFORM TO FS A-A-2886 OR AASHTO M248. PAINT SHALL BE NON BLEEDING, QUICK DRYING, AND ALKYD PETROLEUM BASE PAINT SUITABLE FOR TRAFFIC BEARING SURFACE AND BE MIXED IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS BEFORE APPLICATION.

STENCIL DETAIL | 3

STAMP:

STATE OF NEW HAMPSHIRE – SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER

9/18/2024

EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:	PE#:	DISCIPLINE:	
SDK SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
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REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

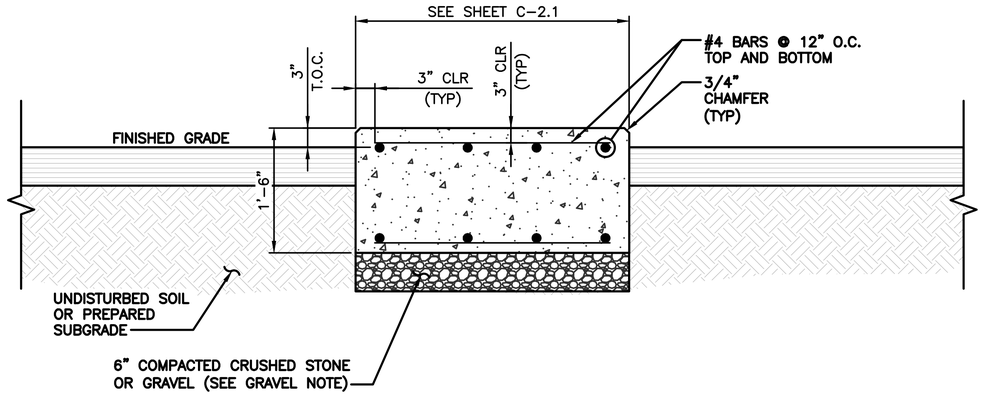
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

EQUIPMENT DETAILS (2 OF 3)

SHEET #:

C-3.1



GRAVEL NOTE:

GRAVEL SHALL BE NATURAL OR CRUSHED STONE WITH 100 PERCENT PASSING 1 INCH SIEVE.

FOUNDATION NOTE:

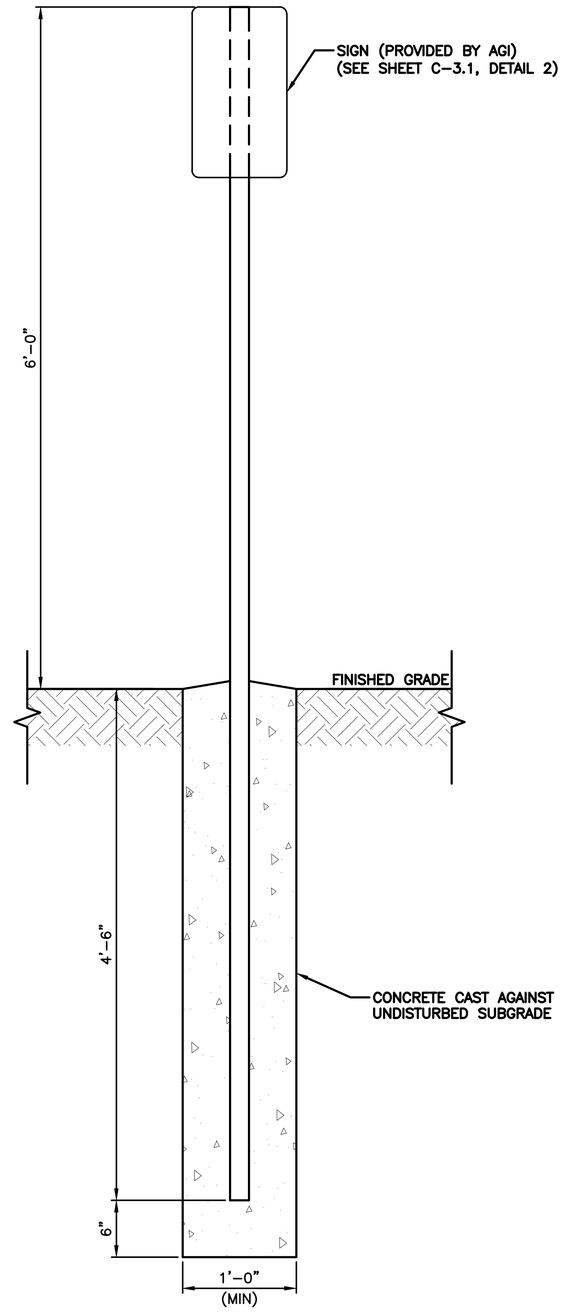
MINIMUM SOIL BEARING CAPACITY OF 1500 PSF IS ASSUMED IN ALL FOUNDATIONS AND SLAB AREAS. (GENERAL CONTRACTOR SHALL VERIFY PRIOR TO CONSTRUCTION)

GROUNDING NOTE:

SEE SHEET G-1.0, DETAIL 2 FOR SWITCHBOARD FOUNDATION GROUNDING PLAN.

SWITCHBOARD FOUNDATION SECTION | 1

DETAIL NOT USED | 3



SPECIFICATIONS:

MATERIAL:	STEEL
FINISH:	POWDER COATED – SEMI GLOSS
COLORING:	COORDINATE W/ AGI/LANDLORD

EV SIGNAGE DETAIL | 2

STAMP:

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
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PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

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APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

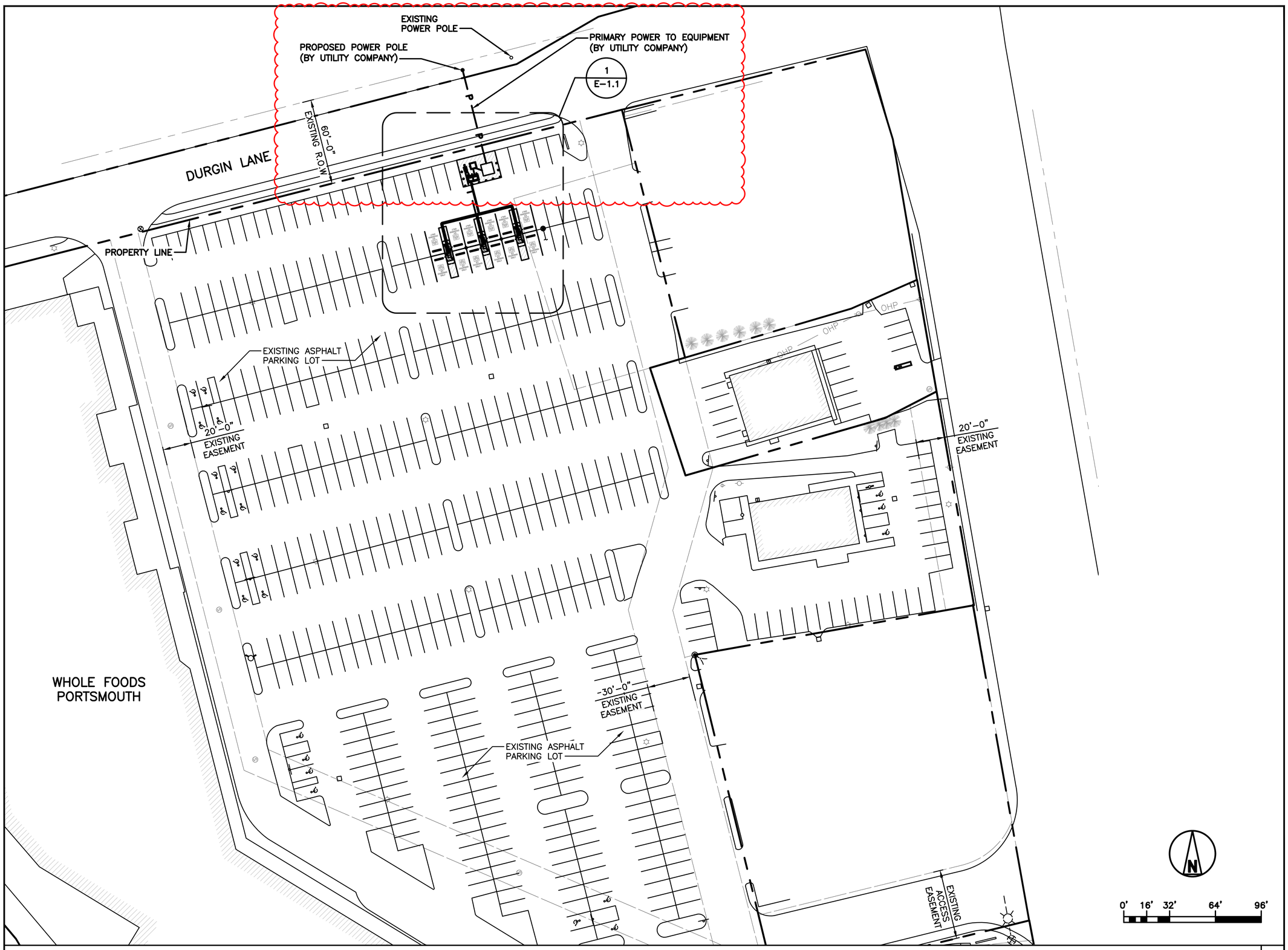
AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION: EQUIPMENT DETAILS (3 OF 3)

SHEET #: C-3.2



UTILITY PLAN

1

STAMP:

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING
No. 18260
LICENSED PROFESSIONAL ENGINEER

11/18/2024

EF94D8A5B80B407...

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	ENGINEER:	PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR:

PLANS PREPARED BY:

DRAWING NOTICE:

SUBMITTALS:

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WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

UTILITY PLAN

SHEET #:

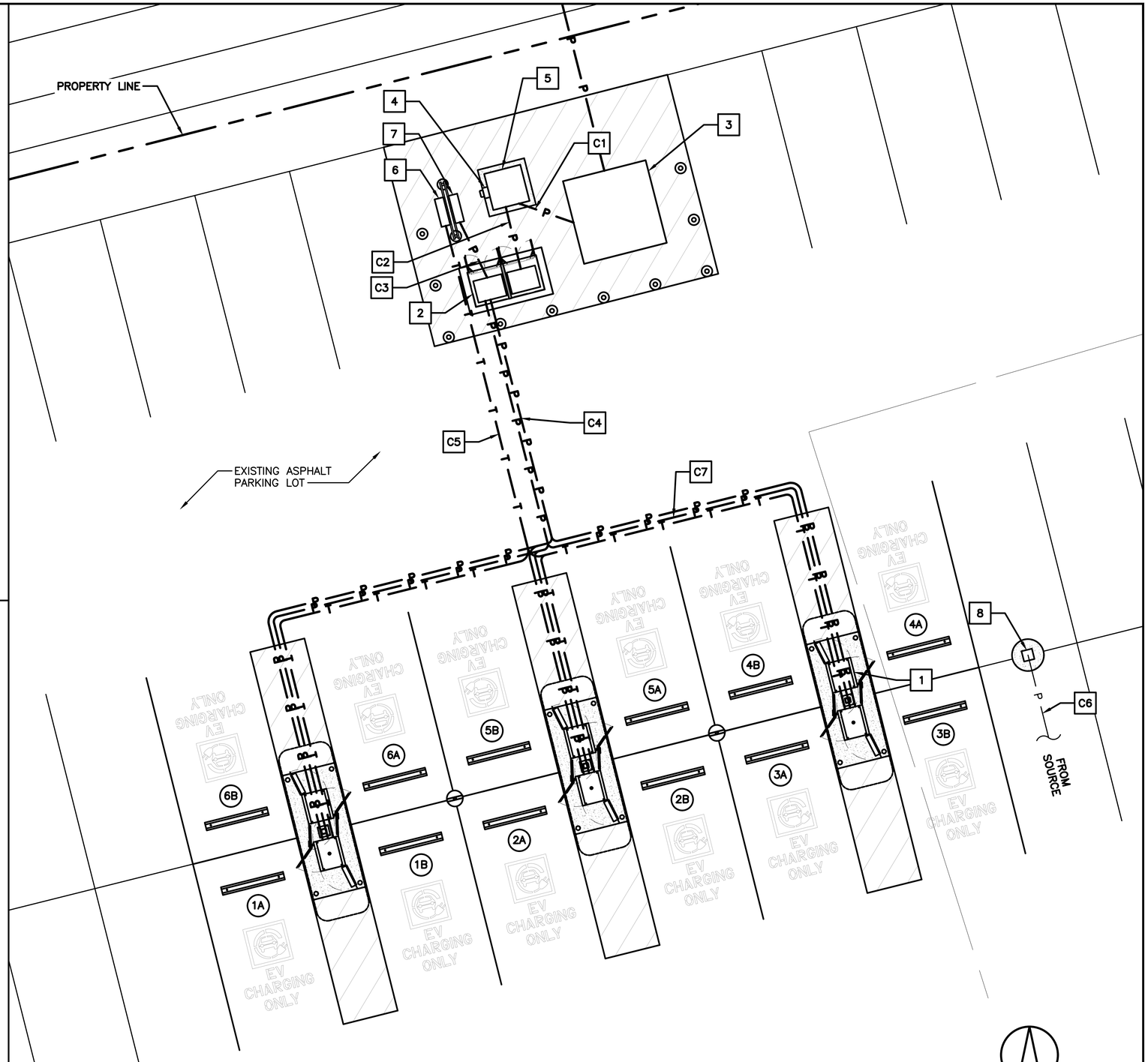
E-1.0

EQUIPMENT NOTES:

1. PROPOSED DUAL L3 DISPENSER (TYP OF 6)
2. PROPOSED 3000A, 480Y/277V SWITCHBOARD "MDP"
3. PROPOSED UTILITY TRANSFORMER (BY UTILITY COMPANY)
4. PROPOSED METER SOCKET
5. PROPOSED CT CABINET
6. PROPOSED SITE COMM BOX
7. PROPOSED MINI POWER-ZONE
8. RELOCATED LIGHT POLE

CONDUIT ROUTING NOTES:

- C1 (9) 4" PVC SCH40 CONDUITS FOR POWER FROM UTILITY TRANSFORMER TO CT CABINET
- C2 (9) 4" PVC SCH40 CONDUITS FOR POWER FROM CT CABINET TO SWITCHBOARD "MDP"
- C3 1" PVC SCH40 CONDUIT FOR POWER FROM SWITCHBOARD "MDP" TO MINI POWER-ZONE
- C4 (2) 3" PVC SCH40 CONDUITS FOR POWER FROM SWITCHBOARD "MDP" TO 400KW DC DISPENSER (TYP OF 6)
- C5 1" PVC SCH40 CONDUIT FOR FIBER FROM SITE COMMS BOX TO 400KW DC DISPENSER (TYP OF 6)
- C6 EXISTING REROUTED CONDUIT FOR POWER FROM SOURCE TO RELOCATED LIGHT POLE
- C7 3/4" CONDUIT FOR POWER FROM PANEL "LP-1" TO CANOPY LIGHTING (TYP OF 3)



PARKING STALL LEGEND	
DESCRIPTION	SYMBOL
PROPOSED L3 DISPENSER	(#)

LINE TYPE LEGEND	
FIBER	T
POWER	P

ENLARGED UTILITY PLAN | 1

STAMP:

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER
SHELTON DOUGLAS KEISLING No. 18260 LICENSED
11/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

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ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

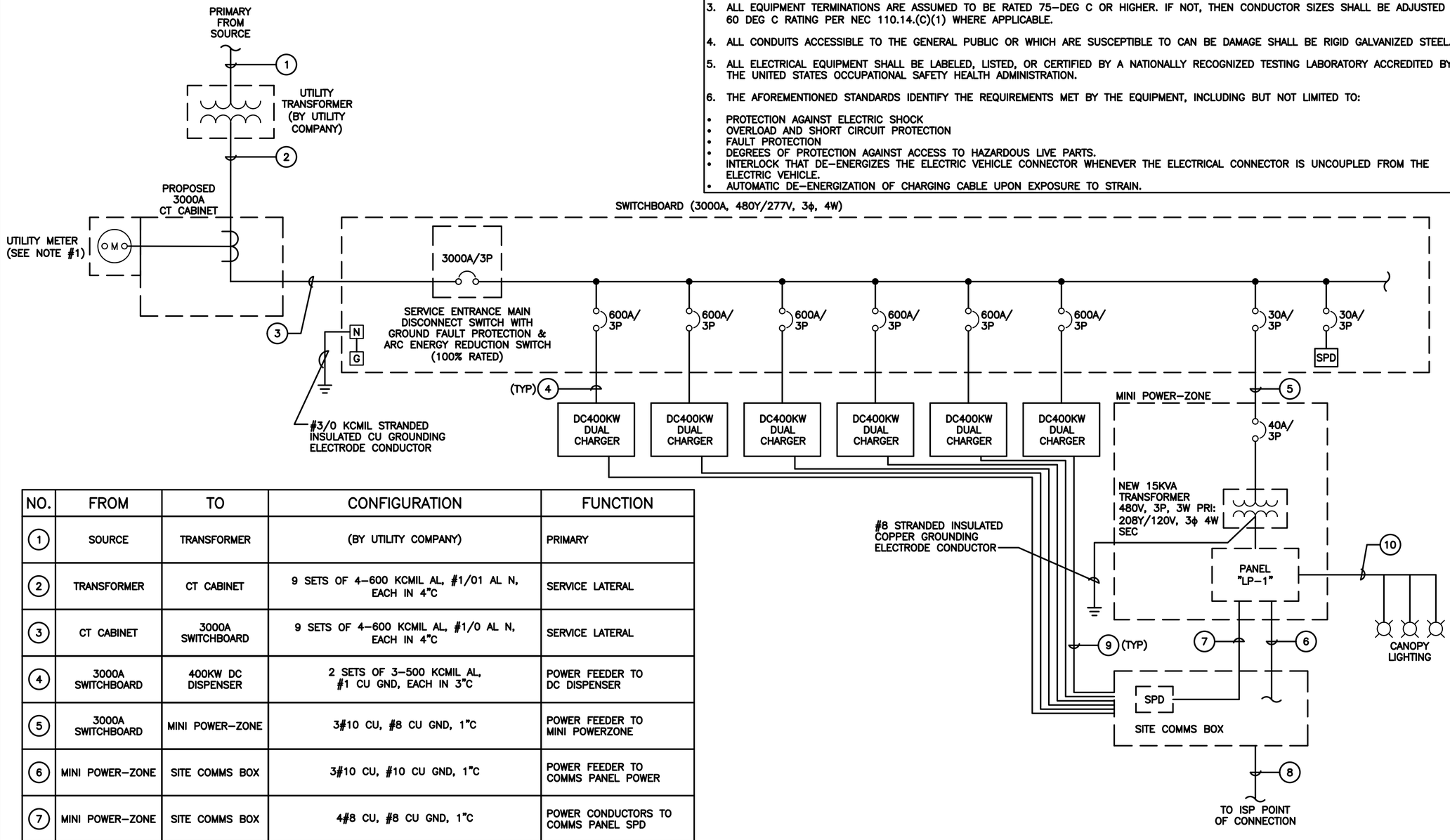
SHEET DESCRIPTION:
ENLARGED UTILITY PLAN

SHEET #:
E-1.1

GENERAL NOTES:

1. PROPOSED UTILITY CT'S SHALL BE LOCATED IN UTILITY APPROVED PAD MOUNTED CT CABINET. PROPOSED METER SOCKET SHALL BE MOUNTED ON UTILITY RACK.
2. WIRE AND CABLE SHALL BE 600V, TYPE THHN/THWN-2, UNLESS OTHERWISE INDICATED.
3. ALL EQUIPMENT TERMINATIONS ARE ASSUMED TO BE RATED 75-DEG C OR HIGHER. IF NOT, THEN CONDUCTOR SIZES SHALL BE ADJUSTED FOR 60 DEG C RATING PER NEC 110.14.(C)(1) WHERE APPLICABLE.
4. ALL CONDUITS ACCESSIBLE TO THE GENERAL PUBLIC OR WHICH ARE SUSCEPTIBLE TO CAN BE DAMAGE SHALL BE RIGID GALVANIZED STEEL.
5. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED, LISTED, OR CERTIFIED BY A NATIONALLY RECOGNIZED TESTING LABORATORY ACCREDITED BY THE UNITED STATES OCCUPATIONAL SAFETY HEALTH ADMINISTRATION.
6. THE AFOREMENTIONED STANDARDS IDENTIFY THE REQUIREMENTS MET BY THE EQUIPMENT, INCLUDING BUT NOT LIMITED TO:

- PROTECTION AGAINST ELECTRIC SHOCK
- OVERLOAD AND SHORT CIRCUIT PROTECTION
- FAULT PROTECTION
- DEGREES OF PROTECTION AGAINST ACCESS TO HAZARDOUS LIVE PARTS.
- INTERLOCK THAT DE-ENERGIZES THE ELECTRIC VEHICLE CONNECTOR WHENEVER THE ELECTRICAL CONNECTOR IS UNCOUPLED FROM THE ELECTRIC VEHICLE.
- AUTOMATIC DE-ENERGIZATION OF CHARGING CABLE UPON EXPOSURE TO STRAIN.



NO.	FROM	TO	CONFIGURATION	FUNCTION
1	SOURCE	TRANSFORMER	(BY UTILITY COMPANY)	PRIMARY
2	TRANSFORMER	CT CABINET	9 SETS OF 4-600 KCMIL AL, #1/01 AL N, EACH IN 4"C	SERVICE LATERAL
3	CT CABINET	3000A SWITCHBOARD	9 SETS OF 4-600 KCMIL AL, #1/0 AL N, EACH IN 4"C	SERVICE LATERAL
4	3000A SWITCHBOARD	400KW DC DISPENSER	2 SETS OF 3-500 KCMIL AL, #1 CU GND, EACH IN 3"C	POWER FEEDER TO DC DISPENSER
5	3000A SWITCHBOARD	MINI POWER-ZONE	3#10 CU, #8 CU GND, 1"C	POWER FEEDER TO MINI POWERZONE
6	MINI POWER-ZONE	SITE COMMS BOX	3#10 CU, #10 CU GND, 1"C	POWER FEEDER TO COMMS PANEL POWER
7	MINI POWER-ZONE	SITE COMMS BOX	4#8 CU, #8 CU GND, 1"C	POWER CONDUCTORS TO COMMS PANEL SPD
8	SITE COMMS BOX	ISP POINT OF CONNECTION	FIBER OPTIC CABLE	FIBER FROM ISP POINT OF CONNECTION
9	SITE COMMS BOX	400KW DC DISPENSER	FIBER OPTIC CABLE, 1"C	FIBER TO DC DISPENSER
10	PANEL "LP-1"	CANOPY LIGHTING	2#12, #12 GND, 3/4"C (LIGHTS CONTROLLED BY PHOTOCELL)	POWER TO CANOPY LIGHTING

ELECTRICAL ONE-LINE DIAGRAM | 1

STAMP:

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:	PE#:	DISCIPLINE:	
SDK SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

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SUBMITTALS:

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REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
ELECTRICAL ONE-LINE DIAGRAM

SHEET #:
E-2.0

PANEL NAME:	SWITCHBOARD	**MAINS TYPE:**	MCB	**DISTRIBUTION TYPE:**	277/480Y, 3-PH, 4-WIRE
		MAINS RATING (A):	3000	**RATED FAULT CURRENT:**	65 KAIC (VERIFY W/ UTILITY PRIOR TO ORDERING)
STATUS:	NEW	**BUS RATING (A):**	3000	**RATING TYPE:**	FULLY RATED
LOCATION:	OUTSIDE	**ENCLOSURE:**	NEMA 3R	**SERVICE ENTRANCE RATED:**	YES
SUPPLY FROM:	TRANSFORMER	**MOUNTING:**	PAD-MOUNTED	**ISOLATED GND BAR:**	NO

CKT #	LOAD L	R	HV	M	C	DESCRIPTION	NOTE	AMP	POLE	TOTAL PER PHASE IN KVA A	B	C	AMP	POLE	NOTE	DESCRIPTION	LOAD L	R	HV	M	C	CKT #
1					133.33	PROPOSED DC400KW CHARGER EVCS-01		600	3	266.66			600	3		PROPOSED DC400KW CHARGER EVCS-02					133.33	2
3					133.33						266.66										133.33	4
5					133.33							266.66									133.33	6
7					133.33	PROPOSED DC400KW CHARGER EVCS-03		600	3	266.66			600	3		PROPOSED DC400KW CHARGER EVCS-04					133.33	8
9					133.33						266.66										133.33	10
11					133.33							266.66									133.33	12
13					133.33	PROPOSED DC400KW CHARGER EVCS-05		600	3	266.66			600	3		PROPOSED DC400KW CHARGER EVCS-06					133.33	14
15					133.33						266.66										133.33	16
17					133.33							266.66									133.33	18
19					1.80	MINI POWER-ZONE		30	3	1.80			30	3		SURGE PROTECTION DEVICE						20
21					0.00						0.00											22
23					0.18							0.18										24
									TOTAL KVA =	801.78	799.98	800.16				2401.92 TOTAL CONN KVA						
									TOTAL AMPS =	2,894.5	2,888.0	2,888.7				2889.06 TOTAL CONN AMPS						

	DEMAND FACTOR	A	B	C	TOTAL	NOTES
LIGHTING	1.25	0.00	0.00	0.00	0.00	
FIRST 10KVA RECEPTACLES (3.33 KVA PER PHASE)	1.00	0.00	0.00	0.00	0.00	
REMAINING RECEPTACLES	0.50	0.00	0.00	0.00	0.00	
HVAC EQUIP	1.00	0.00	0.00	0.00	0.00	
25% OF LARGEST MOTOR	0.25	0.00	0.00	0.00	0.00	
MISCELLANEOUS	1.00	0.00	0.00	0.00	0.00	
CONTINUOUS	1.25	1002.23	999.98	1000.20	3002.40	
TOTALS (KVA)		1002.23	999.98	1000.20	3002.40	
TOTALS (A)		3618.14	3610.02	3610.83	3611.33	

PANEL NAME:	PANELBOARD "LP-1"	**MAINS TYPE:**	MCB	**DISTRIBUTION TYPE:**	120/208Y, 3-PH, 4-WIRE
		MAINS RATING (A):	60	**RATED FAULT CURRENT:**	22 KAIC
STATUS:	NEW	**BUS RATING (A):**	60	**RATING TYPE:**	FULLY RATED
LOCATION:	OUTSIDE	**ENCLOSURE:**	NEMA 3R	**SERVICE ENTRANCE RATED:**	YES
SUPPLY FROM:	TRANSFORMER "LP-1"	**MOUNTING:**	H-FRAME	**ISOLATED GND BAR:**	NO

CKT #	LOAD L	R	HV	M	C	DESCRIPTION	NOTE	AMP	POLE	TOTAL PER PHASE IN KVA A	B	C	AMP	POLE	NOTE	DESCRIPTION	LOAD L	R	HV	M	C	CKT #
1				1.50		SITE COMMS BOX PWR		30	1	1.80			20	1		CANOPY LIGHTING	0.30					2
3						SPACE					0.00					SPACE						4
5		0.18				RECEPTACLE		20	1			0.18				SPACE						6
7						COMMS SPD		30	3	0.00						SPACE						8
9											0.00					SPACE						10
11												0.00				SPACE						12
									TOTAL KVA =	1.80	0.00	0.18				1.98 TOTAL CONN KVA						
									TOTAL AMPS =	15.0	-	1.5				5.50 TOTAL CONN AMPS						

	DEMAND FACTOR	A	B	C	TOTAL	NOTES
LIGHTING	1.25	0.38	0.00	0.00	0.38	
FIRST 10KVA RECEPTACLES (3.33 KVA PER PHASE)	1.00	0.00	0.00	0.18	0.18	
REMAINING RECEPTACLES	0.50	0.00	0.00	0.00	0.00	
HVAC EQUIP	1.00	0.00	0.00	0.00	0.00	
25% OF LARGEST MOTOR	0.25	0.00	0.00	0.00	0.00	
MISCELLANEOUS	1.00	1.50	0.00	0.00	1.50	
CONTINUOUS	1.25	0.00	0.00	0.00	0.00	
TOTALS (KVA)		1.88	0.00	0.18	2.06	
TOTALS (A)		15.63	0.00	1.50	5.70	

PANELBOARD NOTES:

1. PROVIDE EQUIPMENT WITH SUFFICIENT INTERRUPTING CAPACITY (AIC) REQUIRED FOR A SAFE INSTALLATION. AIC RATING NOTED ON EACH PANELBOARD SCHEDULE IS MINIMUM RATING ACCEPTED WITHOUT ADDITIONAL DOCUMENTATION THAT INDICATES OTHERWISE.
2. CIRCUITS SHALL BE REARRANGED AS REQUIRED TO MAINTAIN THE MOST BALANCED LOADS ON EACH PHASE WITHIN EACH PANEL. PROVIDE TYPED PANEL DIRECTORY MOUNTED PER MANUFACTURER'S RECOMMENDATIONS.

STAMP:

9/18/2024

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – SHELTON DOUGLAS KEISLING No. 18260 LICENSED

Shelton Keisling

EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR:

AGI

PLANS PREPARED BY:

SSC

SUBMITTALS:

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APPLICANT SITE NAME:

WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

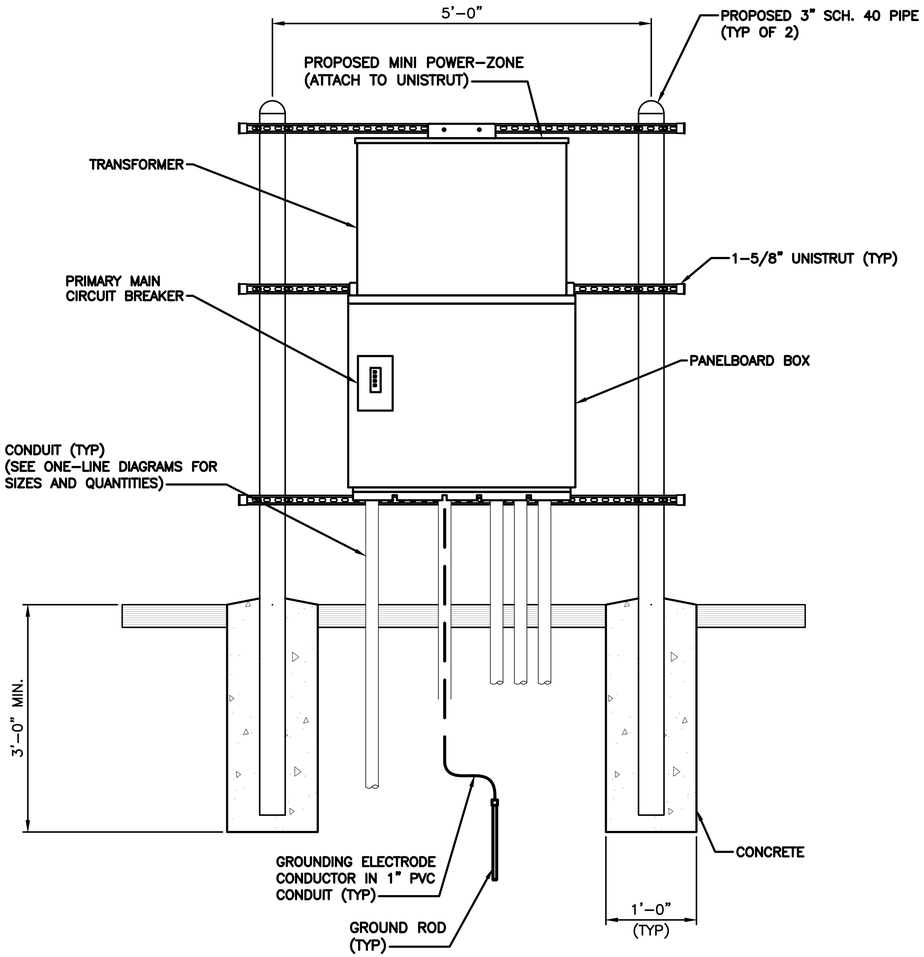
PANEL SCHEDULE

SHEET #:

E-2.1

ELECTRICAL NOTES:

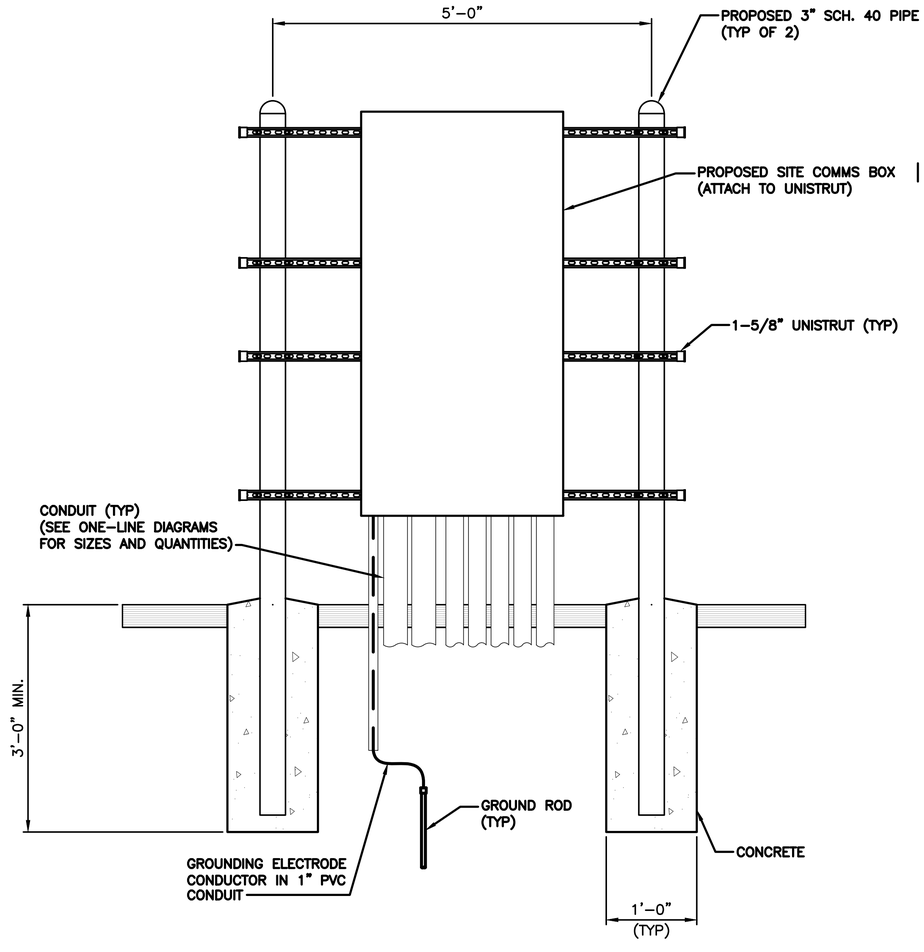
1. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND THE LOCAL BUILDING CODES. ALL COMPONENTS SHALL BE U.L. LISTED.
2. ALL COMPONENTS SHALL BE AS SPECIFIED OR EQUIVALENT AS APPROVED BY AGI
3. BELOW GRADE EXOTHERMIC CONNECTIONS ARE TYPE–TA.
4. CONTRACTOR SHALL INSTALL SLIP JOINTS ON ALL CONDUITS.



UTILITY RACK DETAIL (POWERZONE) | 1

ELECTRICAL NOTES:

1. ALL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE AND THE LOCAL BUILDING CODES. ALL COMPONENTS SHALL BE U.L. LISTED.
2. ALL COMPONENTS SHALL BE AS SPECIFIED OR EQUIVALENT AS APPROVED BY AGI
3. BELOW GRADE EXOTHERMIC CONNECTIONS ARE TYPE–TA.
4. CONTRACTOR SHALL INSTALL SLIP JOINTS ON ALL CONDUITS.



UTILITY RACK DETAIL (SITE COMMS BOX) | 2

STAMP:

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR:

PLANS PREPARED BY:

DRAWING NOTICE:

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WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

ELECTRICAL DETAILS

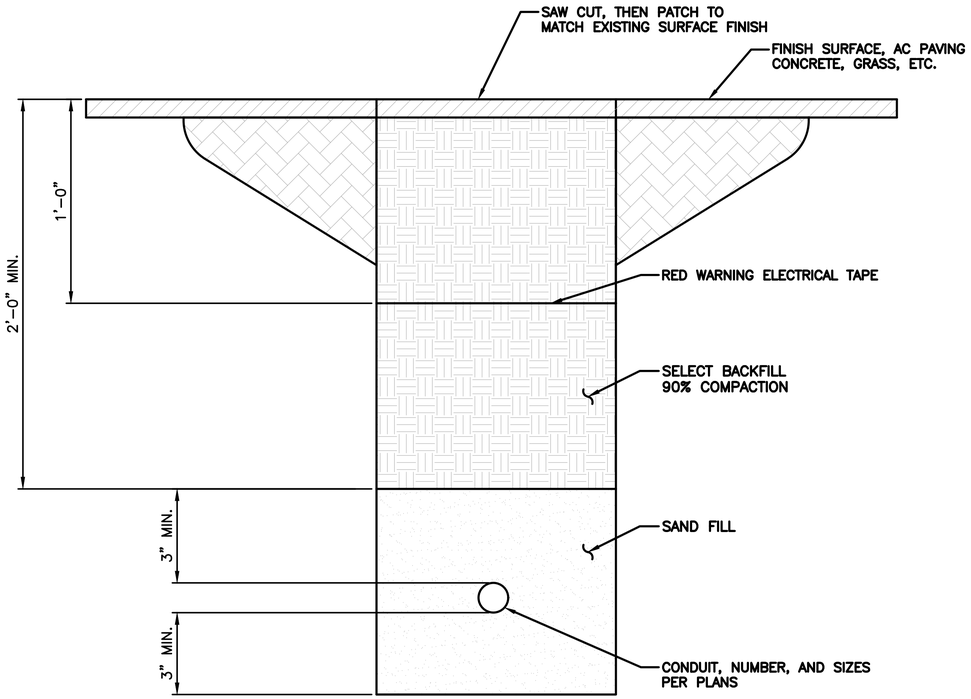
SHEET #:

E-3.0

DETAIL NOT USED | 1

NOTE:

1. WIDTH OF TRENCH WILL BE DETERMINED BY THE SIZE OF CONDUITS, NUMBER OF CONDUITS, AND CONFIGURATION.



CONDUIT TRENCH DETAIL | 2

STAMP:

STATE OF NEW HAMPSHIRE – PROFESSIONAL ENGINEER – SHELTON DOUGLAS KEISLING No. 18260 LICENSED

11/18/2024

EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

	ENGINEER:	PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR:

PLANS PREPARED BY:

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APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

ELECTRICAL DETAILS (2 OF 2)

SHEET #:

E-3.1

TYPE SS

TYPE TA

TYPE HS

TYPE GT

TYPE PT

TYPE HA

TYPE XA

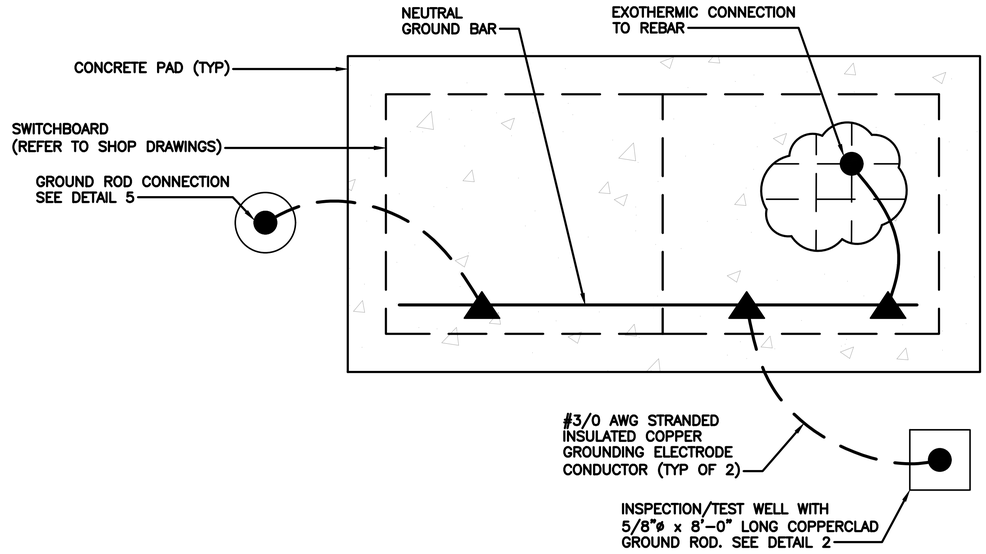
TYPE GR

TYPE GL LUG

TYPE VS

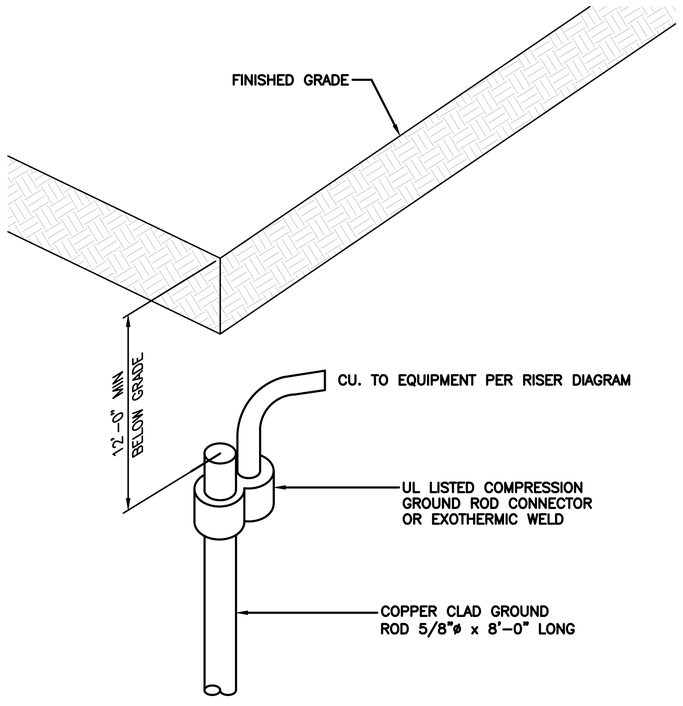
LEGEND:

- EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION

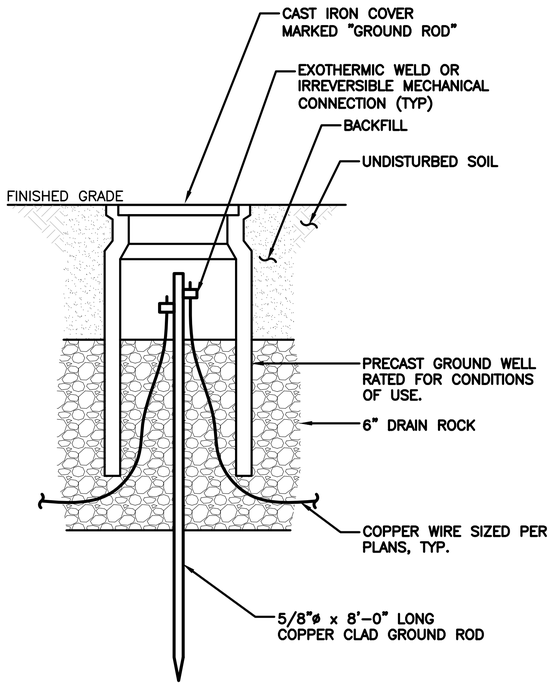


EXOTHERMIC CONNECTION DETAILS | 1

TYPICAL SWITCHBOARD FOUNDATION GROUNDING PLAN | 2



GROUND ROD DETAIL | 5



INSPECTION/TEST WELL DETAIL | 4

DETAIL NOT USED | 3

STAMP:

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STATE OF NEW HAMPSHIRE

PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

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WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:

AGI-INA-NH-0001

SITE ADDRESS:

1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:

GROUNDING DETAILS

SHEET #:

G-1.0

GENERAL REQUIREMENTS

PART 1: GENERAL

1.1 INTENT:

A. THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION. PLANS ARE NOT TO BE SCALED.
B. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY, HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.
C. THE INTENTION OF DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
D. CONFLICTS: THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIALS OR DOING ANY WORK. NO COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS AND THOSE ON THE DOCUMENTS. ANY DISCREPANCY SHALL BE REPORTED TO THE OWNER OR THEIR AGENT FOR CONSIDERATION.

1.2 LICENSING REQUIREMENTS:

A. THE CONTRACTOR IS RESPONSIBLE FOR PROCUREMENT AND MAINTAINING ALL APPLICABLE LICENSES AND BONDS.

1.3 STORAGE:

A. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION THAT DOES NOT OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.

1.4 CLEAN UP:

A. THE CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH AT ALL TIMES.

1.5 QUALITY ASSURANCE:

A. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REGULATIONS.

PART 2: PRODUCTS – NOT APPLICABLE TO THIS SECTION

PART 3: EXECUTION – NOT APPLICABLE TO THIS SECTION

END OF SECTION

SITE CLEARING/EROSION CONTROL

PART 1: GENERAL

1.1 SUMMARY:

A. PROVIDE SITE–CLEARING AS REQUIRED TO COMPLETE WORK AS SHOWN ON CONTRACT DOCUMENTS INCLUDING CLEARING, GRUBBING, STRIPPING, EROSION AND SILTATION CONTROL, AND PROTECTION OF LANDSCAPE MATERIALS DESIGNATED TO BE PROTECTED DURING CONSTRUCTION.

1.2 QUALITY ASSURANCE:

A. COMPLY WITH GOVERNING CODES AND REGULATIONS.

B. SITE PROTECTION: PROVIDE ALL NECESSARY JOB SITE MAINTENANCE FROM COMMENCEMENT OF WORK UNTIL COMPLETION OF THE SUBCONTRACT

C. 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.

D. ANY AND ALL WASTE MATERIALS (E.G., CONCRETE WASTE) AND SOIL ARE PROHIBITED FROM BEING DISCHARGED OFF OF THE WORK SITE AND/OR ENTERING STORM DRAINS.

PART 2: PRODUCTS

2.1 MATERIALS:

A. TREE PROTECTION, EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL MATERIALS SUITABLE FOR SITE CONDITIONS.

PART 3: EXECUTION

3.1 SITE CLEARING OPERATIONS:

A. PROTECTION OF EXISTING TREES, VEGETATION, LANDSCAPING, AND SITE IMPROVEMENTS NOT SCHEDULED FOR CLEARING WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.

B. TRIMMING OF EXISTING TREES AND VEGETATION AS RECOMMENDED BY ARBORIST FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.

C. CLEARING AND GRUBBING OF STUMPS AND VEGETATION, AND REMOVAL AND DISPOSAL OF DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.

D. TOPSOIL STRIPPING AND STOCKPILING.

E. TEMPORARY EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL.

F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.

G. WATERING OF TREES AND VEGETATION DURING CONSTRUCTION ACTIVITIES.

H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.

I. MAINTAIN ALL EXISTING FENCING AND GATES TO MAINTAIN A SECURE SITE AT ALL TIMES.

J. PROVIDE AND MAINTAIN ALL TEMPORARY FENCING, BARRICADES, WARNING SIGNALS AND SIMILAR DEVICES NECESSARY TO PROTECT LIFE AND PROPERTY DURING THE ENTIRE PERIOD OF CONSTRUCTION. REMOVE ALL SUCH DEVICES UPON COMPLETION OF THE WORK.

3.2 CLEARING:

A. PREVENT DAMAGE TO EXISTING IMPROVEMENTS INDICATED TO REMAIN, INCLUDING ON AND OFF SITE. PROTECT EXISTING TREES AND VEGETATION INDICATED TO REMAIN. DO NOT STOCKPILE MATERIALS AND RESTRICT TRAFFIC WITHIN DRIP LINE OF EXISTING TREES TO REMAIN OR THAT INTERFERE WITH ACCESS TO SITE. PROVIDE AND MAINTAIN TEMPORARY GUARDS TO ENCIRCLE TREES OR GROUPS OF TREES TO REMAIN; OBTAIN APPROVAL BEFORE BEGINNING WORK.

B. WATER VEGETATION AS REQUIRED TO MAINTAIN HEALTH. COVER TEMPORARILY EXPOSED ROOTS WITH WET BURLAP AND BACKFILL AS SOON AS POSSIBLE. COAT CUT PLANT SURFACES WITH APPROVED EMULSIFIED ASPHALT PLANT COATING.

C. REPAIR OR REPLACE VEGETATION DESIGNATED FOR REUSE, WHICH HAS BEEN DAMAGED. REMOVE HEAVY GROWTHS OF GRASS BEFORE STRIPPING. STOCKPILE SATISFACTORY TOPSOIL CONTAINING NO LARGE STONES, FOREIGN MATTER AND WEEDS ON SITE FOR REUSE.

D. COMPLETELY REMOVE ALL IMPROVEMENTS, STUMPS AND DEBRIS EXCEPT FOR THOSE INDICATED TO REMAIN. REMOVE BELOW GRADE IMPROVEMENTS AT LEAST 12" BELOW FINISH GRADE SO AS NOT TO INTERFERE WITH NEW CONSTRUCTION. REMOVE ABANDONED MECHANICAL AND ELECTRICAL WORK AS REQUIRED.

E. PREVENT EROSION AND SILTATION OF STREETS, CATCH BASINS AND PIPING. CONTROL WINDBLOWN DUST. REMOVE WASTE MATERIALS AND UNSUITABLE SOIL FROM SITE AND DISPOSE OF IN A LEGAL MANNER. ALL MATERIAL SHALL BE CONTAINED BY APPROPRIATE CONTROLS.

F. EXCEPT WHERE EXCAVATION TO GREATER DEPTH IS INDICATED, FILL DEPRESSIONS RESULTING FROM CLEARING, GRUBBING AND DEMOLITION WORK COMPLETELY WITH SUITABLE FILL AND COMPACT AS REQUIRED.

3.3 EROSION CONTROL:

A. PROVIDE EROSION AND SILTATION CONTROL AS REQUIRED TO MEET ALL LOCAL AND STATE REQUIREMENTS.

END OF SECTION

STAMP:

9/18/2024
STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED
PROFESSIONAL ENGINEER
Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
SPECIFICATIONS
(1 OF 5)

SHEET #:
SP-1.0

CAST-IN-PLACE-CONCRETE

PART 1: GENERAL

1.1 SUMMARY:

A. FURNISH AND INSTALL ALL CAST-IN-PLACE CONCRETE, REINFORCING AND ACCESSORIES, AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS.

1.2 SUBMITTALS:

A. PRODUCT DATA: SUBMIT MANUFACTURER'S PRODUCT DATA AND INSTALLATION INSTRUCTIONS FOR EACH MATERIAL AND PRODUCT USED.

B. SHOP DRAWINGS: SUBMIT SHOP DRAWINGS INDICATING MATERIAL CHARACTERISTICS, DETAILS OF CONSTRUCTION, CONNECTIONS, AND RELATIONSHIP WITH ADJACENT CONSTRUCTION.

1. SHOP DRAWINGS SHALL BE PREPARED AND STAMPED BY A QUALIFIED ENGINEER LICENSED IN THE JURISDICTION OF THE PROJECT.

C. MIX DESIGN: SUBMIT FOR APPROVAL MIX DESIGN PROPOSED FOR USE.

1.3 QUALITY ASSURANCE:

A. COMPLY WITH GOVERNING CODES AND REGULATIONS. PROVIDE PRODUCTS OF ACCEPTABLE MANUFACTURERS, WHICH HAVE BEEN IN SATISFACTORY USE IN SIMILAR SERVICE FOR A MINIMUM OF THREE YEARS. USE EXPERIENCED INSTALLERS. DELIVER, HANDLE, STORE MATERIALS IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

B. TESTING: EMPLOY AN INDEPENDENT TESTING AGENCY ACCEPTABLE TO OWNER TO DESIGN CONCRETE MIXES AND TO PERFORM MATERIAL EVALUATION TESTS. PROVIDE 4 AND 28 DAY CYLINDER TESTS. COMPLY WITH ASTM C 143, C 173, C 31 AND C 39.

C. STANDARDS

1. ACI 301, SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS.

2. ACI 318, BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE, AND CRSI MANUAL OF STANDARD PRACTICE.

PART 2: PRODUCTS

2.1 MATERIALS:

A. MATERIALS SHALL CONFORM TO THE RESPECTIVE PUBLICATIONS AND OTHER REQUIREMENTS SPECIFIED HEREIN.

B. CEMENT: CEMENT SHALL CONFORM TO ASTM C150, TYPE 1. CEMENT MAY BE BAGGED OR BULK. CEMENT SHALL BE USED FROM ONLY ONE MILL THROUGHOUT PROJECT.

C. FINE AGGREGATE: FINE AGGREGATE SHALL CONFORM TO ASTM C33-08 AND SHALL BE UNIFORMLY GRADED, CLEAN, SHARP, WASHED MATERIAL OR CRUSHED SAND, FREE FROM ORGANIC IMPURITIES.

D. COURSE AGGREGATE: COURSE AGGREGATE SHALL CONFORM TO ASTM C33-08 AND SHALL BE NATURAL WASHED GRAVEL OR WASHED CRUSHED ROCK HAVING HARD, STRONG, DURABLE PIECES, FREE FORM ADHERENT COATINGS, THE MAXIMUM SIZE OF COARSE AGGREGATE SHALL BE 3/4" IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C33-08; GRADATION SIZE NO. 67.

E. WATER: WATER USED IN THE CONCRETE MIX SHALL BE POTABLE, CLEAN, AND FREE FROM OILS, ACIDS, SALTS, CHLORIDES, ALKALI, SUGAR, VEGETABLE, OR OTHER INJURIOUS SUBSTANCES.

F. REINFORCING STEEL: ALL BARS ARE TO BE NEW BILLET STEEL CONFORMING TO ASTM A615, GRADE 60. BENDING DETAILS ARE TO CONFORM TO THE STANDARDS OF ACI 318.

G. FORMS: THE FORMS SHALL BE TRUE AND RIGID AND CONFORM TO SHAPE, LINE AND DIMENSIONS AS SHOWN ON THE DRAWINGS. ALL FORMS SHALL BE RIGIDLY CONSTRUCTED, BRACED AND TIED TO PREVENT ANY DEFLECTION OR DISPLACEMENT DURING PLACING OF CONCRETE. ALL EXPOSED CORNERS AND EDGES SHALL HAVE 3/4" FILLETS. ALL JOINTS SHALL BE MORTAR TIGHT; OPEN JOINTS SHALL BE SEALED AS REQUIRED.

H. CONCRETE:

1. PROPORTIONING: CONCRETE SHALL CONFORM TO THE FOLLOWING:

a. CEMENT-6 SACKS PER CUBIC YARD, MINIMUM

b. WATER SHALL BE KEPT TO AN ABSOLUTE MINIMUM TO MAINTAIN SLUMP AS SPECIFIED

c. AGGREGATE; SAND FACTOR SHALL BE AS REQUIRED TO GIVE THE BEST WORKABLE MIX WITHIN THE RANGE OF 46% TO 52% OF TOTAL AGGREGATE.

d. STRENGTH-4,000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE

e. ALL CONCRETE SHALL CONTAIN A WATER-REDUCING AGENT AND SHALL HAVE THREE (3) TO FIVE (5) PERCENT ENTRAINED AIR.

2.2 SLUMP:

A. THE MAXIMUM SLUMP SHALL NOT EXCEED 3" EXCEPT FOR CONCRETE TO BE PLACED IN FORMS 8" WIDE OR LESS, WHERE THE MAXIMUM SLUMP SHALL BE 4".

B. THE DETERMINATION OF SLUMP SHALL CONFORM TO ASTM C143.

2.3 MIXING:

A. THE CONTRACTOR SHALL USE READY-MIXED CONCRETE, MIXED AND DELIVERED IN CONFORMANCE WITH ASTM C94.

2.4 MIXTURES:

A. THE CONCRETE SHALL CONTAIN AN AIR-ENTRAINING ADMIXTURE COMPLYING WITH THE REQUIREMENTS OF ASTM C-260 AND ACI 212.1R AND A WATER-REDUCING ADMIXTURE COMPLYING WITH THE REQUIREMENTS OF ASTM C-494 AND ACI 212.1R. ADMIXTURES SHALL BE PURCHASE AND BATCHED IN LIQUID SOLUTION. THE USE OF CALCIUM CHLORIDE OR AN ADMIXTURE CONTAINING CALCIUM CHLORIDE IS PROHIBITED.

B. ADMIXTURES SHALL BE OF THE SAME MANUFACTURER TO ASSURE COMPATIBILITY.

C. ACCEPTABLE MANUFACTURERS ARE:

1. W.R. GRACE 3. MASTER BUILDERS

2. SIKA GROUP 4. EUCLID CHEMICAL CO

2.5 CURING COMPOUNDS:

A. CURING COMPOUNDS SHALL CONFORM TO ASTM C309, TYPE 1, ID, CLASS A AND B AND ASTM C171 AS APPLICABLE

PART 3: EXECUTION

3.1 GENERAL:

A. CONSTRUCT AND ERECT FORMWORK IN ACCORDANCE WITH ACI 301 ACI 347.

B. COLD-WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 306.

C. HOT-WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI 305.

3.2 INSERTS, EMBEDDED COMPONENTS AND OPENINGS:

A. CONTRACTOR SHALL CHECK ALL CIVIL, ARCHITECTURAL, STRUCTURAL, AND ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHOR BOLTS, INSERTS AND OTHER ITEMS TO BE BUILT INTO THE CONCRETE WORK.

B. COORDINATE THE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENINGS, RECESSES, SLOTS, CHASES, ANCHORS, INSERTS AND OTHER ITEMS TO BE EMBEDDED.

C. EMBEDDED ITEMS SHALL BE SET ACCURATELY IN LOCATION, ALIGNMENT, ELEVATION, AND PLUMBNESS. LOCATE AND MEASURE FROM ESTABLISHED SURVEYED REFERENCE BENCHMARKS.

D. EMBEDDED ITEMS SHALL BE ANCHORED INTO PLACE AS REQUIRED TO PREVENT MOVEMENT DURING CONCRETE PLACEMENT AND CONSOLIDATION. COMPONENTS FORMING A PART OF A COMPLETE ASSEMBLY SHALL BE ALIGNED BEFORE ANCHORING. PROVIDE TEMPORARY BRACING, ANCHORAGE, AND TEMPLATES AS REQUIRED TO MAINTAIN THE SETTING AND ALIGNMENT.

3.3 REINFORCEMENT PLACEMENT:

A. REINFORCEMENT SHALL BE PLACED IN ACCORDANCE WITH CHECKED AND RELEASED DRAWINGS AND ACI 301 AND ACI 315; SECURELY WIRE-TIE REINFORCEMENT AT ALL INTERSECTIONS.

B. ACCURATELY POSITION, SUPPORT AND SECURE REINFORCEMENT AGAINST DISPLACEMENT FROM FORMWORK CONSTRUCTION OR CONCRETE PLACEMENT AND CONSOLIDATION. REINFORCING SHALL BE SUPPORTED ON METAL CHAIRS, RUNNERS, BOLSTERS, SPACERS, AND HANGERS.

C. SPLICES OF REINFORCING BARS SHALL BE CLASS B UNLESS SHOWN OTHERWISE. SPLICES SHALL BE STAGGERED. FULL DEVELOPMENT LENGTH SHALL BE PROVIDED ACROSS JOINTS.

D. LOCATE REINFORCING TO PROVIDE CONCRETE COVER AND SPACING SHOWN ON THE DRAWINGS. MINIMUM COVER SHALL BE AS REQUIRED BY ACI 318.

E. WELDING OF AND TO ANY REINFORCING MATERIALS INCLUDING TACK WELDING OF CROSSING BARS IS STRICTLY PROHIBITED. BARS SHALL BE FREE OF FLAKY OR SCALY RUST AT THE TIME THE CONCRETE IS PLACED.

3.4 CONCRETE PLACEMENT:

A. PRIOR TO PLACING CONCRETE, FORMS AND REINFORCEMENT SHALL BE THOROUGHLY INSPECTED. ALL WOOD CHIPS, DIRT, ETC., AS WELL AS ALL TEMPORARY BRACING, TIES, AND CLEATS REMOVED, AND ALL OPENINGS FOR UTILITIES PROPERLY BOXED, ALL FORMS SHALL BE PROPERLY SECURED IN THEIR CORRECT POSITION AND MADE TIGHT. ALL REINFORCING AND EMBEDDED ITEMS SHALL BE SECURED IN THEIR PROPER LOCATIONS.. ALL OLD AND DRY CONCRETE AND DIRT SHALL BE CLEANED AND ALL STANDING WATER AND OTHER FOREIGN MATTER REMOVED.

B. PLACING CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301 AND ACI 304 AND SHALL BE CARRIED OUT AT SUCH A RATE THAT THE CONCRETE PREVIOUSLY PLACED IS STILL PLASTIC AND INTEGRATED WITH THE FRESHLY PLACE CONCRETE. CONCRETING, ONCE STARTED, SHALL BE CARRIED ON AS A CONTINUOUS OPERATION UNTIL THE SECTION IS COMPLETED. NO COLD JOINTS SHALL BE ALLOWED.

C. CONSTRUCTION JOINTS: USE KEYWAYS, CONTINUE REINFORCEMENT THROUGH JOINT.

D. EXPANSION JOINTS: FOR EXTERIOR WORK, LOCATE AT 30'-0" O.C. MAXIMUM, AT APPROVED LOCATIONS. PROVIDE SMOOTH DOWELS ACROSS JOINT WHICH PERMIT 1" HORIZONTAL MOVEMENT AND NO VERTICAL SHEAR MOVEMENT.

E. ISOLATION JOINTS: PROVIDE BETWEEN SLABS AND VERTICAL ELEMENTS SUCH AS COLUMNS AND STRUCTURAL WALLS.

F. CONTROL JOINTS: PROVIDE SAWN OR TOOLED JOINTS OR REMOVABLE INSERT STRIPS; DEPTH EQUAL TO 1/4" SLAB THICKNESS. SPACING SHALL BE AS REQUIRED AND APPROVED.

G. ALL CONCRETE SHALL BE THOROUGHLY CONSOLIDATED AND COMPACTED BY VIBRATION, SPADING, RODDING, OR FORKING DURING THE OPERATION OF PLACING AND DEPOSITING IN ACCORDANCE WITH ACI 309. THE CONCRETE SHALL BE WORKED AROUND REINFORCEMENT, EMBEDDED ITEMS, AND INTO THE CORNERS OF THE FORMS SO AS TO ELIMINATE ALL AIR AND STONE POCKETS.

3.5 FINISHING:

A. FINISHING OF ALL SLABS SHALL BE IN ACCORDANCE WITH ACI 302.1; SECTION 7.2 WITH A MINIMUM OF THREE TROWELINGS.

1. INTERIOR SLAB FINISH TOLERANCE AS MEASURED IN ACCORDANCE WITH ASTM E 1155, SHALL HAVE AN OVERALL TEST F NUMBER FOR FLATNESS, FF=20 AND FOR LEVEL, FL=15. THE MINIMUM LOCAL NUMBER FOR FLATNESS, FF=15 AND FOR LEVEL, FL=10.

2. EXTERIOR SLAB FINISH SHALL BE FLAT (FF=20) AND SHALL BE SLOPED A MINIMUM OF 1/8" PER FOOT TO A MAXIMUM OF 1/4" PER FOOT TO PREVENT PONDING WATER.

B. SURFACES OF SLABS SHALL RECEIVE TWO COATS OF CLEAR SEALER/HARDENER.

C. ABOVE GRADE WALL SURFACES SHALL HAVE A SMOOTH FORM FINISH AS DEFINED IN CHAPTER 10 OF ACI 301.

3.6 CURING:

A. FRESHLY DEPOSITED CONCRETE SHALL BE PROTECTED FROM PREMATURE DRYING AND EXCESSIVELY HOT OR COLD TEMPERATURES AND SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT A RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD OF TIME NECESSARY FOR THE HYDRATION OF THE CEMENT AND PROPER HARDENING OF THE CONCRETE.

B. CURING SHALL IMMEDIATELY FOLLOW THE FINISH OPERATION. CONCRETE SHALL BE KEPT CONTINUOUSLY MOIST AT LEAST OVERNIGHT, IMMEDIATELY FOLLOWING THE INITIAL CURING. BEFORE THE CONCRETE HAS DRIED, ADDITIONAL CURING SHALL BE ACCOMPLISHED BY ONE OF THE FOLLOWING MATERIALS OR METHODS:

1. PONDING OR CONTINUOUS SPRINKLING

2. ABSORPTIVE MAT OR FABRIC KEPT CONTINUOUSLY WET

3. NON-ABSORPTIVE FILM (POLYETHYLENE) OVER A PREVIOUSLY SPRINKLED SURFACE

4. SAND OR OTHER COVERING KEPT CONTINUOUSLY WET

5. CONTINUOUS STEAM (NOT EXCEEDING 150 DEGREES F) OR VAPOR MIST BATH.

6. SPRAYED-ON CURING COMPOUND APPLIED IN TWO COATES, SPRAYED IN PERPENDICULAR DIRECTIONS.

C. THE FINAL CURING SHALL CONTINUE UNTIL THE CUMULATIVE NUMBER OF DAYS OR FRACTION THEREOF, NOT NECESSARILY CONSECUTIVE, DURING WHICH TEMPERATURE OF THE AIR IN CONTACT WITH CONCRETE IS ABOVE 50 DEGREES F HAS TOTALED SEVEN (7) DAYS. CONCRETE SHALL NOT BE PERMITTED TO FREEZE DURING THE CURING PERIOD. RAPID DRYING AT THE END OF THE CURING PERIOD SHALL BE PREVENTED.

END OF SECTION

STAMP:

11/18/2024
STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER
Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR:
AGI

PLANS PREPARED BY:
SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
ISSUED FOR REVIEW	09/20/24	IBA	A
ISSUED FOR PERMITTING	09/25/24	IBA	0
REVISED PER AHJ COMMENTS	11/15/24	IBA	1

APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
SPECIFICATIONS
(2 OF 5)

SHEET #:
SP-1.1

EARTH MOVING/EXCAVATION/BACKFILLING SECTION

PART 1: GENERAL

1.1 SUMMARY:

A. PROVIDE EARTHWORK OPERATIONS INCLUDING BUT NOT LIMITED TO EXCAVATION, GRADING, TRENCHING AND COMPACTION.

1.2 QUALITY ASSURANCE COMPACTION:

A. UNDER STRUCTURES, BUILDING SLABS, STEPS, PAVEMENTS, AND WALKWAYS, 95% MAXIMUM DENSITY, ASTM D 1557.

1. GRADING TOLERANCES:

   a. LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1".

   b. KEEP SITE FREE FROM ANY PONDING WATER

   c. GRADING TOLERANCE FOR FILL UNDER BUILDING OR EQUIPMENT SLABS: PLUS OR MINUS 1/4" MEASURED WITH 10'-0" STRAIGHTEDGE.

2. TESTING: FIELD TESTING OF EARTHWORK AND COMPACTION SHALL BE PERFORMED BY OWNER'S INDEPENDENT TESTING LAB. THIS WORK IS TO BE COORDINATED BY THE CONTRACTOR.

3. ALL WORK SHALL BE INSPECTED AND RELEASED BY THE OWNER OR HIS AGENT WHO SHALL CARRY OUT THE GENERAL INSPECTION OF THE WORK AS SPECIFIED AND/OR CALLED OUT BY THE CONSTRUCTION DOCUMENTS. PROVIDE A MINIMUM OF 48 HOURS NOTICE PRIOR TO ANY PLACEMENT OF CONCRETE OR BACKFILLING OF TRENCHES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REQUEST TIMELY INSPECTIONS PRIOR TO PROCEEDING WITH FURTHER WORK THAT WOULD MAKE PARTS OF WORK INACCESSIBLE OR DIFFICULT TO INSPECT.

4. EXISTING UTILITIES: DO NOT INTERRUPT EXISTING UTILITIES SERVING FACILITIES OCCUPIED BY THE OWNER OR OTHERS, EXCEPT WHEN PERMITTED IN WRITING BY OWNER OR HIS AGENT AND THEN ONLY AFTER ACCEPTABLE TEMPORARY UTILITY SERVICES HAVE BEEN PROVIDED.

PART 2: PRODUCTS

2.1 GENERAL:

A. UTILITY TRENCH: PROVIDE WELL GRADED SAND (SW-SM) FROM BASE OF TRENCH TO MINIMUM ABOVE THE HIGHEST CONDUIT WITHIN TRENCH. REMAINDER OF TRENCH AREA CAN BE EITHER AB 3 OR CLEAN GRAVEL AS DESCRIBED HEREIN. COMPACT AS REQUIRED TO PREVENT SETTLING.

B. ACCESS ROADS: 6" MINIMUM (UNLESS NOTED OTHERWISE ON DRAWINGS) COMPACTED AB 3 OR APPROVED EQUAL (UNWASHED CRUSHED LIMESTONE GRAVEL CONSISTING OF MULTIPLE AGGREGATE SIZES, ROCK CHIPS, AND ROCK DUST.)

C. COMPOUND (NEW CONSTRUCTION): 2" THICK CLEAN GRAVEL, WITH 100% PASSING THROUGH A 1" SIEVE OVER 4" COMPACTED AB 3.

D. COMPOUND (EXISTING): PROVIDE CLEAN GRAVEL WITH 100% PASSING THROUGH A 1" SIEVE AS REQUIRED TO BRING COMPOUND TO PROPER GRADE OR REPAIR EXISTING DAMAGED AREAS.

E. STRUCTURAL FILL: PROVIDE 4" MINIMUM AB 3 BELOW STRUCTURES OR SLABS

2.2 MATERIALS:

A. GEOTEXTILE FABRIC: PROVIDE MIRAFI 500X OR APPROVED EQUAL.

B. PLASTIC MARKING TAPE: SHALL BE ACID AND ALKALI RESISTANT POLYETHYLENE FILM SPECIFICALLY MANUFACTURED FOR MARKING AND LOCATING UNDERGROUND UTILITIES, 6" WIDE WITH A MINIMUM THICKNESS OF 0.004". TAPE SHALL HAVE MINIMUM STRENGTH OF 1500 PSI IN BOTH DIRECTIONS AND MANUFACTURED WITH INTEGRAL WIRES OR OTHER MEANS TO ENABLE DETECTION BY A METAL DETECTOR WHEN BURIED UP TO 3'-0" DEEP. THE CORE OF THE TAPE SHALL BE ENCASED IN A PROTECTIVE JACKET OR OTHER MEANS TO PROTECT FROM CORROSION. TAPE COLOR SHALL BE RED FOR ELECTRIC UTILITIES AND ORANGE FOR TELECOMMUNICATION

PART 3: EXECUTION

3.1 INSTALLATION:

A. PRIOR TO EXCAVATING, THOROUGHLY EXAMINE AREA TO BE EXCAVATED AND/OR TRENCHED TO VERIFY THE LOCATIONS OF FEATURES ON THE DRAWINGS AND TO ASCERTAIN THE EXISTENCE OF ANY STRUCTURE NOT SHOWN THAT MIGHT INTERFERE WITH NEW CONSTRUCTION. NOTIFY THE OWNER OR HIS AGENT OF ANY OBSTRUCTIONS THAT WILL PREVENT ACCOMPLISHMENT OF THE WORK AS INDICATED ON THE DRAWINGS.

B. EXCAVATION IS UNCLASSIFIED AND INCLUDES EXCAVATION TO SUBGRADE REGARDLESS OF MATERIALS. REPAIR EXCAVATIONS BEYOND ELEVATIONS AND DIMENSIONS INDICATED AS REQUIRED.

C. MAINTAIN STABILITY OF EXCAVATIONS; COORDINATE SHORING AND BRACING AS REQUIRED BY AUTHORITIES HAVING JURISDICTION. PREVENT SURFACE AND SUBSURFACE WATER FROM ACCUMULATING IN EXCAVATIONS. STOCKPILE SATISFACTORY MATERIALS FOR REUSE, ALLOW FOR PROPER DRAINAGE.

D. COMPACT MATERIALS AT THE OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 1557 BY AERATION OR WETTING TO 95% OF MAXIMUM DRY DENSITY TO SUITABLE DEPTH.

E. PLACE ACCEPTABLE MATERIALS IN LAYERS NOT MORE THAN 8" LOOSE DEPTH FOR MATERIALS COMPACTED BY HEAVY EQUIPMENT AND NOT MORE THAN 4" LOOSE DEPTH FOR MATERIALS COMPACTED BY HAND EQUIPMENT TO SUBGRADES INDICATED AS FOLLOWS:

1. STRUCTURAL FILL: USE UNDER FOUNDATIONS, SLABS ON GRADE IN LAYERS AS INDICATED.

2. DRAINAGE FILL: USE UNDER DESIGNATED BUILDING SLABS, AT FOUNDATION DRAINAGE AND ELSEWHERE AS INDICATED.

3. COMMON FILL: USE UNDER UNPAVED AREAS.

4. SUBBASE MATERIAL: USE UNDER GENERAL COMPOUND AREA. IF THICKNESS OF LIFT IS GREATER THAN 6 SPREAD AND COMPACT THE CRUSHED STONE IN MULTIPLE LIFTS OF EQUAL THICKNESS WITH A MAXIMUM LIFT OF 6"

F. GRADE TO 1/2" ABOVE OR BELOW REQUIRED SUBGRADE AND TO A TOLERANCE OF 1/4" IN 10'-0".

G. PROTECT NEWLY GRADED AREAS FROM TRAFFIC AND EROSION. RE-COMPACT AND RE-GRADE SETTLED, DISTURBED AND DAMAGED AREAS TO RESTORE QUALITY, APPEARANCE, AND CONDITION.

H. CONTROL EROSION TO PREVENT RUNOFF INTO SEWERS OR DAMAGE TO AREAS.

I. CONTROL DUST TO PREVENT HAZARDS TO ADJACENT PROPERTIES AND VEHICLES. IMMEDIATELY REPAIR OR REMEDY DAMAGE CAUSED BY DUST INCLUDING AIR FILTERS IN EQUIPMENT AND VEHICLES. CLEAN SOILED SURFACES.

J. DISPOSE OF WASTE AND UNSUITABLE MATERIALS OFF-SITE IN A LEGAL MANNER.

3.2 BACKFILL:

A. AS SOON AS PRACTICAL AFTER COMPLETING CONSTRUCTION OF THE RELATED STRUCTURE, INCLUDING THE SPECIFIED MINIMUM CURING PERIOD FOR CAST-IN-PLACE CONCRETE, BACKFILL THE EXCAVATION WITH APPROVED MATERIAL TO RESTORE THE REQUIRED FINISHED GRADE.

1. PRIOR TO PLACING BACKFILL AROUND STRUCTURES, ALL FORMS SHALL HAVE BEEN REMOVED AND THE EXCAVATION CLEANED OF ALL TRASH, DEBRIS, AND UNSUITABLE MATERIALS.

2. BACKFILL BY PLACING AND COMPACTING SUITABLE BACKFILL MATERIAL OR SELECT GRANULAR BACKFILL MATERIAL, WHEN REQUIRED IN UNIFORM HORIZONTAL LAYERS OF NO GREATER THAN 8" LOOSE THICKNESS. WHERE HAND OPERATED COMPACTORS ARE USED, THE FILL MATERIAL SHALL BE PLACED IN LIFTS NOT TO EXCEED 4" IN LOOSE DEPTH.

3. IF THE DENSITY TESTING INDICATES THAT THE SPECIFIED DENSITY, THE SUCCEEDING LAYER SHALL NOT BE PLACED UNTIL THE SPECIFICATION REQUIREMENTS ARE MET UNLESS AUTHORIZED BY THE GEO-TECHNICAL ENGINEER. THE CONTRACTOR SHALL TAKE WHATEVER APPROPRIATE ACTION IS NECESSARY TO OBTAIN PROPER COMPACTION.

B. COMPACT EACH LAYER OF BACKFILL TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.3 TRENCH EXCAVATION:

A. UTILITY TRENCHES SHALL BE EXCAVATED TO THE LINES AND GRADES SHOWN ON THE DRAWINGS OR AS DIRECTED BY THE OWNER OR HIS AGENT. 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" BEYOND THE OUTSIDE EDGE OF THE OUTER-MOST CONDUIT.

C. WHEN SOFT, YIELDING, OR OTHERWISE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, BACKFILL AT THE REQUIRED TRENCH TO A DEPTH OF NO LESS THAN 12" BELOW THE REQUIRED ELEVATION AND BACKFILL WITH GRANULAR BEDDING MATERIAL.

3.4 TRENCH BACKFILL:

A. PROVIDE GRANULAR BEDDING MATERIAL (WELL GRADED SAND) IN ACCORDANCE WITH THE DRAWINGS AND THE UTILITY REQUIREMENTS.

B. NOTIFY THE OWNER OR HIS AGENT 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" UNCOMPACTED LIFTS UNTIL 6" OVER THE CONDUITS. SOLIDLY RAM AND TAMP BACKFILL INTO SPACES AROUND CONDUITS.

E. PROTECT CONDUIT FROM LATERAL MOVEMENT, IMPACT DAMAGE, OR UNBALANCED LOADING.

F. ABOVE THE CONDUIT EMBEDMENT ZONE, PLACE AND COMPACT BACKFILL MATERIAL IN 8" MAXIMUM LOOSE THICKNESS LIFTS TO RESTORE THE REQUIRED FINISHED SURFACE GRADE.

G. COMPACT FINAL TRENCH BACKFILL TO A DENSITY EQUAL TO OR GREATER THAN EXISTING UNDISTURBED MATERIAL ADJACENT TO THE TRENCH BUT NO LESS THAN A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 698.

3.5 AGGREGATE ACCESS ROAD (IF APPLICABLE):

A. CLEAR, GRUB, STRIP AND EXCAVATE FOR ACCESS ROAD TO THE LINES AND GRADES INDICATED ON DRAWINGS. SCARIFY TO A DEPTH OF 6" AND PROOF-ROLL ALL HOLES, RUTS, SOFT PLACES AND OTHER DEFECTS.

B. THE ENTIRE SUBGRADE SHALL BE COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE STANDARD PROCTOR TEST, ASTM D 1557.

C. AFTER PREPARATION OF THE SUBGRADE IS COMPLETE, THE GEOTEXTILE FABRIC (MIRAFI 500X) SHALL BE INSTALLED TO THE LIMITS INDICATED ON DRAWINGS BY ROLLING THE FABRIC OUT LONGITUDINALLY ALONG ROADWAY. THE FABRIC SHALL NOT BE DRAGGED ACROSS THE SUBGRADE. PLACE THE ENTIRE ROLL IN A SINGLE OPERATION, AS SMOOTHLY AS POSSIBLE.

1. OVERLAPS PARALLEL TO THE ROADWAY WILL BE PERMITTED AT THE CENTERLINE AND AT LOCATIONS BEYOND THE ROADWAY SURFACE WIDTH. NO LONGITUDINAL OVERLAPS SHALL BE LOCATED BETWEEN THE CENTERLINE AND THE SHOULDER. PARALLEL OVERLAPS SHALL BE A MINIMUM OF 3'-0" WIDE.

2. TRANSVERSE OR PERPENDICULAR OVERLAPS AT THE END OF A ROLL SHALL OVERLAP IN THE DIRECTION OF THE AGGREGATE PLACEMENT (PREVIOUS ROLL ON TOP) AND SHALL HAVE A MINIMUM LENGTH OF 3'-0".

3. ALL OVERLAPS SHALL BE PINNED WITH STAPLES OR NAILS BETWEEN 10" AND 12" LONG TO INSURE POSITIONING DURING PLACEMENT OF AGGREGATE. PIN LONGITUDINAL SEAMS AT 25'-0" O.C. AND TRANSVERSE SEAMS EVERY 5'-0" O.C.

D. THE AGGREGATE BASE AND SURFACE COURSES SHALL BE CONSTRUCTED IN LAYERS OF AT LEAST 6" (COMPACTED) THICKNESS. AGGREGATE TO BE PLACED ON GEOTEXTILE FABRIC AND SHALL BE END-DUMPED ON THE FABRIC FROM THE FREE END OF THE FABRIC OR OVER PREVIOUSLY PLACED AGGREGATE. AT NO TIME SHALL EQUIPMENT BE PERMITTED ON THE ROADWAY WITH LESS THAN 6" OF MATERIAL COVERING THE FABRIC.

E. THE AGGREGATE SHALL BE IMMEDIATELY COMPACTED TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS PROVIDED BY THE PROCTOR TEST, ASTM D 1557 WITH A TAMPING ROLLER, A PNEUMATIC-TIRED ROLLER, OR WITH A VIBRATORY MACHINE OR ANY COMBINATION OF THE ABOVE. THE TOP LAYER SHALL BE GIVEN A FINAL ROLLING WITH A THREE-WHEEL OR TANDEM ROLLER.

3.6 FINISH GRADING:

A. PERFORM ALL GRADING TO PROVIDE 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 MATERIALS RESULTING FROM THE EXCAVATION WORK IN THE CONSTRUCTION OF FILLS, EMBANKMENTS AND FOR THE REPLACEMENT OF REMOVED UNSUITABLE MATERIALS.

C. ACHIEVE FINISHED GRADE BY PLACING A MINIMUM OF 6" OF AB 3 ON TOP OF SOIL STABILIZER FABRIC.

D. REPAIR ALL ACCESS ROADS AND SURROUNDING AREAS USED DURING THE COURSE OF THIS WORK TO THEIR ORIGINAL CONDITION.

END OF SECTION

STAMP:

10/18/2024

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER

Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:
STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:	PE#:	DISCIPLINE:	
SDK SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS TERRANCE M. SUPER	10926	ELECTRICAL	E

iONNA™

PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

DRAWING NOTICE:

SUBMITTALS:

DESCRIPTION	DATE	BY	REV
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APPLICANT SITE NAME:
WHOLE FOOD (PORTSMOUTH)

APPLICANT SITE NUMBER:
AGI-INA-NH-0001

SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
SPECIFICATIONS
(3 OF 5)

SHEET #:
SP-1.2

ELECTRICAL

PART 1: GENERAL

1.1 GENERAL CONDITIONS:

A. THE CONTRACTOR SHALL INSPECT THE SITE WHERE THIS WORK IS TO BE PERFORMED AND FULLY FAMILIARIZE HIMSELF WITH ALL CONDITIONS RELATED TO THIS PROJECT.

B. THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL PERMITS AND LICENSES AND SHALL MAKE ALL DEPOSITS AND PAY ALL FEES REQUIRED FOR THE PERFORMANCE OF WORK UNDER THIS SECTION.

C. DRAWINGS SHOW THE GENERAL ARRANGEMENT OF ALL SYSTEMS AND COMPONENTS COVERED UNDER THIS SECTION. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS. DRAWINGS SHALL NOT BE SCALED TO DETERMINE DIMENSIONS.

1.2 LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES:

A. ALL WORK SHALL BE INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE, AND ALL APPLICABLE LOCAL LAWS, REGULATIONS, ORDINANCES, STATUTES AND CODES.

1.3 REFERENCES:

A. THE PUBLICATIONS LISTED BELOW FORM PART OF THIS SPECIFICATION. EACH PUBLICATION SHALL BE THE LATEST REVISION AND ADDENDUM IN EFFECT ON THE DATE THIS SPECIFICATION IS ISSUED FOR CONSTRUCTION UNLESS NOTED OTHERWISE. EXCEPT AS MODIFIED BY THE REQUIREMENTS SPECIFIED HEREIN OR THE DETAILS OF THE DRAWINGS, WORK INCLUDED IN THIS SPECIFICATION SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THESE PUBLICATIONS.

1. NEC (NATIONAL ELECTRICAL CODE)
2. ANSI/IEEE (AMERICAN NATIONAL STANDARDS INSTITUTE)
3. IEEE (INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS)
4. ASTM (AMERICAN SOCIETY FOR TESTING AND MATERIALS)
5. ICEA (INSULATED CABLE ENGINEERS ASSOCIATION)
6. NEMA (NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION)
7. NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)
8. OSHA (OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION)
9. UL (UNDERWRITERS LABORATORIES, INC.)

1.4 SCOPE OF WORK:

A. WORK UNDER THIS SECTION SHALL CONSIST OF FURNISHING ALL LABOR, MATERIAL AND ASSOCIATED SERVICES REQUIRED TO COMPLETELY CONSTRUCT AND LEAVE READY FOR OPERATION SYSTEMS AS SHOWN ON THE DRAWINGS AND HEREIN DESCRIBED.

B. ALL ELECTRICAL EQUIPMENT UNDER THIS CONTRACT SHALL BE PROPERLY TESTED, ADJUSTED, AND ALIGNED BY THE CONTRACTOR.

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EXCAVATING, DRAINING, TRENCHES, BACKFILLING, AND REMOVAL OF EXCESS DIRT.

D. THE CONTRACTOR SHALL FURNISH TO THE OWNER, CERTIFICATES OF FINAL INSPECTION AND APPROVAL FROM THE INSPECTION AUTHORITIES HAVING JURISDICTION.

PART 2: PRODUCTS

2.1 GENERAL:

A. ALL ITEMS OF MATERIALS AND EQUIPMENT SHALL BE NEW, FREE FROM DEFECTS AND OF THE BEST QUALITY NORMALLY USED FOR THE PURPOSE IN GOOD COMMERCIAL PRACTICE.

B. ALL MATERIALS AND EQUIPMENT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED.

C. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE.

D. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING RATING EQUAL TO OR GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 10,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT.

2.2 MATERIALS AND EQUIPMENT:

A. CONDUIT:

1. RIGID GALVANIZED STEEL CONDUIT (RGS) SHALL BE HOT-DIP GALVANIZED INSIDE AND OUTSIDE INCLUDING ENDS AND THREADS AND ENAMELED OR LACQUERED INSIDE IN ADDITION TO GALVANIZING.
2. FLEXIBLE METAL CONDUIT SHALL BE GALVANIZED, ZINC-COATED STEEL, PVC COATED FOR OUTDOOR APPLICATIONS.
3. CONDUIT CLAMPS, STRAPS AND SUPPORTS SHALL BE STEEL OR MALLEABLE IRON. ALL FITTINGS SHALL BE COMPRESSION TYPE AND WATERTIGHT.
4. NON-METALLIC CONDUIT AND FITTINGS SHALL BE SCHEDULE 40 PVC, HEAVY-WALL RIGID WITH SOLVENT-CEMENT-TYPE JOINTS AS RECOMMENDED BY THE MANUFACTURER.

B. WIRE AND CABLE:

1. WIRE AND CABLE SHALL BE FLAME-RETARDANT, MOISTURE AND HEAT RESISTANT THERMOPLASTIC, SINGLE CONDUCTOR, COPPER, TYPE THHN/THWN-2, 600 VOLT, SIZES AS INDICATED, #12 AWG MINIMUM.
2. #10 AWG AND SMALLER CONDUCTORS SHALL BE SOLID AND #8 AWG AND LARGER CONDUCTORS SHALL BE STRANDED.
3. SOLDERLESS, PRESSURE-TYPE CONNECTORS CONSTRUCTED OF HIGH-STRENGTH, NON-CORRODIBLE, TIN-PLATED COPPER DESIGNED TO FURNISH HIGH-PULLOUT STRENGTH AND HIGH CONDUCTIVITY JOINTS SHALL BE USED.
4. SUPPORT GRIPS SHALL BE SINGLE WEAVE, CLOSED MESH, HIGH-GRADE, NON-MAGNETIC, TIN-COATED BRONZE CAPABLE OF SUPPORTING TEN TIMES THE CABLE DEAD WEIGHT, HUBBELL KELLEMS OR APPROVED EQUAL.

C. DISCONNECT SWITCHES:

1. DISCONNECT SWITCHES SHALL BE HEAVY DUTY, DEAD-FRONT, QUICK-MAKE, QUICK-BREAK, EXTERNALLY OPERABLE, HANDLE LOCKABLE AND INTERLOCKED WITH COVER IN CLOSED POSITION, RATING AS INDICATED, UL LABELED FURNISHED IN NEMA 3R ENCLOSURE, SQUARE D CLASS 3110 OR APPROVED EQUAL.

D. SYSTEM GROUNDING:

1. GROUNDING CONDUCTOR SHALL BE SOLID TINNED BARE COPPER, SIZE AS INDICATED, EXCEPT ABOVE GROUND GROUNDING CONDUCTORS SHALL BE STRANDED INSULATED.
2. GROUND BUSSES SHALL BE GALVANIZED STEEL BARS OF RECTANGULAR CROSS SECTION.
3. CONNECTORS SHALL BE HIGH-CONDUCTIVITY, HEAVY DUTY, LISTED AND LABELED AS GROUNDING CONNECTORS FOR THE MATERIALS USED. USE TWO-HOLE COMPRESSION LUGS WITH HEAT SHRINK FOR MECHANICAL CONNECTIONS.
4. EXOTHERMIC WELDED CONNECTIONS SHALL BE PROVIDED IN KIT FORM AND SELECTED FOR THE SPECIFIC TYPES, SIZES, AND COMBINATIONS OF CONDUCTORS AND OTHER ITEMS TO BE CONNECTED.
5. GROUND RODS SHALL BE COPPER-CLAD STEEL WITH HIGH-STRENGTH STEEL CORE AND ELECTROLYTIC-GRADE COPPER OUTER SHEATH, MOLTEN WELDED TO CORE, 3/4" x 10'-0".

E. OTHER MATERIALS:

1. THE CONTRACTOR SHALL PROVIDE OTHER MATERIALS, THOUGH NOT SPECIFICALLY DESCRIBED, WHICH ARE REQUIRED FOR A COMPLETELY OPERATIONAL SYSTEM AND PROPER INSTALLATION OF THE WORK.

STAMP:

STATE OF NEW HAMPSHIRE - PROFESSIONAL ENGINEER
SHELTON DOUGLAS KEISLING No. 18260 LICENSED
11/18/2024
EF94D8A5B80B407...

ENGINEERING LICENSE:
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ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
TMS	TERRANCE M. SUPER	10926	ELECTRICAL	E

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PLANS PREPARED FOR: AGI

PLANS PREPARED BY: SSC

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SITE ADDRESS:
1600 WOODBURY AVE
PORTSMOUTH, NH 03801

SHEET DESCRIPTION:
SPECIFICATIONS
(4 OF 5)

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SP-2.0

PART 3: EXECUTION

3.1 GENERAL:

A. ALL MATERIALS AND EQUIPMENT SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

B. EQUIPMENT SHALL BE TIGHTLY COVERED AND PROTECTED AGAINST DIRT OR WATER, AND AGAINST CHEMICAL OR MECHANICAL INJURY DURING INSTALLATION AND CONSTRUCTION PERIODS.

3.2 LABOR AND WORKMANSHIP:

A. ALL LABOR FOR THE INSTALLATION OF MATERIALS AND EQUIPMENT FURNISHED FOR THE ELECTRICAL SYSTEM SHALL BE DONE BY EXPERIENCED MECHANICS OF THE PROPER TRADES.

B. ALL ELECTRICAL EQUIPMENT FURNISHED SHALL BE ADJUSTED, ALIGNED AND TESTED BY THE CONTRACTOR AS REQUIRED TO PRODUCE THE INTENDED PERFORMANCE.

C. UPON COMPLETION OF THE WORK, THE CONTRACTOR SHALL THOROUGHLY CLEAN ALL EXPOSED EQUIPMENT, REMOVE ALL LABELS AND ANY DEBRIS, CRATING OR CARTONS AND LEAVE THE INSTALLATION FINISHED AND READY FOR OPERATION.

3.3 COORDINATION:

A. THE CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ELECTRICAL ITEMS WITH THE OWNER–FURNISHED EQUIPMENT DELIVERY SCHEDULE TO PREVENT UNNECESSARY DELAYS IN THE TOTAL WORK.

3.4 INSTALLATION:

A. CONDUIT:

1. ALL ELECTRICAL WIRING SHALL BE INSTALLED IN CONDUIT AS HEREIN SPECIFIED. NO CONDUIT OR TUBING OF LESS THAN 3/4" NOMINAL SIZE SHALL BE USED.
2. PROVIDE RGS CONDUIT FOR ALL EXPOSED, EXTERIOR CONDUIT.
3. PROVIDE SCHEDULE 40 PVC OR RGS CONDUIT BELOW GRADE, 1" MINIMUM, UNLESS NOTED OTHERWISE. ALL 90 DEGREE BENDS TO ABOVE GRADE SHALL BE RGS. MINIMUM BURIAL DEPTH SHALL BE 24" CLEAR TO TOP OF CONDUIT, UNLESS NOTED OTHERWISE.
4. USE GALVANIZED FLEXIBLE STEEL CONDUIT WHERE DIRECT CONNECTION IS NOT DESIRABLE FOR REASONS OF EQUIPMENT MOVEMENT, VIBRATION, OR FOR EASE OF MAINTENANCE. USE LIQUIDTIGHT, PVC COATED FLEXIBLE METAL CONDUIT FOR OUTDOOR APPLICATIONS.
5. INSTALL GALVANIZED FLEXIBLE STEEL CONDUIT AT ALL POINTS OF CONNECTION TO EQUIPMENT MOUNTED ON SUPPORTS TO ALLOW FOR EXPANSION AND CONTRACTION.
6. A RUN OF CONDUIT BETWEEN BOXES OR FITTINGS SHALL NOT CONTAIN MORE THAN THE EQUIVALENT OF FOUR QUARTER–BENDS INCLUDING THOSE BENDS LOCATED IMMEDIATELY AT THE BOX OR FITTING. THE RADIUS OF BENDS SHALL NEVER BE SHORTER THAN THAT OF THE CORRESPONDING TRADE ELBOW.
7. WHERE CONDUIT HAS TO BE CUT IN THE FIELD, IT SHALL BE CUT SQUARE WITH A PIPE CUTTER USING CUTTING KNIVES.
8. ALL CONDUITS SHALL BE SWABBED CLEAN BY PULLING AN APPROPRIATE SIZE MANDREL THROUGH THE CONDUIT BEFORE INSTALLATION OF WIRE OR CABLE. CLEAR ALL BLOCKAGES AND REMOVE BURRS, DIRT, AND DEBRIS.
9. INSTALL PULL STRINGS IN ALL EMPTY CONDUITS. IDENTIFY PULL STRINGS AT EACH END WITH ITS DESTINATION.
10. PROVIDE INSULATED GROUNDING BUSHINGS FOR ALL CONDUITS STUBBED INTO EQUIPMENT ENCLOSURES OR STUBBED OUT FOR FUTURE USE BY OTHERS.
11. CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL CONDUITS DURING CONSTRUCTION. TEMPORARY OPENINGS IN THE CONDUIT SYSTEM SHALL BE PLUGGED OR CAPPED TO PREVENT ENTRANCE OF MOISTURE OR FOREIGN MATTER. CONTRACTOR SHALL REPLACE ANY CONDUITS CONTAINING FOREIGN MATERIALS THAT CANNOT BE REMOVED.
12. INSTALL 2" ORANGE DETECTABLE TAPE 12" ABOVE ALL UNDERGROUND CONDUIT AND WIRE.
13. CONDUITS SHALL BE INSTALLED IN SUCH A MANNER AS TO INSURE AGAINST COLLECTION OF TRAPPED CONDENSATION.

B. WIRE AND CABLE:

1. ALL POWER WIRING SHALL BE COLOR CODED AS FOLLOWS:

DESCRIPTION	120/240V	208Y/120V	480Y/277V
PHASE A	BLACK	BLACK	BROWN
PHASE B	RED	RED	ORANGE
PHASE C		BLUE	YELLOW
NEUTRAL	WHITE	WHITE	GRAY
GROUND	GREEN	GREEN	GREEN

2. SPLICES SHALL BE MADE ONLY AT OUTLETS, JUNCTION BOXES, OR ACCESSIBLE RACEWAYS WITH PRESSURE–TYPE CONNECTORS.
3. PULLING LUBRICANTS SHALL BE SOAPSTONE POWDER, POWDERED TALC, OR A COMMERCIAL PULLING COMPOUND. NO SOAP SUDS, SOAP FLAKES, OIL, OR GREASE SHALL BE USED, AS THESE MAY BE HARMFUL TO CABLE INSULATION. CONTRACTOR SHALL USE NYLON OR HEMP ROPE FOR PULLING CABLE TO AVOID SCORING THE CONDUIT.
4. CABLES SHALL BE NEATLY TRAINED, WITHOUT INTERLACING, AND BE OF SUFFICIENT LENGTH IN ALL BOXES, EQUIPMENT, ETC. TO PERMIT MAKING A NEAT ARRANGEMENT. CABLES SHALL BE SECURED IN A MANNER TO AVOID TENSION ON CONDUCTORS OR TERMINALS, AND SHALL BE PROTECTED FROM MECHANICAL INJURY AND FROM MOISTURE. SHARP BENDS OVER CONDUIT BUSHINGS ARE PROHIBITED. DAMAGED CABLES SHALL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

C. DISCONNECT SWITCHES:

1. INSTALL DISCONNECT SWITCHES LEVEL AND PLUMB. CONNECT TO WIRING SYSTEM AND GROUND AS INDICATED.

D. GROUNDING:

1. ALL METALLIC PARTS OF ELECTRICAL EQUIPMENT WHICH DO NOT CARRY CURRENT SHALL BE GROUNDED IN ACCORDANCE WITH THE REQUIREMENTS OF ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
2. PROVIDE ELECTRICAL GROUNDING AND BONDING SYSTEMS INDICATED WITH ASSEMBLY OF MATERIALS, INCLUDING GROUNDING ELECTRODES, BONDING JUMPERS AND ADDITIONAL ACCESSORIES AS REQUIRED FOR A COMPLETE INSTALLATION.
3. ROUTE GROUNDING CONNECTIONS AND CONDUCTORS TO GROUND IN THE SHORTEST AND STRAIGHTEST PATHS POSSIBLE TO MINIMIZE TRANSIENT VOLTAGE RISES.
4. TIGHTEN GROUNDING AND BONDING CONNECTORS, INCLUDING SCREWS AND BOLTS, IN ACCORDANCE WITH MANUFACTURER'S PUBLISHED TORQUE TIGHTENING VALUES FOR CONNECTORS AND BOLTS. WHERE MANUFACTURER'S TORQUING REQUIREMENTS ARE NOT AVAILABLE, TIGHTEN CONNECTIONS TO COMPLY WITH TIGHTENING TORQUE VALUES SPECIFIED IN UL 486A TO ASSURE PERMANENT AND EFFECTIVE GROUNDING.
5. ALL UNDERGROUND GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
6. ALL GROUND CONNECTIONS SHALL BE INSPECTED FOR TIGHTNESS. EXOTHERMIC–WELDED CONNECTIONS SHALL BE APPROVED BY THE CONSTRUCTION INSPECTOR BEFORE BEING PERMANENTLY CONCEALED.
7. APPLY CORROSION–RESISTANT FINISH TO FIELD CONNECTIONS, AND PLACES WHERE FACTORY APPLIED PROTECTIVE COATINGS HAVE BEEN DESTROYED. USE COPPER–BASED "NO–OX" OR APPROVED EQUAL.
8. A SEPARATE, CONTINUOUS, INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE INSTALLED IN ALL FEEDER AND BRANCH CIRCUITS
9. BOND ALL INSULATED GROUNDING BUSHINGS WITH A BARE #6 AWG GROUNDING CONDUCTOR TO A GROUND BUS OR GROUNDING LUG IN ENCLOSURE.
10. DIRECT BURIED GROUND CONDUCTORS SHALL BE INSTALLED AT A NOMINAL DEPTH OF 30" BELOW GRADE, UNLESS NOTED OTHERWISE.
11. ALL GROUNDING CONDUCTORS EMBEDDED IN OR PENETRATING CONCRETE SHALL BE INSULATED OR INSTALLED IN PVC CONDUIT.
12. INSTALL ELECTROLYTIC GROUNDING SYSTEM IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. REMOVE SEALING TAPE FROM LEACHING AND BREATHER HOLES. INSTALL PROTECTIVE BOX FLUSH WITH GRADE.
13. DRIVE GROUND RODS UNTIL TOPS ARE 30" BELOW FINAL GRADE.
14. GROUNDING CONDUCTOR TO EQUIPMENT GROUND LUGS:
    a. BOLTED TO EQUIPMENT HOUSING WITH STAINLESS STEEL BOLTS AND LOCK WASHERS.
    b. ALL EQUIPMENT TO BE GROUNDED SHALL BE FREE OF PAINT OR ANY OTHER MATERIAL COVERING BARE METAL AT THE POINT OF CONNECTION.

3.5 ACCEPTANCE TESTING:

A. PROVIDE PERSONNEL AND EQUIPMENT, MAKE REQUIRED TESTS, AND SUBMIT TEST REPORTS UPON COMPLETION OF TESTS.

B. WHEN MATERIAL AND/OR WORKMANSHIP IS FOUND NOT TO COMPLY WITH THE SPECIFIED REQUIREMENTS, THE NONCOMPLYING ITEMS SHALL BE REMOVED FROM THE JOBSITE AND REPLACED WITH ITEMS COMPLYING WITH THE SPECIFIED REQUIREMENTS PROMPTLY AFTER RECEIPT OF NOTICE OF SUCH NON–COMPLIANCE.

C. TEST PROCEDURES:

1. ALL FEEDERS SHALL HAVE THEIR INSULATION TESTED AFTER INSTALLATION, BUT BEFORE CONNECTION TO DEVICES. THE CONDUCTORS SHALL TEST FREE FROM SHORT CIRCUITS AND GROUNDS. TESTING SHALL BE FOR ONE MINUTE USING 1000V DC. INVESTIGATE ANY VALUES LESS THAN 50 MEGAOHMS.
2. PRIOR TO ENERGIZING CIRCUITRY, TEST WIRING DEVICES FOR ELECTRICAL CONTINUITY AND PROPER POLARITY CONNECTIONS.
3. MEASURE AND RECORD VOLTAGES BETWEEN PHASES AND BETWEEN PHASE WIRES AND NEUTRALS. SUBMIT A REPORT OF MAXIMUM AND MINIMUM VOLTAGES.
4. PERFORM GROUND TEST TO MEASURE GROUND RESISTANCE OF GROUNDING SYSTEM USING THE IEEE STANDARD 3–POINT "FALL–OF–POTENTIAL" METHOD. PROVIDE PLOTTED TEST VALUES & LOCATION SKETCH. NOTIFY THE ENGINEER IMMEDIATELY IF MEASURED VALUE IS OVER 5 OHMS.

END OF SECTION

END OF SPECIFICATION

STAMP:

10/18/2024

STATE OF NEW HAMPSHIRE
SHELTON DOUGLAS KEISLING No. 18260 LICENSED PROFESSIONAL ENGINEER

Docusigned by: Shelton Keisling
EF94D8A5B80B407...

ENGINEERING LICENSE:

STATE OF NEW HAMPSHIRE
PE CERTIFICATE OF AUTHORIZATION # 01191

ENGINEER:		PE#:	DISCIPLINE:	
SDK	SHELTON D. KEISLING	18260	ELECTRICAL	E
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SHEET DESCRIPTION:

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(5 OF 5)

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SP-2.1

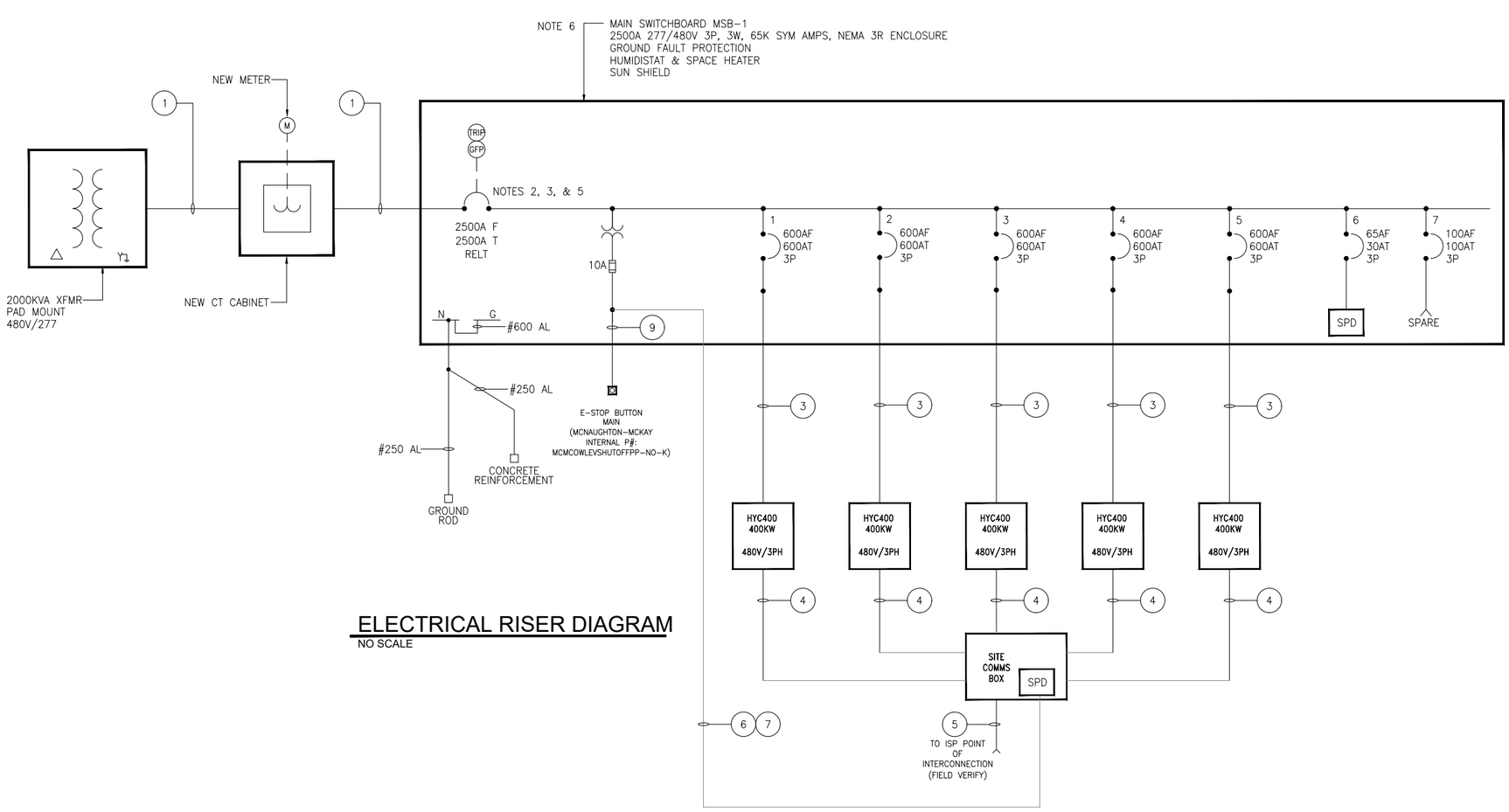
Installation and Maintenance Manual

hypercharger HYC_400UL
(100 kW – 400 kW)
Ultra-fast charging system for electric vehicles

for HW version 4

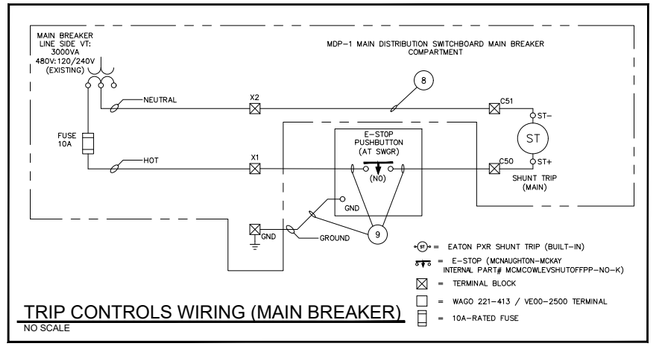
NOTES

1. METER PLACEMENT, CT CABINET AND FINAL SWITCHBOARD/DISTRIBUTION DESIGN TO BE COORDINATED ACCORDING TO UTILITY REQUIREMENTS. CONTRACTOR TO PROVIDE METER SOCKET (METER ENCLOSURE) PER LISTED ON LOCAL 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 SWITCHBOARD IS INSTALLED WITH AN ENERGY REDUCTION MAINTENANCE SWITCH (ERMS), AKA RELT, AT THE MAIN BREAKER FOR ARC FLASH MITIGATION PER NEC ARTICLE 240.87.
6. THE SERVICE EQUIPMENT SHALL BE FIELD MARKED IN COMPLIANCE WITH ALL REQUIREMENTS STATED IN NEC ARTICLES 110.24(A) AND 230.70(B).



ELECTRICAL RISER DIAGRAM
NO SCALE

NEW MAIN SWITCHBOARD MSB-1											
MAIN	2500 (100% RATED)			VOLTAGE:	480/277			PHASE:	3		
MTG	FLOOR			AIC:	65K			WIRE:	4		
CKT	CIRCUIT BREAKER			DESCRIPTION	LOAD (KVA)				PHASE		
#	FRAME	TRIP	POLE		LTG	REC	MTR	MISC	A	B	C
1	600	600	3	HYC400 DISPENSER 1				133.0			
								133.0			
								133.0			
2	600	600	3	HYC400 DISPENSER 2				133.0			
								133.0			
3	600	600	3	HYC400 DISPENSER 3				133.0			
								133.0			
								133.0			
4	600	600	3	HYC400 DISPENSER 4				133.0			
								133.0			
5	600	600	3	HYC400 DISPENSER 5				133.0			
								133.0			
6	65	30	3	SPD				0.0			
								0.0			
7	100	100	3	SPARE							
					0	0	0	1995.2			
CONNECTED LOAD (KVA):				1995.2				AMPS	KVA		
DEMAND LOAD (KVA):				1995.2			PHASE A	2401.0	665.1		
							PHASE B	2401.0	665.1		
CONNECTED LOAD (AMPS):				2399.8			PHASE C	2401.0	665.1		
DEMAND LOAD (AMPS):				2399.8							



TRIP CONTROLS WIRING (MAIN BREAKER)
NO SCALE

CONDUIT AND WIRING SCHEDULE

	FROM	TO	CONFIGURATION
1	PROPOSED TRANSFORMER	PROPOSED 480V SWITCHBOARD	(4) #600 KCMIL AL (THWN-2) IN EACH OF (8) 4" SCH 40 PVC CONDUITS
2	PROPOSED UTILITY TRANSFORMER (BY OTHERS)	PROPOSED METER	1-1/4" PVC CONDUIT FOR METERING CIRCUITS PER UTILITY
3	PROPOSED 480V SWITCHBOARD	PROPOSED HYC400 DISPENSER (POST)	(3) #500 KCMIL AL (THWN-2) + (1) #2/0 AWG AL (THWN-2) EGC IN EACH OF (2) 3" SCH 40 PVC CONDUITS
4	PROPOSED HYC400 DISPENSER (POST)	SITE COMMS BOX	(1) FIBER OPTIC CABLE IN (1) 1" SCH 40 PVC CONDUIT FOR COMMS
5	SITE COMMS BOX	ISP POINT OF CONNECTION (FIELD LOCATE)	(1) 1" SCH 40 PVC CONDUIT FOR INTERNET CABLE/FO
6	PROPOSED 480V SWITCHBOARD	SITE COMMS BOX POWER	(2) #10 KCMIL CU (THWN-2) + (1) #10 AWG CU (THWN-2) EGC IN (1) 1" SCH 40 PVC CONDUIT
7	PROPOSED 480V SWITCHBOARD	SITE COMMS BOX SPD	(3) #10 KCMIL CU (THWN-2) + (1) #10 AWG CU (THWN-2) EGC IN (1) 1" SCH 40 PVC CONDUIT
8	MAIN BREAKER CONTROLS WITHIN SWITCHBOARD	MAIN BREAKER CONTROLS WITHIN SWITCHBOARD	(1) #14 AWG CU (THWN-2)
9	SWITCHBOARD MAIN BKR SECTION SHUNT MODULE & CONTROLS	E-STOP BUTTON	(2) #14 AWG CU (THWN-2) + (1) #14 AWG CU (THWN-2) EGC IN EACH OF (1) 1" SCH 40 PVC CONDUIT

IONNA

OWL

STATE OF OHIO
PHILLIP J. JAMINET
E-70353
REGISTERED PROFESSIONAL ENGINEER

IONNA - WILLOUGHBY CHARGING HUB
4145 OH-306
WILLOUGHBY, OH 44094

NO.	DATE	REVISION DESCRIPTION
A	06/17/24	CD-50
B	06/27/24	CD-90 FOR INTERNAL REVIEW
C	7/5/24	CD-90 FOR PERMITTING
-	-	-
-	-	-

DATE
06/17/2024

SHEET TITLE
ELECTRICAL SINGLE LINE DIAGRAM

SHEET NUMBER
E-2.0

SPECIFICATIONS

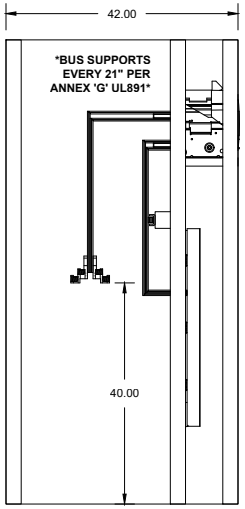
1. CONSTRUCTION
UL TYPE 3R, GA. STEEL, OSHPD OSP-0308-10, UL 891

2. FINISH
CARDINAL T007-WH121 POWDER COAT, WHITE, 70% GLOSS

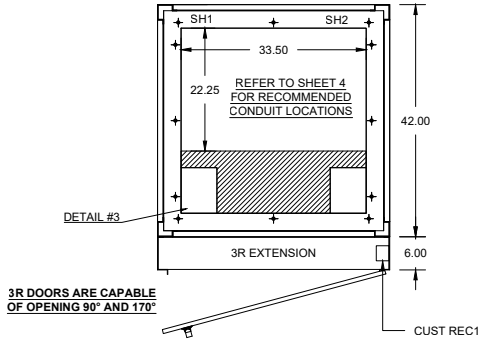
3. SERVICE
UNKNOWN, 2500A, 480VAC, 3ϕ 4W, 65KAIC

4. BUS
SILVER-PLATED COPPER

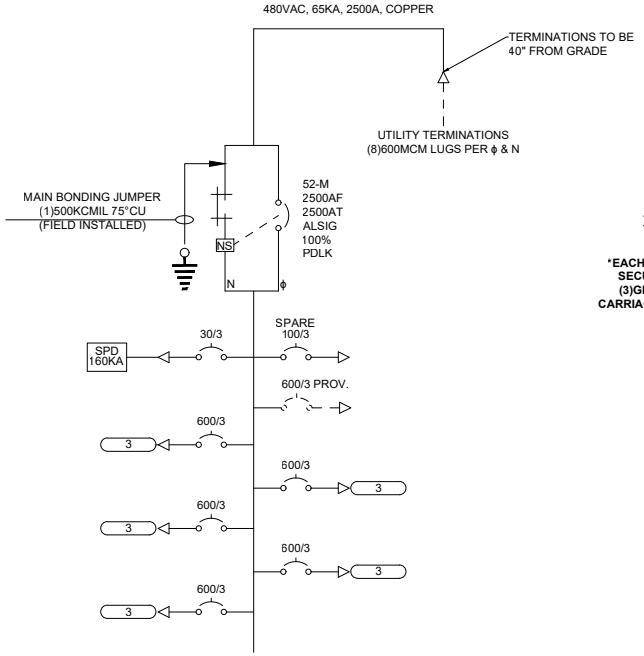
NOTE: REAR OR SIDE ACCESS REQUIRED



INTERIOR SIDE ELEVATION
APPROX. BUS DETAIL
SHOWN WITHOUT 3R
COMPONENTS

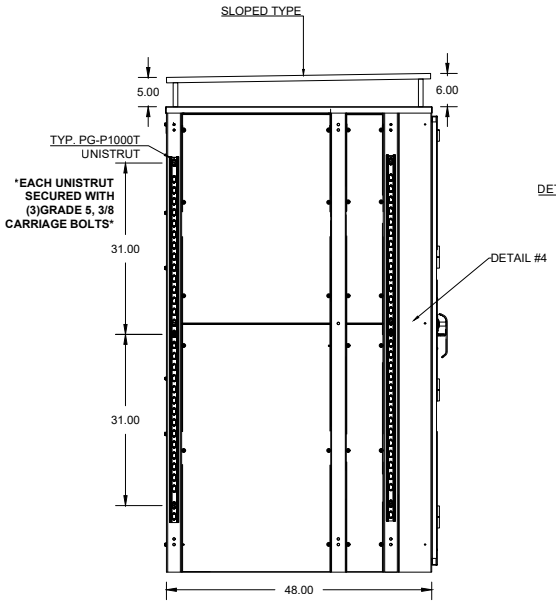


BASE LAYOUT
(REFER TO SHEET 4 FOR ANCHOR LOCATIONS)

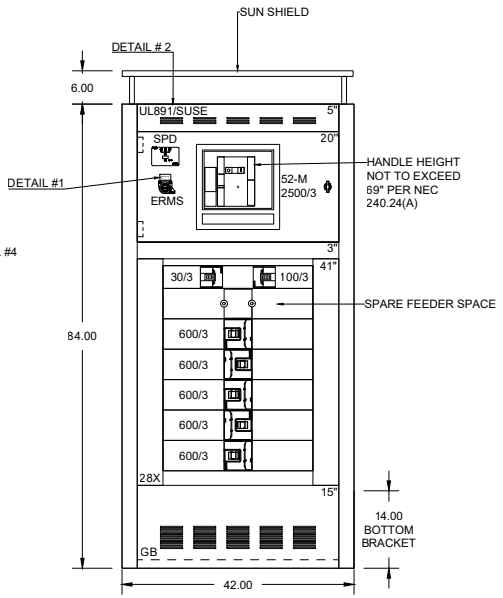


CABLE SCHEDULE

3 (2) 500KCMIL PER ϕ , (2) #1 AWG GND



SIDE ELEVATION
SHOWN WITH 3R DOORS



≈ WT 2000 LBS

FRONT ELEVATION
SHOWN WITH 3R COMPONENTS
REMOVED FOR CLARITY

POWER & DISTRIBUTION
16450 PHOEBE AVENUE
LA MIRADA, CA 90638
PHONE: (714)-307-9198

CUSTOMER APPROVAL:

#	REVISION	DATE
0	ISSUED FOR APPROVAL	08/14/24

SITE NAME:
IONNA
WILLOUGHBY CHARGING HUB
MSB-1

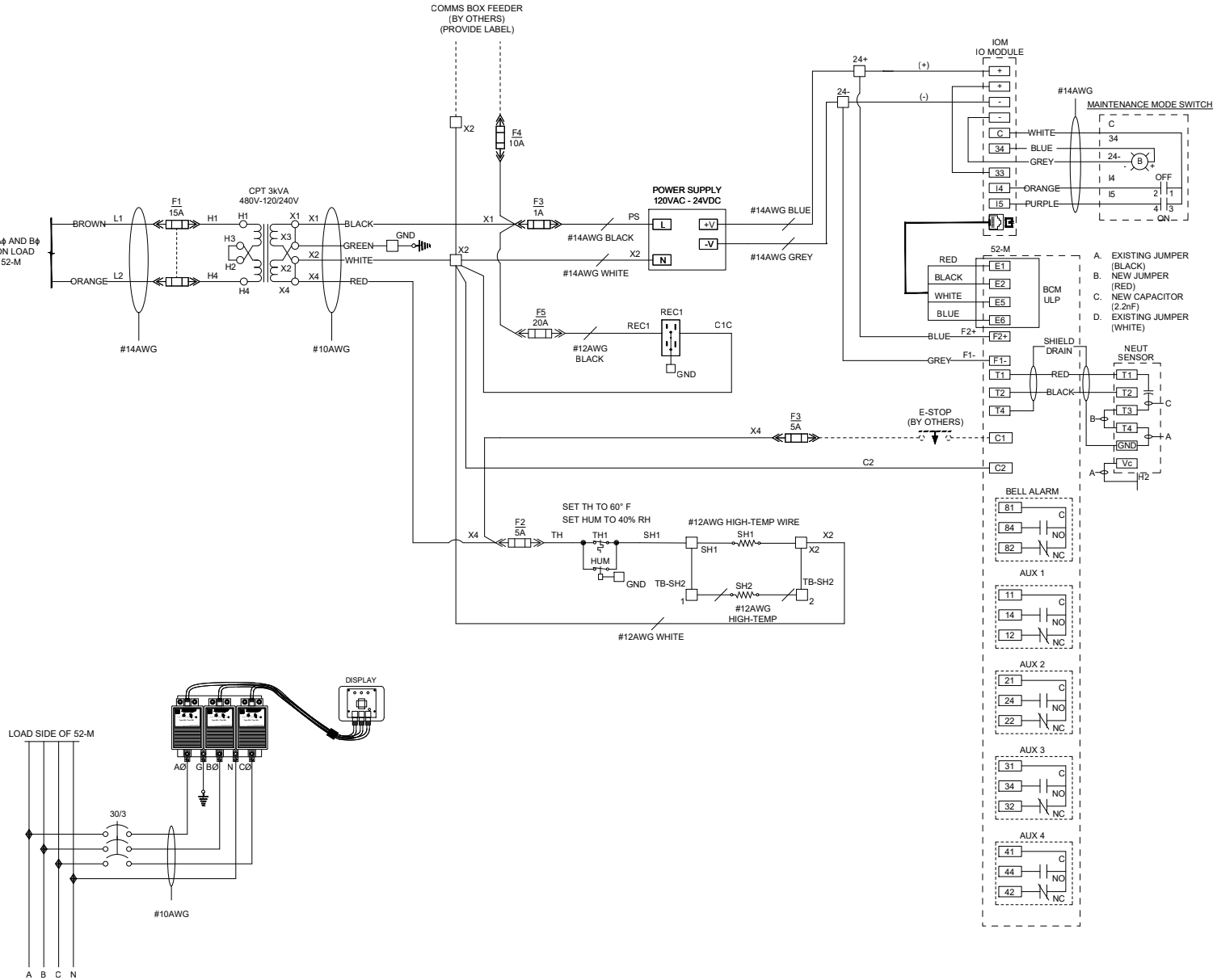
ADDRESS:
4145 OH-306,
WILLOUGHBY, OH 44094

DRAWING: 2408-3-17102

SHEET DESCRIPTION: ELEVATIONS/ SPECIFICATIONS

DRAWN BY:	SHEET:
EB	1
REV:	PAPER:
0	8.5"X 11"

PLOT DATE: 8/14/2024 5:16 AM BY: EDWINBAZ V:\#_SO\~Ionna\17102_Willoughby Charging Hub



POWER & DISTRIBUTION
16450 PHOEBE AVENUE
LA MIRADA, CA 90638
PHONE: (714)-307-9198

CUSTOMER APPROVAL:

#	REVISION	DATE
0	ISSUED FOR APPROVAL	08/14/24

SITE NAME:

IONNA
WILLOUGHBY CHARGING
HUB
MSB-1

ADDRESS:

4145 OH-306,
WILLOUGHBY, OH 44094

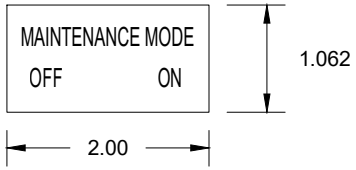
DRAWING:
2408-3-17102

SHEET DESCRIPTION:
WIRING SCHEME

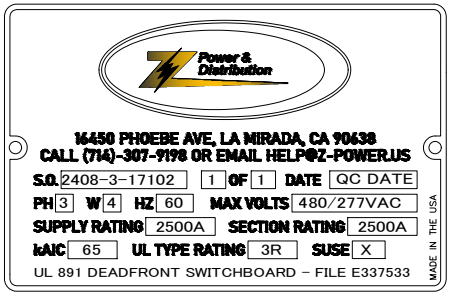
DRAWN BY:	SHEET:
EB	2
REV:	PAPER:
0	8.5"X 11"

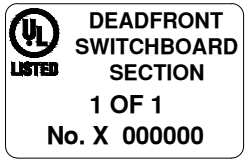
PLOT DATE: 8/14/2024 5:16 AM BY: EDWINBAZ V:\#_SO\~Ionna\17102_Willoughby Charging Hub

DETAIL #1
WHITE LETTERING ON
RED BACKGROUND

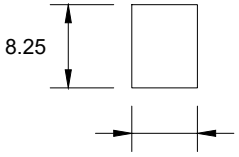


DETAIL #2

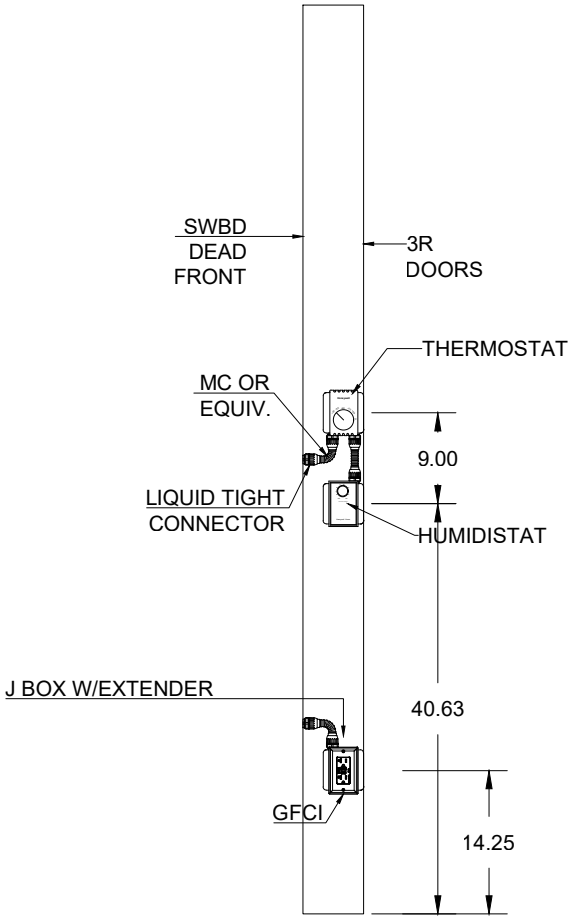




DETAIL #3
FRONT CONDUIT
OPENING



DETAIL #4
TH/HUM/REC MOUNTING



RIGHT 3R EXTENSION
ALL DIMENSIONS ARE APPROX.

POWER & DISTRIBUTION
16450 PHOEBE AVENUE
LA MIRADA, CA 90638
PHONE: (714)-307-9198

CUSTOMER APPROVAL:

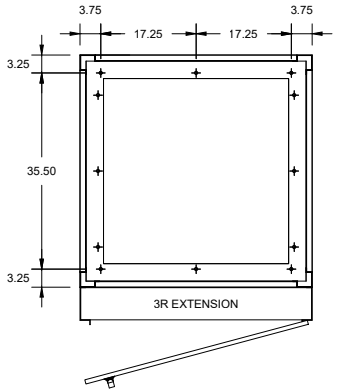
#	REVISION	DATE
0	ISSUED FOR APPROVAL	08/14/24

SITE NAME:
IONNA
WILLOUGHBY CHARGING
HUB
MSB-1

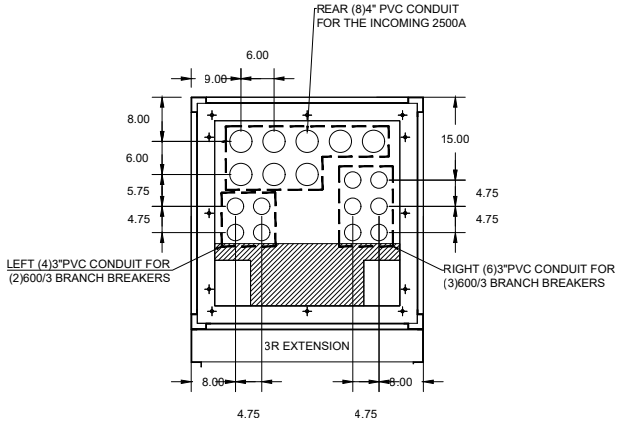
ADDRESS:
4145 OH-306,
WILLOUGHBY, OH 44094

DRAWING: 2408-3-17102	
SHEET DESCRIPTION: DETAILS #1-4	
DRAWN BY: EB	SHEET: 3
REV: 0	PAPER: 8.5"X 11"

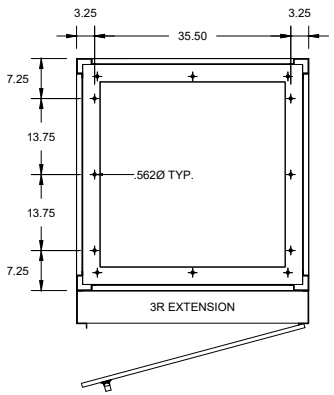
PLOT DATE: 8/14/2024 5:16 AM BY: EDWINBAZ V:\#_SO\~Ionna\17102_Willoughby Charging Hub



BASE PLAN - FRONT AND BACK ANCHORING OPTION



BASE PLAN - CONDUIT LOCATION RECOMMENDATIONS



BASE PLAN - SIDES ANCHORING OPTION

ITEM	QTY.	MFG	CAT. No.	DESCRIPTION	REV
2500/3	1	SQ D	WL3GGH64A35XXXXXCXT	MODEL NW25H 3-POLE, 2500A, 100% 100KAIC 480VAC, 2500A SENSOR PLUG, TYPE 'A' PLUG, TRIP UNIT TYPE 6.0P ALSIG, (4) AUX CONTACTS, PROV. FOR PADLOCK AND PROVISIONS , HORIZONTAL REAR CONNECTED "T"	
	1	SQ D	S48182	NEUTRAL SENSOR 2500A-3000A	
ERMS	1	SQ D	9001K11J35LLL	SWITCH WITH BLUE INDICATOR LIGHT (24VDC)	
	1	SQ D	9001KA1	SWITCH CONTACT BLOCK	
	1	SQ D	9001K7	PADLOCK ATTACHMENT	
	1	SQ D	LV434063	I/O MODULE	
	1	SQ D	LV434196	CIRCUIT BREAKER ULP CORD 4.27 FT	
600/3	5	EATON	PDG33M0600B2NN	MCCB, 600AT/600AF, 3P, 65KA/480V, 80%, PXR10 LSI TRIP UNIT	
	5	EATON	PDG3XPLKTOFF	PADLOCK PROVISION, FRAME 3	
	5	EATON	PDG3X3TA630	(2)#2-500 KCMIL LOAD LUGS	
100/3	1	EATON	PDG23M0100B2NL	MCCB, 100AF/100AT, 3P, 65KA/480V, 80%, PXR10 LSI TRIP UNIT, (1)#14-1/0	
	1	EATON	PDG2XPLKTOFF	PADLOCK PROVISION, FRAME 2	
30/3	1	EATON	PDG23M0060B2NL	MCCB, 60AF/30AT, 3P, 65KA/480V, 80%, PXR10 LSI TRIP UNIT. (1)#14-1/0 LOAD LUGS	
	1	EATON	PDG2XPLKTOFF	PADLOCK PROVISION, FRAME 2	
CPT	1	HAMMOND	C1F003LES	CONTROL POWER TRANSFORMER 480-120/240V, 3.0 KVA	
PS	1	PHOENIX	2902991	POWER SUPPLY, 120VAC IN, 24VDC OUTPUT, 30W	
F1-5	LOT	FERRAZ	USCC1I, USCC2I,USCC3I	30A 1P, 2P,3P 600VAC FUSE BLOCKS	
SPD	1	SQ D	TVS4IMA160	SURGE PROTECTION DEVICE, 160KA, 480VAC + GND DELTA, REMOTE DISPLAY	
REC	1	HUBBLE	GFRST20W	20A 120VAC GFCI RECEPTACLE	
TH	1	CADET	T410A	THERMOSTAT 50-90 F, 22A	
HUM	1	BROAN	DD500W OR EQUIV	DE-HUMIDISTAT 20-80% RH	
SH	2	TEMPCO	CSF00500	STRIP HEATER 350W, 120V	

POWER & DISTRIBUTION
16450 PHOEBE AVENUE
LA MIRADA, CA 90638
PHONE: (714)-307-9198

CUSTOMER APPROVAL:

#	REVISION	DATE
0	ISSUED FOR APPROVAL	08/14/24

SITE NAME:
IONNA
WILLOUGHBY CHARGING
HUB
MSB-1

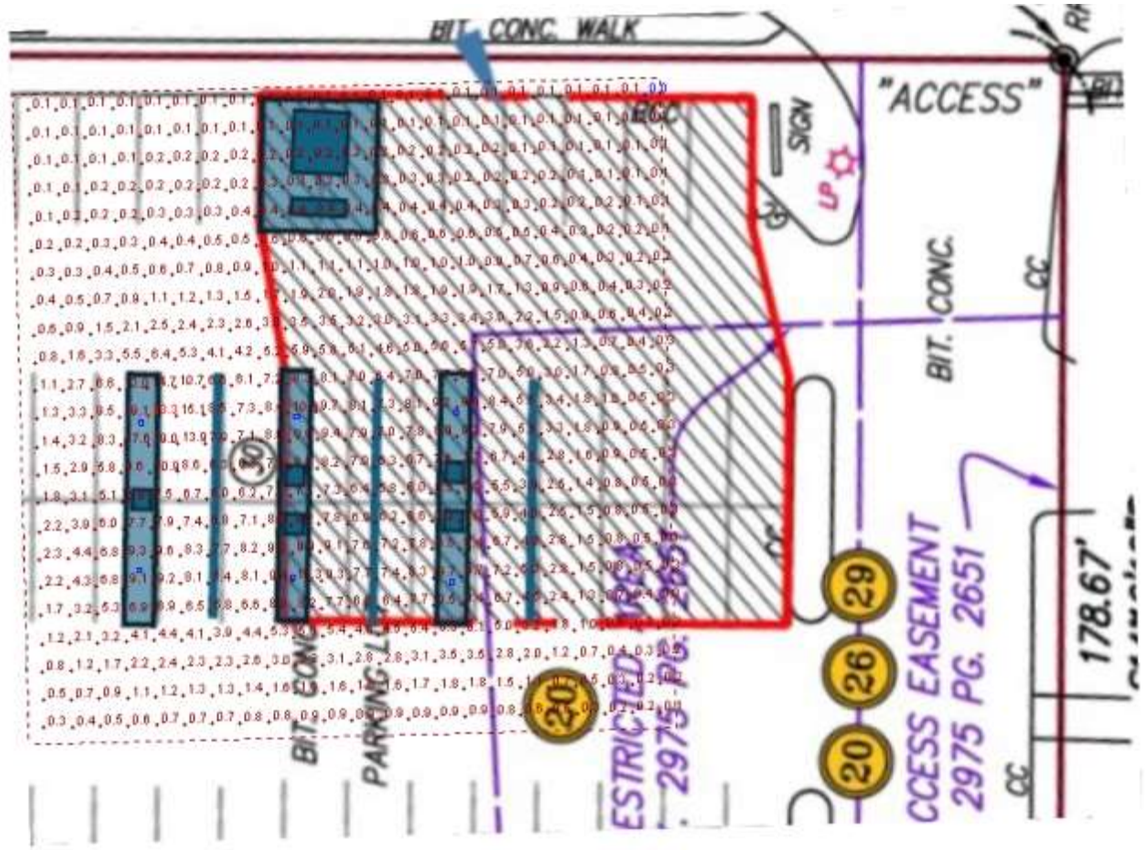
ADDRESS:
4145 OH-306,
WILLOUGHBY, OH 44094

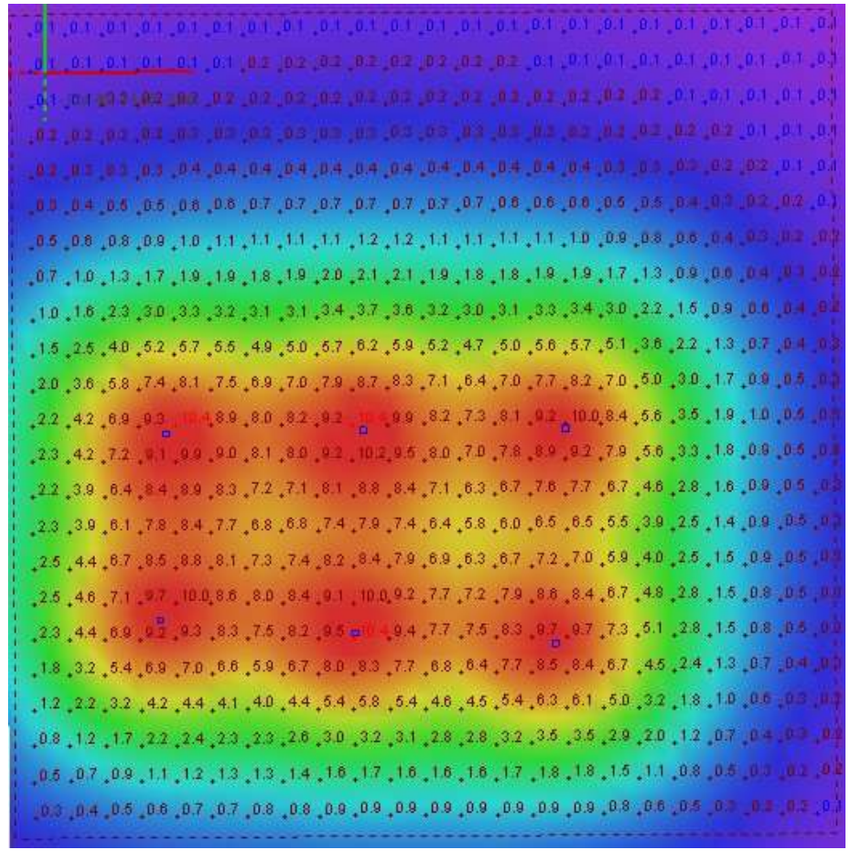
DRAWING:
2408-3-17102

SHEET DESCRIPTION:
ANCHORING
LOCATIONS/BOM

DRAWN BY:	SHEET:
EB	4
REV:	PAPER:
0	8.5"X 11"

PLOT DATE: 8/14/2024 5:16 AM BY: EDWINBAZ V:\#_SO\~Ionna\17102_Willoughby Charging Hub





Statistics

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Calc Zone #2	+	3.1 fc	23.3 fc	0.0 fc	0.0 fc	N/A

Schedule

Symbol	Label	QTY	Manufacturer	Catalog	Number Lamps	Lamp Output	LLF	Input Power	Polar Plot
	A	6	KEYSTONE TECHONOLOGIES LLC	KT-CLED60PS-M1-8CSB-VDIM-Z (Setting at 3000K)	1	7706	1	57.31	Max: 2404cd

Glantz

Ionna NH Dark Skies renedering
AGI Knoxvile, TN
Keystone CLED 60 watt (6 ea.)

Designer
TJ Grunwald CLEP
Date
11/13/2024
Scale
Not to Scale
Drawing No.

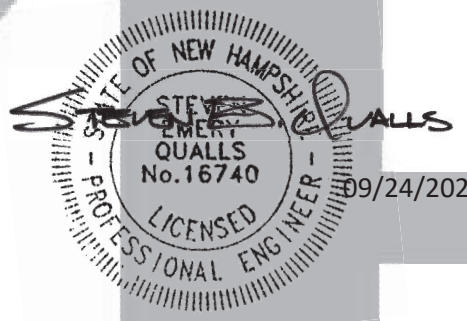
Summary

iONNA Single Pole 4-Plug Canopy
1600 Woodbury Avenue
Portsmouth, NH 03801

RBA Job No. 24 45149

CALCULATIONS FOR:
Standalone Canopy

Designed in accordance with:
2021 International Building Code / New Hampshire Building Code
ASCE 7-16
Wind Velocity = 125 mph
Risk Category II



09/24/2024

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 DONNA CANOPY
SINGLE POLE 4-PLUG
FOR ACI BY JRH

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

SHEET NO. 1 OF 16
JOB NO. 24 45149
DATE 9/19/24

CANOPY LOADS:

2021 INTERNATIONAL BUILDING CODE ; ASCE 7-16

DEAD LOADS: DECK PANS + FASCIA PANELS : 5 PSF MAX.

STEEL CHANNELS: 9 PLF MAX

HSS 5"x5"x1/4" : 15.62 PLF

COLUMN: 27.48 PLF MAX

SNOW LOAD:

P_g = 50 PSF

$p_f = 0.7 C_e C_t I_s p_g = (0.7)(1.1)(1.2)(1.0)(50 PSF) = 46.2$ PSF

$C_e \leq 1.1$

$C_t \leq 1.2$

$I_s = 1.0$

$\gamma = 0.13 p_g + 14 = (0.13)(50 PSF) + 14 = 20.5$ PCF

46.2 PSF / 20.5 PCF = 2.25' EXCEEDS 1'-0" CANOPY HEIGHT.: NO DRIFT LOADING

$p_m = 20 I_s = (20)(1.0) = 20$ PSF < 46.2 PSF $\Rightarrow$ USE p_f

WIND LOAD:

$V \leq 125$ MPH

$q_z = 0.00256 K_z K_{zt} K_d V^2 = 28.90$ PSF

$K_z = 0.85$ (EXP C, $h \leq 11'-10"$)

$K_{zt} = 1.0$

$K_d = 0.85$

VERTICAL WIND:

$p = q_h G C_N = \pm 29.48$ PSF (ULT.)

$G = 0.85$

$C_N = \pm 1.2$ (MAX VALUES)

SERVICE LOADS:

$D + S = 5$ PSF $+ 46.2$ PSF $= 51.2$ PSF

$D + 0.6W = 5$ PSF $+ (0.6)(29.48$ PSF$) = 22.7$ PSF

$D + 0.75S + 0.75(0.6W) = 5$ PSF $+ (0.75)(46.2$ PSF$) + (0.75)(0.6)(29.48$ PSF$) = 53.0$ PSF (CONTROLS)

HORIZONTAL WIND LOADS: SEE SHEET 2

CODES:

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

SIGN DIMENSIONS:

Length, B =	5.00	ft.	Height, s =	1.00	ft.	OAH Above Grade, h =	11.83	ft.
Depth, t =	16.50	ft.	A_{sign} =	5.0	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 =	125	Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 28.86 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 =	5.00	Length of Sign/Depth of Sign
s/h =	0.08	Depth of Sign/Overall Height
C_f =	1.85	Force Coefficient, ASCE 7-16, Figure 29.3-1

F/A = 45.39 lb/ft^2

CASE A: resultant acts normal to sign face through the geometric center

CASE B: resultant acts normal to sign face at a distance from the geometric center toward the windward edge equal to 1.00'

CASE C loading applies

LRFD Loading:

Use wind pressure = 45.39 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 27.23 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

SUBJECT LONNA CANOPY
SINGLE POLE 4-PLUG
FOR AGI BY JRH

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

SHEET NO. 3 OF 16
JOB NO. 24 45149
DATE 9/19/24

CANOPY CHANNELS:

@ 54" MAX O.C.

$W \leq (53.0\ PSF)(54"/12"/1') + 9\ PLF = 248\ PLF$

$L_{CANT} \leq 5'-0"/2 = 2'-6"$

$M \leq \frac{(248\ PLF)(2'-6")^2}{2} = 775\#'$

@ MIN. 3" DEEP x 2" WIDE x 1/4": $Z_x = 1.765\ IN^3$

$M_{ALL} \geq \frac{(36000\ PSI)(1.765\ IN^3)}{(12"/1')(1.67)} = 3170\#' > 775\#'$ OK

$P@\ BEAM = \frac{(248\ PLF)(5'-0")}{2} = 620\#$ EA. SIDE

@ 2" LONG FLARE-BEVEL TO BEAM:

$\frac{R_{nw}}{\Omega} = \frac{(0.60)(70000\ PSI)(5/8)(1/4")(2")}{2.0} = 6562\# > 620\#$ OK

MAIN BEAM:

$W \leq (53\ PSF)(5'-0") + \frac{(9\ PLF)(5'-0")(4)}{16'-6"} + 15.62\ PLF = 292\ PLF$

$L_{CANT} \leq 16'-6"/2 = 8'-3"$

$M \leq \frac{(292\ PLF)(8'-3")^2}{2} = 9937\#'$

$M_{ALL} \geq 17500\#' > 9937\#'$ OK

$W_D = (5\ PSF)(5'-0") + \frac{(9\ PLF)(5'-0")(4)}{16'-6"} + 15.62\ PLF = 51.6\ PLF$

DEFLECTION:
$I = 16.0\ IN^4$

$\delta_{DEAD} \approx \frac{(51.6\ PLF/12"/1')(99")^4}{(8)(29{,}000{,}000\ PSI)(16.0\ IN^4)} = 0.111"$

$\approx L/1780$ OK

$\delta_{TOTAL} \approx \frac{(292\ PLF/12"/1')(99")^4}{(8)(29{,}000{,}000\ PSI)(16.0\ IN^4)} = 0.630"$

$\approx L/314 < L/240$ OK

WELD @ R: $S_W = (12")^2/3 + 5/8 \times 1/4" = 7.5\ IN^3$

$M_{ALL} \geq \frac{(0.60)(70000\ PSI)(7.5\ IN^3)}{(12"/1')(2.0)} = 13125\#' > 9937\#'$ OK

SUBJECT DONNA CANOPY
SINGLE POLE 4-PLUG
FOR AGI BY JRH

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

SHEET NO. 4 OF 16
JOB NO. 24 45149
DATE 9/19/24

MATCH PLATE:

$M \leq 9937\#'$

$P \leq (292\ PLF)(16'-6") = 4818\#$

$T_b \leq \frac{(9937\#')(12"/1')}{(9")(2\ BOLTS)} = 6625\#/BOLT$

@ 1" A325:

$\frac{R_n}{\Omega} \geq \frac{\mu D_u h_f T_b n_s}{1.50} = 7684\# > 6625\#$ OK

$\mu \geq 0.20$

$D_u = 1.13$

$h_f = 1.0$

$T_b \geq 51000\#$

$n_s = 1.0$

$M_{PL} \leq (2)(6625\#)(2.5") = 33125\#"$

$t_{MIN} = \sqrt{\frac{(4)(33125\#")}{(36000\ PSI/1.67)(12")}} = 0.716" < 1"$ OK

COLUMN:

CONSIDER ONLY 1 CANOPY SIDE LOADED FOR MOMENT (CONSERVATIVE)

$M_{TOP} \leq 9937\#'$

$P_{D,TOP} \leq 4818\#$

$P_{L,TOP} \leq (16'-6")(1'-0")(27.27\ PSF) = 450\#$

$M_{TOTAL} \leq 9937\#' + (450\#)(11'-4") = 15037\#'$

$P_{TOTAL} \leq 4818\# + (27.48\ PLF)(11') = 5120\#$

$M_{ALL} \geq 32400\#' > 15037\#'$ OK

$P_{ALL} \geq 78600\# > 5120\#$ OK

$\frac{5120\#}{78600\#} + \frac{8}{9}\left(\frac{15037\#'}{32400\#'}\right) = 0.478 < 1.0$ OK

WELD: $S_W \geq \frac{(\pi)(7" + 3/8")^2}{4}(0.707)(3/8") = 11.32\ IN^3$

$M_{ALL} \geq \frac{(0.60)(70000\ PSI)(11.32\ IN^3)}{(12"/1')(2.0)} = 19820\#' > 15037\#'$ OK (TOP & BOTTOM)

BASE PLATE:

$T_b \leq \frac{(15037\#')(12"/1')}{(9")(2\ ANCHORS)} = 10025\#$

$M_{PL} \leq (2)(10025\#)(2.1") = 42104\#"$

$t_{MIN} = \sqrt{\frac{(4)(42104\#")}{(36000\ PSI/1.67)(12")}} = 0.807" < 1"$ OK

SUBJECT TONNA CANOPY
SINGLE POLE 4-PLUG
FOR AGI BY JRH

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

SHEET NO. 5 OF 16
JOB NO. 24 45149
DATE 9/19/24

UPLIFT CHECK

WIND: $(0.6)(29.48\ PSF)(16'-6")(5'-0") = 1460^{\#}$

DEAD: $(0.6)\left[(5\ PSF)(16'-6")(5'-0") + (4)(9\ PLF)(5'-0") + (16'-6")(15.62\ PLF) + (11')(27.48\ PLF)\right]$
SUPERSTRUCTURE
$= 691^{\#}$

FOUNDATION: $(0.6)(5'-3")(5'-3")(3'-0")(150\ PCF) = 7441^{\#}$

$7441^{\#} + 691^{\#} = 8132^{\#} > 1460^{\#}$ OK

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
p_a =	**150**	psf/ft
q_a =	**2000**	psf

Total Service Wind Load: P_w = 0.45 kips

Total Service Moment at Base: M = 15.04 k-ft

Rectangular Spread Foundation:

Length = **5.25** ft. Width = **5.25** ft. Depth = **4** ft.

Dead Load, P_d =	16.54	kips				
Overturning Moment, M_o =	17.06	k-ft				
Resistive Moment, M_r =	43.41	k-ft	M_r/M_o =	2.54	> 1.5	**O.K.**
Eccentricity, e = M/P_d =	0.91	ft.	kern, k =	0.88	ft.	**e > k**
Bearing Pressure, q_{max} =	1223.97	psf	<	q_a = 2000	psf	**O.K.**
Moment in Footing M_u =	23.38	k-ft	No Reinforcing Required - Use Minimum Steel			
Use **6** No.	**7**	Bars Top and Bottom - Length.				
Use **6** No.	**7**	Bars Top and bottom - Width.				
Moment Capacity, ΦM_n =	710.37	k-ft	>	M_u = 23.38	k-ft	**O.K.**
Check Shear, V_u =	N/A	*See Note Below				
Shear Capacity, $\Phi * V_u$ =	40.11	kips/ft				

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Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

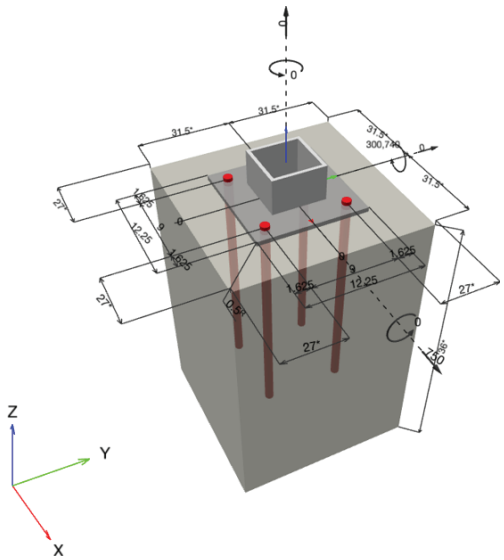
Specifier's comments:

1 Input data

Anchor type and diameter:	**Hex Head ASTM F 1554 GR. 36 1**
Item number:	not available
Specification text:	Hilti Hex Head headed stud anchor with 25 in embedment, 1, Steel galvanized, installation per instruction for use
Effective embedment depth:	h_{ef} = 25.000 in.
Material:	ASTM F 1554
Evaluation Service Report:	Hilti Technical Data
Issued I Valid:	- | -
Proof:	Design Method ACI 318-19 / CIP
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.500 in.
Anchor plate[R] :	l_x x l_y x t = 12.000 in. x 12.000 in. x 1.000 in.; (Recommended plate thickness: not calculated)
Profile:	Square HSS (AISC), HSS6X6X.375; (L x W x T) = 6.000 in. x 6.000 in. x 0.375 in.
Base material:	uncracked concrete, 2500, f_c' = 2,500 psi; h = 36.000 in.
Reinforcement:	tension: not present, shear: not present; edge reinforcement: none or < No. 4 bar

[R] - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [lb, in.lb]



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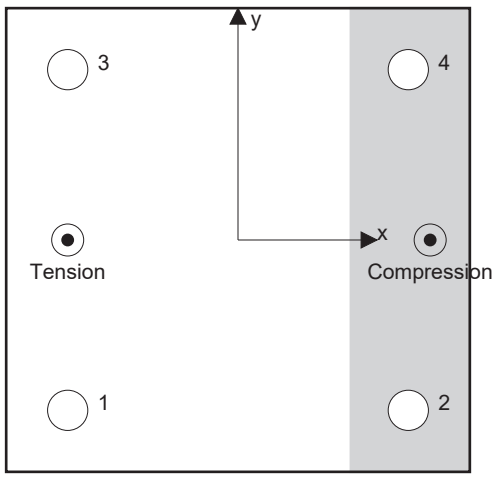
Fastening point:			

1.1 Design results

Case	Description	Forces [lb] / Moments [in.lb]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 0; V_x = 750; V_y = 0; M_x = 0; M_y = 300,740; M_z = 0;	no	69

2 Load case/Resulting anchor forces



Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	15,700	188	188	0
2	0	188	188	0
3	15,700	188	188	0
4	0	188	188	0

Max. concrete compressive strain:	0.37 [‰]
Max. concrete compressive stress:	1,631 [psi]
Resulting tension force in (x/y)=(-4.500/0.000):	31,400 [lb]
Resulting compression force in (x/y)=(5.078/0.000):	31,400 [lb]

Anchor forces are calculated based on the assumption of a rigid anchor plate.

3 Tension load

	Load N_{ua} [lb]	Capacity ϕ N_n [lb]	Utilization $\beta_N = N_{ua}/\phi$ N_n	Status
Steel Strength*	15,700	26,361	60	OK
Pullout Strength*	15,700	22,795	69	OK
Concrete Breakout Failure**	31,400	98,994	32	OK
Concrete Side-Face Blowout, direction **	N/A	N/A	N/A	N/A

* highest loaded anchor **anchor group (anchors in tension)

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Fastening point:			

3.1 Steel Strength

$N_{sa} = A_{se,N} f_{uta}$ ACI 318-19 Eq. (17.6.1.2)
$\phi N_{sa} \geq N_{ua}$ ACI 318-19 Table 17.5.2

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.61	58,000

Calculations

N_{sa} [lb]
35,148

Results

N_{sa} [lb]	ϕ_{steel}	ϕN_{sa} [lb]	N_{ua} [lb]
35,148	0.750	26,361	15,700

3.2 Pullout Strength

$N_{pN} = \psi_{c,p} N_p$ ACI 318-19 Eq. (17.6.3.1)
$N_p = 8 A_{brg} f'_c$ ACI 318-19 Eq. (17.6.3.2.2a)
$\phi N_{pN} \geq N_{ua}$ ACI 318-19 Table 17.5.2

Variables

$\psi_{c,p}$	A_{brg} [in.^{2}]	λ_a	f'_c [psi]
1.400	1.16	1.000	2,500

Calculations

N_p [lb]
23,260

Results

N_{pn} [lb]	$\phi_{concrete}$	ϕN_{pn} [lb]	N_{ua} [lb]
32,564	0.700	22,795	15,700

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Fastening point:			

3.3 Concrete Breakout Failure

$N_{cbg} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ec,N}\ \psi_{ed,N}\ \psi_{c,N}\ \psi_{cp,N}\ N_b$ ACI 318-19 Eq. (17.6.2.1b)

$\phi\ N_{cbg} \geq N_{ua}$ ACI 318-19 Table 17.5.2

A_{Nc} see ACI 318-19, Section 17.6.2.1, Fig. R 17.6.2.1(b)

$A_{Nc0} = 9\ h_{ef}^2$ ACI 318-19 Eq. (17.6.2.1.4)

$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2\ e'_N}{3\ h_{ef}}}\right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.3.1)

$\psi_{ed,N} = 0.7 + 0.3\left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.4.1b)

$\psi_{cp,N} = \text{MAX}\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.6.1b)

$N_b = 16\ \lambda_a\ \sqrt{f'_c}\ h_{ef}^{5/3}$ ACI 318-19 Eq. (17.6.2.2.3)

Variables

h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
24.000	0.000	0.000	27.000	1.250

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
-	16	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
3,969.00	5,184.00	1.000	1.000	0.925	1.000	159,750

Results

N_{cbg} [lb]	$\phi_{concrete}$	$\phi\ N_{cbg}$ [lb]	N_{ua} [lb]
141,420	0.700	98,994	31,400

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4 Shear load

	Load V_{ua} [lb]	Capacity ϕ V_n [lb]	Utilization $\beta_V = V_{ua}/\phi$ V_n	Status
Steel Strength*	188	13,708	2	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	750	235,582	1	OK
Concrete edge failure in direction x+**	750	41,967	2	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

$V_{sa} = 0.6\ A_{se,V}\ f_{uta}$ ACI 318-19 Eq. (17.7.1.2b)
$\phi\ V_{steel} \geq V_{ua}$ ACI 318-19 Table 17.5.2

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.61	58,000

Calculations

V_{sa} [lb]
21,089

Results

V_{sa} [lb]	ϕ_{steel}	ϕ V_{sa} [lb]	V_{ua} [lb]
21,089	0.650	13,708	188

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4.2 Pryout Strength

$V_{cpg} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ec,N} \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-19 Eq. (17.7.3.1b)

$\phi V_{cpg} \geq V_{ua}$ ACI 318-19 Table 17.5.2

A_{Nc} see ACI 318-19, Section 17.6.2.1, Fig. R 17.6.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-19 Eq. (17.6.2.1.4)

$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e'_N}{3 h_{ef}}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.3.1)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.4.1b)

$\psi_{cp,N} = \text{MAX}\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.6.1b)

$N_b = 16 \lambda_a \sqrt{f'_c} h_{ef}^{5/3}$ ACI 318-19 Eq. (17.6.2.2.3)

Variables

k_{cp}	h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]
2	18.000	0.000	0.000	27.000

$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
1.250	∞	16	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
3,969.00	2,916.00	1.000	1.000	1.000	1.000	98,903

Results

V_{cpg} [lb]	$\phi_{concrete}$	ϕV_{cpg} [lb]	V_{ua} [lb]
336,546	0.700	235,582	750

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4.3 Concrete edge failure in direction x+

$V_{cbg} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \psi_{ec,V}\ \psi_{ed,V}\ \psi_{c,V}\ \psi_{h,V}\ \psi_{parallel,V}\ V_b$ — ACI 318-19 Eq. (17.7.2.1b)

$\phi\ V_{cbg} \geq V_{ua}$ — ACI 318-19 Table 17.5.2

A_{Vc} see ACI 318-19, Section 17.7.2.1, Fig. R 17.7.2.1(b)

$A_{Vc0} = 4.5\ c_{a1}^2$ — ACI 318-19 Eq. (17.7.2.1.3)

$\psi_{ec,V} = \left(\frac{1}{1 + \frac{e'_v}{1.5c_{a1}}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.7.2.3.1)

$\psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.7.2.4.1b)

$\psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-19 Eq. (17.7.2.6.1)

$V_b = 9\ \lambda_a\ \sqrt{f'_c}\ c_{a1}^{1.5}$ — ACI 318-19 Eq. (17.7.2.2.1b)

Variables

c_{a1} [in.]	c_{a2} [in.]	e_{cV} [in.]	$\psi_{c,V}$	h_a [in.]
24.000	27.000	0.000	1.400	36.000

l_e [in.]	λ_a	d_a [in.]	f'_c [psi]	$\psi_{parallel,V}$
8.000	1.000	1.000	2,500	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\psi_{ec,V}$	$\psi_{ed,V}$	$\psi_{h,V}$	V_b [lb]
2,268.00	2,592.00	1.000	0.925	1.000	52,909

Results

V_{cbg} [lb]	$\phi_{concrete}$	$\phi\ V_{cbg}$ [lb]	V_{ua} [lb]
59,952	0.700	41,967	750

5 Combined tension and shear loads, per ACI 318-19 section 17.8

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.689	0.018	5/3	54	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

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Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2021, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/

Fastening meets the design criteria!

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Fastening point:			

7 Installation data

Profile: Square HSS (AISC), HSS6X6X.375; (L x W x T) = 6.000 in. x 6.000 in. x 0.375 in.

Hole diameter in the fixture: d_f = 1.062 in.

Plate thickness (input): 1.000 in.

Recommended plate thickness: not calculated

Anchor type and diameter: Hex Head ASTM F 1554 GR. 36 1

Item number: not available

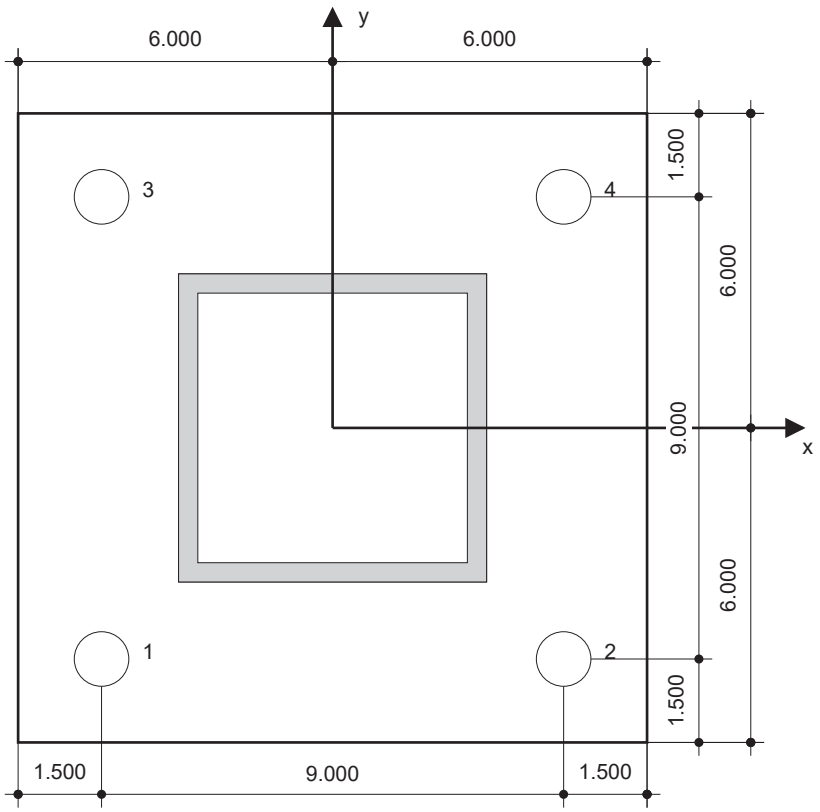
Maximum installation torque: -

Hole diameter in the base material: - in.

Hole depth in the base material: 25.000 in.

Minimum thickness of the base material: 26.172 in.

Hilti Hex Head headed stud anchor with 25 in embedment, 1, Steel galvanized, installation per instruction for use



Coordinates Anchor [in.]

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	-4.500	-4.500	27.000	36.000	27.000	36.000
2	4.500	-4.500	36.000	27.000	27.000	36.000
3	-4.500	4.500	27.000	36.000	36.000	27.000
4	4.500	4.500	36.000	27.000	36.000	27.000

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8 Remarks; Your Cooperation Duties

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iONNA CANOPY CONCEPT

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN
ACCORDANCE WITH
2021 INTERNATIONAL
BUILDING CODE
ASCE 7-16

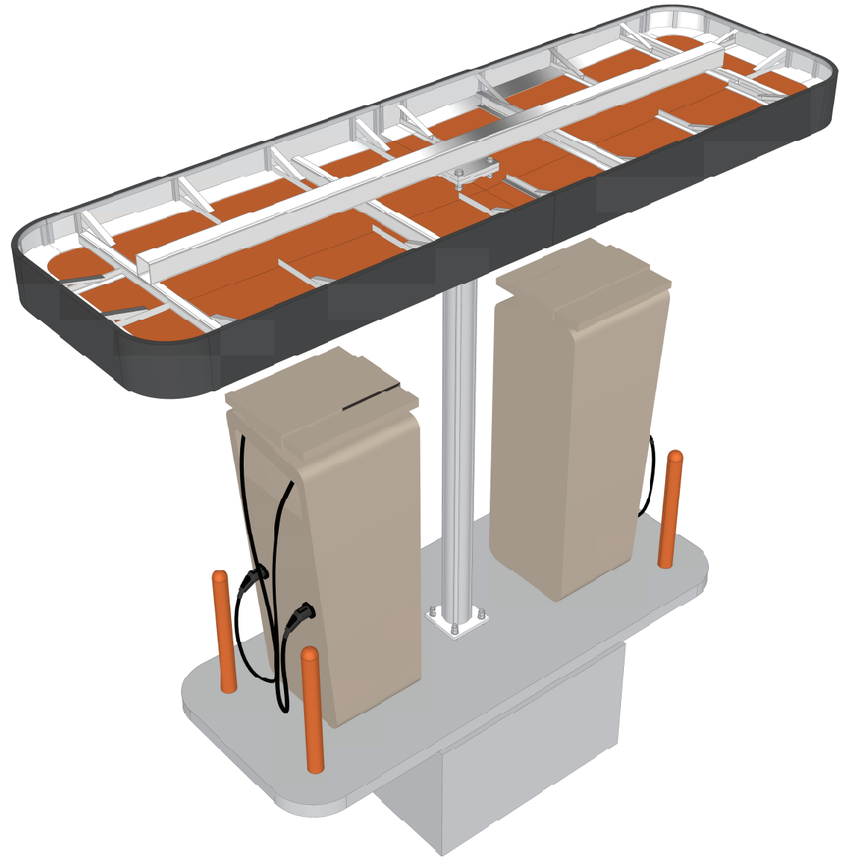
"SEALED FOR STRUCTURAL COMPONENTS ONLY"
It is unlawful to alter this document as sealed by a professional engineer.

PROJECT MANAGER

DESIGN SPECIALIST
BEN WEIENETH

SHEET INDEX

C01	COVER
P01	PLANS
E01	ELEVATIONS
S01	SECTIONS
D01	DETAILS



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

GENERAL NOTES:

1. MATERIALS: STEEL HSS – ASTM A500 GR. C; STEEL CHANNELS, PLATES, AND ANGLES – ASTM A36.
2. ALL EXPOSED STRUCTURAL STEEL TO BE GALVANIZED.
3. BOLTED CONNECTIONS WITHIN STEEL STRUCTURE TO CONSIST OF ASTM A325 OR ASTM A449 BOLTS, ASTM A563 NUTS, AND ASTM F436 HARDENED WASHERS AT FAYING SURFACES, UNLESS NOTED OTHERWISE. BOLTS TO BE FULLY PRETENSIONED TO 70% MINIMUM TENSILE STRENGTH PER AISC SPECIFICATIONS. VERIFY PRETENSION THROUGH USE OF DIRECT-TENSION INDICATORS OR TWIST-OFF TYPE TENSION CONTROL BOLTS.
4. ANCHOR BOLTS TO CONSIST OF ASTM F1554 GR. 36 OR ASTM A36 THREADED RODS, ASTM A563 NUTS, AND ASTM F436 HARDENED WASHERS AT FAYING SURFACES, UNLESS NOTED OTHERWISE. ALL ANCHOR BOLTS TO BE DOUBLE-NUTTED.
5. ALL EXPOSED HARDWARE TO BE GALVANIZED.
6. ALL STEEL WELDS TO BE COMPLETED PER AWS D1.1 REQUIREMENTS USING E-70 SERIES ELECTRODES. ALL WELDMENTS TO BE FREE OF WELD SPLATTER, SLAG, AND ARCING.
7. REMOVE ALL SHARP EDGES & BURRS.
8. PROVIDE NEOPRENE OR RUBBER ISOLATION BARRIERS BETWEEN ALL DISSIMILAR METALS.

STATE OF NEW HAMPSHIRE
BRENT QUALLS
No. 16740
LICENSED PROFESSIONAL ENGINEER
09/24/2024

AGI
Architectural Branding - Atlanta
218 River Drive
Cartersville, GA 30120
800-877-7868
www.AGI.net

PROJECT: iONNA CANOPY CONCEPT
...
ARCHITECT: ...

DRAWN BY: BJW
JOB #: ...
DATE: 9/19/24

REV #	DATE	COMMENTS
1	...	...

Approved By _____
Date Approved _____

SHEET NUMBER
1 of 5
SHEET NUMBER
C01

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

DESIGNED IN
ACCORDANCE WITH
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ASCE 7-16

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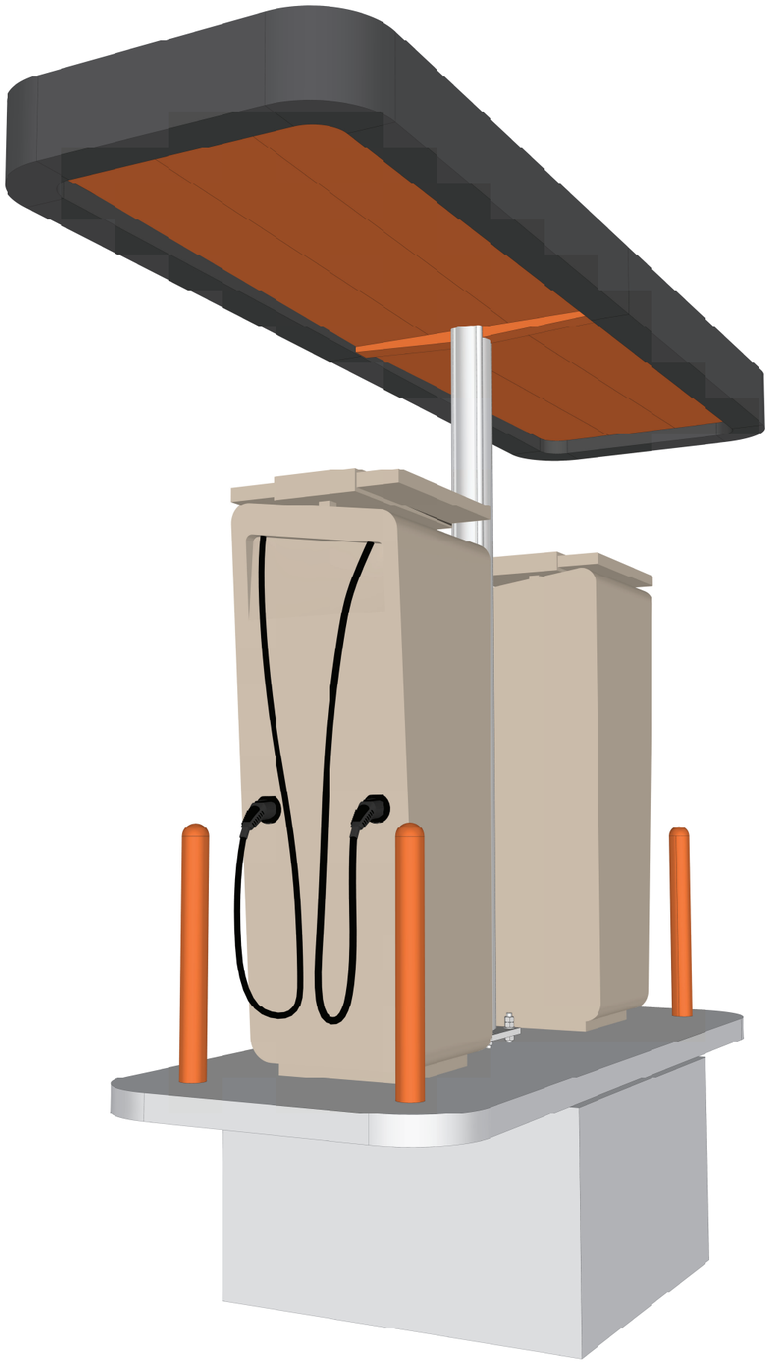
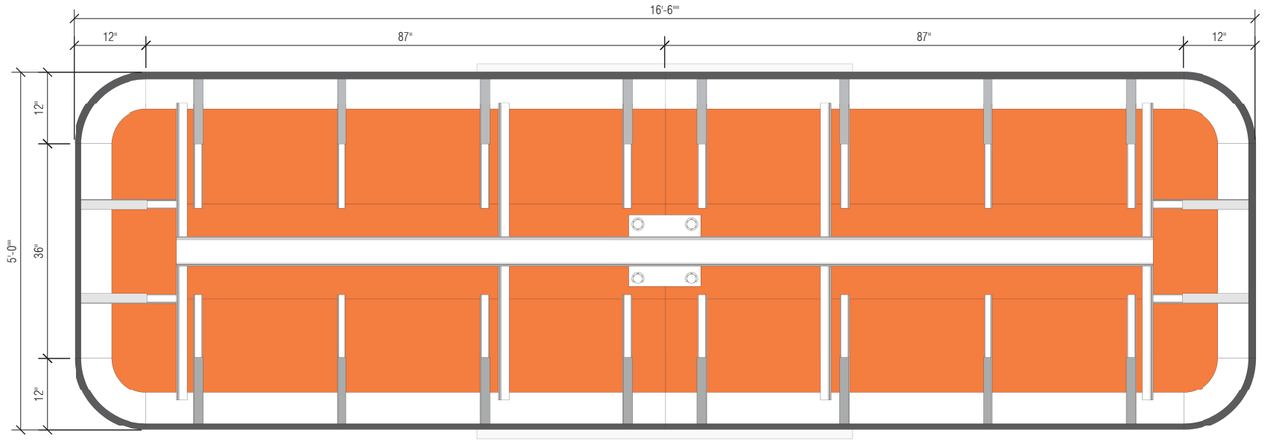
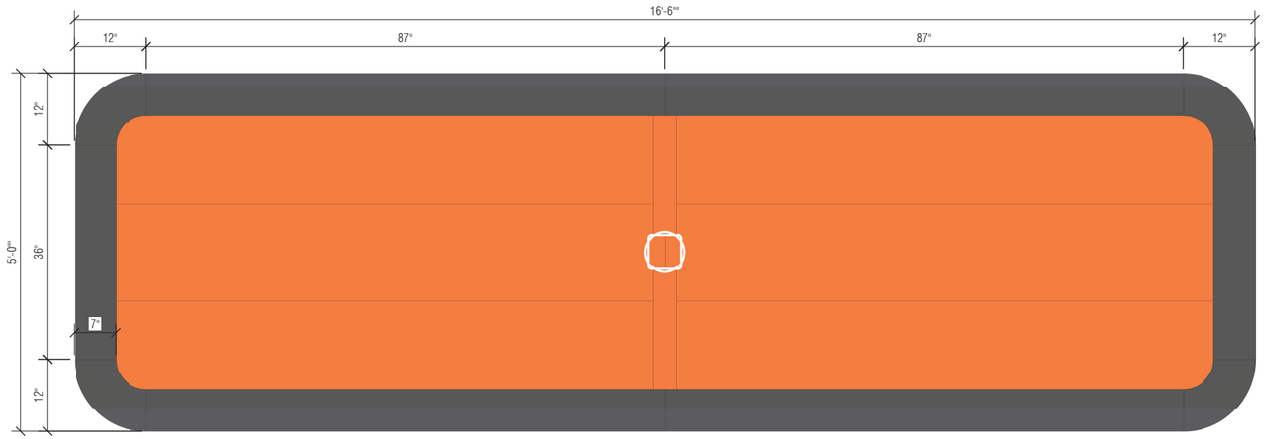


1 / P01 PERSPECTIVE VEIW
REF: NTS



2 / P01 TOP VIEW
REF: 1" = 1'-0"



3 / P01 REFLECTED CEILING PLAN
REF: 1" = 1'-0"

STATE OF NEW HAMPSHIRE
STEVEN J. QUALLS
No.16740
LICENSED PROFESSIONAL ENGINEER
09/24/2024

AGI
Architectural Branding - Atlanta
218 River Drive
Cartersville, GA 30120
800-877-7868
www.AGI.net

PROJECT
iONNA CANOPY CONCEPT

...

ARCHITECT
...

DRAWN BY
BJW

JOB #
...

DATE
9/19/24

REV #	DATE	COMMENTS
1	...	...

Approved By _____

Date Approved _____

SHEET NUMBER
2 of 5
SHEET NUMBER
P01

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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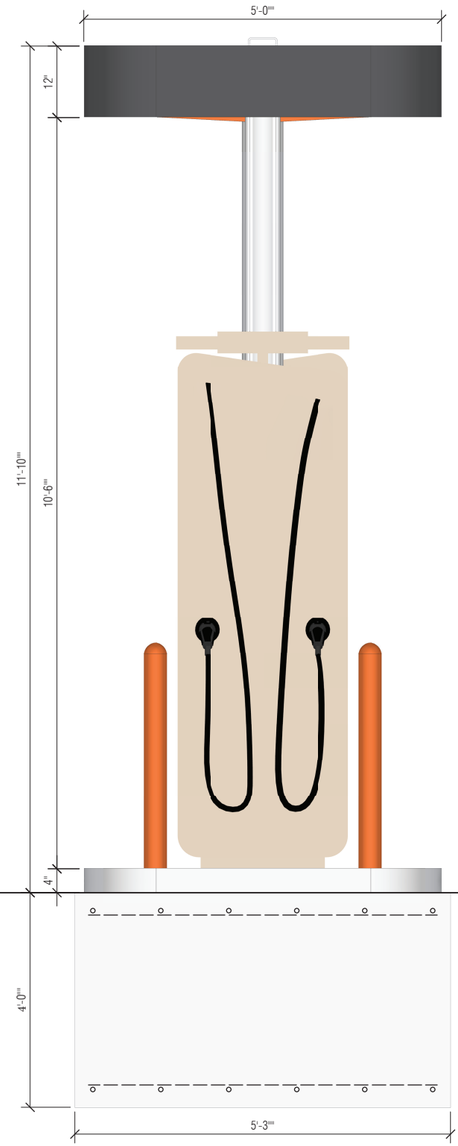

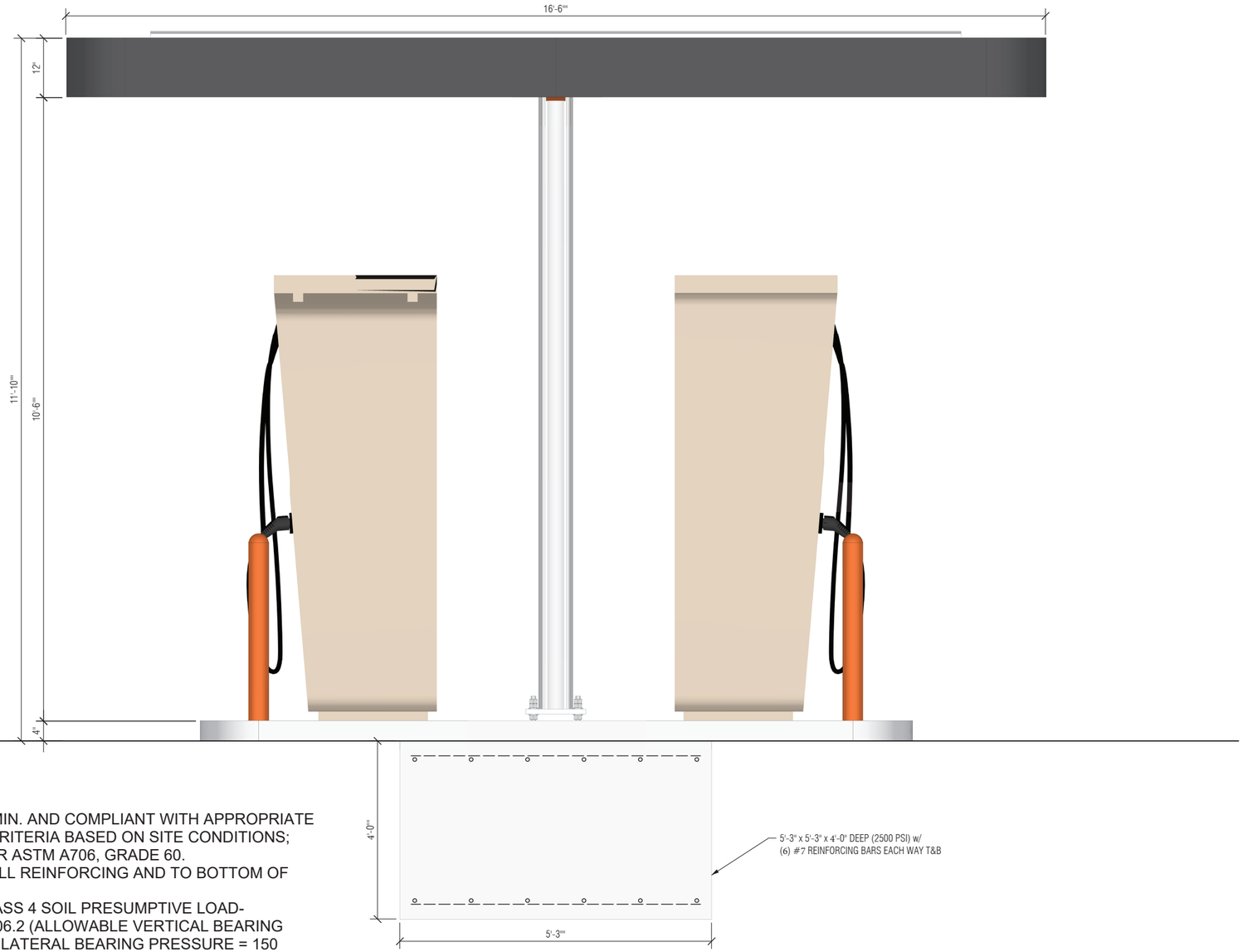

FOUNDATION NOTES:

1. MATERIALS: CONCRETE – 2,500 PSI MIN. AND COMPLIANT WITH APPROPRIATE ACI 318 EXPOSURE CLASS DESIGN CRITERIA BASED ON SITE CONDITIONS; REINFORCING STEEL – ASTM A615 OR ASTM A706, GRADE 60.
2. PROVIDE 3" MIN. CLEAR COVER TO ALL REINFORCING AND TO BOTTOM OF ANCHOR BOLTS.
3. FOUNDATION DESIGN BASED ON CLASS 4 SOIL PRESUMPTIVE LOAD-BEARING VALUES PER IBC TABLE 1806.2 (ALLOWABLE VERTICAL BEARING PRESSURE = 2,000 PSF; ALLOWABLE LATERAL BEARING PRESSURE = 150 PSF/FT). ACTUAL SOIL CONDITIONS TO BE VERIFIED IN FIELD.

STATE OF NEW HAMPSHIRE
PAUL QUALLS
No.16740
PROFESSIONAL ENGINEER
09/24/2024

1 / E01 END VIEW
REF: 1" = 1'-0"

2 / E01 SIDE VIEW
REF: 1" = 1'-0"

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SHEET NUMBER
3 of 5
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E01

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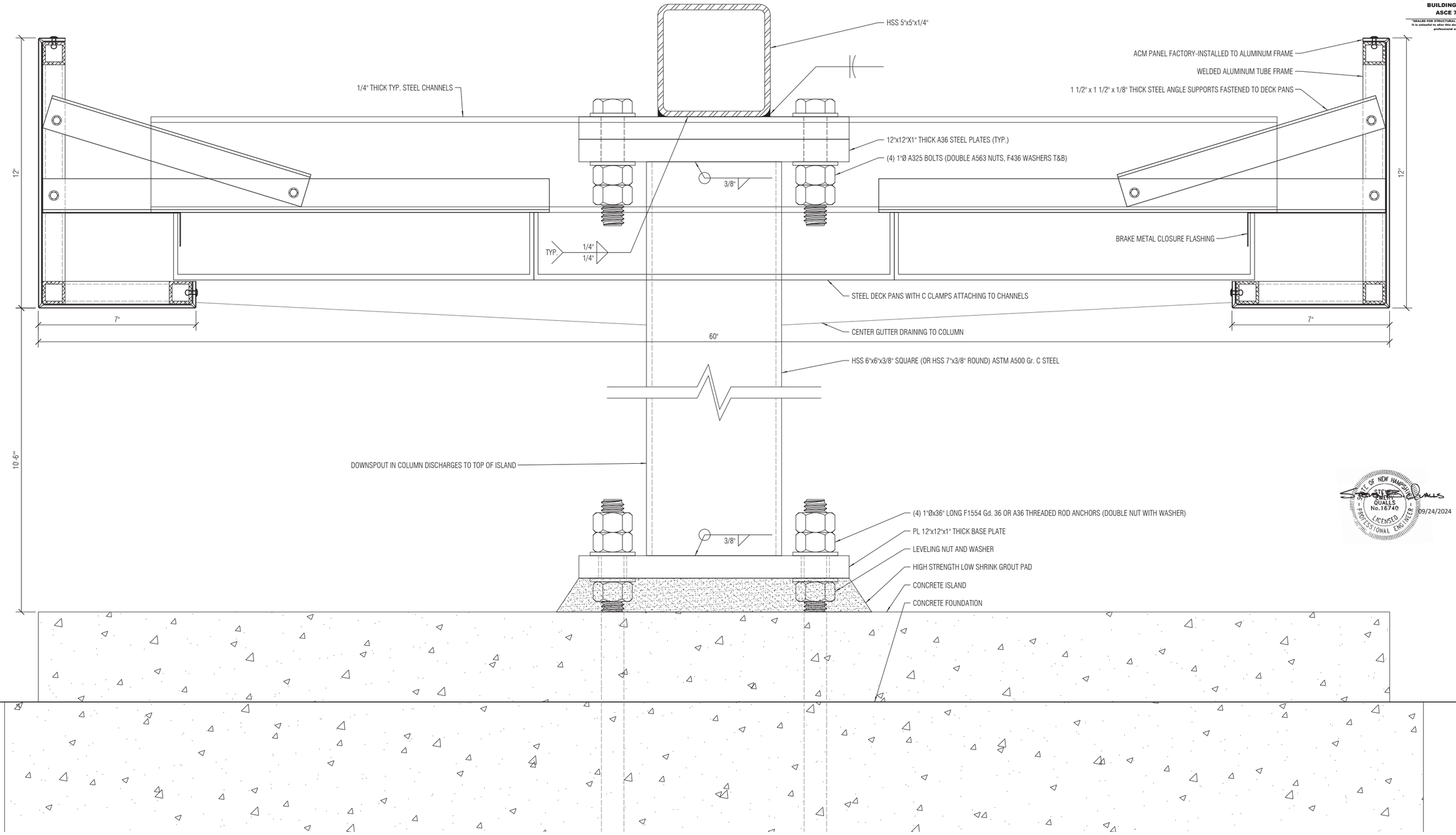

1 / S01 CANOPY SECTION
REF: 6" = 1'-0"

STATE OF NEW HAMPSHIRE
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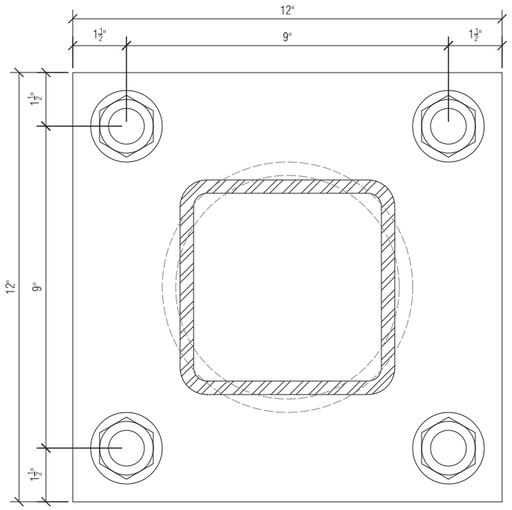
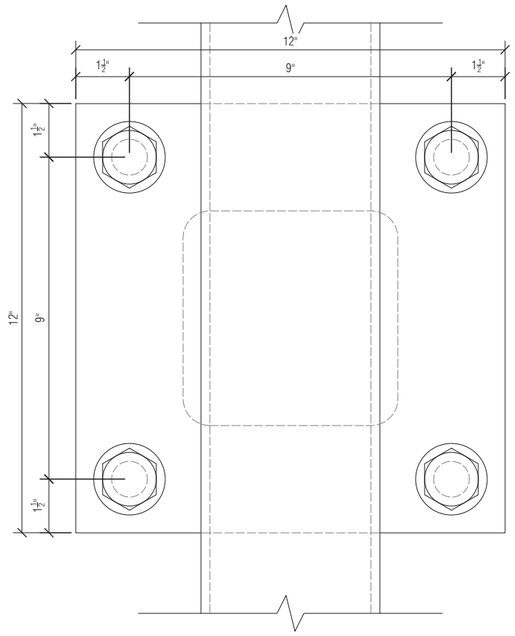
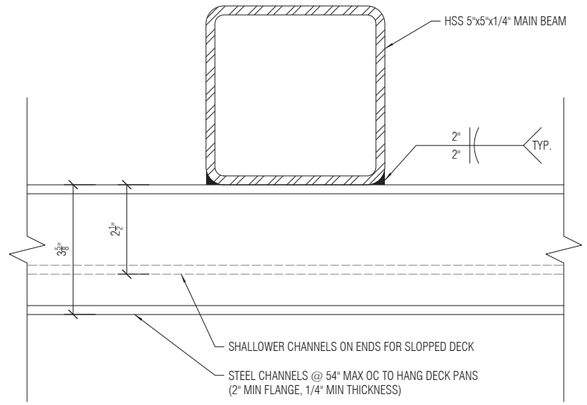
S01



1 / D01 COLUMN BASE DETAIL
REF: 6" = 1'-0"



2 / D01 MAIN BEAM TO COLUMN CONNECTION DETAIL
REF: 6" = 1'-0"



3 / D01 CHANNEL TO MAIN BEAM CONNECTION DETAIL
REF: 6" = 1'-0"

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CHERY QUALLS
No.16740
LICENSED PROFESSIONAL ENGINEER
09/24/2024

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REV #	DATE	COMMENTS
1	...	...

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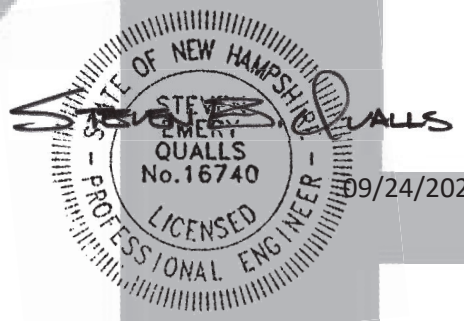
SHEET NUMBER
5 of 5
SHEET NUMBER
D01

iONNA Single Pole 4-Plug Canopy
1600 Woodbury Avenue
Portsmouth, NH 03801

RBA Job No. 24 45149

CALCULATIONS FOR:
Standalone Canopy

Designed in accordance with:
2021 International Building Code / New Hampshire Building Code
ASCE 7-16
Wind Velocity = 125 mph
Risk Category II



09/24/2024

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 DONNA CANOPY SINGLE POLE 4-PLUG	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 1 OF 16
FOR ACI BY JRH		JOB NO. 24 45149
		DATE 9/19/24

CANOPY LOADS:

2021 INTERNATIONAL BUILDING CODE ; ASCE 7-16

DEAD LOADS: DECK PANS + FASCIA PANELS : 5 PSF MAX.

STEEL CHANNELS: 9 PLF MAX

HSS 5"x5"x1/4" : 15.62 PLF

COLUMN: 27.48 PLF MAX

SNOW LOAD:

P_g = 50 PSF

$p_f = 0.7 C_e C_t I_s p_g = (0.7)(1.1)(1.2)(1.0)(50 PSF) = 46.2$ PSF

$C_e \leq 1.1$

$C_t \leq 1.2$

$I_s = 1.0$

$\gamma = 0.13 p_g + 14 = (0.13)(50 PSF) + 14 = 20.5$ PCF

46.2 PSF / 20.5 PCF = 2.25' EXCEEDS 1'-0" CANOPY HEIGHT :: NO DRIFT LOADING

$p_m = 20 I_s = (20)(1.0) = 20$ PSF < 46.2 PSF $\Rightarrow$ USE p_f

WIND LOAD:

$V \leq 125$ MPH

$q_z = 0.00256 K_z K_{zt} K_d V^2 = 28.90$ PSF

$K_z = 0.85$ (EXP C, $h \leq 11'-10"$)

$K_{zt} = 1.0$

$K_d = 0.85$

VERTICAL WIND:

$p = q_h G C_N = \pm 29.48$ PSF (ULT.)

$G = 0.85$

$C_N = \pm 1.2$ (MAX VALUES)

SERVICE LOADS:

$D + S = 5$ PSF $+ 46.2$ PSF $= 51.2$ PSF

$D + 0.6W = 5$ PSF $+ (0.6)(29.48$ PSF$) = 22.7$ PSF

$D + 0.75S + 0.75(0.6W) = 5$ PSF $+ (0.75)(46.2$ PSF$) + (0.75)(0.6)(29.48$ PSF$) = 53.0$ PSF (CONTROLS)

HORIZONTAL WIND LOADS: SEE SHEET 2

CODES:

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

SIGN DIMENSIONS:

Length, B = **5.00** ft. Height, s = **1.00** ft. OAH Above Grade, h = **11.83** ft.

Depth, t = **16.50** ft. A_{sign} = **5.0** 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 = **125** Basic Wind Speed, mph, ASCE 7-16, Figure 26.5-1B

q_h = 28.86 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 = 5.00 Length of Sign/Depth of Sign

s/h = 0.08 Depth of Sign/Overall Height

C_f = 1.85 Force Coefficient, ASCE 7-16, Figure 29.3-1

F/A = 45.39 lb/ft^2

CASE A: resultant acts normal to sign face through the geometric center

CASE B: resultant acts normal to sign face at a distance from the geometric center toward the windward edge equal to 1.00'

CASE C loading applies

LRFD Loading:

Use wind pressure = 45.39 lb/ft^2 for 1.0*W from ASCE 7-16, Section 2.3.1

ASD Loading:

Use wind pressure = 27.23 lb/ft^2 for 0.6*W from ASCE 7-16, Section 2.4.1

SUBJECT TONNA CANOPY
SINGLE POLE 4-PLUG
FOR AGI BY JRH

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

SHEET NO. 3 OF 16
JOB NO. 24 45149
DATE 9/19/24

CANOPY CHANNELS:

@ 54" MAX O.C.

$W \leq (53.0\ PSF)(54"/12"/1') + 9\ PLF = 248\ PLF$

$L_{CANT} \leq 5'-0"/2 = 2'-6"$

$M \leq \frac{(248\ PLF)(2'-6")^2}{2} = 775\ \#'$

@ MIN. 3" DEEP x 2" WIDE x 1/4": $Z_x = 1.765\ IN^3$

$M_{ALL} \geq \frac{(36000\ PSI)(1.765\ IN^3)}{(12"/1')(1.67)} = 3170\ \#' > 775\ \#'$ OK

$P@\ BEAM = \frac{(248\ PLF)(5'-0")}{2} = 620\ \#\ EA.\ SIDE$

@ 2" LONG FLARE-BEVEL TO BEAM:

$\frac{R_{nw}}{\Omega} = \frac{(0.60)(70000\ PSI)(5/8)(1/4")(2")}{2.0} = 6562\ \# > 620\ \#$ OK

MAIN BEAM:

$W \leq (53\ PSF)(5'-0") + \frac{(9\ PLF)(5'-0")(4)}{16'-6"} + 15.62\ PLF = 292\ PLF$

$L_{CANT} \leq 16'-6"/2 = 8'-3"$

$M \leq \frac{(292\ PLF)(8'-3")^2}{2} = 9937\ \#'$

$M_{ALL} \geq 17500\ \#' > 9937\ \#'$ OK

$W_D = (5\ PSF)(5'-0") + \frac{(9\ PLF)(5'-0")(4)}{16'-6"} + 15.62\ PLF = 51.6\ PLF$

DEFLECTION:
$I = 16.0\ IN^4$

$\delta_{DEAD} \simeq \frac{(51.6\ PLF/12"/1')(99")^4}{(8)(29{,}000{,}000\ PSI)(16.0\ IN^4)} = 0.111"$

$\sim L/1780$ OK

$\delta_{TOTAL} \simeq \frac{(292\ PLF/12"/1')(99")^4}{(8)(29{,}000{,}000\ PSI)(16.0\ IN^4)} = 0.630"$

$\sim L/314 < L/240$ OK

WELD @ R: $S_W = (12")^2/3 * 5/8 * 1/4" = 7.5\ IN^3$

$M_{ALL} \geq \frac{(0.60)(70000\ PSI)(7.5\ IN^3)}{(12"/1')(2.0)} = 13125\ \#' > 9937\ \#'$ OK

MATCH PLATE:

$M \leq 9937\#'$

$P \leq (292\ PLF)(16'-6") = 4818\#$

$T_b \leq \frac{(9937\#')(12"/1')}{(9")(2\ BOLTS)} = 6625\#/BOLT$

@ 1" A325:

$\frac{R_n}{\Omega} \geq \frac{\mu D_u h_f T_b n_s}{1.50} = 7684\# > 6625\#$ OK

$\mu \geq 0.20$

$D_u = 1.13$

$h_f = 1.0$

$T_b \geq 51000\#$

$n_s = 1.0$

$M_{PL} \leq (2)(6625\#)(2.5") = 33125\#"$

$t_{MIN} = \sqrt{\frac{(4)(33125\#")}{(36000\ PSI/1.67)(12")}} = 0.716" < 1"$ OK

COLUMN:

CONSIDER ONLY 1 CANOPY SIDE LOADED FOR MOMENT (CONSERVATIVE)

$M_{TOP} \leq 9937\#'$

$P_{D,TOP} \leq 4818\#$

$P_{L,TOP} \leq (16'-6")(1'-0")(27.27\ PSF) = 450\#$

$M_{TOTAL} \leq 9937\#' + (450\#)(11'-4") = 15037\#'$

$P_{TOTAL} \leq 4818\# + (27.48\ PLF)(11') = 5120\#$

$M_{ALL} \geq 32400\#' > 15037\#'$ OK

$P_{ALL} \geq 78600\# > 5120\#$ OK

$\frac{5120\#}{78600\#} + \frac{8}{9}\left(\frac{15037\#'}{32400\#'}\right) = 0.478 < 1.0$ OK

WELD: $S_W \geq \frac{(\pi)(7" + 3/8")^2}{4}(0.707)(3/8") = 11.32\ IN^3$

$M_{ALL} \geq \frac{(0.60)(70000\ PSI)(11.32\ IN^3)}{(12"/1')(2.0)} = 19820\#' > 15037\#'$ OK (TOP & BOTTOM)

BASE PLATE:

$T_b \leq \frac{(15037\#')(12"/1')}{(9")(2\ ANCHORS)} = 10025\#$

$M_{PL} \leq (2)(10025\#)(2.1") = 42104\#"$

$t_{MIN} = \sqrt{\frac{(4)(42104\#")}{(36000\ PSI/1.67)(12")}} = 0.807" < 1"$ OK

SUBJECT IONNA CANOPY SINGLE POLE 4-PLUG	RBA STRUCTURAL ENGINEERING, LLC A Subsidiary of Ross Bryan Associates, Inc.	SHEET NO. 5 OF 16
FOR AGI BY JRH		JOB NO. 24 45149
		DATE 9/19/24

UPLIFT CHECK

WIND: $(0.6)(29.48\text{PSF})(16'-6")(5'-0") = 1460^{\#}$

DEAD: $(0.6)\left[(5\text{PSF})(16'-6")(5'-0") + (4)(9\text{PLF})(5'-0") + (16'-6")(15.62\text{PLF}) + (11')(27.48\text{PLF})\right]$
SUPERSTRUCTURE
$= 691^{\#}$

FOUNDATION: $(0.6)(5'-3")(5'-3")(3'-0")(150\text{PCF}) = 7441^{\#}$

$7441^{\#} + 691^{\#} = 8132^{\#} > 1460^{\#}$ OK

Project	**iONNA Canopy**		**ROSS BRYAN ASSOCIATES, INC.**	**Sheet No.**	**6**	of	**16**
Model	**Single Pole 4-Plug**		**CONSULTING ENGINEERS**	**Job No.**	**24 45149**		
By	**JRH**		**NASHVILLE, TN**	**Date**	**9/19/24**		

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

p_a = **150** psf/ft

q_a = **2000** psf

Total Service Wind Load: P_w = 0.45 kips

Total Service Moment at Base: M = 15.04 k-ft

Rectangular Spread Foundation:

Length = **5.25** ft. Width = **5.25** ft. Depth = **4** ft.

Dead Load, P_d =	16.54	kips				
Overturning Moment, M_o =	17.06	k-ft				
Resistive Moment, M_r =	43.41	k-ft	M_r/M_o =	2.54	> 1.5	**O.K.**
Eccentricity, e = M/P_d =	0.91	ft.	kern, k =	0.88	ft.	**e > k**
Bearing Pressure, q_{max} =	1223.97	psf	<	q_a = 2000	psf	**O.K.**
Moment in Footing M_u =	23.38	k-ft	No Reinforcing Required - Use Minimum Steel			
Use **6** No.	**7**	Bars Top and Bottom - Length.				
Use **6** No.	**7**	Bars Top and bottom - Width.				
Moment Capacity, ΦM_n =	710.37	k-ft	>	M_u = 23.38	k-ft	**O.K.**
Check Shear, V_u =	N/A	*See Note Below				
Shear Capacity, $\Phi * V_u$ =	40.11	kips/ft				

Company:	Ross Bryan Associates	Page:	7
Address:		Specifier:	Jacob R. Holloway
Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

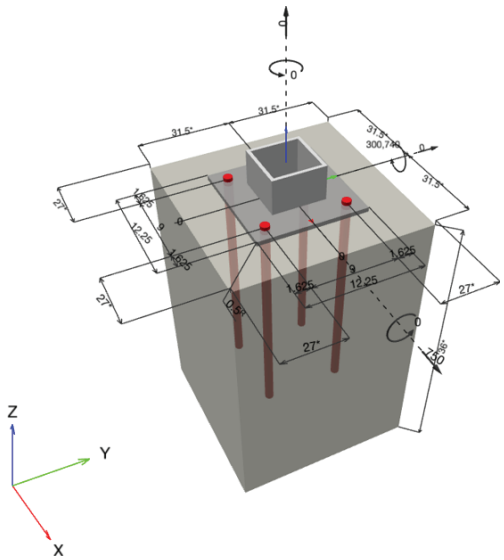
Specifier's comments:

1 Input data

Anchor type and diameter:	**Hex Head ASTM F 1554 GR. 36 1**
Item number:	not available
Specification text:	Hilti Hex Head headed stud anchor with 25 in embedment, 1, Steel galvanized, installation per instruction for use
Effective embedment depth:	h_{ef} = 25.000 in.
Material:	ASTM F 1554
Evaluation Service Report:	Hilti Technical Data
Issued I Valid:	- | -
Proof:	Design Method ACI 318-19 / CIP
Stand-off installation:	e_b = 0.000 in. (no stand-off); t = 0.500 in.
Anchor plate[R] :	l_x x l_y x t = 12.000 in. x 12.000 in. x 1.000 in.; (Recommended plate thickness: not calculated)
Profile:	Square HSS (AISC), HSS6X6X.375; (L x W x T) = 6.000 in. x 6.000 in. x 0.375 in.
Base material:	uncracked concrete, 2500, f_c' = 2,500 psi; h = 36.000 in.
Reinforcement:	tension: not present, shear: not present; edge reinforcement: none or < No. 4 bar

[R] - The anchor calculation is based on a rigid anchor plate assumption.

Geometry [in.] & Loading [lb, in.lb]

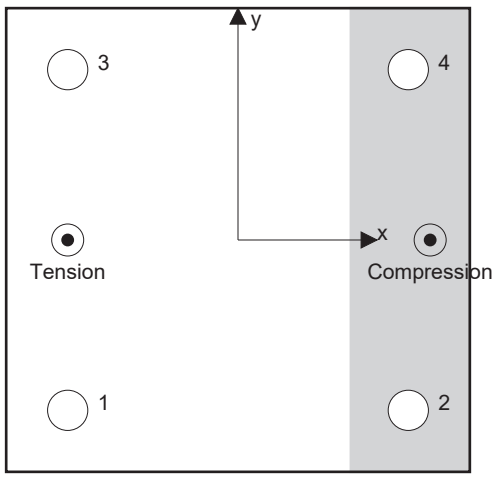


Company:	Ross Bryan Associates	Page:	8
Address:		Specifier:	Jacob R. Holloway
Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

1.1 Design results

Case	Description	Forces [lb] / Moments [in.lb]	Seismic	Max. Util. Anchor [%]
1	Combination 1	N = 0; V_x = 750; V_y = 0; M_x = 0; M_y = 300,740; M_z = 0;	no	69

2 Load case/Resulting anchor forces



Anchor reactions [lb]

Tension force: (+Tension, -Compression)

Anchor	Tension force	Shear force	Shear force x	Shear force y
1	15,700	188	188	0
2	0	188	188	0
3	15,700	188	188	0
4	0	188	188	0

Max. concrete compressive strain:	0.37 [‰]
Max. concrete compressive stress:	1,631 [psi]
Resulting tension force in (x/y)=(-4.500/0.000):	31,400 [lb]
Resulting compression force in (x/y)=(5.078/0.000):	31,400 [lb]

Anchor forces are calculated based on the assumption of a rigid anchor plate.

3 Tension load

	Load N_{ua} [lb]	Capacity ϕ N_n [lb]	Utilization $\beta_N = N_{ua}/\phi$ N_n	Status
Steel Strength*	15,700	26,361	60	OK
Pullout Strength*	15,700	22,795	69	OK
Concrete Breakout Failure**	31,400	98,994	32	OK
Concrete Side-Face Blowout, direction **	N/A	N/A	N/A	N/A

* highest loaded anchor **anchor group (anchors in tension)

Company:	Ross Bryan Associates	Page:	9
Address:		Specifier:	Jacob R. Holloway
Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

3.1 Steel Strength

$N_{sa} = A_{se,N} f_{uta}$ ACI 318-19 Eq. (17.6.1.2)
$\phi N_{sa} \geq N_{ua}$ ACI 318-19 Table 17.5.2

Variables

$A_{se,N}$ [in.^{2}]	f_{uta} [psi]
0.61	58,000

Calculations

N_{sa} [lb]
35,148

Results

N_{sa} [lb]	ϕ_{steel}	ϕN_{sa} [lb]	N_{ua} [lb]
35,148	0.750	26,361	15,700

3.2 Pullout Strength

$N_{pN} = \psi_{c,p} N_p$ ACI 318-19 Eq. (17.6.3.1)
$N_p = 8 A_{brg} f'_c$ ACI 318-19 Eq. (17.6.3.2.2a)
$\phi N_{pN} \geq N_{ua}$ ACI 318-19 Table 17.5.2

Variables

$\psi_{c,p}$	A_{brg} [in.^{2}]	λ_a	f'_c [psi]
1.400	1.16	1.000	2,500

Calculations

N_p [lb]
23,260

Results

N_{pn} [lb]	$\phi_{concrete}$	ϕN_{pn} [lb]	N_{ua} [lb]
32,564	0.700	22,795	15,700

Company:	Ross Bryan Associates	Page:	10
Address:		Specifier:	Jacob R. Holloway
Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

3.3 Concrete Breakout Failure

$N_{cbg} = \left(\frac{A_{Nc}}{A_{Nc0}}\right) \psi_{ec,N}\ \psi_{ed,N}\ \psi_{c,N}\ \psi_{cp,N}\ N_b$ — ACI 318-19 Eq. (17.6.2.1b)

$\phi\ N_{cbg} \geq N_{ua}$ — ACI 318-19 Table 17.5.2

A_{Nc} see ACI 318-19, Section 17.6.2.1, Fig. R 17.6.2.1(b)

$A_{Nc0} = 9\ h_{ef}^2$ — ACI 318-19 Eq. (17.6.2.1.4)

$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2\ e'_N}{3\ h_{ef}}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.6.2.3.1)

$\psi_{ed,N} = 0.7 + 0.3\left(\frac{c_{a,min}}{1.5h_{ef}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.6.2.4.1b)

$\psi_{cp,N} = \text{MAX}\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5h_{ef}}{c_{ac}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.6.2.6.1b)

$N_b = 16\ \lambda_a\ \sqrt{f'_c}\ h_{ef}^{5/3}$ — ACI 318-19 Eq. (17.6.2.2.3)

Variables

h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]	$\psi_{c,N}$
24.000	0.000	0.000	27.000	1.250

c_{ac} [in.]	k_c	λ_a	f'_c [psi]
-	16	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
3,969.00	5,184.00	1.000	1.000	0.925	1.000	159,750

Results

N_{cbg} [lb]	$\phi_{concrete}$	$\phi\ N_{cbg}$ [lb]	N_{ua} [lb]
141,420	0.700	98,994	31,400

Company:	Ross Bryan Associates	Page:	11
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Fastening point:			

4 Shear load

	Load V_{ua} [lb]	Capacity ϕ V_n [lb]	Utilization $\beta_V = V_{ua}/\phi$ V_n	Status
Steel Strength*	188	13,708	2	OK
Steel failure (with lever arm)*	N/A	N/A	N/A	N/A
Pryout Strength**	750	235,582	1	OK
Concrete edge failure in direction x+**	750	41,967	2	OK

* highest loaded anchor **anchor group (relevant anchors)

4.1 Steel Strength

$V_{sa} = 0.6\ A_{se,V}\ f_{uta}$ ACI 318-19 Eq. (17.7.1.2b)
$\phi\ V_{steel} \geq V_{ua}$ ACI 318-19 Table 17.5.2

Variables

$A_{se,V}$ [in.^{2}]	f_{uta} [psi]
0.61	58,000

Calculations

V_{sa} [lb]
21,089

Results

V_{sa} [lb]	ϕ_{steel}	$\phi\ V_{sa}$ [lb]	V_{ua} [lb]
21,089	0.650	13,708	188

Company:	Ross Bryan Associates	Page:	12
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Fastening point:			

4.2 Pryout Strength

$V_{cpg} = k_{cp} \left[\left(\frac{A_{Nc}}{A_{Nc0}} \right) \psi_{ec,N} \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b \right]$ ACI 318-19 Eq. (17.7.3.1b)

$\phi V_{cpg} \geq V_{ua}$ ACI 318-19 Table 17.5.2

A_{Nc} see ACI 318-19, Section 17.6.2.1, Fig. R 17.6.2.1(b)

$A_{Nc0} = 9 h_{ef}^2$ ACI 318-19 Eq. (17.6.2.1.4)

$\psi_{ec,N} = \left(\frac{1}{1 + \frac{2 e'_N}{3 h_{ef}}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.3.1)

$\psi_{ed,N} = 0.7 + 0.3 \left(\frac{c_{a,min}}{1.5 h_{ef}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.4.1b)

$\psi_{cp,N} = \text{MAX}\left(\frac{c_{a,min}}{c_{ac}}, \frac{1.5 h_{ef}}{c_{ac}} \right) \leq 1.0$ ACI 318-19 Eq. (17.6.2.6.1b)

$N_b = 16 \lambda_a \sqrt{f'_c} h_{ef}^{5/3}$ ACI 318-19 Eq. (17.6.2.2.3)

Variables

k_{cp}	h_{ef} [in.]	$e_{c1,N}$ [in.]	$e_{c2,N}$ [in.]	$c_{a,min}$ [in.]
2	18.000	0.000	0.000	27.000

$\psi_{c,N}$	c_{ac} [in.]	k_c	λ_a	f'_c [psi]
1.250	∞	16	1.000	2,500

Calculations

A_{Nc} [in.^{2}]	A_{Nc0} [in.^{2}]	$\psi_{ec1,N}$	$\psi_{ec2,N}$	$\psi_{ed,N}$	$\psi_{cp,N}$	N_b [lb]
3,969.00	2,916.00	1.000	1.000	1.000	1.000	98,903

Results

V_{cpg} [lb]	$\phi_{concrete}$	ϕV_{cpg} [lb]	V_{ua} [lb]
336,546	0.700	235,582	750

Company:	Ross Bryan Associates	Page:	13
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4.3 Concrete edge failure in direction x+

$V_{cbg} = \left(\frac{A_{Vc}}{A_{Vc0}}\right) \Psi_{ec,V} \Psi_{ed,V} \Psi_{c,V} \Psi_{h,V} \Psi_{parallel,V} V_b$ — ACI 318-19 Eq. (17.7.2.1b)

$\phi V_{cbg} \geq V_{ua}$ — ACI 318-19 Table 17.5.2

A_{Vc} see ACI 318-19, Section 17.7.2.1, Fig. R 17.7.2.1(b)

$A_{Vc0} = 4.5 c_{a1}^2$ — ACI 318-19 Eq. (17.7.2.1.3)

$\Psi_{ec,V} = \left(\frac{1}{1 + \frac{e'_v}{1.5c_{a1}}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.7.2.3.1)

$\Psi_{ed,V} = 0.7 + 0.3\left(\frac{c_{a2}}{1.5c_{a1}}\right) \leq 1.0$ — ACI 318-19 Eq. (17.7.2.4.1b)

$\Psi_{h,V} = \sqrt{\frac{1.5c_{a1}}{h_a}} \geq 1.0$ — ACI 318-19 Eq. (17.7.2.6.1)

$V_b = 9 \lambda_a \sqrt{f'_c} c_{a1}^{1.5}$ — ACI 318-19 Eq. (17.7.2.2.1b)

Variables

c_{a1} [in.]	c_{a2} [in.]	e_{cV} [in.]	$\Psi_{c,V}$	h_a [in.]
24.000	27.000	0.000	1.400	36.000

l_e [in.]	λ_a	d_a [in.]	f'_c [psi]	$\Psi_{parallel,V}$
8.000	1.000	1.000	2,500	1.000

Calculations

A_{Vc} [in.^{2}]	A_{Vc0} [in.^{2}]	$\Psi_{ec,V}$	$\Psi_{ed,V}$	$\Psi_{h,V}$	V_b [lb]
2,268.00	2,592.00	1.000	0.925	1.000	52,909

Results

V_{cbg} [lb]	$\phi_{concrete}$	ϕV_{cbg} [lb]	V_{ua} [lb]
59,952	0.700	41,967	750

5 Combined tension and shear loads, per ACI 318-19 section 17.8

β_N	β_V	ζ	Utilization $\beta_{N,V}$ [%]	Status
0.689	0.018	5/3	54	OK

$\beta_{NV} = \beta_N^{\zeta} + \beta_V^{\zeta} <= 1$

Company:	Ross Bryan Associates	Page:	14
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Fastening point:			

6 Warnings

- The anchor design methods in PROFIS Engineering require rigid anchor plates per current regulations (AS 5216:2021, ETAG 001/Annex C, EOTA TR029 etc.). This means load re-distribution on the anchors due to elastic deformations of the anchor plate are not considered - the anchor plate is assumed to be sufficiently stiff, in order not to be deformed when subjected to the design loading. PROFIS Engineering calculates the minimum required anchor plate thickness with CBFEM to limit the stress of the anchor plate based on the assumptions explained above. The proof if the rigid anchor plate assumption is valid is not carried out by PROFIS Engineering. Input data and results must be checked for agreement with the existing conditions and for plausibility!
- Condition A applies where the potential concrete failure surfaces are crossed by supplementary reinforcement proportioned to tie the potential concrete failure prism into the structural member. Condition B applies where such supplementary reinforcement is not provided, or where pullout or pryout strength governs.
- For additional information about ACI 318 strength design provisions, please go to https://submittals.us.hilti.com/PROFISAnchorDesignGuide/

Fastening meets the design criteria!

Company:	Ross Bryan Associates	Page:	15
Address:		Specifier:	Jacob R. Holloway
Phone I Fax:	(615) 329-1300 |	E-Mail:	
Design:	iONNA Canopy Single Pole 4-Plug	Date:	9/19/2024
Fastening point:			

7 Installation data

Profile: Square HSS (AISC), HSS6X6X.375; (L x W x T) = 6.000 in. x 6.000 in. x 0.375 in.

Hole diameter in the fixture: d_f = 1.062 in.

Plate thickness (input): 1.000 in.

Recommended plate thickness: not calculated

Anchor type and diameter: Hex Head ASTM F 1554 GR. 36 1

Item number: not available

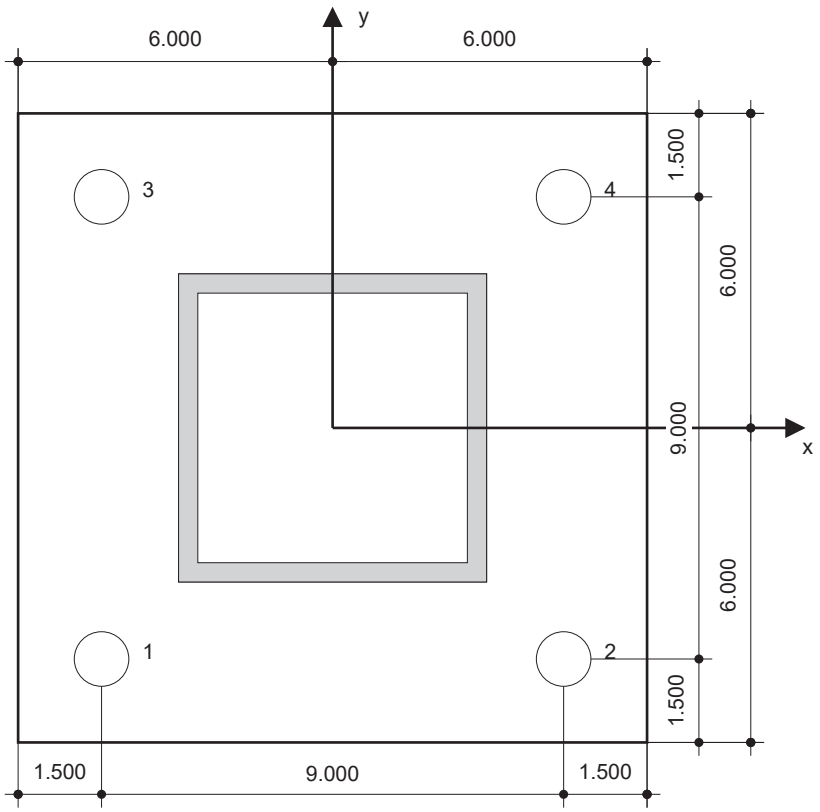
Maximum installation torque: -

Hole diameter in the base material: - in.

Hole depth in the base material: 25.000 in.

Minimum thickness of the base material: 26.172 in.

Hilti Hex Head headed stud anchor with 25 in embedment, 1, Steel galvanized, installation per instruction for use



Coordinates Anchor [in.]

Anchor	x	y	c_{-x}	c_{+x}	c_{-y}	c_{+y}
1	-4.500	-4.500	27.000	36.000	27.000	36.000
2	4.500	-4.500	36.000	27.000	27.000	36.000
3	-4.500	4.500	27.000	36.000	36.000	27.000
4	4.500	4.500	36.000	27.000	36.000	27.000

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Phone I Fax:	(615) 329-1300 |	E-Mail:	
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Fastening point:			

8 Remarks; Your Cooperation Duties

- Any and all information and data contained in the Software concern solely the use of Hilti products and are based on the principles, formulas and security regulations in accordance with Hilti's technical directions and operating, mounting and assembly instructions, etc., that must be strictly complied with by the user. All figures contained therein are average figures, and therefore use-specific tests are to be conducted prior to using the relevant Hilti product. The results of the calculations carried out by means of the Software are based essentially on the data you put in. Therefore, you bear the sole responsibility for the absence of errors, the completeness and the relevance of the data to be put in by you. Moreover, you bear sole responsibility for having the results of the calculation checked and cleared by an expert, particularly with regard to compliance with applicable norms and permits, prior to using them for your specific facility. The Software serves only as an aid to interpret norms and permits without any guarantee as to the absence of errors, the correctness and the relevance of the results or suitability for a specific application.
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iONNA CANOPY CONCEPT

RBA Structural Engineering, LLC
Engineers
1 Vantage Way, Suite B400 Nashville TN 37228

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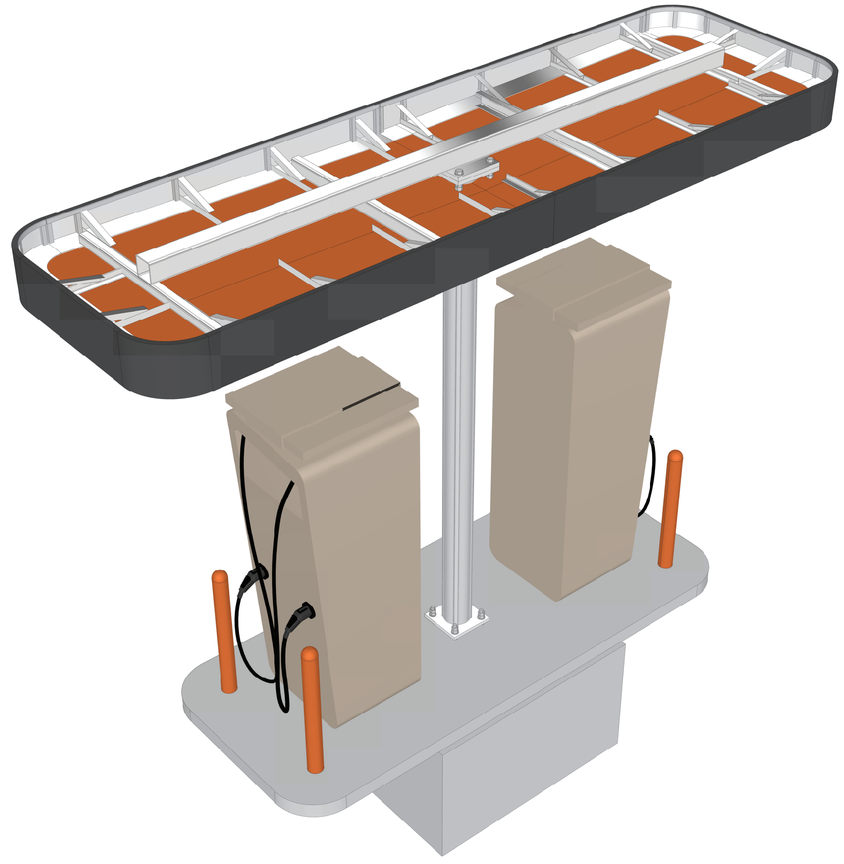
PROJECT MANAGER

DESIGN SPECIALIST
BEN WEIENETH

SHEET INDEX

C01	COVER
P01	PLANS
E01	ELEVATIONS
S01	SECTIONS
D01	DETAILS



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

GENERAL NOTES:

1. MATERIALS: STEEL HSS – ASTM A500 GR. C; STEEL CHANNELS, PLATES, AND ANGLES – ASTM A36.
2. ALL EXPOSED STRUCTURAL STEEL TO BE GALVANIZED.
3. BOLTED CONNECTIONS WITHIN STEEL STRUCTURE TO CONSIST OF ASTM A325 OR ASTM A449 BOLTS, ASTM A563 NUTS, AND ASTM F436 HARDENED WASHERS AT FAYING SURFACES, UNLESS NOTED OTHERWISE. BOLTS TO BE FULLY PRETENSIONED TO 70% MINIMUM TENSILE STRENGTH PER AISC SPECIFICATIONS. VERIFY PRETENSION THROUGH USE OF DIRECT-TENSION INDICATORS OR TWIST-OFF TYPE TENSION CONTROL BOLTS.
4. ANCHOR BOLTS TO CONSIST OF ASTM F1554 GR. 36 OR ASTM A36 THREADED RODS, ASTM A563 NUTS, AND ASTM F436 HARDENED WASHERS AT FAYING SURFACES, UNLESS NOTED OTHERWISE. ALL ANCHOR BOLTS TO BE DOUBLE-NUTTED.
5. ALL EXPOSED HARDWARE TO BE GALVANIZED.
6. ALL STEEL WELDS TO BE COMPLETED PER AWS D1.1 REQUIREMENTS USING E-70 SERIES ELECTRODES. ALL WELDMENTS TO BE FREE OF WELD SPLATTER, SLAG, AND ARCING.
7. REMOVE ALL SHARP EDGES & BURRS.
8. PROVIDE NEOPRENE OR RUBBER ISOLATION BARRIERS BETWEEN ALL DISSIMILAR METALS.

STATE OF NEW HAMPSHIRE
BRENT QUALLS
No. 16740
LICENSED PROFESSIONAL ENGINEER
09/24/2024

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Cartersville, GA 30120
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PROJECT: iONNA CANOPY CONCEPT
...
ARCHITECT: ...

DRAWN BY: BJW
JOB #: ...
DATE: 9/19/24

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1	...	...

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SHEET NUMBER
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C01

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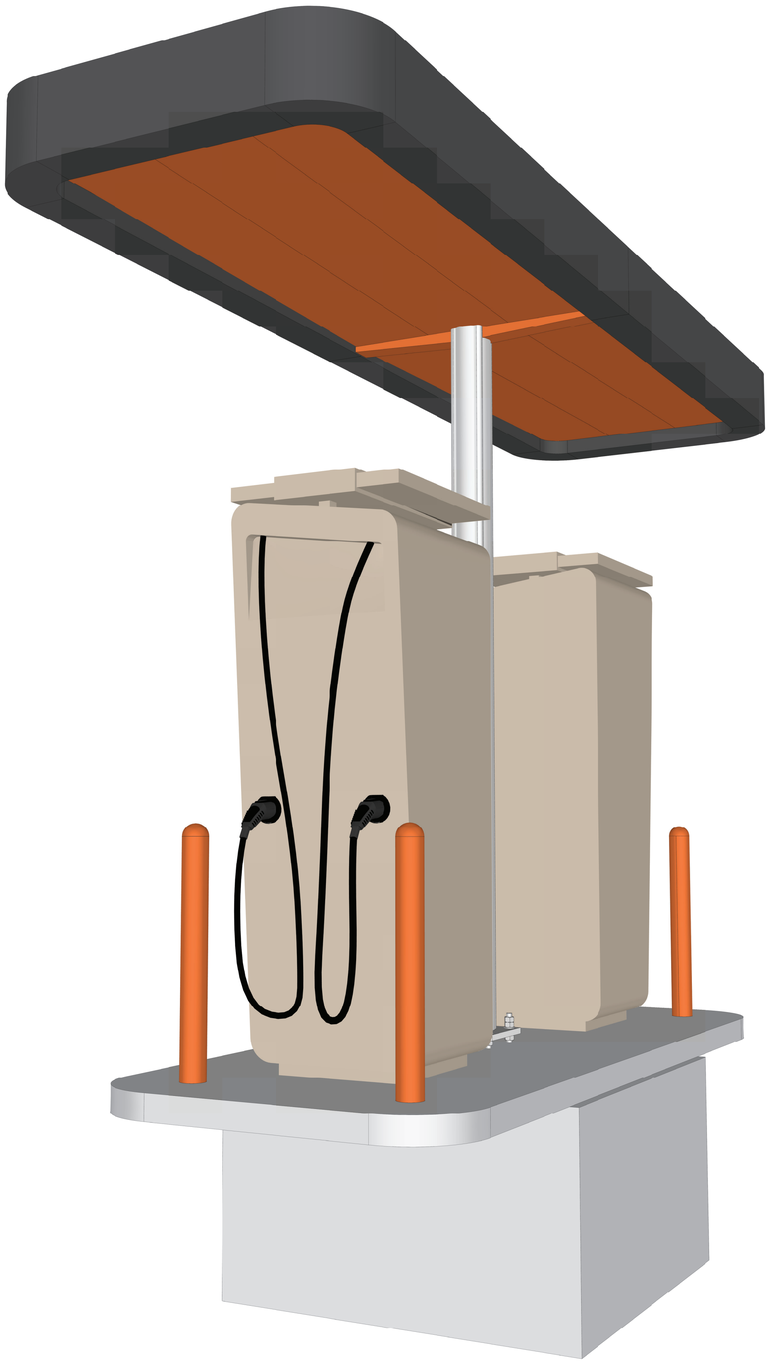
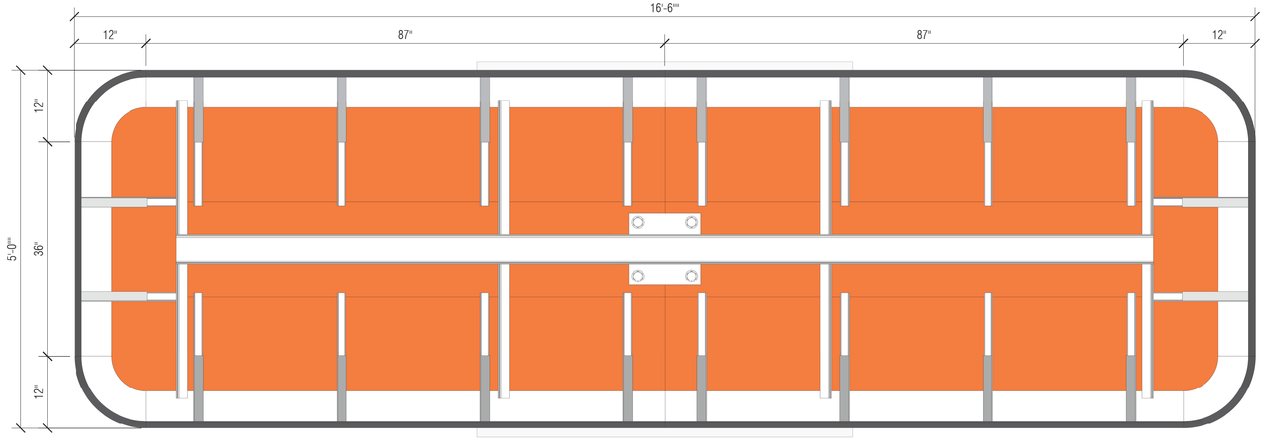
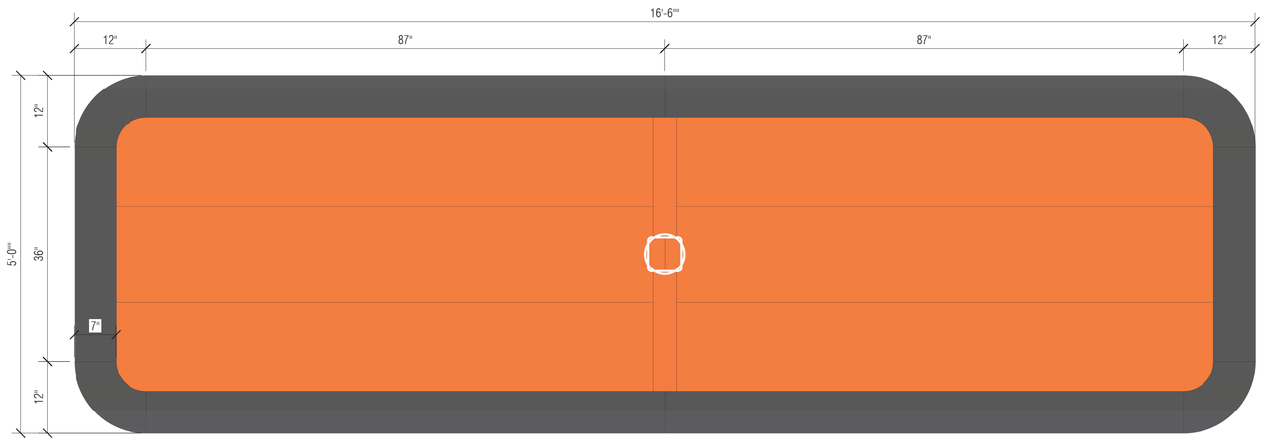


1 / P01 PERSPECTIVE VEIW
REF: NTS



2 / P01 TOP VIEW
REF: 1" = 1'-0"



3 / P01 REFLECTED CEILING PLAN
REF: 1" = 1'-0"

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QUALLS No.16740
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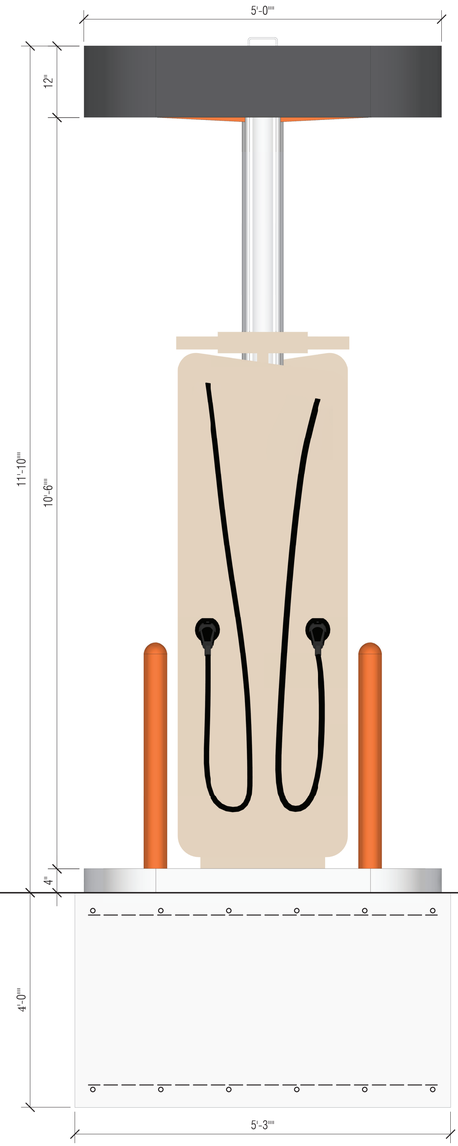

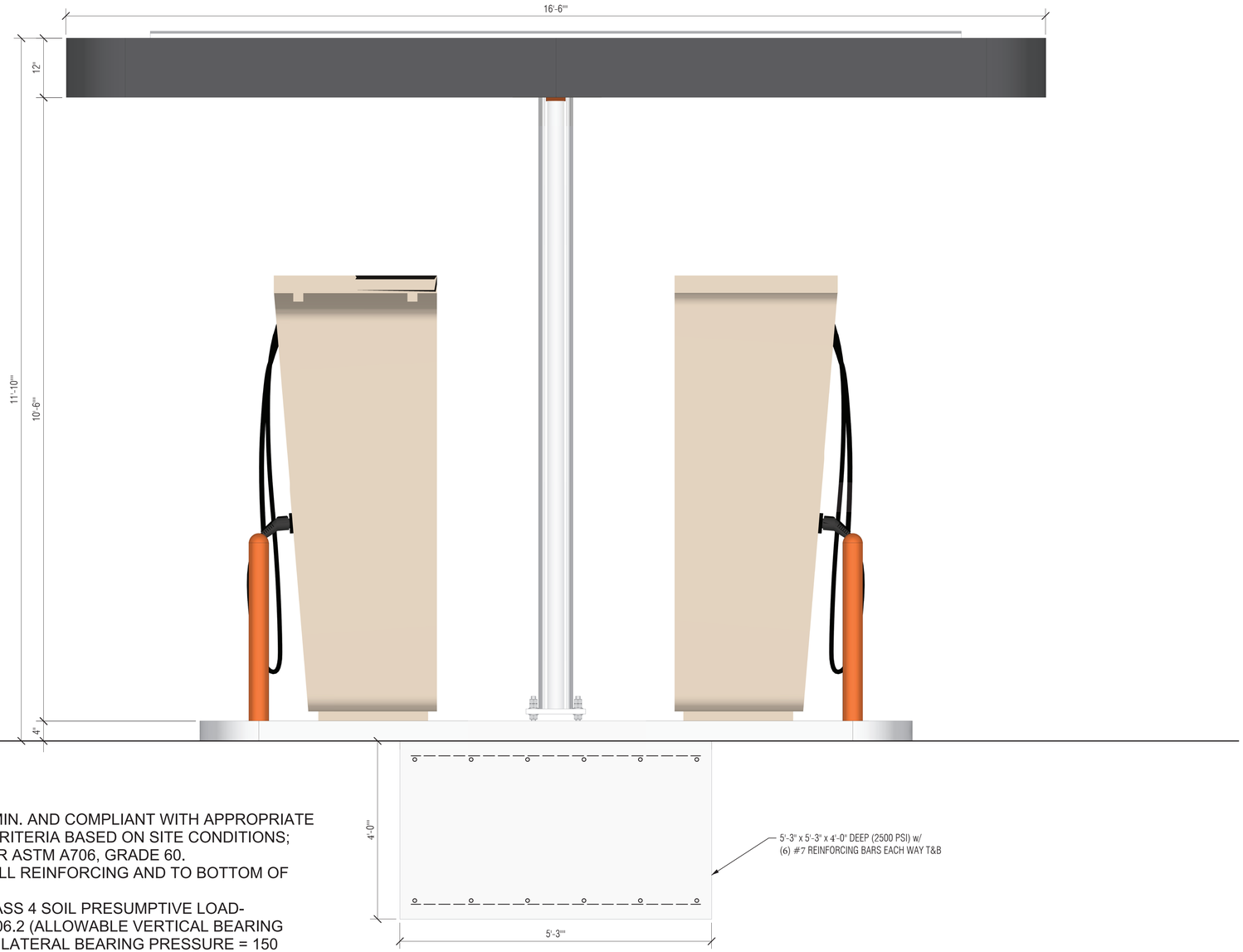

FOUNDATION NOTES:

1. MATERIALS: CONCRETE – 2,500 PSI MIN. AND COMPLIANT WITH APPROPRIATE ACI 318 EXPOSURE CLASS DESIGN CRITERIA BASED ON SITE CONDITIONS; REINFORCING STEEL – ASTM A615 OR ASTM A706, GRADE 60.
2. PROVIDE 3" MIN. CLEAR COVER TO ALL REINFORCING AND TO BOTTOM OF ANCHOR BOLTS.
3. FOUNDATION DESIGN BASED ON CLASS 4 SOIL PRESUMPTIVE LOAD-BEARING VALUES PER IBC TABLE 1806.2 (ALLOWABLE VERTICAL BEARING PRESSURE = 2,000 PSF; ALLOWABLE LATERAL BEARING PRESSURE = 150 PSF/FT). ACTUAL SOIL CONDITIONS TO BE VERIFIED IN FIELD.

STATE OF NEW HAMPSHIRE
PAUL QUALLS
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PROFESSIONAL ENGINEER
09/24/2024

1 / E01 END VIEW
REF: 1" = 1'-0"

2 / E01 SIDE VIEW
REF: 1" = 1'-0"

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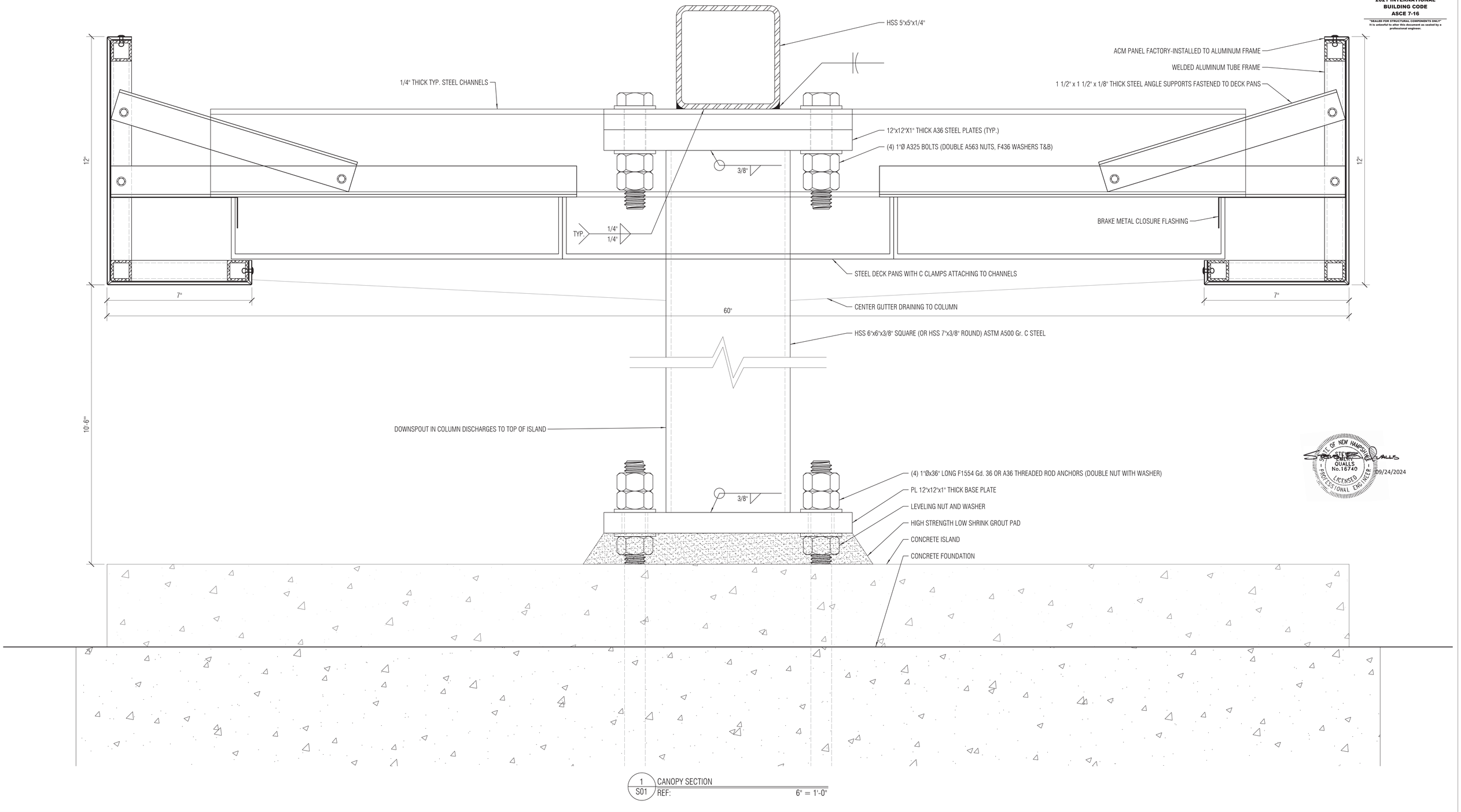

1 / S01 CANOPY SECTION
REF: 6" = 1'-0"

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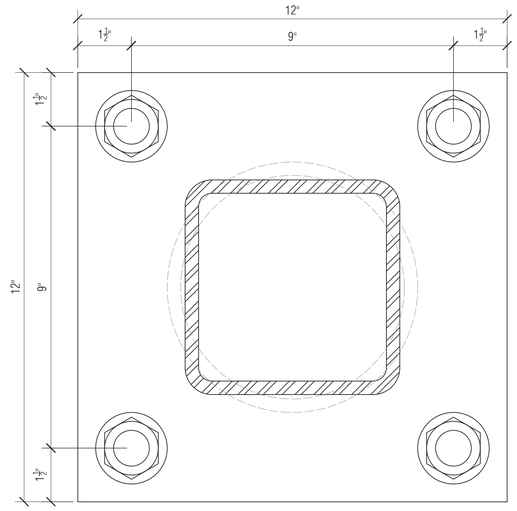
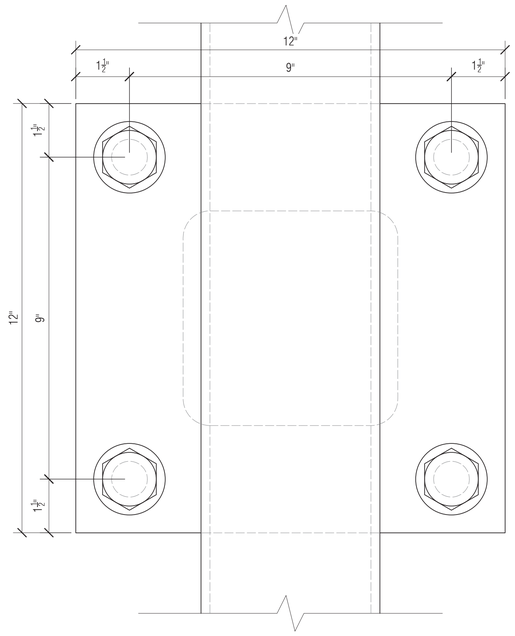
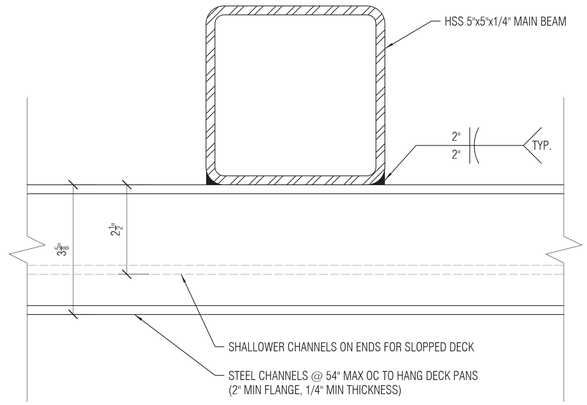


1 / D01 COLUMN BASE DETAIL
REF: 6" = 1'-0"



2 / D01 MAIN BEAM TO COLUMN CONNECTION DETAIL
REF: 6" = 1'-0"



3 / D01 CHANNEL TO MAIN BEAM CONNECTION DETAIL
REF: 6" = 1'-0"

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CHERYL QUALLS
No.16740
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9/24/2024

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5 of 5

SHEET NUMBER
D01

18th November 2024

City of Portsmouth, New Hampshire AGI Ionna EV Charging

For the new EV Charging installation at 1600 Woodbury Ave; the construction of the new electric vehicle (EV) charging site will prioritize the use of sustainable building materials to minimize environmental impact and promote long-term sustainability.

Key strategies include:

Recycled Materials: Wherever possible, the project will incorporate recycled materials, such as reclaimed wood, recycled steel, and glass, reducing the demand for virgin resources and diverting waste from landfills.

Low-Impact Foundations: We will use low-impact foundation methods, such as pervious concrete, which allows rainwater to seep through and helps reduce runoff, supporting stormwater management and promoting groundwater recharge.

Sustainable Landscaping: Native plants and drought-tolerant landscaping will be used around the site, reducing the need for water-intensive irrigation, and supporting local biodiversity.

Energy-Efficient Lighting: The site will incorporate LED lighting for both the charging areas and surrounding spaces. LEDs consume less energy, have a longer lifespan, and provide high-quality illumination, reducing energy consumption significantly.

Smart Energy Management: Advanced energy management systems will be installed to optimize electricity usage, allowing for real-time monitoring of energy demand, and minimizing waste. This system can automatically adjust power needs to individual dispensers for charging efficiency.

Stormwater Management Systems: The design will utilize the existing parking lots storm water management systems to manage runoff before it reaches nearby water systems. This helps prevent pollution and supports water quality.

Efficient Site Management: We will implement a construction waste management plan to monitor and track all waste generated during the project. This will help identify opportunities to reduce, reuse, or recycle materials, and ensure that the amount of waste sent to landfills is minimized.

By using these sustainable building materials and practices, the new EV charging site will not only support the transition to cleaner transportation but also contribute to environmental conservation and the reduction of carbon emissions.

Regards,

Dallas Pelland / Dallas Pelland / Client Manager

7171 WEST 95TH STREET, SUITE 600
OVERLAND PARK, KANSAS 66212

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IONNA EV Charger Maintenance Plan for Whole Foods, Portsmouth, NH

Standard Preventative Maintenance SOW

1. Standard Preventative Maintenance is outlined below, as recommended by manufacturuer of charging stations. For this location, the Alpitronics Hypercharger maintenance guide is followed.

The following services are also provided to ensure adequate uptimes.

2. Provide and catalogue photos to document the condition of all charging equipment, protective wheel stops & bollards and pavement markings, and other (each elevation).
3. Note potential obstructions that might limit access or charger visibility.
4. Use mild detergent to clean charging equipment.
5. Make safe and report any visible conditions that pose a risk to the general public and facility employees.
6. Create and distribute Corrective Action Reports to document and initiate customer generated reactive service request.
7. Maintain and provide customer access to all service records including but not necessary limited to photographs, completion checklist, completion dates, service tech information, Corrective Action Reports, etc.

10. PREVENTIVE MAINTENANCE

For the safe operation of the charging station, annual maintenance of the charging station and a check of its safety devices is required. Depending on the installation location of the charging station and the environmental influences prevailing there (such as dirt, moisture, etc.), shorter maintenance intervals may also be necessary for certain components. Regular inspection is therefore recommended.

WARNING

Adhere to all safety warnings outlined in Chapter 1 of this manual.

CAUTION

The preventive maintenance of the charging stations must only be carried out by professionally qualified individuals, as per local regulations and safety standards. These individuals must also have successfully completed the mandatory training courses prescribed by Alpitronic.

All of the following preventive maintenance work is mandatory. These must be carried out by filling out the **digital maintenance protocol** on Hyperdoc and sending it (including photo documentation) to Alpitronic.

Failure to perform preventive maintenance properly and in accordance with this manual may lead to loss or limitation of warranty or liability in case of damages on the Product(s) or goods belonging to third parties or injuries to third parties. The same applies when the maintenance protocol is not properly completed or not sent to Alpitronic.

For Hyperdoc registration: https://account.hypercharger.us/register (the digital protocols are only available to appropriately trained technicians (see above).

Depending on the individual operating conditions of the Hypercharger, further maintenance work may be necessary. Therefore, the following list should not be taken as complete.

Maintenance work	Description
External visual inspection	• Condition of housing • NEMA rating (3R) • Stability • Accessibility • Credit card terminal (if available)
Checking charging cables & plugs	• Checking all cable parts (cable sleeve, cable, cable plug, mating face, pins) for the absence of damage (e.g. cable sheath intact, no crushing or cracks, pins undamaged, cable intact at transfer point, etc.) • Are all outside cable glands tight?
Checking the sealing of the input conductors	Visually verify that the input conductors are properly sealed and tight
Checking screws	• Visual random check of internal screw connections • Random check of tightening torques
Check the cooling unit (if available), and replace coolant if necessary	• Filling level • Connection • Absence of air pockets & creases
Check for cleanliness	Check the cleanliness inside the charging station
Check condensation	Check for the absence of traces of condensation inside the charging station
Check and replace filter mats if necessary	Checking for integrity and contamination
Review of protective measures	• Visual inspection of the earthing system • Test earthing resistance • Test continuity of the equipotential bonding connections
Check the supply line (only if there is no commissioning protocol)	• Testing the insulation resistance on the busbars of the input switchgear • Information on the existing protective device • Check short-circuit current
Checking insulation resistance of DC charging outlets	Check the insulation resistance of the pins for each existing DC charging outlet
Check overvoltage protection	Check the optical defect display of the overvoltage protection
Check residual current protective devices	Functional test of the circuit breakers with residual current monitoring
Touch protection	Check whether all protective covers have been correctly attached
Check RFID reader	Functional test of the RFID reader
Check connectivity of SIM cards	• Check the connection to the Alpitronic backend • Check the connection to the customer backend
Check display elements	• Functional test of the display + button • Functional test of the screen display and, if necessary, the touch screen of the credit card terminal
Verification of LED rings	Functional test of the LED rings on the connectors

Table 25: Annual maintenance work

11. REPARATION AND SERVICE

The modular design of the Hypercharger enables easy repair of defective components.

WARNING

Adhere to all safety warnings outlined in Chapter 1 of this manual.

CAUTION

Please note that repairs to the Hypercharger **are only** carried out by professionally qualified individuals, as per local regulations and safety standards.

All necessary legal and safety measures must be observed! The specific safety measures for repairs and upgrades can be found in the corresponding instructions.

Be sure to consult Hypercharger support before repairs are carried out. support@hypercharger.us or +1 866-881-0090.

Every repair and every component replacement must be reported to support@hypercharger.us, including the serial numbers of the individual parts.

NOTICE

To order spare parts, contact aftersales@hypercharger.it.

The Hypercharger support is available around the clock (24/7) by phone on +1 866-881-0090 or by email (support@hypercharger.us).

Standard Reactive Maintenance SOW

REACTIVE SERVICE: Intended to provide priority service outside of the Preventative Maintenance program. Reactive Service is initiated as follows:

1. Customer-Initiated Service Request
    a. Service request shall be submitted directly or through the customer's service platform of choice. All requests shall be directed to the Service Dispatch Email
    b. All customer-initiated service request will have an NTE of $1,500.00
    c. If in the event estimated service exceeds the NTE, a formal proposal shall be submitted for customer approval prior to beginning work. If in the event, the NTE increase is not approved, invoices will be processed for diagnostic services only that were rendered
    d. Final invoices will be submitted with before/after photos and other documentation requested by customer to verify work performed.
    e. Reactive Service will be performed on a time and material basis in accordance with the Reactive Service Fee Schedule (see Attachment A)

2. Product Inventory
    a. Customer shall maintain an ample supply of maintenance kits for the sole purpose of performing reactive maintenance service.
        i. AGI will determine the min-max quantities of maintenance kits customer shall have on hand. Min-max quantities shall be updated quarterly based upon EV Charging units in the program and reactive maintenance frequency. Each maintenance
        ii. Kits will contain the following:
            1. Prepaid return shipment labels and reusable packaging suitable for return of unused and inoperative components to customer.
            2. Kit shall contain replacement parts for the five (5) most common component failures
                a. Part No. 1
                b. Part No. 2
                c. Part No. 3
                d. Part No. 4
                e. Part No. 5
            3. Kit parts list is subject to change
        iii. Customer shall ship maintenance kits to AGI service technician to facilitate repairs.
        iv. Service dispatches are scheduled once maintenance kits are received by AGI service technicians.
        v. AGI will provide tracking numbers for all returned maintenance kit shipments.

3. Service Requirements.
    a. All service requests shall be acknowledged within 24 hours
    b. Service types shall dictate the SLA as follows:
        i. P1-Critical: Incidents which create a liability and demand an immediate response. 4-to-8-hour response required. P1-Critical service is a “Make Safe” response and generally doesn’t result in repair on the first trip.
        ii. P2-High: Customer request an investigative assessment of equipment prior to shipping the Maintenance Kit. 24-to-48-hour response required
        iii. P3-Medium: Service request that are non-critical and pose no risk to the public. 5–7 day response from receipt of customer provide Maintenance Kit
        iv. P4-Low: Service request that have limited impact on equipment operations. This SLA is generally for schedule services beyond traditional break-fix maintenance. 30-day response required.

    c. All invoices shall be submitted for payment within 30 days of completion
    d. When possible, service should be completed on the first trip. The Customer is expected to maintain adequate inventory of Maintenance Kits to maximize first trip completions.

City of Portsmouth, New Hampshire

Site Plan Application Checklist

This site plan application checklist is a tool designed to assist the applicant in the planning process and for preparing the application for Planning Board review. The checklist is required to be completed and uploaded to the Site Plan application in the City's online permitting system. A pre-application conference with a member of the planning department is strongly encouraged as additional project information may be required depending on the size and scope. The applicant is cautioned that this checklist is only a guide and is not intended to be a complete list of all site plan review requirements. Please refer to the Site Plan review regulations for full details.

Applicant Responsibilities (Section 2.5.2): Applicable fees are due upon application submittal along with required attachments. The application shall be complete as submitted and provide adequate information for evaluation of the proposed site development. Waiver requests must be submitted in writing with appropriate justification.

Name of Applicant: AGI c/o SSC Date Submitted: 11/15/2024

Application # (in City's online permitting): LU-24-182

Site Address: 1600 Woodbury Ave Map: 238 Lot: 16

Application Requirements			
☑	**Required Items for Submittal**	**Item Location (e.g. Page or Plan Sheet/Note #)**	**Waiver Requested**
☑	Complete application form submitted via the City's web-based permitting program (2.5.2.1**(2.5.2.3A)**		N/A
☑	All application documents, plans, supporting documentation and other materials uploaded to the application form in viewpoint in digital Portable Document Format (PDF). One hard copy of all plans and materials shall be submitted to the Planning Department by the published deadline. **(2.5.2.8)**		N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Statement that lists and describes "green" building components and systems. **(2.5.3.1B)**	Separate Document	
☑	Existing and proposed gross floor area and dimensions of all buildings and statement of uses and floor area for each floor. **(2.5.3.1C)**	C-1.0 & Survey	N/A
☑	Tax map and lot number, and current zoning of all parcels under Site Plan Review. **(2.5.3.1D)**	C-1.0	N/A

Site Plan Review Application Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Owner's name, address, telephone number, and signature. Name, address, and telephone number of applicant if different from owner. **(2.5.3.1E)**	C-1.0	N/A
☑	Names and addresses (including Tax Map and Lot number and zoning districts) of all direct abutting property owners (including properties located across abutting streets) and holders of existing conservation, preservation or agricultural preservation restrictions affecting the subject property. **(2.5.3.1F)**	C-1.0	N/A
☑	Names, addresses and telephone numbers of all professionals involved in the site plan design. **(2.5.3.1G)**	T-1.0	N/A
☑	List of reference plans. **(2.5.3.1H)**	T-1.0	N/A
☑	List of names and contact information of all public or private utilities servicing the site. **(2.5.3.1I)**	Survey	N/A

Site Plan Specifications			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	Full size plans shall not be larger than 22 inches by 34 inches with match lines as required, unless approved by the Planning Director.. **(2.5.4.1A)**	Required on all plan sheets	N/A
☑	Scale: Not less than 1 inch = 60 feet and a graphic bar scale shall be included on all plans. **(2.5.4.1B)**	Required on all plan sheets	N/A
☑	GIS data should be referenced to the coordinate system New Hampshire State Plane, NAD83 (1996), with units in feet. **(2.5.4.1C)**	Survey	N/A
☑	Plans shall be drawn to scale and stamped by a NH licensed civil engineer. **(2.5.4.1D)**	Required on all plan sheets	N/A
☑	Wetlands shall be delineated by a NH certified wetlands scientist and so stamped. **(2.5.4.1E)**	Survey	N/A
☑	Title (name of development project), north point, scale, legend. **(2.5.4.2A)**	Survey	N/A
☑	Date plans first submitted, date and explanation of revisions. **(2.5.4.2B)**	Border, all sheets	N/A
☑	Individual plan sheet title that clearly describes the information that is displayed. **(2.5.4.2C)**	Required on all plan sheets	N/A
☑	Source and date of data displayed on the plan. **(2.5.4.2D)**	Survey	N/A

Site Plan Specifications – Required Exhibits and Data			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	**1. Existing Conditions: (2.5.4.3A)** • Surveyed plan of site showing existing natural and built features; • Existing building footprints and gross floor area; • Existing parking areas and number of parking spaces provided; • Zoning district boundaries; • Existing, required, and proposed dimensional zoning requirements including building and open space coverage, yards and/or setbacks, and dwelling units per acre; • Existing impervious and disturbed areas; • Limits and type of existing vegetation; • Wetland delineation, wetland function and value assessment (including vernal pools); • SFHA, 100-year flood elevation line and BFE data, as required.	Survey	
☑	**2. Buildings and Structures: (2.5.4.3B)** • Plan view: Use, size, dimensions, footings, overhangs, 1st fl. elevation; • Elevations: Height, massing, placement, materials, lighting, façade treatments; • Total Floor Area; • Number of Usable Floors; • Gross floor area by floor and use.	C-1.2, SA Package	
☑	**3. Access and Circulation: (2.5.4.3C)** • Location/width of access ways within site; • Location of curbing, right of ways, edge of pavement and sidewalks; • Location, type, size and design of traffic signing (pavement markings); • Names/layout of existing abutting streets; • Driveway curb cuts for abutting prop. and public roads; • If subdivision; Names of all roads, right of way lines and easements noted; • AASHTO truck turning templates, description of minimum vehicle allowed being a WB-50 (unless otherwise approved by TAC).	Survey	
☑	**4. Parking and Loading: (2.5.4.3D)** • Location of off street parking/loading areas, landscaped areas/buffers; • Parking Calculations (# required and the # provided).	Survey	
☑	**5. Water Infrastructure: (2.5.4.3E)** • Size, type and location of water mains, shut-offs, hydrants & Engineering data; • Location of wells and monitoring wells (include protective radii).	Survey	
☑	**6. Sewer Infrastructure: (2.5.4.3F)** • Size, type and location of sanitary sewage facilities & Engineering data, including any onsite temporary facilities during construction period.	Survey	

☑	**7. Utilities: (2.5.4.3G)** • The size, type and location of all above & below ground utilities; • Size type and location of generator pads, transformers and other fixtures.	E-1.0 & Survey	
☑	**8. Solid Waste Facilities: (2.5.4.3H)**	Survey	
	• The size, type and location of solid waste facilities.	Survey	
☑	**9. Storm water Management: (2.5.4.3I)** • The location, elevation and layout of all storm-water drainage. • The location of onsite snow storage areas and/or proposed off-site snow removal provisions. • Location and containment measures for any salt storage facilities • Location of proposed temporary and permanent material storage locations and distance from wetlands, water bodies, and stormwater structures.	Survey	
☑	**10. Outdoor Lighting: (2.5.4.3J)** • Type and placement of all lighting (exterior of building, parking lot and any other areas of the site) and photometric plan.	Photometric Package	
☑	**11.** Indicate where dark sky friendly lighting measures have been implemented. **(10.1)**	Photometric Package	
☑	**12. Landscaping: (2.5.4.3K)** • Identify all undisturbed area, existing vegetation and that which is to be retained; • Location of any irrigation system and water source.	C-1.3	
☑	**13. Contours and Elevation: (2.5.4.3L)** • Existing/Proposed contours (2 foot minimum) and finished grade elevations.	Survey	
☑	**14. Open Space: (2.5.4.3M)** • Type, extent and location of all existing/proposed open space.	C-1.3	
☑	**15. All easements, deed restrictions and non-public rights of ways. (2.5.4.3N)**	Survey	
☑	**16. Character/Civic District (All following information shall be included): (2.5.4.3P)** • Applicable Building Height (10.5A21.20 & 10.5A43.30); • Applicable Special Requirements (10.5A21.30); • Proposed building form/type (10.5A43); • Proposed community space (10.5A46).	C-1.2	
☑	**17. Special Flood Hazard Areas (2.5.4.3Q)** • The proposed development is consistent with the need to minimize flood damage; • All public utilities and facilities are located and construction to minimize or eliminate flood damage; • Adequate drainage is provided so as to reduce exposure to flood hazards.	Survey	

Other Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	Traffic Impact Study or Trip Generation Report, as required. **(3.2.1-2)**		N/A
☑	Indicate where Low Impact Development Design practices have been incorporated. **(7.1)**	Separate Document	
☑	Indicate whether the proposed development is located in a wellhead protection or aquifer protection area. Such determination shall be approved by the Director of the Dept. of Public Works. **(7.3.1)**	C-1.0	
☑	Stormwater Management and Erosion Control Plan. **(7.4)**	C-1.4	
☑	Inspection and Maintenance Plan **(7.6.5)**	Separate Document	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☑	All local approvals, permits, easements and licenses required, including but not limited to: • Waivers; • Driveway permits; • Special exceptions; • Variances granted; • Easements; • Licenses. **(2.5.3.2A)**	Survey	
☑	Exhibits, data, reports or studies that may have been required as part of the approval process, including but not limited to: • Calculations relating to stormwater runoff; • Information on composition and quantity of water demand and wastewater generated; • Information on air, water or land pollutants to be discharged, including standards, quantity, treatment and/or controls; • Estimates of traffic generation and counts pre- and post-construction; • Estimates of noise generation; • A Stormwater Management and Erosion Control Plan; • Endangered species and archaeological / historical studies; • Wetland and water body (coastal and inland) delineations; • Environmental impact studies. **(2.5.3.2B)**	Survey	
☑	A document from each of the required private utility service providers indicating approval of the proposed site plan and indicating an ability to provide all required private utilities to the site. **(2.5.3.2D)**	Survey	

Final Site Plan Approval Required Information			
☑	**Required Items for Submittal**	**Item Location (e.g. Page/line or Plan Sheet/Note #)**	**Waiver Requested**
☐	A list of any required state and federal permit applications required for the project and the status of same. **(2.5.3.2E)**		N/A
☑	A note shall be provided on the Site Plan stating: "All conditions on this Plan shall remain in effect in perpetuity pursuant to the requirements of the Site Plan Review Regulations." **(2.5.4.2E)**	C-1.0	N/A
☑	For site plans that involve land designated as "Special Flood Hazard Areas" (SFHA) by the National Flood Insurance Program (NFIP) confirmation that all necessary permits have been received from those governmental agencies from which approval is required by Federal or State law, including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334. **(2.5.4.2F)**	Survey	
☑	Plan sheets submitted for recording shall include the following notes: a. "This Site Plan shall be recorded in the Rockingham County Registry of Deeds." b. "All improvements shown on this Site Plan shall be constructed and maintained in accordance with the Plan by the property owner and all future property owners. No changes shall be made to this Site Plan without the express approval of the Portsmouth Planning Director." **(2.13.3)**	C-1.0	N/A

Applicant's Signature: Emily Roseberry **Date:** 11/15/2024