



STAFF REPORT

Planning Commission Meeting: June 10, 2024

Application:	<u>SU23-0007</u>: Request for approval of a Special Use Permit for a compound expansion of existing telecommunications facility.
Location:	15201 S. Mur-Len Road
Owner:	Global Signal Acquisitions IV, LLC
Applicant:	Justin Davis, Crown Castle
Staff Contact:	Andrea Fair, AICP; Planner II

Site Area:	<u>7.43 acres</u>	Proposed Use:	<u>Expansion of an Existing Telecommunications Facility</u>
Existing Zoning:	<u>CP-3 (Planned Community/ Corridor Business District)</u>	Plat:	<u>Unplatted</u>

	Plan Olathe Land Use Category	Existing Use	Existing Zoning
Site	Conventional Neighborhood	Commercial & Telecommunications	CP-3 (Planned Community/Corridor Business)
North	Community Commercial Center	Commercial, Retail	C-2 (Community Center)
South	Conventional Neighborhood	Residential, Single-Family	C-O (Office)/R-1 (Single-Family)
East	Conventional Neighborhood	Residential, Single-Family	C-O (Office)/R-1 (Single-Family)
West	Conventional Neighborhood	Residential, Single-Family	R-1 (Single-Family)

1. Introduction

The applicant is requesting a special use permit for the expansion of an existing compound area housing ground mounted utilities for a Verizon Wireless telecommunications facility located at 15201 S. Mur-Len Road. The applicant is proposing a 348 square foot expansion to accommodate a 264 square foot equipment shelter and accessory ground equipment. New antenna for Verizon will also be installed on the existing 100-foot tall tower. The increase in compound area is considered a major modification per Unified Development Ordinance (UDO) Section 18.15.220.F.2 which requires approval of a special use permit.

2. History

The property was zoned to the CP-3 (Planned Community/Corridor Business) District in 1978 (RZ78-0023). There is an existing building directly west of the telecommunications facility that was constructed in 1969 for commercial warehouse uses. In 2000, a 60-foot tall telecommunications tower was constructed, which was the maximum height allowed without the need for a special use permit. In 2019, a special use permit (SU19-0007) was approved to increase the total height of the tower to 100 feet and an expansion of the compound area of 660 square feet.

3. Existing Conditions

The subject property contains existing commercial warehouse structures that were built in 1969 and have contained various uses over the past 50 years. The existing telecommunications facility was constructed in 2000 and an additional antenna was approved for a second provider in 2010 (PAR10-0004). The City owns the property directly south which currently contains a fiber equipment facility for Google.



View of the subject property looking northeast.



Site location map – outlined in yellow.

Location of compound area – outlined in red.

4. Zoning Standards

- a. **Land Use** – No changes to existing land uses are proposed. The existing telecommunications tower and proposed expansion of the compound area require approval of a special use permit; no other uses are requested at this time.
- b. **Height** – The equipment building is 10 feet tall and complies with the 12-foot maximum height requirement. New antenna will be mounted on the existing tower at a centerline of 75 feet, co-located on the existing 100-foot tower that was approved under application SU19-0007.
- c. **Setbacks** – The proposed structure exceeds all minimum setback requirements from the property line and nearby residential properties. The ground equipment is setback 160 feet from the north property line, 155 feet from the south property line, 110 feet from the east property line, and 190 feet from the west property line.

5. Development Standards

- a. **Access/Streets** – The facility maintains access from an existing driveway that connects to S. Mur-Len Road. Portions of the drive consist of asphalt while other portions of the existing access are gravel just north of the buildings.

- b. **Accessory Equipment** – The applicant is requesting an expansion of the existing compound area to install additional necessary ground equipment and a 264 square foot equipment building. The equipment includes a generator, ice bridge and other accessory components which will be contained within a fenced enclosure to screen all ground-level components from view. All cables and power trunks will be run through the inside of the tower to limit the visibility of accessory components on the monopole structure. The equipment building is a prefabricated structure that is 264 square feet, 10 feet tall and will complement the colors of the existing structures on site. The equipment building meets all UDO requirements.
- c. **Landscaping** – Screening of the ground-level equipment will be provided through the planting of a row of staggered evergreen trees east and south of the compound area. The chain-link fencing surrounding the existing compound area will be removed and replaced with black vinyl coated fabric fencing along the entire perimeter of the compound area. The plans currently show barbed wire along the top of the fence which is not permitted in commercial districts and staff has stipulated that all barbed wire must be removed from plans prior to building permit submittal.

6. Public Notification and Neighborhood Meeting

The applicant mailed the required public notification letters to surrounding property owners within 200-feet and posted a sign on the subject property per UDO requirements. A neighborhood meeting was also held in accordance with the UDO on April 5th, 2024 and no members of the public attended the meeting. Staff has received correspondence from one individual and responded to their inquiries.

7. Time Limit

According to UDO 18.50.220, special use permits for telecommunications facilities are approved for an initial time limit of 10 years with subsequent renewals of 10 years each. This special use permit will replace the existing special use permit (SU19-0007).

8. UDO Special Use Criteria

The Future Land Use Map of the PlanOlathe Comprehensive Plan identifies the subject property as a Conventional Neighborhood. The site is currently zoned CP-3 (Planned Community/Corridor) and the site is surrounded by residential, and commercial uses. A SUP is required for telecommunication facilities in any zoning district to ensure adequate precautions are taken to ensure compatibility with the surrounding area. The proposed special use meets the following policy elements of the Comprehensive Plan:

CF-2.3 Service Provider Coordination: Coordinate with other service providers on development requests to ensure that necessary services not provided by the City should be made available for planned new development and redevelopment.

Staff reviewed the application against UDO criteria for considering all special use applications, as listed in UDO Section 18.40.100.F. Staff finds the request meets the criteria as detailed below.

A. The conformance of the proposed use to the Comprehensive Plan and other adopted planning policies.

PlanOlathe promotes that the installation and extension of all utilities will be consistent with the provisions of the comprehensive plan and with the responsibilities of the respective utility providers. The proposed use will conform with comprehensive plan principles and other planning policies adopted by the City.

B. The character of the neighborhood including but not limited to: land use, zoning, density (residential), architectural style, building materials, height, structural mass, siting, open space and floor-to-area ratio (commercial and industrial).

The property is surrounded by commercial uses to the north, and traditional single-family residential uses of one and two-story heights to the west, south and east. The proposed use is located interior to the site to provide the greatest extent of separation from the surrounding neighborhoods and is partially screened by the existing commercial/warehouse structure. The proposal meets the minimum height and setback requirements that are permitted for telecommunications facilities in a nonresidential district.

C. The zoning and uses of nearby properties, and the extent to which the proposed use would be in harmony with such zoning districts and uses.

The surrounding properties contain R-1 and C-2 zoning districts which are both considered low-intensity, residential and commercial districts. The regulations for telecommunications facilities ensure that residents and businesses have reliable access to wireless telecommunications networks while also protecting the health, safety, welfare, and aesthetic character of the community.

D. The suitability of the property for the uses to which it has been restricted under the applicable zoning district regulations.

The property is suitable for the permitted uses to which it has been restricted within the CP-3 District; however, a special use permit is required in all districts to further evaluate the compatibility of telecommunications facilities in regard to existing conditions in the surrounding area.

E. The length of time the property has remained vacant as zoned.

The subject property is not currently vacant and was zoned CP-3 Planned Commercial District in 1978. A special use permit for a telecommunications facility was originally approved in 2019 and the facility has been operational since that time.

F. The extent to which approval of the application would detrimentally affect nearby properties.

The compound expansion is not anticipated to detrimentally affect nearby properties. The proposed expansion to the telecommunications facility is located within the interior of the site with considerable setbacks to minimize visual impact from the arterial roadway and surrounding properties. The ground mounted equipment is completely screened from view from Mur-Len Road by the existing building. Additional landscaping will be planted to provide screening of the ground equipment from residential properties located to the east and south.

G. The extent to which development under the proposed district would substantially harm the value of nearby properties.

The compound expansion is not anticipated to harm the value of nearby properties. The proposed expansion to the telecommunications facility is located within the interior of the site to minimize visual impact from the arterial roadway and surrounding properties. Additional landscaping will be planted to provide screening of the ground equipment from residential properties located to the east and south.

H. The extent to which the proposed use would adversely affect the capacity or safety of that portion of the road network influenced by the use, or present parking problems in the vicinity of the property.

The proposed use will have no impact on the surrounding road network or parking available on the property.

I. The extent to which the proposed use would create air pollution, water pollution, noise pollution or other environmental harm.

Staff is not aware of any potential for unlawful levels of air, water, or noise pollution with the proposed expansion. Landscaping is being added to the site and there is no increase in impervious surface. The use is subject to all local, state, and federal environmental guidelines.

J. The economic impact of the proposed use on the community.

The proposed telecommunications facility compound expansion accommodates additional coverage for current and future wireless customers in the surrounding vicinity.

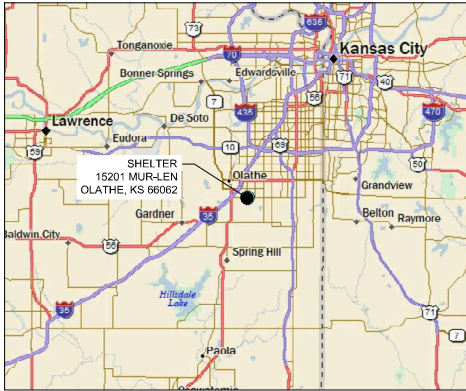
K. The gain, if any, to the public health, safety and welfare due to denial of the application as compared to the hardship imposed upon the landowner, if any, as a result of denial of the application.

There is no gain or detriment to the public health, safety, or welfare if the application were denied. If the application were denied, the applicant would not be able to expand the compound area to accommodate the additional equipment.

9. Staff Recommendation

Staff recommends approval of the special use permit (SU23-0007) with the following stipulations:

1. The special use permit for the Telecommunication Facility and expanded compound area is approved for a ten (10) year period effective from the date of the Resolution.
2. All landscaping must be installed per plans dated May 28, 2024 prior to certificate of completion.
3. Barbed wire is prohibited in commercial districts and must be removed from all plans with building permit submittals.



LOCATION MAP

verizon

KCYC HERITAGE SQUARE

VERIZON SITE LOCATION CODE: 661221

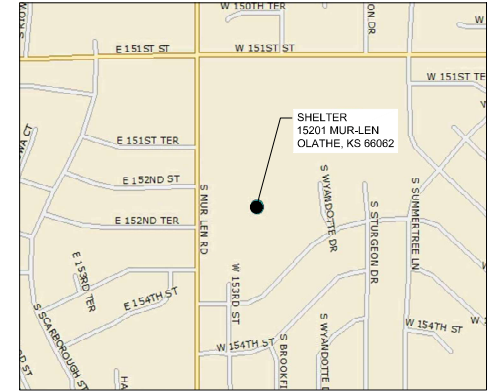
MARKET: KSMO

TOWER OWNER INFO# CROWN CASTLE

15201 MUR-LEN
OLATHE, KS 66062

UPDATED PER CLIENT COMMENTS

03/01/2024



VICINITY MAP

PLANNING DEPARTMENT
OLATHE PLANNING DEPARTMENT
100 E. SANTA FE STREET, 3RD FLOOR
OLATHE, KS 66061
PHONE: (913) 971-8750

ARCHITECTURAL & ENGINEERING FIRM
TERRA CONSULTING GROUP, LTD.
600 BUSSE HWY
PARK RIDGE, IL 60068
PHONE: (847) 698-6400
FAX: (847) 698-6401
CONTACT: TOM ZIMMERMANN

STRUCTURAL ENGINEERING FIRM
TERRA CONSULTING GROUP, LTD.
1500 WEST THIRD AVE, STE 226
COLUMBUS, OH 43212
PHONE: (614) 754-9106
CONTACT: JOHN SCHUELER

VERIZON NETWORK COMPLIANCE
VERIZON WIRELESS
400 CORPORATE CENTER DRIVE, BLDG D
WARREN, NJ 07059
PHONE: (908) 256-7010
CONTACT: NICK SAPIA

ELECTRIC COMPANY
EVERGY
PHONE: (816) 289-5514

ELECTRICAL ENGINEERING FIRM
TERRA CONSULTING GROUP, LTD.
600 BUSSE HWY
PARK RIDGE, IL 60068
PHONE: (847) 698-6400
FAX: (847) 698-6401

VERIZON IMPLEMENTATION
VERIZON WIRELESS
10000 PARK MEADOWS DRIVE, SUITE 300
LONE TREE, CO 80124
PHONE: (951) 413-9704
CONTACT: MIKE HICKEY

VERIZON NETWORK COMPLIANCE
VERIZON WIRELESS
132 CREEK CIRCLE
E. SYRACUSE, NY 13057
PHONE: (315) 877-6153
CONTACT: PHIL DUCHENE

FIBER CONTACT
TBD

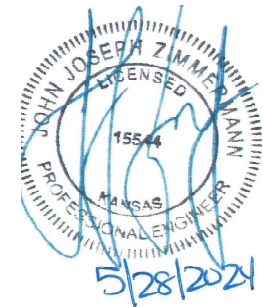
MECHANICAL ENGINEERING FIRM
TERRA CONSULTING GROUP, LTD.
600 BUSSE HWY
PARK RIDGE, IL 60068
PHONE: (847) 698-6400
FAX: (847) 698-6401

TOWER OWNER
CROWN CASTLE
TOWER OWNER SITE NO. 822158
PETE FAULHABER
PHONE: (314) 432-3158

VERIZON NETWORK COMPLIANCE
VERIZON WIRELESS
200 HIGHLAND RD
TWINSBURG, OH 44087
PHONE: (330) 807-7713
CONTACT: MARIO SPINA

REVISION HISTORY

NO.	REVISION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
2	REVISED PER CLIENT COMMENTS	08/02/22
3	REVISED FIBER ROUTE	08/24/22
4	ISSUED FOR FINAL	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
8	REVISED PER CROWN CASTLE COMMENTS	03/01/24
9	REVISED PER JURISDICTION COMMENTS	05/16/24
10	ADDITION OF LANDSCAPE PLANT	05/28/24



GENERAL DRAWINGS

G001 GENERAL NOTES
G002 GENERAL NOTES
G011 VERIZON STANDARDS

CIVIL DRAWINGS

C001 CIVIL GENERAL NOTES
CD101 CIVIL SITE DEMOLITION PLAN
C101 PROPOSED SITE PLAN
C501 CIVIL DETAILS
C502 CIVIL DETAILS
C503 FENCE MATERIAL DATA
C504 LANDSCAPE PLAN

ANTENNA DRAWINGS

ANT101 SITE ELEVATION
ANT102 ANTENNA SCHEMATIC
ANT501 ANTENNA PLUMBING DIAGRAM & RF PARTS LIST
ANT502 ANTENNA MOUNTING DETAILS
ANT503 ANTENNA MOUNTING DETAILS

ARCHITECTURAL DRAWINGS

A001 GENERAL NOTES & LEGEND
A101 PROPOSED FLOOR PLAN
A111 REFLECTED CEILING PLAN
A301 ELEVATIONS & SECTIONS
A302 ELEVATIONS
A501 CABLE TRAY DETAILS

STRUCTURAL DRAWINGS

S001 STRUCTURAL GENERAL NOTES
S101 FOUNDATION DETAILS

MECHANICAL DRAWINGS

M001 MECHANICAL GENERAL NOTES
M101 MECHANICAL FLOOR PLAN
M501 MECHANICAL DETAILS
M502 MECHANICAL DETAILS
M503 MECHANICAL SCHEDULES

BUILDING AUTOMATION SYSTEM

BA001 BUILDING AUTOMATION GENERAL NOTES
BAS01 BUILDING AUTOMATION NOC ALARM

ELECTRICAL DRAWINGS

E001 ELECTRICAL GENERAL NOTES
E002 ELECTRICAL GENERAL NOTES
E101 ENLARGED UTILITY ROUTING PLAN
E102 UTILITY ROUTING PLAN
E103 ELECTRICAL FLOOR PLAN
E104 POWER & LIGHTING PLAN
E111 INTERIOR GROUNDING PLAN
E112 EXTERIOR GROUNDING PLAN
E501 GROUNDING DETAILS
E502 GROUNDING DETAILS
E701 ONE LINE DIAGRAM & LOAD ANALYSIS

ATTACHMENT DRAWINGS

* SHELTER SPECIFICATIONS (BY OTHERS)

PROJECT GENERAL NOTES:

1. THE FOLLOWING GENERAL NOTES ARE INTENDED TO SUMMARIZE REQUIREMENTS OF THE PROJECT.
2. **DRAWINGS & SPECIFICATIONS:**
 - A. THE DRAWINGS, SPECIFICATIONS, REFERENCED STANDARDS, OWNER WIRELESS STANDARDS, OTHER RFP ATTACHMENTS AND THE TERMS AND CONDITIONS ARE COMPLEMENTARY TO ONE ANOTHER. IN THE EVENT OF CONFLICT BETWEEN THE DRAWINGS, SPECIFICATIONS, REFERENCED STANDARDS, OWNER WIRELESS STANDARDS, OTHER RFP ATTACHMENTS OR TERMS AND CONDITIONS, THE ARCHITECT/ENGINEER SHALL BE CONTACTED FOR FORMAL INTERPRETATION OF THE REQUIREMENT. THE CONTRACTOR SHALL BE DEEMED TO HAVE PROVIDED THE MOST DETAILED AND EXPENSIVE INTERPRETATION OF THE REQUIREMENT. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECT/ENGINEER INTERPRETATION SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE AND AT NO EXPENSE TO OWNER.
 - B. THE INTENT OF THE DRAWINGS IS TO SHOW GENERAL SCOPE AND INTENT OF THE WORK. METHODS AND MATERIALS NOT EXPLICIT BUT IMPLIED ARE INTENDED TO BE BUILDER DESIGNED, FURNISHED AND INSTALLED.
3. **COORDINATION:**
 - A. THE CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION OF THE WORK. THE PROJECT GENERAL NOTES PERTAIN TO ALL DIVISIONS OF THE WORK.
 - B. CONTRACTOR IS RESPONSIBLE FOR COORDINATING AND SCHEDULING WORK BETWEEN ALL TRADES AND BETWEEN CONSTRUCTION ACTIVITIES AND THE OCCUPANTS OF THE BUILDING SUCH THAT WORK IS COMPLETED IN A TIMELY MANNER.
 - C. CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF WORK. EACH DIVISION SHALL BE RESPONSIBLE FOR THE COORDINATION OF ALL RELATED DIVISIONS WHOSE WORK INTERFERES WITH THEIR OWN.
 - D. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL OPENINGS FOR EQUIPMENT WITH APPROVED SHOP DRAWINGS BEFORE PROCEEDING WITH WORK.
 - E. CONTRACTOR SHALL VERIFY SIZES AND LOCATIONS OF ALL EQUIPMENT PADS AND BASES. CONTRACTOR SHALL VERIFY POWER, WATER AND DRAIN INSTALLATION W/EQUIPMENT MANUFACTURERS BEFORE PROCEEDING WITH THE WORK. PATCH AND REPAIR AFFECTED EXISTING EQUIPMENT/SURFACES AS REQUIRED.
 - F. WHERE INSTALLATION AND/OR CONNECTION OF EQUIPMENT IS NOT SPECIFIED BUT SUCH CONNECTION AND/OR INSTALLATION IS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM, THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR SUCH CONNECTION AND/OR INSTALLATION. THIS WORK SHALL INCLUDE ALL UTILITY HOOK-UPS.
4. ASSIGNMENT OF WORK - SEE PROJECT SCOPE AND RFP.
5. **ABBREVIATIONS:**

THROUGHOUT THE PLANS ARE ABBREVIATIONS WHICH ARE OF COMMON USE. THE LIST OF ABBREVIATIONS PROVIDED IS NOT INTENDED TO BE COMPLETE OR REPRESENTATIVE OF ALL CONDITIONS OR MATERIALS ACTUALLY USED ON THE PROJECT. THE ARCHITECT WILL DEFINE THE INTENT OF ANY IN QUESTION.
6. **CODES:**

ALL WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES, STANDARDS AND ALL APPLICABLE AMENDMENTS. IN CASE OF ANY CONFLICT WHEREIN THE METHODS OR STANDARDS OF INSTALLATION OR THE MATERIALS SPECIFIED DO NOT EQUAL OR EXCEED THE REQUIREMENTS OF THE LAWS OR ORDINANCES, THE LAWS AND ORDINANCES WILL GOVERN. NOTIFY ARCHITECT OF ALL CONFLICTS PRIOR TO COMMENCING ANY WORK. WHERE REQUIRED BY THE AHJ, THE CONTRACTOR SHALL ISSUE PUBLIC NOTICES.
7. **PROVIDE ALL REQUIRED PERMITS:**
 - A. CONTRACTOR IS RESPONSIBLE TO PAY FOR AND OBTAIN PERMITS AND LICENSES NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK.
 - B. ALL POSSIBLE RIGHT OF WAY WORK TO BE PER CITY DEPARTMENT OF ENGINEERING STANDARDS.
 - C. WORKING HOURS FOR THE USE OF LOUD EQUIPMENT SHALL BE LIMITED TO TIMES ESTABLISHED BY THE LOCAL JURISDICTION. THIS EQUIPMENT SHALL INCLUDE BUT IS NOT LIMITED TO GENERATORS, COMPRESSORS, GRADERS, DRILLS, COMPACTORS, RADIOS, AND OTHER SIMILAR EQUIPMENT.
8. QUALITY OF MATERIALS AS SPECIFIED SHALL BE CONSIDERED MINIMUM AND ANY CHANGE SHALL BE OF DEMONSTRATED BETTER QUALITY UNLESS SPECIFICALLY RELEASED BY OWNER AND APPROVED BY THE BUILDING DEPARTMENT. MATERIALS NOT SPECIFIED SHALL BE OF A HIGH QUALITY INTENDED FOR COMMERCIAL USE. PROVIDE ADEQUATE HEAT AND SHELTER ACCORDING TO MANUFACTURERS STANDARDS AND MATERIAL PRIOR TO DURING EXECUTION OF THE WORK, AND UNTIL OWNER ACCEPTANCE. TO MAINTAIN DIMENSIONAL STABILITY AND MATERIAL QUALITY. STORED MATERIALS NOT INSTALLED SHALL BE OF A MOISTURE CONTENT THAT WILL NOT ALTER GENERAL APPEARANCE OR INTEGRITY OF ASSEMBLY WHEN MOISTURE CONTENT DECREASES TO SERVICEABLE LEVELS. MATERIALS ARE TO BE INSTALLED IN A PROFESSIONAL MANNER TO THE HIGHEST INDUSTRY STANDARDS.
9. **BUILDING AND EQUIPMENT:**
 - A. MAINTAIN AREAS FREE OF DEBRIS ACCUMULATION. KEEP WORK AREAS NEAT AND ORDERLY AS MUCH AS REASONABLY POSSIBLE.
 - B. CONTRACTOR TO REMOVE ALL MATERIALS NOT RELATED TO THE FINISHED PRODUCT FROM THE SITE. DO NOT BURY ON SITE.
10. CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION, BRACING AND SHORING OF EQUIPMENT OR MATERIALS UNTIL SUCH TIME IT IS PERMANENTLY SUPPORTED OR IS READY FOR REMOVAL DURING CONSTRUCTION.
11. TOP OF CONCRETE DATUM ELEVATION IS 0'-0". ALL OTHER SLAB HEIGHTS AND RAISED FLOORS ARE SHOWN RELATIVE TO THIS DATUM.
12. **CONTRACTOR OPTIONS:**

WHERE ONLY ONE MANUFACTURER'S EQUIPMENT OR ITEM IS LISTED OR SPECIFIED, OR THE EQUIPMENT OR ITEM IS LISTED AS THE BASIS OF DESIGN PRODUCT BUT NO OTHER MANUFACTURERS ARE LISTED AS ACCEPTABLE, THEIR PRODUCTS SHALL BE TREATED AS A SUBSTITUTION AND SUBMITTED IN ACCORDANCE WITH THE REQUIREMENTS SPECIFIED IN SPECIFICATION SECTION INCLUDED.
13. **SUBSTITUTION REQUESTS:**

ALL SUBSTITUTION REQUESTS MUST BE SUBMITTED TO THE A/E OF RECORD FOR REVIEW AND APPROVAL.
14. **SAFETY:**

THE CONTRACTOR IS RESPONSIBLE FOR SITE SAFETY. THE CONTRACTOR SHALL TAKE ALL STEPS NECESSARY TO ENSURE THE SAFETY OF ALL PERSONNEL BY ADEQUATELY PROTECTING THEM FROM CONSTRUCTION HAZARDS AND ACTIVITIES THROUGHOUT THE COURSE OF THIS WORK. ALL WORK AREAS SHALL BE PROPERLY MARKED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE BARRIERS, BARRICADES, SIGNAGE AND PROPERLY SECURE ALL WORK AREAS. COMMON AREAS, PUBLIC WAYS, AND/OR OTHER AREAS ACCESSIBLE TO NON-CONSTRUCTION PERSONNEL SHALL BE FREE OF HAZARDOUS CONDITIONS RESULTING FROM THIS PROJECT AT ALL TIMES. ANY UNSAFE CONDITION OBSERVED SHALL BE REPORTED IMMEDIATELY TO THE OWNER REPRESENTATIVE.

PROJECT GENERAL NOTES CONTINUED:

15. **EMERGENCIES, EVACUATION PROCEDURES, & JOB SITE ACCIDENTS:**

IN THE EVENT OF A FACILITY EMERGENCY, THE CONTRACTOR SHALL ADHERE AND ASSIST IN THE COORDINATION OF THE FOLLOWING EMERGENCY PROCEDURES:

 - A. ASSURE PERSONNEL SAFETY
 - B. ACCOUNT FOR ALL ON-SITE CONSTRUCTION PERSONNEL AND VISITORS.
 - C. EVACUATE OR RECOVER
 - D. SUMMON ASSISTANCE

UPON RESTORATION OF ORDER, THE CONTRACTOR'S ON-SITE SUPERINTENDENT SHALL PROVIDE A WRITTEN REPORT DETAILING THE CAUSE OF, AND RECOVERY FROM, THE INCIDENT.
16. **SITE SECURITY:**

AS REQUIRED FOR MANVED FACILITIES A VISITOR'S BADGE SHALL BE WORN BY ALL PERSONNEL AT ALL TIMES WHILE ON OWNER PROPERTY, WITHOUT EXCEPTION. ALL FORCES SHALL SIGN IN & OUT OF EACH DAY WITH THE OWNER REPRESENTATIVE TO RECEIVE THE BADGE. AT THE DISCRETION OF THE OWNER REPRESENTATIVE, THE CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR THE DAILY SIGN IN/OUT OF THE CONTRACTOR FORCES. A VALID DRIVER'S LICENSE OR STATE ID SHALL BE PRESENTED EVERY DAY IN ORDER TO OBTAIN THE BADGE. THE LISTING SHALL INCLUDE THE NAME AND BADGE NUMBER OF ALL PERSONNEL AND BE PROVIDED TO THE OWNER REPRESENTATIVE ON THE FOLLOWING DAY AND SHALL CLEARLY INDICATE THE COMPANY NAME, INDIVIDUAL'S NAME AND BADGE NUMBER OF ALL PERSONNEL ON THE SITE. FAILURE TO COMPLY WITH THESE REQUIREMENTS MAY RESULT IN PERSONNEL BEING ESCORTED OFF THE SITE.
17. **UNDERGROUND UTILITIES:**

UNDERGROUND UTILITY (LOCATE) SERVICES SHALL BE REQUESTED AND COMPLETED BEFORE DISTURBANCE OF ANY EXISTING GRADE OR ON-GRADE CONSTRUCTION, SLAB DEMOLITION, OR OTHER ACTIVITIES THAT MAY IMPACT BURIED UTILITIES. THE CONTRACTOR SHALL CONFIRM THAT UTILITY LOCATE SERVICES HAVE BEEN COMPLETED BEFORE EXISTING GRADE IS EXCAVATED OR EXISTING FLOORING IS DEMOLISHED, DRILLED, OR CUT, REGARDLESS OF THE LOCATION ON THE PROPERTY. SOME UTILITIES MAY NOT BE PUBLICLY OWNED AND MAINTAINED, THEREFORE IT WILL BE NECESSARY FOR THE CONTRACTOR TO LOCATE IN ADVANCE OF ANY EXCAVATIONS. CONTRACTOR SHALL HAVE SUBSURFACE UTILITY INVESTIGATION PERFORMED IN ADVANCE OF ANY EXCAVATIONS IN AREAS POSSIBLY CONTAINING FIBER OR OTHER TELCO SERVICES ENTRANCES AND AREAS NOT COVERED BY THE PUBLIC UTILITY LOCATING SERVICE. GROUND PENETRATING RADAR IS THE PREFERRED SUBSURFACE UTILITY LOCATING METHOD TO BE USED. RESULTS OF THIS SUBSURFACE EXPLORATION SHALL BE SUBMITTED TO OWNER AND THE A/E FOR REVIEW AND APPROVAL PRIOR TO ANY EXCAVATIONS. HAND EXCAVATION SHALL BE PERFORMED IN THE AREAS WITHIN 10 FEET HORIZONTALLY IN ANY DIRECTION FROM POSSIBLE TELCO ENTRANCE UNDERGROUND UTILITIES. HAND EXCAVATION SHALL ALSO BE PERFORMED ELSEWHERE AS DIRECTED BY THE A/E AND/OR OWNER.
18. **HAZARDOUS MATERIALS: CALL VZW ENVIRONMENTAL COMPLIANCE HOTLINE (800)-384-9639**

IF THE CONTRACTOR UNCOVERS OR ENCOUNTERS ANY MATERIAL THAT IS BELIEVED TO BE HAZARDOUS IN NATURE (ASBESTOS, LEAD PAINT, SPILLED CHEMICALS, OR OTHERWISE), THE CONTRACTOR SHALL NOTIFY OWNER IMMEDIATELY AND SHALL NOT ABATE, REMOVE, SAMPLE, DISTURB, OR OTHERWISE HANDLE THE MATERIAL WITHOUT WRITTEN AUTHORIZATION FROM OWNER. THE UNCONTROLLED RELEASE OF ANY SUCH SUBSTANCE SHALL ALSO BE REPORTED TO THE LOCAL FIRE DEPARTMENT BY THE CONTRACTOR. DISPOSAL OF ANY SUCH MATERIAL SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CODES AND REGULATIONS, AND DOCUMENTATION OF DISPOSAL SHALL BE PROVIDED BY THE CONTRACTOR TO THE OWNER REPRESENTATIVE.
19. **ASBESTOS-CONTAINING MATERIALS (ACM)**

THE CONTRACTOR SHALL NOT USE ANY MATERIAL THAT CONTAINS ASBESTOS (ACM) FOR ANY APPLICATION ON THIS PROJECT.
20. **SITE SURVEY AND FIELD-ENCOUNTERED OBSTACLES**

NEITHER THE A/E NOR OWNER ARE GUARANTEEING THE ACCURACY OF THE INFORMATION DEPICTED IN THESE DOCUMENTS. THERE ARE NO IMPLIED WARRANTIES ASSOCIATED WITH THESE DOCUMENTS. CONTRACTOR SHALL FIELD VERIFY CONDITIONS PRIOR TO BIDDING THE WORK. ALL DRAWINGS ARE DIAGRAMMATIC AND MAY NOT SHOW ALL DETAILS REQUIRED TO CLEAR FIELD-ENCOUNTERED OBSTRUCTIONS. WHERE MINOR DEVIATIONS IN SYSTEMS ARE REQUIRED DURING CONSTRUCTION THE CONTRACTOR SHALL MAKE SUCH ACCOMMODATIONS AT NO ADDITIONAL COST TO OWNER. THE CONTRACTOR SHALL ADVISE THE ARCHITECT OF ANY DISCREPANCIES PRIOR TO THE BID AND PRIOR TO PERFORMING THE WORK.
21. **SCALE OF DRAWINGS**

MEASUREMENTS AND/OR LOCATIONS SHALL NOT BE SCALED FROM THE CONSTRUCTION DRAWINGS. CONTRACTORS SHALL USE POSTED DIMENSIONS ONLY. CONTRACTOR SHALL OBTAIN CLARIFICATION FROM THE ARCHITECT BEFORE PROCEEDING IF ANY DIMENSION(S) ARE IN QUESTION.
22. **PROJECT RECORD DRAWINGS**

PROJECT RECORD DRAWINGS SHALL BE UPDATED ON A DAILY BASIS IN ACCORDANCE WITH THE DIVISION SPECIFICATIONS.
23. **WORK HOURS**

REGULAR WORK HOURS ARE FROM 7:00 AM TO 5:00 PM. THIS MAY BE ADJUSTED TO ACCOMMODATE IRREGULAR CIRCUMSTANCES BUT REQUIRES THE APPROVAL OF OWNER. MAINTENANCE-WINDOW WORK HOURS ARE 12:00 AM TO 5:00 AM LOCAL TIME. THE CONTRACTOR SHALL DETERMINE ANY WORK-HOUR RESTRICTIONS AFFECTING THE SCHEDULE OF WORK AND ALL COSTS SHALL BE INCLUDED IN THE BID.
24. **QUALITY OF WORK**

CONTRACTOR SHALL PERFORM ALL WORK AND INSTALL ALL COMPONENTS IN A PROFESSIONAL AND WORKMANLIKE MANNER. ALL FINISH WORK SHALL BE TRUE, LEVEL, AND PLUMB. ALL JOINTS SHALL BE TIGHT AND CLEAN.
25. **WARRANTY**

CONTRACTOR SHALL PROVIDE DETAILS OF ITS WARRANTY POLICIES AND PROCEDURES INCLUDING, BUT NOT LIMITED TO, A CLEAR STATEMENT OF COVERAGE AND CONDITIONS OF WARRANTY OF SUPPLIERS SUPPLIES. CONTRACTOR TO PROVIDE A ONE-YEAR FITNESS AND SATISFACTION WARRANTY FOR ALL WORK, THE PERIOD TO BEGIN WITH FINAL ACCEPTANCE BY THE OWNER REPRESENTATIVE.
26. **DRILLING AND CUTTING-FIRE PROTECTION SYSTEM AND DUST/WATER CONTROL**

OWNER SHALL BE NOTIFIED BEFORE BEGINNING ANY DRILLING OR CUTTING OF CONCRETE, GYPSUM BOARD, OR OTHER DUST-PRODUCING MATERIALS. ALL EQUIPMENT IN AFFECTED AREAS SHALL BE PROTECTED TO THE SATISFACTION OF THAT OWNER REPRESENTATIVE. PRIOR TO ANY DUST-PRODUCING WORK, THE CONTRACTOR SHALL DEARM THE FIRE-DETECTION SYSTEM(S) AND COVER ALL SMOKE DETECTORS WITH RITTY (50) FEET OF THE WORK AREA AND ENSURE THAT THE SYSTEM IS RETURNED TO NORMAL OPERATION AT THE END OF EACH WORK DAY. ALL GAS SUPPRESSION DUMPED AS A RESULT OF THE CONTRACTOR NOT FOLLOWING THIS REQUIREMENT WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE. ALL SUCH WORK LOCATIONS SHALL BE APPROVED IN ADVANCE BY OWNER. WHEN DRILLING OR CUTTING IS REQUIRED IN AN AREA WITH TELECOMMUNICATION EQUIPMENT INSTALLED, A HEPA VACUUM CLEANER SHALL BE EMPLOYED TO CONTAIN DUST AND PARTICULATE MATTER DURING THE OPERATION. ALL AREAS ABOVE THE CEILING SHALL BE VACUUMED CLEAN AFTER THE WORK IS COMPLETE. ALL VACUUM CLEANERS SHALL BE APPROVED FOR USE BY THE OWNER REPRESENTATIVE. WHEN WET CORING, ALL PRECAUTIONS SHALL BE TAKEN TO CONFINE WATER TO WORK AREA.

PROJECT GENERAL NOTES CONTINUED:

27. **FLOORING/FLOOR**

ALL CUTTING AND DRILLING OF ACCESS FLOOR SHALL OCCUR IN AREAS DESIGNATED BY THE OWNER REPRESENTATIVE. FOR WORK REQUIRING THE REMOVAL OF FLOOR TILES, THE CONTRACTOR SHALL PROVIDE CONE BARRIERS AROUND ALL FLOOR OPENINGS FOR THE DURATION OF THESE ACTIVITIES. ADDITIONAL HAZARD LIGHTING SHALL ALSO BE PROVIDED, IF NECESSARY, THAT SUFFICIENTLY ILLUMINATES THE AREA AT ALL TIMES. THESE BARRIERS AND LIGHTING SHALL BE LEFT IN PLACE UNTIL THE PENETRATIONS ARE CLOSED FLUSH. REMOVAL OF FLOOR TILES AGAINST A WALL OR DOOR JAMB SHALL NOT BE DONE WITHOUT THE PERMISSION OF THE OWNER REPRESENTATIVE. UPON COMPLETION OF THE PROJECT, ALL FLOOR AREAS SHALL BE COMPLETELY CLEANED TO THE SATISFACTION OF THE OWNER REPRESENTATIVE. ALL METAL SHAVINGS SHALL BE COMPLETELY REMOVED FROM THE TILE AND ALL SHARP OR ROUGH EDGES FILLED SMOOTH. CUT/DRILED FLOOR TILES SHALL HAVE THEIR EXPOSED CONCRETE AND METAL EDGES SEALED WITH TWO COATS OF CLEAR SPRAY SEALANT PRIOR TO RE-INSTALLATION TO PREVENT FUTURE "CONCRETE DUSTING" AND CORROSION. SPRAY SEALANT SHALL BE APPLIED IN THE DESIGNATED AREAS. ALL RAISED FLOOR CUTS MUST BE LINED WITH THE APPROPRIATE GROMMET OR PLASTIC TRIM TO ENSURE THAT NO ROUGH EDGES ARE EXPOSED.
28. **OWNER-FURNISHED EQUIPMENT**

MAJOR EQUIPMENT IDENTIFIED IN THE CONSTRUCTION DRAWINGS FOR THIS PROJECT WILL BE FURNISHED BY OWNER FOR STORAGE AND INSTALLATION BY THE CONTRACTOR. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER REPRESENTATIVE INDICATING ALL REQUIRED OWNER-FURNISHED EQUIPMENT AND DELIVERY DATE REQUIRED TO CONFORM WITH THE CRITICAL PATH SCHEDULE. OWNER WILL CONTACT THEIR VENDORS AND RESPOND TO THE CONTRACTOR LIST. OWNER-FURNISHED EQUIPMENT WILL BE DELIVERED TO THE FACILITY, UNLESS OTHER ARRANGEMENTS HAVE BEEN MADE. THE CONTRACTOR, IN COORDINATION WITH THE OWNER REPRESENTATIVE, SHALL INSPECT EACH PIECE OF EQUIPMENT. OWNER WILL NOT BE PROVIDING STORAGE SPACE WITHIN THE FACILITY FOR USE BY THE CONTRACTOR UNLESS PRIOR ARRANGEMENTS ARE MADE AND APPROVED IN WRITING. REFER TO SHEET G011 FOR DETAILS.
29. **MATERIALS AND EQUIPMENT**

ALL MATERIALS AND EQUIPMENT USED IN THIS INSTALLATION SHALL BE NEW, UNLESS OTHERWISE AUTHORIZED BY THE OWNER REPRESENTATIVE, AND HAVE THE APPROPRIATE UL LISTING AND FACTORY MUTUAL (FM) APPROVAL. ALL MATERIALS SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODES, STANDARDS, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
30. **SAFETY AND DATA SHEETS (SDS DOCUMENTATION)**

THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN ALL MSDS AND RELATED INFORMATION FOR ALL MATERIAL AND EQUIPMENT DELIVERED AND/OR STORED AT THE SITE. THE MSDS SHALL IDENTIFY THE LOCATION OF THE PRODUCT WITHIN THE FACILITY AND SHALL BE MADE AVAILABLE FOR REVIEW BY ANY PARTY FOR THE DURATION OF THE PROJECT. WALL-MOUNTED MSDS HOLDERS SHALL BE FURNISHED AND INSTALLED BY THE CONTRACTOR. THE MSDS AND RELATED INFORMATION, INCLUDING ROOM NUMBER LOCATIONS, SHALL BE INCLUDED IN THE PROJECT MANUALS TO BE DELIVERED BEFORE FINAL APPLICATION FOR PAYMENT.
31. **FIELD OFFICE**

OWNER WILL NOT BE PROVIDING SPACE WITHIN THE FACILITY FOR A FIELD OFFICE OR A JOB-SITE TRAILER.
32. **DELIVERIES**

OWNER WILL NOT RECEIVE ANY TYPE OF DELIVERY ON THE CONTRACTOR'S BEHALF UNLESS PRIOR ARRANGEMENTS ARE MADE WITH OWNER. THE CONTRACTOR SHALL BE PRESENT TO RECEIVE PROJECT DELIVERIES. THE CONTRACTOR SHALL NOTIFY THE SITE RECEIVING AGENT AT LEAST ONE (1) DAY IN ADVANCE TO SCHEDULE ACTIVITIES ON THE LOADING DOCK. OWNER DELIVERIES TAKE PRIORITY AT ALL OWNER LOADING DOCKS. ALL SHIPPING COSTS ARE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE EXCEPTION OF OWNER-FURNISHED EQUIPMENT.
33. **STORAGE AND STAGING**

OWNER WILL NOT BE PROVIDING SPACE WITHIN THIS FACILITY FOR USE BY THE CONTRACTOR AS STORAGE AND/OR STAGING UNLESS PRIOR ARRANGEMENTS ARE MADE AND APPROVED IN WRITING. THIS WRITTEN APPROVAL SHALL INCLUDE A CLEAR DESCRIPTION IDENTIFYING THE LIMITS OF THE AREA(S) ALLOWED. THE CONTRACTOR SHALL SECURE WRITTEN APPROVAL IN ADVANCE FOR NECESSARY STORAGE OUTSIDE THE OWNER LEASEHOLD OR OWNED PREMISES FROM THE OWNER OF THE PROPERTY IN QUESTION. THE CONTRACTOR SHALL BE COVERED WITH UL LISTED FIRE RETARDANT TARPAILLINS DURING NON-WORKING PERIODS.
34. **CLEANLINESS**

WORK AREAS ARE TO BE KEPT CLEAN AT ALL TIMES.
35. **TRASH AND REFUSE DISPOSAL**

THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL AND DISPOSAL OF ALL PROJECT-RELATED TRASH, WASTE, AND/OR GARBAGE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A DUMPSITE FOR THE DURATION OF THE PROJECT IF REQUIRED. COORDINATE WITH VERIZON FOR THE DUMPSITE LOCATION. THE DUMPSITE SHALL BE EMPTIED AT SUITABLE INTERVALS TO PRESERVE THE APPEARANCE OF THE SITE. COMBUSTIBLE DEBRIS SHOULD BE REMOVED ON A DAILY BASIS. THE USE OF VERIZON DUMPSITES IS LIMITED BY OTHERS FOR DISPOSAL OF CONSTRUCTION DEBRIS IS PROHIBITED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE AS A RESULT OF THE DELIVERY, EXCHANGE, DROPPING AND/OR REMOVAL OF THE CONTRACTOR'S DUMPSITE, REMOVAL AND DISPOSAL OF TRASH, WASTE AND/OR GARBAGE SHALL BE PERFORMED IN A PROPER MANNER.
36. **SALVAGE ITEMS**

THE FOLLOWING ITEMS SHALL BE SALVAGED BY THE CONTRACTOR AND TURNED OVER TO VERIZON:

 - A. ANY ITEMS AS FIELD DIRECTED BY OWNER.



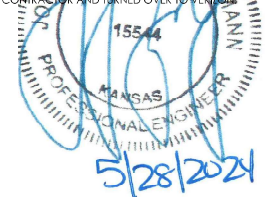
THE DRAWING WAS PREPARED SOLELY FOR THE USE OF VERIZON WIRELESS AND MUST ONLY BE USED BY VERIZON WIRELESS EMPLOYEES, CONTRACTORS, AND VENDORS WHILE PERFORMING THE WORK SHOWN ON THE DRAWING. ANY OTHER USE OF THE DRAWING IS FORBIDDEN.



NO.	DESCRIPTION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
2	REVISED PER CLIENT COMMENTS	08/02/22
3	REVISED PER ROUTE	08/24/22
4	ISSUED FOR FINAL	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	01/16/23
7	REVISED PER CROWN COMMENTS	02/07/24

NETWORK COMPLIANCE SUBMITTALS DATE 06/19/22

100% SUBMISSION 06/19/22



ISSUED FOR REVIEW

GENERAL NOTES

G001

VERIZON STANDARDS

THE STANDARDS BELOW ARE PROVIDED UPON REQUEST. ANY PUBLIC CODES LISTED ARE NOT PROVIDED AS THEY ARE READILY AVAILABLE. CONTRACTOR SHALL COMPLY WITH THE REQUIREMENTS OF THESE STANDARDS.

CELL GENERAL

NADV1220	SEPARATION CLEARANCE ISSUES FOR LIQUID PROPANE AS STORAGE	6/14/2012
NC-EOS-ST-09-0001	PHYSICAL SECURITY STANDARDS FOR CELL SITES	11/30/2008
NSTD1500	CELL SITE CODE COMPLIANCE	8/1/2015
NSTD2020	CELL SITE SHELTER STANDARD	8/1/2015
NSTD2030	CELL SHELTER MAINTENANCE & INSPECTION STANDARD	2/1/2016
NSTD305	CELL SITE SHELTER SUPPLIER EQUIPMENT INSTALLATION STANDARD	8/1/2015
OTHR135101	FACILITY AUDIT PROCEDURE FOR LIQUID PETROLEUM (PROPANE) FUELED SYSTEMS	6/1/2012

CELL - MECHANICAL

NSTD1000	CELL SITE HVAC STANDARD	2/1/2014
NDR700C	CELL SITE HVAC REPLACEMENTS & INSTALLATIONS - CONTRACTOR EDITION	5/15/2015
OTHR238113	CELL SITE HVAC SPECIFICATION	2/1/2012
OTHR238114	WALL PACK UNIT REPLACEMENT	8/1/2015
OTHR238115	CELL SITE HVAC MAINTENANCE	2/1/2016
OTHR238116	CELL SITE HVAC PRE-INSPECTION & INSTALLATION CHECKLIST	10/9/2012

CELL - AC POWER, DC POWER, & GROUNDING

NSTD1517	AC POWER AND STANDBY POWER AT CELL SITES STANDARD	2/8/2016
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CELL - TOWER INSPECTIONS

NSTD444	PERIODIC TOWER INSPECTION STANDARD	8/1/2015
OTHR444	TOWER INSPECTION REPORT TEMPLATE	8/1/2015

MSC - GENERAL CONSTRUCTION & PLANNING STANDARDS

NSTD388	ARCHITECTURAL SYSTEMS IN SWITCHING CENTER DESIGN	8/1/2015
NSTD389	STRUCTURAL SYSTEMS IN SWITCHING CENTER DESIGN	8/1/2015

MECHANICAL DESIGN STANDARDS

NSTD385	MECHANICAL SYSTEMS IN SWITCHING FACILITY DESIGN	2/1/2016
NSTD398	BUILDING AUTOMATION SYSTEMS IN NETWORK FACILITY DESIGN	8/1/2015
NSTD391	PLUMBING SYSTEMS IN SWITCHING CENTER DESIGN	8/1/2015
NSTD410	TEMPORARY HVAC INSTALLATIONS IN SWITCHING DESIGN	8/1/2014

NETWORK EQUIPMENT AND INSTALLATION STANDARDS

NSTD119	NETWORK INSTALLATION STANDARDS	8/1/2015
NADV1505	IMPACT OF DUST, DIRT, & AIR POLLUTANTS ON ELECTRONIC EQUIPMENT	11/15/2007

FIRE PROTECTION STANDARDS

NSTD169	FIRE PROTECTION SYSTEMS IN NETWORK FACILITY DESIGN	2/1/2016
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COMMISSIONING STANDARDS

NSTD169	POWER SYSTEM TEST REQUIREMENTS	2/1/2016
NSTD401	COMMISSIONING STANDARDS FOR NETWORK EQUIPMENT LOCATIONS	2/1/2016

AC POWER STANDARDS

NSTD516	AC ELECTRICAL SYSTEMS IN NETWORK EQUIPMENT LOCATIONS	2/1/2016
NSTD517	AC STANDBY POWER SYSTEMS IN NETWORK EQUIPMENT LOCATION	2/1/2016
NSTD518	TASK LIGHTING FOR NETWORK EQUIPMENT LOCATIONS	8/1/2012
OTHR361	VZW ENERGIZED ELECTRICAL WORK PERMIT	8/1/2010

NETWORK SECURITY STANDARDS

NSTD397	SECURITY SYSTEMS IN SWITCHING CENTER DESIGN	2/1/2016
NSTD400	MAINTENANCE STANDARDS FOR SWITCHING CENTERS	2/1/2016

NETWORK SECURITY STANDARDS

NSTD30	BATTERY INSTALLATION AND MAINTENANCE	2/1/2016
OTHR30A	BATTERY INSTALLATION SCOPE OF SERVICES	3/19/2014
OTHR30B	BATTERY MAINTENANCE SCOPE OF SERVICES	3/14/2014
OTHR10569	BATTERY INSTALLATION AND INITIALIZATION PRESENTATION	8/1/2013
NSTD33	MOBILE SWITCHING CENTER GROUNDING SYSTEMS	2/1/2014
NSTD34	AC SERVICE GROUNDING - ENGINEERING APPLICATIONS	2/1/2011
NSTD35	MOBILE SWITCHING CENTER GROUNDING OF TRANSMISSION EQUIPMENT	8/20/2009

INSPECTING MOBILE SWITCHING CENTERS, MICROWAVE RADIO SITES, AND CELL SITES FOR GROUNDING AND ELEC. PROTECTION

NSTD36	INSPECTING MOBILE SWITCHING CENTERS, MICROWAVE RADIO SITES, AND CELL SITES FOR GROUNDING AND ELEC. PROTECTION	2/1/2013
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ENGINEERING FUNDAMENTALS OF ELECTRODE GROUND MEASUREMENTS

NSTD40	ENGINEERING FUNDAMENTALS OF ELECTRODE GROUND MEASUREMENTS	12/6/2007
NSTD41	FUNDAMENTALS OF ELECTRODE GROUND MEASUREMENTS	7/29/2009

LIGHTING PROTECTION ASSESSMENT RISK ASSESSMENT GUIDELINES - ENGINEERING CONSIDERATIONS

NSTD42	LIGHTING PROTECTION ASSESSMENT RISK ASSESSMENT GUIDELINES - ENGINEERING CONSIDERATIONS	8/2/2008
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DC POWER PLANT DESIGN

NSTD47	DC POWER PLANT DESIGN	2/1/2016
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ELECTROSTATIC DISCHARGE (ESD) CONTROL

NSTD325	ELECTROSTATIC DISCHARGE (ESD) CONTROL	2/4/2009
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MOP REQUIREMENTS

NDR54	MOP REQUIREMENTS	4/8/2013
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MAINTENANCE WINDOW

NDR542	MAINTENANCE WINDOW	4/9/2008
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ENVIRONMENTAL COMPLIANCE IN SWITCHING CENTER DESIGN

NSTD399	ENVIRONMENTAL COMPLIANCE IN SWITCHING CENTER DESIGN	2/1/2016
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VERIZON STANDARDS CONTINUED

PROJECT MANAGEMENT - MISCELLANEOUS DOCS/ APPROVALS

OTHR42144	RFP PROCESS - SCOPE MATRIX PARTICIPANTS [COMPANION TO NRPC809]	2/1/2016
RFP FOR CONSTRUCTION GC OR CM - PM SUPPORT		
NRPC901	GC/CM INVOICE PROCEDURE	2/1/2013
OTHR901	VZW BILLING FORMS	6/3/2014
OTHR903B	CHANGE ORDER - CONTRACTOR CHECK LIST	2/1/2014
OTHR903C	POTENTIAL CHANGE ORDER - REVIEW STATUS	2/1/2014

AGREEMENT TEMPLATES

NSTD387	CIVIL SYSTEMS IN SWITCHING CENTER DESIGN	11/6/2009
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BIDDING, CONSTRUCTION & PROJECT APPROVALS

1. MUST BE USED ON ALL MSC DESIGN PROJECTS AFTER 02/03/2006		
2. SHOULD ONLY BE REFERENCED FOR NETWORK EQUIPMENT CENTERS		
3. SHOULD ONLY BE DISTRIBUTED TO FIRMS CONDUCTING THIS SCOPE OF WORK		

NFPA 101	LIFE SAFETY CODE	LATEST EDITION
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NFPA 101A	GUIDE ON ALTERNATIVE APPROACHES TO LIFE SAFETY	LATEST EDITION
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NFPA 101B	CODE FOR MEANS OF EGRESS FOR BUILDINGS AND STRUCTURES	LATEST EDITION
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NFPA 110	STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS	LATEST EDITION
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NFPA 203	GUIDE ON ROOF COVERINGS AND ROOF DECK CONSTRUCTIONS	LATEST EDITION
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NFPA 214	STANDARD ON WATER-COOLING TOWERS	LATEST EDITION
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NFPA 220	STANDARD ON TYPES OF BUILDING CONSTRUCTION	LATEST EDITION
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NFPA 221	STANDARD FOR FIRE WALLS AND FIRE BARRIER WALLS	LATEST EDITION
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NFPA 230	STANDARD FOR THE FIRE PROTECTION OF STORAGE	LATEST EDITION
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NFPA 241	STANDARD FOR SAFEGUARDING CONSTRUCTION, ALTERNATION, AND DEMOLITION OPERATIONS	LATEST EDITION
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NFPA 262	STANDARD METHOD OF TEST FOR FLAME TRAVEL AND SMOKE OF WIRES AND CABLES FOR USE IN AIR-HANDLING SPACES	LATEST EDITION
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NFPA 329	RP FOR HANDLING RELEASES OF FLAMMABLE AND COMBUSTIBLE LIQUIDS AND GASES	LATEST EDITION
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NFPA 551	GUIDE FOR THE EVALUATION OF FIRE RISK ASSESSMENTS	LATEST EDITION
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NFPA 730	GUIDE FOR PREMISES SECURITY	LATEST EDITION
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NFPA 731	INSTALLATION OF ELECTRONIC SECURITY SYSTEMS	LATEST EDITION
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NFPA 780	STANDARD FOR THE INSTALLATION OF LIGHTNING PROTECTION SYSTEMS	LATEST EDITION
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NFPA 900	BUILDING ENERGY CODE	LATEST EDITION
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NFPA 1600	STANDARD ON DISASTER/EMERGENCY MANAGEMENT AND BUSINESS CONTINUITY PROGRAMS	LATEST EDITION
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NFPA 1620	RECOMMENDED PRACTICE FOR PRE-INCIDENT PLANNING	LATEST EDITION
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NFPA 2001	STANDARD ON CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	LATEST EDITION
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NFPA 5000	BUILDING CONSTRUCTION AND SAFETY CODE	LATEST EDITION
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ASCE 7-02	MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES	LATEST EDITION
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ACI 318-03	BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE	LATEST EDITION
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UL STDs	ALL REFERENCED UL STANDARDS IN THE IBC	LATEST EDITION
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ASTM STDs	ALL REFERENCED ASTM STANDARDS IN THE IBC	LATEST EDITION
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ADA	ACCESSIBILITY CODE FOR BUILDINGS AND FACILITIES	LATEST EDITION
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ASHRAE 90.1	ENERGY STANDARD FOR BUILDINGS EXCEPT LOW-RISE RES. BUILDINGS	LATEST EDITION
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ASHRAE 62.1	VENTILATION FOR ACCEPTABLE INDOOR AIR QUALITY	LATEST EDITION
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ASHRAE 111	PRACTICES FOR MEASUREMENT, TESTING, ADJUSTING, BALANCING OF BUILDING HVAC SYSTEMS	LATEST EDITION
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ASHRAE 127	METHOD OF TESTING FOR RATING COMPUTER AND DATA PROCESSING ROOM UNIT AIR-CONDITIONERS	LATEST EDITION
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ASHRAE 135	BACNET - A DATA COMMUNICATION PROTOCOL FOR BUILDING AUTOMATION AND CONTROL NETWORKS	LATEST EDITION
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ASHRAE GUIDELINE 0	THE COMMISSIONING PROCESS	LATEST EDITION
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ASHRAE GUIDELINE 1	THE HVAC COMMISSIONING PROCESS	LATEST EDITION
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ASHRAE GUIDELINE 4	PREPARATION OF OPERATING AND MAINTENANCE DOCUMENTATION FOR BUILDING SYSTEMS	LATEST EDITION
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ASHRAE GUIDELINE 13	SPECIFYING DIRECT DIGITAL CONTROL SYSTEM	LATEST EDITION
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ASHRAE	THERMAL GUIDELINES FOR DATA PROCESSING ENVIRONMENTS	LATEST EDITION
ASHRAE	DATACOM EQUIPMENT POWER TRENDS AND COOLING APPLICATIONS	LATEST EDITION
SMACNA	FIRE, SMOKE AND RADIATION DAMPER INSTAL. GUIDE FOR HVAC SYSTEMS	LATEST EDITION
SMACNA	GUIDELINES FOR ROOF MOUNTED OUTDOOR AIR-CONDITIONER INSTAL.	LATEST EDITION
SMACNA	SEISMIC RESTRAINT MANUAL: GUIDELINES FOR MECHANICAL SYSTEMS	LATEST EDITION

RESPONSIBILITY MATRIX

TASK	FURNISH (SUPPLY & DELIVERY)	PROVIDE (FURNISH & INSTALL)	INSTALL (ASSEMBLE & ERECT)	COORDINATE
BUILDING & SITE CONSTRUCTION		CONTRACTOR		CONTRACTOR
SEISMIC RESTRAINT SYSTEM		CONTRACTOR		CONTRACTOR
GROUNDING AND LIGHTNING PROTECTION SYSTEMS		CONTRACTOR		CONTRACTOR
GROUNDING AND LIGHTNING PROTECTION SYSTEMS INSPECTIONS		CONTRACTOR		CONTRACTOR
FIBER INSTALLATION		OWNER		OWNER
BUILDING PERMIT FEES		CONTRACTOR		CONTRACTOR
ADDITIONAL PERMIT FEES		CONTRACTOR		CONTRACTOR
CONSTRUCTION MANGER [OWNER'S REP.]		OWNER		CONTRACTOR
FIRE DETECTION AND SUPPRESSION SYSTEMS (SPRINKLER, SPECIAL HAZARDS AND DET.)		CONTRACTOR		CONTRACTOR
SECURITY - GENERAL SITE		CONTRACTOR		CONTRACTOR
FIREWATCH - UNOCCUPIED SPACES WHEN EXISTING DETECTION SYSTEM IS OFFLINE		OWNER		OWNER
RACKS FOR SECURITY AND AV EQUIPMENT	OWNER		CONTRACTOR	CONTRACTOR
BUILDING AUTOMATION		CONTRACTOR		CONTRACTOR
EMERGENCY LIGHTING		CONTRACTOR		CONTRACTOR
TASK LIGHTING		CONTRACTOR		CONTRACTOR
INTEGRATED LOAD CENTER (ILC) [ATS, MAIN DISTRIBUTION SWITCHBOARDS, CKT. BREAKER]	OWNER		CONTRACTOR	CONTRACTOR
HVAC UNITS	OWNER		CONTRACTOR	CONTRACTOR
PORTABLE GENERATOR TAP BOX		CONTRACTOR		CONTRACTOR
PORTABLE GENERATOR		OWNER		CONTRACTOR
DC POWER PLANT	OWNER		CONTRACTOR	CONTRACTOR
BATTERY RACKS & CONTAINMENT	OWNER		CONTRACTOR	CONTRACTOR
EMERGENCY EYE WASH STATION		CONTRACTOR		CONTRACTOR
FIBER CONDUIT & VAULTS		CONTRACTOR		CONTRACTOR
FIBER TRAY	OWNER		CONTRACTOR	OWNER
CABLING		CONTRACTOR		OWNER
WATER, SEWER, STORM, A/C ELECTRIC		CONTRACTOR		CONTRACTOR
ENVIRONMENTAL DUE DILIGENCE		OWNER		OWNER
GEOTECHNICAL INVESTIGATION, REPORT & SOIL BORINGS	OWNER			CONTRACTOR
CONTRACTOR EQUIPMENT TESTING/COMMISSIONING (HVAC, ELECTRICAL, ETC.)		CONTRACTOR		CONTRACTOR

NOTES:
1. FURNISH: PURCHASE AND SHIP ITEM TO SITE.
2. PROVIDE: PURCHASE, SHIP AND INSTALL ITEM.
3. INSTALL: INSTALL FURNISHED ITEM.

EQUIPMENT PRE-PURCHASE SCHEDULE

EQUIPMENT	SUPPLIER	CONTRACTOR (INSTALLATION RESPONSIBILITY)	SUPPLIER CONTACT	APPROXIMATE LEAD TIME
THREE (3) 5-TON HVAC UNITS	AIRSYS	MECHANICAL		UNKNOWN
GE INFINITI M 48VDC POWER PLANT WITH FOUR (4) DISTRIBUTION PANELS, 11-75A RECTIFIERS	GE	DC CONTRACTOR		UNKNOWN
(2) BATTERY STRINGS	EAST PENN	DC CONTRACTOR		UNKNOWN
ILC - INTERSECT PEOPLESOFT #AA400G1PH2005F-35	INTERSECT, INC.	ELECTRICAL CONTRACTOR		UNKNOWN
PORTABLE GEN TAPBOX (INTERSECT PEOPLESOFT ICCG-400-F)	INTERSECT, INC.	ELECTRICAL CONTRACTOR		UNKNOWN
RTU - SITEBOSS - SITE MONITORING	ASENTRIA			UNKNOWN



THE DRAWING WAS PREPARED SOLELY FOR THE USE OF VERIZON WIRELESS AND MUST ONLY BE USED BY VERIZON WIRELESS EMPLOYEES, CONTRACTORS, AND VENDORS WHILE PERFORMING THE WORK SHOWN ON THE DRAWING. ANY OTHER USE OF THE DRAWING IS FORBIDDEN.



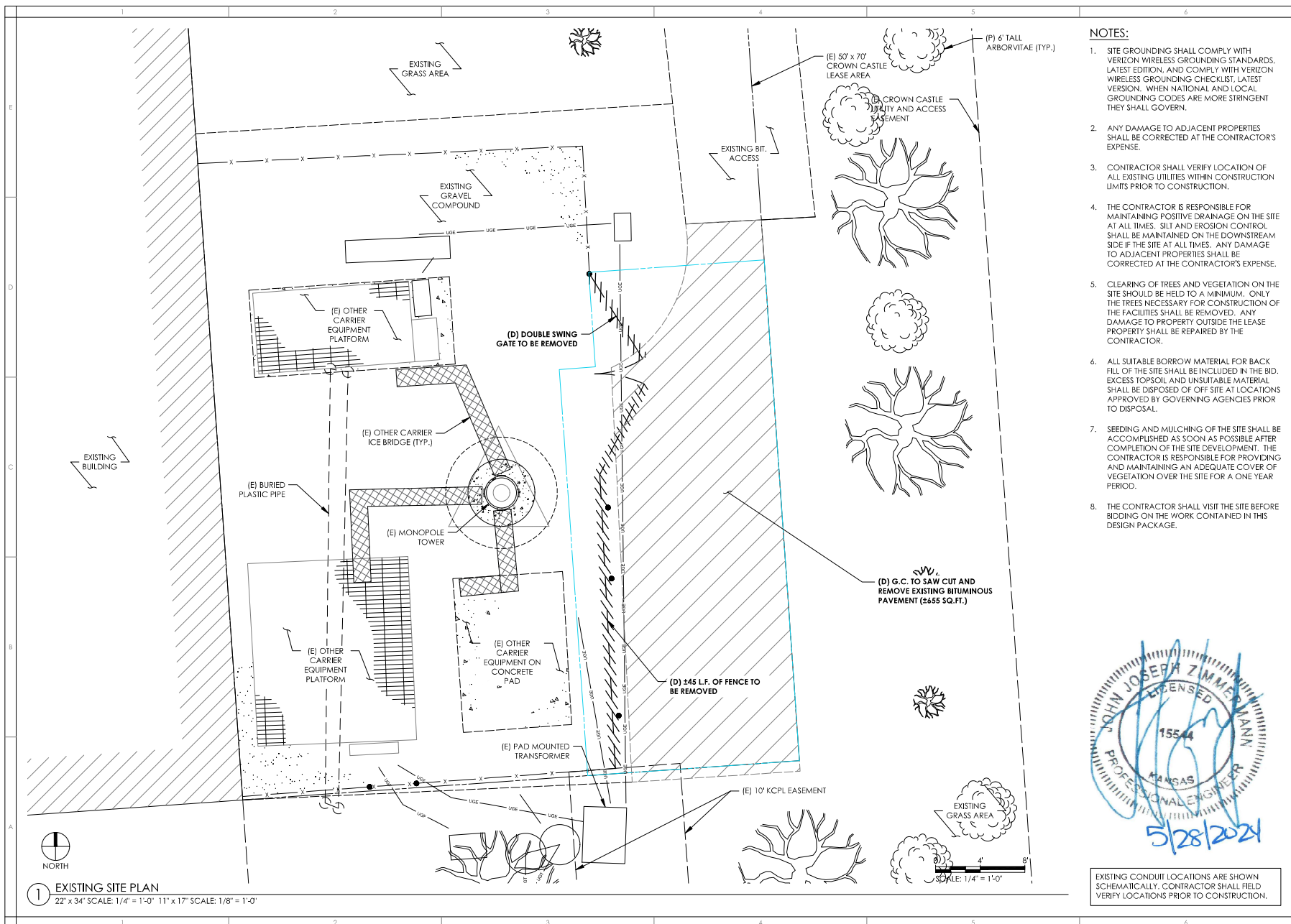
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NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22



ISSUED FOR REVIEW

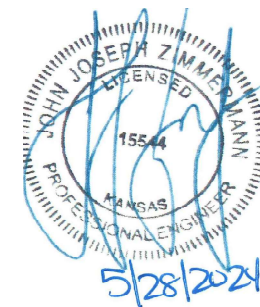
VERIZON STANDARDS

G011



NOTES:

1. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.
2. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE IF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
5. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO PROPERTY OUTSIDE THE LEASE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR.
6. ALL SUITABLE BORROW MATERIAL FOR BACK FILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.
7. SEEDING AND MULCHING OF THE SITE SHALL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.
8. THE CONTRACTOR SHALL VISIT THE SITE BEFORE BIDDING ON THE WORK CONTAINED IN THIS DESIGN PACKAGE.



EXISTING CONDUIT LOCATIONS ARE SHOWN SCHEMATICALLY. CONTRACTOR SHALL FIELD VERIFY LOCATIONS PRIOR TO CONSTRUCTION.



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690 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

verizon
KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

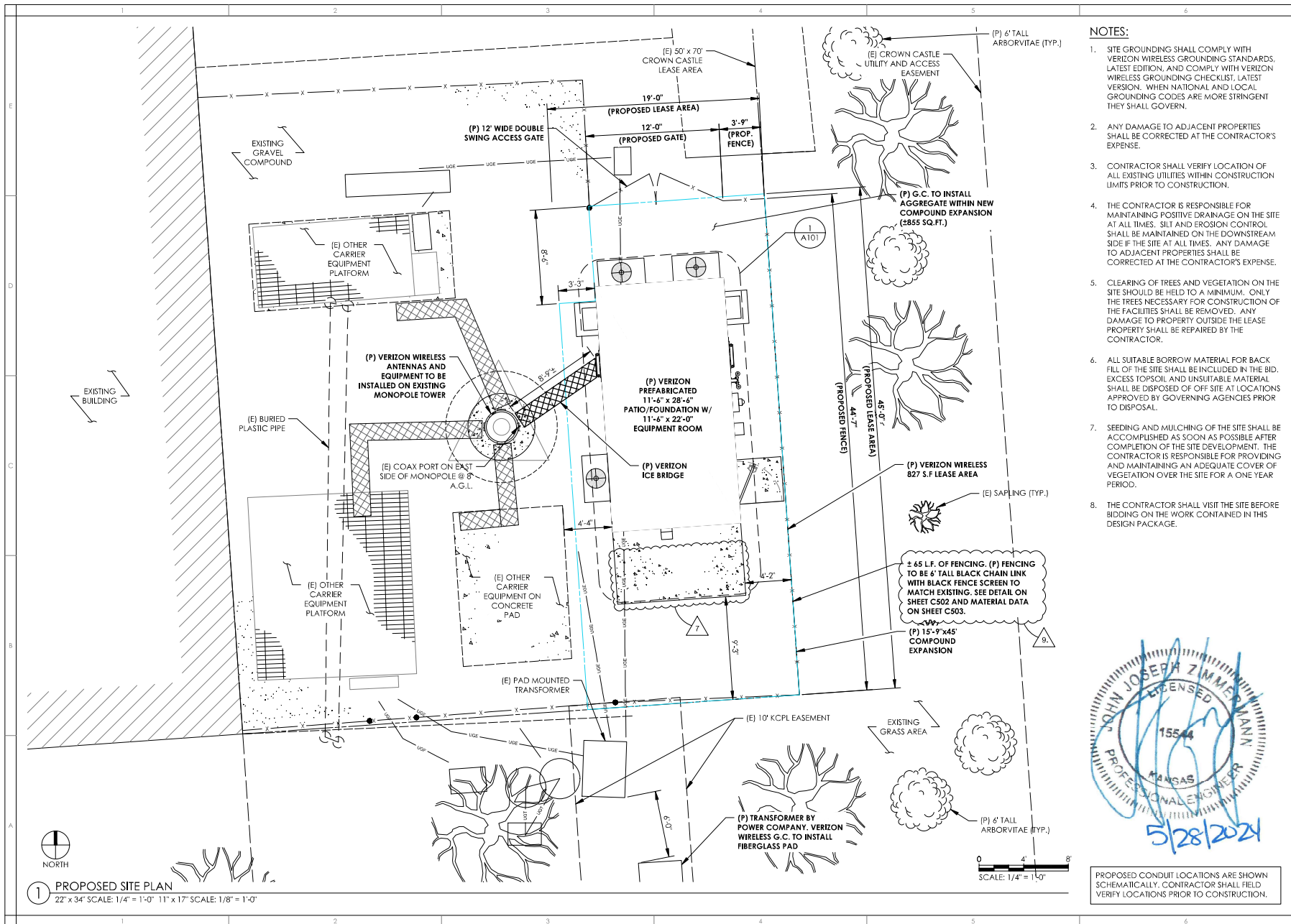
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2	REVISED PER CLIENT COMMENTS	08/02/22
3	REVISED FIBER ROUTE	08/24/22
4	ISSUED FOR PERMIT	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158891
DRAWING: 158891-01
DESIGNED BY: JAZ
DRAWN BY: JCB
CHECKED BY: JAZ
CONTRACT: 2017

**ISSUED
FOR
REVIEW**

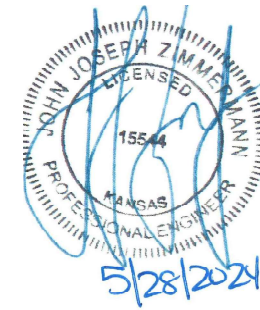
**CIVIL SITE
DEMOLITION
PLAN**

CD101



NOTES:

1. SITE GROUNDING SHALL COMPLY WITH VERIZON WIRELESS GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH VERIZON WIRELESS GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT THEY SHALL GOVERN.
2. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
3. CONTRACTOR SHALL VERIFY LOCATION OF ALL EXISTING UTILITIES WITHIN CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
4. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE IF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES SHALL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
5. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE HELD TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO PROPERTY OUTSIDE THE LEASE PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR.
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 LOCATION CODE: 661221
 15201 MURLEN
 OLATHE, KS 66062

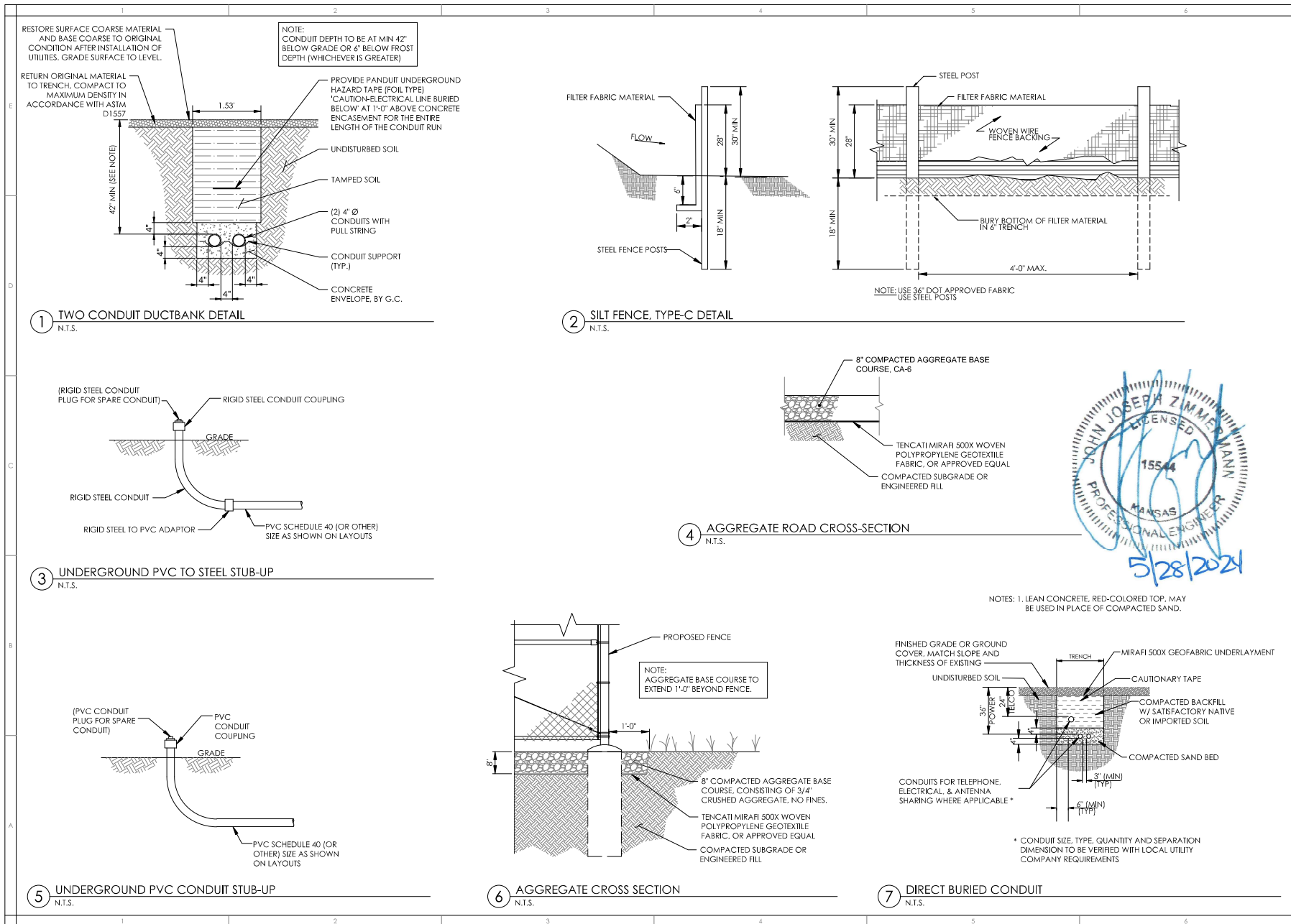
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7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/13/22

PROJECT: 156801
 DRAWING: 156801-01-01
 DESIGNED BY: JAZ
 DRAWN BY: JCB
 CHECKED BY: JAZ
 COMPILED: 2017

ISSUED FOR REVIEW

PROPOSED SITE PLAN

C101



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LOCATION CODE: 661221

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OLATHE, KS 66062

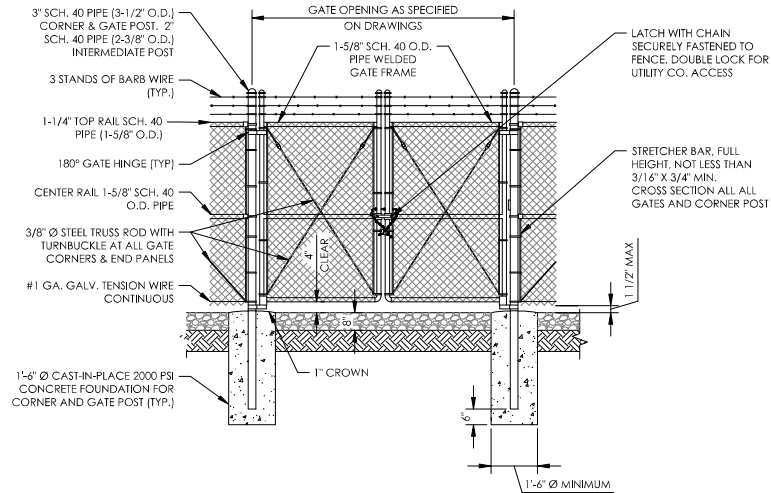
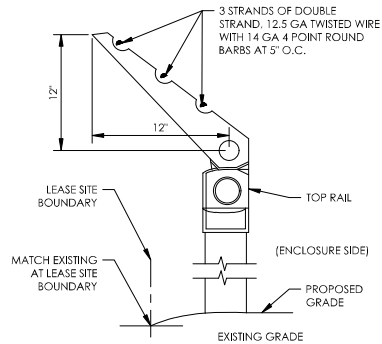
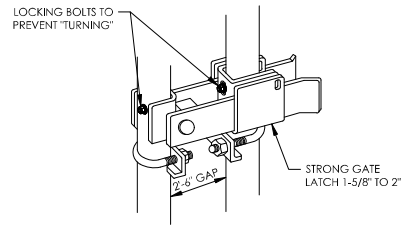
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7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158001 CADD/NOI/COMPLIANCE DESIGNED BY: AAY DRAWN BY: CCB CHECKED BY: AAY COMPILE: 2017	ISSUED FOR REVIEW
-----------------------------------------------------------------------------------------------------------------	--------------------------

CIVIL
DETAILS

C501

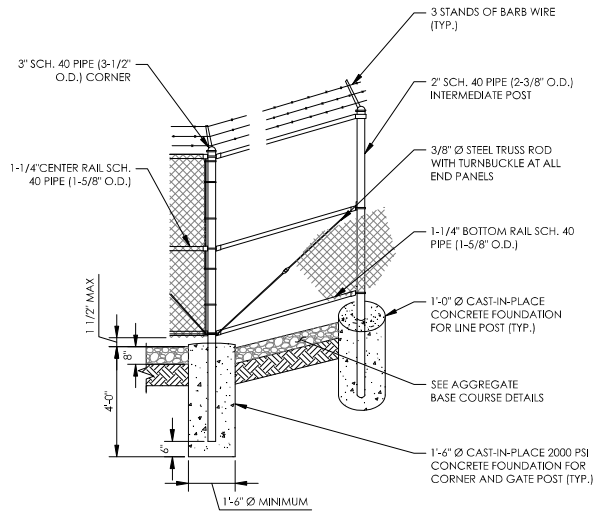
NOTE:
GATE HINGE BOLTS SHALL HAVE THEIR
THREADS PEENED OR WELDED TO
PREVENT UNAUTHORIZED REMOVAL



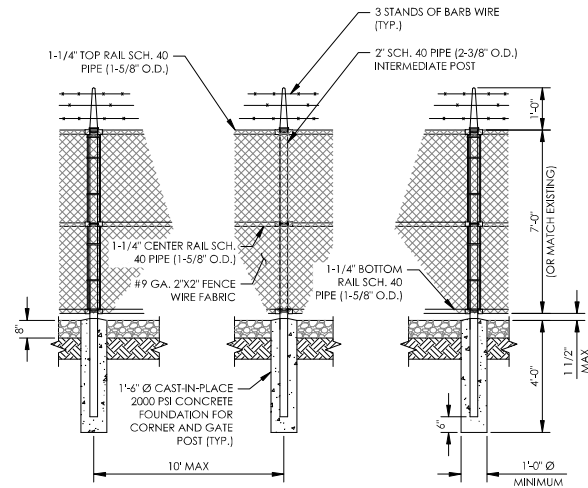
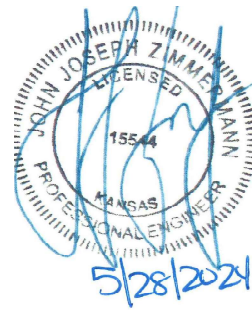
⑤ STRONG ARM GATE LATCH DETAIL
N.T.S.

③ BARBED WIRE DETAIL
N.T.S.

② DOUBLE SWING GATE
N.T.S.



④ CORNER POST DETAIL
N.T.S.



① FENCE POST DETAILS
N.T.S.

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PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

verizon
KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

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6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24

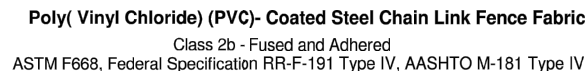
NETWORK COMPLIANCE SUBMITTALS DATE
100% SUBMISSION 06/19/22

PROJECT: 158891
DRAWING: NETWORKING 2
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
COMPILE: 2017

**ISSUED
FOR
REVIEW**

**CIVIL
DETAILS**

C502



ADVANTAGE
ONE
SOURCE

MATERIAL DATA IS SUPPLIED BY FENCE MANUFACTURER
AND IS PROVIDED FOR REFERENCE. GC TO CONTACT
AMERIFENCE CORPORATION FOR ORDERING AND
INSTALLATION INFORMATION:
CHAD CHRISTENSEN
AMERIFENCE CORPORATION
(816)N 683-2291



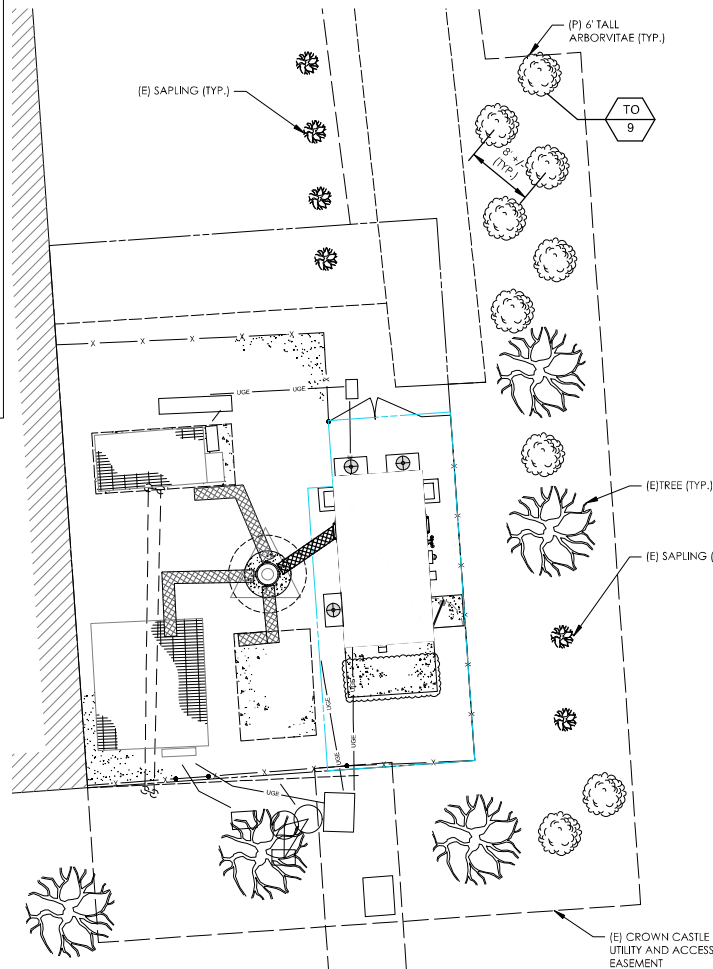
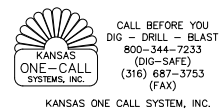
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5	REVISED TRANSFORMER LOCATION	01/30/2016
6	UPDATED PER CLIENT COMMENTS	02/16/16
7	REVISED PER CROWN COMMENTS	02/03/16
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/10

PROJECT #: 160-01
CADDWG FILE #: 0
DESIGNED BY: XXX
DRAWN BY: CEB
CHECKED BY: XXX
COPYRIGHT: 2017

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REVIEW

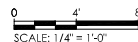
FENCE MATERIAL DATA

C503

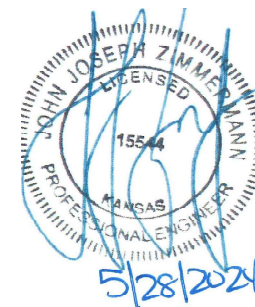


SYMBOL	BOTANICAL NAME	COMMON NAME	QUANTITY	SIZE	COMMENTS
TREES					
TO	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	9	6 FT. HT. MIN.	B & B (BALLED & BURLAPPED)

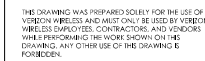
1 PROPOSED LANDSCAPE PLAN
22" x 34" SCALE: 1/4" = 1'-0" 11" x 17" SCALE: 1/8" = 1'-0"



1. PRUNE NEWLY INSTALLED SHRUBS, WORK SHALL BE DONE BY EXPERIENCED PERSONNEL TO THE ACCEPTED HORTICULTURAL AND ARBORICULTURAL STANDARDS. PRUNING SHALL RESULT IN A LOOSE OUTLINE CONFORMING TO THE GENERAL SHAPE OF THE SHRUB TYPE. DO NOT USE HEDGE SHEARS.
2. ALL PLANTING STOCK SHALL BE NURSERY-GROWN IN ACCORDANCE WITH GOOD HORTICULTURAL PRACTICE. PLANTS SHALL BE FREE OF DISEASE, INSECTS EGGS, LARVAE AND DEFECTS SUCH AS KNOTS, SUN-SCALD, INJURIES, ABRASIONS OR DISFIGUREMENT. THEY SHALL HAVE SOUND, HEALTHY VIGOROUS AND UNIFORM GROWTH TYPICAL OF THE SPECIES AND VARIETY, WELL-FORMED, FREE FROM IRREGULARITIES, WITH THE MINIMUM QUALITY AND SIZE CONFORMING TO AMERICAN STANDARD FOR NURSERY STOCK.
3. GUARANTEE: WARRANT ALL PLANT MATERIAL TO BE TRUE TO BOTANICAL NAME AND SPECIES. AFTER COMPLETION OF PLANTING, ALL PLANT MATERIALS SHALL BE WARRANTED AGAINST DEFECTS, INCLUDING DEATH AND UNSATISFACTORY GROWTH FOR A WARRANTY PERIOD OF ONE YEAR. THE CONTRACTOR WILL NOT BE RESPONSIBLE FOR DEFECTS RESULTING FROM NEGLECT ABUSE, DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS BEYOND THE CONTRACTORS CONTROL WHICH RESULT FROM NATURAL CAUSES SUCH AS FLOODS STORMS, FIRES OR VANDALISM.
REPLACEMENTS: DURING THE WARRANTY PERIOD, REPLACE ONE TIME, AT NO ADDITIONAL COST TO THE OWNER, PLANT MATERIAL THAT ARE DEAD, OR IN THE OPINION OF THE LANDSCAPE ARCHITECT, IN AN UNHEALTHY OR UNSIGHTLY CONDITION. REJECTED PLANT MATERIALS SHALL BE REMOVED FROM THE SITE AT CONTRACTOR'S EXPENSE. REPLACEMENTS ARE TO BE MADE NO LATER THAN THE SUBSEQUENT PLANTING SEASON. RESTORE AREAS DISTURBED BY REPLACEMENT OPERATIONS.
4. MULCHING SHALL BE DONE WITHIN 48 HOURS AFTER PLANTING. MULCH SHRUB BEDS TO A UNIFORM DEPTH OF THREE INCHES. MULCH SHALL BE CLEAN COMPOSTED FINISH BARK MULCH FREE OF FOREIGN MATERIAL AND LARGE PIECES OVER THREE INCHES LONG. DO NOT MULCH TREE AND SHRUB PLANTING PITS.
5. TOPSOIL SHALL CONSIST OF FERTILE FRIABLE NATURAL LOAM, CONTAINING A LIBERAL AMOUNT OF HUMUS AND SHALL BE SUBJECT TO INSPECTION AND APPROVAL. IT SHALL BE FREE OF ADMIXTURES OF SUBSOIL AND FREE OF CRAB GRASS, ROOTS, STICKS AND OTHER EXTRANEOUS MATTER, AND SHALL NOT BE USED FOR PLANTING OPERATIONS WHILE IN A FROZEN OR MUDDY CONDITIONS.
6. REPAIR ALL TURF AREAS BY SEEDING. SEEDING INSTALLATION SHALL BE EXECUTED ONLY AFTER ALL FINISH GRADING HAS BEEN COMPLETED, NO SEEDING WORK SHALL BE DONE PAST SEPTEMBER 15, UNLESS APPROVED BY THE OWNER'S REPRESENTATIVE.
SEED: SEED MIX SHALL MATCH EXISTING TURF, OR BE A 50/50 MIX OF CERTIFIED IMPROVED BLEND OF BLUEGRASS AND CERTIFIED IMPROVED PERENNIAL RYE. MIX SHALL BE APPROVED BY THE OWNER'S REPRESENTATIVE PRIOR TO PLANTING. SEEDING SHALL BE APPLIED AT A MINIMUM RATE OF 120 POUNDS PER ACRE, FUTERRA BLANKET, OR EQUAL, SHALL BE USED FOR EROSION CONTROL, MULCH WHERE NECESSARY IN LIEU OF HYDRO MULCH.



PROPOSED CONDUIT LOCATIONS ARE SHOWN SCHEMATICALLY. CONTRACTOR SHALL FIELD VERIFY LOCATIONS PRIOR TO CONSTRUCTION.



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7	REVISED PER CROWN COMMENTS	02/01/22
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/10/22

PROJECT #: 160-011
CAD DRAWING FILE #: DWG
DESIGNED BY: XXX
DRAWN BY: CEB
CHECKED BY: XXX
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FOR
REVIEW

LANDSCAPE PLAN

C504

0 1/2" 1" 2"
SCALE: 1/8" = 1'-0"

22" x 34" PRINT IS THE FULL SCALE
FORMAT. ANY SIZE OTHER THAN
THAT IS AT REDUCED SCALE.

NOTE: EXISTING TOWER HEIGHT IS 100' A.G.L.
THE FAA APPROVED HEIGHT IS 130' A.G.L.

EXISTING OTHER CARRIER ANTENNAS

LESSEE ANTENNA LEVEL.
FOR PROPOSED ANTENNA
CONFIGURATION, SEE
DETAIL 2/ANT101

PROPOSED LESSEE ANTENNAS
& MOUNTING PLATFORM, SEE
ANT502 FOR MOUNT DETAILS.

EXISTING OTHER CARRIER ANTENNAS

EXISTING OTHER CARRIER ANTENNAS

EXISTING 100' MONOPOLE TOWER

PROPOSED WAVE GUIDE & ICE
BRIDGE FROM EQUIPMENT
SHELTER TO ANTENNA TOWER

PROPOSED LESSEE
EQUIPMENT SHELTER

± 65 L.F. OF FENCING, PROPOSED FENCING TO BE
6" TALL BLACK CHAIN-LINK WITH BLACK FENCE
SCREEN TO MATCH EXISTING. SEE DETAIL ON
SHEET C502 AND MATERIAL DATA ON SHEET C503
(PARTIALLY SHOWN FOR CLARITY)

EXISTING OTHER
CARRIER ICE BRIDGE

EXISTING OTHER CARRIER
EQUIPMENT PLATFORM

EXISTING 6" TALL CHAIN-LINK FENCE
(PARTIALLY SHOWN FOR CLARITY)

GRADE

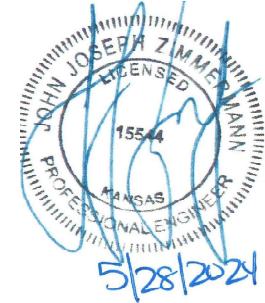
DISTANCE TO TOP OF EXISTING MONOPOLE TOWER = 75'-0" A.G.L.
DISTANCE TO CENTER OF PROPOSED LESSEE ANTENNAS = 100'-0"± A.G.L.

OVERALL STRUCTURE HEIGHT = 100'-0"± A.G.L.

1 NORTH ELEVATION
SCALE: 1/8" = 1'-0"



2 PROPOSED SHELTER RENDERING
SCALE: N.T.S.



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680 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

verizon
KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

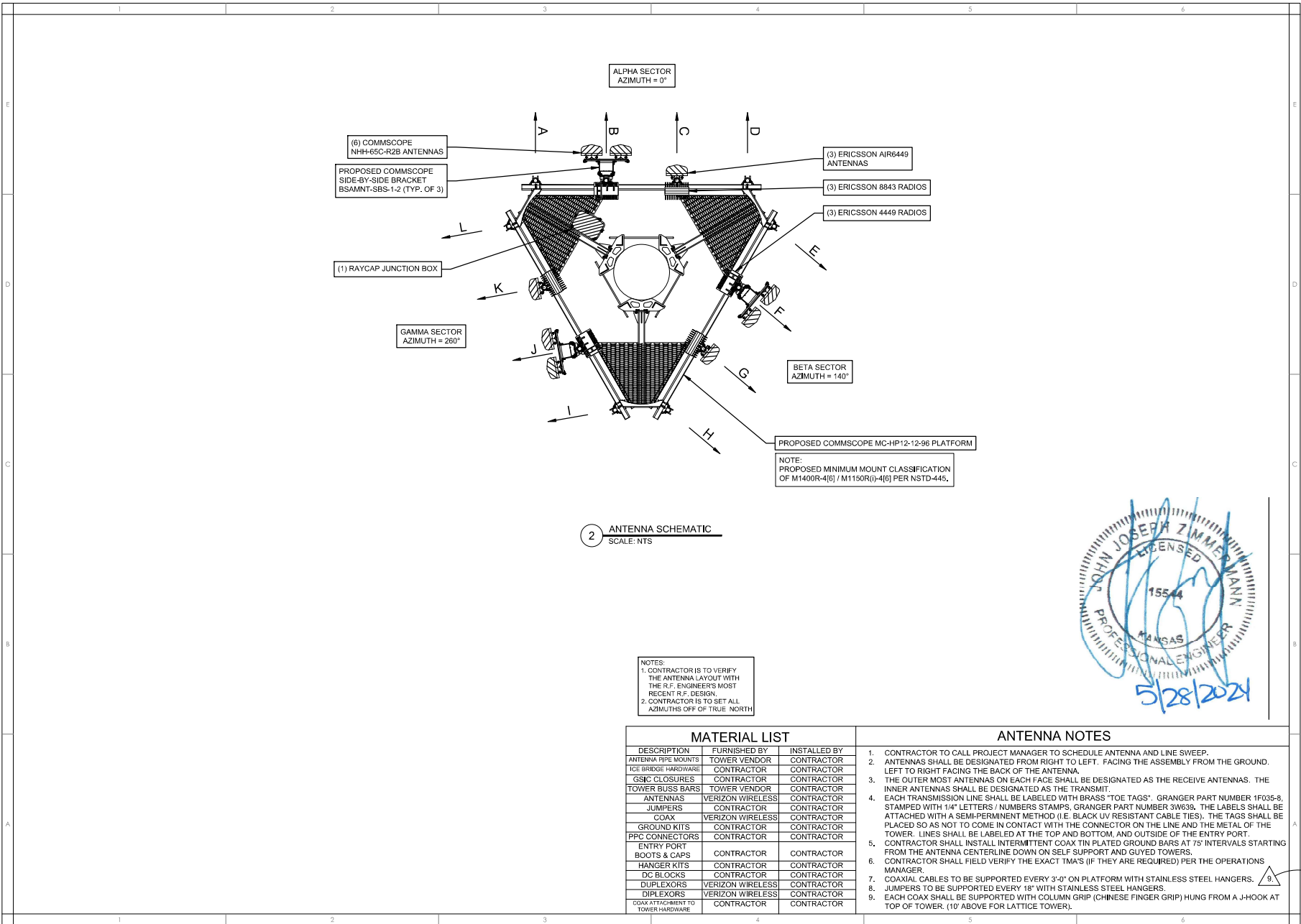
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7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 15881
CADD/NOI/COMPLIANCE
DESIGNED BY: JAZ
DRAWN BY: CCB
CHECKED BY: JAZ
COMPILE: 2017

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FOR
REVIEW**

**SITE ELEVATION &
ANTENNA SCHEMATIC**

ANT101



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LOCATION CODE: 661221
15201 MURLIN
OLATHE, KS 66062

NO.	DESCRIPTION	DATE
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NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

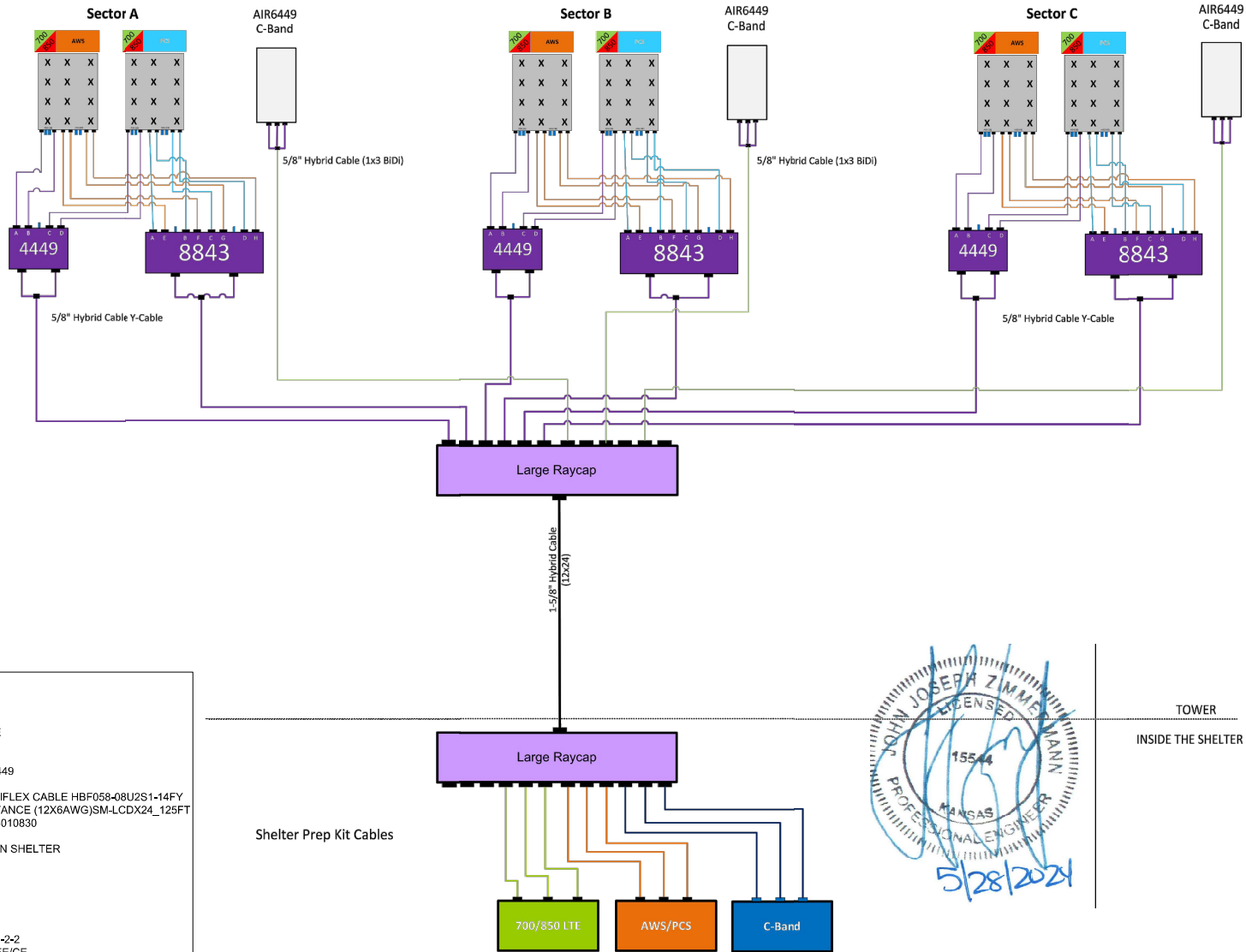
PROJECT: 150801
CADDING AND CONSTRUCTION
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
CONFORM: 2017

**ISSUED
FOR
REVIEW**

**SITE ELEVATION &
ANTENNA SCHEMATIC**
ANT101

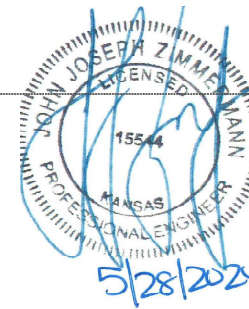
Arrangement of
Antennas may not
match arrangement on
the tower

700 LTE / AWS LTE / PCS LTE / 850 LTE / 850 NR / C-Band



RF PARTS LIST

- 6 - COMMSCOPE NHH-65C-R2B
- 3 - ERICSSON 4449 FOR 700 AND 850 LTE
- 3 - ERICSSON 8843 FOR AWS
- 3 - ERICSSON 5G AIR6449 FOR C-BAND
- 3 - 1X3 BIDI HYBRID JUMPERS FOR AIR6449
- 36 - 1/2" RF JUMPERS
- 6 - RFS 5/8"± (8AWG Y-CABLE) RFS HYBRIFLEX CABLE HBF058-08U2S1-14FY
- 1 - H+S_MLC-HYBRID 12X24 LOW INDUCTANCE (12X6AWG)SM-LCDX24_125FT
- 1 - LKF RETCONFIGURATIONMGT = CXC4010830
- 1 - LKF RETCASCADING = CXC4010622
- 2 - RFS DB-C1-12C-24AB-0Z, 1 ON TOP 1 IN SHELTER
- 1 - 6601
- 1 - 6630
- 1 - BBU 6648 FOR C-BAND
- SHELTER PREP CABLES
- ANCILLARY CABLING KITS
- POWER SUPPLY AND FIBER TRAY
- 3 - COMMSCOPE BRACKET BSAMNT-SBS-2-2
- UP-CONVERTER REQ'D MODEL TBD BY EE/CE



TOWER
INSIDE THE SHELTER

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PH: 847-698-6400
FAX: 847-698-6401

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KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

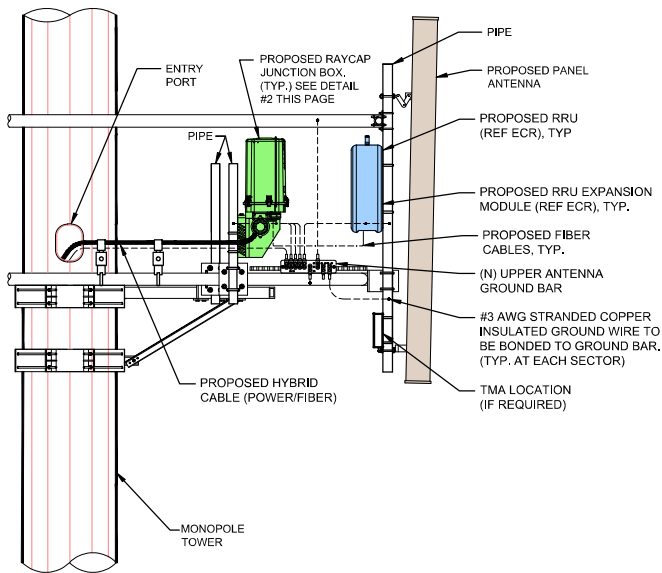
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NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 15544
DRAWING: ANT501-01-01
DESIGNED BY: JAZ
DRAWN BY: JCB
CHECKED BY: JAZ
COMPILE: 2017

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FOR
REVIEW**

**ANTENNA PLUMBING
DIAGRAM &
RF PARTS LIST**

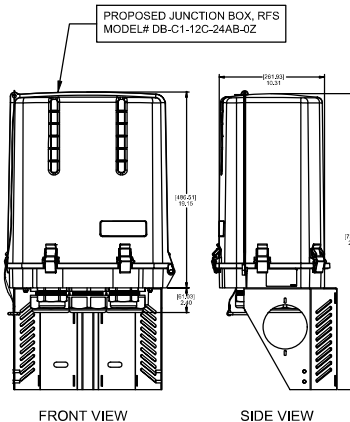
ANT501



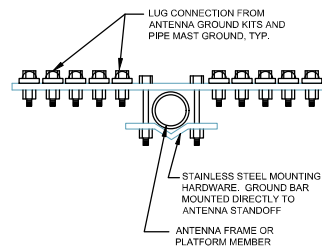
1 ANTENNA, RRU & RAYCAP JUNCTION BOX MOUNTING DETAIL
SCALE: N.T.S.

SPECIFICATIONS DC SURGE PROTECTION FOR RRU/INTEGRATED ANTENNA RADIO HEAD
APPLICATION: TOWER / BASE / ROOFTOP / ROOFTOP DISTRIBUTION MODELS
WEIGHT: 32LBS (14.51 KG)

[mm]
INCHES

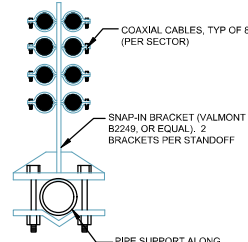


2 RAYCAP JUNCTION BOX DETAIL
SCALE: N.T.S.



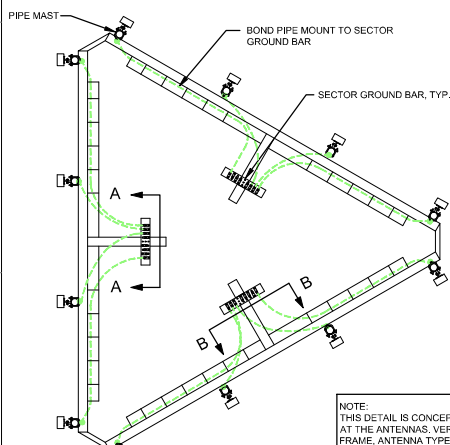
SECTION A-A

3 GROUND BAR AT SECTOR
N.T.S.

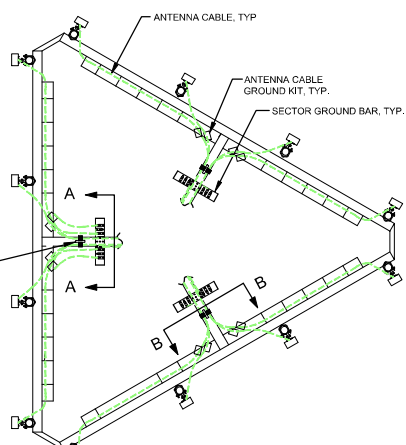


SECTION B-B

4 SNAP-IN BRACKET AT ANTENNA MOUNT
N.T.S.

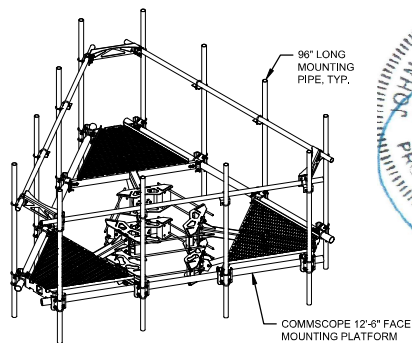


5 PIPE MAST GROUNDING AT ANTENNA ELEVATION
N.T.S.



6 ANTENNA CABLE GROUNDING AT ANTENNA ELEVATION
N.T.S.

ORDERING INFORMATION
MANUFACTURER: COMMSCOPE
PART #: MC-HP12M-12-96
DETAILS: HIGH CAPACITY CO-LOCATION PLATFORM KIT, 12'-6" FACE, KIT INCLUDES (12) 2-3/8" O.D., 96" LONG MOUNTING PIPES.



7 ANTENNA MOUNTING PLATFORM DETAIL
SCALE: N.T.S.

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TERRA
600 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

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KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

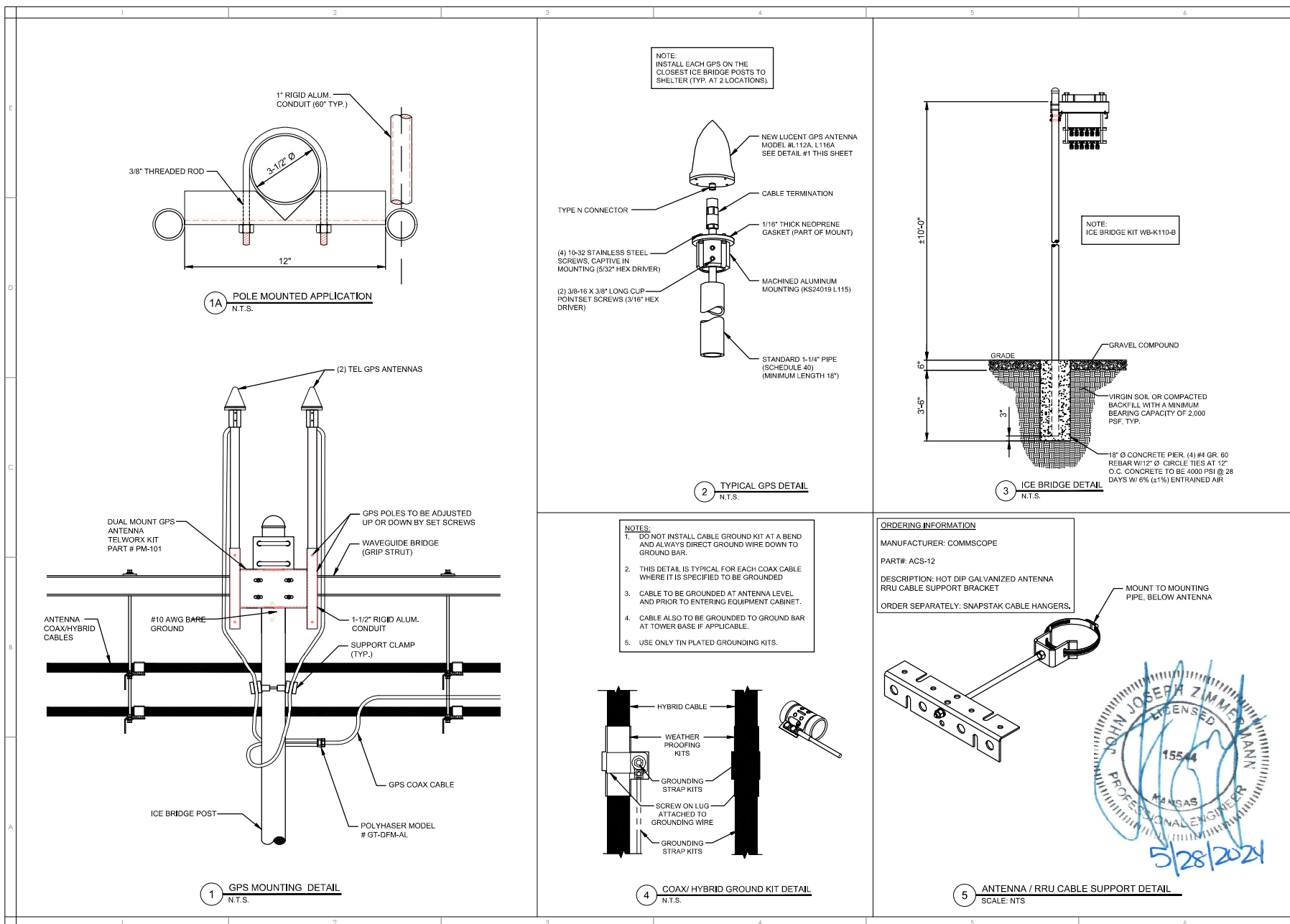
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6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 150801
DRAWING: ANT502-150801-2
DESIGNED BY: JAY
DRAWN BY: CCB
CHECKED BY: JAY
COMPILE: 2017

ISSUED
FOR
REVIEW

ANTENNA MOUNTING
DETAILS

ANT502



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680 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

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LOCATION CODE: 661221
15201 MURLEN
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














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NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

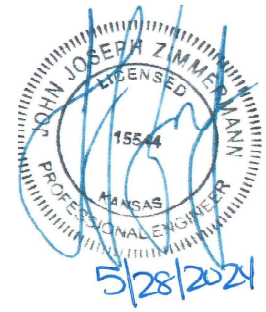
PROJECT: 15544
DRAWING: ANTENNA MOUNTING
DESIGNED BY: JAY
DRAWN BY: CCB
CHECKED BY: JAY
COMPILED: 2017

ISSUED FOR REVIEW

ANTENNA MOUNTING DETAILS

ANT503

1	2	3	4	5	6
<div data-bbox="58 332 315 868">  NORTH  BUILDING SECTION 1 SHEET A300  WALL SECTION 2 SHEET A300  EXTERIOR ELEVATION 3 SHEET A300  INTERIOR ELEVATION 4 SHEET A300  FIRE EXTINGUISHER  KEY NOTE NUMBER  WALL TYPE  STRUCTURAL COLUMN GRID LINES AND INDICATOR  DATUM OR WORKING POINT </div> <div data-bbox="58 893 315 1364"> <p>5 ARCHITECTURAL SYMBOLS N/A</p> <p>— — — — — EXISTING SANITARY</p> <p>— — — — — EXISTING WOOD FENCE</p> <p>— — — — — EXISTING UTILITY OVERHEAD</p> <p>— — — — — EXISTING WATER LINE</p> <p>— — — — — EXISTING CHAIN LINK FENCE</p> <p>— — — — — PROPERTY LINE</p> <p>— — — — — SITE SETBACKS</p> <p>— — — — — ITEM TO BE DEMOLISHED</p> </div> <div data-bbox="58 1388 315 1437"> <p>4 LINE TYPES N/A</p> </div>		<div data-bbox="346 349 525 706">  FIRE LANE  OPEN SPACE  ICE BRIDGE  CONCRETE  ASPHALT  GRATING  LANDSCAPING  ROCK SURFACING </div> <div data-bbox="346 722 525 1088"> <p>3 MATERIALS N/A</p> <p>===== EXISTING WALL</p> <p>===== WALL TO BE REMOVED</p> <p>===== CONCRETE WALL</p> <p>===== METAL WALL</p> <p>===== CMU WALL</p> <p>===== BRICK WALL</p> </div> <div data-bbox="346 1112 525 1364"> <p>2 WALL LEGEND N/A</p> <p>⊙ EXIT LIGHT</p> <p>⬜ SURFACE MOUNT 1x4 FIXTURE</p> <p>⌋ WALL MOUNTED FIXTURE</p> </div> <div data-bbox="346 1388 525 1437"> <p>1 LIGHTING LEGEND N/A</p> </div>		<p>ARCHITECTURAL GENERAL NOTES:</p> <ol style="list-style-type: none"> COORDINATION: <ol style="list-style-type: none"> EACH DIVISION SHALL COMPLY WITH THE G001 PROJECT GENERAL NOTES AS IF CONTAINED HEREIN. SUBMIT COORDINATION DRAWINGS TO THE CONTRACTOR FOR REVIEW AND APPROVAL. PRIOR TO COMMENCEMENT OF WORK, EACH DIVISION IS RESPONSIBLE FOR THE COORDINATION OF ALL RELATED DIVISIONS WHOSE WORK INTERFACES WITH THEIR OWN. DO NOT SCALE DRAWINGS: THE CONTRACTORS SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENT. NOTIFY THE AE PROJECT MANAGER IF ANY DISCREPANCIES ARE FOUND PRIOR TO PROCEEDING WITH WORK. DIMENSIONS: <ol style="list-style-type: none"> THOROUGHLY REVIEW ALL PLANS AND SPECIFICATIONS. VERIFY ALL DIMENSIONS AND CONDITIONS BEFORE STARTING WORK. NOTIFY ARCHITECT OF ANY DISCREPANCIES. EXTERIOR DIMENSIONS ARE TO FACE OF EXTERIOR WALLS. DIMENSIONS ON PLANS ARE TO FINISH FACE OR CENTERLINE OF COLUMNS UNLESS NOTED OTHERWISE. DIMENSIONS TO DOOR OPENINGS ARE TO R.O. IN MASONRY & CONCRETE AND TO JAMB OPENING IN STUD WALLS. VERIFY DOOR SIZE W/ SCHEDULE. EXITS: ALL EXIT DOORS SHALL BE ABLE TO BE OPENED FROM THE INSIDE WITHOUT USE OF KEY OR ANY SPECIAL KNOWLEDGE OR EFFORT. ALL EXIT SIGNS SHALL HAVE LETTERS SIX (6) INCHES HIGH MINIMUM, AND SHALL CONFORM WITH APPLICABLE CODES. REFER TO FLOOR PLANS FOR EXIT SIGN LOCATIONS. COORDINATE POWER W/ DIVISION 26. LOUVERS AND WINDOWS: INSTALL PER MANUFACTURERS PRINTED INSTALLATION INSTRUCTIONS AND RECOMMENDATIONS. WHERE DETAILED, PROVIDE ALL ADDITIONAL MATERIALS SHOWN OR NOTED. VERIFY ALL OPENING SIZES, BOTH NEW AND EXISTING. PRIOR TO ORDERING, PROVIDE SPACE FOR FLASHING AS DETAILED. PROVIDE GALVANIC ISOLATION BETWEEN DISSIMILAR MATERIALS. FINISHES: <ol style="list-style-type: none"> PAINT ALL PAINTABLE ITEMS ATTACHED TO WALLS, CEILING, OR COLUMNS EXCEPT DUCTWORK AND FLEXIBLE AND/OR MOVABLE PARTS. CONCEAL ALL PIPE AND CONDUIT WHERE WALL FURRING IS PROVIDED. PRIME ALL MATERIALS WITH MATERIAL COMPATIBLE WITH SUBSTRATE. SEE FINISH SCHEDULE AND FINISH NOTES. OFFSET STUDS WHERE REQUIRED, SO THE FINISH WALL SURFACES WILL BE FLUSH. PROVIDE GALVANIC ISOLATION BETWEEN DISSIMILAR METALS. CEILING SUSPENSION SYSTEMS SHALL BE STABILIZED AGAINST LATERAL MOVEMENT IN ACCORDANCE WITH THE REQUIREMENTS OF THE IBC, GOVERNING EDITION, SEE S500. CEILING HEIGHTS ARE FROM CONCRETE FLOOR SLAB TO GRID AT ACOUSTICAL TILE CEILING, OR FINISH OF HARD CEILING. ALL INTERIOR WOOD BLOCKING SHALL BE FIRE TREATED. WEATHERPROOFING: <ol style="list-style-type: none"> ALL EXTERIOR WALL OPENINGS, FLASHING, COUNTERFLASHING AND EXPANSION JOINTS SHALL BE CONSTRUCTED IN SUCH A MANNER AS TO MAKE IT WEATHERPROOF. THE JUNCTION OF THE ROOF AND VERTICAL SURFACES SHALL BE FLASHED AND COUNTERFLASHED IN A MANNER TO MAKE THEM WEATHERPROOF. PROVIDE FOR ALL TEMPORARY WEATHERPROOFING DURING THE COURSE OF WORK TO ASSURE PROTECTION AND FULL OPERATION OF THE EXISTING FACILITY. BUILDING AND EQUIPMENT: <ol style="list-style-type: none"> MAINTAIN AREAS FREE OF DEBRIS ACCUMULATION. KEEP WORK AREAS NEAT AND ORDERLY AS MUCH AS REASONABLY POSSIBLE. MEANS OF EGRESS AREAS MAINTAINED FREE AND CLEAR AT ALL TIMES. CONTRACTOR TO REMOVE ALL MATERIALS NOT RELATED TO THE FINISHED PRODUCT FROM THE SITE. DO NOT BURY ON SITE. BLOCKING: PROVIDE SOLID BLOCKING FOR ALL WALL MOUNTED FIXTURES, DEVICES & EQUIPMENT. COORD. W/ ALL DIVISIONS OF THE SPECIFICATIONS TO VERIFY LOCATION REQUIRED. FIRESTOPPING: TO BE PROVIDED BY SINGLE CONTRACTOR FOR ALL TRADES USING A SINGLE MANUFACTURER'S PRODUCTS (SM OR HILT). IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, TEMPORARY FACILITIES, UTILITIES, ETC. NECESSARY TO COMPLETE THIS PROJECT AS INDICATED IN THE CONTRACT DOCUMENTS. IF THERE ARE ANY CONFLICTS OR DEVIATIONS FROM PLAN DURING CONTRACTOR'S DISCOVERY, THE CONTRACTOR IS TO IMMEDIATELY NOTIFY THE VERIZON REPRESENTATIVE AND DESIGNER. ALL RECESSED PANELS MOUNTED IN FIRE RATED WALLS SHALL BE OF FIRE RATED CONSTRUCTION TO MATCH RATING OF WALL. (i.e. TRAP PRIMERS, F.E. CABINETS, etc.) 	
1	2	3	4	5	6



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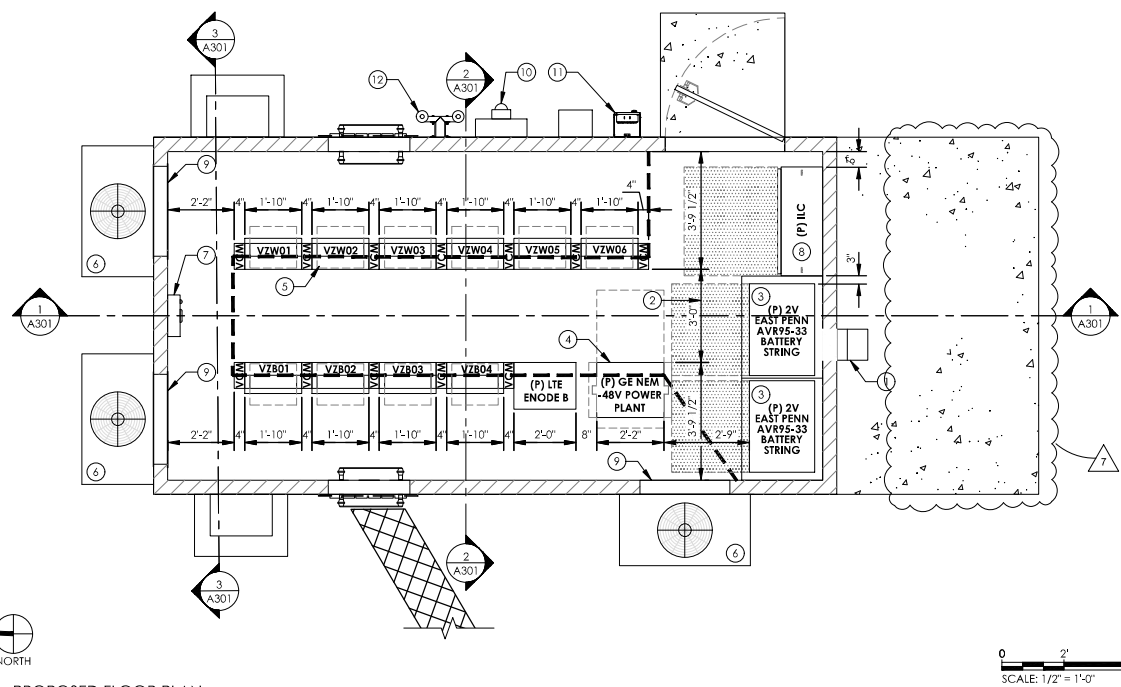
verizon
KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

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7	REVIEW PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158891	ISSUED FOR REVIEW
DRAWING NO./COMBINE #	
DRAWN BY: JCB	
CHECKED BY: JCB	

GENERAL NOTES & LEGEND

A001



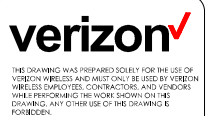
1 PROPOSED FLOOR PLAN
22' x 34' SCALE: 1/2" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"

KEY:	
VCM	VERTICAL CABLE MANAGEMENT
VZW	VERIZON WIRELESS RACK
VZB	VERIZON BUSINESS RACK
→	AIR FLOW DIRECTION

NOTE:
ALL WALL (INTERIOR OR EXTERIOR) OPENINGS
CREATED, UNCOVERED OR DISCOVERED
DURING HVAC UPGRADE SHALL BE REPAIRED TO
EQUAL OR BETTER CONDITION.

HVAC NOTE:
24"x32" CLEARANCE REQUIRED AT SUPPLY AND
RETURN VENTS. FOR FUTURE UNITS G.C. TO TAPE
OFF FUTURE RESERVED AREA AS SHOWN.

- KEY NOTES:
- 1 (P) EXHAUST FAN; RE: 01/M101.
(SUPPLIED BY SHELTER MANUFACTURER)
 - 2 DIMENSIONS LOCATE FRONT FACE OF
PROPOSED AND EXISTING EQUIPMENT; HOLD
THIS DIMENSION.
 - 3 (P) 2V EAST PENN AVR95-33 BATTERY STRING
 - 4 (P) DC POWER PLANT
 - 5 (P) EQUIPMENT RACK, TYP.
 - 6 (P) 5-TON AIRSYS UNICOOL WALL PACK UNIT
 - 7 (P) AIRSYS MULTI-UNIT CONTROLLER FOR HVAC
 - 8 (P) 400 AMP INTERIOR ILC
(SUPPLIED BY SHELTER MANUFACTURER)
 - 9 (P) WALL PENETRATION, RE: 02/S301
 - 10 (P) 400A METER WITH SERVICE DISCONNECT
(FURNISHED BY G.C.)
 - 11 (P) PORTABLE GENERATOR CAMLOCK BOX
 - 12 (P) GPS ANTENNAS



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OLATHE, KS 66062

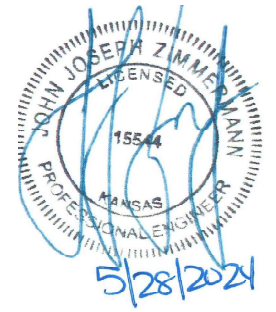
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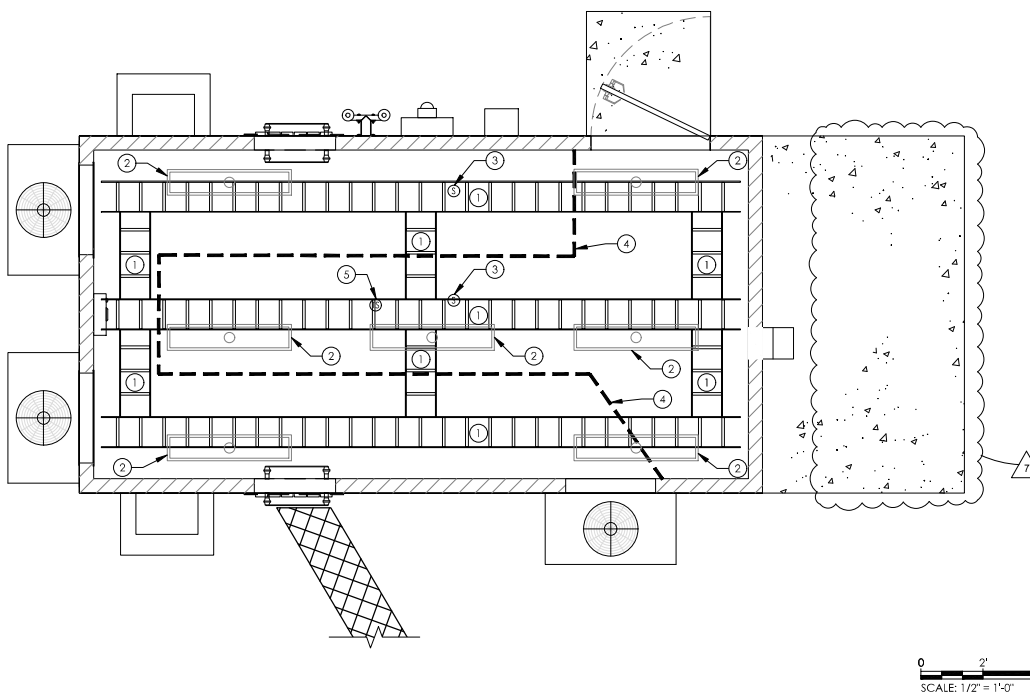
PROJECT: 15544
DRAWING: A101
DESIGNED BY: JAZ
DRAWN BY: CCB
CHECKED BY: JAZ
COMPILED: 2017

**ISSUED
FOR
REVIEW**

**PROPOSED FLOOR
PLAN**

A101





1 REFLECTED CEILING PLAN
22' x 34' SCALE: 1/2" = 1'-0"
11' x 17' SCALE: 1/4" = 1'-0"

KEY NOTES:

- 1 (P) CABLE LADDER.
(SUPPLIED BY SHELTER MANUFACTURER)
- 2 (P) FLUORESCENT FIXTURES.
(SUPPLIED BY SHELTER MANUFACTURER)
- 3 (P) SMOKE DETECTOR.
(SUPPLIED BY SHELTER MANUFACTURER)
- 4 (P) SIMPLEX SOFT WALL AIR SEPARATION
CURTAIN TO BE INSTALLED
(FURNISHED BY G.C.)
- 5 (P) REMOTE TEMPERATURE SENSOR
(FURNISHED BY G.C.)

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KC/C HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLIN
OLATHE, KS 66062

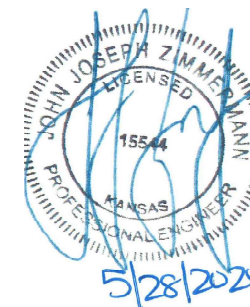
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100% SUBMISSION		06/10/22

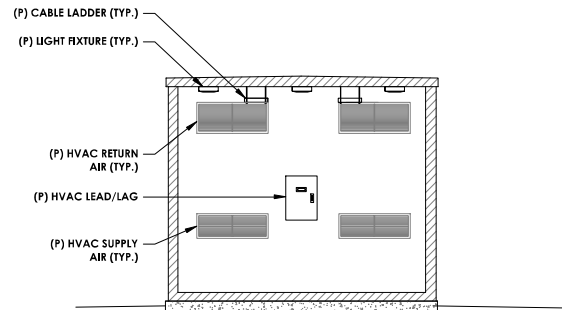
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DRAWING NO.: 15881-01
DESIGNED BY: JAZ
DRAWN BY: CCB
CHECKED BY: JAZ
COMPILED: 2017

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REVIEW**

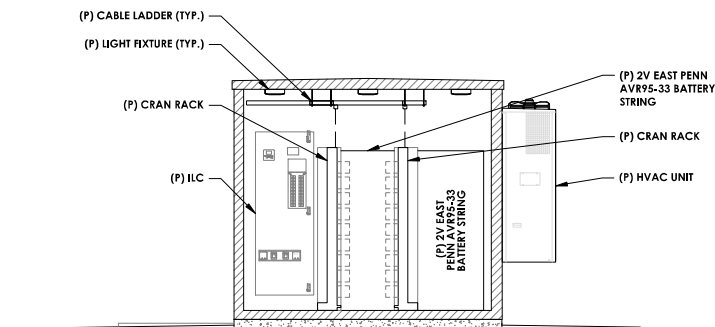
**REFLECTED CEILING
PLAN**

A111

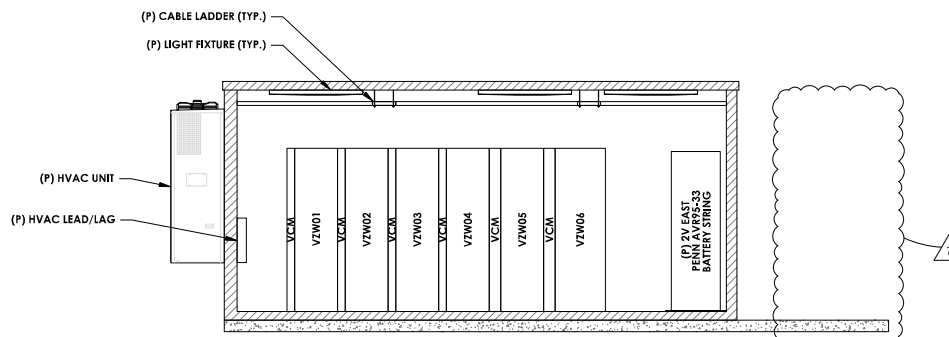




③ BUILDING SECTION
22' x 34' SCALE: 3/8" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"



② BUILDING SECTION
22' x 34' SCALE: 3/8" = 1'-0" 11" x 17" SCALE: 3/16" = 1'-0"



① EXTERIOR ELEVATION
22' x 34' SCALE: 3/8" = 1'-0" 11" x 17" SCALE: 3/16" = 1'-0"

NOTES:

1. ALL WALL (INTERIOR OR EXTERIOR) OPENINGS CREATED, UNCOVERED OR DISCOVERED DURING HVAC UPGRADE SHALL BE REPAIRED TO EQUAL OR BETTER CONDITION.
2. 24"X32" CLEARANCE REQUIRED AT SUPPLY AND RETURN VENTS. FOR FUTURE UNITS G.C. TO TAPE OFF FUTURE RESERVED AREA AS SHOWN.

verizon

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600 BUSSE HIGHWAY
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PH: 847-698-6400
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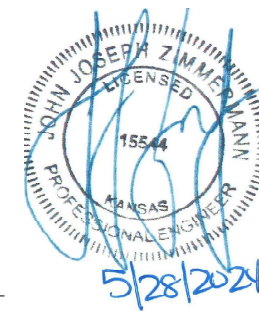
verizon
KCVC HERITAGE SQUARE
LOCATION CODE: 661221
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OLATHE, KS 66062

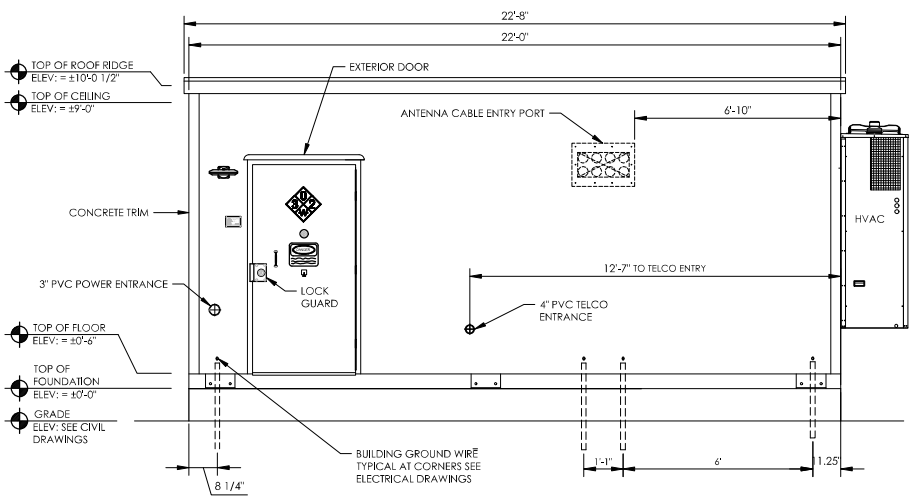
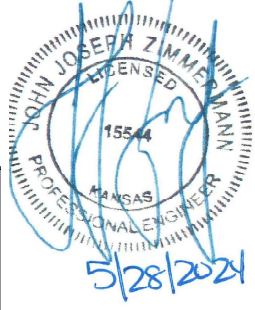
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PROJECT: 150801	ISSUED FOR REVIEW
DRAWING NO: 150801-01	
DRAWN BY: JCB	
CHECKED BY: JCB	

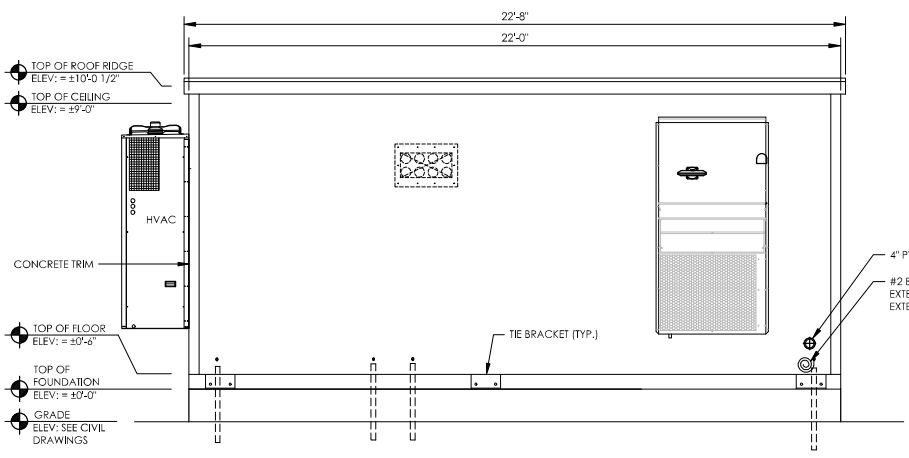
ELEVATIONS & SECTIONS

A301

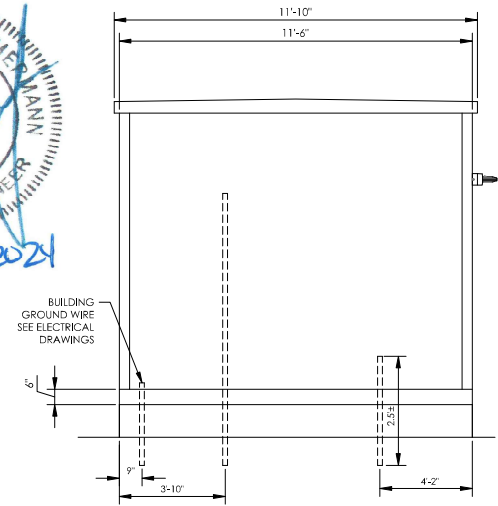




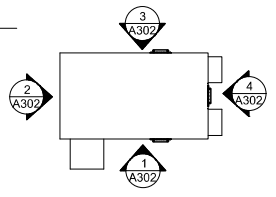
1 ELEVATION - EQUIPMENT ENCLOSURE
N.T.S.



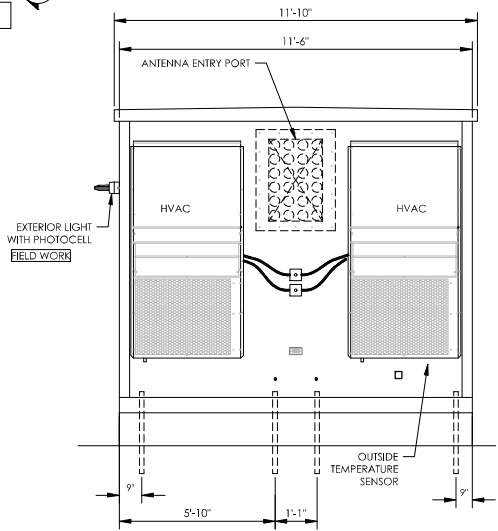
3 ELEVATION - EQUIPMENT ENCLOSURE
N.T.S.



2 ELEVATION - EQUIPMENT ENCLOSURE
N.T.S.



ELEVATION KEY



4 ELEVATION - EQUIPMENT ENCLOSURE
N.T.S.



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KCVC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

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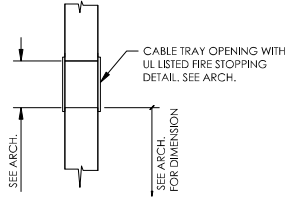
PROJECT: 158891	ISSUED FOR REVIEW
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DRAWN BY: A302	
CHECKED BY: A302	
DATE: 06/19/22	

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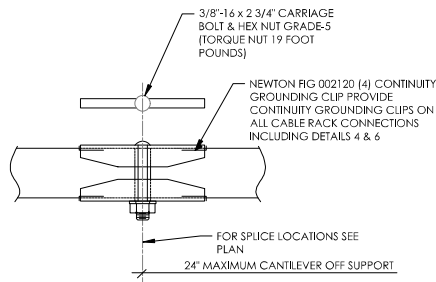
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CABLE RACK NOTES:

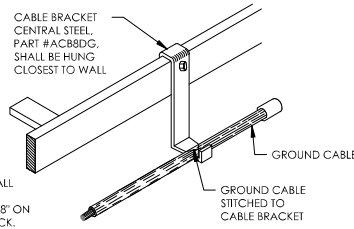
- CABLE RACKS SHALL BE LADDER TYPE STEEL STRUCTURES CONSISTING OF TWO 2-INCH X 3/8 INCH RECTANGULAR SOLID SIDE RAILS CALLED STRINGERS, BETWEEN THESE STRINGERS, WELDED ON 9-INCH CENTERS, WITH CROSS MEMBERS, CALLED STRAPS, CABLE RACK CROSS MEMBERS STRAPS MAY BE CHANNEL OR BAR.
- WHEN CABLE RACK STRAPS OR OTHER FRAMEWORK DETAILS INTERFERE WITH THE REQUIRED PLACEMENT OF CLAMPING DETAILS, THE CABLE RACK SHALL BE CUT BACK TO SUCH A POINT THAT THE STRAPS WILL NOT INTERFERE WITH THE CLAMPING DETAILS. CABLE RACK CLAMPING DETAILS SHALL NOT BE CUT OR MODIFIED. CORNER CLAMPS MAY BE REVERSED WHEN NECESSARY TO AVOID INTERFERENCE WITH CABLE RACK STRINGERS OR STRAPS.
- THE GAP AT THE CABLE RACK JUNCTION POINTS SHALL NOT EXCEED 1/8 INCH BETWEEN THE CABLE RACK STRINGERS, SPLICE BOLTS AND OR JUNCTION OF CABLE RACK STRINGERS.
- CABLE RACK SPLICES SHALL NOT BE CANTILEVERED MORE THAN 24 INCHES PAST A SUPPORT. SPLICES SHALL BE SINGLE BOLT WITH TOP AND BOTTOM PLATES AND INSTALLED WITH BONDING CLAMPS TOP AND BOTTOM PER DETAIL. SPLICE BOLTS SHALL HAVE A UNIFORM TORQUE APPLIED PER MANUFACTURERS RECOMMENDATIONS. OTHER SPLICES DESIGNED TO PROVIDE ELECTRICAL BONDING MAY BE APPROVED FOR USE BY THE CABLE RACK DESIGN ENGINEER.
- CABLE RACKS SUPPORTED ON AUXILIARY FRAMING SHALL BE SECURED WITH J-BOLTS FASTENING BOLTS AT EACH SUPPORT POINT. A SPANNER J-BOLT SHALL BE USED WHEN THE USE OF A J-BOLT WILL NOT BE APPLICABLE DUE TO AN OBSTRUCTION, AS EXAMPLE WHEN THE CABLE RACK STRAP FALLS DIRECTLY ABOUT THE ATTACHMENT POINT OF THE AUXILIARY FRAMING.
- THE ENDS OF CABLE RACK SECTIONS SHALL BE PROTECTED WITH FINISHING CAPS OR CLOSING BARS.
- VERTICAL CHANGES OF CABLE RACKS IN EXCESS OF 3 INCHES SHALL BE MADE VIA 45 DEGREE INCLINES TO AVOID SHARP CABLE BENDS, PER THE DETAILS. CABLE TRAYS FOR PRIMARY AND SECONDARY CABLES SHALL HAVE 45 DEGREE BEND HARDWARE DRILLED AND BOLTED IN FINAL POSITION.
- CABLE RACK SHALL BE YELLOW ZINC AND ATTACHMENT HARDWARE FINISH SHALL BE YELLOW ZINC AND COATED WITH A CHROMATE SEALER.
- PROVIDE MANUFACTURER'S INFORMATION FOR APPROVAL OF SELECTED CABLE RACK SYSTEM AND HARDWARE.
- CABLES SHALL BE PROTECTED BY ANOTHER EXTRA STRENGTH NOTES IN THE ARCHITECTURAL DRAWING ON YELLOW T23641.



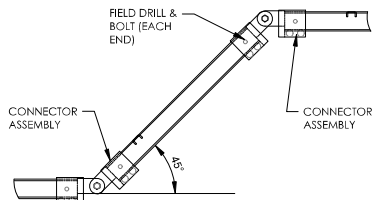
10 TYP. SECTION AT CABLE TRAY WALL PENETRATION
NOT TO SCALE



9 STAND, CABLE RACKING-SPLICE & ELEC. BONDING
NOT TO SCALE

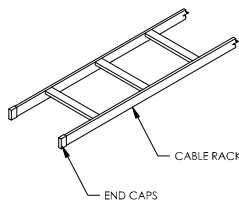


8 TYPICAL CABLE BRACKETS
NOT TO SCALE

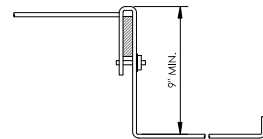


NOTE:
NOT REQUIRED FOR
OFFSETS 3\"/>

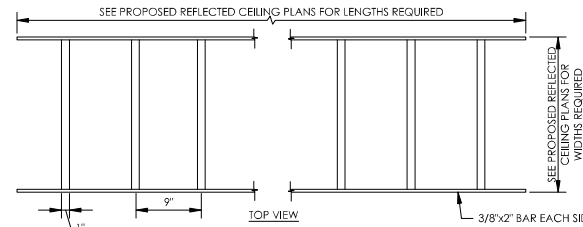
11 TYP. VERTICAL OFFSET IN HORIZONTAL RACKS
NOT TO SCALE



7 CABLE RACK END CAPS
NOT TO SCALE

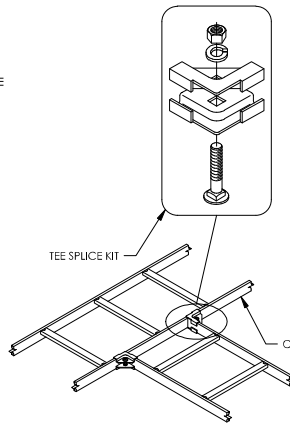


6 CABLE BRACKET DETAIL
NOT TO SCALE

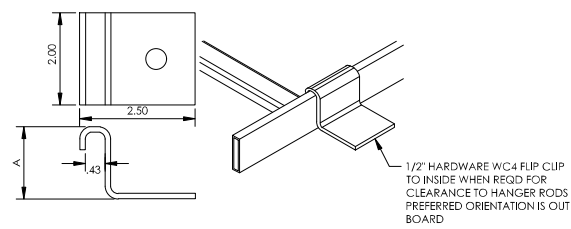


NOTE:
LABEL EACH SECTION OF RACK 'LOAD LIMIT 200 POUNDS PER LINEAR FOOT' - BOTH SIDES LABEL EITHER PRIMARY POWER, SECONDARY POWER OR SIGNAL CABLE PER VERIZON STANDARDS SEE NOTE 10 FOR LABEL SPECIFICATIONS.

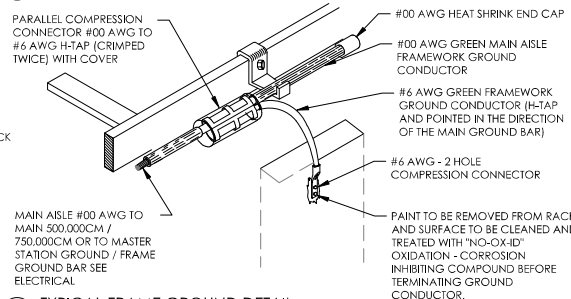
3 CABLE RACKING DETAIL
NOT TO SCALE



5 HORIZONTAL TEE SPLICE KIT
NOT TO SCALE



2 WALL CLAMP DETAIL
NOT TO SCALE



1 TYPICAL FRAME GROUND DETAIL
NOT TO SCALE



THE DRAWING WAS PREPARED SOLELY FOR THE USE OF VERIZON WIRELESS AND MUST ONLY BE USED BY VERIZON WIRELESS EMPLOYEES, CONTRACTORS AND VENDORS WHILE PERFORMING THE WORK SHOWN ON THE DRAWING. ANY OTHER USE OF THE DRAWING IS FORBIDDEN.



NO.	DESCRIPTION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
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3	REVISED FIBER ROUTE	08/24/22
4	ISSUED FOR FINAL	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158891
DRAWING: 158891-01-01-01
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
COMPILE: 2017

ISSUED
FOR
REVIEW

CABLE TRAY
DETAILS

A501

ANCHORAGE:

- ALL ANCHORS SHALL HAVE A CURRENT ICC ES EVALUATION REPORT
- ADHESIVE ANCHORS SHALL CONSIST OF ALL-THREAD ANCHOR ROD, NUT, WASHER AND EPOXY INJECTION GEL OR ADHESIVE CAPSULE SYSTEM. STATE MATERIAL TYPE AND STRENGTH FOR ANCHOR RODS
- NOTATIONS ON DRAWINGS RELATING TO EXPANSION, SLEEVE, FLUSH OR ADHESIVE ANCHORS AND OTHER CONNECTING DEVICES REFER TO CONNECTORS MANUFACTURED BY HILTI. EQUIVALENT DEVICES BY OTHER MANUFACTURERS MAY BE SUBSTITUTED PROVIDED THAT THEY HAVE ICC ES EVALUATION REPORT FOR EQUAL OR GREATER LOAD CAPACITIES AND ARE REVIEWED BY THE ARCHITECT AND STRUCTURAL ENGINEER.
- ALL ANCHORS SHALL HAVE A CURRENT ICC ES EVALUATION REPORT

CONCRETE:

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF AMERICAN CONCRETE INSTITUTE ACI 318 AND ACI 301.
- ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL ACHIEVE A COMPRESSIVE STRENGTH, $f'_c = 4000$ PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. CEMENT SHALL CONFORM TO ASTM C150 TYPE II.
- MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94, ALTERNATE NO. 2. CONTRACTOR SHALL SUBMIT MIX DESIGN TO THE ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE.
- MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 3/4".
- SLUMP OF CONCRETE SHALL BE 2" TO 5".
- NO ADMIXTURES SHALL BE USED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER.
- ALL CONSTRUCTION AND EXPANSION JOINTS SHALL BE INSTALLED PER THE DRAWINGS.
- ALL EXPOSED CORNERS OF CONCRETE WORK SHALL BE CHAMFERED 3/4" UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE ALL REINFORCING STEEL SHALL BE LAPPED PER ACI CODE - 318.
- ALL FORMWORK SHALL BE RIGID, TIGHT, LEVEL, PLUMB AND SUFFICIENTLY SHORED TO RESIST CONSTRUCTION LOAD CONDITIONS.
- CURING OF CONCRETE SHALL BE PER ACI 308, STANDARD PRACTICE FOR CURING CONCRETE.
- PLACE CONCRETE IN ACCORDANCE WITH ACI 304.
- HOT WEATHER CONCRETE SHALL BE PER ACI 305R. COLD WEATHER CONCRETING SHALL BE PER ACI 306R.
- PRIOR TO THE PLACEMENT OF THE CONCRETE, THE CONTRACTOR SHALL PROVIDE A MINIMUM 24 HOUR WRITTEN NOTICE TO THE OWNER'S REPRESENTATIVE AND THE TESTING AGENCY.
- PROVIDE TEST CYLINDERS FOR EQUIPMENT SLAB AND FOUNDATION AS FOLLOWS:
1 CYLINDER AT 7 DAYS 1 CYLINDER AT 28 DAYS

STRUCTURAL STEEL, MISC. METAL:

- THE FABRICATION AND ERECTION OF STEEL SHALL CONFORM WITH "AISC SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS" LATEST ADDITION.
- STRUCTURAL STEEL AND FASTENERS SHALL MEET THE FOLLOWING ASTM STANDARD SPECIFICATION.

	ASTM SPEC.	YIELD
A. WIDE FLANGE BEAMS	A992	50 KSI
B. STEEL PLATES, ANGLES, CHANNELS, AND ALL OTHER STEEL U.N.O.	A36	36 KSI
C. PIPE	A53 GR.B	35 KSI
D. HSS RECTANGULAR	A500 GR.B	46 KSI
E. HSS ROUND	A500 GR.B	42 KSI
F. BOLTS	A325	--
G. THREADED RODS	A36	--

- ALL NEW EXTERIOR STRUCTURAL STEEL AND FASTENERS SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 AND ASTM A153.
- THE STRUCTURAL STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO FABRICATION.
- ALL WELDS SHALL BE PREQUALIFIED.
- WELDED CONNECTIONS SHALL BE MADE BY CERTIFIED WELDERS AND SHALL CONFORM TO THE LATEST REVISED CODE OF THE AMERICAN WELDING SOCIETY AWS D1.1. ELECTRODES SHALL BE E70 SERIES. ALL STEEL SURFACES SHALL BE PREPARED FOR FIELD WELDING PER AWS. AFTER WELDING ALL WELDED SURFACES SHALL BE WIRE BRUSHED AND COATED WITH COLD GALVANIZING COMPOUND.
- CONNECTION SHALL BE DESIGNED BY THE ENGINEER OF RECORD.

DEMOLITION:

- ALL DEMOLITION SHALL BE CARRIED ON IN SUCH A MANNER AS NOT TO DAMAGE EXISTING ELEMENTS WHICH ARE TO REMAIN A PART OF THE FINISHED STRUCTURE.
- EXISTING ELEMENTS SHALL BE PROTECTED TO THE FULLEST EXTENT POSSIBLE TO REDUCE SUCH DAMAGE TO A MINIMUM.
- ALL ELEMENTS OF THE STRUCTURE WHICH ARE TO REMAIN AND WHICH ARE DAMAGED DURING DEMOLITION WORK SHALL BE REPLACED AT NO ADDED COST.

FOUNDATIONS:

- MINIMUM BEARING BELOW LOWEST ADJACENT FINAL FINISH FLOOR OR GRADE. EXPOSED SOIL SHALL BE INSPECTED FOR COMPLIANCE WITH THE SOILS REPORT
- FOOTING DEPTHS ARE MINIMUM DIMENSIONS, AND MAY BE CHANGED BY THE SOILS ENGINEER
- ALL RETAINING WALLS SHALL HAVE FREE DRAINING OR GRAVELY BACKFILL, OR DRAINAGE MATTING, FULL HEIGHT OF WALL.
- ALL WALKWAYS AND OTHER EXTERIOR SLABS ON GRADE MAY NOT BE SHOWN ON THE STRUCTURAL PLANS. SEE CIVIL AND ARCHITECTURAL DRAWINGS FOR LOCATION AND EXTENT, UNLESS SHOWN OTHERWISE.
- THE OWNER HAS CAUSED A GEOTECHNICAL EXPLORATION TO BE PERFORMED AT THE SITE. COPIES OF THE REPORT ARE AVAILABLE TO THE CONTRACTOR FOR REFERENCE ONLY. NEITHER THE OWNER NOR THE ENGINEER GUARANTEE THE ACCURACY OR THE VALIDITY OF THE DATA CONTAINED THEREIN, NOR DO THEY ASSUME ANY RESPONSIBILITY FOR THE CONTRACTOR'S USE OF INTERPRETATION OF THE DATA CONTAINED THEREIN. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE CONTENTS OF THE ABOVE REFERENCED REPORT PRIOR TO SUBMITTAL OF HIS BIDS.
- THE CONTRACTOR SHALL EXCAVATE 8" BELOW GRADE AND SPRAY WITH WEED CONTROL AND PLACE GEOTEXTILE FABRIC, CLASS 2 AGGREGATE BASE AND CLEAN ROCK AROUND ENTIRE FENCE AREA.
- ENGINEERED FILL SHOULD CONSIST OF ENVIRONMENTALLY CLEAN APPROVED MATERIAL, FREE OF LUMPS, FROZEN SOIL, TOPSOIL OR OTHER DELETERIOUS MATERIAL.
- ALL FILL MATERIALS REQUIRING COMPACTION SHALL BE PLACED IN LIFTS NOT EXCEEDING 9 INCHES AND COMPACTED TO A MINIMUM OF 95 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTM D 1557 (MODIFIED PROCTOR) FILL MATERIALS NOT REQUIRING COMPACTION SHALL BE PLACED IN LIFTS NOT TO EXCEED 12".
- CONTRACTOR SHALL PROVIDE ADEQUATE SHORING AND BRACING FOR THE EXCAVATION WORK IN ACCORDANCE WITH THE APPLICABLE SAFETY ORDINANCES.
- LOOSE MATERIAL SHALL BE REMOVED FROM BOTTOM OF EXCAVATION PRIOR TO CONCRETE PLACEMENT.
- CONTRACTOR IS RESPONSIBLE FOR ALL COLD WEATHER EQUIPMENT SUCH AS GROUND THAWING EQUIPMENT AND FROST TEETH EQUIPPED TRENCHERS TO AVOID COLD WEATHER DELAYS. THESE SHALL BE INCLUDED IN THE ORIGINAL BID FOR THIS PROJECT. CHANGE ORDER REQUESTS AFTER CONSTRUCTION HAS STARTED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE.
- CONTRACTOR IS RESPONSIBLE FOR ALL DEWATERING COSTS ASSOCIATED WITH THIS PROJECT. WHETHER WATER IS SHOWN AS BEING PRESENT ON THE SOIL REPORT OR NOT, DEWATERING COSTS MUST BE INCLUDED IN THE ORIGINAL BID FOR THIS PROJECT. CHANGE ORDER REQUESTS AFTER CONSTRUCTION HAS STARTED SHALL BE COMPLETED AT THE CONTRACTOR'S EXPENSE.

REINFORCING STEEL:

- REINFORCING STEEL SHALL CONFORM TO ASTM A-615 OR A-706, GRADE 60.
- WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185.
- DOWELS BETWEEN FOOTINGS AND WALLS OR COLUMNS SHALL BE THE SAME GRADE, SIZE AND SPACING AS THE VERTICAL REINFORCING
- WELDING OF REINFORCEMENT IS PROHIBITED

GENERAL NOTES:

COORDINATION

- EACH DIVISION SHALL COMPLY WITH THE G001 PROJECT GENERAL NOTES AS IF CONTAINED HEREIN.
- CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLY AND COORDINATION OF WORK WITHIN ALL DIVISIONS AND TRADES INTO A SINGLE PACKAGE.
- THE STRUCTURE IS DESIGNED TO BE STABLE AND SELF-SUPPORTING AT THE COMPLETION OF CONSTRUCTION. THE CONTRACTOR HAS THE SOLE RESPONSIBILITY TO DETERMINE THE METHOD AND MEANS OF CONSTRUCTION, ERECTION PROCEDURE, AND SEQUENCE TO ENSURE THE STABILITY AND SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS, AND THE ADEQUACY OF TEMPORARY OR INCOMPLETE CONNECTIONS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF ANY TEMPORARY OR INCOMPLETE CONNECTIONS DURING CONSTRUCTION. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF ANY TEMPORARY BRACING OR GUYS THAT MIGHT BE NECESSARY. SUCH MATERIAL IS NOT INDICATED ON THE DRAWINGS. IF APPLIED, THEY SHALL BE REMOVED, AS CONDITIONS PERMIT, AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR.
- IT IS SOLELY THE RESPONSIBILITY OF THE CONTRACTOR TO FOLLOW ALL APPLICABLE SAFETY CODES AND REGULATIONS DURING ALL PHASES OF THIS WORK.
- DO NOT SCALE DRAWINGS: THE CONTRACTOR SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENT. NOTIFY THE AE PROJECT MANAGER IF ANY DISCREPANCIES ARE FOUND PRIOR TO PROCEEDING WITH WORK.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, DEMOLITION, TEMPORARY CONSTRUCTION, TEMPORARY FACILITIES, UTILITIES, ECT. NECESSARY TO COMPLETE THIS PROJECT AS INDICATED IN THE CONTRACT DOCUMENTS.
- DETAILS AND NOTES SHALL TAKE PRECEDENCE OVER GENERAL NOTES. IF A CONFLICT EXISTS, THE MOST STRINGENT SHALL APPLY.
- MANUFACTURED MATERIALS SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE.
- ALL STRUCTURAL SYSTEMS ARE TO BE COMPOSED OF MANUFACTURED COMPONENTS TO BE FIELD ERECTED SHALL BE APPROVED BY THE CHECKING AGENCY PRIOR TO THEIR USE.
- ALL REFERENCED SPECIFICATIONS, CODES, AND STANDARDS SHALL BE THE LATEST APPROVED ISSUE, UNLESS NOTED OTHERWISE.

DESIGN CRITERIA:

CODE: 2018 INTERNATIONAL BUILDING CODE

ROOF SNOW LOAD - PER APPROPRIATE CODE SECTION	
GROUND SNOW LOAD, PG	20 PSF BASIC
FLAT ROOF SNOW LOAD, PF	20 PSF
SNOW EXPOSURE FACTOR, CE	1.0
IMPORTANCE FACTOR, IS	1.0
THERMAL FACTOR, CT	1.0
FLOOR - PER APPROPRIATE CODE SECTION AND NSTD 389	
BATTERY AND RECTIFIER	6250 LBS
GENERATOR AND TANK	3250 LBS

WIND DESIGN - PER APPROPRIATE CODE SECTION

BASIC WIND SPEED - 3 SECOND GUST		110	MPH
EXPOSURE CATEGORY		C	
IMPORTANCE FACTOR, IW		1.0	
MAXIMUM WIND VELOCITY (THREE-SECOND GUST)	CORNER UPLIFT DESIGN PRESSURE	REQUIRED FM RATING	
85 MPH	33 PSF	75	
90 MPH	37 PSF	75	
110 MPH	55 PSF	120	
120 MPH	65 PSF	135	

SEISMIC DESIGN - PER APPROPRIATE CODE SECTION

BASIC LATERAL FORCE RESISTING SYSTEM - PROVIDE CODE DEFINED SYSTEM

SHORT PERIOD ACCELERATION, $S_S = 0.096g$		SITE COEFFICIENT, $F_A = 1.6$
MAXIMUM CONSIDERED EARTHQUAKE, $S_{MS} = 0.153g$		
DAMPED SHORT PERIOD ACCELERATION, $S_{DS} = 0.102g$		
ONE SECOND PERIOD ACCELERATION, $S_1 = 0.069g$		SITE COEFFICIENT, $F_V = 2.4$
MAXIMUM CONSIDERED EARTHQUAKE, $S_{M1} = 0.166g$		
DAMPED ONE SECOND PERIOD ACCELERATION, $S_{D1} = 0.111g$		
RESPONSE MODIFICATION FACTOR, $R = 4.0$		
SEISMIC RESPONSE COEFFICIENT, $C_S = 0.059$		
FUNDAMENTAL BUILDING PERIOD, $T = 0.011$		
IMPORTANCE FACTOR, $I_S = 1.5$		
SEISMIC OCCUPANCY CATEGORY - IV		
SEISMIC DESIGN CATEGORY - B		
SITE CLASS D		

verizon

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TERRA
680 BUSSE HIGHWAY
PARK RIDGE, IL 60068
PH: 847-698-6400
FAX: 847-698-6401

verizon
KCYC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

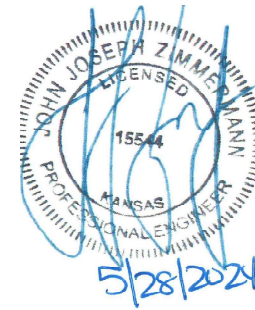
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100% SUBMISSION		06/19/22

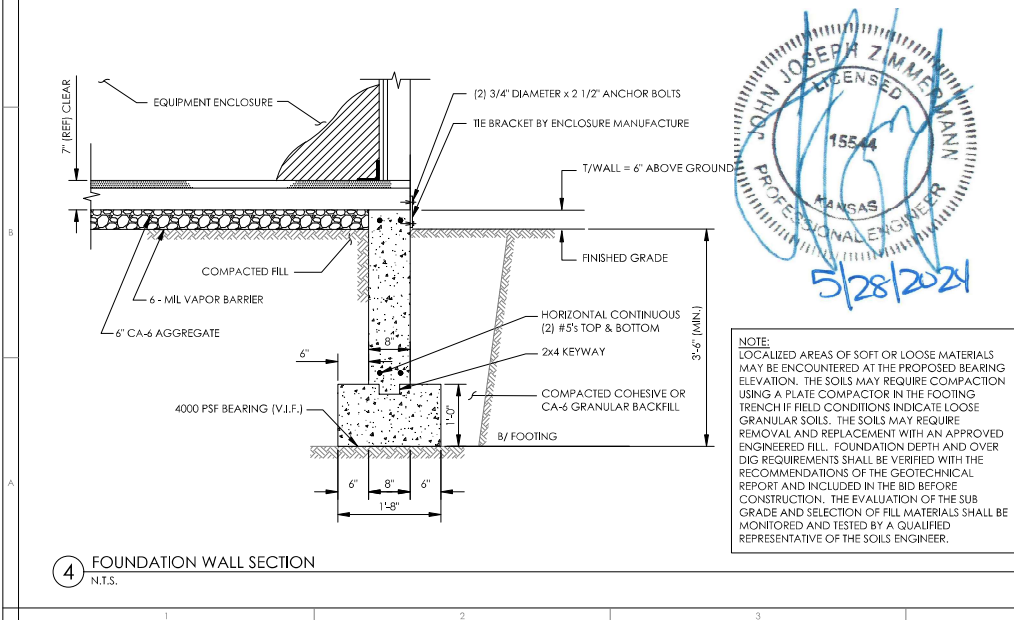
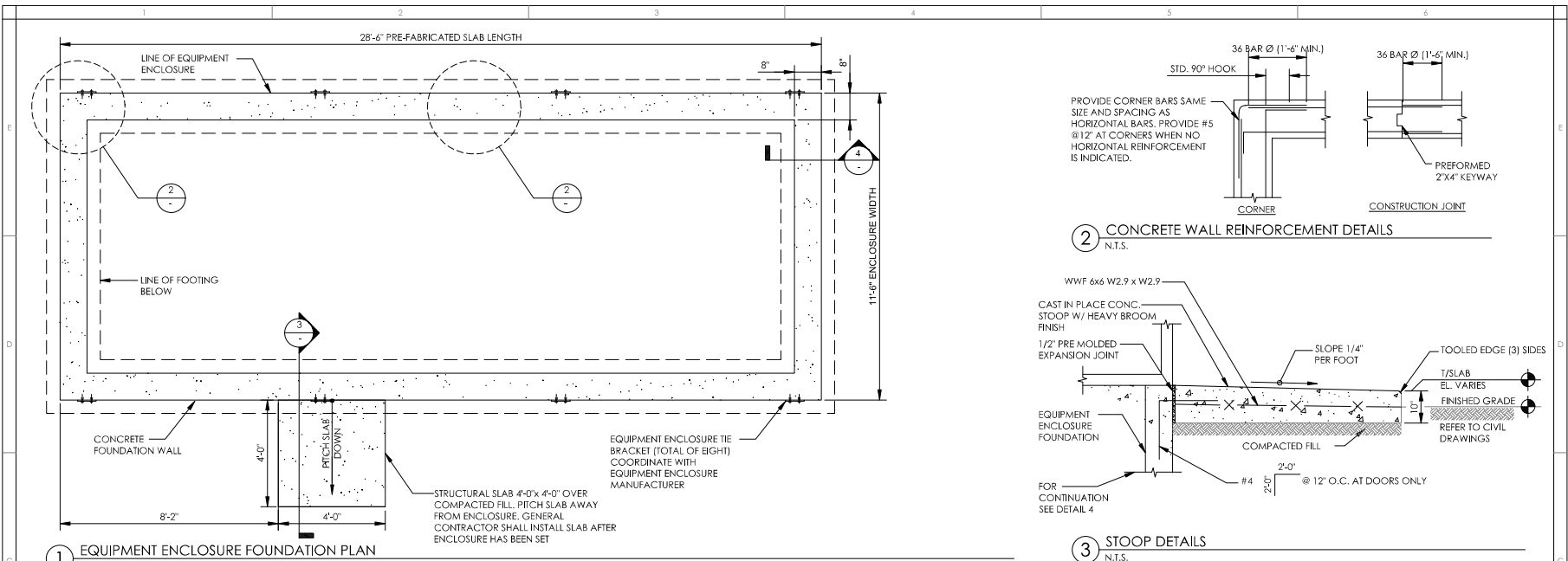
PROJECT: 158081
DRAWING NO.: 158081-01
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
CONTRNO: 2017

**ISSUED
FOR
REVIEW**

**STRUCTURAL GENERAL
NOTES**

S001





A. EQUIPMENT ENCLOSURE FOUNDATION

- REFER TO CIVIL DRAWINGS FOR ORIENTATION OF THE FOUNDATIONS.
- EQUIPMENT ENCLOSURE FOUNDATION IS DESIGNED FOR THE FOLLOWING LOADS:
ENCLOSURE DEAD LOAD: 70,000 LBS.
ROOF LIVE LOAD: 30 PSF
FLOOR LIVE LOAD: 150 PSF
- THE CONTRACTOR SHALL NOTIFY THE CLIENT'S GEOTECHNICAL ENGINEER TO COORDINATE HAVING A FIELD REPRESENTATIVE ON SITE FOR TESTING AND INSPECTION.
- FOOTINGS SHALL BEAR ON VIRGIN SOIL OR COMPACTED FILL MATERIAL CAPABLE OF SUPPORTING A MINIMUM SOIL BEARING PRESSURE OF 4000 PSF.
- SUBGRADE PREPARATION:
 - REMOVE ALL SOILS CONTAINING TOPSOIL: ORGANIC MATERIALS, AND/OR FILL MATERIALS FROM WITHIN AREA OF ENCLOSURE FOUNDATION.
 - PROOF ROLL RESULTING SUBGRADE WITH A HEAVILY LOADED SINGLE AXLE ROLLER OR SIMILAR VEHICLE. (20 TON LOAD). CONTRACTOR SHALL UNDERCUT AND REPLACE WITH ENGINEERED FILL. ALL LOOSE SOFT OR UNSTABLE AREAS REVEALED DURING PROOFROLLING AS DIRECTED BY THE TESTING AGENCY. CONTRACTOR SHALL INCLUDE ANTICIPATED UNDERCUT AND REPLACEMENT AS INDICATED IN THE GEOTECHNICAL REPORT AS PART OF THE BID.
 - BACKFILL AND COMPACT THE AREA WITHIN THE BUILDING FOUNDATION, BETWEEN RESULTANT SUBGRADE AND FOUNDATION WALL WITH APPROVED GRANULAR MATERIAL.
- FOUNDATION WALLS SHALL BE BACKFILLED EVENLY ON EACH SIDE OF THE WALL OR WALLS SHALL BE ADEQUATELY BRACED BY THE CONTRACTOR UNTIL FLOOR SLAB HAS BEEN PLACED AND CURED FOR 72 HOURS MINIMUM.
- ENCLOSURE SHALL NOT BE SET UNTIL FOUNDATION HAS BEEN CURED FOR 72 HOURS MINIMUM.
- CONTRACTOR TO ENSURE FOUNDATION IS POURED TO MEET FLATNESS LEVEL TOLERANCES AS INDICATED IN ACI 4.5.6 AND 4.5.7.

B. EQUIPMENT ENCLOSURE

THE EQUIPMENT ENCLOSURE IS A PRE-FABRICATED BUILDING MANUFACTURED BY FIBREBOND, MINDEN, LOUISIANA.
THE EQUIPMENT ENCLOSURE BUILDING SHALL BE FURNISHED AND INSTALLED BY THE OWNER UNDER SEPARATE CONTRACT PER THE OWNER AND MANUFACTURER SPECIFICATIONS.

C. CONCRETE NOTES

- ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 AND ACI 301, LATEST EDITION. THESE DOCUMENTS SHALL BE AVAILABLE IN THE FIELD OFFICE.
- EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF $F_c = 4000$ PSI. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED.
- REINFORCING BARS SHALL CONFORM TO ASTM A615, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.

verizon

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7	REVISED PER CROWN COMMENTS	02/07/24

NETWORK COMPLIANCE SUBMITTALS

100% SUBMISSION

DATE

06/19/22

PROJECT: 15201

DRAWING NO.: 15201-01

DRAWN BY: JCB

CHECKED BY: AM

CONTRACT: 2017

**ISSUED
FOR
REVIEW**

FOUNDATION DETAILS

S101

MECHANICAL GENERAL NOTES:

1. COORDINATION:
 - A. EACH DIVISION SHALL COMPLY WITH THE G001 PROJECT GENERAL NOTES AS IF CONTAINED HEREIN.
 - B. CONTRACTOR SHALL SUBMIT COORDINATION DRAWINGS FOR REVIEW AND APPROVAL PRIOR TO COMMENCEMENT OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ASSEMBLY AND COORDINATION OF WORK WITHIN ALL DIVISIONS AND TRADES INTO A SINGLE PACKAGE.
2. DO NOT SCALE DRAWINGS:

THE CONTRACTORS SHALL USE DIMENSIONS SHOWN ON THE DRAWINGS AND ACTUAL FIELD MEASUREMENT. NOTIFY THE AE PROJECT MANAGER IF ANY DISCREPANCIES ARE FOUND PRIOR TO PROCEEDING WITH WORK.
3. ALL ROOM THERMOSTATS, HUMIDISTATS, SENSORS, ETC., SHALL BE MOUNTED 5'-0" AFF (UNLESS OTHERWISE NOTED) AND CLEAR OF ANY BLOCKAGE OR DAMAGE FROM DOORS.
4. ALL DUCTWORK CONNECTIONS TO AIR HANDLING UNITS, EXHAUST FANS, AND GENERATORS SHALL BE FLEXIBLE CONNECTIONS, IN ACCORDANCE WITH ASHRAE, IMC, ETC.
5. ALL MOTORIZED DAMPERS SHALL BE LOW LEAKAGE AIRFOIL AMCA CLASS 1 A DAMPERS.
6. ALL DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH ASHRAE, IMC, ETC.
7. DDC CONTRACTOR TO PROVIDE AND INSTALL CONTROL WIRING AND CONDUIT PER ELECTRICAL FOR ALL VAV CONTROLLERS, UNIT CONTROLLERS VFD'S, MOTORIZED DAMPERS AND FIRE/SMOKE DAMPERS.
8. COORDINATE APPROPRIATE CORRESPONDING DAMPER SIZE WITH DUCT SIZE. SEE SPECIFICATIONS.
9. CONDENSATE AND HUMIDIFIER PIPING ABOVE SENSITIVE EQUIPMENT OR RUNNING THROUGH EQUIPMENT SPACES SHALL BE IN CONTAINMENT PIPING.
10. ALL CONDENSATE PIPING SHALL SLOPE 1/8" PER 1'-0".
11. PROVIDE SECONDARY DRAIN PAN AND PIPING UNDER FAN COIL UNITS.
12. VERIFY ALL DIMENSIONS & CONDITIONS IN THE FIELD. NOTIFY AE PROJECT MANAGER OF ANY DISCREPANCIES. DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL OFFSETS, BENDS, ELBOWS, ETC., WHICH MAY BE REQUIRED FOR PROPER INSTALLATION OF WORK. PROVIDE ADDITIONAL BENDS AND/OR OFFSETS AS REQUIRED TO COMPLETE WORK AT NO ADDITIONAL COST.
13. COORDINATION OF WORK WITH OTHER TRADES EMPLOYED IN THE PROJECT IS MANDATORY. CAREFULLY EXAMINE THE SPACE AVAILABLE TO DETERMINE FINAL ROUTING AND ELEVATIONS OF SERVICES. SHOULD REARRANGEMENT OR RE-ROUTING OF LINES OR PIPING BE NECESSARY, PROVIDE FOR APPROVAL THE SIMPLEST LAYOUT POSSIBLE FOR THAT PARTICULAR PORTION OF THE WORK.
14. THE EXISTENCE OF ANY PIPING, DUCTS OR OTHER SERVICE FACILITIES ARE SHOWN IN A GENERAL WAY ONLY. THE CONTRACTOR SHALL VISIT THE SITE AND MAKE EXACT DETERMINATION OF THE EXISTENCE OF ANY SUCH FACILITIES PRIOR TO THE SUBMISSION OF HIS BID.
15. ALL TELECOMMUNICATIONS EQUIPMENT TO REMAIN ON-LINE AND FUNCTIONING AT ALL TIMES. CONTRACTOR TO PROTECT & MAINTAIN POWER TO ALL EQUIPMENT SCHEDULED TO REMAIN FOR THE DURATION OF CONSTRUCTION.
16. SCHEDULE ALL WORK OVER, NEAR OR AFFECTING NETWORK EQUIPMENT WITH VZW ON-SITE WORK FORCE PERSONNEL. COMPLETE "METHODS OF PROCEDURE" FOR WORK AS DIRECTED BY VZW IN ACCORDANCE WITH VZW STANDARDS.
17. CONTRACTOR TO REMOVE ALL MATERIALS NOT RELATED TO THE FINISHED PRODUCT FROM THE SITE. (DO NOT BURY ON SITE).
18. MAINTAIN AREAS FREE OF DEBRIS ACCUMULATION. KEEP WORK AREAS NEAT AND ORDERLY IN AS MUCH AS REASONABLY POSSIBLE.
19. CONTRACTOR IS RESPONSIBLE FOR ALL ERECTION, BRACING & SHORING OF EXISTING AND NEW EQUIPMENT OR MATERIALS UNTIL SUCH TIME IT IS PERMANENTLY SUPPORTED OR IS READY FOR REMOVAL DURING CONSTRUCTION, WHETHER SCHEDULED FOR DEMOLITION OR REUSE.
20. PROVIDE EQUIPMENT PROTECTION ABOVE ALL NETWORK EQUIPMENT AS REQUIRED. ALL PROTECTION SHALL BE COORDINATED WITH VZW PERSONNEL TO ENSURE THAT THE PROTECTION WILL NOT BLOCK ACCESS TO EQUIPMENT OR CAUSE OVER HEATING. PROVIDE TEMPORARY COOLING AS REQUIRED. CONTRACTOR TO SUBMIT DESIGN OF ALL TEMPORARY DUST BARRIERS TO ARCHITECT FOR APPROVAL PRIOR TO CONSTRUCTION.
21. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VISIT THE SITE AND DETERMINE THE EXACT EXTENT OF WORK, COORDINATION, DEMOLITION, TEMPORARY CONSTRUCTION, TEMPORARY FACILITIES, UTILITIES, ETC. NECESSARY TO COMPLETE THIS PROJECT AS INDICATED IN THE CONTRACT DOCUMENTS.
22. LINED DUCT PROHIBITED IN EQUIPMENT AREAS.

	NEW DUCTWORK
	EXISTING DUCTWORK
	DEMO DUCTWORK
	DUCT DOWN IN PLAN
	DUCT UP IN PLAN
	MOTORIZED DAMPER
	BACKDRAFT DAMPER
	BALANCING DAMPER
	FIRE DAMPER
	SMOKE DAMPER
	CONCENTRIC TRANSITION
	ECCENTRIC TRANSITION
	ELBOW (WITH TURNING VANES)
	DUCT WITH LINING
	CEILING MOUNTED RETURN
	CEILING SUPPLY DIFFUSER

	WALL MOUNTED THERMOSTAT
	PRESSURE SENSOR
	HEAT DETECTOR
	SMOKE DETECTOR
	HAND-OFF-AUTO SWITCH
	VERRIDE SWITCH
	KEYNOTE
	NEW EQUIPMENT
	EXISTING EQUIPMENT
	DEMOLITION EQUIPMENT

2 DUCTWORK SYMBOLS
N/A

1 MECHANICAL LEGEND
N/A

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15201 MURLEN
OLATHE, KS 66062

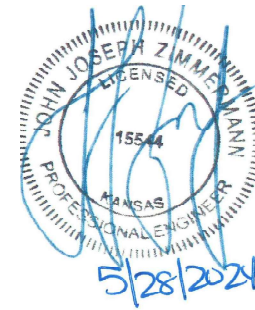
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100% SUBMISSION		06/19/22

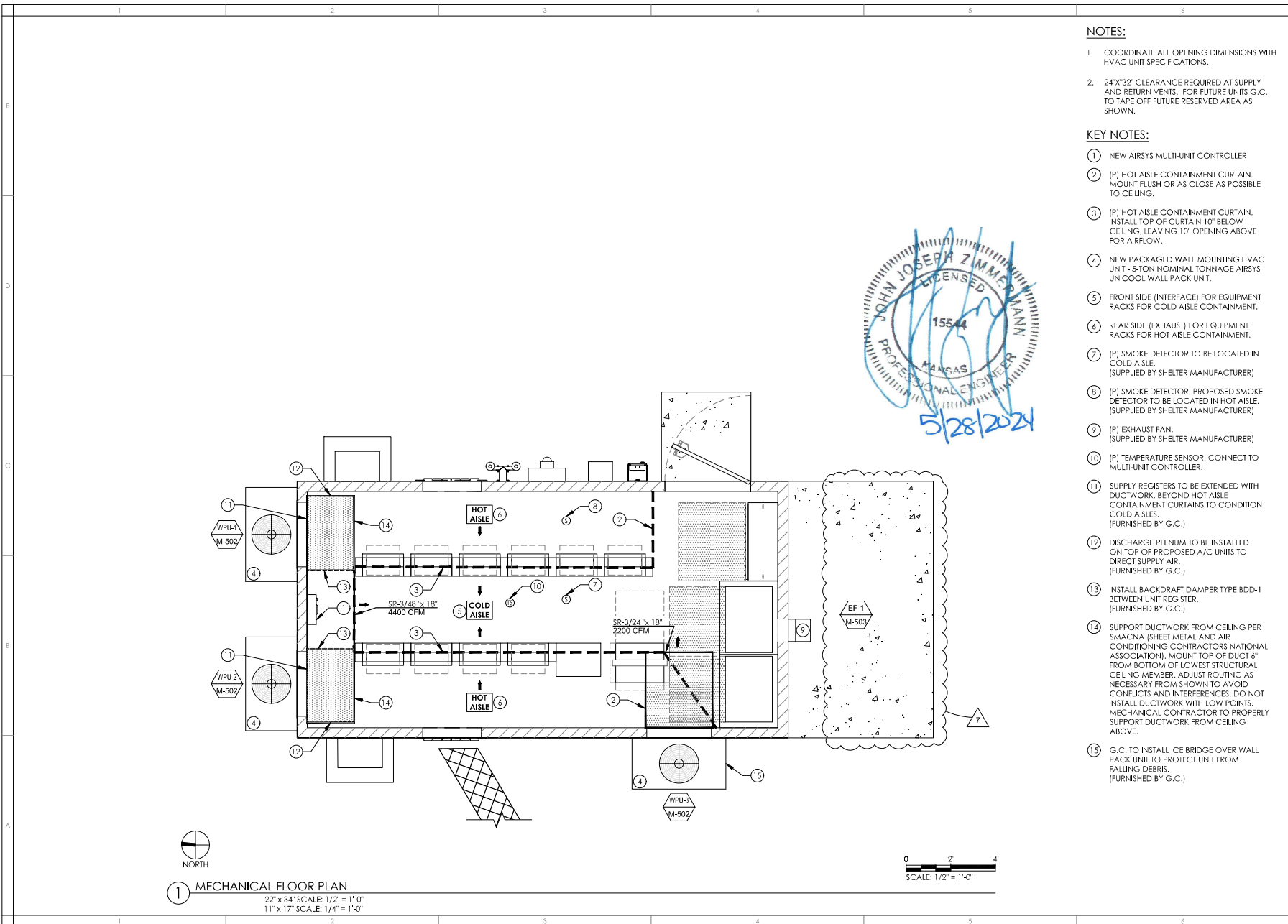
PROJECT: 158891
DRAWING: 158891-01
DESIGNED BY: JAY
DRAWN BY: CEB
CHECKED BY: JAY
COMPILED: 2017

**ISSUED
FOR
REVIEW**

**MECHANICAL
GENERAL NOTES**

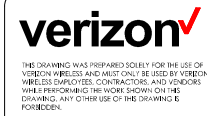
M001





- NOTES:**
1. COORDINATE ALL OPENING DIMENSIONS WITH HVAC UNIT SPECIFICATIONS.
 2. 24"X32" CLEARANCE REQUIRED AT SUPPLY AND RETURN VENTS. FOR FUTURE UNITS G.C. TO TAPE OFF FUTURE RESERVED AREA AS SHOWN.

- KEY NOTES:**
- 1 NEW AIRSYS MULTI-UNIT CONTROLLER
 - 2 (P) HOT AISLE CONTAINMENT CURTAIN. MOUNT FLUSH OR AS CLOSE AS POSSIBLE TO CEILING.
 - 3 (P) HOT AISLE CONTAINMENT CURTAIN. INSTALL TOP OF CURTAIN 10" BELOW CEILING, LEAVING 10" OPENING ABOVE FOR AIRFLOW.
 - 4 NEW PACKAGED WALL MOUNTING HVAC UNIT - 5-TON NOMINAL TONNAGE AIRSYS UNICOOL WALL PACK UNIT.
 - 5 FRONT SIDE (INTERFACE) FOR EQUIPMENT RACKS FOR COLD AISLE CONTAINMENT.
 - 6 REAR SIDE (EXHAUST) FOR EQUIPMENT RACKS FOR HOT AISLE CONTAINMENT.
 - 7 (P) SMOKE DETECTOR TO BE LOCATED IN COLD AISLE. (SUPPLIED BY SHELTER MANUFACTURER)
 - 8 (P) SMOKE DETECTOR. PROPOSED SMOKE DETECTOR TO BE LOCATED IN HOT AISLE. (SUPPLIED BY SHELTER MANUFACTURER)
 - 9 (P) EXHAUST FAN. (SUPPLIED BY SHELTER MANUFACTURER)
 - 10 (P) TEMPERATURE SENSOR. CONNECT TO MULTI-UNIT CONTROLLER.
 - 11 SUPPLY REGISTERS TO BE EXTENDED WITH DUCTWORK. BEYOND HOT AISLE CONTAINMENT CURTAINS TO CONDITION COLD AISLES. (FURNISHED BY G.C.)
 - 12 DISCHARGE PLENUM TO BE INSTALLED ON TOP OF PROPOSED A/C UNITS TO DIRECT SUPPLY AIR. (FURNISHED BY G.C.)
 - 13 INSTALL BACKDRAFT DAMPER TYPE BDD-1 BETWEEN UNIT REGISTER. (FURNISHED BY G.C.)
 - 14 SUPPORT DUCTWORK FROM CEILING PER SMACNA (SHEET METAL AND AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION). MOUNT TOP OF DUCT 6" FROM BOTTOM OF LOWEST STRUCTURAL CEILING MEMBER. ADJUST ROUTING AS NECESSARY FROM SHOWN TO AVOID CONFLICTS AND INTERFERENCES. DO NOT INSTALL DUCTWORK WITH LOW POINTS. MECHANICAL CONTRACTOR TO PROPERLY SUPPORT DUCTWORK FROM CEILING ABOVE.
 - 15 G.C. TO INSTALL BRIDGE OVER WALL PACK UNIT TO PROTECT UNIT FROM FALLING DEBRIS. (FURNISHED BY G.C.)



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PROJECT: 150801	ISSUED FOR REVIEW
CADDING AND CONSTRUCTION	
DRAWN BY: JCB	
CHECKED BY: JCB	
DATE: 06/19/22	

MECHANICAL FLOOR PLAN

M101

SEQUENCE OF OPERATIONS:

1. EQUIPMENT DESCRIPTION:

- WALL MOUNTED AIR CONDITIONING UNITS (WPUs) CONSIST OF A VARIABLE SPEED COMPRESSOR WITH AIRSIDE ECONOMIZER, REFER TO MULTI-UNIT CONTROLLER SETTING SCHEDULE FOR TEMPERATURE SETPOINTS.
- THE UNITS PROVIDE N+1 COOLING CAPACITY FOR CRITICAL EQUIPMENT.
- THE UNITS SHALL BE CONTROLLED BY A FACTORY-PROGRAMMED MULTI-UNIT CONTROLLER.
- UNITS SHALL BE FACTORY WIRED WITH INTERNAL SERVICES AND INTERLOCKS.
- ALL COOLING DECISIONS SHALL BE MADE BY INTERNAL CONTROL ALGORITHMS WITHIN THE MULTI-UNIT CONTROLLER.

2. SCHEDULES:

- THE UNITS SHALL BE ENABLED TO RUN 24 HOURS A DAY, 7 DAYS A WEEK, AND 365 DAYS A YEAR.

3. CONTROL SYSTEM (ASMUC.6 CONTROLLER)

- CONTROLLER BOX FACTORY-PROGRAMMED SETPOINTS SHALL BE CONFIGURABLE ON-SITE OR REMOTELY TO MEET SPECIFIC NEEDS. SETTINGS SHALL BE RETAINED IN THE EVENT OF A POWER LOSS.
- WPUS SHALL INCLUDE SECONDARY INTEGRATED CONTROL MODULES, UPON LOSS OF SIGNAL FROM CONTROLLER WPUS SHALL COOL INDEPENDENTLY USING THE LAST GIVEN CONTROLLER SETTINGS AND INFORMATION FROM ONBOARD TEMPERATURE AND HUMIDITY SENSORS AND TRANSMIT ALARM TO OWNER.
- LEAD UNIT SHALL TURN ON AT MAIN SETPOINT +2 (CONFIGURABLE UNDER "SETPOINTS" IN THE CONTROL CONFIGURATION MENU).
- LEAD UNIT SHALL TURN OFF AT 6 DEGREES BELOW ITS TURN ON POINT (CONFIGURABLE UNDER "SETPOINTS" IN THE CONTROL CONFIGURATION MENU).

4. ECONOMIZER FREE COOLING (FC) OPERATION

- FC SHALL OPEN OUTSIDE DAMPER UPON WHEN TEMPERATURE DIFFERENTIAL BETWEEN INDOOR AND OUTDOOR AIR EXCEEDS DIFFERENTIAL SETPOINT. INITIALLY TO BE PROGRAMMED AT 3.6°F AND WHEN OUTDOOR HUMIDITY IS BELOW SETPOINT, INITIALLY TO BE PROGRAMMED AT 85%.
- DURING FC THE COMPRESSOR SHALL NOT ENGAGE UNTIL THE INDOOR TEMPERATURE HAS REACHED PREPROGRAMMED LEVEL ABOVE THE SETPOINT.
- SUPPLY FAN SHALL MODULATE TO MAINTAIN INDOOR AIR TEMPERATURE WITHIN 2°F OF SETPOINT.
- IF TEMPERATURE SETPOINT CAN NOT BE MAINTAINED WITH SUPPLIED OUTSIDE AIR ONLY, COMPRESSOR SHALL MODULATE TO PROVIDE ADDITIONAL COOLING AS NEEDED.
- FC OUTDOOR DAMPER SHALL MODULATE TO KEEP THE SUPPLY AIR TEMPERATURE ABOVE 51.8°F. DAMPER SHALL CLOSE WHEN SUPPLY TEMPERATURE IS BELOW 51.8°F.
- OUTSIDE AIR DAMPER SHALL CLOSE WHEN THE HUMIDITY EXCEEDS SETPOINT, INITIALLY SET TO 85%, OR IF THE AFPD DUST SENSOR TRIGGERS A PROTECTION EVENT.
- WHEN ENGAGED IN PARTIAL FREE COOLING MODE THE DAMPER MAY REMAIN OPEN WHEN THE COMPRESSOR IS ENGAGED, PROVIDED THAT THE OUTDOOR TEMPERATURE IS LOWER THAN THE INDOOR TEMPERATURE.
- FOR SHELTERS WITHOUT A SECONDARY PRESSURE RELIEF (E.G. A BAROMETRIC LOUVRE), PARTIAL FREE COOLING MODE SHALL BE DISABLED.

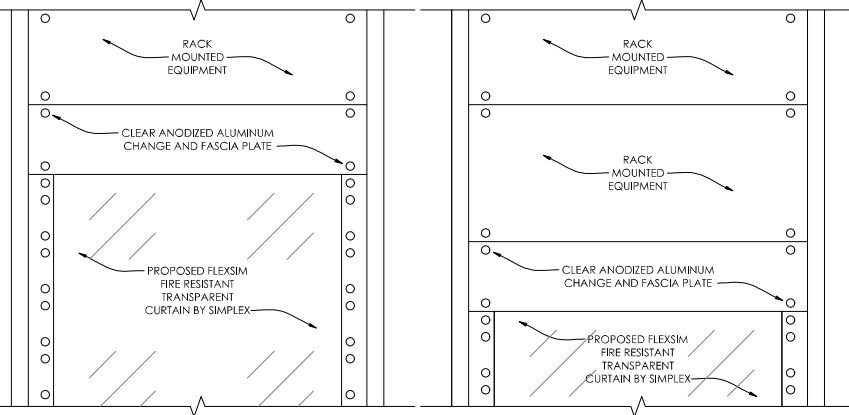
5. EXHAUST FAN

- EXHAUST FAN SHALL RUN CONTINUOUSLY, UPON FAN FAILURE OR LOSS OF POWER, UNIT SHALL GENERATE ALARM.

8 SEQUENCE OF OPERATIONS

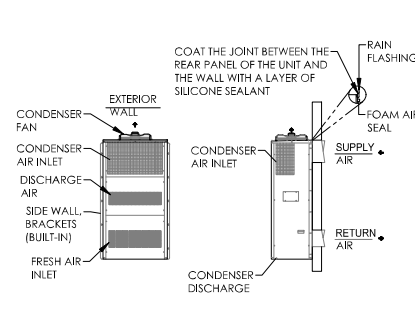
NOT TO SCALE

NOTE: USE CONTAINMENT CURTAIN TO BLOCK EMPTY SPACES IN EQUIPMENT RACK.



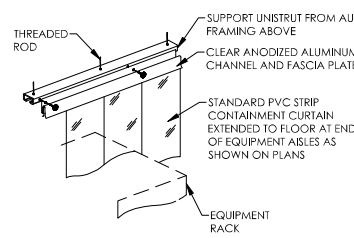
7 RACK-MOUNTED CONTAINMENT CURTAIN

NOT TO SCALE



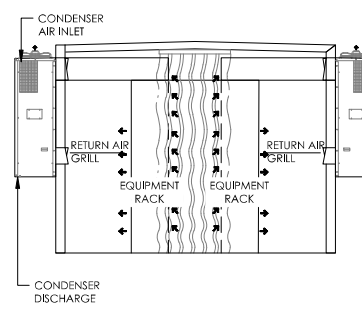
6 AIRSYS INSTALLATION DETAIL

NOT TO SCALE



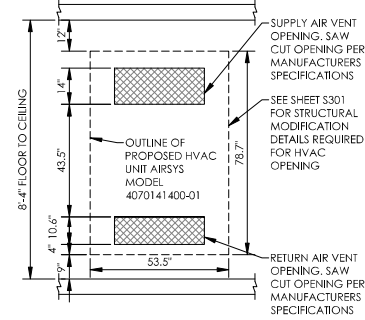
5 CONTAINMENT CURTAIN

NOT TO SCALE



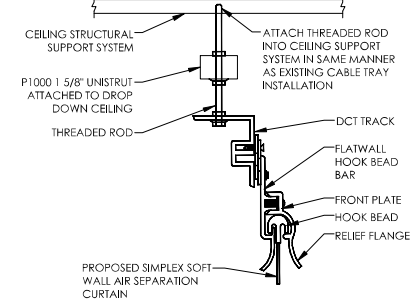
4 AIRFLOW SCHEMATIC

NOT TO SCALE



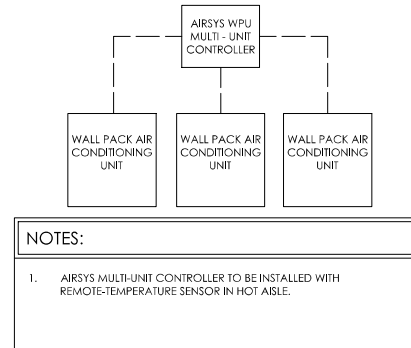
3 RETURN VENT OPENINGS

22" x 34" SCALE: 1/2" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"



2 SIMPLEX SOFTWALL AIR CURTAIN

22" x 34" SCALE: 1/2" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"



1 AIRSYS CONTROLLER LEAD / LAG OPERATION

NOT TO SCALE

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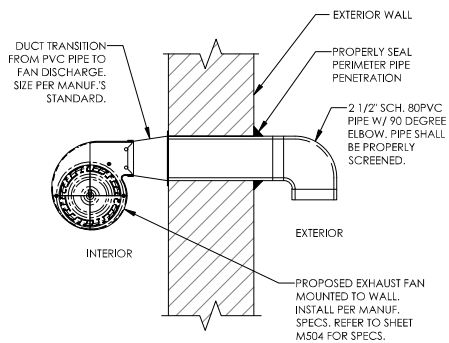
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PROJECT: 150891
DRAWING: 150891-01
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
COMPILED: 2017

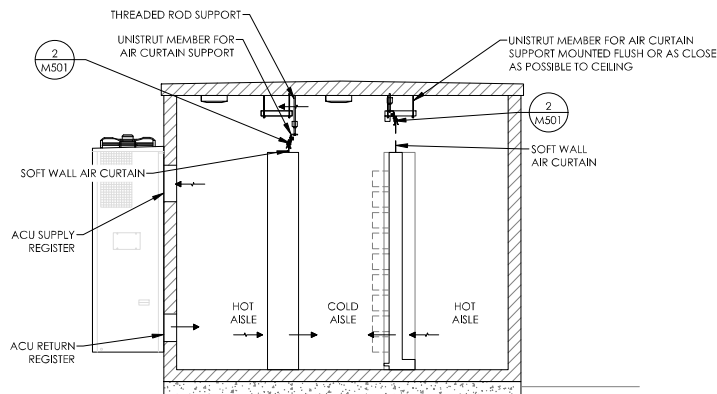
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REVIEW

MECHANICAL
DETAILS

M501

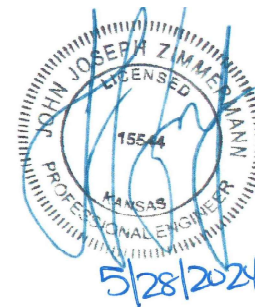


3 EXHAUST FAN INSTALLATION DETAIL
NOT TO SCALE



2 CURTAIN INSTALLATION AND AIRFLOW DIAGRAM
22" X 34" SCALE: 1/2" = 1'-0"
11" X 17" SCALE: 1/4" = 1'-0"

1 AIRSYS CONTROLLER DIAGRAM
NOT TO SCALE



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PROJECT: 150801	ISSUED FOR REVIEW
DRAWING NO: 150801-01	
DESIGNED BY: AWT	
CHECKED BY: AWT	
DATE: 06/19/22	

MECHANICAL DETAILS

M502

WALL PACK UNIT (WPU) SCHEDULE																		
TAG	LOCATION	MIN TOTAL CAPACITY (BTUH)	MAX TOTAL CAPACITY (BTUH)	MIN SENS. CAPACITY (BTUH)	MAX SENS. CAPACITY (BTUH)	COOLING	CFM	ELECTRICAL				EDB °F	EWB °F	HEAT		WEIGHT (LBS)	REMARKS	BASIS OF DESIGN
								VOLT/ Ø/HZ	MCA	MOCP				KW	STAGES			
WPU-1	SHELTER	38200	65200	36800	63000	3 - 6 Ton/Variable	2200	240 / 1 / 60	45	60	95	72	5	1	858	1.2,3	AIRSYS 15V1T4M	
WPU-2	SHELTER	38200	65200	36800	63000	3 - 6 Ton/Variable	2200	240 / 1 / 60	45	60	95	72	5	1	858	1.2,3	AIRSYS 15V1T4M	
WPU-3	SHELTER	38200	65200	36800	63000	3 - 6 Ton/Variable	2200	240 / 1 / 60	45	60	95	72	5	1	858	1.2,3	AIRSYS 15V1T4M	
NOTES:	1. COOLING CAPACITY IS BASED ON AMBIENT TEMPERATURE OF 95 F AND 72 F RETURN TEMPERATURE.																	
	2. UNIT UTILIZES R410A REFRIGERANT.																	
	3. UNIT TO BE PROVIDED WITH FACTORY MOUNTED ECONOMIZER.																	
	4. WPUs TO REMAIN OPERATIONAL DURING SMOKE / FIRE SIGNAL																	
	5. UNITS TO BE CONTROLLED BY SUPPLY AIR TEMPERATURE																	

AIRSYS MULTI-CONTROLLER LEAD/ LAG COMMANDS		
MODBUS PARAMETER	LEAD UNIT	LAG UNIT
ROOM TEMPERATURE SET-POINT	79 DEG F	82 DEG F
COOLING DIFFERENTIAL	3	3
WPU CONTROLLER SETTING REQUIREMENTS		
SETTING	LEAD UNIT	LAG UNIT
LEAD/ LAG CHANGEOVER	7 DAYS	7 DAYS
COOLING SETPOINT	79 DEG F	79 DEG F
HEATING SETPOINT	50 DEG F	50 DEG F
CONTINUOUS BLOWER	ON	OFF
MINIMUM COMPRESSOR RUNTIME	3 MINUTES	3 MINUTES
MINIMUM UNIT OFF TIME	5 MINUTES	5 MINUTES
AVERAGE MULTIPLE SENSORS	YES	YES

FAN SCHEDULE												
TAG	AREA SERVED	FAN FUNCTION	TYPE/ DRIVE	CFM	SP INCHES	MOTOR			VIB ISO	DISCONN SWITCH	NOTES	BASIS OF DESIGN
						VOLTAGE/ PHASE	HP	RPM				
EF-1	EQUIPMENT ROOM	HYDROGEN EXHAUST	DIRECT	25	0.1	110/1	-	-	X	Y	1	DAYTON #1TDN3
NOTES:	1, FAN TO RUN CONTINUOUSLY.											

REGISTER SCHEDULE					
TAG	TYPE	MATERIAL	FINISH	MANUFACTURER	MODEL
SR-3	DUCT-MOUNTED ADJUSTABLE SUPPLY REGISTER	AL	MFR STANDARD	TITUS	272FL
NOTES:					



1 MECHANICAL SCHEDULES
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PROJECT: 158891 CADDING AND CONSTRUCTION DESIGNED BY: JAZ DRAWN BY: CCB CHECKED BY: JAZ COMPILED: 2017	ISSUED FOR REVIEW
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MECHANICAL
SCHEDULES

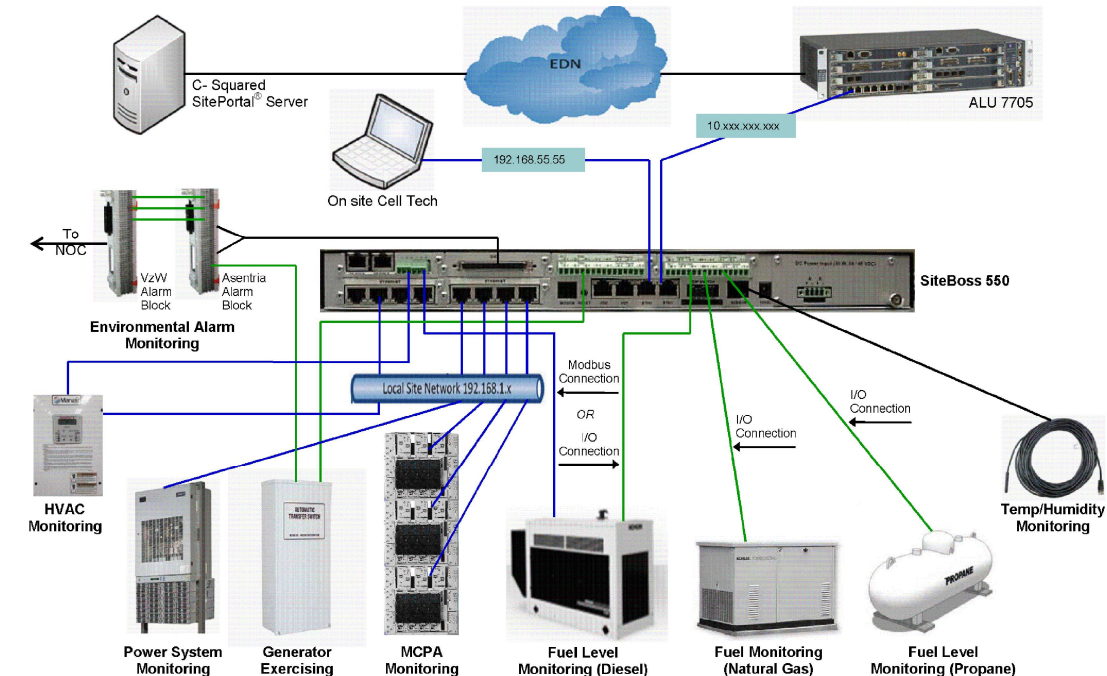
M503

BUILDING AUTOMATION GENERAL NOTES:

1. THESE NOTES SHALL COMPLEMENT THE DIVISION 1 SPECIFICATIONS. THE DIVISION 1 SPECIFICATIONS SHALL TAKE PRIORITY OVER THESE NOTES WHEN NECESSARY.
2. DIVISION 25 IS COMPOSED OF BOTH THESE DRAWINGS AND THE ASSOCIATED DIVISION 25 CONTROL M SPECIFICATIONS. BOTH DRAWINGS AND SPECIFICATIONS ARE AN INTEGRAL PART OF THE CONTRACT DOCUMENTS. SPECIFICATIONS AND DRAWINGS ARE COMPLEMENTARY, AND AS SUCH, ITEMS CALLED FOR IN ONE SHALL BE CONSTRUED AS REQUIRED BY BOTH DRAWINGS AND SPECIFICATIONS. THE GENERAL CONDITIONS (DIV 01) ARE ALSO INCLUDED IN THESE CONTRACT DOCUMENTS. REFER TO G SHEETS FOR ADDITIONAL REQUIREMENTS.
3. THE CONTRACT DRAWINGS INDICATE APPROXIMATE LOCATIONS OF EQUIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE ACTUAL COMPONENT LOCATIONS BASED UPON THE INTENT OF THE DESIGN, SPECIFICATIONS, AND DRAWINGS. MODIFICATION OF PANEL LOCATIONS SHALL BE APPROVED BY ARCHITECT AND COORDINATED WITH ELECTRICAL TRADES.
4. THE CONTRACT DRAWINGS ARE DIAGRAMMATIC AND DO NOT SHOW ALL COMPONENT, MATERIALS, EXACT CABLE ROUTINE, CONDUIT, AND OTHER CONSIDERATIONS THAT MAY BE REQUIRED FOR PROPER SYSTEM OPERATION.
5. ALL MATERIAL AND EQUIPMENT USED IN THIS INSTALLATION SHALL BE NEW, AND SHALL HAVE THE APPROPRIATE UL LISTING AND FACTORY MUTUAL (FM) APPROVAL. ALL MATERIALS SHALL COMPLY WITH ALL APPLICABLE LOCAL AND NATIONAL CODES, STANDARDS, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
6. CONTRACTOR SHALL PERFORM ALL WORK AND INSTALL ALL COMPONENTS IN A PROFESSIONAL AND WORKMANLIKE MANNER. ALL FINISH WORK TO BE TRUE, LEVEL, AND PLUMB. ALL JOINTS TO BE TIGHT AND CLEAN.
7. ALL WORK SHALL BE PERFORMED IN FULL COMPLIANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES, STANDARDS AND ALL APPLICABLE AMENDMENTS, WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL ISSUE PUBLIC NOTICES.
8. ALL EIA-485 MS/TP SEGMENTS SHALL BE DOUBLY TERMINATED BUS TOPOLOGY. PROVIDE CONDUIT AS REQUIRED IN DIVISION 25 SPECIFICATIONS AND WIRE ROUTES TO ACCOMMODATE.
9. DEVICES SHALL BE INTERCONNECTED AS SHOWN ON THE NETWORK ARCHITECTURE DIAGRAM.
10. 22 AWG BELDEN 3106A OR EQUIVALENT BE UTILIZED FOR ALL MSTP/BACNET NETWORK WIRING. CAT5E OR CAT6 SHALL BE USED FOR BACNET IP.
11. ALL CONTROL M LOCAL OPERATING NETWORK WIRING INCLUDING BUT NOT LIMITED TO MS/TP AND MODBUS NETWORK CABLE SHALL INCLUDE ONE DESIGNATED SPARE CABLE TO BE PULLED ALONG SIDE THE PRIMARY CABLE.
12. USE 18 GAUGE, STRANDED, SHIELDED, TWISTED PAIR WIRE FOR ALL TWO CONDUCTOR SENSOR WIRING.
13. SPlicing OF COMMUNICATION CABLE BETWEEN DEVICES IS NOT ALLOWED.
14. ALL INTELLIGENT CONTROLLERS RESIDING ON THE BACNET NETWORK SHALL BE BTL COMPLIANT FOR COMPLETE INTEROPERABILITY.
15. INSTALL THE QU OF EIA-485 MS/TP / ETHERNET JACKS AS INDICATED ON THE FLOOR PLAN AND ARCHITECTURE DIAGRAM. EXACT PLACEMENT MAY VARY FROM WHAT IS SHOWN. NETWORK JACKS SHOULD BE LOCATED TO ALLOW EASY ACCESS TO FIELD BUS FOR TROUBLESHOOTING OF DIGITAL CONTROLLERS. INSTALL JACKS WITHIN DCP, NCP OR OTHER ENCLOSURE. THERMOSTATS WITH INTEGRAL MS JACKS MAY BE USED HOWEVER MAY NOT USE THE MS BUS FOR TRANSMISSION OF TEMPERATURE/HUMIDITY DATA TO ASSOCIATED EQUIPMENT (VAV BOX, AHU, ETC.).
16. INSTALL NETWORK TERMINATORS WITHIN CONTROL PANELS OF ADJACENT END OF LINE CONTROLLERS.
17. CONTROL PANELS SHALL HAVE SUFFICIENT QUANTITY OF CONTROLLERS, CONTROL POINTS, AND NETWORK VARIABLE RESOURCE COUNT TO SUPPORT BOTH THE PHYSICAL AND NETWORK I/O REQUIREMENTS OF EACH DEVICE DESIGNATED FOR THAT PANEL.
18. STAND ALONE OPERATION IS REQUIRED FOR ALL EQUIPMENT. SEQUENCE OF OPERATION MUST NOT BE DEPENDENT ON LOCAL OPERATING NETWORK COMMUNICATIONS EXCLUDING OUTSIDE AIR CONDITIONS VARIABLES REQUIRED FOR USE BY MULTIPLE CONTROLLERS. EACH PIECE OF MECHANICAL EQUIPMENT MUST BE CONTROLLED BY A SINGLE BACNET CONTROLLER. REMOTE I/O MODULES SHALL NOT BE ALLOWED FOR CONTROL POINTS OR POINTS WHICH ARE REQUIRED TO ACHIEVE THE SEQUENCE OF OPERATION WITHOUT THE USE OF A BAC NET ROUTER AND SEPARATE SUB NET.
19. CONTROL PANELS SHOWN ON DRAWING ARE SCHEMATIC ONLY AND ARE NOT TO SCALE. CONTROLS CONTRACTOR SHALL PROVIDE PANELS AS NECESSARY TO HOUSE THE REQUIRED CONTROL EQUIPMENT. CONTRACTOR SHALL COORDINATE EXACT PLACEMENT OF PANELS WITH SURROUNDING EQUIPMENT.
20. CONTROLS CONTRACTOR SHALL VERIFY NODE COUNT PER NETWORK AND CONFORM TO THE ARCHITECTURE GUIDELINES SPECIFIED BY THE MANUFACTURER OF THE NETWORK CONTROLLER AND BY ANSI / ASHRAE BACNET STANDARDS 135.
21. INSTALL THE CENTER OF ALL CONTROL PANELS AT 60" TYPICAL ELEVATION WHEN FEASIBLE.
22. GROUND ALL SHIELDS AT ONE END ONLY TO AVOID GROUND LOOPS. TERMINATE GROUND CONDUCTORS FIRST. TERMINATE AT EQUIPMENT WHEN FEASIBLE.
23. INDICATED ROUTING OF EIA-485 MS/TP NETWORK WIRING IS SCHEMATIC IN ROUTING ONLY. ACTUAL ROUTING OF WIRING SHALL BE DETERMINED IN THE FIELD BY CONTROLS CONTRACTOR. RESTORE ALL DISRUPTED SURFACES BACK TO ORIGINAL FINISHED CONDITIONS. THE CONTRACTOR SHALL PROVIDE LABOR AND MATERIAL FOR ALL DRYWALL, FLOOR, CONCRETE, CARPET, PAINT AND SIMILAR "FINISH" SURFACES AFFECTED BY THE SCOPE OF THIS PROJECT.
24. FIELD VERIFY ALL THERMOSTAT LOCATIONS FOR FIELD CONFLICTS INCLUDING UNFORESEEN WALL SPACE RESTRICTIONS, WIRING RESTRICTIONS, AND THERMAL INTERFERENCE FROM EQUIPMENT AND OR SUNLIGHT. NOTIFY OWNER OF ALL CONFLICTS PRIOR TO INSTALLATION.
25. THE TERMS CONTRACTOR, SI CONTRACTOR, AND CONTROLS CONTRACTOR SHALL BE CONSTRUED ON THE SAME CONTRACTOR FOR THE SCOPE DEFINED IN THE BAS DRAWINGS AND DIVISION 25 SPECIFICATIONS.

BUILDING AUTOMATION GENERAL NOTES CONT.:

26. ALL BAS CONTROL DEVICES INCLUDING NETWORK CONTROLLERS, DIGITAL CONTROL PANELS, 24V POWER SUPPLIES, AND WORKSTATIONS SHOWN ON BAS00 TO BE ON THE CRITICAL COMMUNICATION BUS SHALL BE ON CRITICAL/INVERTER POWER CIRCUITS.
27. ALL WIRING SHALL BE IN 3/4" EMT REGARDLESS OF LOCATION.
28. ALL CONTROLLERS AND RELATED CONTROL EQUIPMENT USED TO CONTROL DAMPERS, FANS, AND AHUS DURING SMOKE CONTROL SEQUENCES SHALL BE UL 864/ULUL LISTED FOR SMOKE CONTROL UL 555 DAMPERS SHALL BE PURCHASED WITH APPROVED UL LISTED ACTUATORS.
29. ALL DAMPER ACTUATORS SHALL BE BELIMO.
30. CRITICAL POINTS AND ALARMS SHALL BE WIRED NORMALLY CLOSED SO THAT A LOSS OF POWER WILL INDICATE AN ALARM CONDITION OR RELEASE TO NORMAL OPERATION.
31. CONTRACTOR SHALL COORDINATE EQUIPMENT PURCHASES WITH THE POINT LISTS IN THESE DOCUMENTS. CONTRACTOR SHALL BE REQUIRED TO ADD HARDWARE AND LOGIC TO MEET THE POINTS IN THESE DOCUMENTS.
32. ALL NEW CONDUIT AND WIRING SHALL NOT BE RAN OVER TECHNICAL SPACES. UTILIZE HALLWAYS AND NON-TECHNICAL SPACES FOR ROUTING OF ALL NEW CONDUIT AND WIRE PATHS.
33. THE DIVISION 25 CONTRACTOR SHALL PROVIDE CONTROL RELAYS, AND MAKE 120V POWER CONNECTIONS TO COMBINATION FIRE/SMOKE DAMPERS PROVIDED BY OTHERS. POWER WIRING HOME RUNS AND DISCONNECTS FOR DAMPERS ARE PROVIDED BY DIVISION 26. THE CONTROL OF THE COMBINATION FIRE/SMOKE DAMPERS IS BY THE B.A.S.
34. THE BAS CONTRACTOR SHALL BE REQUIRED TO PROVIDE 120V POWER TO ALL FIELD DEVICES (ACTUATORS, SENSORS, ETC.) WHICH REQUIRE SUCH POWER.
35. THE BAS CONTRACTOR IS 100% RESPONSIBLE FOR PROVIDING OR COORDINATING WITH PURCHASING TRADE THE SUPPLY OF NETWORK OR RELAY INTERFACE CARDS, GATEWAYS, MICROPROCESSORS, ETC. TO ACCOMPLISH THE CONTROL AND MONITORING INTENT OF THOSE DRAWINGS.



1 HUB DESIGN EXAMPLE
NOT TO SCALE

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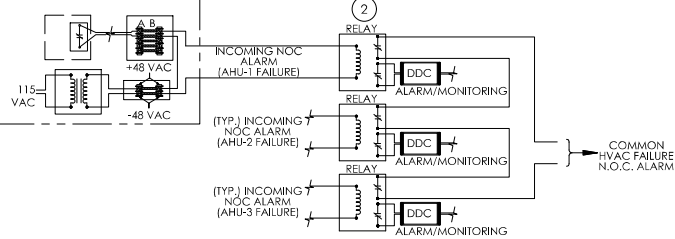
PROJECT: 158081
CADD: 158081-000-000-000-000
DESIGNED BY: JAY
DRAWN BY: CDB
CHECKED BY: JAY
COMPILED: 2017

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REVIEW**

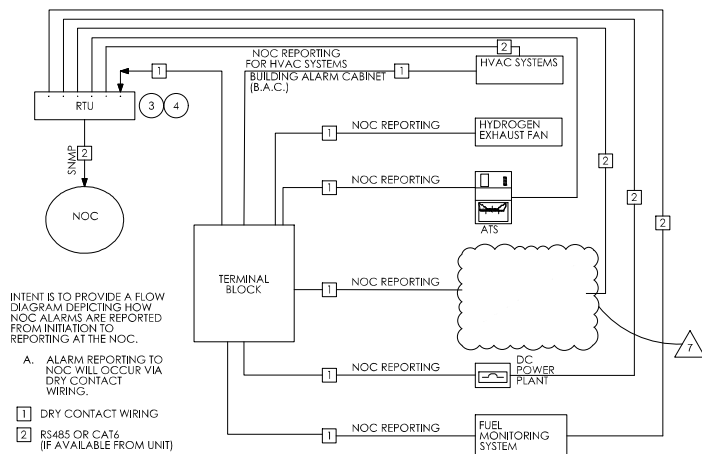
**BUILDING
AUTOMATION
GENERAL NOTES**

BA001

1 TYPICAL POINT OF DRY-CONTACT ALARM LOCATED IN THE FIELD



2 TYPICAL NOC ALARM CONSOLIDATION DIAGRAM NOT TO SCALE



INTENT IS TO PROVIDE A FLOW DIAGRAM DEPICTING HOW NOC ALARMS ARE REPORTED FROM INITIATION TO REPORTING AT THE NOC.

A. ALARM REPORTING TO NOC WILL OCCUR VIA DRY CONTACT WIRING.

- 1 DRY CONTACT WIRING
- 2 RS485 OR CAT6 (IF AVAILABLE FROM UNIT)

1 TYPICAL NOC REPORTING FLOW DIAGRAM DRY CONTACT WIRING NOT TO SCALE

NOC ALARMING SUMMARY

SYSTEM	ALARM DESCRIPTION	SEVERITY AT NOC		SUPPLEMENTARY NOTES
		MAJOR	CRITICAL	
ROOM SENSORS	HIGH TEMPERATURE (SET TO 89° F)	X		COMMON ALARM TRIGGERED BY ANY SENSOR
	LOW TEMPERATURE (SET TO 45° F)	X		
WALL PACK UNITS	UNIT FAILURE		X	PROVIDE SINGLE UNIT FAILURE ALARM
	HIGH PRESSURE LOCKOUT	X		
	LOW PRESSURE LOCKOUT	X		
	FREEZE CONDITIONS	X		
HYDROGEN EXHAUST FAN	UNIT FAILURE	X		
FIRE PROTECTION & FIRE SUPPRESSION	1ST ALARM ANY SPACE		X	
	2ND ALARM ANY SPACE		X	
	FIRE ALARM SYSTEM TROUBLE		X	
INTERGRATED LOAD CENTER	ATS NOT IN AUTO MODE	X		
	NORMAL SOURCE NOT AVAILABLE		X	
	ATS ON EMERGENCY POWER SOURCE	X		
	NORMAL SOURCE SURGE PROTECTION FAILURE	X		PROVIDE COMMON SPD DEVICE FAILURE ALARM
	EMERGENCY SOURCE SURGE PROTECTION FAILURE	X		
	BATTERY VOLTAGE BELOW LV-2 THRESHOLD		X	
	BATTERY VOLTAGE BELOW LV-1 THRESHOLD		X	
	BATTERY VOLTAGE EXCEEDS A THRESHOLD		X	
	BYPASS NOT AVAILABLE	X		
	INVERTER FAILURE		X	
DC POWER PLANT	ONE RECTIFIER NOT SUPPLYING DC POWER	X		
	MULTIPLE RECTIFIERS NOT SUPPLYING DC POWER		X	

KEY NOTES:

- 1 INTENT OF RELAY: WIRE RELAY INTERFACE SUCH THAT WHEN MONITORED EQUIPMENT IS NOT IN ALARM THE FOLLOWING CONDITIONS WILL RESULT: THE RELAY COIL SHALL BE ENERGIZED AND THE OUTPUT TO THE SNMP GATEWAY SHALL BE OPEN. IN THE EVENT OF AN ALARM, A CUT FIELD WIRE, OR LOSS OF 24V POWER TO THE COIL, THE RELAY COIL SHALL DE-ENERGIZE TO INDICATE AN ALARM TO THE SNMP GATEWAY. WHEN MONITORED EQUIPMENT IS NOT IN ALARM, CUSTOMER SHALL BE ABLE TO SHORT THE PINS AT THE SWITCH EQUIPMENT TO SIMULATE A TEST ALARM THROUGH THEIR SUPERVISION EQUIPMENT.
- 2 CONTRACTOR TO PROVIDE RELAY LOGIC, AS REQUIRED TO PRODUCE THE COMMON ALARMS LISTED IN THE HARDWARE POINTS LIST. FOR EXAMPLE: CONTRACTOR SHALL PROVIDE RELAY LOGIC TO INDICATE CRAC COMMON FAILURE UPON LOSS OF CONTROL OF THE UNITS FANS, VALVES, DAMPERS, OR SAFETIES, OR TO PRODUCE ONE COMMON HVAC FAILURE ALARM WHEN ANY UNIT FAILS.
- 3 SNMP GATEWAY DEVICE SHALL TRANSMIT SNMP TRAPS TO VERIZON'S NOC WHEN A COMMON ALARM IS INDICATED. TO BE CONFIGURED AND TESTED BY CONTRACTOR.
- 4 REMOTE MONITORING USED AS BASIS OF DESIGN. SUBSTITUTIONS MUST BE APPROVED BY OWNER.

GENERAL NOTES:

1. NOC ALARMS SHALL BE TRANSMITTED BY EQUIPMENT TYPE ACCORDING TO THE SUMMARY ON THIS SHEET. THE NUMBER OF ALARMS TRANSMITTED TO THE NOC SHALL BE MINIMIZED WHERE POSSIBLE WHILE ENSURING THAT ALL CRITICAL ALARMS ARE COMMUNICATED PROPERLY.
2. NOC ALARMS SHALL BE TRANSMITTED ACCORDING TO THE ALARM SEVERITY SPECIFIED. REFER TO VZW STANDARDS NSTD398 AND NDIR49 FOR MORE INFORMATION.
3. REFER TO NSTD3298 FOR SPECIFIC INFORMATION REGARDING FORMATTING OF SNMP TRAPS TO NNOC.
4. "HEART BEAT" COMMUNICATIONS MUST BE MAINTAINED BETWEEN THE NOC AND THE REMOTE MONITORING ALARM SITE MANAGEMENT SYSTEM. COORDINATE WITH VZW.



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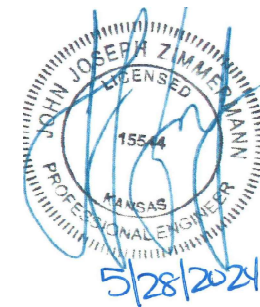
PROJECT: 156891	ISSUED FOR REVIEW
DRAWING NO: 156891-2	
DESIGNED BY: JAZ	
DRAWN BY: CDB	

BUILDING AUTOMATION NOC ALARM

BA501

GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. TESTING SHALL BE IN ACCORDANCE WITH SPECIFICATION 24782-000-3PS-EG00-00001. USE OF OTHER METHODS MUST BE PRE-APPROVED BY CONTRACTOR IN WRITING.
3. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. WHEN ADDING ELECTRODES, CONTRACTOR SHALL MAINTAIN A MINIMUM DISTANCE BETWEEN THE ADDED ELECTRODE AND ANY OTHER EXISTING ELECTRODE EQUAL TO THE BURIED LENGTH OF THE ROD. IDEALLY, CONTRACTOR SHALL STRIVE TO KEEP THE SEPARATION DISTANCE EQUAL TO TWICE THE BURIED LENGTH OF THE RODS.
4. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE AND UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
6. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO ITS EQUIPMENT.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK-TO-BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
8. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
9. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. IN ALL CASES, BENDS SHALL BE MADE WITH A MINIMUM BEND RADIUS OF 8 INCHES.
10. EACH INTERIOR BTS CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH #6 AWG STRANDED, GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES. EACH OUTDOOR CABINET FRAME/PLINTH SHALL BE DIRECTLY CONNECTED TO THE BURIED GROUND RING WITH #2 AWG SOLID TIN-PLATED COPPER WIRE.
11. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TIN-PLATED COPPER UNLESS OTHERWISE INDICATED.
12. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE. CONNECTIONS TO ABOVE GRADE EXTERIOR UNITS SHALL BE MADE WITH EXOTHERMIC WELDS WHERE PRACTICAL OR WITH 2-HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS. HIGH PRESSURE CRIMP CONNECTORS MAY ONLY BE USED WITH WRITTEN PERMISSION FROM VERIZON MARKET REPRESENTATIVE.
13. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
14. ALL WIRE TO WIRE GROUND CONNECTIONS TO THE INTERIOR GROUND RING SHALL BE FORMED USING HIGH PRESS CRIMPS OR SPLIT BOLT CONNECTORS WHERE INDICATED IN THE DETAILS.
15. ON ROOFTOP SITES WHERE EXOTHERMIC WELDS ARE A FIRE HAZARD COPPER COMPRESSION CAP CONNECTORS MAY BE USED FOR WIRE TO WIRE CONNECTORS. 2 HOLE MECHANICAL TYPE BRASS CONNECTORS WITH STAINLESS STEEL HARDWARE, INCLUDING SET SCREWS SHALL BE USED FOR CONNECTION TO ALL ROOFTOP BTS EQUIPMENT AND STRUCTURAL STEEL.
16. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR USING TWO HOLED MECHANICAL TYPE BRASS CONNECTORS AND STAINLESS STEEL HARDWARE.
17. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
18. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
19. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
20. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF THE BURIED GROUND RING WITH #2 SOLID AWG TIN-PLATED COPPER GROUND CONDUCTOR.
21. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT WITH LISTED BONDING FITTINGS.



COMMON V2W DC PLANT RECTIFIER REQUIREMENTS			
RECTIFIER	INPUT FLA CURRENT AT 240 VAC (EACH RECTIFIER)	2 RECT / BRANCH CIRCUIT (PREFERRED APPROACH)	1 RECT / BRANCH CIRCUIT (ALT APPROACH)
VERTIV 3500W (r48-3500E3 or sim)	15.5 AMPS	40A/2P (or 45A/2P) #8 THHN	30A/2P #10 THHN
GE 75A (NE075AC48xxxx or sim)	22 AMPS (MAX)	60A/2P #6 THHN	30A/2P #10 THHN
OTHER - COORD W/ VENDOR	REFER TO CUT SHEETS	REFER TO CUT SHEETS	REFER TO CUT SHEETS



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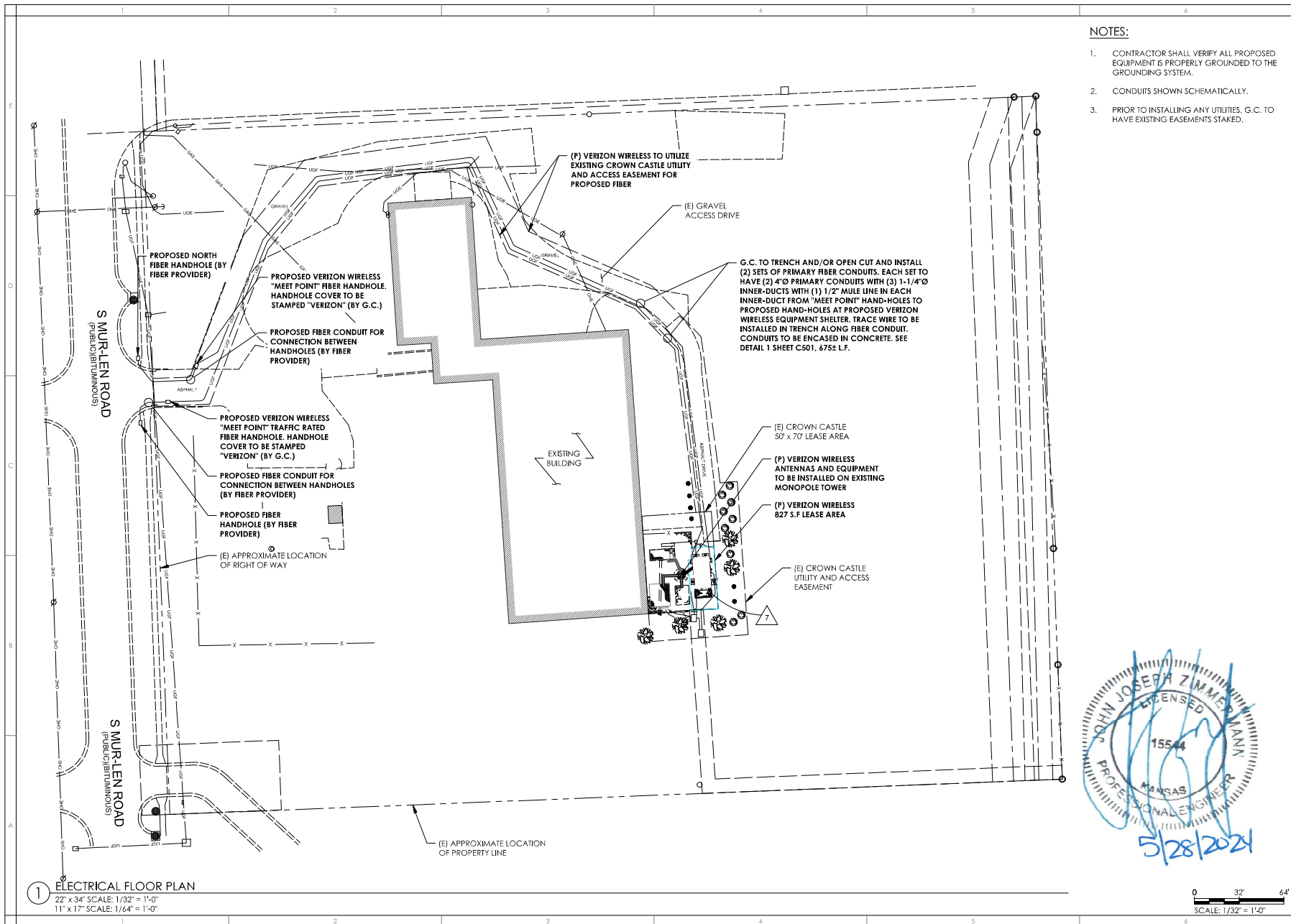


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100% SUBMISSION		06/19/22

PROJECT: 156001 DRAWING NO.: 156001-01 DESIGNED BY: JAY DRAWN BY: CCB CHECKED BY: JAY CONTRNO: 2017	ISSUED FOR REVIEW
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**ELECTRICAL
GENERAL NOTES**

E002



- NOTES:**
1. CONTRACTOR SHALL VERIFY ALL PROPOSED EQUIPMENT IS PROPERLY GROUNDED TO THE GROUNDING SYSTEM.
 2. CONDUITS SHOWN SCHEMATICALLY.
 3. PRIOR TO INSTALLING ANY UTILITIES, G.C. TO HAVE EXISTING EASEMENTS STAKED.

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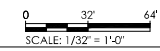
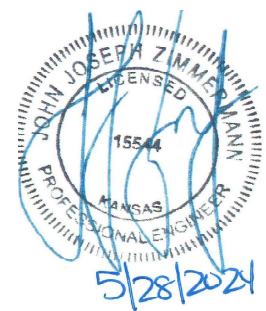
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PROJECT: 158001
DRAWING NO: 158001-01
DESIGNED BY: JAV
DRAWN BY: CCB
CHECKED BY: JAV
COMPILED: 2017

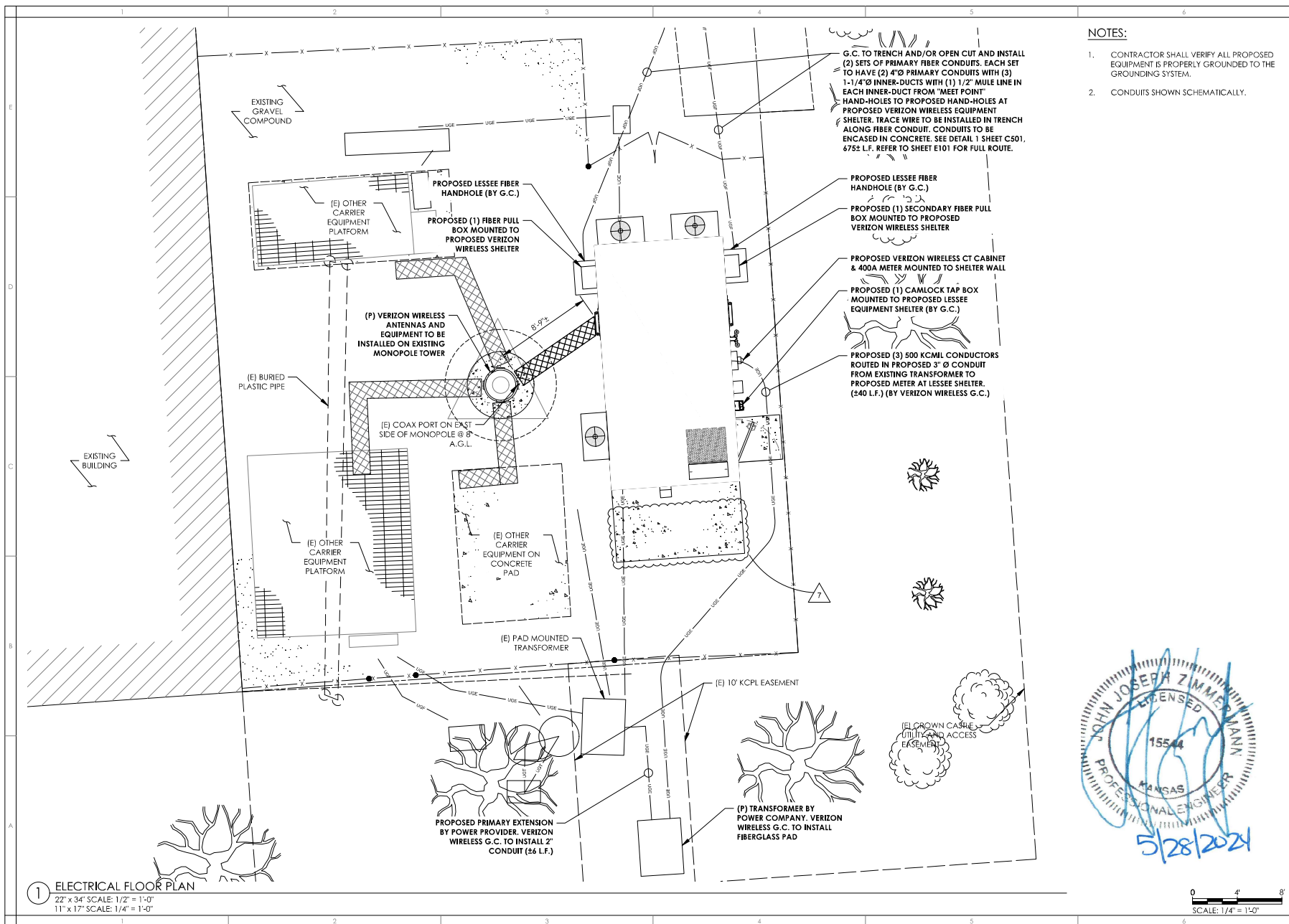
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ENLARGED UTILITY ROUTING PLAN

E101



1 ELECTRICAL FLOOR PLAN
22" x 34" SCALE: 1/32" = 1'-0"
11" x 17" SCALE: 1/64" = 1'-0"



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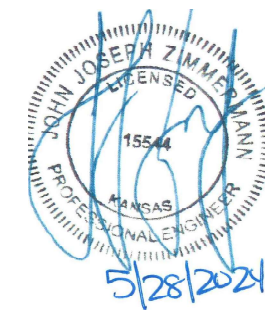
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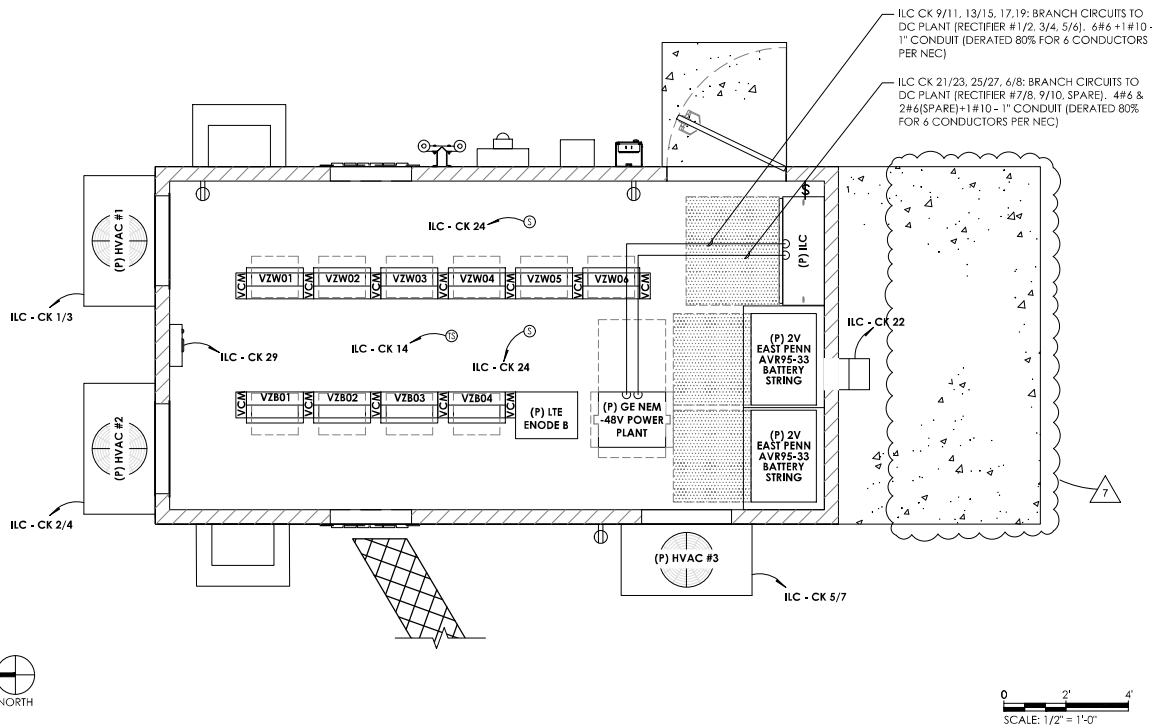
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 CADD: 15801-01-01-02
 DESIGNED BY: JAZ
 DRAWN BY: CCB
 CHECKED BY: JAZ
 COMPILED: 2017

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UTILITY ROUTING PLAN

E102





1 ELECTRICAL FLOOR PLAN
22' x 34" SCALE: 1/2" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"

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

NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING & PROPOSED EQUIPMENT ARE PROPERLY GROUNDED TO THE GROUNDING SYSTEM.
2. CONDUITS SHOWN SCHEMATICALLY.

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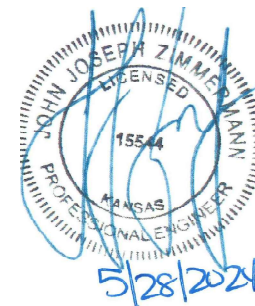
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6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 15881
DRAWING NO.: 15881-2
DESIGNED BY: JAY
DRAWN BY: CCB
CHECKED BY: JAY
COMPILE: 2017

**ISSUED
FOR
REVIEW**

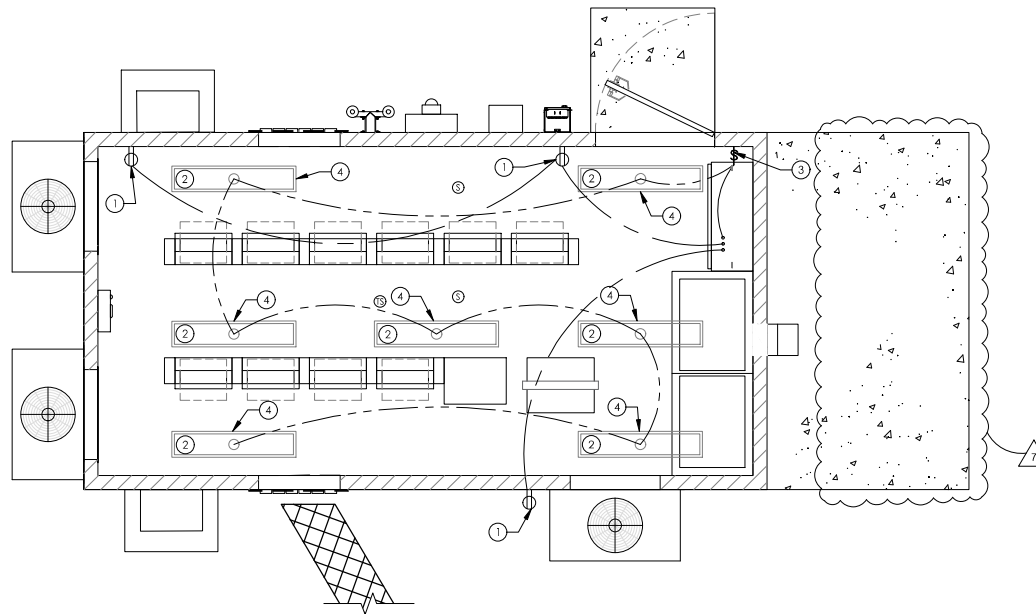
**ELECTRICAL FLOOR
PLAN**

E103





1 POWER AND LIGHTING PLAN
22' x 34' SCALE: 1/2" = 1'-0" 11' x 17' SCALE: 1/4" = 1'-0"

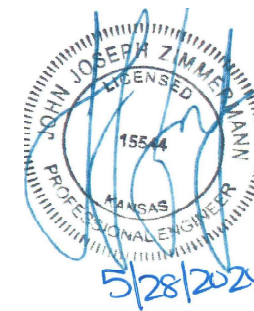


NOTES:

1. CONTRACTOR SHALL VERIFY ALL EXISTING & PROPOSED EQUIPMENT ARE PROPERLY GROUNDED TO THE GROUNDING SYSTEM.
2. CONDUITS SHOWN SCHEMATICALLY.

KEY NOTES:

- 1 120V DUPLEX RECEPTACLE "HUBBLE" #5362-WHITE, SUPPLIED AND INSTALLED BY CONTRACTOR. INSTALL @ 18" A.F.F.
- 2 CEILING SURFACE MOUNTED LED LIGHTS MANUFACTURED BY TEXAS FLUORESCENTS, CATALOG #209 A 232 OR EQUAL, 32W WITH A 2 BULB 18 4" WITH LENS.
- 3 LIGHT SWITCH
- 4 LIGHT FIXTURES TO BE WIRED TO LIGHT SWITCH



THE DRAWING WAS PREPARED SOLELY FOR THE USE OF VERIZON WIRELESS AND MUST ONLY BE USED BY VERIZON WIRELESS EMPLOYEES, CONTRACTORS AND VENDORS WHILE PERFORMING THE WORK SHOWN ON THE DRAWING. ANY OTHER USE OF THE DRAWING IS FORBIDDEN.



NO.	DESCRIPTION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
2	REVISED PER CLIENT COMMENTS	08/02/22
3	REVISED FIBER ROUTE	08/24/22
4	ISSUED FOR FINAL	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 156801 DRAWING NO: 156801-02 DESIGNED BY: JAZ DRAWN BY: CCB CHECKED BY: JAZ CONDATE: 2017	ISSUED FOR REVIEW
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POWER & LIGHTING
PLAN

E104

KEY NOTES:

- ① 4"x20"x1/4" TINNED INSULATED COPPER GROUND BAR, NON ISOLATED W/ 10' LONG #2 AWG TINNED SOLID COPPER WIRE WELDED TAILS (HARGER GBT 14420VW)
- ② PROPOSED #2 AWG STRANDED GREEN INSULATED COPPER WIRE FROM LEAD/LAG CONTROLLER TO THE PROPOSED GROUND SYSTEM, GROUND EQUIPMENT PER MANUFACTURER'S SPECIFICATIONS.
- ③ PROPOSED #2 AWG STRANDED GREEN INSULATED COPPER WIRE FROM PROPOSED EQUIPMENT RACK TO THE PROPOSED GROUNDING SYSTEM, TYPICAL FOR ALL EQUIPMENT RACKS, GROUND PER MANUFACTURER'S SPECIFICATIONS.
- ④ PROPOSED #2 AWG STRANDED GREEN INSULATED COPPER WIRE FROM WALL PACK HVAC UNITS TO THE EXISTING BURIED GROUND RING PER MANUFACTURER'S SPECIFICATIONS.
- ⑤ PROPOSED #2 AWG SBTIC GROUND WIRE FROM THE DC POWER PLANT EQUIPMENT TO THE GROUNDING SYSTEM PER MANUFACTURER'S SPECIFICATIONS.

KEY NOTES:

- ⑥ PROPOSED #2 AWG STRANDED GREEN INSULATED COPPER WIRE FROM PROPOSED BATTERY RACK TO GROUNDING SYSTEM PER MANUFACTURER'S SPECIFICATIONS.
- ⑦ GROUND TOP AND BOTTOM LOUVERS WITH #6 AWG STRANDED GREEN INSULATED TO COPPER WIRE.
- ⑧ PROPOSED #6 AWG STRANDED GREEN INSULATED COPPER WIRE TO CABLE TRAYS PER MANUFACTURE SPECIFICATIONS.
- ⑨ #2 TINNED SOLID COPPER CONDUCTOR TO GROUND RING, 2 PLACES
- ⑩ ELECTRICAL SERVICE ENTRY GROUND
- ⑪ TWO #2 LEADS FROM THE EGR TO THE MGB LOCATED IN THE SHELTER, CADWELD EGR & DOUBLE HOLE LUGS IN SHELTER.

NOTES:

1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND UNDERSTAND THE EXTENT OF THE GROUNDING WORK AS INDICATED BY THE CONTACT DOCUMENTS.
2. FIELD LOCATE UNDERGROUND PUBLIC AND OWNER UTILITIES OF ALL TRADES AND GROUNDING PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR REWORK OF ANY DAMAGED UTILITIES AND GROUNDING SYSTEMS.
3. ALL CONDUIT AND GROUNDING CONDUCTORS SHALL BE A MINIMUM OF 36" BELOW GRADE UNLESS OTHERWISE NOTED.
4. CONNECT TO ALL METALLIC OBJECTS WITHIN 6' OF EXTERIOR BURIED GROUND RING WITH #2 AWG SBTIC GROUND WIRE.
5. CONNECT ALL MECHANICAL EQUIPMENT BASES AND PIPING SUPPORTS TO BURIED GROUND RING WITH #2 SBTIC GROUND WIRE.
6. ALL GROUNDING CONDUCTORS SHALL BE SUPPORTED BY NONMETALLIC SUPPORTS.
7. GROUNDING LEADS FROM BUILDING EXTERIOR, AND CONNECTIONS TO RING ARE SHOWN FOR REFERENCE ONLY. COORDINATE WITH ALL OTHER DIVISION TO ENSURE THAT ALL METALLIC OBJECTS ON BUILDING, AND BUILDING EXTERIOR RECEIVE GROUND CONNECTION. COORDINATE WITH ALL OTHER TRADES.
8. PROVIDE LABELS ON ALL GROUNDING CONDUCTORS IN INSPECTION BOXES INDICATING LEAD NUMBER AND TERMINATION LOCATION AT OPPOSITE END.
9. BOND ALL EXTERIOR METALLIC OBJECTS THAT ARE ATTACHED TO THE BUILDING TO THE EXTERIOR RING VIA A #2 SBTIC.
9. BOND ALL EXTERIOR METALLIC OBJECTS ON THE SITE TO THE EXTERIOR RING VIA A #2 SBTIC.
10. ALL BURIED CONNECTIONS SHALL BE MADE WITH #2 SBTIC.
11. G.C. TO ENSURE THAT SHELTER MANUFACTURER SUPPLIES SHELTER WITH INTERIOR GROUND HALO AND EXISTING INSTALLED CABLE TRAY, CONDUITS, LOUVERS, DOORS, ETC. ARE BONDED TO GROUND SYSTEM. NOTIFY VERIZON WIRELESS IMPLEMENTATION ENGINEER IF THIS IS NOT PERFORMED.

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LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

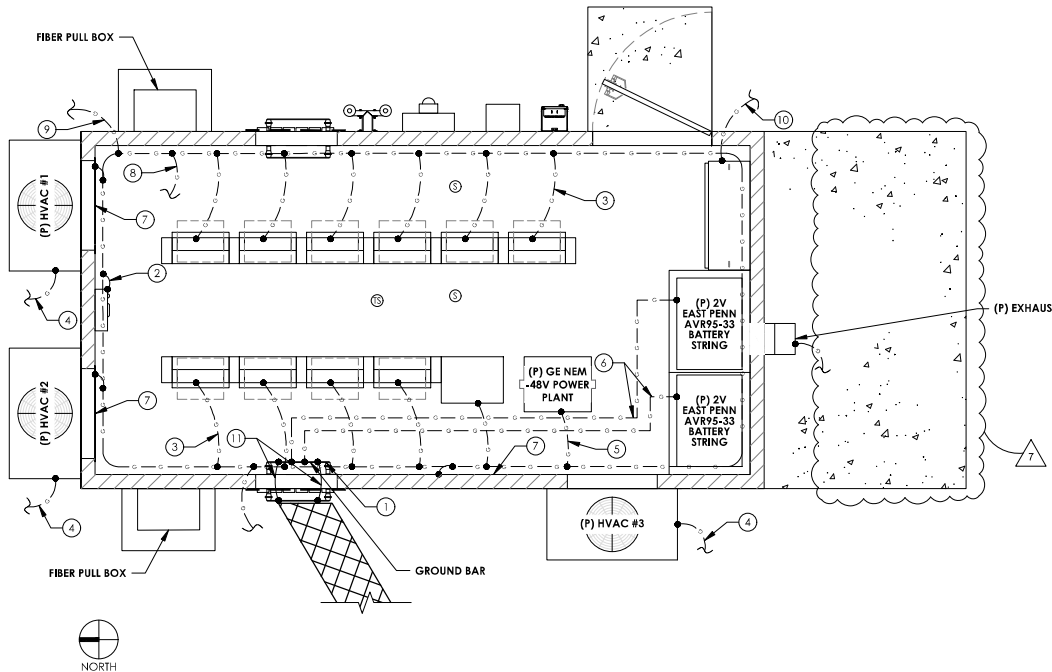
NO.	DESCRIPTION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
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3	REVISED FIBER ROUTE	08/24/22
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6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24
NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158891
DRAWING: 158891-01-01
DESIGNED BY: AAY
DRAWN BY: CCB
CHECKED BY: AAY
COMPILED: 2017

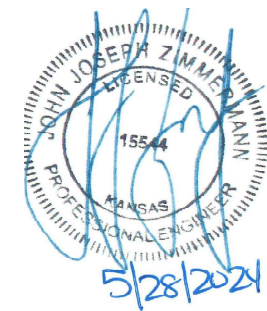
ISSUED FOR REVIEW

INTERIOR GROUNDING PLAN

E111



① INTERIOR GROUNDING PLAN
22' x 34' SCALE: 1/2" = 1'-0" 11' x 17' SCALE: 1/4" = 1'-0"



LEGEND	
SYMBOL	DESCRIPTION
	5/8" DIAMETER x 10'-0" LONG COPPER CLAD GROUND ROD (HARGER-SB10)
	5/8" DIAMETER x 10'-0" LONG COPPER CLAD GROUND ROD WITH INSPECTION WELL
-----	#2 AWG T1NND SOLID BARE COPPER WIRE MINIMUM 42" BELOW GRADE (HARGER-L2)
---UE---	UNDERGROUND ELECTRICAL
---UT---	UNDERGROUND TELEPHONE
---F---	UNDERGROUND FIBER
●	EXOTHERMIC WELD
—OE—	OVERHEAD ELECTRICAL SERVICE
—OT—	OVERHEAD TELEPHONE SERVICE

KEY NOTES:

- #2 AWG T1NND SOLID BARE COPPER CONDUCTOR 42" BELOW GRADE (TYPICAL) MINIMUM 24" BENDING RADIUS
- ENCLOSURE GROUND (TYP.) IN 1/2" DIAMETER SCHEDULE 40 PVC CONDUIT
- GROUND EQUIPMENT ENCLOSURE HVAC WITH MECHANICAL CLAMP (SEE DETAIL, SHEET E502).
- #2 AWG T1NND SOLID BARE COPPER CONDUCTOR 42" BELOW GRADE (SEE DETAIL, SHEET E502)
- MAINTAIN TWO FOOT DISTANCE OFF OF STRUCTURES.
- GROUND TELEPHONE SERVICE ENTRANCE (SEE DETAIL, SHEET E502).
- ELECTRIC METER AND ELECTRIC SERVICE GROUNDING (SEE DETAIL SHEET E503), COORDINATE ALTERNATE WITH PM

KEY NOTES:

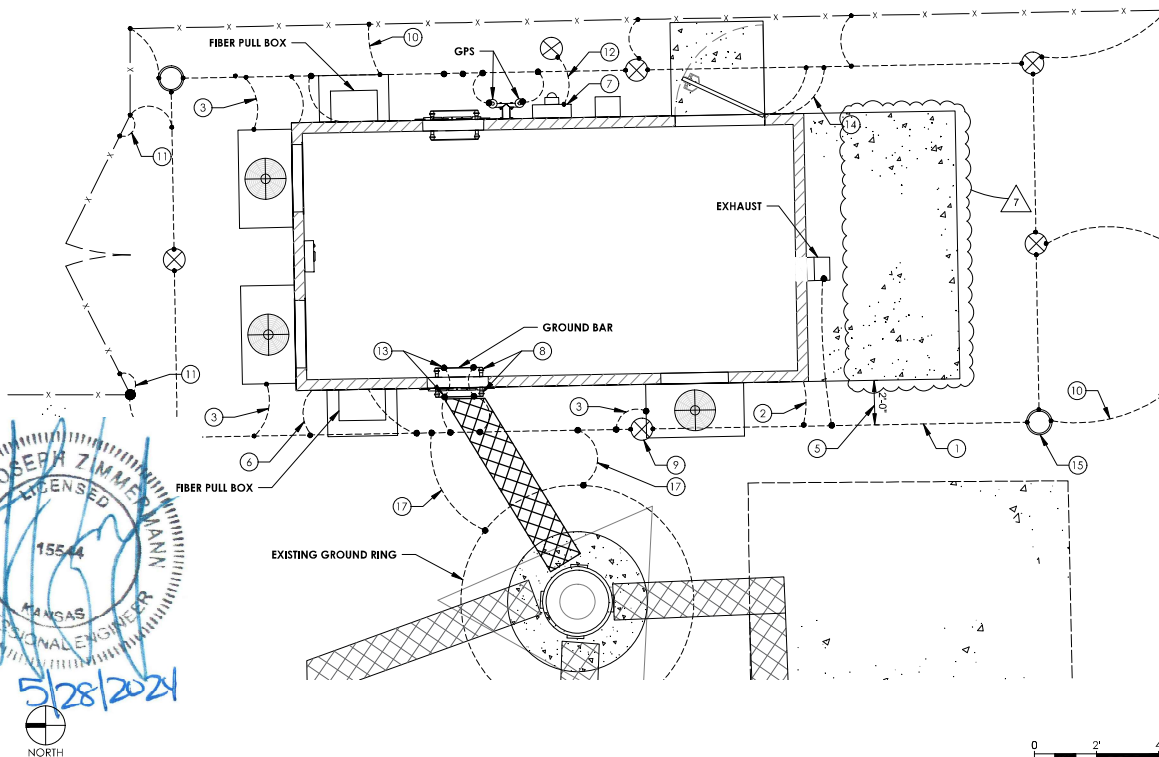
- 4"x20"x1/4" T1NND INSULATED COPPER GROUND BAR, NON ISOLATED WITH 10'-0" LONG #2 AWG T1NND SOLID COPPER WIRE WELDED TAILS (HARGER GBT 14420VW)
- 5/8" DIAMETER x 10'-0" LONG COPPER CLAD GROUND ROD (HARGER-SB10) (SEE DETAIL, SHEET E501) WITH EXOTHERMIC CONNECTION
- GROUND CHAIN LINK FENCE (TYPICAL) EXOTHERMIC CONNECTION (TYPE VS) GROUND FENCE POSTS WITHIN 6 FEET OF ENCLOSURE AND 25 FEET OF TOWER. (SEE DETAIL, SHEET E501)
- GATE JUMPERS (SEE DETAIL, SHEET E501)
- BOND SERVICE DISCONNECT TO GROUND ROD AND EQUIPMENT GROUND RING (SEE DETAIL, SHEET E501)

KEY NOTES:

- TWO #2 LEADS FROM THE EGR TO THE MGB LOCATED IN THE SHELTER. CADWELD AT EGR AND DOUBLE HOLE LUGS IN SHELTER.
- ELECTRIC SERVICE ENTRY GROUND
- INSPECTION WELL (SEE DETAIL, SHEET E501)
- #2 T1NND SOLID COPPER CONDUCTOR TO GROUND RING, 2 PLACES
- BOND TOWER GROUND RING TO EQUIPMENT GROUND RING WITH #2AWG T1NND SOLID COPPER CONDUCTOR IN 2 LOCATIONS.

NOTES:

- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VISIT THE SITE AND UNDERSTAND THE EXTENT OF THE GROUNDING WORK AS INDICATED BY THE CONTACT DOCUMENTS.
- FIELD LOCATE UNDERGROUND PUBLIC AND OWNER UTILITIES OF ALL TRADES AND GROUNDING PRIOR TO ANY EXCAVATION. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR REWORK OF ANY DAMAGED UTILITIES AND GROUNDING SYSTEMS.
- ALL CONDUIT AND GROUNDING CONDUCTORS SHALL BE A MINIMUM OF 36" BELOW GRADE UNLESS OTHERWISE NOTED.
- CONNECT TO ALL METALLIC OBJECTS WITHIN 6' OF EXTERIOR BURIED GROUND RING WITH #2 AWG SBTC GROUND WIRE.
- CONNECT ALL MECHANICAL EQUIPMENT BASES AND PIPING SUPPORTS TO BURIED GROUND RING WITH #2 SBTC GROUND WIRE.
- ALL GROUNDING CONDUCTORS SHALL BE SUPPORTED BY NONMETALLIC SUPPORTS.
- GROUNDING LEADS FROM BUILDING EXTERIOR, AND CONNECTIONS TO RING ARE SHOWN FOR REFERENCE ONLY. COORDINATE WITH ALL OTHER DIVISION TO ENSURE THAT ALL METALLIC OBJECTS ON BUILDING, AND BUILDING EXTERIOR RECEIVE GROUND CONNECTION. COORDINATE WITH ALL OTHER TRADES.
- BOND ALL EQUIPMENT SHELTER EXTERIOR METALLIC OBJECTS THAT ARE ATTACHED TO THE BUILDING TO THE EXTERIOR RING VIA A #2 SBTC.
- BOND ALL EXTERIOR METALLIC OBJECTS ON THE SITE TO THE EXTERIOR RING VIA A #2 SBTC.
- ALL BURIED CONNECTIONS SHALL BE MADE WITH #2 SBTC.
- ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC PROCESS CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE SPLICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS SPLICES AND LIGHTNING PROTECTION SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL TOOLS, ETC.) SHALL BE BY EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM 24" BENDING RADIUS.
- ALL EXOTHERMIC CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) TWO COATS OF SHERWIN-WILLIAMS GALVALITE (WHITE) PAINT 830W3 (OR EQUAL) OR SHERWIN-WILLIAMS SILVERBRITE (ALUMINUM) 859S11 (OR EQUAL).
- ALL ELECTRICAL & MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTI-OXIDANT COMPOUND APPLIED TO CONNECTION.
- FENCE/GATE: GROUND FENCE POSTS WITHIN 6 FEET OF ENCLOSURE AND 25 FEET OF TOWER AS INDICATED ON DRAWINGS. GROUND EACH GATE POST AND CORNER POST. GROUND CONNECTIONS TO FENCE POSTS SHALL BE MADE BY THE EXOTHERMIC PROCESS AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES. ALL OTHER CONNECTIONS FOR THE GROUND GRID SYSTEM SHALL BE MADE BY THE EXOTHERMIC PROCESS, AND INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND PROCEDURES.
- AFTER INSTALLATION OF THE CANOPY AT THE DOOR, GC/EC IS TO BOND THE CANOPY TO THE DOOR FRAME WITH A #2 CONDUCTOR. USE DOUBLE-LUG CONNECTION. PREP AND PAINT SURFACE TO MATCH AFTER INSTALLATION.
- UTILITY COMPANY COORDINATION: ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL WORK IS IN ACCORDANCE WITH THE RULES OF THE LOCAL UTILITY COMPANY BEFORE SUBMITTING THE BID. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THIS PROJECT AND SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WHICH THEY WILL REQUIRE AND SHALL INCLUDE THE COST IN THE BID.
- GROUND TEST: GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY LESSEE STANDARD PROCEDURES. GROUND GRID RESISTANCE SHALL NOT EXCEED 5 OHMS.
- CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS:
 - ONE (1) COPY TO OWNER REPRESENTATIVE
 - ONE (1) COPY TO ENGINEER
 - ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE



1 ELECTRICAL GROUNDING PLAN
22" x 34" SCALE: 1/2" = 1'-0" 11" x 17" SCALE: 1/4" = 1'-0"

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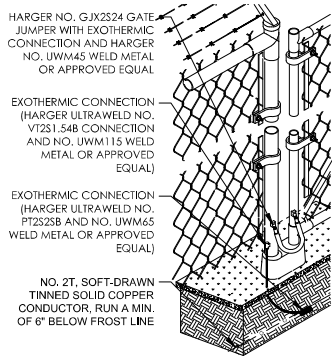
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NETWORK COMPLIANCE SUBMITTALS		DATE
100% SUBMISSION		06/19/22

PROJECT: 158091
DRAWING: E501-100-01
REVISION: 100
DRAWN BY: CCB
CHECKED BY: AAY
COMPILED BY: 2017

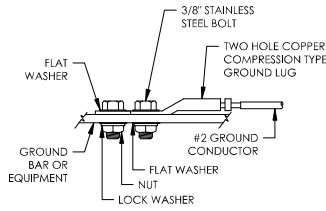
ISSUED FOR REVIEW

EXTERIOR GROUNDING PLAN

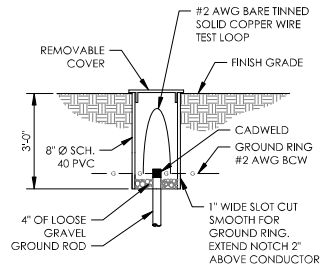
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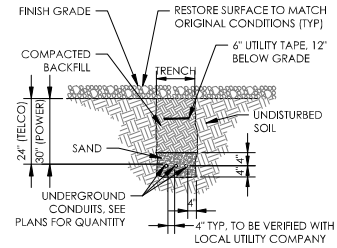
15 FENCE GROUNDING DETAIL
NOT TO SCALE



12 GROUND CONNECTION
NOT TO SCALE

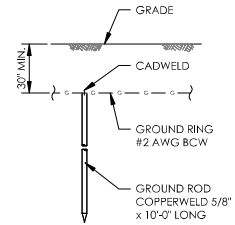


9 GROUND ROD INSEPCION WELL
NOT TO SCALE

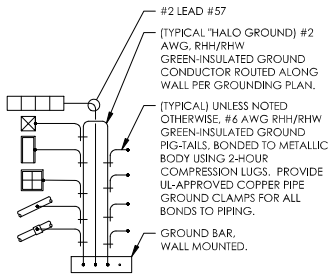


- NOTES:
1. PROVIDE PVC CONDUIT BELOW GRADE EXCEPT AS NOTED.
 2. PROVIDED RGS CONDUIT & ELBOWS AT STUB UP LOCATIONS (IE POLES, EQUIPMENT, ETC.)
 3. PROVIDE RGS CONDUIT BELOW PARKING LOTS & ROADWAYS.

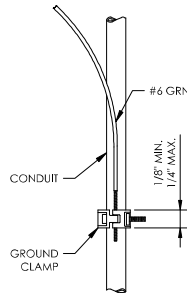
6 TYPICAL TRENCH DETAIL
NOT TO SCALE



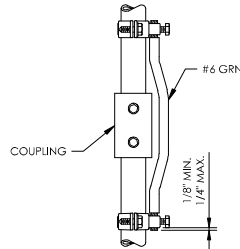
3 GROUND ROD DETAIL
NOT TO SCALE



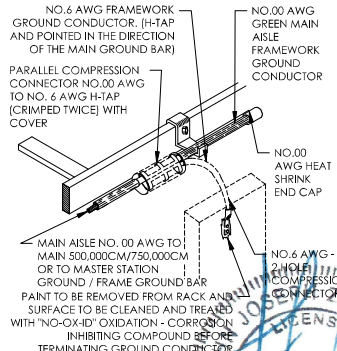
14 SCHEMATIC HALO GROUND DETAIL
NOT TO SCALE



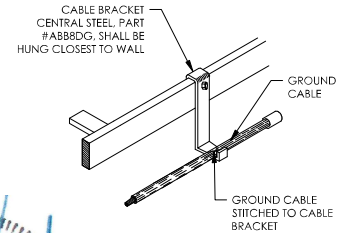
11 CONDUIT BOND DETAIL
NOT TO SCALE



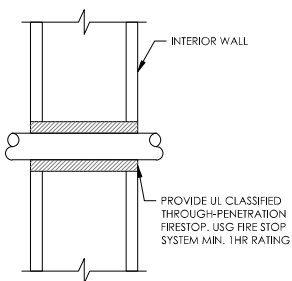
8 CONDUIT BOND DETAIL
NOT TO SCALE



5 TYPICAL FRAME GROUND DETAIL
NOT TO SCALE



2 TYPICAL CABLE RACKET
NOT TO SCALE

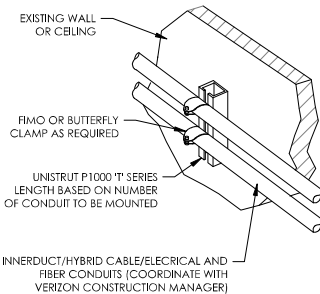


13 CORE DRILL DETAIL
NOT TO SCALE

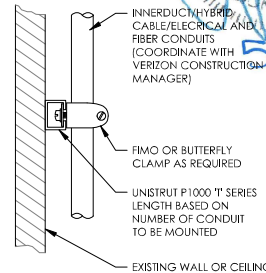
WALL CONSTRUCTION TYPE	USE
HOLLOW	3/8" DIA. TOGGLE BOLT
HOLLOW, AT STUD	3/8" DIA. LAG SCREW
CONCRETE BLOCK (HOLLOW)	3/8" DIA. HILTI HY-20 WITH SCREEN, MIN. EMBEDMENT 2 1/2"
CONCRETE (SOLID)	3/8" DIA. HILTI HY-150 WITH SCREEN, MIN. EMBEDMENT 2 1/2"

- NOTES:
1. USE STANDARD GALVANIZED HARDWARE FOR WALL MOUNT AND CONNECTION OF CHANNELS, SPACE UNITS AT 5'-0" ON CENTER.

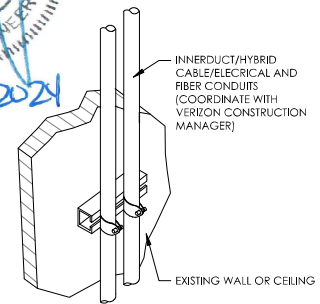
10 UNISTRUT MOUNTING CHART
NOT TO SCALE



7 CONDUIT MOUNTING DETAIL
NOT TO SCALE



4 CONDUIT MOUNTING DETAIL
NOT TO SCALE



1 CONDUIT MOUNTING DETAIL
NOT TO SCALE

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LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

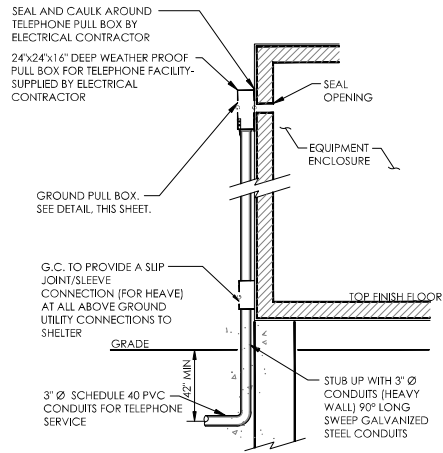
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100% SUBMISSION		06/19/22

PROJECT: 158081
DRAWING NO.: 158081-01
DESIGNED BY: AAV
DRAWN BY: CCB
CHECKED BY: AAV
COMPILED BY: 2017

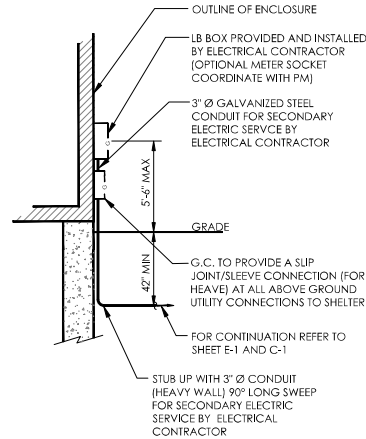
ISSUED
FOR
REVIEW

GROUNDING DETAILS

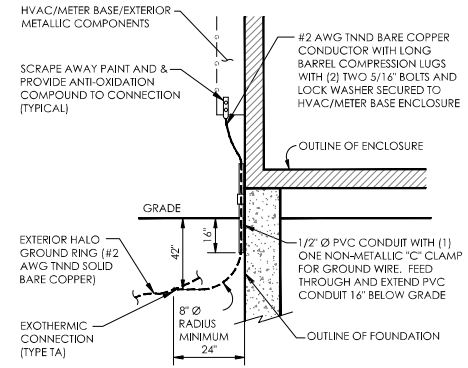
E501



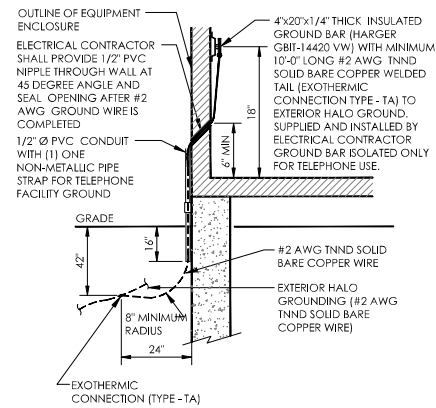
6 TELEPHONE SERVICE ENTRANCE
NOT TO SCALE



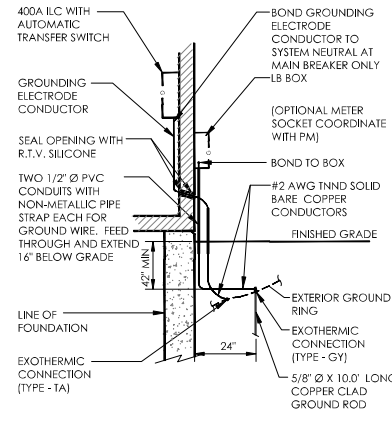
4 UNDERGROUND ELEC. SERVICE DETAIL
NOT TO SCALE



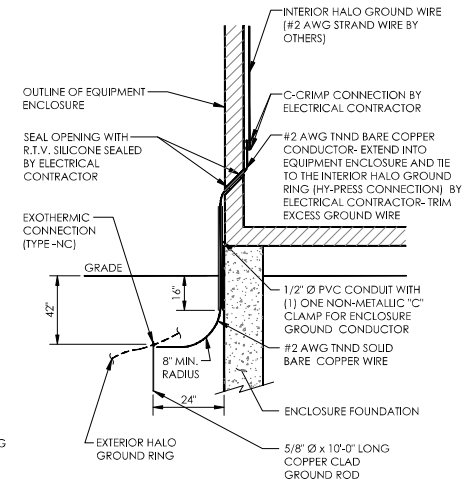
2 HVAC/METER BASE/METALLIC COMPONENTS
GROUNDING DETAIL
NOT TO SCALE



5 TELCO FACILITY GROUND
NOT TO SCALE



3 ELECTRIC SERVICE GROUNDING DETAIL
NOT TO SCALE



1 ENCLOSURE GROUNDING DETAIL
NOT TO SCALE



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100% SUBMISSION		06/19/22

PROJECT: 158891
DRAWING NO.: 158891-01
REVISION: 001
DRAWN BY: CCB
CHECKED BY: AMY
COMPILED: 2017

ISSUED FOR REVIEW

GROUNDING DETAILS

E502

KEY NOTES:

- ① COORDINATE METER BOX AND METER LOCATION WITH EXISTING UTILITY.
- ② (P) 60 kW DIESEL GENERATOR, PROVIDE NEW MAIN LINE CIRCUIT BREAKER AS INDICATED, RECONNECT ANCILLARY LOADS.
- ③ COORDINATE WITH LOCAL UTILITY FOR TRANSFORMER UPGRADE AS REQUIRED AND ASSOCIATED ARC FLASH INFORMATION.
- ④ INTEGRATED LOAD CENTER (ILC) IS PREPURCHASED BY VERIZON WIRELESS FOR INSTALLATION, START UP AND TESTING UNDER THIS PROJECT, SOLID NEUTRAL, INTERNAL 2P ATS CONTINUOUS RATING: 400A.
- ⑤ RECTIFIERS (PROPOSED & FUTURE) ARE 75 AMP, MODEL #NE075AC48ATEZ, PEOPLESOFT #109163473.
- ⑥ "SECB-1" 400A DISCONNECT SHALL BE A SEPARATELY ENCLOSED SERVICE ENTRANCE RATED CIRCUIT BREAKER, WITH NEUTRAL AND GROUND KITS. PROVIDE ARC FLASH WARNING LABEL FOR SERVICE ENTRANCE BREAKER.

INDICATING NOMINAL SYSTEM VOLTAGE, ARC FLASH BOUNDARY, AND INCIDENT ARC FLASH ENERGY

A. VERIZON FURNISHED INTEGRATED LOAD CENTER (SEE PRE-PURCHASE SCHEDULE)

B. 120/240V, 1P, 3W, 400A, 42 POLE MAIN DISTRIBUTION PANELBOARD.

C. 400A, 2P UTILITY SOURCE BREAKER, WITH NEUTRAL KIT.

D. ONE MECHANICALLY INTERLOCKED 400A, 2P STANDBY SOURCE BREAKER (PERMANENT GEN).

E. NORMAL SOURCE UTILITY INPUT VOLTAGE SENSING RELAY.

F. NORMAL AND STANDBY SOURCE TVSS UNITS.

G. NEMA 1 ENCLOSURE.

H. 42 KAIC RATED (ATS AND ALL BREAKERS).

I. WALL MOUNTED.

- ⑦ INDICATED WIRESIZE IS BASED ON ADJUSTMENT FACTOR OF 0.8 FOR 4-6 CONDUCTORS IN A CONDUIT.
- ⑧ EXTEND BRANCH CIRCUIT WIRING AS INDICATED TO NEW ILC PANEL.

SHEET NOTES:

1. PROVIDE SEPARATE INSULATED GROUNDING CONDUCTOR IN ALL FEEDER & BC.
2. FEEDER CIRCUITS, GROUND LEADS, & DEDICATED EQUIPMENT CIRCUITS SHALL NOT BE SPICED.
3. VERIFY LASHING REQUIREMENTS FOR SERVICE ENTRANCE & MAIN DISTRIBUTION EQUIPMENT WITH MANUFACTURER. INSTALL LASHING PER MANUFACTURER'S REQUIREMENTS.

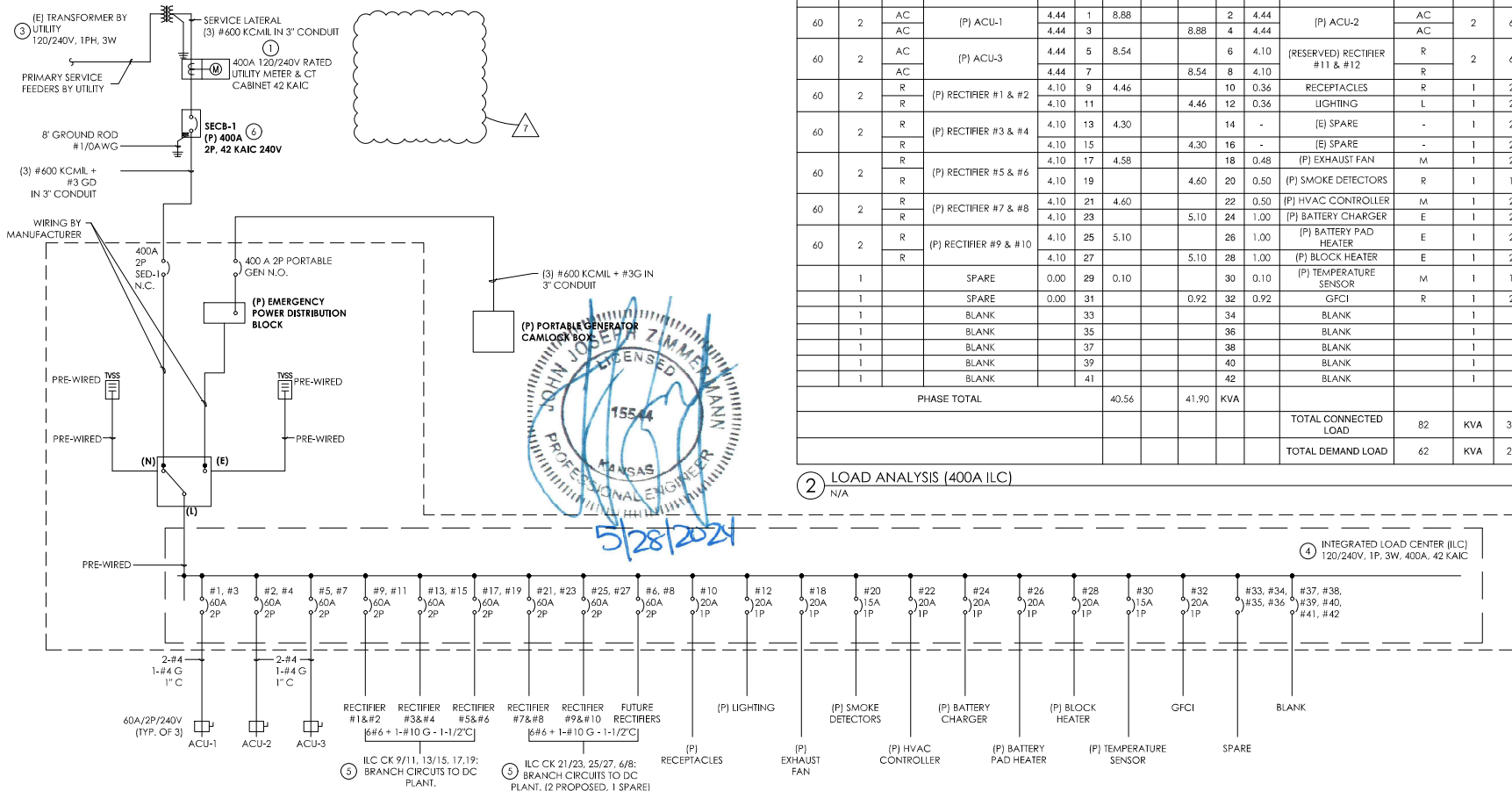
COMPRESSION LUG NOTES:

REFER TO SPECIFICATION SECTION 260519 & NSTDS16 REGARDING REQUIREMENTS FOR A SAMPLE COMPRESSION LUG SUBMITTAL ON ALL PROJECTS. FAILURE TO PROVIDE CORRECT LUGS & SUBMIT A SAMPLE COMPRESSION LUG TO VZW PRIOR TO INSTALLATION OF ANY LUGS MAY RESULT IN REJECTION OF THE INSTALLATION & REPLACEMENT OF ALL LUGS & ASSOCIATED CABLE, WHERE REQUIRED, AT NO COST TO VZW.

PANEL NAME			LOCATION:		VOLTAGE: 240 / 120V 1 Ø						MOUNTING SURFACE					
ILC PANEL			SHELTER		MAIN C/B: 400 AMPS						AVAIL. FAULT CURRENT:					
9/21/17					BUS RATING: 400 AMPS						SHORT CIRCUIT RATING: 42 KAIC					
AMPS	POLES	TYPE	CIRCUIT DESCRIPTION		KVA	CKT	A		B	CKT	KVA	CIRCUIT DESCRIPTION		TYPE	POLES	AMPS
60	2	AC	(P) ACU-1	4.44	1	8.88				2	4.44	(P) ACU-2		2	60	
		4.44		3		8.88	4	4.44	AC							
60	2	AC	(P) ACU-3	4.44	5	8.54				6	4.10	(RESERVED) RECTIFIER #11 & #12	R	2	60	
		4.44		7		8.54	8	4.10	R							
60	2	R	(P) RECTIFIER #1 & #2	4.10	9	4.46				10	0.36	RECEPTACLES	R	1	20	
		4.10		11		4.46	12	0.36	LIGHTING	L	1	20				
60	2	R	(P) RECTIFIER #3 & #4	4.10	13	4.30				14	-	(E) SPARE	-	1	20	
		4.10		15		4.30	16	-	(E) SPARE	-	1	20				
		4.10		17	4.58		18	0.48	(P) EXHAUST FAN	M	1	20				
60	2	R	(P) RECTIFIER #5 & #6	4.10	19			4.60	20	0.50	(P) SMOKE DETECTORS	R	1	15		
60	2	R	(P) RECTIFIER #7 & #8	4.10	21	4.60			22	0.50	(P) HVAC CONTROLLER	M	1	20		
		4.10		23		5.10	24	1.00	(P) BATTERY CHARGER	E	1	20				
60	2	R	(P) RECTIFIER #9 & #10	4.10	25	5.10			26	1.00	(P) BATTERY PAD HEATER	E	1	20		
		4.10		27		5.10	28	1.00	(P) BLOCK HEATER	E	1	20				
1			SPARE	0.00	29	0.10			30	0.10	(P) TEMPERATURE SENSOR	M	1	15		
1			SPARE	0.00	31			0.92	32	0.92	GFCI	R	1	20		
1			BLANK		33				34		BLANK		1			
1			BLANK		35				36		BLANK		1			
1			BLANK		37				38		BLANK		1			
1			BLANK		39				40		BLANK		1			
1			BLANK		41				42		BLANK		1			
PHASE TOTAL						40.56			41.90	KVA						
												TOTAL CONNECTED LOAD	82	KVA	344	
												TOTAL DEMAND LOAD	62	KVA	258	

② LOAD ANALYSIS (400A ILC)

N/A



① ONE LINE DIAGRAM

N/A

verizon

THE DRAWING WAS PREPARED SOLELY FOR THE USE OF VERIZON WIRELESS AND MUST ONLY BE USED BY VERIZON WIRELESS EMPLOYEES, CONTRACTORS AND VENDORS WHILE PERFORMING THE WORK SHOWN ON THE DRAWING. ANY OTHER USE OF THE DRAWING IS FORBIDDEN.

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PARK RIDGE, IL 60068
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verizon
KCVC HERITAGE SQUARE
LOCATION CODE: 661221
15201 MURLEN
OLATHE, KS 66062

NO.	DESCRIPTION	DATE
1	ISSUED FOR EOS REVIEW	06/14/22
2	REVISED PER CLIENT COMMENTS	08/02/22
3	REVISED FIBER ROUTE	08/24/22
4	ISSUED FOR FINAL	09/29/22
5	REVISED TRANSFORMER LOCATION	01/30/23
6	UPDATED PER CLIENT COMMENTS	02/16/23
7	REVISED PER CROWN COMMENTS	02/07/24

NETWORK COMPLIANCE SUBMITTALS	DATE
100% SUBMISSION	06/19/22

PROJECT: 158001
DRAWING NO.: 158001-01
DESIGNED BY: JAY
DRAWN BY: CCB
CHECKED BY: JAY
COMPILED: 2017

ISSUED FOR REVIEW

ONE LINE DIAGRAM & LOAD ANALYSIS

E701



May 30, 2024

RE: Special Use Permit – SU23-0007

On Friday April 5, 2024, Selective Site Consultants on behalf of Verizon Wireless conducted a neighborhood meeting to learn about the development proposal by Verizon Wireless to expand an existing cell tower compound at 15201 South Mur-Len Road.

SSC along with Verizon Wireless were present at the neighborhood meeting held at First Baptist Church of Olathe (2024 East 151st Street Olathe, KS 66062) on April 5, 2024, from 5:30-6:30.

No property owners showed up regarding the tower compound expansion.

Sincerely,

Rob Goetz | SSC |
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