

## **Development Review Committee** 1020 East Pioneer Road Draper, UT 84020

## STAFF REPORT

February 25, 2022

**To:** Jennifer Jastremsky, Zoning Administrator

Approved

From: Todd A. Draper, Planner III 801-576-6335, todd.draper@draperutah.gov

#### Re: Verizon Wireless Tower No. 84635 – Permitted Use Request

Date

Application No.:	USE-0189-2021
Applicant:	Tara Dunn, representing Crown Castle USA, Inc., Marjory J.
	McKenna, and Orian W. Collinsworth.
Project Location:	Approximately 11901 S. 700 E.
Current Zoning:	CN (Neighborhood Commercial) Zone
Acreage:	Approximately 1.01 Acres (Approximately 43,996 ft <sup>2</sup> )
Request:	Request for approval of a Permitted Use Permit in the CN zone
	regarding approval to add additional antennas and equipment on
	an existing Wireless Facility Site.

#### SUMMARY AND BACKGROUND

This application is a request for approval of a Permitted Use for approximately 1.01 acres located on the east side of 700 East (Exhibit B), at approximately 11901 S. 700 E.. The property is currently zoned CN. The applicant is requesting that a Permitted Use be approved to allow for the installation of antennas and equipment on the existing monopole and wireless facility site.

The current application pertains to an existing Wireless Facility. This facility has been called several different names, and is known as Verizon Wireless Tower No. 84635, the Verizon Juan Diego Site, or the AT&T Downtown Draper Site on property leased from Marjory J. McKenna, and Orian W. Collinsworth. There is one (1) commercial building located towards the center of the property that is ½ of a theater building, relocated from Fort Douglas and



the University of Utah campus to the property in 1940. The building has been used historically for retail, and since 1997 has been the location of the Pirate O's Gourmet Market.

The subject monopole was approved June 6, 2002 by the Planning Commission. The application was Conditional Use Permit #02-027. The monopole has been in continuous use since approval and construction of the tower.

#### <u>ANALYSIS</u>

<u>General Plan and Zoning</u>. The Land Use Map of the General Plan calls for the Neighborhood Commercial land use designation for the subject property (Exhibit C). This category is characterized as follows:

#### Neighborhood Commercial

LAND USE DESCRIPTIO	N
CHARACTERISTICS	<ul> <li>Small-scale commercial land uses that serve local residents in adjacent neighborhoods</li> <li>Minimal impact in predominantly residential areas</li> <li>Well-landscaped street frontages</li> <li>Limited traffic access points and pedestrian access from surrounding residential areas</li> <li>Don't overcrowd commercial lots; i.e., require adequate setback and landscape buffers</li> <li>Screened parking and adequate ingress and egress to parking areas</li> <li>Adequate drainage</li> <li>Low noise standards</li> </ul>
LAND USE MIX	<ul><li>Small-scale commercial</li><li>Planned retail</li><li>Office</li></ul>
COMPATIBLE ZONING	<ul> <li>Neighborhood Commercial (CN)</li> <li>Institutional Care (IC)</li> <li>Commercial Services (CS)</li> </ul>
LOCATION	<ul><li>Adjacent to neighborhood</li><li>Along local roads</li></ul>

The property has been assigned the CN zoning classification (Exhibit D). According to Draper City Municipal Code (DCMC) Section 9-8-020 the purpose of the CN zone is to *"provide areas where convenience buying outlets, having small trade areas, may be established to serve surrounding residential neighborhoods. This zone is intended to promote a combination of retail and service facilities which, in character and scale, meet day to day needs of nearby residents."* The subject property is surrounded by various zoning districts, CC (Community Commercial) Zoning to the south, RM2 (Residential Multiple Family, up to 12 dwelling units



per acre) to the West across 700 East, a small parcel zoned CN to the north, and RA1 (Residential Agricultural, 40,000 ft<sup>2</sup> minimum lot size) zoning to the north and east across the UTA Trax rail line.

<u>Requested modifications.</u> The applicant is requesting to add new antennas and equipment on the existing facility. The applicant requests that the additions be approved as an eligible facilities request under the Federal Spectrum Act and FCC regulations.

Electronic Code of Federal Regulations Title 47, Chapter I, Subchapter A, Part 1, Subpart U, §1.6100

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(b) Definitions.

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- (3) Eligible facilities request. Any request for modification of an existing tower or base station that does not substantially change the physical dimensions of such tower or base station, involving:
  - (i) Collocation of new transmission equipment;
  - (ii) Removal of transmission equipment; or
  - (iii) Replacement of transmission equipment.

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- (7) Substantial change. A modification substantially changes the physical dimensions of an eligible support structure if it meets any of the following criteria:
  - (i) For towers other than towers in the public rights-of-way, it increases the height of the tower by more than 10% or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater; for other eligible support structures, it increases the height of the structure by more than 10% or more than ten feet, whichever is greater;
    - (A) Changes in height should be measured from the original support structure in cases where deployments are or will be separated horizontally, such as on buildings' rooftops; in other circumstances, changes in height should be measured from the dimensions of the tower or base station, inclusive of originally approved appurtenances and any modifications that were approved prior to the passage of the Spectrum Act.
  - (ii) For towers other than towers in the public rights-of-way, it involves adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater; for other eligible support structures, it involves adding an appurtenance to the body of the structure that



would protrude from the edge of the structure by more than six feet;

- (iii) For any eligible support structure, it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets; or, for towers in the public rights-of-way and base stations, it involves installation of any new equipment cabinets on the ground if there are no pre-existing ground cabinets associated with the structure, or else involves installation of ground cabinets that are more than 10% larger in height or overall volume than any other ground cabinets associated with the structure;
- (iv) It entails any excavation or deployment outside of the current site, except that, for towers other than towers in the public rights-of-way, it entails any excavation or deployment of transmission equipment outside of the current site by more than 30 feet in any direction. The site boundary from which the 30 feet is measured excludes any access or utility easements currently related to the site;
- (v) It would defeat the concealment elements of the eligible support structure; or
- (vi) It does not comply with conditions associated with the siting approval of the construction or modification of the eligible support structure or base station equipment, provided however that this limitation does not apply to any modification that is non-compliant only in a manner that would not exceed the thresholds identified in §1.40001(b)(7)(i) through (iv).
- •••
- (c) Review of applications. A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

The existing monopole is fifty-nine feet three inches tall (59' 3") and has existing antennas that exceed the sixty foot (60') height limit for the monopole by two feet (2'). The proposed modifications would include adding three (3) seven feet eleven inches (7' 11") tall antennas placed between forty-three feet three inches (43' 3") and fifty-one feet two inches (51' 2") from the average finish grade around the monopole. The overall width of the antenna and mounting structure at the widest point will be nineteen feet six inches (19' 6"). This width exceeds the maximum fifteen feet (15') allowable under the DCMC, but is within the maximum twenty feet (20') allowed under an eligible facilities request. The proposed additions to the tower are not considered to be substantial under the FCC regulations and the request complies with listed standards to be considered as an eligible facilities request. The following changes to the tower appurtenances are proposed:

## Monopole work:

- Remove (1) 6 x 12 Hybrid Cable
- Install Support railing on existing mount
- Install (3) Air6449 B77 Antennas
- Install (1) RRODC-6627-PF-48 OVP



• Install (1) 12 x 24 Hybrid Cable

Ground Work:

• No ground work is proposed with the application.

<u>Criteria for Approval.</u> The criteria for review and potential approval of a Permitted Use request is found in Section 9-5-070(E) of the DCMC. This section depicts the standard of review for such requests as:

- *E.* Approval Standards: The following standards shall apply to the issuance of a permitted use permit. A permitted use shall:
  - 1. Be allowed as a permitted use in the applicable zone;
  - 2. Conform to development standards of the applicable zone;
  - 3. Conform to applicable regulations of general applicability and regulations for specific uses set forth in this title;
  - 4. Not be located on any land classified as a primary or secondary conservation area or sensitive land area, except as expressly permitted by provisions of this title;
  - 5. Not be located in any protected area as shown on a natural resource inventory; and
  - 6. Conform to any other applicable requirements of this code.

The proposed co-location and installation of proposed appurtenances conform generally to applicable requirements of the code under 9-5-070(E), and FCC issued regulations.

The criteria for review and approval of an Eligible facilities request are found in the Electronic Code of Federal Regulations Title 47, Chapter I, Subchapter A, Part 1, Subpart U, §1.6100, (c). This section depicts the standard of review for such requests as:

(c) Review of applications. A State or local government may not deny and shall approve any eligible facilities request for modification of an eligible support structure that does not substantially change the physical dimensions of such structure.

## <u>REVIEWS</u>

<u>Planning Division Review</u>. The Draper City Planning Division has completed their review of the Permitted Use Permit submission. Comments from this division, if any, can be found in Exhibit A.

*Engineering Division Review.* The Draper City Engineering Division has completed their review of the Permitted Use Permit submission. Comments from this division, if any, can be found in Exhibit A.

*Fire Division Review.* The Draper City Fire Marshal has completed his review of the Permitted Use Permit submission. Comments from this division, if any, can be found in Exhibit A.



## **STAFF RECOMMENDATION**

Staff finds that the application meets requirements for consideration as an Eligible Facilities request under FCC regulations and applicable requirements of the DCMC and recommends that the Zoning Administrator review the request and approve the application based on the findings listed below and the criteria for approval, as listed within the staff report.

If the Zoning Administrator decides to approve the request, staff recommends they include the following condition of approval:

1. The applicant shall obtain all applicable permits from Draper City Fire, the Engineering Division, and the Building Division for this installation.



#### **DEVELOPMENT REVIEW COMMITTEE ACKNOWLEDGEMENT**

We, the undersigned, as duly appointed members of the Draper City Development Review Committee, do acknowledge that the application which provides the subject for this staff report has been reviewed by the Committee and has been found to be appropriate for review by the Draper City Planning Commission and/or City Council.



Draper City Public Works Department



Keith Collier Digitally signed by Keith

Draper City Fire Department

Draper City Building Division

Jennifer Jastremsky O-Planinfer Jastremsky O-Planinfer Jastremsky Jastremsky Dear 2022.03.01 09:36:26-0700'

Draper City Planning Division

Mike Barker Date: 2022.02.28 13:21:47 -07'00'

Draper City Legal Counsel

## EXHIBIT A DEPARTMENT REVIEWS

# REVIEWS ARE NOT MEANT TO BE AN ALL INCLUSIVE LIST OF POSSIBLE COMMENTS OR CONDITIONS.

#### Planning Division Review.

1. No additional comments.

#### Engineering Division Review.

1. No additional comments

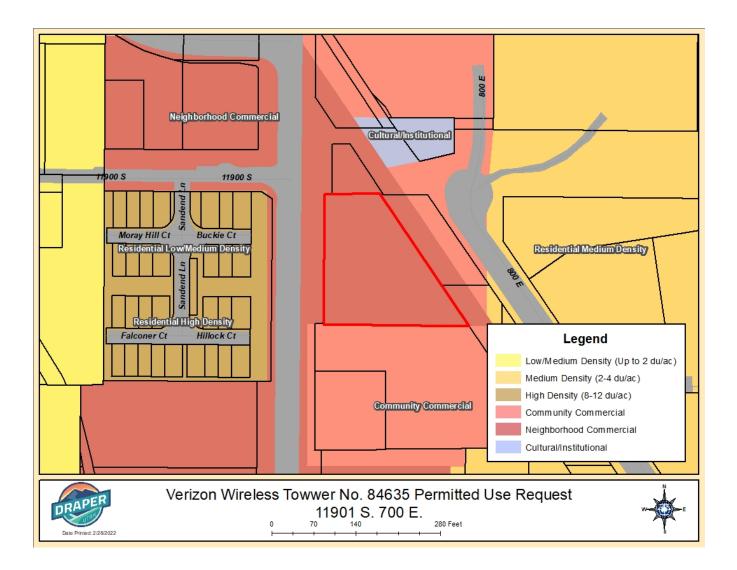
#### <u>Fire Division Review.</u>

- 2A-10BC Fire Extinguishers required. The extinguisher needs to be a serviceable type meaning metal head and metal neck. Extinguishers need to be located in a conspicuous location where they will be readily accessible and immediately available for use. Placed on every level of the home. If in cabinet or not the extinguisher or cabinet needs to be mounted so that the top is not more than five (5) feet above the floor.
- 2. Fire Department Access is required to be maintained. Vehicles cannot park in such a way to impede fire department or emergency vehicle access.
- 3. Hazardous Material Permit A Draper City Fire Hazardous Material Permit may need to be obtained. This is for all new and existing installations.

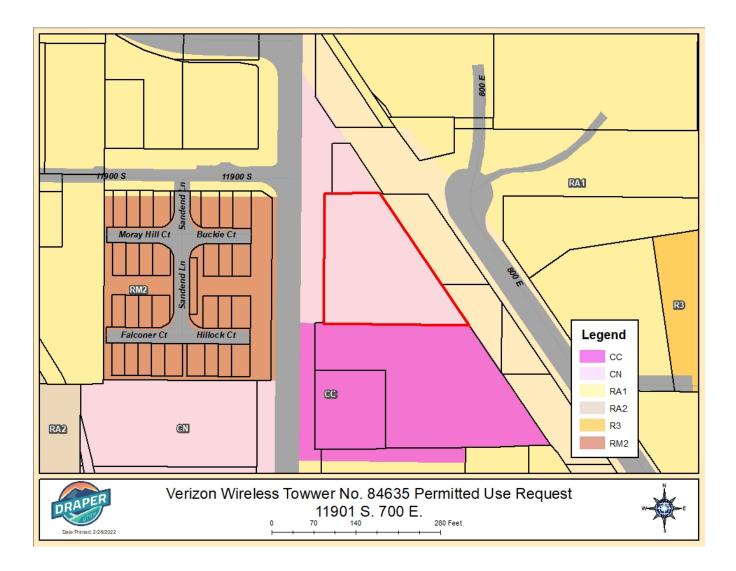
## EXHIBIT B AERIAL MAP



## EXHIBIT C LAND USE MAP



## EXHIBIT D ZONING MAP



## EXHIBIT E PLANS AND DRAWINGS

# verizon

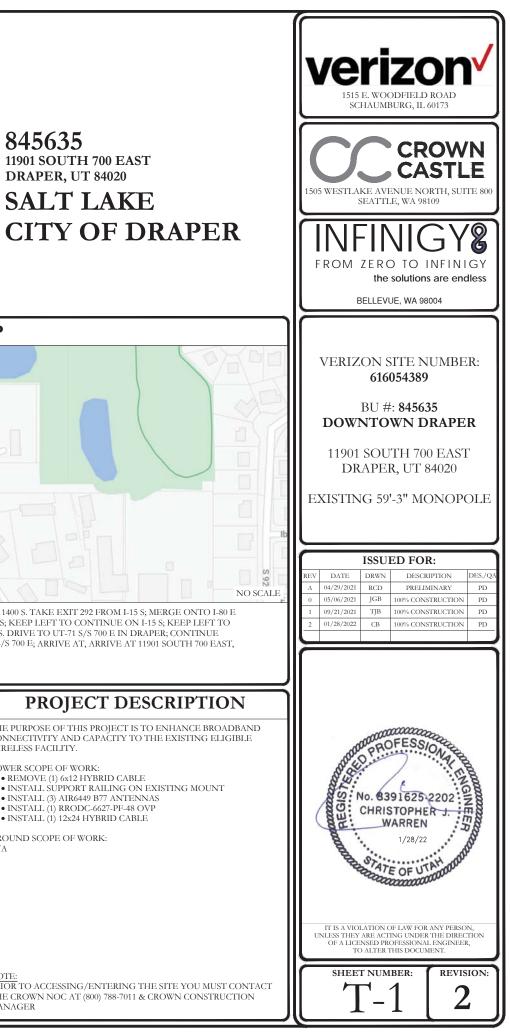
# **VERIZON SITE NUMBER: 616054389 VERIZON SITE NAME:** SITE TYPE: **TOWER HEIGHT:**

JUAN DIEGO **MONOPOLE** 59'-3"

# **BUSINESS UNIT #: 845635** SITE ADDRESS: **COUNTY: JURISDICTION:**

## **VERIZON FUZE PROJECT #: 16230414**

SITI	E INFORMATION	DRAWING INDEX	LOCATION	MAP
CROWN CASTLE USA INC. SITE NAME: SITE ADDRESS: COUNTY: MAP/PARCEL #: AREA OF CONSTRUCTION LATITUDE: LONGITUDE: LAT/LONG TYPE: GROUND ELEVATION: CURRENT ZONING: JURISDICTION: OCCUPANCY CLASSIFICA' TYPE OF CONSTRUCTION A.D.A. COMPLIANCE: PROPERTY OWNER: TOWER OWNER: CARRIER/APPLICANT: ELECTRIC PROVIDER:	11901 SOUTH 700 EAST DRAPER, UT 84020 SALT LAKE 28291510160000 N: EXISTING 40° 32' 2.95" N (40.53415278°) 111° 32' 13.82" W (-111.87050556°) NAD83 6292'-2" TBD CITY OF DRAPER TION: U	SHEET #       SHEET DESCRIPTION         T-1       TITLE SHEET         T-2       GENERAL NOTES         C-1       SITE PLAN         C-2       TOWER ELEVATION & ANTENNA PLANS         C-3       EQUIPMENT SCHEDULES         C-4       EQUIPMENT DETAILS         C-5       PLUMBING DIAGRAM         G-1       GROUNDING DETAILS         G-2       GROUNDING DETAILS         G-2       GROUNDING DETAILS         June       June         JUNENSIONS AND CONTAINED HEREIN ARE FORMATTED         IMMEDIATELY NOTIFY THE ENGINEER IN WRITING O         DISCREPANCIES BEFORE PROCEEDING WITH THE WOY         BE RESPONSIBLE FOR SAME.	ISTING SHALL F ANY DRIVING DIRECTIONS FROM SALT LAKE CITY AIRPORT: GET ON 1-80 E: TAKE 1-15 S TO UT	-175/W 11400 S. TAKE EXIT 292 FR s VEGAS; KEEP LEFT TO CONTI X 11400 S. DRIVE TO UT-71 S/S 700 UT-71 S/S 700 E; ARRIVE AT, ARR
A&E FIRM: PA pd CROWN CASTLE USA INC. DISTRICT CONTACTS: GA ga JE	TBD  <b>PROJECT TEAM</b> FINIGY ENGINEERING, PLLC AUL DANNEBERG lanneberg@infinigy.com 05 WESTLAKE AVENUE NORTH, SUITE 800 EATTLE, WA 98109 ARY SULLIVAN - PROJECT MANAGER ry.sullivan@crowncastle.com EFFREY LEE - CONSTRUCTION MANAGER ffrey.lee@crowncastle.com	CONTRACTOR PMI REQUIREMEN         PMI ACCESSED AT         https://pmi.vxwsmar         SMART TOOL VENDOR         PROJECT NUMBER         10055826         V2W LOCATION CODE (PSLC)         266107         *** PMI AND REQUIREMENTS ALSO EMBEDDED IN M         ANALYSIS REPORT         MOUNT MODIFICATION REQUIRED	Ecom REFERENCE DOCUMENTS: STRUCTURAL ANALYSIS: B+T GROUP DATED: 5/13/2021 MOUNT ANALYSIS: MASER CONSULTING DATED: 4/13/2021 RFDS REVISION: TBD	PROJECT THE PURPOSE OF THIS PRO CONNECTIVITY AND CAPA WIRELESS FACILITY. TOWER SCOPE OF WORK: • REMOVE (1) 6x12 HYBR • INSTALL (3) AIR6449 B7 • INSTALL (3) AIR6449 B7 • INSTALL (3) AIR6449 B7 • INSTALL (1) RRODC-662 • INSTALL (1) RRODC-662 • INSTALL (1) 12x24 HYBR GROUND SCOPE OF WORK N/A
		VzW APPROVED SMART KIT VEND REFER TO MOUNT MODIFICATION DRAWINGS PAGE I VzW SMART KIT APPROVED VENDORS		NOTE: PRIOR TO ACCESSING/ENT THE CROWN NOC AT (800) MANAGER



#### CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. ONCSTRUCTION MANAGER. "LOOK UP" - CROWN CASTLE USA INC. SAFETY CLIMB REQUIREMENT:
- THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS AND/OR FOULIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR REINFORCEMENTS, AND/OR EQUIFMENT INSTALLATIONS STALL NOT COMPROMISE THE INTEGRATION OF FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTERNED USE. ANY COMPROMISED SAFETY (LIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR CROWN CASTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTCE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION)
- ALL SITE WORK TO COMPLY WITH QAS-STD-10068 "INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR
- INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNAS." INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNAS SUPPORTING STRUCTURES AND ANTENNAS." IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACT SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO DROFEDING WITH AND CHORD OF DRAWING OF MAINTENNAS."
- PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION. PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE. 9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION. 10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES
- CONSTRUCTION SAFETY PROCEDURES. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS, LATEST APPROVED REVISION. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTUILITIES, WHICH INTERFERE WITH THE EVENTION OF THE WORK CIME OF REMOVED FROM THE SITE AND DISPOSED OF DISCONTINUED. 12.
- EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGED ON OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLE USA INC., AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF 14 IPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT 15. AND TOWER AREAS 16.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION. 17
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION, EROSION CONTROL
- 18 MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND
- 19. STRUCTURES, ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER
- 20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED
- 21. FROM SITE ON A DAILY BASIS.
- 22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

#### GREENFIELD GROUNDING NOTES:

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

- ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS. THE CONTRACTOR 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 AND PROVIDE 3. TESTING RESULTS
- METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACCOSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT 4
- WETAL 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 BTS EQUIPMENT. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED 6. COPPER FOR OUTDOOR BTS.
- CONFECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
- ALL EXTERIOR GROUND BOS SHALL NOT BE DOUBLED OF OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BOS ARE PERMITED. ALL EXTERIOR GROUND CONDUCTOR BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED. ALLWINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL BE AVOIDED WHEN 45' BENDS CAN BE ADEQUATELY SUPPORTED.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.

- BOLD TO SUCH THE TRUTTED FOR THE TRUTTED TO BLOOKING STRUCE OF DATES BELOW GRADE. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL. MISCELLANGEOUS ELECTRICAL AND NON-ELECTICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND CONNECTIONS. ALL EXTERIOR GROUND CONNECTICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND CONNECTIONS. ALL EXTERIOR GROUND CONNECTICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND CONDUCTOR. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL BE DONED TO THE GROUND METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC ODE REQUIREMENTS OR LOCAL CONDITONS, NON-METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUCTOR. HERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE BEADE MUST BE VERCED OFPER IN 3/4 NON-METALLIC, LEVENDE TO MICH AS PVC CONDUIT STALL BE USELD. WHERE USE OF METAL CONDUIT TRUST BE SEALED WITH SULCONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL.) BUILDINGS SWHERE THE MAIN GROUNDING CONDUCTORS SHALL NOT BE SAULE THAN 2/0 COPPER. ROOFTOP GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING CONDUCTORS SHALL POIT THE GROU
- 21.

#### GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION CARRIER: VERIZON TOWER OWNER: CROWN CASTLE USA INC.
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS EXERCISED ONCE A SIMILAR CIRCOMSTANCES OF REPORTABLE ENGINEERS IN TO SIMILAR CIRCOMSTANCES OF A CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- INSECLANEOUS WORK NOT EXPLICITLY SHOWN. THESE DRAWINGS, REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES INECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE TIEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY. NOTES AND DETAILS IN THE CONSTRUCTION DARWINGS SHALL TAKE PRECEDENCE OVER CENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISOREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRUCT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. CONSIRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCRETANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE. PRIOR TO THE SUBBISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLICED SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LORD SHALL BE UN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE MOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND CAWPLU ORDERS OF ANY PUBLIC AUTHORITY RECARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE REGULATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS, ENDIFMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATION FOR APPROVAL. IF THE SPECIFICALLY STATED OTHERWISE. IF THE SPECIFICALLY STATED OTHERWISE. IF THE SPECIFICALLY STATED OTHERWISE. IF THE SPECIFICALUPIMENT AND MATERIALS. IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE. IF THE SPECIFICALUPIMENT CAN OF APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS. TIT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE

- DRAWINGS HE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES, ANY
- DAMAGED PART SHALL ERGELY HAR AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S
- DESIGNATED | OCATION CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS

#### CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED
- TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90'F AT TIME OF LACEMEN CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR
- ENTRAIMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE
- TANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE, YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE
- AS FOLLOWS: #4 BARS AND SMALLER 40 ksi
- ON DRAWINGS CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO FARTH
- CONCRETE EXPOSED TO EARTH OR WEATHER #6 BARS AND LARGER..... ..1-1/2"
- #5 BARS AND SMALLER. CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
- SLAB AND WALLS BEAMS AND COLUMNS.
- .1 1/2'A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

3/4"

#### ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED
- AND TRIP HAZARDS ARE FLIMINATED
- WIRING RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC
- WIRING, RACEWAY AND SUPPORT METHODS AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERYIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADDRED CODE DRE THE CONCENNING UNESDICTION. 4.2.
- LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND
- CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- 10.
- SUPPLEMENTAL EQUIPMENT GROUND WRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (# 6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- 12.
- 13.
- 14 RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC 15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR
- EXPOSED INDOOR LOCATIONS. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE
- GRADE PVC CONDUIT 18. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION
- LUCID-INST FLANDLE METALLU CONDUCT (LUCID-ITTE FLEX) SHALL BE USED INDUCRS AND UCTOURS, WHERE VIBRATION OCCURS OR FLEXIBILITIS NEEDED CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SOREW FITTINGS ARE NOT ACCEPTABLE. 19.
- 20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS 21 (WIREMOLD SPECMATE WIREWAY). SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- 22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL). CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE WILL NOT BE PERMITTED. ELOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE WILL NOT BE PERMITTED. ELOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE WILL AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3R (OR BETTIER) FOR EXTERIOR LOCATIONS. 2.3
- BETTER) FOR EXTERIOR LOCATIONS
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS. 27.
- 28.
- THE CONTRACTOR SHALL NOTEY AND OBTAIN RECESSARY AUTHORIZATION FROM THE CARRIER AND/OR CROWN CASTLE USA INC. BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "VERIZON". 29.
- 30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CONDUCTOR COLOR CODE							
SYSTEM	CONDUCTOR	COLOR					
	A PHASE	BLACK					
120/240V, 1Ø	B PHASE	RED					
120/2400, 10	NEUTRAL	WHITE					
	GROUND	GREEN					
	A PHASE	BLACK					
	B PHASE	RED					
120/208V, 3Ø	C PHASE	BLUE					
	NEUTRAL	WHITE					
	GROUND	GREEN					
277/480V, 3Ø	A PHASE	BROWN					
	B PHASE	ORANGE OR PURPLE					
	C PHASE	YELLOW					
	NEUTRAL	GREY					
	GROUND	GREEN					
DC VOLTAGE	POS (+)	RED**					
DC VOLIAGE	NEG (-)	BLACK**					

CONDUCTOR COLOR CODE

#### \*\* POLARITY MARKED AT TERMINATION

ABBREVIATIONS:

NEW

PROPOSED POWER PLANT

QUANTITY

RECTIFIER

TYPICAL

ANIT

(E)

GEN GPS GSM LTE MGB MW (N) NEC

(P) PP

QTY RECT

RBS RET

RFDS

RRU SIAD TMA TYP

UMTS W P

- ΔΝΤΕΝΝΔ
- EXISTING FACILITY INTERFACE FRAME
- GENERATOR GLOBAL POSITIONING SYSTEM GLOBAL FOSTIONING STSTEM GLOBAL SYSTEM FOR MOBILE LONG TERM EVOLUTION MASTER GROUND BAR MICROWAVE

NATIONAL ELECTRIC CODE

RADIO BASE STATION

REMOTE ELECTRIC TIL REMOTE ELECTRIC TILL RADIO FREQUENCY DATA SHEET REMOTE RADIO HEAD REMOTE RADIO UNIT SMART INTEGRATED DEVICE

TOWER MOUNTED AMPLIFIER

UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM

ADOPTED CODE PRE THE GOVERNING JURISDICTION. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE

POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AN BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75' C (90' C IF AVAILABLE). .CIFIED. Y THOMAS AN'

#### APWA UNIFORM COLOR CODE.

WHITE	PROPOSED EXCAVATION
PINK	TEMPORARY SURVEY MARKINGS
RED	ELECTRIC POWER LINES, CABLES, CONDUIT, AND LIGHTING CABLES
YELLOW	GAS, OIL, STEAM, PETROLEUM, OR GASEOUS MATERIALS
ORANGE	COMMUNICATION, ALARM OR SIGNAL LINES, CABLES, OR CONDUIT AND TRAFFIC LOOPS
BLUE	POTABLE WATER
PURPLE	RECLAIMED WATER, IRRIGATION, AND SLURRY LINES
GREEN	SEWERS AND DRAIN LINES



VERIZON SITE NUMBER: 616054389

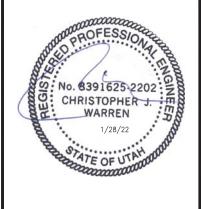
BU #: 845635 DOWNTOWN DRAPER

11901 SOUTH 700 EAST **DRAPER**, UT 84020

EXISTING 59'-3" MONOPOLE

#### ISSUED FOR:

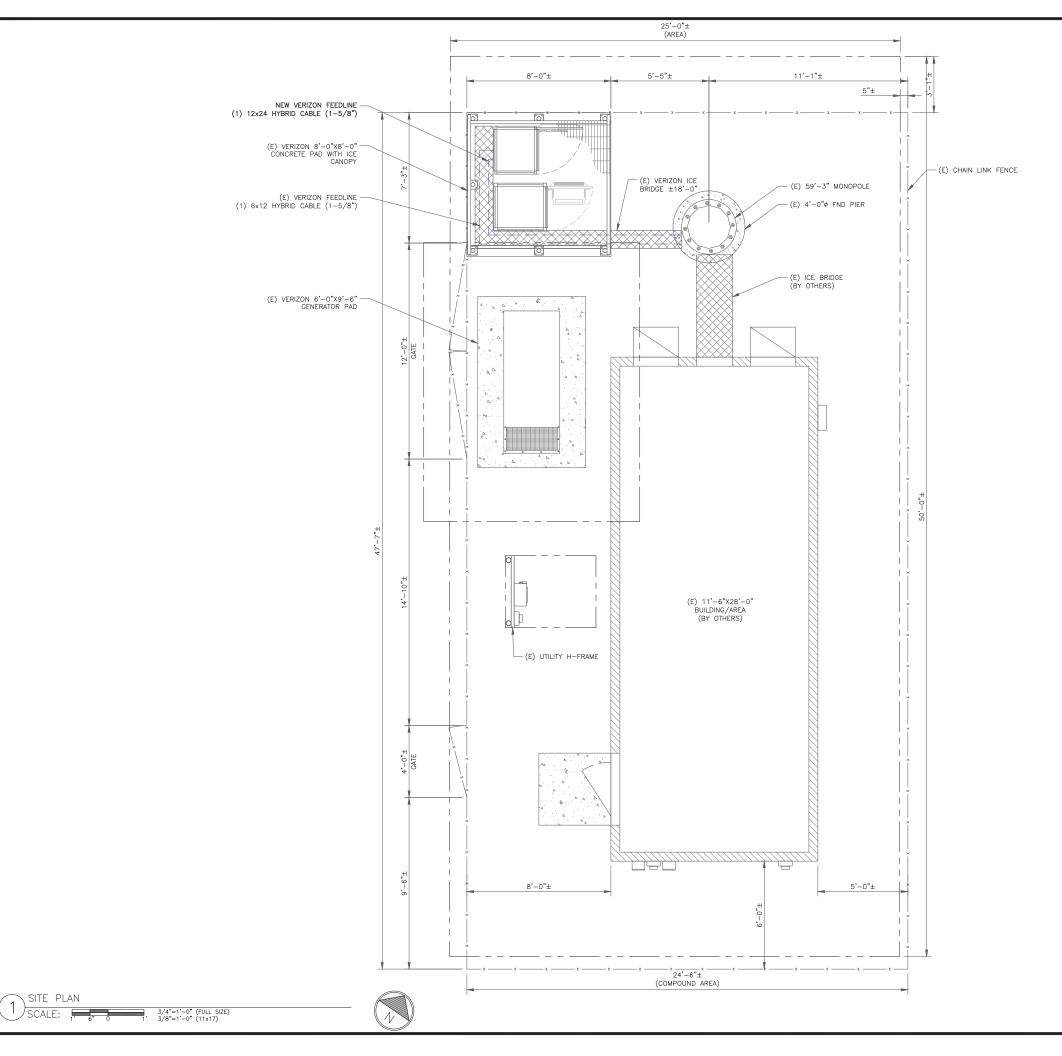
REV	V DATE DRWN		DESCRIPTION	DES./QA			
А	04/29/2021	RCD	PRELIMINARY	PD			
0	05/06/2021	JGB	100% CONSTRUCTION	PD			
1	09/21/2021	TJB	100% CONSTRUCTION	PD			
2	01/28/2022	CB	100% CONSTRUCTION	PD			

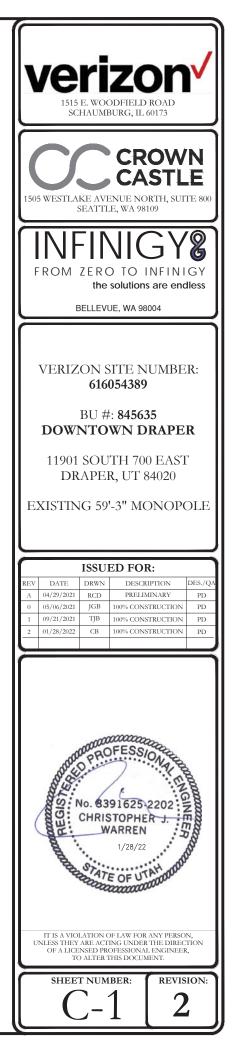


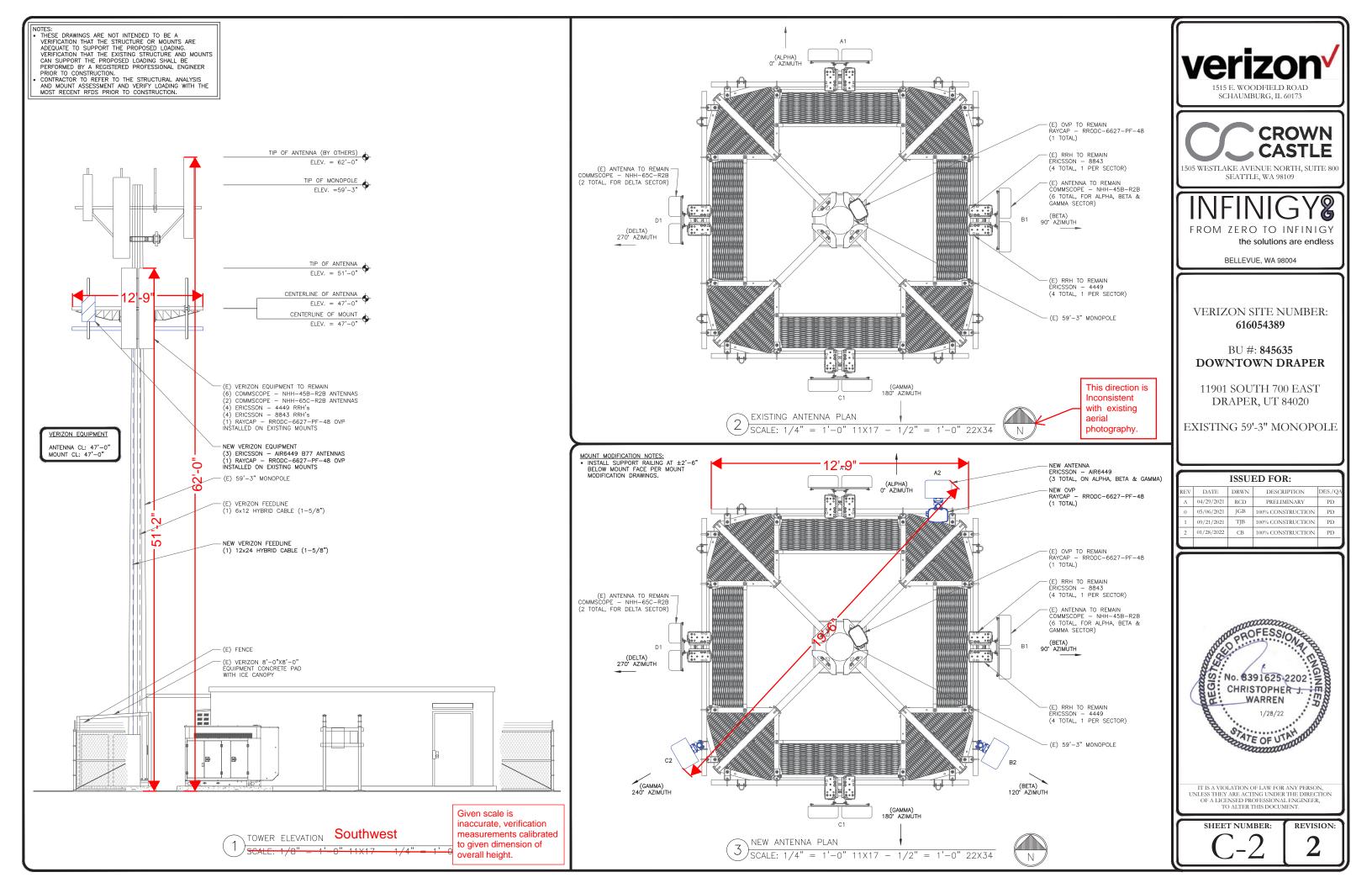
IT IS A VIOLATION OF LAW FOR ANY PERSON UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER. TO ALTER THIS DOCUMENT

REVISION

SHEET NUMBER:





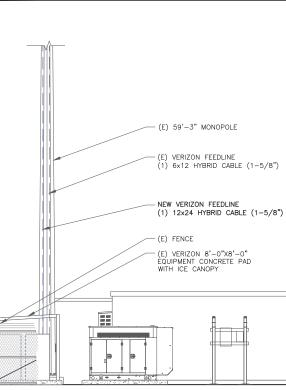


VERIZON TOWER EQUIPMENT SCHEDULE 1) SCALE: NOT TO SCALE

 $^{\text{NBASE}}$  LEVEL DETAIL

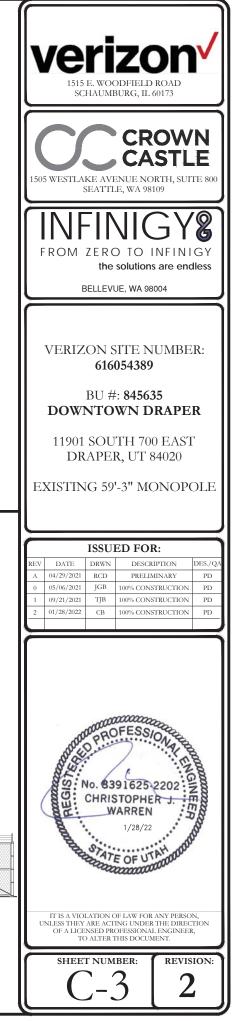
	ANTENNA/RRH SCHEDULE								
SECTOR	STATUS	ANTENNA MANUFACTURER	ANTENNA MODEL	ANTENNA CENTERLINE	AZIMUTH	MECHANICAL DOWNTILTS	ELECTRICAL DOWNTILTS	TOWER EQUIPMENT MANUFACTURER	TOWER EQUIPMENT QTY/MODEL
	_	_	-	-	-	-	-	_	_
A1	EXISTING	COMMSCOPE	(2) NHH-45B-R2B	47'-0"	0*	0*	2°/2°/2°/ 3°/2°/2°	ERICSSON ERICSSON	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A
A2	NEW	ERICSSON	AIR6449 B77	47'-0"	0*	0.	6'	RAYCAP	(1) RRODC-6627-PF-48
	-	-	-	-	_	-	-	RAYCAP	(1) RRODC-6627-PF-48
B1	EXISTING	COMMSCOPE	(2) NHH-45B-R2B	47'-0"	90*	-4*	4°/4°/4°/ 4°/3°/3°	ERICSSON ERICSSON	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A
B2	NEW	ERICSSON	AIR6449 B77	47'-0"	120°	0.	6	-	_
	-	-	-	-	-	-	-	-	-
C1	EXISTING	COMMSCOPE	(2) NHH-45B-R2B	47'-0"	180*	2*	5*/5*/5*/ 4*/3*/3*	ERICSSON ERICSSON	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A
	-	-	-	-	_	-	-	-	-
C2	NEW	ERICSSON	AIR6449 B77	47'-0"	240 <b>'</b>	0.	6'	-	_
D1	EXISTING	COMMSCOPE	(2) NHH-65C-R2B	47'-0"	270*	2*	8°/8°/8°/ 5°/3°/4°	ERICSSON ERICSSON	(1) RADIO 4449 B5/B12 (1) RADIO 8843 B2/B66A
	_	_	-	-	-	-	-	_	_

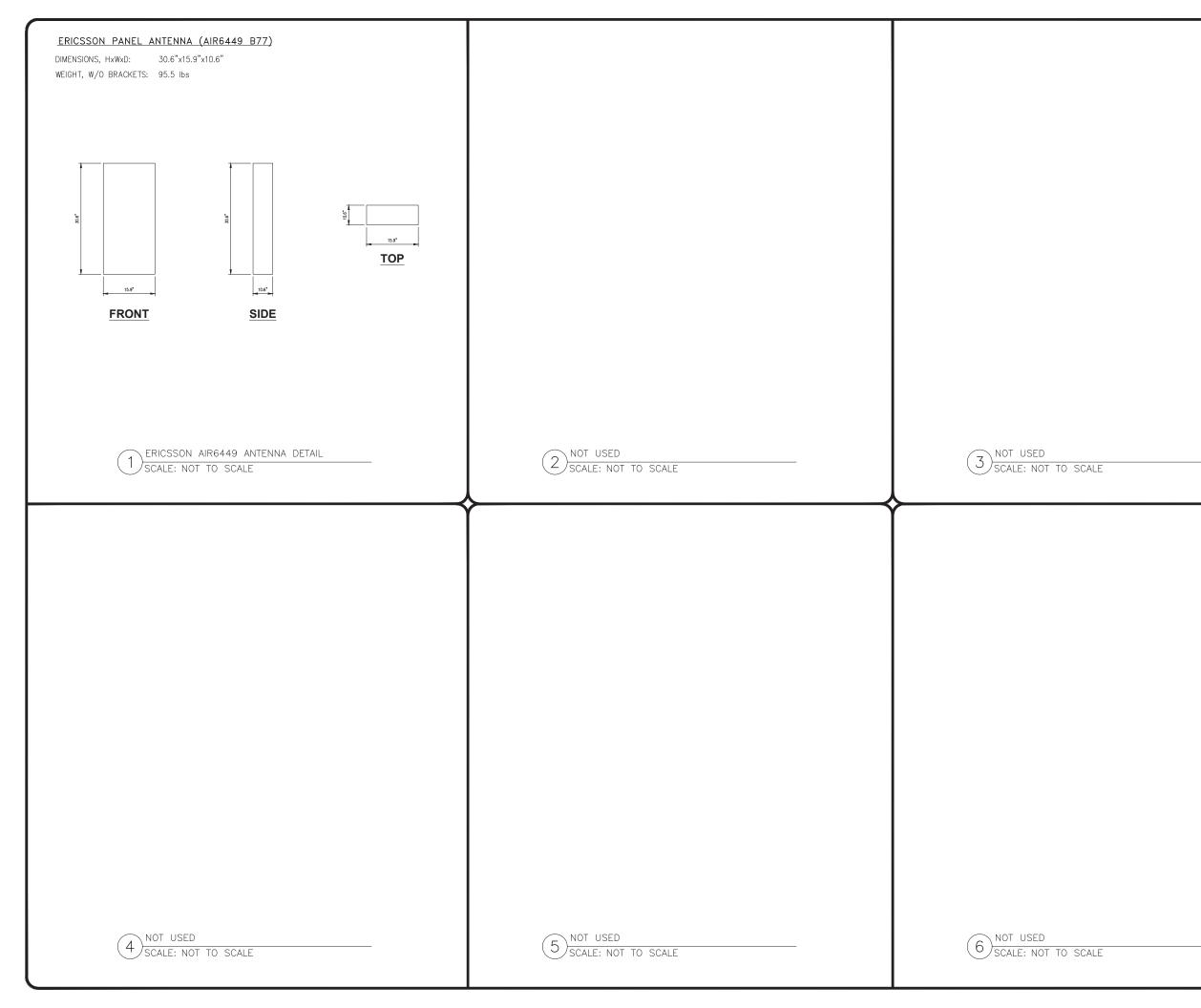
CABLE SCI CABLE TYPE STATUS EXISTING COAX EXISTING 6x12 HYBRID 12x24 HYBRID NEW TOTAL CABLE QTY:

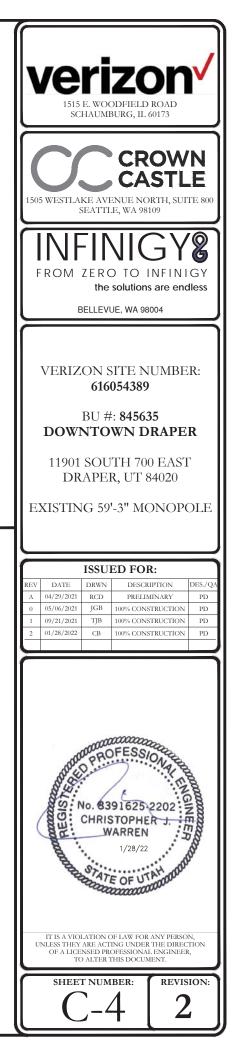


2 BASE LEVEL DETAIL

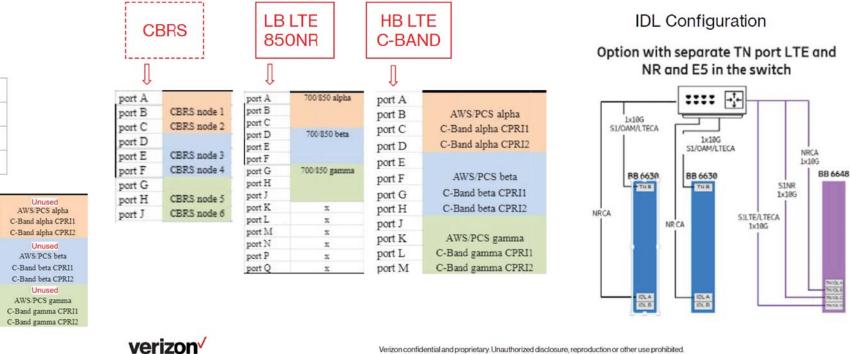
HEDULE							
SIZE	QTY						
_							
1-5/8"	97'-0"±	1					
1-5/8"	97'-0"±	1					
	2						







# **"Typical" C-Band Deployment**



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verizon

AIR6449

Air 6449

Port 1

Port 2

Port 3

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**BBU 6648** 

Port C

Port A

Port D

ort A

port B

Port C

oport D

port E

port F

port G

port H

port J

port K

port L

port M

PLUMBING DIAGRAM 1 SCALE: NOT TO SCALE

