



Conejo Recreation & Park District

GENERAL MANAGER
Jim Friedl

BOARD OF DIRECTORS
George M. Lange, Chair
Doug Nickles, Vice-Chair
Chuck Huffer, Director
Nellie Cusworth, Director
Marissa Buss, Director

DATE: November 21, 2024

TO: Board of Directors

FROM: Jim Friedl, General Manager

SUBJECT: Amendment of Existing Option and Site Lease Agreement with T-Mobile Wireless for Upgrades to Existing Wireless Communications Facility at North Ranch Playfield

GENERAL MANAGER EMERITUS
Tex Ward

RECOMMENDATION

Authorize the General Manager to approve first amendment of existing Option and Site Lease Agreements with T-Mobile Wireless for upgrades of equipment at North Ranch Playfield.

DISCUSSION

Crown Castle, working on behalf of T-Mobile Wireless, is proposing modification of equipment for an existing wireless facility at North Ranch Playfield.

The amendment to the lease proposed represents the first amendment to the Option and Lease Agreement approved by CRPD Board of Directors in July of 2007. The amendment, irrespective of when approved, runs concurrently with the original lease when the Option was exercised.

The current proposal includes upgrades on the antenna pole and within the vault. Modification of the facility includes swapping the antennas for larger antennas and tower mounted amplifiers (TMAs) between the antennas and installing a larger shroud cover – see Attachment 1. To compensate for the visual impact on the pole, the District will receive an additional \$750 per month, bringing the total current rent, once construction begins, to \$3,959.43.

The First Amendment to Option and Lease Agreement (Attachment 2) serves as the applicable document to effectuate this change and accompanies this report for Board review.

The approved lease agreement stipulates that the equipment must comply with all environmental and industrial hygiene laws. Original lease agreement can be found at: www.crpdp.org/TmobileNRP

Referenced information available on respective meeting page

ADMINISTRATIVE OFFICES

403 West Hillcrest Drive, Thousand Oaks, CA 91360-4223

805-495-6471 | 805-497-3199 | parks@crpd.org | www.crpdp.org

STRATEGIC PLAN COMPLIANCE

Meets 2024 Strategic Plan Goal: 3.2 Evaluate existing and seek new revenue sources to enhance programming, property acquisition, park improvements and capital facility replacements.

Respectfully submitted by,



Andrew J. Mooney, Director

Parks and Planning

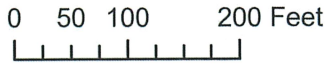
North Ranch Playfield



Proposed T-Mobile Equipment
At Existing Pole And Vault

Existing Verizon Equipment
At Pole And Vault

Produced by Sanborn, INC. in cooperation S, Maxar, Microsoft



FIRST AMENDMENT TO OPTION AND LEASE AGREEMENT

This First Amendment to Option and Lease Agreement (“First Amendment”) is effective as of the date of the latter signature below (“Amendment Effective Date”) and is by and between Conejo Recreation and Park District, a public entity having a mailing address of 403 W Hillcrest Dr, Thousand Oaks, CA 91360 (the “Landlord”) and T-Mobile West Tower LLC, a Delaware limited liability company (the “Tenant”).

WHEREAS, Landlord and Tenant are parties to that certain Option and Lease Agreement (“Agreement”) dated July 19, 2007, pursuant to which Landlord leases to Tenant the right to use ground space for Tenant’s antenna structure, underground communications equipment shelter and related appurtenances, conduits and connections (collectively, the “Premises”) on Landlord’s property located at 952 Rockfield Street, City of Thousand Oaks, County of Ventura, State of California 91360 (the “Property”), as more particularly set forth in the Agreement.

WHEREAS, Landlord and Tenant desire to: (i) permit Tenant to perform certain modifications, including the additions antennas to its communications facility; and (ii) increase the rent owed under the Agreement as provided in Section 2 of the Agreement.

NOW, THEREFORE, by mutual agreement of the parties and in consideration of the rights and obligations hereinafter set forth, the Agreement is hereby amended as follows:

1. Modifications. Landlord hereby consents to Tenant performing certain modifications to Tenant’s communications facility and the Premises, including but not limited to: (i) the removal and replacement of certain antennas and equipment, and (ii) the installation of additional equipment and cabling (collectively, the “Modifications”). The Modifications are more particularly described on Exhibit A-1 attached hereto and made a part hereof and upon completion of installation of the same, shall become a part of the Premises.

2. Rent. The monthly rent due under the Agreement shall be increased by Seven Hundred Fifty Dollars (\$750.00) per month, payable in advance (the “New Rental Rate”). The New Rental Rate shall commence on the first day of the month following the date Tenant commences construction of the Modifications (the “Rent Increase Commencement Date”). For purposes of this First Amendment, “construction” shall not include any design or other architectural and engineering work, site inspection or review, or any work to obtain government approvals. Landlord and Tenant agree that they shall acknowledge in writing the Rent Increase Commencement Date. Landlord and Tenant acknowledge and agree that initial New Rental Rate payments shall be sent by Tenant within forty-five (45) calendar days after the Rent Increase Commencement Date. As such, the first New Rental Rate payment will consist of the initial month New Rental Rate payment and the payment of the New Rental Rate for the following month, payable in advance as prescribed above. The New Rental Rate shall be subject to any escalations as set forth in the Agreement.

3. Approvals. Any required permits for the Modifications shall be obtained by Tenant at Tenant’s sole expense. Furthermore, it is understood and agreed that Tenant’s ability to install the Modifications is contingent upon its obtaining, after the execution date of this Amendment, all of the certificates, permits and other approvals (collectively the “Governmental Approvals”) that

may be required by any Federal, State or Local authorities which will permit Tenant to install and operate the Modifications as set forth in this Amendment. Tenant shall be responsible for the cost of complying with the Governmental Approvals during the term of the Agreement. Landlord shall cooperate with Tenant in its effort to obtain such approvals and shall take no action that would adversely affect the status of the Property with respect to the installation of the Modifications.

4. Continued Effect. Except as specifically modified by this Amendment, all terms and conditions of the Agreement shall remain in full force and effect. In the event of a conflict between any term and provision of the Agreement and this Amendment, the terms and provisions of this Amendment shall control. In addition, except as otherwise stated in this Amendment, all initially capitalized terms will have the same respective defined meaning stated in the Agreement. All captions are for reference purposes only and shall not be used in the construction or interpretation of this Amendment.

IN WITNESS WHEREOF, the Landlord and Tenant have executed this Amendment as of the latter signature date below.

LANDLORD:

Conejo Recreation and Park District,
a public entity

By: _____

Name: _____

Its: _____

Date: _____

TENANT:

T-Mobile West Tower LLC,
a Delaware limited liability company

By: CCTMO LLC,
A Delaware limited liability company
Its Attorney in Fact

By: _____

Name: _____

Title: _____

Date: _____

EXHIBIT A-1
MODIFICATIONS
[SEE ATTACHED]

T-Mobile

T-MOBILE SITE NUMBER: SV11043A
 T-MOBILE SITE NAME: NORTH RANCH PLAYFIELD PAR
 T-MOBILE PROJECT: ANCHOR

BUSINESS UNIT #: 826286
 SITE ADDRESS: 952 ROCKFIELD ST.
 COUNTY: VENTURA
 SITE TYPE: MONOPOLE
 TOWER HEIGHT: 79'-0"

T-Mobile
 3257 EAST GUASTI ROAD, SUITE 200
 ONTARIO, CA 91764

CROWN CASTLE
 200 SPECTRUM CENTER DRIVE,
 SUITE 1700 & 1800
 IRVINE, CA 92618

TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85040
 OFFICE: (480) 285-0036
 www.tepgroup.net

T-MOBILE SITE NUMBER:
 SV11043A
 BU #: 826286
 NORTH RANCH PLAYFIELD
 PAR
 952 ROCKFIELD ST.
 THOUSAND OAKS, CA 91362
 EXISTING 79'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/02/22	NP	PRELIMINARY	JVZ
0	01/09/23	NP	CONSTRUCTION	JVZ
1	05/26/23	TWH	CONSTRUCTION	JVZ
2	03/29/24	KDP	CONSTRUCTION	JTC

SITE INFORMATION	
CROWN CASTLE USA INC.	NORTH RANCH PLAYFIELD PAR
SITE NAME:	952 ROCKFIELD ST.
SITE ADDRESS:	THOUSAND OAKS, CA 91362
COUNTY:	VENTURA
MAP/PARCEL #:	6890070165
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	34° 10' 50.19"
LONGITUDE:	-118° 47' 22.58"
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	1136 FT
CURRENT ZONING:	PL
JURISDICTION:	COUNTY OF VENTURA
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	CONejo REC & PARK DIST 403 W HILLCREST DR THOUSAND OAKS, CA 91360-4223
TOWER OWNER:	CROWN CASTLE 200 SPECTRUM CENTER DRIVE, SUITE 1700 & 1800 IRVINE, CA 92618
CARRIER/APPLICANT:	T-MOBILE 3257 EAST GUASTI ROAD, SUITE 200 ONTARIO, CA 91764
ELECTRIC PROVIDER:	SOUTHERN CALIFORNIA EDISON (800) 445-6555
TEL.CO PROVIDER:	UNKNOWN

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1	TITLE SHEET
T-2	GENERAL NOTES
C-1.1	OVERALL SITE PLAN
C-1.2	SITE PLAN
C-1.3	EQUIPMENT PLANS
C-2.1	TOWER ELEVATIONS
C-2.2	TOWER ELEVATIONS
C-3	ANTENNA PLANS
C-4	FINAL EQUIPMENT SCHEDULE
C-5.1	EQUIPMENT SPECS
C-5.2	EQUIPMENT SPECS
C-5.3	MOUNT DETAILS
E-1	ELECTRICAL DETAILS
E-2.1	ELECTRICAL DETAILS
E-2.2	ELECTRICAL DETAILS
G-1	GROUNDING DETAILS
ATTACHED	STRUCTURAL DESIGN DRAWINGS



PROJECT TEAM	
A&E FIRM:	TOWER ENGINEERING PROFESSIONALS 4710 E ELWOOD ST, STE 9 PHOENIX, AZ 85040 OFFICE: (480) 285-0036
CROWN CASTLE USA INC. DISTRICT CONTACTS:	200 SPECTRUM CENTER DRIVE, SUITE 1700 & 1800 IRVINE, CA 92618 SARAH KIM - PROJECT MANAGER SARAH.KIM@CROWNCastle.COM JESSE HOLGUIN - CONSTRUCTION MANAGER JESSE.HOLGUIN@CROWNCastle.COM SARAH KIM - A&E SPECIALIST SARAH.KIM.CONTRACTOR@CROWNCastle.COM

PROJECT DESCRIPTION	
TOWER SCOPE OF WORK:	<ul style="list-style-type: none"> REMOVE (1) CANISTER REMOVE (3) ANTENNAS REMOVE (12) TMAs REMOVE (12) DPLXERS INSTALL (1) CANISTER INSTALL (3) ANTENNAS INSTALL (6) TMAs
GROUND SCOPE OF WORK:	<ul style="list-style-type: none"> REMOVE (1) RBS 3206 CABINET REMOVE (1) RBS 6201 CABINET RELOCATE (1) DUV30, (1) DUG20 AND (1) BB6630 INSTALL (3) TRIPLEXERS INSTALL (1) POWER 6230 INSTALL (1) 19" RACK INSTALL (8) RRHs INSTALL (2) RP 6651 INSTALL (1) CSR EXRe V2 ROUTER

APPLICABLE CODES/REFERENCE DOCUMENTS	
ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:	
CODE TYPE	CODE
BUILDING	2022 CALIFORNIA BUILDING CODE/2021 IBC
MECHANICAL	2022 CALIFORNIA MECHANICAL CODE/2021 UMC
ELECTRICAL	2022 CALIFORNIA ELECTRICAL CODE/2020 NEC
REFERENCE DOCUMENTS:	
STRUCTURAL ANALYSIS:	TOWER ENGINEERING PROFESSIONALS
DATED:	10/18/2022
STRUCTURAL DESIGN DRAWING:	TOWER ENGINEERING PROFESSIONALS
DATED:	12/20/2022
MOUNT ANALYSIS:	BY OTHERS
DATED:	
RFDS REVISION:	7
DATED:	06/29/2022
ORDER ID:	628465
REVISION:	2

CALL CALIFORNIA ONE CALL
 (800) 227-2600
 CALL 3 WORKING DAYS
 BEFORE YOU DIG!

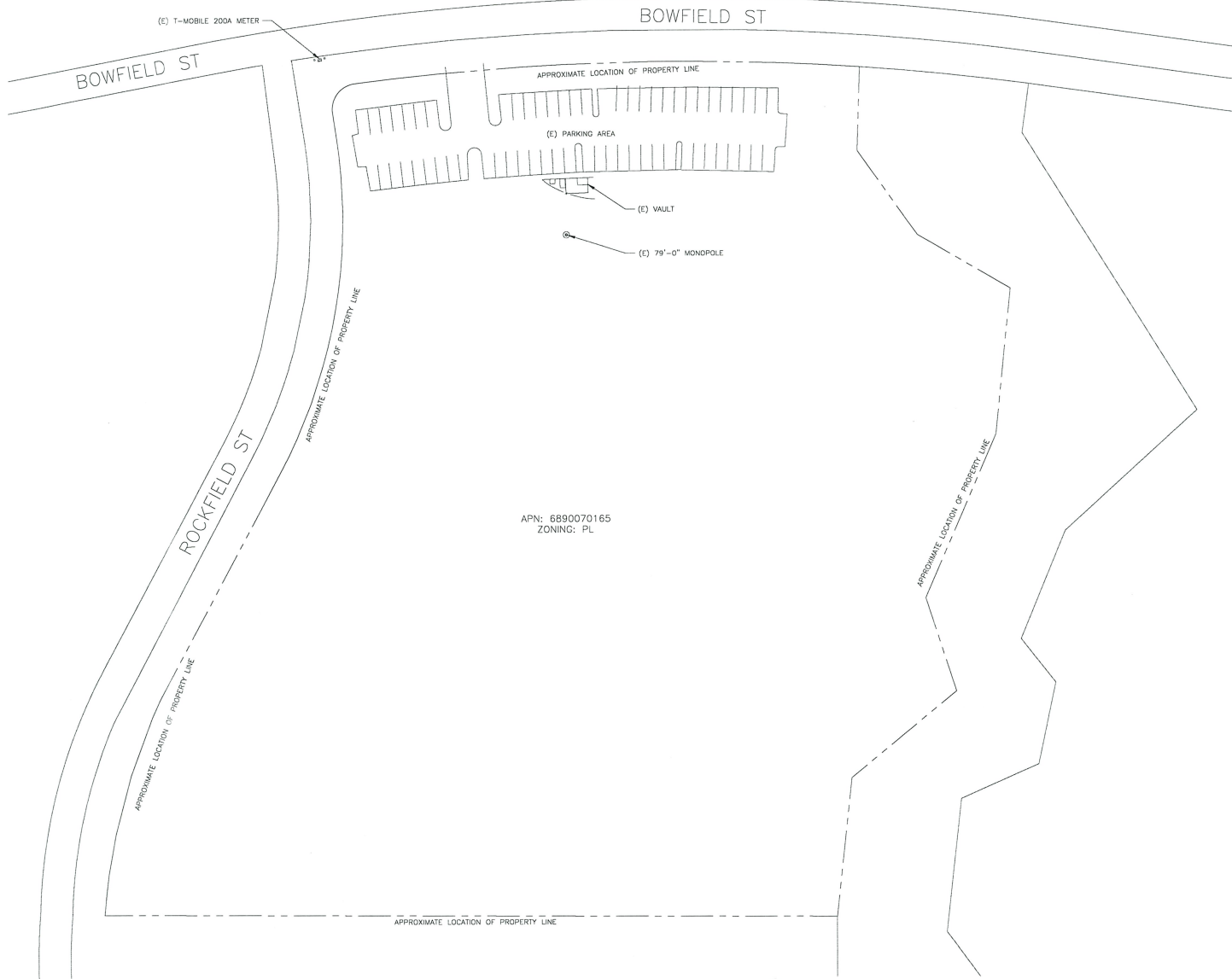
03/29/24

Stephen Bunning, P.E.
 Professional Engineer License: #91898

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.

SHEET NUMBER:	REVISION:
T-1	2

SITE PLAN DISCLAIMER:
 PROPERTY LINES AND STRUCTURES HAVE BEEN DIGITIZED FROM PREVIOUS PLAN SETS OR FROM ASSESSORS MAPS. CROWN CASTLE USA INC. HAS NOT COMPLETED A SITE SURVEY AND THEREFORE MAKES NO CLAIMS AS TO THE ACCURACY OF INFORMATION DEPICTED ON THIS SHEET



1 OVERALL SITE PLAN
 SCALE: 1"=40'-0" (FULL SIZE)
 1"=80'-0" (1/4"=1')



T-Mobile
 3257 EAST GUASTI ROAD, SUITE 200
 ONTARIO, CA 91764

CROWN CASTLE
 200 SPECTRUM CENTER DRIVE,
 SUITE 1700 & 1800
 IRVINE, CA 92618

TOWER ENGINEERING PROFESSIONALS
 4710 E ELWOOD ST, STE 9
 PHOENIX, AZ 85049
 OFFICE: (480) 285-0036
 www.tepgroup.net

T-MOBILE SITE NUMBER:
 SV11043A
 BU #: 826286
 NORTH RANCH PLAYFIELD
 PAR
 952 ROCKFIELD ST.
 THOUSAND OAKS, CA 91362
 EXISTING 79'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./QA
A	12/02/22	NP	PRELIMINARY	JVZ
0	01/09/23	NP	CONSTRUCTION	JVZ
1	05/26/23	TWH	CONSTRUCTION	JVZ
2	03/29/24	KDP	CONSTRUCTION	JTC

03/29/24
 Stephen Bunting, P.E.
 Professional Engineer License: #91898
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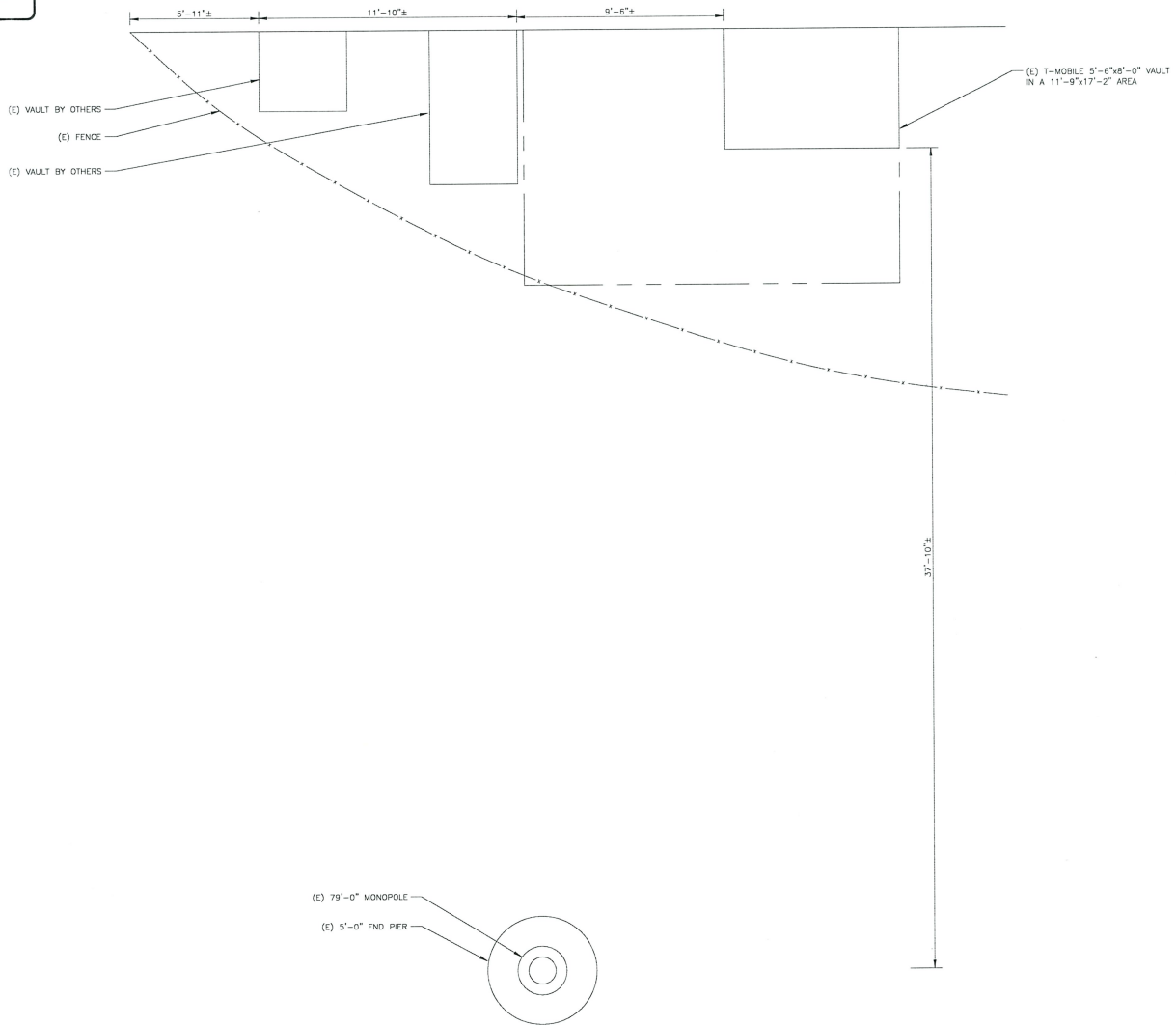
SHEET NUMBER: **C-1.1** REVISION: **2**

SITE PLAN DISCLAIMER:

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NOTE:

THE TOWER IS LOCATED IN ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN ACCORDING TO FEMA COMMUNITY PANEL #09111C0995F DATED 01/20/2010.



1 SITE PLAN
SCALE: 1/2"=1'-0" (FULL SIZE)
1/4"=1'-0" (1:1x17)



3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764



200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618



TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 283-0136
www.tepgroup.net

T-MOBILE SITE NUMBER:
SV11043A

BU #: 826286
NORTH RANCH PLAYFIELD
PAR

952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
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2	03/29/24	KDP	CONSTRUCTION	JTC



03/29/24

Stephen Bunting, P.E.
Professional Engineer License #91698

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TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-1.2** REVISION: **2**



3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764



TOWER ENGINEERING PROFESSIONALS
4710 E. ELWOOD ST., STE 9
PHOENIX, AZ 85040
OFFICE: (480) 285-0036
www.tepgroup.net

T-MOBILE SITE NUMBER:
SV11043A
BU #: 826286
NORTH RANCH PLAYFIELD
PAR
952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
EXISTING 79'-0" MONOPOLE

ISSUED FOR:

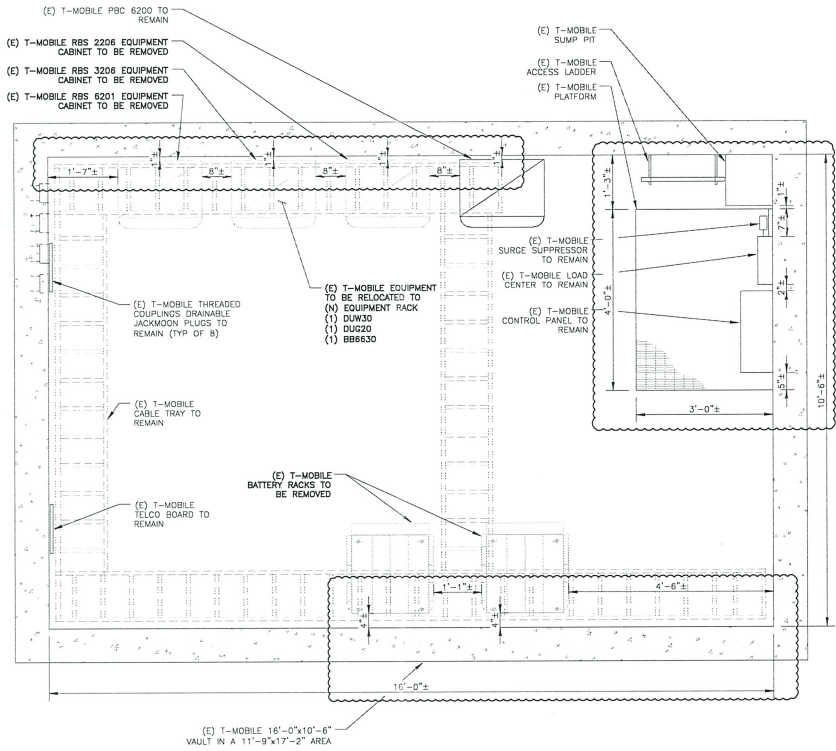
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1	05/26/23	TWH	CONSTRUCTION	JVZ
2	03/29/24	KDP	CONSTRUCTION	JTC



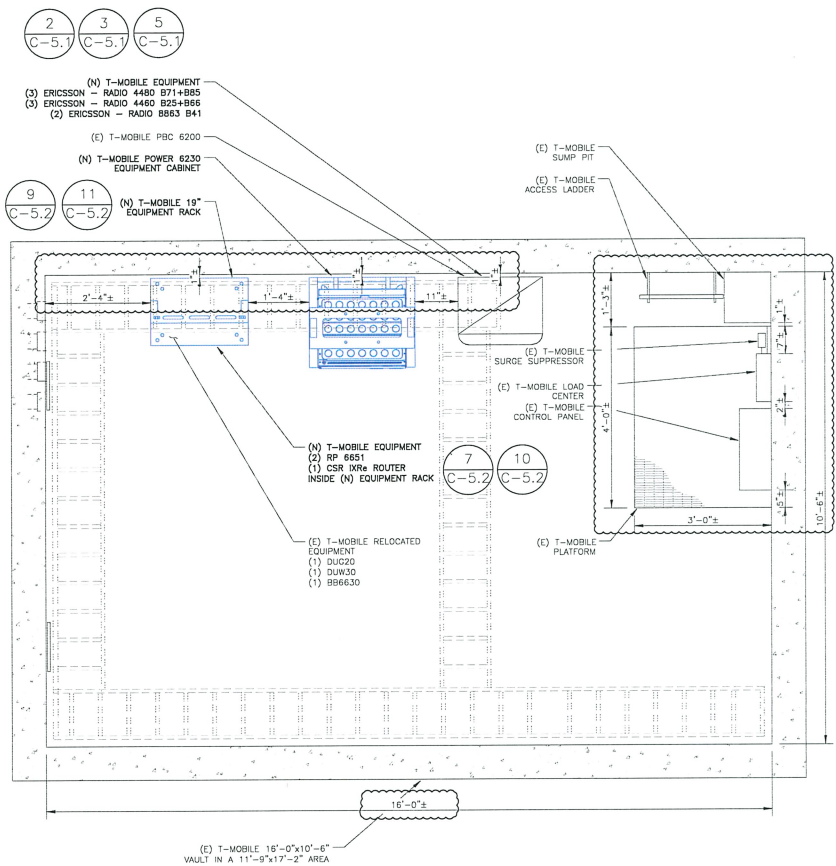
03/29/24

Stephen Bunting, P.E.
Professional Engineer License #91808
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SHEET NUMBER: **C-1.3** REVISION: **2**

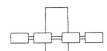


1 EXISTING EQUIPMENT PLAN
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (1:1.7)



2 NEW EQUIPMENT PLAN
SCALE: 3/4"=1'-0" (FULL SIZE)
3/8"=1'-0" (1:1.7)

HEIGHT OF STRUCTURE
ELEV. = 79'-0"
EXISTING TOWER LIGHT
ELEV. = 77'-0"



EXISTING T-MOBILE ACL/MCL
ELEV. = 49'-0"

(E) T-MOBILE EQUIPMENT TO BE REMOVED
(3) ANTENNAS
(6) TMMs
MOUNTED TO EXISTING MOUNTS

(E) 8'-3"x3'-0" CANISTER
TO BE REMOVED

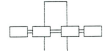
MOUNT ANALYSIS NOTES:
1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
2. CONSTRUCTION MANAGER / GENERAL CONTRACTOR SHALL REVIEW THE MOUNT ANALYSIS FOR ANY CONDITIONS PRIOR TO INSTALLATION.
3. ANY REQUIRED MOUNT MODIFICATION DESIGN OR MOUNT REPLACEMENT SHALL BE APPROVED BY EDR.

(E) 79'-0" MONOPOLE TOWER
(E) T-MOBILE FEEDLINES TO REMAIN
(12) COAX CABLES (7/8")
(E) T-MOBILE FEEDLINES TO BE REMOVED
(2) COAX CABLES (5/16")

TOP OF CONCRETE
ELEV. = 0'-0"

1 EXISTING ELEVATION
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

HEIGHT OF STRUCTURE
ELEV. = 79'-0"
EXISTING TOWER LIGHT
ELEV. = 77'-0"



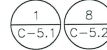
PROPOSED BULKHEAD
ELEV. = 58'-0"

NEW T-MOBILE ACL
ELEV. = 52'-0"

EXISTING T-MOBILE MCL
ELEV. = 49'-0"

PROPOSED BULKHEAD
ELEV. = 46'-0"

(N) T-MOBILE EQUIPMENT
(3) ANTENNAS
(5) TMMs
MOUNTED TO NEW MOUNTS



(N) PENDING 12'-0"x5'-4"
CANISTER SHROUD TO BE
DESIGNED BY OTHERS

(E) 79'-0" MONOPOLE TOWER
(E) T-MOBILE FEEDLINES
(12) COAX CABLES (7/8")

TOP OF CONCRETE
ELEV. = 0'-0"

2 NEW ELEVATION
SCALE: 1/4"=1'-0" (FULL SIZE)
1/8"=1'-0" (11x17)

T-Mobile
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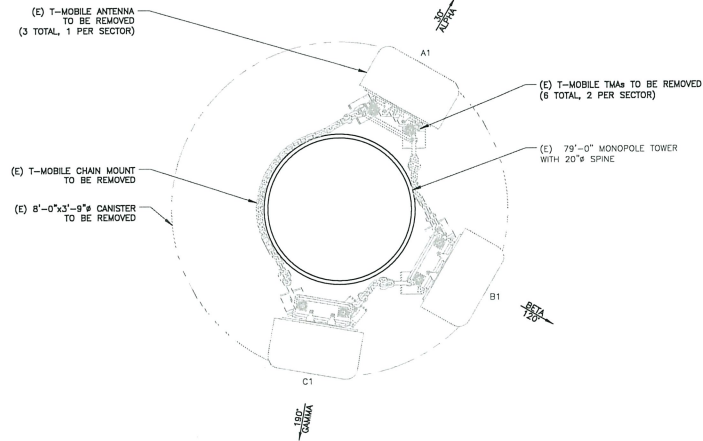
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SV11043A
BU #: 826286
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952 ROCKFIELD ST.
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ISSUED FOR:

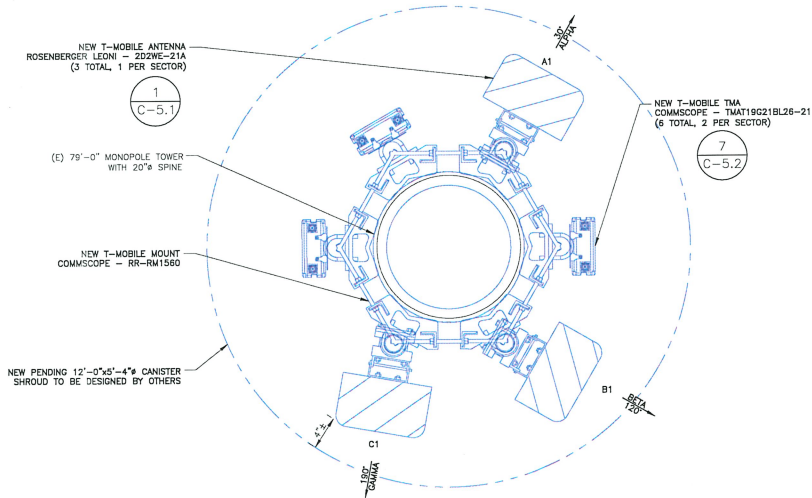
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Stephen E. Banning
Professional Engineer License: #91898
03/29/24
Stephen Banning, P.E.
Professional Engineer License: #91898
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TO ALTER THIS DOCUMENT.

SHEET NUMBER: **C-2** REVISION: **2**



1 EXISTING ANTENNA PLAN AT 49'-0"
SCALE: 1"=1/2'-1"-0" (FULL SIZE)
3/4"=1'-0" (1:1.7)



3 NEW ANTENNA PLAN AT 52'-0"
SCALE: 1"=1/2'-1"-0" (FULL SIZE)
3/4"=1'-0" (1:1.7)

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 EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY 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 INTENDED USE. ANY COMPROMISED SAFETY CLIMB, 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 NOTICE TICKET.

NOTES:
1. REFERENCE C-4 FOR FINAL EQUIPMENT SCHEDULE.
2. REFERENCE C-5.1 THRU C-5.2 FOR NEW EQUIPMENT SPECIFICATIONS.
3. CONTRACTOR TO VERIFY ALL ANTENNA TIP HEIGHTS DO NOT EXCEED BEACON BASE HEIGHT.

MOUNT ANALYSIS NOTES:
1. THE DESIGN DEPICTED IN THESE DRAWINGS IS VALID WHEN ACCOMPANIED BY A CORRESPONDING PASSING MOUNT ANALYSIS.
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200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

TOWER ENGINEERING PROFESSIONALS
4710 E HILWOOD ST. STE 9
PHOENIX, AZ 85046
OFFICE: (480) 288-9036
www.tepgroup.net

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Stephen E. Bunting
Professional Engineer License #91898
03/29/24
Stephen Bunting, P.E.
Professional Engineer License #91898
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SHEET NUMBER: **C-3** REVISION: **2**



3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764



200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618



4710 E. ELWOOD ST., STE 9
PHOENIX, AZ 85049
OFFICE: (480) 285-0036
www.tepgroup.net

T-MOBILE SITE NUMBER:
SV11043A
BU #: 826286
NORTH RANCH PLAYFIELD
PAR
952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
EXISTING 79'-0" MONOPOLE

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION	DES./CM
A	12/02/22	NP	PRELIMINARY	JVZ
0	01/09/23	NP	CONSTRUCTION	JVZ
1	05/26/23	TWH	CONSTRUCTION	JVZ
2	03/29/24	KDP	CONSTRUCTION	JTC



03/29/24

Stephen Bunting, P.E.
Professional Engineer License: #91909

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OF A LICENSED PROFESSIONAL ENGINEER,
TO ALTER THIS DOCUMENT.

SHEET NUMBER: REVISION:

C-4

2

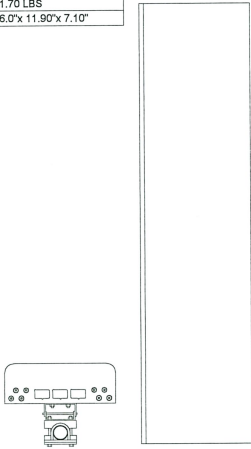
FINAL EQUIPMENT SCHEDULE
(VERIFY WITH CURRENT RFDS)

ALPHA		ANTENNA				RADIO			DIPLEXER			TMA		SURGE PROTECTION		CABLES				
POSITION	TECH.	STATUS/MANUFACTURER	MODEL	AZIMUTH	RAD CENTER	QTY.	STATUS/MODEL	LOCATION	QTY.	STATUS	LOCATION	QTY.	STATUS	QTY.	STATUS/MODEL	QTY.	STATUS/TYPE	SIZE	LENGTH	
A1	N600 L700 L600 L1900 N2500 U2100 L2500 L2100	(N)	ROSENBERGER LEONI 2D2HE-21A	30°	52'-0"	--	--	--	--	--	2	(N)	COMMSCOPE TMA19G21BL26-21	--	--	4	(E)	COAX	7/8"	80'-0"
B1	N600 L700 L600 L1900 N2500 U2100 L2500 L2100	(N)	ROSENBERGER LEONI 2D2HE-21A	120°	52'-0"	--	--	--	--	--	2	(N)	COMMSCOPE TMA19G21BL26-21	--	--	4	(E)	COAX	7/8"	80'-0"
C1	N600 L700 L600 L1900 N2500 U2100 L2500 L2100	(N)	ROSENBERGER LEONI 2D2HE-21A	190°	52'-0"	--	--	--	--	--	2	(N)	COMMSCOPE TMA19G21BL26-21	--	--	4	(E)	COAX	7/8"	80'-0"

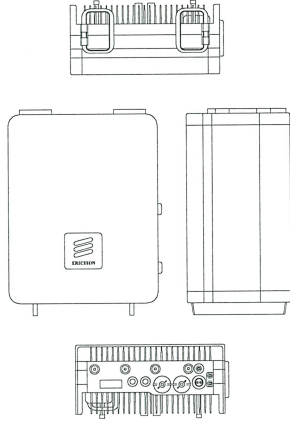
NOTE:
(E) - EXISTING
(N) - NEW

1 FINAL EQUIPMENT SCHEDULE
SCALE: NOT TO SCALE

MANUFACTURER:	ROSENBERGER LEONI
MODEL:	2D2WE-21A
WEIGHT:	61.70 LBS
DIMENSIONS:	96.0"x 11.90"x 7.10"

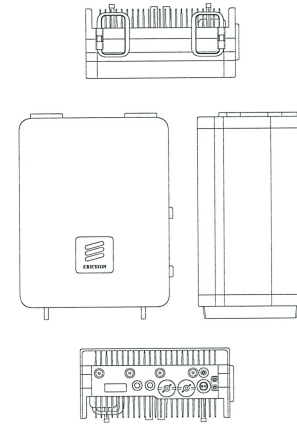


① ROSENBERGER LEONI - 2D2WE-21A
SCALE: NOT TO SCALE



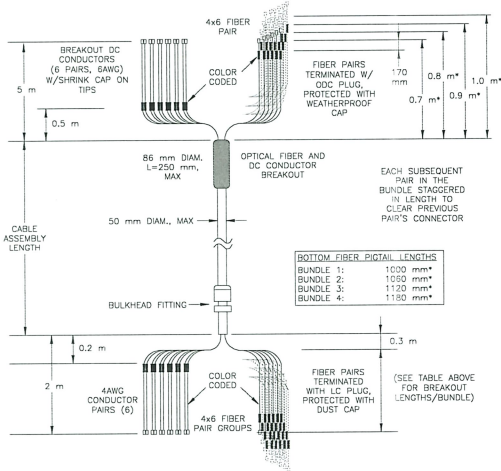
ERICSSON - RADIO 4480 B71+B85
WEIGHT: 81.0 LBS
SIZE (HxWxD): 22.0x15.7x7.5 IN.

② ERICSSON - RADIO 4460 B71+B85_TMO
SCALE: NOT TO SCALE

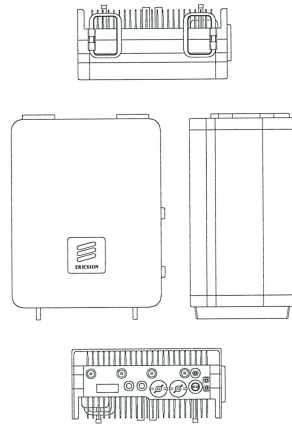


ERICSSON - RADIO 4460 B25+B66_TMO
WEIGHT: 109.0 LBS
SIZE (HxWxD): 17.0x15.10x11.90 IN.

③ ERICSSON - RADIO 4480 B25+B66_TMO
SCALE: NOT TO SCALE

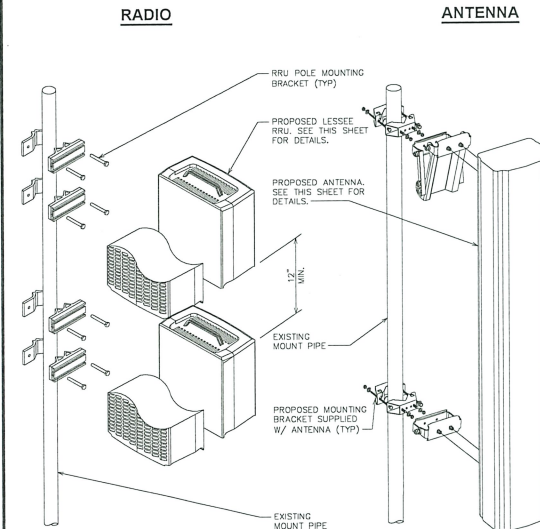


④ HCS DETAIL
SCALE: NOT TO SCALE



ERICSSON - RADIO 8863
WEIGHT: 109.0 LBS
SIZE (HxWxD): 17.0x15.10x11.90 IN.

⑤ ERICSSON - RADIO 8863 B41
SCALE: NOT TO SCALE



⑥ RADIO & ANTENNA MOUNTING
SCALE: NOT TO SCALE

T-Mobile

3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764

CROWN CASTLE

200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

TOWER ENGINEERING PROFESSIONALS

4710 E ELWOOD ST, STE 9
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BU #: 826286
NORTH RANCH PLAYFIELD PAR

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EXISTING 79'-0" MONOPOLE

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2	03/29/24	KDP	CONSTRUCTION	JTC

Stephen E. Bunting

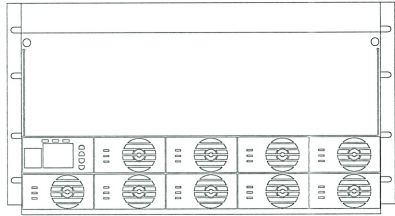
STEPHEN E. BUNTING
P.E.
01698
CIVIL
STATE OF CALIFORNIA

03/29/24

Stephen Bunting, P.E.
Professional Engineer License #: 91898

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SHEET NUMBER: **C-5.1** REVISION: **2**



ERICSSON - POWER 6230
POWER 6230 DC POWER SYSTEM SUPPLIES -48 VDC TO
ERICSSON RADIO SYSTEM AND AUXILIARY EQUIPMENT
DIMENSIONS: RU HEIGHT / 19" RACK MOUNT / 394MM DEPTH

7 POWER 6230 DETAIL
SCALE: NOT TO SCALE

TMAT19G21B68-21 | E14R00P71

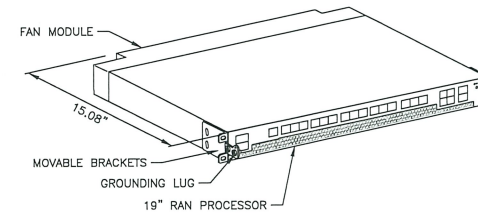
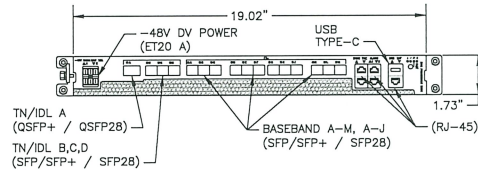


Tower Mounted Amplifier, Twin Duplexed PCS/IS95/AWS 1-4, 555-894
MHz by-pass 4-3-10
• Includes 600 MHz Band 25 dBm/100W output
• Two 4-1/2 connectors for improved RFI performance and noise reduction

Product Classification
Product Type: 147220017 (2.0kW) Tower Mounted Amplifier
General Specifications
Color: Gray
Modularity: 2.0kW
Mounting: Pole 1.70M
Mounting Pipe Hardware: Solid clamp (2)
RF Connector Interface: 4-1/2 Panels
Dimensions
Height: 231.5mm (9.114")
Width: 100.5mm (3.957")
Depth: 106mm (4.173")
Ground Screw Diameter: 8mm (0.315")
Mounting Pipe Diameter Range: 40-50 mm

8 COMMSCOPE - TMAT19G21B68-21_TMO
SCALE: NOT TO SCALE

MANUFACTURER:	ERICSSON
MODEL:	6651 RAN PROCESSOR (KDU1370093/11)
DIMENSIONS:	1.73" x 19.02" x 15.08" (H" x W" x D")
WEIGHT:	17.64 LBS



9 RP 6651
SCALE: NOT TO SCALE



3257 EAST GUASTI ROAD, SUITE 200
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03/29/24

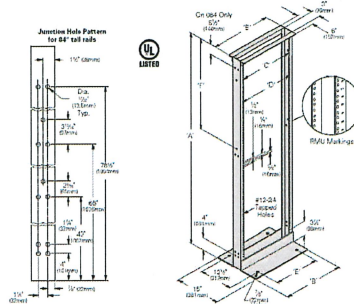
Stephen Bunting, P.E.
Professional Engineer License #91808
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SHEET NUMBER: **C-5.2** REVISION: **2**

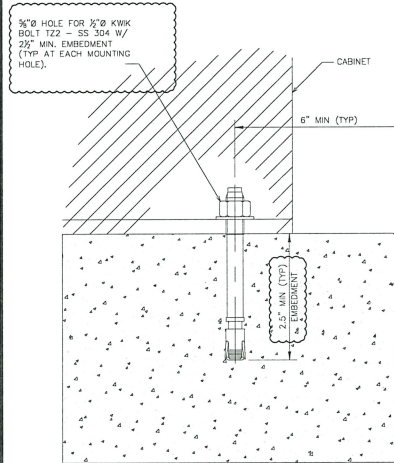
MANUFACTURER: NOKIA
MODEL: IXR-6
DIMENSIONS: 17.21"x10.5"x1.7"
W/SH/T. TBD



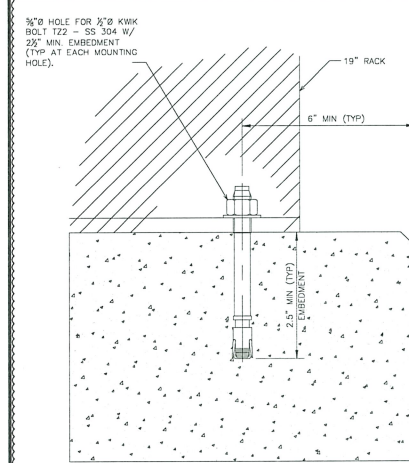
10 CSR-IXR-6 V2 ROUTER
SCALE: NOT TO SCALE



11 19" RACK DETAIL
SCALE: NOT TO SCALE



12 CABINET CONNECTION DETAIL
SCALE: NOT TO SCALE



13 19" RACK CONNECTION DETAIL
SCALE: NOT TO SCALE



3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764



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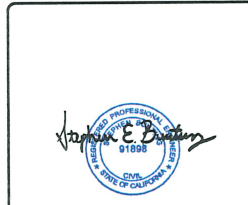
BU #: 826286
NORTH RANCH PLAYFIELD
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THOUSAND OAKS, CA 91362

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2	03/29/04	KDP	CONSTRUCTION	JTC



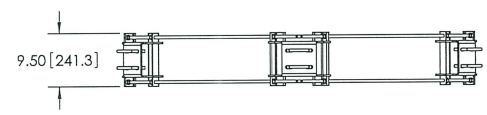
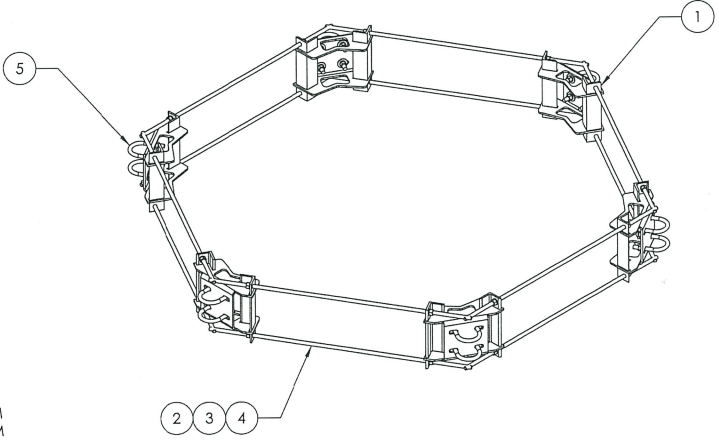
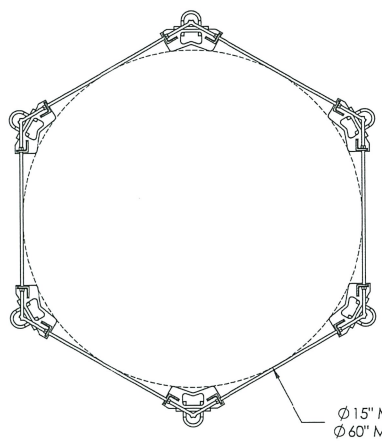
03/29/04

Stephen Dunning, P.E.
Professional Engineer License #: 91169
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SHEET NUMBER: **C-5.3** REVISION: **2**

ITEM	PART NO.	DESCRIPTION	QTY.	WEIGHT
1	MTC320001	RRU Ringmount	6	10.52 LBS
2	GWL-04	1/2" GALV LOCK WASHER	24	0.09 LBS
3	GN-04	1/2" GALV HEX NUT	24	0.04 LBS
4	MT37936	1/2" X 36" GALV THREADED ROD	12	1.99 LBS
5	GUB-4240	1/2" X 2-1/2" X 4" GALV U-BOLT	12	0.57 LBS

REV.	ZONE	REVISIONS DESCRIPTION	BY	DATE
A		INITIAL RELEASE	MSM	11/29/11
B		ADDED U-BOLTS TO ASSEMBLY	DRR	12/13/11



SUGGESTED CUT CHART

MOUNTING DIAMETER	ALLTHREAD LENGTH
Ø 15"	9.5"
Ø 20"	12.0"
Ø 25"	14.5"
Ø 30"	17.0"
Ø 35"	20.0"
Ø 40"	22.5"
Ø 45"	25.0"
Ø 50"	27.5"
Ø 55"	30.0"
Ø 60"	32.5"

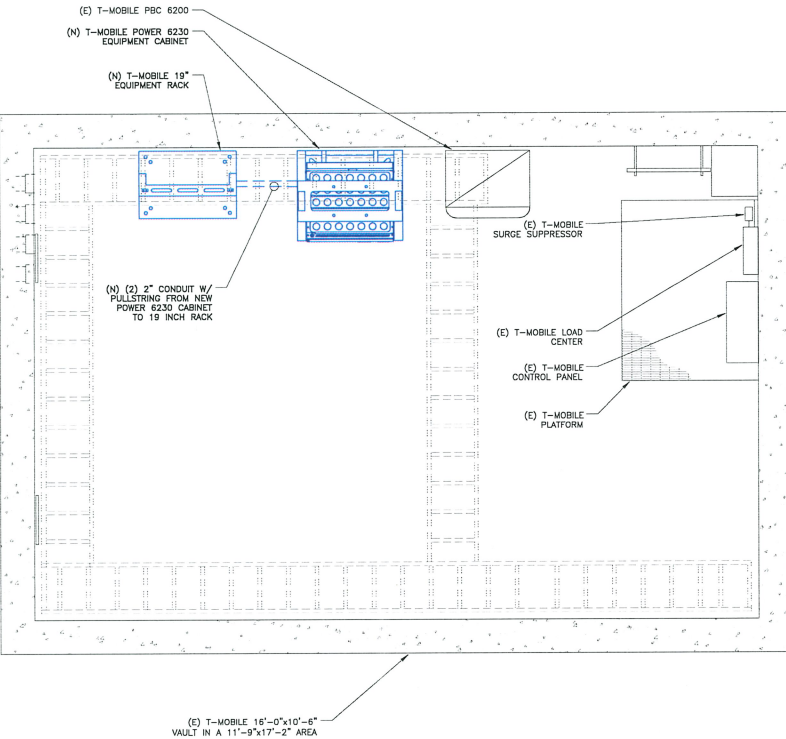
These drawings and specifications are the property of Andrew Corporation and may be used only for the specific project indicated in writing by Andrew Corporation.	DATE: 11/29/11	REV: 11/29/11	REVISED: GALV A123	REV: 97.31 KG	REV: 11/29/11	REV: A36, A529	REV: 11/29/11	REV: NTS	REV: TP	REV: MSM	REV: 1 of 2	REV: RR-RM1560	REV: 6-Sector RingMount 15" to 60"	REV: ASSEMBLY DRAWING	REV: WESTCHESTER, IL. 60154 U.S.A.
--	----------------	---------------	--------------------	---------------	---------------	----------------	---------------	----------	---------	----------	-------------	----------------	------------------------------------	-----------------------	------------------------------------

- NOTES:
1. ALL METRIC DIMENSIONS ARE IN BRACKETS.
2. FIELD VERIFY ALL DIMENSIONS PRIOR TO CUTTING ALL-THREAD.

1 MOUNT DETAIL
SCALE: NOT TO SCALE

ELECTRICAL DETAILS NOTES:

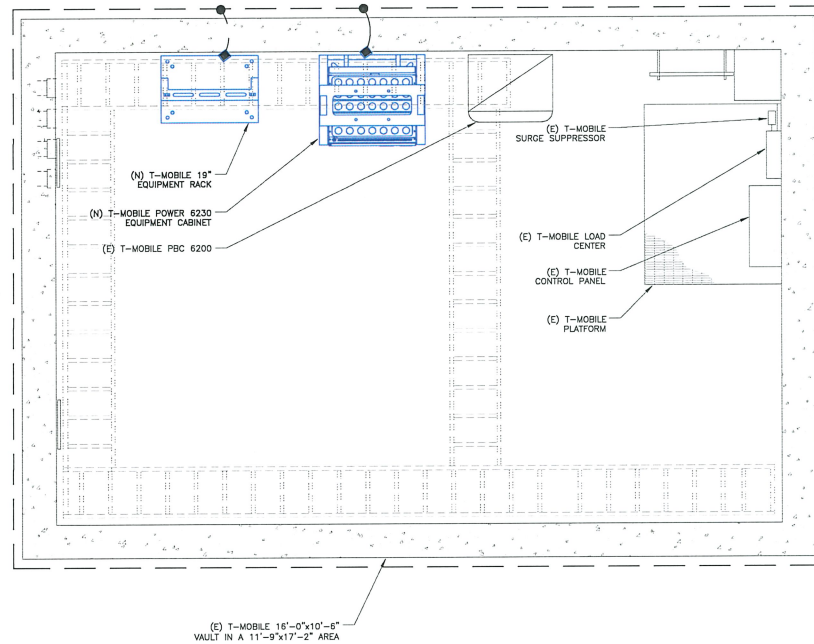
- EXISTING EQUIPMENT LAYOUT WAS MADE USING INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
- CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
- CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26



1 ELECTRICAL ROUTING PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

ELECTRICAL DETAILS NOTES:

- EXISTING EQUIPMENT LAYOUT WAS MADE USING INFORMATION PROVIDED BY CROWN CASTLE. CONTRACTOR TO VERIFY ALL EXISTING INFORMATION IS AS INDICATED ON SITE PLAN. CONTRACTOR IS TO ESTABLISH THE EXISTENCE AND LOCATION OF ALL EXISTING OVERHEAD AND UNDERGROUND UTILITIES. IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES.
- CONTRACTOR TO ENSURE THAT ALL T-MOBILE EQUIPMENT IS INSTALLED INSIDE T-MOBILE'S LEASE AREA, INCLUDING BUT NOT LIMITED TO, EQUIPMENT CABINETS, UTILITY CABINETS, H-FRAMES, ETC.
- CONTRACTOR TO VERIFY THAT ALL T-MOBILE EQUIPMENT IS INSTALLED TO MEET THE WORKING CLEARANCE REQUIREMENTS OF NEC 110.26
- CONTRACTOR TO VERIFY CONDITION AND LOCATION OF ALL EXISTING GROUNDING EQUIPMENT PRIOR TO CONSTRUCTION. TEP DID NOT CONFIRM EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO, GROUND RINGS, GROUND RODS, AND GROUND BARS.
- CONTRACTOR TO ENSURE THAT ALL GROUNDING EQUIPMENT IS INSTALLED WITH COMPLIANCE TO ALL OF T-MOBILE AND AT&T GROUNDING STANDARDS.



2 EQUIPMENT GROUNDING PLAN
SCALE: 1/4"=1'-0" (FULL SIZE)
1/4"=1'-0" (11x17)

LEGEND

■	MECHANICAL CONNECTION
●	EXOTHERMIC CONNECTION
□	ANTENNA GROUND BAR
⊞	MASTER GROUND BAR



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0	01/09/23	NP	CONSTRUCTION	JVZ



01/09/23

Mark S. Quakenbush, P.E.
Professional Engineer License #23287

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SHEET NUMBER: **E-1** REVISION: **0**

EXISTING ELECTRICAL PANEL SCHEDULE													
PANEL PPC													
LOCATION: PPC CABINET													
MOUNTING SURFACE													
NEW RATING: 3R													
LOAD DESCRIPTION	EMT COND	CU GRND	PHASE	BRK	CR NO.	LOAD (AMPS)	CR NO.	PHASE	CU COND	EMT COND	LOAD DESCRIPTION	EMT COND	CU COND
			NEUT		PHASE A	PHASE B		NEUT					
MISC DEMANDER	3/4"	10	10	15	1	500.0	15				MISC CEILING LIGHTS (FLUORESCENT)		
MISC SWAMP PUMP				10	15	720.0	15				MISC EMERGENCY LIGHT		
MISC MICROPROCESSOR CONTROL	1"	10	8	20	5	120.0	15				MISC CONN. OUTLETS (OPT)		
MISC				6	2	240.0	15				MISC CONN. OUTLET DOORHOUSE (OPT)		
MISC				15	8	252.0	15				MISC SWAMP UNIT 2		
MISC				1	1	252.0	15				MISC SWAMP UNIT 2		
MISC				40	11	2678.0	40				MISC A/C UNIT 2		
MISC				2	13	2678.0	40				MISC A/C UNIT 2		
MISC				30	15	800.0	30				MISC RECEPTOR 2		
MISC				17	17	800.0	18				MISC RECEPTOR 2		
MISC				2	18	800.0	18				MISC RECEPTOR 4		
MISC				30	18	0.0	30				MISC RECEPTOR 4		
MISC				2	21	0.0	22				MISC BUSSED SPACE		
MISC				2	22	0.0	24				MISC BUSSED SPACE		
MISC				80	23	0.0	24				MISC BUSSED SPACE		
MISC				2	24	0.0	26				MISC BUSSED SPACE		
MISC				26	25	0.0	26				MISC BUSSED SPACE		
MISC				27	27	0.0	28				MISC BUSSED SPACE		
MISC				28	28	0.0	30				MISC BUSSED SPACE		
MISC				29	29	0.0	30				MISC BUSSED SPACE		
MISC				30	30	0.0	30				MISC BUSSED SPACE		
AMPS PER PHASE (CODE LOAD)						81.45	73.2	CONTRACTOR TO INSTALL APPROVED HANDLE TIE ON ALL SHARED NEUTRAL CIRCUITS.					
1 PHASE DEMAND (VA)													
LIGHTING	0												
25% OF LIGHTING	0												
RECEPTACLES	0												
MISCELLANEOUS													
25% OF MISCELLANEOUS	6824												
TOTAL VA													
8.38 KVA @ 240 V 1Φ													
34.50 A @ 240 V 1Φ													

LEGEND:
(E) - EXISTING
(N) - NEW
(RL) - RE-LABELLED

1 EXISTING ELECTRICAL PANEL SCHEDULES
SCALE: NOT TO SCALE

NEW ELECTRICAL PANEL SCHEDULE													
PANEL PPC													
LOCATION: PPC CABINET													
MOUNTING SURFACE													
NEW RATING: 3R													
LOAD DESCRIPTION	EMT COND	CU GRND	PHASE	BRK	CR NO.	LOAD (AMPS)	CR NO.	PHASE	CU COND	EMT COND	LOAD DESCRIPTION	EMT COND	CU COND
			NEUT		PHASE A	PHASE B		NEUT					
MISC DEMANDER	3/4"	10	10	15	1	500.0	15				MISC CEILING LIGHTS (FLUORESCENT)		
MISC SWAMP PUMP				10	15	720.0	15				MISC EMERGENCY LIGHT		
MISC MICROPROCESSOR CONTROL	1"	10	8	20	5	120.0	15				MISC CONN. OUTLETS (OPT)		
MISC				6	2	240.0	15				MISC CONN. OUTLET DOORHOUSE (OPT)		
MISC				15	8	252.0	15				MISC SWAMP UNIT 2		
MISC				1	1	252.0	15				MISC SWAMP UNIT 2		
MISC				40	11	2678.0	40				MISC A/C UNIT 2		
MISC				2	13	2678.0	40				MISC A/C UNIT 2		
MISC				30	15	800.0	30				MISC RECEPTOR 2		
MISC				17	17	800.0	18				MISC RECEPTOR 2		
MISC				2	18	800.0	18				MISC RECEPTOR 4		
MISC				30	18	0.0	30				MISC RECEPTOR 4		
MISC				2	21	0.0	22				MISC BUSSED SPACE		
MISC				2	22	0.0	24				MISC BUSSED SPACE		
MISC				80	23	0.0	24				MISC BUSSED SPACE		
MISC				2	24	0.0	26				MISC BUSSED SPACE		
MISC				26	25	0.0	26				MISC BUSSED SPACE		
MISC				27	27	0.0	28				MISC BUSSED SPACE		
MISC				28	28	0.0	30				MISC BUSSED SPACE		
MISC				29	29	0.0	30				MISC BUSSED SPACE		
MISC				30	30	0.0	30				MISC BUSSED SPACE		
AMPS PER PHASE (CODE LOAD)						81.45	73.2	CONTRACTOR TO INSTALL APPROVED HANDLE TIE ON ALL SHARED NEUTRAL CIRCUITS.					
1 PHASE DEMAND (VA)													
LIGHTING	0												
25% OF LIGHTING	0												
RECEPTACLES	0												
MISCELLANEOUS													
25% OF MISCELLANEOUS	6824												
TOTAL VA													
8.38 KVA @ 240 V 1Φ													
34.50 A @ 240 V 1Φ													

LEGEND:
(E) - EXISTING
(N) - NEW
(RL) - RE-LABELLED

NOTE:
CONTRACTOR TO UPDATE PRINTED PANEL SCHEDULE WITH NEW PRINTED PANEL SCHEDULE UPON COMPLETION OF ELECTRICAL WORK. PANEL SCHEDULE SHALL ACCURATELY INDICATE ALL BREAKERS AND CIRCUITS WITHIN THE PANEL BOARD.

2 NEW ELECTRICAL PANEL SCHEDULES
SCALE: NOT TO SCALE

Mobile
3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764

CROWN CASTLE
200 SPECTRUM CENTER DRIVE,
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IRVINE, CA 92618

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OFFICE: (480) 283-0136
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T-MOBILE SITE NUMBER:
SV11043A
BU #: 826286
NORTH RANCH PLAYFIELD
PAR
952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
EXISTING 79'-0" MONOPOLE

REV	DATE	DRWN	DESCRIPTION	DES/QA
A	12/02/22	NF	PRELIMINARY	JVZ
0	01/09/23	NF	CONSTRUCTION	JVZ

ISSUED FOR:
23287
Mark S. Quakenbush, P.E.
Professional Engineer License #23287
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.

SHEET NUMBER: **E-2.1** REVISION: **0**



3257 EAST GUASTI ROAD, SUITE 200
ONTARIO, CA 91764



200 SPECTRUM CENTER DRIVE,
SUITE 1700 & 1800
IRVINE, CA 92618

TOWER ENGINEERING PROFESSIONALS
4710 E ELWOOD ST, STE 9
PHOENIX, AZ 85040
OFFICE: (480) 283-0036
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DC -48V FEEDER CABLING CHART

CALCULATIONS ARE BASED ON WORST CASE FULL-LOAD AMPS AT 100% -48VDC, NOT EXCEEDING 3% VOLTAGE DROP. IF FIELD CONDITIONS ARE DIFFERENT THAN INDICATED, CONTACT ENGINEER FOR REVISED CALCULATIONS.

DISTANCE FROM FUEL CELL TO EQUIP. CABINET.	-48V, DC SINGLE CABLE	-48V, DC PARALLEL CABLE	CONDUIT SIZE
1'-70"	1-#1/0 CU AWG		1-1/4"
71"-90"	1-#2/0 CU AWG		1-1/2"
91"-110"	1-#3/0 CU AWG		1-1/2"
111"-140"	1-#4/0 CU AWG		2"
141"-175"		2-#2/0 CU AWG	2"

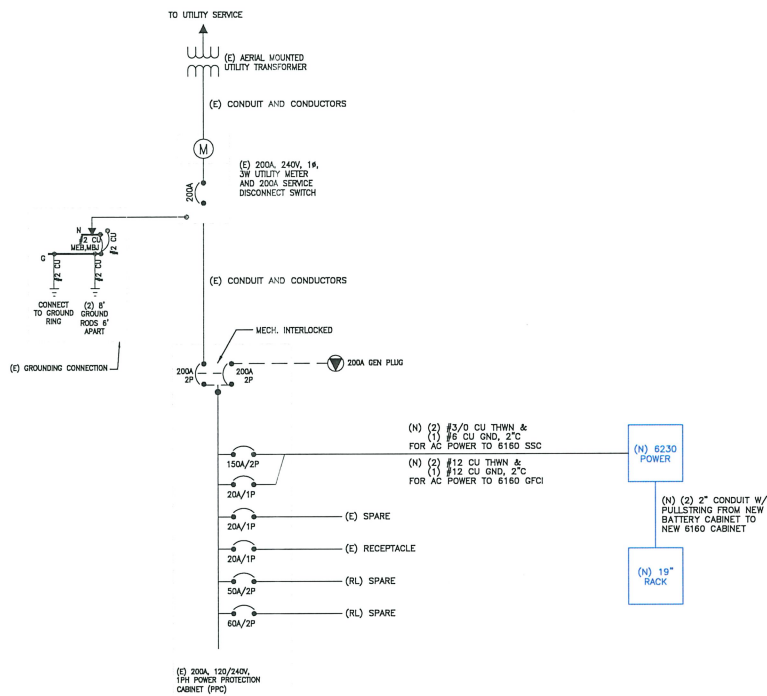
NOTE:
#6 COPPER WIRE AND GREATER SHALL BE
(COPPER) THIN WIRE OR (COPPER) 30#-9W.

NOTE:
PRIOR TO RUNNING CONDUIT ROUTE - CONTRACTOR
SHALL CONTACT THE T-MOBILE PROJECT MANAGER
AND VERIFY THE EQUIPMENT CABINET LAYOUT
CONFIGURATION AND ROUTE CONDUITS ACCORDINGLY.

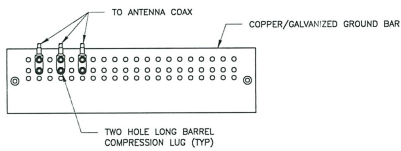
NOTE:
PRE-CONSTRUCTION MEETING AND
ELECTRICAL EASEMENT REQUIRED.

NOTE:
CONTRACTOR SHALL TAG EACH
CIRCUIT CONDUCTOR AT EACH
J-BOX, OUTLET, SWITCH, ETC.
WITH THE CIRCUIT IDENTIFICATION.

NOTE:
CONTRACTOR TO REMOVE ALL ABANDONED AND
UNUSED CARRIER AC/DC, DATA, FIBER, COAXIAL
CABLING AND SUPPORTS AS REQUIRED.

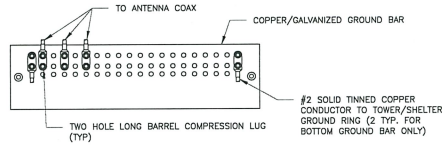


1 ELECTRICAL ONE-LINE DIAGRAM
SCALE: NOT TO SCALE



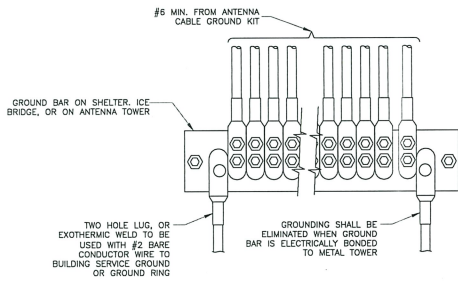
- NOTES:**
1. DOUBLING UP "OR STACKING" OF CONNECTIONS IS NOT PERMITTED.
 2. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 3. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL.

1 ANTENNA GROUND BAR DETAIL
SCALE: NOT TO SCALE

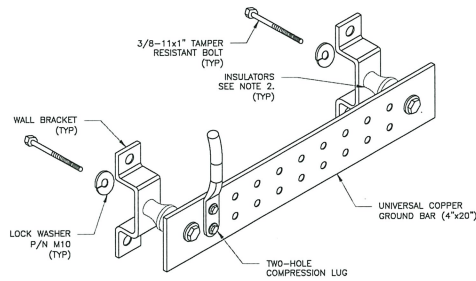


- NOTES:**
1. EXTERIOR ANTIOXIDANT JOINT COMPOUND TO BE USED ON ALL EXTERIOR CONNECTIONS.
 2. GROUND BAR SHALL NOT BE ISOLATED FROM TOWER. MOUNT DIRECTLY TO TOWER STEEL (TOWER ONLY).
 3. GROUND BAR SHALL BE ISOLATED FROM BUILDING OR SHELTER.

2 TOWER/SHELTER GROUND BAR DETAIL
SCALE: NOT TO SCALE

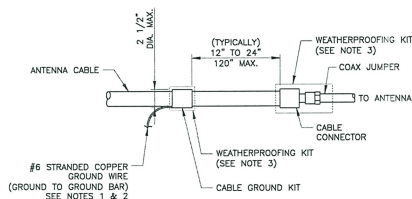


4 GROUNDWIRE INSTALLATION
SCALE: NOT TO SCALE



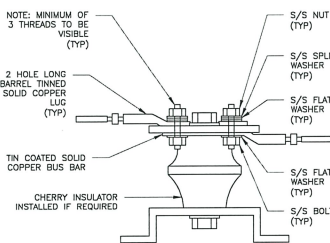
- NOTES:**
1. DOWN LEAD (HOWE RUN) CONDUCTORS ARE NOT TO BE INSTALLED ON CROWN CASTLE USA INC. TOWER, PER THE GROUNDING DOWN CONDUCTOR POLICY GAS-STD-10091. NO MODIFICATION OR DRILLING TO TOWER STEEL IS ALLOWED IN ANY FORM OR FASHION, CAP-WELDING ON THE TOWER AND/OR IN THE AIR ARE NOT PERMITTED.
 2. OMIT INSULATOR WHEN MOUNTING TO TOWER STEEL OR PLATFORM STEEL. USE INSULATORS WHEN ATTACHING TO BUILDING OR SHELTERS.

5 GROUND BAR DETAIL
SCALE: NOT TO SCALE



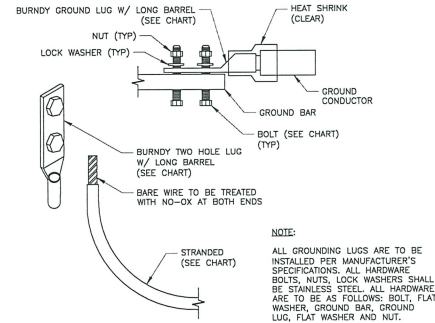
- NOTES:**
1. DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 2. GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 3. WEATHER PROOFING SHALL BE TWO-PART TAPE KIT, COLD SHRINK SHALL NOT BE USED.

6 CABLE GROUND KIT CONNECTION
SCALE: NOT TO SCALE

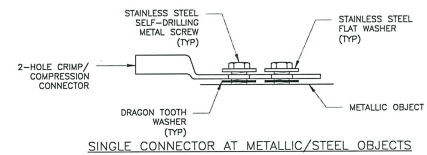
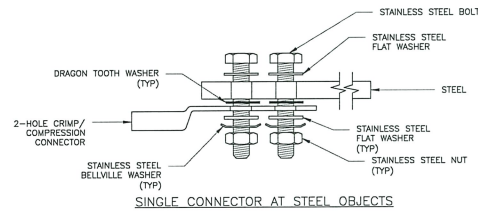
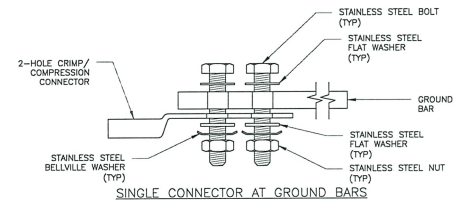


7 LUG DETAIL
SCALE: NOT TO SCALE

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 SOLID TINNED	YA3C-2TC38	3/8" - 16 NC SS 2 BOLT
#2 STRANDED	YA2C-2TC38	3/8" - 16 NC SS 2 BOLT
#2/O STRANDED	YA26-2TC38	3/8" - 16 NC SS 2 BOLT
#4/O STRANDED	YA28-2N	1/2" - 16 NC SS 2 BOLT



3 MECHANICAL LUG CONNECTION
SCALE: NOT TO SCALE



8 HARDWARE DETAIL FOR EXTERIOR CONNECTIONS
SCALE: NOT TO SCALE



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G-1 0

MI CHECKLIST			
REQUIRED	REPORT ITEM	APPLICABLE CROWN DOC #	BRIEF DESCRIPTION
PRE-CONSTRUCTION			
X	MI CHECKLIST DRAWING	CED-SOW-10007	THIS CHECKLIST SERVES AS A GUIDELINE FOR THE REQUIRED CONSTRUCTION DOCUMENTS AND INSPECTIONS FOR THIS MODIFICATION.
NA	EOR APPROVED SHOP DRAWINGS	CED-SOW-10007	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE AND PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS AND/OR SHOP DRAWINGS. THESE ARE TO INCLUDE, BUT ARE NOT LIMITED TO, A VISUAL LAYOUT OF NEW REINFORCEMENT, EXISTING REINFORCEMENT CONFIGURATION, PORTHOLES, MOUNTS, STEP PEGS, SAFETY CLUMBS AND ANY OTHER MISCELLANEOUS ITEMS WHICH MAY AFFECT SUCCESSFUL INSTALLATION OF MODIFICATIONS ON THE TOWER. THESE DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR APPROVAL. SHOP DRAWING SUBMISSION SHALL INCLUDE THE EOR RFI FORM DETAILING ANY CHANGES FROM THE ORIGINAL DESIGN.
NA	FABRICATION INSPECTION	CED-SOW-10007	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	FABRICATOR CERTIFIED WELD INSPECTION	CED-SOW-10007 CED-STD-10069	A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	MATERIAL TEST REPORTS (MTR)	CED-SOW-10007	MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED AS REQUIRED PER SECTION 9.2.5 OF CED-SOW-10007. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	FABRICATOR NDE INSPECTION REPORT	CED-SOW-10066 CED-STD-10069	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	NDE OF MONOPOLE BASE PLATE	ENG-SOW-10033	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	CED-SOW-10007	PACKING/SHIPPING LIST FOR ALL MATERIAL USED DURING CONSTRUCTION OF THE MODIFICATION.
ADDITIONAL TESTING AND INSPECTIONS			
NA			
CONSTRUCTION			
NA	FOUNDATION INSPECTIONS	CED-SOW-10144	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A VISUAL OBSERVATION OF THE REBAR SHALL BE PERFORMED BEFORE PLACING THE EPOXY. A SEALED WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	CONCRETE COMP. STRENGTH AND SLUMP TESTS	CED-SOW-10144	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK	CED-SOW-10144	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA	MICROPILE/ROCK ANCHOR	CED-SOW-10144	MICROPILES/ROCK ANCHORS SHALL BE INSPECTED BY THE FOUNDATION INSPECTION VENDOR AND SHALL BE INCLUDED AS PART OF THE FOUNDATION INSPECTION REPORT, ADDITIONAL TESTING AND/OR INSPECTION REQUIREMENTS ARE NOTED IN THESE CONTRACT DOCUMENTS.
NA	POST-INSTALLED ANCHOR ROD VERIFICATION	CED-SOW-10007 CED-FRM-10358	POST INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED IN ACCORDANCE WITH CROWN REQUIREMENTS AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	BASE PLATE GROUT VERIFICATION	ENG-STD-10323	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS REMOVED AND/OR INSTALLED IN ACCORDANCE WITH CROWN REQUIREMENTS FOR INCLUSION IN THE MI REPORT.
NA	FIELD CERTIFIED WELD INSPECTION	CED-SOW-10066 CED-STD-10069	A CROWN APPROVED CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST FIELD WELDS, FOLLOWING ALL PROCEDURES SPECIFIED IN CROWN STANDARD DOCUMENTS APPLICABLE TO WELD INSPECTIONS. A REPORT SHALL BE PROVIDED. NDE OF FIELD WELDS SHALL BE PERFORMED AS REQUIRED BY CROWN STANDARDS AND CONTRACT DOCUMENTS. THE NDE REPORT SHALL BE INCLUDED IN THE CWI REPORT.
X	ON-SITE COLD GALVANIZING VERIFICATION	ENG-STD-10149 CED-FRM-10358	THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED PER MANUFACTURER SPECIFICATIONS AND APPLICABLE STANDARDS.
NA	TENSION TWIST AND PLUMB	CED-PRC-10182 CED-STD-10261	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
X	GC AS-BUILT DOCUMENTS	CED-SOW-10007	THE GENERAL CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF THE ORIGINAL DESIGN DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD, EOR/RFI FORMS APPROVING ALL CHANGES SHALL BE SUBMITTED.
ADDITIONAL TESTING AND INSPECTIONS			
NA			
POST-CONSTRUCTION			
X	CONSTRUCTION COMPLIANCE LETTER	CED-SOW-10007 CED-SOW-10358	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS, INCLUDING LISTING ADDITIONAL PARTIES TO THE MODIFICATION PROCESS.
NA	POST-INSTALLED ANCHOR ROD PULL TESTS	CED-PRC-10119	POST-INSTALLED ANCHOR RODS SHALL BE TESTED BY A CROWN APPROVED PULL TEST INSPECTOR AND A REPORT SHALL BE PROVIDED INDICATING TESTING RESULTS.
X	PHOTOGRAPHS	CED-SOW-10007	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI. PHOTOS SHALL DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
NA	BOLT HOLE INSTALLATION AND VERIFICATION REPORT	CED-SOW-10007	THE MI INSPECTOR SHALL VERIFY THE INSTALLATION AND TIGHTNESS 10% OF ALL NON PRE-TENSIONED BOLTS INSTALLED AS PART OF THE MODIFICATION. THE MI INSPECTOR SHALL LOOSEN THE NUT AND VERIFY THE BOLT HOLE SIZE AND CONDITION. THE MI REPORT SHALL CONTAIN THE COMPLETED BOLT INSTALLATION VERIFICATION REPORT, INCLUDING THE SUPPORTING PHOTOGRAPHS.
X	PUNCH LIST DEVELOPMENT AND CORRECTION DOCUMENTATION	CED-PRC-10283 CED-FRM-10285	FINAL PUNCHLIST INDICATING ALL NONCONFORMANCE(S) IDENTIFIED AND THE FINAL RESOLUTION AND APPROVAL.
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)	CED-SOW-10007	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
ADDITIONAL TESTING AND INSPECTIONS			
NA			

THE MI CHECKLIST SHALL BE REVIEWED PRIOR TO THE START OF CONSTRUCTION. ALL PARTIES TO THE MODIFICATION SHALL UNDERSTAND CROWN REQUIREMENTS AND INSPECTION/DOCUMENTATION THAT IS APPLICABLE TO THE SCOPE OF WORK THEY ARE PERFORMING. ERRORS ON THE CHECKLIST SHALL BE BROUGHT ATTENTION OF THE CROWN POC AND EOR AS SOON AS POSSIBLE.

MODIFICATION INSPECTION NOTES:

GENERAL

THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF TOWER MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS, IN ACCORDANCE WITH APPLICABLE CROWN STANDARDS; AND AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF, AND THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE TO THE CROWN POINT OF CONTACT (CROWN POC) FOR EVALUATION.

ALL MI'S SHALL BE CONDUCTED BY A CROWN APPROVED MI INSPECTOR, WORKING FOR A CROWN APPROVED MI VENDOR. SEE CROWN CED-LST-10173, "APPROVED MI VENDORS".

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN THE GC AND/OR INSPECTOR SHALL CONTACT THE CROWN POINT OF CONTACT (CROWN POC).

REFER TO CROWN CED-SOW-10007, "MODIFICATION INSPECTION SOW", FOR FURTHER DETAILS AND REQUIREMENTS.

SERVICE LEVEL COMMITMENT

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION / ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

THIS IS NOT A COMPLETE LIST OF REQUIRED PHOTOS. FOR A COMPLETE LIST OF PHOTOS SEE CED-SOW-10007.

NOTE:

X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

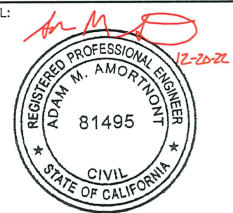
**NORTH RANCH
PLAYFIELD PAR
BU #: 826286
952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
(VENTURA COUNTY)**

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



Electronic Copy December 20, 2022

0	12-20-22	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:
DRAWN BY:	JoRM	CHECKED BY: JLW

SHEET TITLE:
MI CHECKLIST AND NOTES

SHEET NUMBER: N-1	REVISION: 0
TEP#: 24536.792553	

GENERAL NOTES:

- The General Contractor (GC) shall reference CON-STD-10159, "Tower Modification Construction Specifications", as a continuation of the following General Notes. The GC shall keep a printed or electronic copy of this document with the Structural Design Drawings (SDD) at all times, in a location accessible to all Contractor Personnel, and shall ensure that all Contractor Personnel are aware of the information enclosed within the General Notes and CON-STD-10159.
- The Contract Documents are the property of Crown Castle (Crown). They are provided to the GC and its Lower Tier Contractors and material suppliers for the limited purpose of use in completing the Work for this Site, and shall be kept in strict confidence and not disclosed to any third parties. The Contract Documents shall not be used for any other purpose whatsoever without the prior written consent of Crown.
- Detail drawings, including notes and tables, shall govern over general notes and typical details. Contact the Crown Point of Contact (POC) and Engineer of Record (EOR) for clarification as needed.
- Do not scale drawings.
- Any Work performed without a prefabrication mapping is done at the risk of the GC and/or fabricator. All dimensions of existing structural elements are assumed based on the available documentation and are preliminary until field-verified by the GC, unless noted otherwise (UNO). Where discrepancies are found, GC shall contact the Crown POC and EOR through RFI.
- For this analysis and modification, the tower has been assumed to be in good condition without any structural defects, UNO. If the GC discovers any indication of an existing structural defect, contact the Crown POC and EOR immediately.
- 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 GC 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 standard CED-STD-10253, "Rigging Program", including the required involvement of a qualified engineer for class IV construction to certify the supporting structure(s) in accordance with the ANSI/TIA-322 (latest edition).
- Hoisting grips used for feed line installation shall follow manufacturer guidelines for maximum installed spacing intervals and pull load capacity restrictions.
- The structural integrity of the modification design extends to the complete condition only. The GC must be cognizant that the removal of any structural component of an existing tower has the potential to cause the partial or complete collapse of the structure. All necessary precautions must be taken to ensure structural integrity, including, but not limited to, engineering assessment of construction stresses with installation maximum wind speed and/or temporary bracing and shoring.
- Aerial and underground utilities and facilities may or may not be shown on the drawings. The GC shall take every precaution to preserve and protect these items, which may include aerial or underground power lines, telephone lines, water lines, sewer lines, cable television facilities, pipelines, structures and other public and private improvements within or adjacent to the work area. The responsibility for determining the actual on-site location of these items shall rest exclusively with the GC.
- All manufacturer's hardware assembly instructions shall be followed, UNO. Conflicting notes shall be brought to the attention of the EOR and the Crown POC.

- The GC shall fabricate all required items per the materials specified below, UNO on the detail drawing sheets. If the GC finds for any component that the materials have not been clearly specified, the GC shall submit an RFI to the EOR to confirm the required material.

All structural elements shall be new and shall conform to the following requirements, UNO:

Monopoles:

- Structural shapes and plates: ASTM A572 Grade 65 (FY = 65 KSI)
- Welding electrodes, SMAW: E80XX
- Welding electrodes, FCAW: EBXT-XX
- Welding electrodes, GMAW: ER80S-X

Self-Support and Guyed Towers:

- Structural shapes and plates: ASTM A572 Grade 50 (FY = 50 KSI)
- Welding electrodes, SMAW: E70XX
- Welding electrodes, FCAW: E7XT-XX
- Welding electrodes, GMAW: ER70S-X

All tower types:

- Steel angle: ASTM A572 Grade 50 (FY = 50 KSI)
- Solid rod: ASTM A36 (FY = 36 KSI)
- Pipe/tube (round): ASTM A500 Grade C (FY = 46 KSI)
- Pipe/tube (square): ASTM A500 Grade C (FY = 50 KSI)
- Bolts: ASTM F3125 Grade A325 Type 1
- U-bolts: ASTM A307 Grade A, OR SAE J429 Grade 2
- Nuts: ASTM A563 Grade DH
- Washers: ASTM F436 Type 1
- Guy wires: ASTM A475 Grade EHS
- Bridge strand: ASTM A586 Grade 1

- After fabrication, hot-dip galvanize all steel items, UNO. Galvanize per ASTM A123, ASTM A153/A153M, OR ASTM A653 G90, as applicable. ASTM A490 bolts shall not be hot-dip galvanized, but shall instead be coated with Magni 565 or EOR approved equivalent, per ASTM F2833.
- Contractor Personnel shall not drill holes in any new or existing structural members, other than those drilled holes shown on structural drawings, without the approval of the EOR.
- For a list of Crown-approved cold galvanizing compounds, refer to OPS-STD-10149, "Tower Protective Coatings Guidelines".
- All exposed structural steel as the result of this scope of Work including welds (after final inspection of the weld by the CWI), field drilled holes, and shaft interiors (where accessible), shall be cleaned and two (2) coats cold galvanizing shall be applied by brush in accordance with OPS-STD-10149, "Tower Protective Coatings Guidelines". Photo documentation is required to be submitted to the MI Inspector.
- If removal of existing modifications is required per the modification scope, the GC shall clean and cold galvanize any existing empty bolt holes, UNO. If additional unexpected, oversized, or slotted holes are found, the GC shall contact the EOR and Crown POC for guidance prior to proceeding with the modifications.
- All Work involving base plate grout scope items or resulting in disturbance of base plate grout shall reference ENG-STD-10323, "Base Plate Grout", and shall follow any Base Plate Grout Removal notes contained herein.

- If scope of modification involves bark removal or installation, the GC shall reference CED-SOW-10265, "Tree Concealment for Monopoles", as well as CED-STD-10395, "Installation Guidelines for Bark Surfaces".
- If scope of modification involves concealment components including branching, the GC shall reference CED-CAT-10398, "Monopole Concealed Decorative Structures (CDS) Approved Components". All new branch installations require tethering.
- If scope of modification involves cathodic protection, the GC shall reference CED-SOW-10397, "Cathodic Protection Installation, Replacement, and Enhancement".
- All tower grounding affected by the Work shall be repaired or replaced in accordance with OPS-STD-10090, "Tower Grounding", and OPS-BUL-10133, "Grounding Repair Recommendation".
- If scope of modification requires removal or covering of tower ID tag, the tag must be replaced.
- Any hardware removed from the existing tower shall be replaced with new hardware of equal size and quality, UNO. No existing fasteners shall be reused.
- All joints using ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods shall be snug tightened, UNO.
- A nut locking device shall be installed on all proposed and/or replaced snug tightened ASTM A325 or A490 bolts, U-bolts, V-bolts, and threaded rods.
- All joints are bearing type connections UNO. If no bolt length is given in the Bill of Materials, the connection may include threads in the shear planes, and the GC is responsible for sizing the length of the bolt.
- Blind bolts shall be installed per the installation specifications on the corresponding Approved Fastener sheets contained in CON-CAT-10300, "Monopole Standard Drawings and Approved Reinforcement Components".
- If ASTM A325 or A490 bolts, and/or threaded rods are specified to be pre-tensioned, these shall be installed and tightened to the pretensioned condition according to the requirements of the RCSC Specification for Structural Joints Using ASTM High Strength Bolts.
- All proposed and/or replaced bolts shall be of sufficient length such that the end of the bolt be at least flush with the face of the nut. It is not permitted for the bolt end to be below the face of the nut after tightening is completed.

PLANS PREPARED FOR:
CROWN CASTLE

PROJECT INFORMATION:
**NORTH RANCH
PLAYFIELD PAR
BU #: 826286**
952 ROCKFIELD ST.
THOUSAND OAKS, CA 91362
(VENTURA COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



Electronic Copy December 20, 2022

0	12-20-22	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: JGRM CHECKED BY: JUW

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER: **N-2** REVISION: **0**
TEP#: 24536.792553

TOWER PLUMB REQUIREMENTS:

1. CHECK OF VERTICAL ALIGNMENT AND LEVEL OF BASE TOWER AND CANISTER ASSEMBLY SECTIONS FOR CONFORMANCE TO A PLUMB CONDITION IN ACCORDANCE WITH ANSI/TIA-222-H STANDARDS. PLUMB CONDITION IS TO BE DOCUMENTED WITH THE PROPER NOTES AND PICTURES TO PROVE, AT MINIMUM, THE FOLLOWING:
 - 1.1. DEFLECTION CALCULATIONS PER ANSI/TIA-222-H STANDARDS
 - 1.2. MINIMUM AND MAXIMUM (I.E. HOT AND COLD) SURFACE TEMPERATURE READINGS ON BASE MONOPOLE
 - 1.3. TIME OF DAY MEASURE WAS TAKEN (E.G. DAWN, NOON, DUSK)
 - 1.4. PICTURES OF A LEVEL OR DIGITAL INCLINOMETER MEASURED AT A MINIMUM OF (3) EQUIDISTANT LOCATIONS AROUND THE BASE PLATE TO PROVE LEVEL CONDITIONS
 - 1.5. AZIMUTH OR MONOPOLE FLAT NUMBER OF THE DIRECTION OF THE OUT-OF-PLUMB DEFLECTION

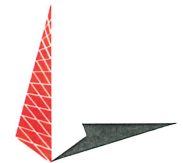
PLANS PREPARED FOR:

CROWN CASTLE

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SEAL:

Handwritten signature and date: 12-20-22



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0	12-20-22	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: JoRM | CHECKED BY: JLW

SHEET TITLE:

PROJECT NOTES

SHEET NUMBER: N-3	REVISION: 0
TEP#: 24536.792553	

MANUFACTURER POLE SPECIFICATIONS								
TAPER:	0.169310 IN/FT							
BASE PLATE STEEL (Fy):	ASTM A572-60 (60 KSI)							
ANCHOR RODS:	2 1/4" ASTM A615-75							
MANUFACTURER SHAFT SECTION DATA								
SHAFT SECTION	SECTION SHAPE	SECTION LENGTH (FT.)	SECTION THICKNESS (IN.)	SECTION GRADE Fy (KSI)	FLANGE PLATE GRADE Fy (KSI)	LAP SPLICE (IN.)	DIAMETER ACROSS FLATS OR OF ROUND SECTION (IN.)	
							TOP	BOTTOM
1	18-SIDED	47.00	0.1875	65	-	33.00	14.000	21.957
2	18-SIDED	34.75	0.1875	65	-	-	21.116	27.000

NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES

MODIFICATION SCHEDULE			
NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)	SHEET
①	REMOVE EXISTING CONCEALMENT CANISTERS, ASSEMBLIES, AND HARDWARE.	45.92 - 52.08	S-2
②	INSTALL PROPOSED CONCEALMENT CANISTERS, ASSEMBLIES AND HARDWARE PER CONCEALMENT REINFORCEMENT SOLUTION OPS-PRC-10127.	46.00 - 58.00	S-2
③	(1) NEW 64" NOMINAL DIAMETER UNVENTED CONCEALMENT ASSEMBLY SHALL BE PROVIDED BY APPROVED UNVENTED CANISTER VENDOR. REFERENCE ITS EMAIL FOR MORE INFORMATION.	46.00 - 58.00	S-2
④	CROWN CASTLE WILL CONTRACT WITH A THIRD PARTY VENDOR TO PERFORM THE MODIFICATION INSPECTION. THE CONTRACTOR SHALL COORDINATE THE INSPECTION WITH THE MODIFICATION INSPECTOR AND CROWN CASTLE PROJECT MANAGER. SEE SHEET N-1 FOR DETAILS.	-	-

NOTES:

- PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
- FOR PARTS NOT DETAILED WITHIN THE DRAWING AND STARTING WITH "CO-", SEE THE FOLLOWING CATALOG FOR DETAILS: CON-CAT-10300, MONOPOLE STANDARD DRAWINGS AND APPROVED REINFORCEMENT COMPONENTS.

PLANS PREPARED FOR:

CROWN CASTLE

PROJECT INFORMATION:

NORTH RANCH PLAYFIELD PAR
BU #: 826286
 952 ROCKFIELD ST.
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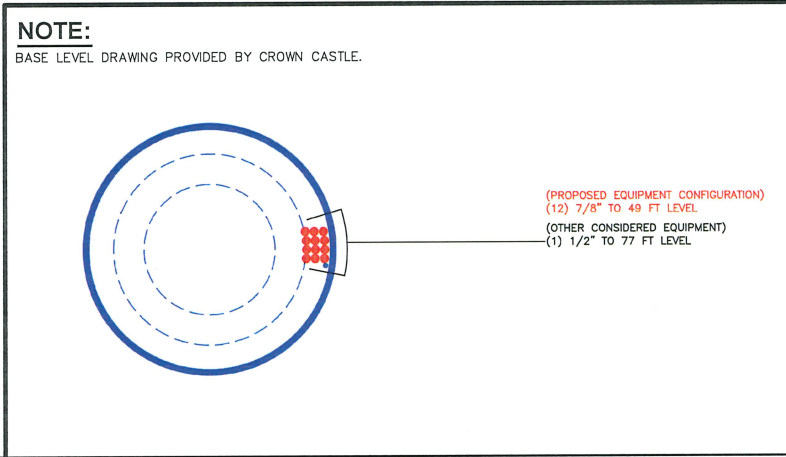
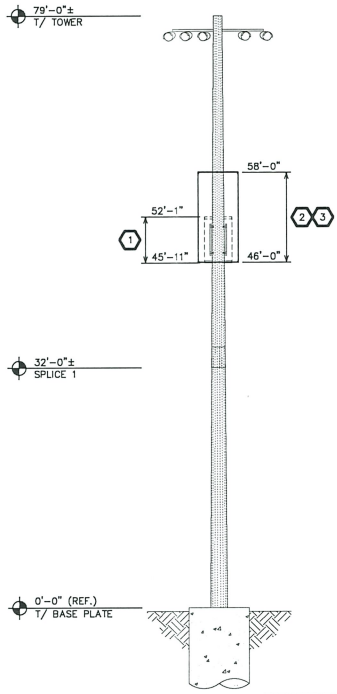
REV	DATE	ISSUED FOR:
0	12-20-22	MODIFICATION DRAWINGS

DRAWN BY: JoRM | CHECKED BY: JLW

SHEET TITLE:

TOWER ELEVATION AND MODIFICATION SCHEDULE

SHEET NUMBER: **S-1** | REVISION: 0
 TEP #: 24536.792553

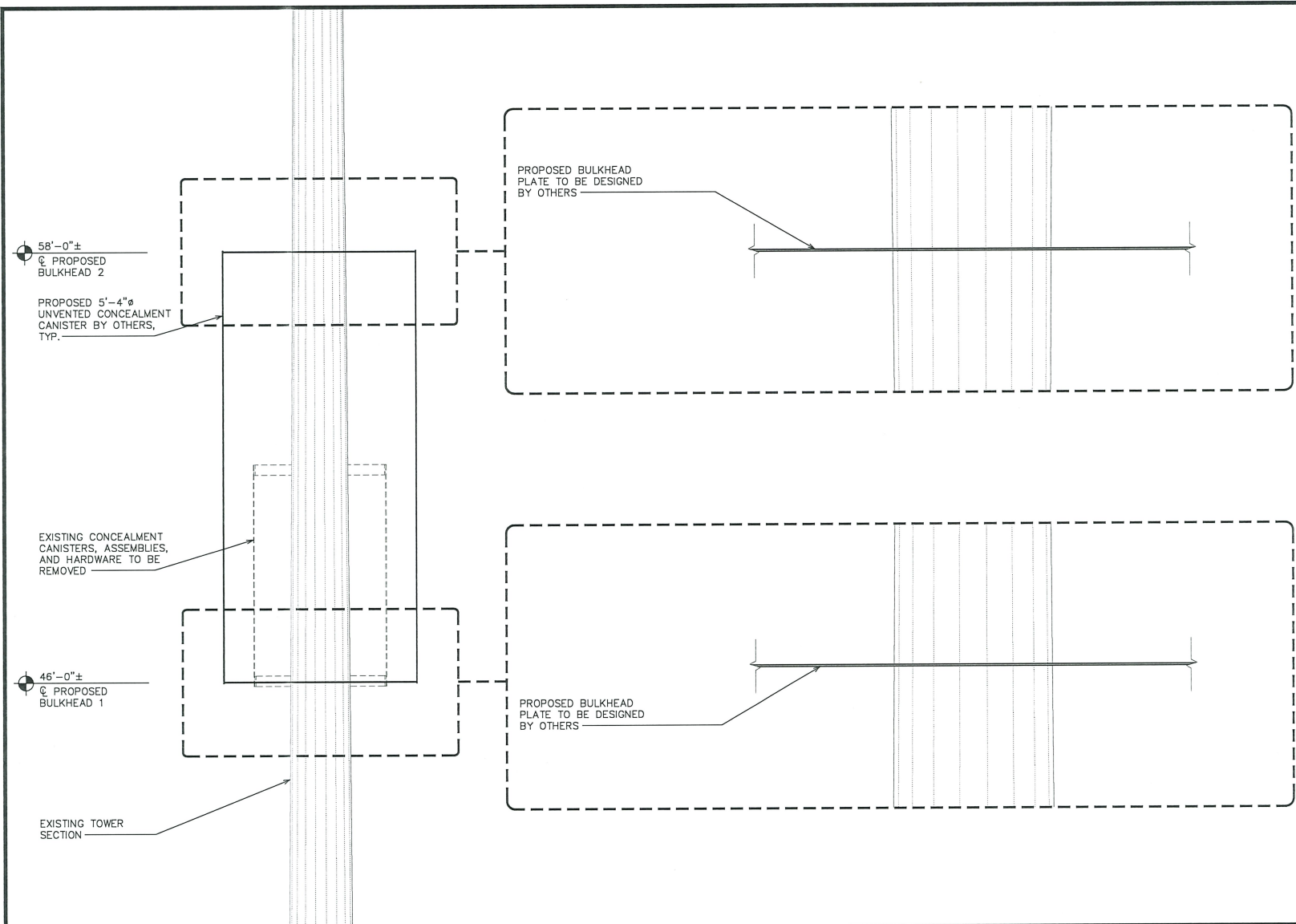


TOWER ELEVATION
 SCALE: 1/8" = 1'-0"



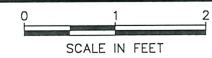
SCALE IN FEET

BASE LEVEL DRAWING
 SCALE: N.T.S.



PARTIAL ELEVATION

SCALE: 3/8" = 1'-0"



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REV	DATE	ISSUED FOR:
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DRAWN BY: JoRM CHECKED BY: JLW

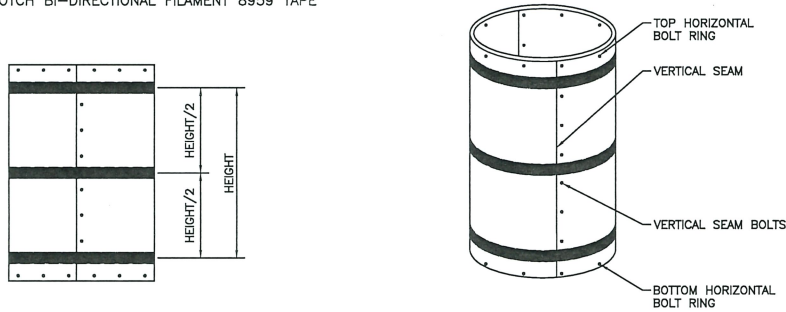
SHEET TITLE:
CONCEALMENT INSTALLATION DETAILS

SHEET NUMBER: **S-2** REVISION: 0
 TEP#: 24536.792553

CONCEALMENT REINFORCEMENT SOLUTION — PARTS LIST

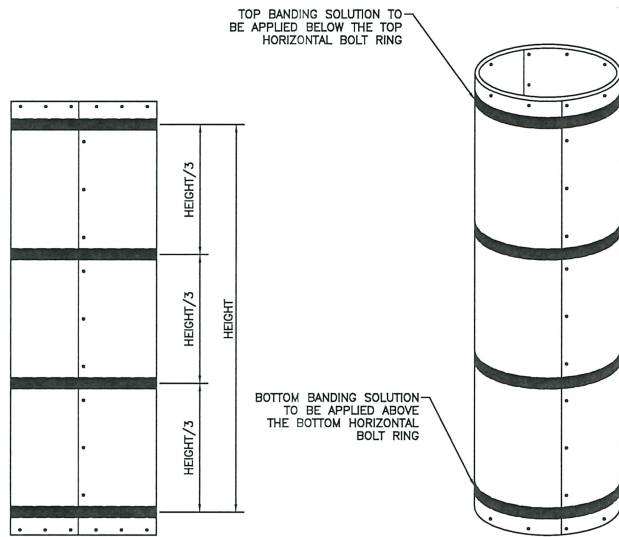
NO.	MANUFACTURER	DESCRIPTION	SIZE	PRODUCT NO.
(1)	USA STRAPPING	WOVEN POLYESTER STRAPPING	3/4"x250 FT. COIL	2700-34
(2)	MCNETT GEAR AID	DUAL-ADJUST BUCKLE	3/4" SIZE	80355
(3)	BUNKER INDUSTRIES	HURRICANE TAPE ***	3"x60 YD. ROLL	00101
(4)	RUST-OLEUM	GLOSS CLEAR SPRAY	12 OZ.	249117

*** NOTE: HURRICANE TAPE CAN BE SUBSTITUTED BY 3M SCOTCH BI-DIRECTIONAL FILAMENT 8959 TAPE



≤ 10'-0" CONCEALMENT COVER LEVEL HEIGHT

NOT TO SCALE



> 10'-0" CONCEALMENT COVER LEVEL HEIGHT

NOT TO SCALE

GENERAL:

- 1.) THE REINFORCEMENT SOLUTION IS ONLY TO BE APPLIED TO VERTICALLY-FASTENED MULTI-PANEL OR "SECTORIZED" CONCEALMENT COVERS. SOLID ONE-PIECE CONCEALMENT COVERS ARE NOT TO BE TREATED WITH THIS SOLUTION.
- 2.) FOR CONCEALMENT COVER LEVELS MEASURING 10 FT. IN HEIGHT OR LESS, (3) EQUALLY-SPACED BANDING APPLICATIONS ARE TO BE INSTALLED AT THE TOP, MID-SPAN, AND BOTTOM REGIONS. FOR LEVELS GREATER THAN 10 FT. IN HEIGHT, (4) EQUALLY-SPACED BANDING APPLICATIONS ARE TO BE INSTALLED, AT THE TOP, UPPER MIDDLE, LOWER MIDDLE, AND BOTTOM REGIONS.
- 3.) FOR CONCEALMENT COVERS OF ALL HEIGHTS, THE TOP BANDING APPLICATION IS TO BE POSITIONED DIRECTLY BELOW THE TOP CONCEALMENT COVER HORIZONTAL BOLT RING AND THE BOTTOM BANDING APPLICATION DIRECTLY ABOVE THE BOTTOM HORIZONTAL BOLT RING.
- 4.) BANDING APPLICATION SHALL NOT COVER ANY VERTICAL OR HORIZONTAL FASTENERS.

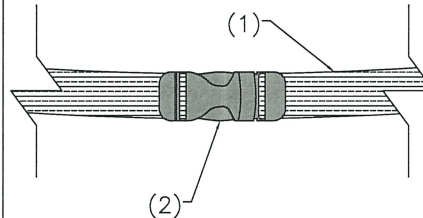
INSTALLATION:

- 1.) STRAPPING IS TO BE LOOPED AROUND THE CONCEALMENT COVER AND EACH CUT END OF THE STRAPPING FED AROUND A CROSS BAR ON EACH END OF THE DUAL-ADJUST BUCKLE.
- 2.) STRAPPING IS TO BE HAND-TIGHTENED USING THE BUCKLE SUCH THAT THE STRAPPING LIES FLAT, UNTWISTED, AND SQUARE TO THE CONCEALMENT COVER.
- 3.) AT LEAST (2) CONTINUOUS LAYERS OF HURRICANE (OR 3M 8959) TAPE ARE TO BE APPLIED ON TOP OF THE TIGHTENED STRAPPING SUCH THAT NO TAIL OF THE STRAPPING IS SHOWING OUTSIDE THE LAYERS OF TAPE.
- 4.) THE CURRENT DATE IS TO BE MARKED WITH PERMANENT INK ON THE TOP LAYER OF TAPE TO RECORD INSTALLATION DATE.
- 5.) ENSURE THAT THE SURFACE OF THE CANISTER IS FREE FROM OIL, GREASE, SOIL, DIRT, AND OTHER FOREIGN MATTER. THE SURFACE SHALL BE CLEAN, DRY AND SMOOTH TO RECEIVE THE STRAPPING AND THE TAPE.
- 6.) HURRICANE (OR 3M 8959) TAPE SHALL BE TACKED DOWN BY APPLYING (2) COATS OF NON-YELLOWING CLEAR COAT SPRAY OVER THE TAIL END OF THE TAPE AFTER IT IS SECURELY TAPED DOWN. SECOND COAT SHALL BE APPLIED ONCE THE FIRST COAT IS DRY TO TOUCH.

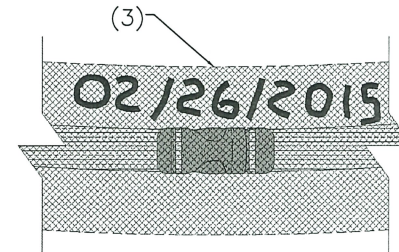
PAINTING HURRICANE (OR 3M 8959) TAPE (IF REQUIRED):

- 1.) AFTER FULL INSTALLATION OF THE THE REINFORCEMENT SOLUTION, THE TAPE SHALL BE COATED TO MATCH THE COLOR OF THE EXISTING CONCEALMENT CANISTER
 - 1.1) AS AN EXAMPLE, IF THE EXISTING CONCEALMENT CANISTER IS WHITE, PAINTING WOULD NOT BE REQUIRED SINCE THE TAPE COLOR IS ALSO WHITE. HOWEVER, IF THE CANISTER IS BLACK, PAINT THE TAPE TO MATCH THE CANISTER COLOR.
- 2.) PAINT SHALL BE APPLIED WITH A BRUSH FOR A CLEAN EDGE ON THE TAPE. SPRAY PAINT IS PERMISSIBLE PROVIDED THAT PAINTER'S TAPE IS UTILIZED TO AVOID PAINTING THE CANISTER. SECOND COAT SHALL BE APPLIED AFTER THE FIRST COAT IS DRY. THE SHEEN OF THE PAINT SHALL MATCH THE CANISTER
- 3.) THE INSTALLATION DATE SHALL BE MARKED ON TOP OF THE COATED SURFACE.

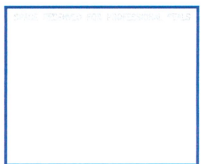
STRAPPING INSTALLATION DETAIL



TAPE INSTALLATION DETAIL



2000 CORPORATE DRIVE
CANONSBURG PA, 15317



REVISIONS	NO.	DATE	DESCRIPTION	BY	CHK
	1	02/09/15	CONCEALMENT SOLUTION	MAJ	
	2	02/09/16	CONCEALMENT SOLUTION	MAJ	
	3	01/09/17	CONCEALMENT SOLUTION	MAJ	
	4	09/29/20	ADDED SUBSTITUTE FOR HURRICANE TAPE	JYK	

DRAWN BY: MAJ
CHECKED BY: JYK
DRAWING DATE: 06/29/20

SHEET TITLE _____
TYPE _____
SHEET NUMBER _____