



Meeting Agenda

Zoning Board of Adjustment

Tuesday, November 22, 2022

5:00 PM

Ankeny City Council Chambers

1250 SW District Drive, Second Floor, Ankeny, Iowa

Matt Ott, Chair

Jeffrey Baxter, Vice Chair

Nichole Sungren

Kristi Tomlinson

Brett Walker

Zoning Board of Adjustment regular meetings are the first and third Tuesday of each month at 5:00 p.m. All Board of Adjustment meetings are open to the public. Assistive Listening Devices (ALD) are available for persons with impaired hearing.

CALL TO ORDER

A. ROLL CALL

B. AMENDMENTS TO AGENDA

C. MINUTES

Minutes of the November 8, 2022 regular meeting.

D. COMMUNICATIONS/CORRESPONDENCE

E. BUSINESS ITEMS

PUBLIC HEARINGS Public Hearings are held during the Zoning Board of Adjustment's regular meetings. Those who wish to speak will be requested to provide their name and address for the record when called upon. The order of proceedings for each application will be as follows: 1). The applicant will present testimony and evidence regarding their request; 2). City staff will summarize the project and present their findings; 3). Testimony may be heard from any members of the audience who wish to speak in support of or in opposition to the appeal; 4). The Board will give the applicant and the city staff an opportunity to present concluding summaries and arguments. At the conclusion of all public testimony, the Board will close the public hearing. The Board will discuss the issues and evidence and come to a decision. The applicant or appellant may withdraw their application or appeal at any time prior to the decision by the Zoning Board of Adjustment.

#22-20

Mark Van De Pol
for property located at
4904 NE Trilein Drive
Lot 23, North Prairie Bend Plat 1
RE: Variance - Rear Yard Setback

#22-15, #22-16, #22-17, #22-18

GSS, Inc.

for property located at
3950 N Ankeny Boulevard
approximately 304 feet west of N Ankeny Blvd. and 333 feet north of NW Autumn Crest Drive

RE: #22-15 Variance - Height
#22-16 Variance - Rear Yard Setback
#22-17 Special Use Permit
#22-18 Conditional Use Permit

F. OLD BUSINESS:

G. NEW BUSINESS

H. REPORTS

I. ADJOURNMENT



ZONING BOARD OF ADJUSTMENT

November 22, 2022

5 : 00 PM



ORIGINATING DEPARTMENT:

Planning and Building

COUNCIL GOAL:

ACTION REQUESTED:

Motion

LEGAL:

SUBJECT:

Minutes of the November 8, 2022 regular meeting.

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

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 [ZBOA Minutes 2022-11-08](#)

Meeting Minutes

Zoning Board of Adjustment

Tuesday, November 8, 2022

Ankeny City Council Chambers

1250 SW District Drive, Second Floor, Ankeny, Iowa

CALL TO ORDER

Chair Matt Ott called the November 8, 2022 regular meeting of the Zoning Board of Adjustment to order at 5:00 p.m.

ROLL CALL

Members present: Jeff Baxter, Matt Ott, Nichole Sungren, and Brett Walker. Absent: Kristi Tomlinson.

Staff present: E.Jensen, B.Morrissey, B.Fuglsang.

AMENDMENTS TO THE AGENDA

There were no amendments to the agenda.

MINUTES OF THE SEPTEMBER 7, 2022 REGULAR MEETING

Motion by J.Baxter to approve the September 7, 2022 meeting minutes as submitted. Second by N.Sungren.

Motion carried. 4 – 0.

COMMUNICATIONS / CORRESPONDENCE

There were no communications.

BUSINESS ITEMS

PUBLIC HEARINGS:

#22-19

JNM Development Holdings, LLC

for property located at

3607 NE Otterview Circle

Lot 1, Otter Creek Commercial Plat 3

RE: Variance – Rear Yard Setback

Chair M.Ott opened the public hearing.

Jared Murray, Civil Design Advantage, 4121 NW Urbandale Drive, Urbandale, on behalf of the applicant JNM Development Holdings, LLC said that they are asking for a variance to the zoning for a rear yard setback in the C-2 zoning district. He presented the site plan exhibit, which showed the proposed location of the open-air deck/patio on the NE side. He said their request would reduce the rear yard setback from 40-feet to 20-feet and commented that the developer has a potential restaurant tenant that would like to use the space for a patio.

J.Baxter asked if the deck is ground level. Jared Murray stated, yes.

N.Sungren asked what the high-water elevation is of the swale. Jared Murray responded that he did not have an exact elevation but it is less than one-foot. He said that it would back up into the overflow that is located on the north side before it would flow into that area.

There were no further questions from the Board.

B.Morrissey reported the subject property is located at 3607 NE Otterview Circle, generally located west of I-35 and north of NE 36th Street. He stated the property is zoned C-2, General Retail and Highway Oriented Commercial District with restrictions and the majority of the surrounding properties are zoned C-2, with the exception of the Otter Creek Golf Course. He said the project site contains an approximate 10,000 sq. ft. commercial structure that contains restaurant and office space. B.Morrissey commented that the original site plan approved by the Commission did not include any type of patio or deck on the site. He stated the

applicant contacted staff regarding the addition of a deck style patio along the east side of the building that would extend into the rear yard setback, which is not allowed in commercial districts. B.Morrissey explained that the applicant is requesting that the current rear yard setback be reduced to 20-feet to allow for the construction of the deck. He said the proposed deck is approximately 600 sq. ft. in size and extends east towards an existing retaining wall and fence on the site and will extend just under 20-feet into the existing 40-foot rear yard setback. The outdoor dining area does require additional parking stalls on the site, therefore, staff is recommending that a shared parking agreement be obtained with the site to the north, as there appears to be excess parking on their site. Public notices were mailed to neighboring properties and, to date, staff has not received any correspondence for or against the request. Staff recommends that the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.09(3)(F) to allow a 20-foot rear yard setback for construction of a deck style patio at 3607 NE Otterview Circle, subject to the applicant acquiring a shared parking agreement. Staff's position is based on a determination that the decreased rear yard setback from the resulting deck style patio would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

There were no questions from the Board.

Motion by M.Ott to close the public hearing, and receive and file documents. Second by J.Baxter. All voted aye. Motion carried 4 – 0.

Board Action on Filing #22-19 property located at 3607 NE Otterview Circle

Motion by B.Walker that the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.09(3)(F) to allow a 20-foot rear yard setback for construction of a deck style patio at 3607 NE Otterview Circle, subject to the applicant acquiring a shared parking agreement.

The Board's position is based on a determination that the decreased rear yard setback from the resulting deck style patio would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

Second by N.Sungren. All voted aye. Motion carried. 4 – 0.

NEW BUSINESS

There was no new business.

REPORTS

Renewed Special Use Permits

#16-13 Cabaret - 2785 N Ankeny Blvd.

#16-18 The Whiskey House - 2510 SW White Birch Drive, Ste. 8 & 9

#08-23 Buffalo Wild Wings Grill & Bar - 1690 SE Delaware Ave.

#15-14 Benchwarmers Ankeny Inc. - 705 S Ankeny Blvd.

#21-20 Vintage Brewhouse - 1300 NW 36th St., Ste. 101

#22-03 Silk Elephant - 2410 SW White Birch Drive, Ste. 108

E.Jensen provided information to the Board on the letter that Mayor Holm and the Ankeny City Council has sent to Alleman City officials regarding their proposed annexation.

There being no further business, motion by J.Baxter to adjourn the meeting. Second by M.Ott. Meeting adjourned at 5:14 p.m.



Submitted by Brenda Fuglsang, Board Secretary
Zoning Board of Adjustment



ZONING BOARD OF ADJUSTMENT

November 22, 2022

5 : 00 PM



ORIGINATING DEPARTMENT:

Planning and Building

COUNCIL GOAL:

Ensure Economic Vitality

ACTION REQUESTED:

Public Hearing

LEGAL:

SUBJECT:

#22-20

Mark Van De Pol

for property located at

4904 NE Trilein Drive

Lot 23, North Prairie Bend Plat 1

RE: Variance - Rear Yard Setback

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

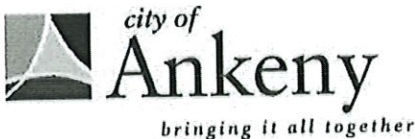
PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Click to download
 #22-20 -Applicant Submittal
 Staff Report



#22-20

APPLICATION FOR APPEAL ZONING BOARD OF ADJUSTMENT

Applicant is: ☒ Property Owner ☐ Tenant ☐ Other _____

Applicant Mark Van De Pol

Address / Phone # 4904 NE Trilen Drive /

E-mail mlvandepol@gmail.com

Property Owner Mark and Tina Van De Pol

Address / Phone # 4904 NE Trilein Drive /

E-mail mlvandepol@gmail.com or tinavandepol@yahoo.com

(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:

I hereby appeal from the decision of the Zoning Administrator rendered on _____ day of _____, 20____

Location (address) of the proposed variance 4904 NE Trilein Drive

Legal description (Plat & Lot #) _____

Zoning R-2 Principal Use of property Residential home

I request a variation from the current zoning requirement for:

☐ Front Yard ☐ Side Yard ☒ Rear Yard ☐ Fence ☐ Sign ☐ Parking ☐ Height
☐ Other _____

Ankeny Zoning code Section # _____ which state(s) Iowa

I would propose the following in lieu of that required: We ARE REQUESTING TO CONVERT OUR COVERED DECK INTO

A 3 SEASON DECK. WE WERE TOLD THAT WE WERE ROUGHLY 2 FT OVER THE REQUIRED 35FT REAR SET BACK. THIS NEW COVERED DECK WILL BLEND WITH THE HOMES IN THE NEIGHBORHOOD.

Attached hereto and made a part of this appeal, I submit the following:

- A statement indicating the reasons for my appeal.
- A drawing showing proposed variance requested.
- A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review.



AFFIDAVIT

State of Iowa) ss
County of Polk)

I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Mark Van De Pol
(Signature of Applicant)

Signed and sworn to before me, this
26 day of October, 2022.
[Signature]
(Notary Public)

RECEIVED

OCT 31 2022

Office Use Only

Date received _____

Paid ☐ Cash ☒ Check # 6349 7/20.00

Filing # 22-20

Scheduled Meeting Date 11-22-22

City of Ankeny
Permit/ Zoning Department
1210 NW Prairie Ridge Dr.
Ankeny, IA 50023

Letter of Intent for Zoning Variance For:

Mark and Tina Van De Pol
4904 NE Trilein Dr
Ankeny, IA 50021

Dear Planning & Zoning Members,

We are requesting a variance for the above address to seek relief of the required rear yard setback. After we had requested our permit we were informed that we would be roughly two feet over the required 35' rear set back. The proposed reduction of the rear yard setback would allow us to convert our covered deck into a 3 season deck. This would improve the looks of our home and stay with character of the surrounding homes along Northeast 49th and Trilein drive.

Due to the required rear set back of 35 ft. This would deprive us rights and privileges currently enjoyed on this site. We bought this residence with the cover deck already existing and was told by previous owners who had built the home that the cover deck was included when the home was built.

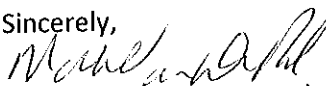
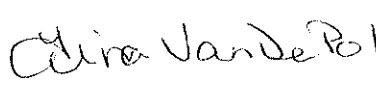
Granting us this variance will not be materially detrimental to the public welfare or injurious to the property or improvements in the zoning district in which the residence is located.

The granting of the variance would have no effect on any adjoining properties. This zoning relief requested will not cause any detriment to the common good.

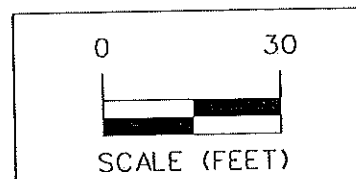
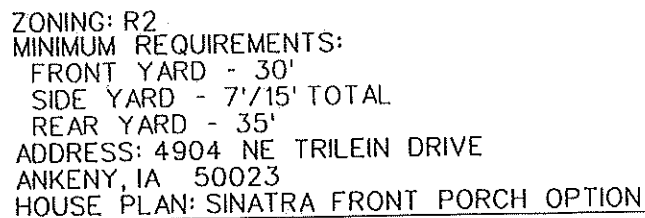
The requested variance would be consistent with the this Chapter and the City of Ankeny permit and Zoning Plan as the new converted deck being built will blend with the homes in the neighborhood and will enhance the visual appearance of the neighborhood and community.

Thank you for your consideration,

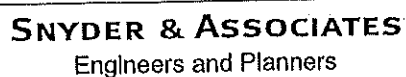
Sincerely,

 
Mark and Tina Van De Pol
Property owners

NE TRILEIN DRIVE



LOT 23, NORTH PRAIRIE BEND PLAT 1



2727 S.W. SNYDER BLVD.
ANKENY, IA 50023 (515) 964-2020

TECH: SLG

PARTS LEGEND

 2IN1/4IN1

 VERTICAL CHANNEL

 EXISTING POST

 L-ANGLE

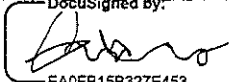
 CORNER

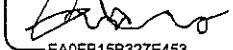
INSTALLER'S LAYOUT

VERIFY ALL FILL MEASUREMENTS BEFORE CUTTING

NOTICE: * DBL-CHECK BOM *

THIS JOB HAS NOT BEEN CONFIRMED.
PLEASE EMAIL AN APPROVAL WHEN READY TO ORDER.

Designed By: 

RELEASE
APPROVED BY: 

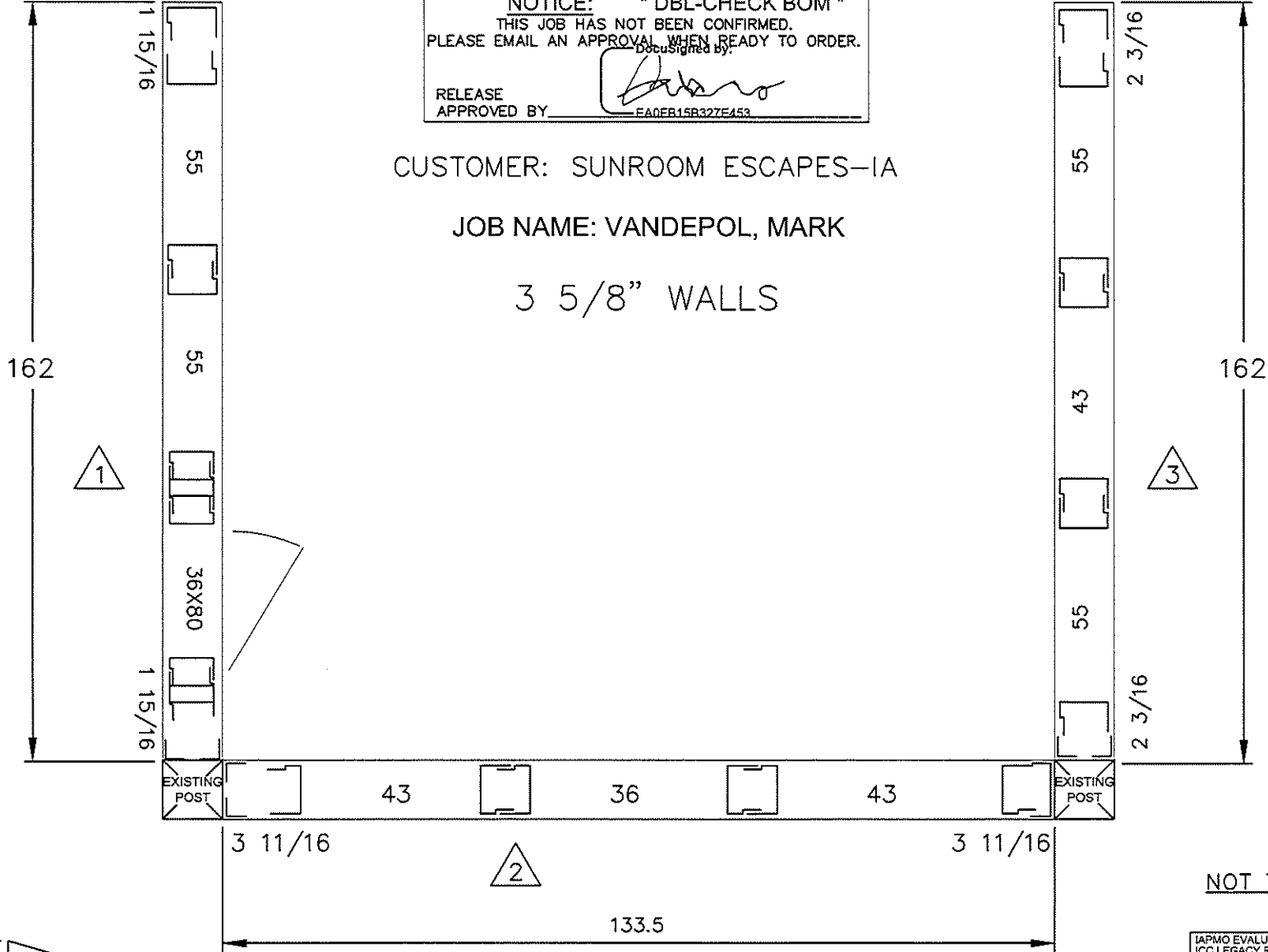
FA0EB15B327E453

CUSTOMER: SUNROOM ESCAPES-IA

JOB NAME: VANDEPOL, MARK

3 5/8" WALLS

Today's Date: SEP 09, 2022



SUNRMESC

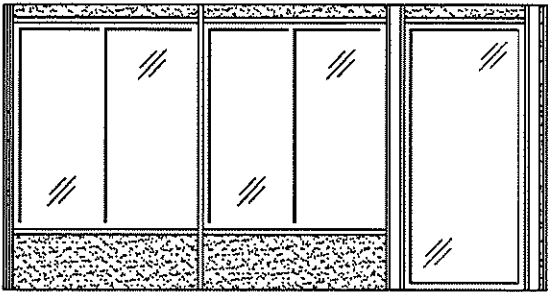
NOT TO SCALE

IAPMO EVALUATION REPORT 0118
ICC LEGACY REPORT ESR-1801
IAPMO EVALUATION REPORT 673
ICC EVALUATION REPORT ESR-1403
FLORIDA PRODUCT APPROVAL 10829-R5
FLORIDA PRODUCT APPROVAL 7086-R6
FLORIDA PRODUCT APPROVAL 7082-R6
FLORIDA PRODUCT APPROVAL 12671-R6
FLORIDA PRODUCT APPROVAL 3857-R2

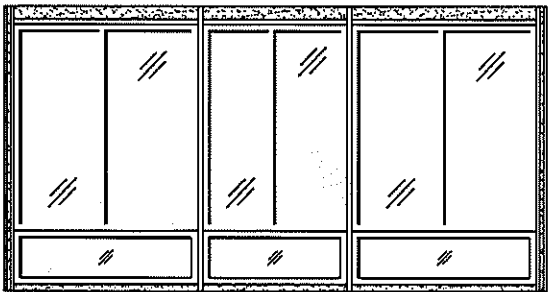
22W4351

DETAILED BY: ZACH RUGENSTEIN

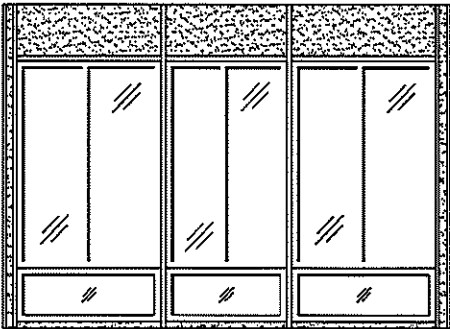
Today's Date: SEP 09, 2022



1



3



2

ELEVATIONS

ALL TEMO SUNROOMS ARE
DESIGNED IN ACCORDANCE
WITH THE 2009 IRC.
NOTE: ALL OPERATING GLAZING
PRODUCTS SUPPLIED BY TEMO
SUNROOMS INCLUDE TEMPERED
HPG-2000 GLASS THAT CONFORMS
WITH SECTION R308 OF THE IRC.

DEALER: SUNRMESC 22W4351 PH. ()

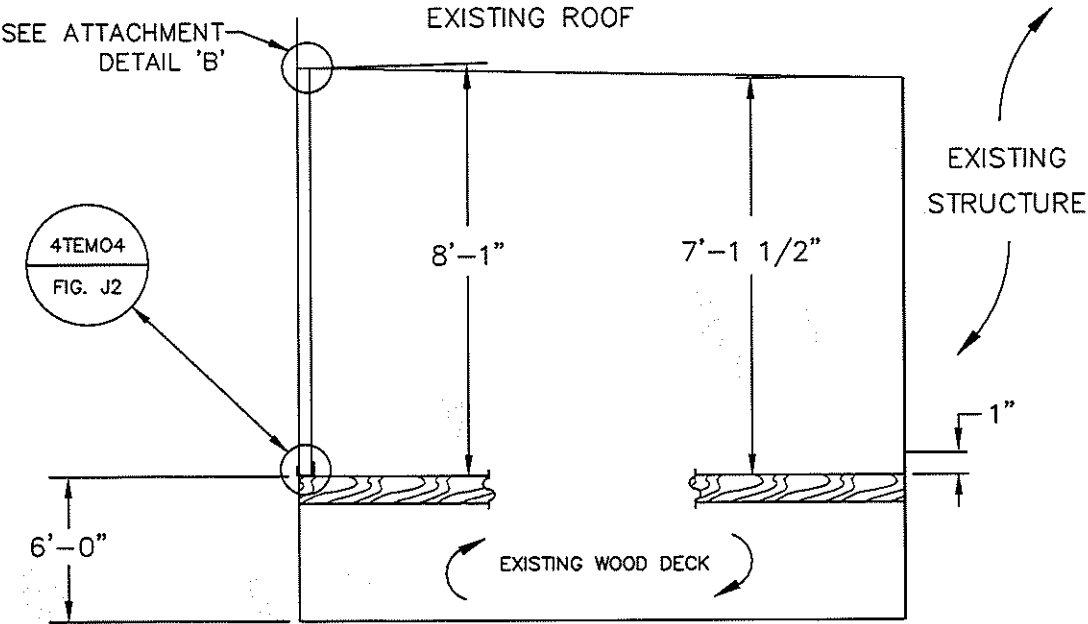
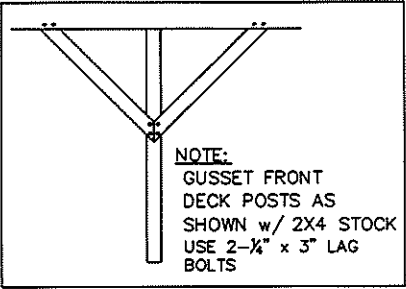
VANDEPOL, MARK

4904 NE TRILEIN DR
ANKENY, IA 50021

DRAWN BY: ZACH RUGENSTEIN ON: 09/09/22 SCALE: NONE

TEMO SUNROOMS, INC.
20400 HALL RD
CLINTON TWP, MI 48038
PHONE: (800) 344-8366

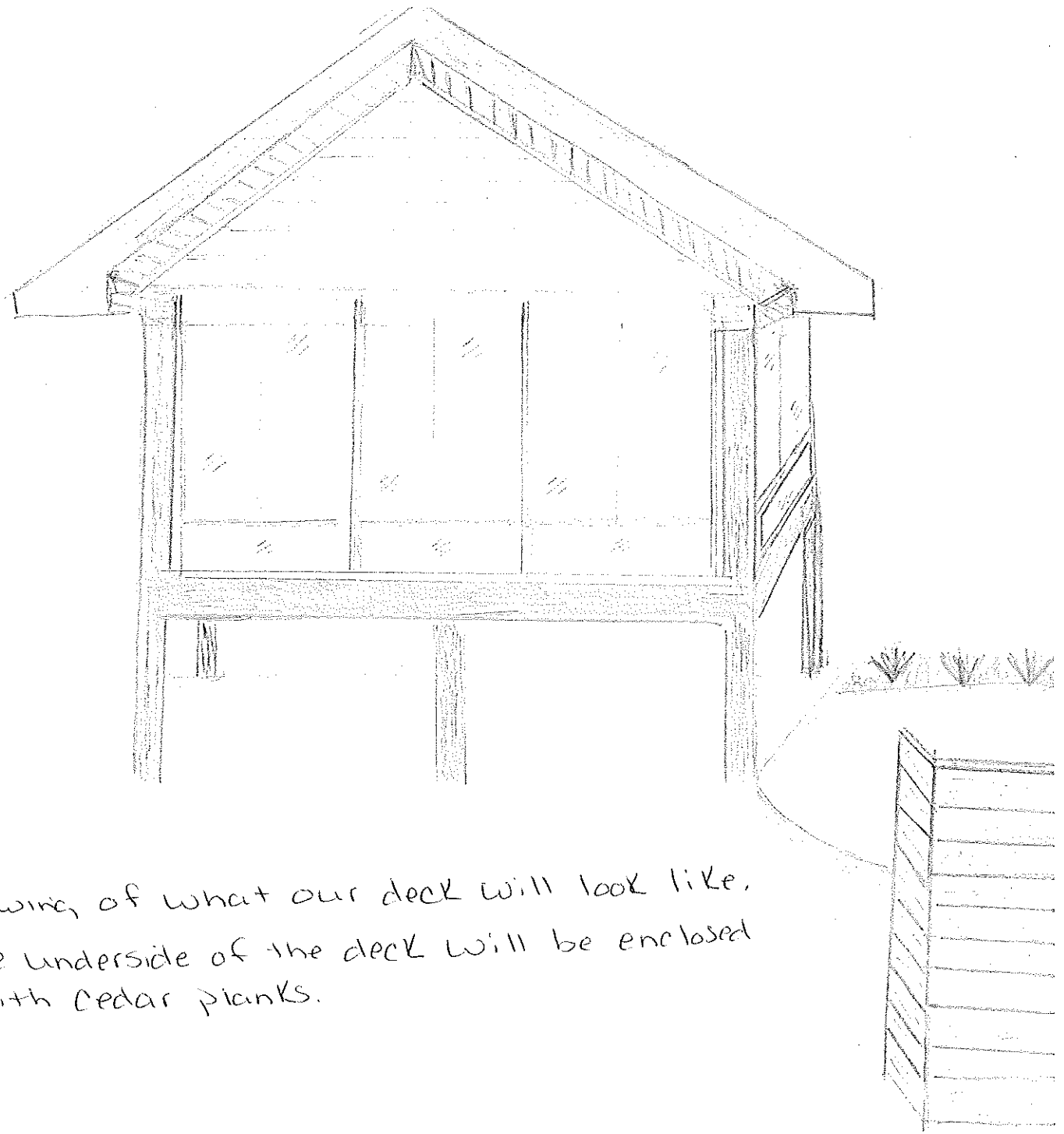
GUSSET DETAIL



SECTION 'A'

Today's Date: SEP 09, 2022

DEALER: SUNRMESC 22W4351 PH. ()		TEMO SUNROOMS, INC.	
VANDEPOL, MARK		20400 HALL RD	
4904 NE TRILEIN DR		CLINTON TWP, MI 48038	
ANKENY, IA 50021		PHONE: (800) 344-8366	
DRAWN BY: ZACH RUGENSTEIN		ON: 09/09/22	
		SCALE: NONE	



Drawing of what our deck will look like.

- The underside of the deck will be enclosed with cedar planks.

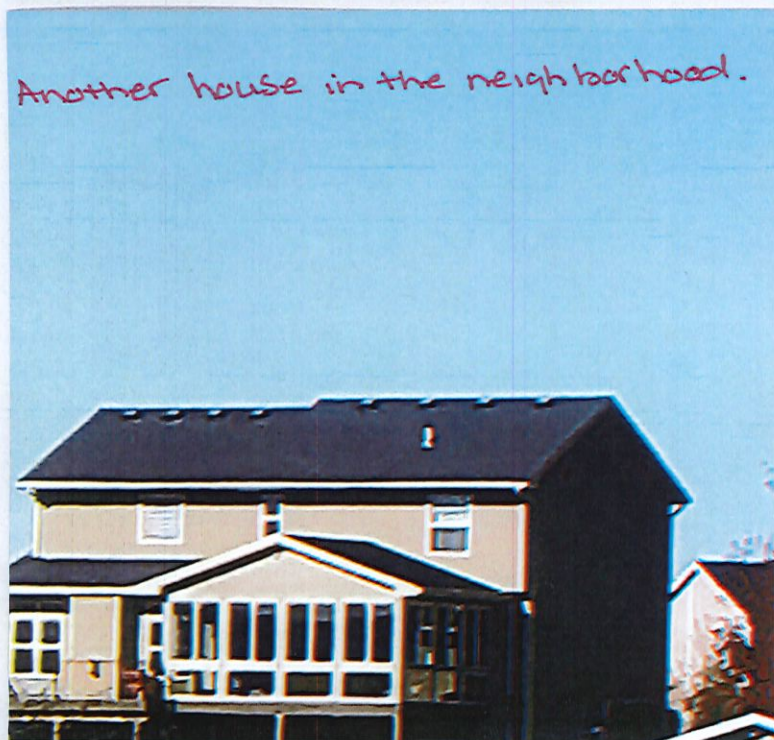
4904 NE Trilein Dr.



Our Home



Another house in the neighborhood.



Our back yard
neighbor



Our back Deck





N



1 inch = 100 feet

Date: 11/9/2022

4904 NE Trilein Drive
Variance Request - Rear Yard Setback

**CITY OF ANKENY
ZONING BOARD OF ADJUSTMENT
COMMUNITY DEVELOPMENT DEPARTMENT STAFF REPORT**

To: Members of the Zoning Board of Adjustment
From: Bryan Morrissey, Associate Planner
Filing #: 22-20
Meeting Date: November 22, 2022 *ESC*
Address: 4904 NE Trilein Drive

APPELLANT REQUEST

A variance to Ankeny Municipal Code Section 192.05(3)(E) that requires Rear Yard: 35-feet, allowing a 32-foot rear yard setback for a three-seasons covered deck at 4904 NE Trilein Drive.

STAFF POSITION

That the Zoning Board of Adjustment grant a variance to Ankeny Municipal Code Section 192.04(3)(E) to allow a 32-foot rear yard setback for the conversion of an existing covered deck into a three-seasons covered deck at 4904 NE Trilein Drive.

Staff's position is based on a determination that the decreased rear yard setback from the resulting three-seasons covered deck would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

PROJECT SUMMARY

The subject property is located at 4904 NE Trilein Drive, south of NE 54th Street and east of N Ankeny Boulevard within the northeastern quadrant of Ankeny. The subject property is zoned R-2, One-Family and Two-Family Residence District w/Restrictions and is situated on Lot 23 of North Prairie Bend Plat 1.

The applicant is requesting a variance to encroach approximately 3-feet into the 35-foot rear yard setback that will allow the owners to convert their existing covered deck into a three-seasons covered deck. The covered deck on the property was constructed when the home was built in 2009; however, the original plans reviewed by staff at the time did not indicate that the deck was covered. Therefore, the covered deck extended into the rear yard setback even though it was not allowed by Code. The existing covered deck was not recognized by City Staff until the current property owners filed an application to convert the covered deck into a three-seasons deck. At that point, staff informed the applicant that the covered deck was not originally permitted and that a variance would be needed to convert it into a three-seasons deck. Should the variance for the three-seasons covered deck be approved, a 32-foot rear yard setback will be the resulting setback on the west side of the property.

PROJECT REPORT

Criteria for Variance

197.01(4) Powers and Duties.

B. To grant a variation in the regulations when a property owner can show ...that by reason of exceptional narrowness, shallowness, or shape of a specific piece of property or by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of this title actually prohibits the use of this property in the district; and that the board is satisfied under the evidence before it that a literal enforcement of the provisions of this title would result in unnecessary hardship; provided, however, that all variations granted under this clause shall be in harmony with the intended spirit and purpose of this title.

FINDINGS OF FACT

The subject property at 4904 NE Trilein Drive is generally located south of NE 54th Street and east of N Ankeny Boulevard on Lot 23 of North Prairie Bend Plat 1. The subject property is zoned R-2, One-Family and Two-Family Residence District w/Restrictions and contains a single-family home with an attached covered deck on the west side of the .325-acre lot. Neighboring properties in all directions are also zoned R-2 w/Restrictions and contain single family homes on similarly sized lots. Permit records indicate that the house on the property was constructed in 2009; however, the original plans indicated that the deck on the site was unenclosed which staff now recognizes was incorrect. Per Code, unenclosed decks are allowed to extend up to twelve feet into the rear yard setbacks, while covered decks are not permitted in rear yard setbacks.



View of the existing covered deck from the southwest



View of the existing covered deck from the south

Recently, a contractor on behalf of the property owners submitted a permit application to City Staff to convert the existing covered deck into a three-seasons covered deck. After reviewing the permit application, it came to staff's attention that the existing covered deck on the site had not been previously permitted, as there was no indication on the original building plans that the deck was covered. Staff informed the applicant that a variance would be needed to approve the plans to convert the deck into a three-seasons deck, as its current location extends approximately two feet into the rear yard setback.

As indicated by the applicant on their submitted site plan, the existing covered deck totals 168 square-feet in size and extends west towards the rear property line. At its furthest point, the deck extends approximately two feet into the 35-foot rear yard setback, leaving roughly 33 feet of open space between the existing deck and the neighboring property line. Staff is not concerned about the applicant converting the deck into a three-seasons deck, primarily because the structure will be staying in its current location. As previously mentioned, the covered deck, although not previously permitted, has been in its current position for more than a decade without any formal complaints being received by the City. Converting it into a three-seasons deck while keeping it in its current location should not have any measurable impact on the surrounding properties. Should the variance be approved, the deck will not be moving from its current position, and the amount of space between the three-seasons deck and the neighboring properties will stay the same.



View from the southwest showing the distance the between the covered deck and neighboring properties

Furthermore, similar variance requests have been approved by the Zoning Board of Adjustment in the past. The most recent being in June of 2022, which allowed a covered deck to extend 10-feet 8-inches into a rear yard setback. As is standard procedure for these kinds of requests, all property owners within 250' of the subject property were notified of the proposed variance by mail, and to date, staff has not received any correspondence either for or against the variance.

The staff position is to grant a variance to Ankeny Municipal Code Section 192.04(3)(E) to allow a 32-foot rear yard setback for the conversion of an existing covered deck into a three-seasons covered deck at 4904 NE Trilein Drive. Staff's position is based on a determination that the decreased rear yard setback from the resulting three-seasons covered deck would not impair adequate supply of air and light, would not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.



ZONING BOARD OF ADJUSTMENT

November 22, 2022

5 : 00 PM

 [Print](#)

ORIGINATING DEPARTMENT:

Planning and Building

COUNCIL GOAL:

Ensure Economic Vitality

ACTION REQUESTED:

Public Hearing

LEGAL:

SUBJECT:

#22-15, #22-16, #22-17, #22-18

GSS, Inc.

for property located at

3950 N Ankeny Boulevard

approximately 304 feet west of N Ankeny Blvd. and 333 feet north of NW Autumn Crest Drive

RE: #22-15 Variance - Height

#22-16 Variance - Rear Yard Setback

#22-17 Special Use Permit

#22-18 Conditional Use Permit

EXECUTIVE SUMMARY:

FISCAL IMPACT: **No**

STAFF RECOMMENDATIONS:

PREVIOUS COUNCIL/COMMISSION/BOARD ACTION(S):

PUBLIC OUTREACH EFFORTS:

ACTION REQUESTED:

ADDITIONAL INFORMATION:

ATTACHMENTS:

Click to download	
	#22-15 Height - Submittal
	#22-16 Rear Yard Setback - Submittal
	#22-17 Special Use - Submittal
	#22-18 Conditional Use - Submittal
	Site Plan
	Staff Report

22-15



APPLICATION FOR APPEAL ZONING BOARD OF ADJUSTMENT

Applicant is: ☐ Property Owner ☐ Tenant ☒ Other Agent
Applicant Albert Aguirre GSS Inc. (Humberto)
Address / Phone # 3311 109th St. Urbandale, Ia 50322
E-mail AAguirre@GSSMidwest.com
Property Owner Tony + Terry Johnson
Address / Phone # 3950 N. Ankeny Blvd.
E-mail tojostang@gmail.com
(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:

I hereby appeal from the decision of the Zoning Administrator rendered on _____ day of _____, 20____
Location (address) of the proposed variance 3950 N. Ankeny Blvd.
Legal description (Plat & Lot #) Lot 1 Johnson estates Plat 1
Zoning C2 Principal Use of property Residential

I request a variation from the current zoning requirement for:

☐ Front Yard ☐ Side Yard ☐ Rear Yard ☐ Fence ☐ Sign ☐ Parking ☒ Height
☐ Other _____

Ankeny Zoning code Section # 192.09 which state(s) max Height 45 feet

I would propose the following in lieu of that required: A total tower Height of 120 feet. A variance of 75 feet is needed

Attached hereto and made a part of this appeal, I submit the following:

- a) A statement indicating the reasons for my appeal.
- b) A drawing showing proposed variance requested.
- c) A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review.

AFFIDAVIT

State of Iowa)ss
County of Polk)



I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Humberto Aguirre
(Signature of Applicant)

Signed and sworn to before me, this
4th day of October, 2022
Lori A German
(Notary Public)

RECEIVED		Office Use Only	
Date received _____	Paid ☐ Cash ☒ Check # <u>45680</u>	Scheduled <u>\$240.00</u>	
Filing # <u>22-15 OCT 04 2022</u>	Meeting Date <u>11-11-2022</u>		

CITY OF ANKENY

22-15



City of Ankeny
Zoning Board of Adjustment
1210 NW Prairie Ridge Drive
Ankeny, Iowa 50023

Re: Variance Request-Height

Members Of the Board of Adjustment,

GSS Inc, is requesting a variance on behalf of Tony and Terry Johnson owners of the parcel located at 3950 N. Ankeny Blvd. Ankeny zoning code section 192.09 states that the max height allowed in zoning district C2 is 45 feet. We are requesting a variance of 75 feet for a total structure height of 120 feet. The structure to be built will be a 120-foot stealth monopole tower to help meet the coverage needs to US Cellular customers.

Thank You

Albert Aguirre
Associate Project Manager



3311 109th Street
Urbandale, IA 50322
515.689.6357 Cell
AAguirre@gssmidwest.com



LETTER OF AUTHORIZATION

PARCEL #: 8024.02.476.004

Street Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

Property Owner(s): Tony Allen & Terry Rae Johnson

The undersigned, registered property owners of the above noted property do hereby authorize:

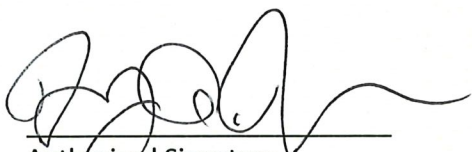
Humberto Aguirre, of GSS Inc.

To act on my behalf and take all actions necessary for the processing, issuance and acceptance of

This permit or certification and any and all standard and special conditions attached.

Property Owners Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.


Authorized Signature


Authorized Signature

Date: 9/27/22

Date: 09/27/2022

September 26, 2022

Mr. Vince Abben
GSS, Inc.
3311 109th Street
Urbandale, IA 50322

RE: 120' Slimline Monopole for NE 36th St Ankeny, IA

Dear Mr. Abben,

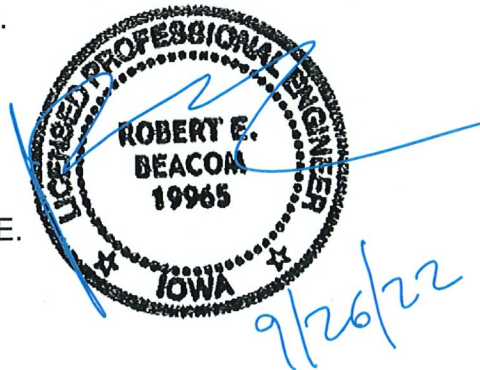
Upon receipt of order, we propose to design and supply the above referenced Sabre slimline for a Basic Wind Speed of 110 mph without ice and 40 mph + 1.5" Ice, Structure Class II, Exposure Category C and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the slimline will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the upper portion of the monopole shaft. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the upper portion of the monopole shaft. This is likely to result in the portion of the monopole above "folding over" onto the portion below, essentially collapsing on itself. Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles. In the unlikely event of total separation, this would result in the portion above collapsing within a radius equal to 25% of the tower height at ground level.

Sincerely,

Robert E. Beacom, P.E., S.E.
Engineering Manager



22-16



APPLICATION FOR APPEAL ZONING BOARD OF ADJUSTMENT

Applicant is: ☐ Property Owner ☐ Tenant ☒ Other Agent
Applicant Albert Aguirre Gss inc. Clumb
Address / Phone # 3311 109th st. Urbandale, Ia
mail AAguirre@gssmidwest.com
Property Owner Tony + Terry Johnson
Address / Phone # 3950 N. Ankeny Blvd.
E-mail Tojostang@gmail.com
(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:

I hereby appeal from the decision of the Zoning Administrator rendered on _____ day of _____, 20____
Location (address) of the proposed variance 3950 N. Ankeny Blvd.
Legal description (Plat & Lot #) Lot 1 Johnson estates Plat 1
Zoning C2 Principal Use of property Residence

I request a variation from the current zoning requirement for:

☐ Front Yard ☐ Side Yard ☒ Rear Yard ☐ Fence ☐ Sign ☐ Parking ☐ Height
☐ Other _____

Ankeny Zoning code Section # 192.08 which state(s) Any rear yard adjoining an R district be buffered by landscaping. 40' rear yard set back.

I would propose the following in lieu of that required: Tower will be setback 31.33' from rear yard. Tower is designed to fall at 25'.

Attached hereto and made a part of this appeal, I submit the following:

- A statement indicating the reasons for my appeal.
- A drawing showing proposed variance requested.
- A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review.

AFFIDAVIT

State of Iowa) ss
County of Polk)



I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Albert Aguirre
(Signature of Applicant)

Signed and sworn to before me, this
4th day of October, 2022.
Lori A German
(Notary Public)

RECEIVED		Office Use Only	
Date received _____	Paid ☐ Cash ☒ Check # <u>45680</u> \$ <u>240.00</u>		
Filing # <u>22-16</u> OCT 04 2022	Scheduled Meeting Date <u>11-22-2022</u>		

CITY OF ANKENY



City of Ankeny
Zoning Board of Adjustment
1210 NW Prairie Ridge Drive
Ankeny, Iowa 50023

Re: Variance Request-Rear Yard Setback

Members Of the Board of Adjustment,

GSS Inc, is requesting a variance on behalf of Tony and Terry Johnson owners of the parcel located at 3950 N. Ankeny Blvd. Ankeny zoning code section 192.08 states that rear yard setbacks for zoning district C2 is 40 feet. The location of the proposed tower will be setback 31.33 feet from the rear yard property line. We are requesting a variance of 8.67 feet. We have provided a letter from the tower engineers stating the if the tower fails under high winds the tower will fall at 25% keeping it within the Johnson parcel and not falling into the neighboring parcel.

Thank You

Albert Aguirre
Associate Project Manager



3311 109th Street
Urbandale, IA 50322
515.689.6357 Cell
AAguirre@gssmidwest.com



LETTER OF AUTHORIZATION

PARCEL #: 8024.02.476.004

Street Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

Property Owner(s): Tony Allen & Terry Rae Johnson

The undersigned, registered property owners of the above noted property do hereby authorize:

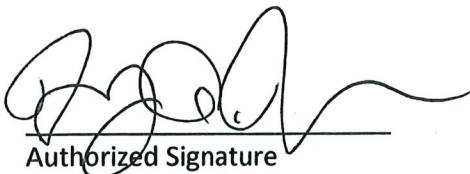
Humberto Aguirre, of GSS Inc.

To act on my behalf and take all actions necessary for the processing, issuance and acceptance of

This permit or certification and any and all standard and special conditions attached.

Property Owners Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.


Authorized Signature


Authorized Signature

Date: 9/27/22

Date: 09/27/2022

September 26, 2022

Mr. Vince Abben
GSS, Inc.
3311 109th Street
Urbandale, IA 50322

RE: 120' Slimline Monopole for NE 36th St Ankeny, IA

Dear Mr. Abben,

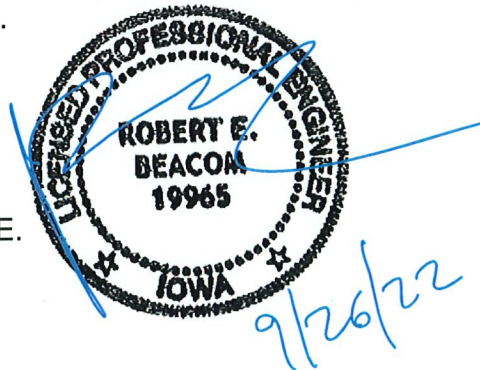
Upon receipt of order, we propose to design and supply the above referenced Sabre slimline for a Basic Wind Speed of 110 mph without ice and 40 mph + 1.5" Ice, Structure Class II, Exposure Category C and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the slimline will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the upper portion of the monopole shaft. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the upper portion of the monopole shaft. This is likely to result in the portion of the monopole above "folding over" onto the portion below, essentially collapsing on itself. Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles. In the unlikely event of total separation, this would result in the portion above collapsing within a radius equal to 25% of the tower height at ground level.

Sincerely,

Robert E. Beacom, P.E., S.E.
Engineering Manager



22-17



APPLICATION FOR ZONING BOARD OF ADJUSTMENT SPECIAL USE PERMIT

Applicant is: ☐ Property Owner ☐ Tenant ☒ Other Agent
 Applicant Albert Aguirre GSS Inc. (Humberto)
 Address / Phone # 3311 109th st, Urbandale, Ia 50322
 E-mail AAguirre@gssmidwest.com
 Property Owner Tony + Terry Johnson
 Address / Phone # 3950 N. Ankeny Blvd.
 E-mail tojosstang@gmail.com
 (Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:

I hereby request authorization for a Special Use Permit:

For (description of use) Stealth monopole tower 120'
 Location (address) of the proposed special use 3950 N. Ankeny Blvd
 Legal description (Plat & Lot #) Lot 1 Johnson estates plat 1
 Zoning C2 Principal use of property (existing) Residential

Attached hereto and made a part of this request, I submit the following:

- A statement indicating the reasons for my request, evidence concerning the feasibility of the proposed request and its effect on surrounding property.
- A site plan drawing defining the areas to be developed for buildings, the areas to be developed for parking, the locations of sidewalks and driveways and the points of ingress and egress, including access streets where required, the location and heights of walls, the location and type of landscaping, and the location, size and number of signs.
- A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review

AFFIDAVIT

State of Iowa)ss
 County of POLK)



I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Humberto Aguirre
 (Signature of Applicant)

Signed and sworn to before me, this

22 day of October, 20 22.
[Signature]
 (Notary Public)

RECEIVED		Office Use Only	
Date received	<u>OCT 04 2022</u>	Paid ☐ Cash ☒ Check # <u>45680</u> \$ <u>180.</u>	
Filing #	<u>22-17</u>	Scheduled Meeting Date	<u>11-22-2022</u>
CITY OF ANKENY			

22-17



City of Ankeny
Zoning Board of Adjustment
1210 NW Prairie Ridge Drive
Ankeny, Iowa 50023

Re: Special Use Request: Cell Tower

Members Of the Board of Adjustment,

GSS Inc, is requesting a special use permit on behalf of Tony and Terry Johnson owners of the parcel located at 3950 N. Ankeny Blvd. US Cellular is looking to increase coverage for their customers located in the northern portions of Ankeny. To increase their coverage here a new tower must be built. We are proposing a 120-foot stealth monopole tower located at 3950 N. Ankeny Blvd.

Thank You

Albert Aguirre
Associate Project Manager



3311 109th Street
Urbandale, IA 50322
515.689.6357 Cell
AAguirre@gssmidwest.com



LETTER OF AUTHORIZATION

PARCEL #: 8024.02.476.004

Street Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

Property Owner(s): Tony Allen & Terry Rae Johnson

The undersigned, registered property owners of the above noted property do hereby authorize:

Humberto Aguirre, of GSS Inc.

To act on my behalf and take all actions necessary for the processing, issuance and acceptance of

This permit or certification and any and all standard and special conditions attached.

Property Owners Address: 3950 N Ankeny Blvd, Ankeny, Iowa 50023

We hereby certify the above information submitted in this application is true and accurate to the best of our knowledge.


Authorized Signature

Date: 9/27/22


Authorized Signature

Date: 09/27/2022

September 26, 2022

Mr. Vince Abben
GSS, Inc.
3311 109th Street
Urbandale, IA 50322

RE: 120' Slimline Monopole for NE 36th St Ankeny, IA

Dear Mr. Abben,

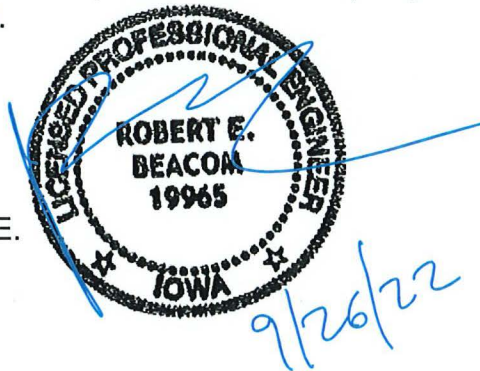
Upon receipt of order, we propose to design and supply the above referenced Sabre slimline for a Basic Wind Speed of 110 mph without ice and 40 mph + 1.5" Ice, Structure Class II, Exposure Category C and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G.

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the slimline will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the upper portion of the monopole shaft. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the upper portion of the monopole shaft. This is likely to result in the portion of the monopole above "folding over" onto the portion below, essentially collapsing on itself. Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Towers & Poles. In the unlikely event of total separation, this would result in the portion above collapsing within a radius equal to 25% of the tower height at ground level.

Sincerely,

Robert E. Beacom, P.E., S.E.
Engineering Manager



22-18



APPLICATION FOR ZONING BOARD OF ADJUSTMENT CONDITIONAL-USE PERMIT

Applicant is: ☐ Property Owner ☐ Tenant ☒ Other Agent

Applicant Humberto (Albert) Aguirre

Address / Phone # 3311 109th St. Urbandale, Ia 50322

E-mail AAguirre@cssmidwest.com

Property Owner Tony + Terry Johnson

Address / Phone # 3950 N. Ankeny Blvd.

E-mail tojostang@gmail.com

(Owner must sign the application or submit a letter of authorization)

To the Members of the Board of Adjustment:

I hereby request authorization for a Special Use Permit:

For (description of use) Building a cell tower structure in a floodway fringe

Location (address) of the proposed special use 3950 N. Ankeny Blvd.

Legal description (Plat & Lot #) lot 1 Johnson estates plat 1

Zoning C2 Principal use of property (existing) Residential

Attached hereto and made a part of this request, I submit the following:

- A statement indicating the reasons for my request, evidence concerning the feasibility of the proposed request and its effect on surrounding property.
- A site plan drawing defining the areas to be developed for buildings, the areas to be developed for parking, the locations of sidewalks and driveways and the points of ingress and egress, including access streets where required, the location and heights of walls, the location and type of landscaping, and the location, size and number of signs.
- A letter of authorization from the owner or lessee, if applicable.

Complete submittals are required for review

AFFIDAVIT

State of Iowa)ss
County of Polk)

I hereby deposit and say that all of the above statements and the statements contained in the papers submitted herewith are true.

Humberto Aguirre
(Signature of Applicant)



Signed and sworn to before me, this
11th day of October, 20 22.
Lori A German
(Notary Public)

Date received <u>RECEIVED</u>	Paid ☐ Cash ☒ Check # <u>45705 \$180.00</u>	Office Use Only
Filing # <u>22-18 OCT 11 2022</u>	Scheduled Meeting Date <u>11-22-2022</u>	

CITY OF ANKENY
BRINGING IT ALL TOGETHER



City of Ankeny
Zoning Board of Adjustment
1210 NW Prairie Ridge Drive
Ankeny, Iowa 50023

Re: Special Use Request: Cell Tower

Members Of the Board of Adjustment,

GSS Inc, is requesting a special use permit on behalf of Tony and Terry Johnson owners of the parcel located at 3950 N. Ankeny Blvd. US Cellular is looking to increase coverage for their customers located in the northern portions of Ankeny. To increase their coverage here a new tower must be built. We are proposing a 120-foot stealth monopole tower located at 3950 N. Ankeny Blvd. The tower is going to be located in a flood plain. The BFE as determined by Iowa DNR is 946.1' all our equipment will be built above the 947.1' high-damage potential height that was determined by the Iowa DNR.

Thank You

Albert Aguirre
Associate Project Manager



3311 109th Street
Urbandale, IA 50322
515.689.6357 Cell
AAguirre@gssmidwest.com

Albert Aguirre

From: Ray, Meesha <meesha.legg@dnr.iowa.gov>
Sent: Monday, October 10, 2022 9:25 AM
To: Albert Aguirre
Subject: Re: 7601333 NE 36th St. Ankeny

Hi Albert,

There was a floodway offset for that stream listed on the BFE letter. I didn't note whether the location was in or out because often people will list the approximate coordinates.

Let me know if there are any other questions!

Meesha Legg



iowadnr.gov

Meesha Legg | Environmental Engineer
Flood Plain and Dam Safety Section
Iowa Department of Natural Resources
P: 515-393-1891
502 E. 9th Street, Des Moines, IA 50319



On Mon, Oct 10, 2022 at 9:15 AM Albert Aguirre <AAguirre@gssmidwest.com> wrote:

Good morning Meesha,

I am reaching out to you regarding Iowa DNR Project ID Number: 2022-0695 Location: 3950 N Ankeny Blvd. Ankeny, IA 50023.

The City of Ankeny is asking me to determine if this location is in the floodway or floodway fringe as they have city regulations for building there.

Is there anywhere I can look to find this information?

Thank You

Albert Aguirre

Associate Project Manager



6/13/2022

COMPLETE DESIGN SOLUTIONS
C/O DALTON CREACH
637 CORNETT BRANCH RD.
LAKE OZARK, MO 65049

Project Description: Proposed site for monopole and equipment compound. Need BFE to determine equipment platform height. 3950 N Ankeny Blvd. Ankeny, IA 50023.; (Unnamed Stream)

Project Latitude / Longitude Location(s): Buildings and Associated Fill 41.7638/-93.6009; Polk County

Iowa DNR Project ID Number: 2022-0695

Dear Dalton Creach:

This is in reference to your request for determination of the "100-year" flood elevation (a.k.a. the base flood elevation, or BFE) for the existing structure / property identified on your application. The Flood Insurance Rate Map (FIRM) for Polk County shows a portion of this property as being in the Special Flood Hazard Area (SFHA).

Based on the information available, we estimate the current existing condition 100-year flood elevation to be 946.1', NAVD88 at the upstream parcel boundary of the location referenced above. The floodway offset at this upstream boundary is 17 feet from the left (north) top of bank. The minimum elevation for any structures deemed as high-damage potential is 947.1'. You may download additional copies, or verify the Iowa DNR Flood Plain and Dam Safety Section (Department) official response document(s) for this project at the Iowa DNR Flood Plain PERMT website using the tracking number above. (PERMT Website Address: <https://programs.iowadnr.gov/permt/>)

Please be aware when planning future construction that elevating beyond the required 1 foot above the BFE will not only reduce flood risk, but might also result in lower flood insurance rates.

Please contact me by phone at 515-393-1891 or by email at Meesha.Legg@dnr.iowa.gov with any questions.

Sincerely,

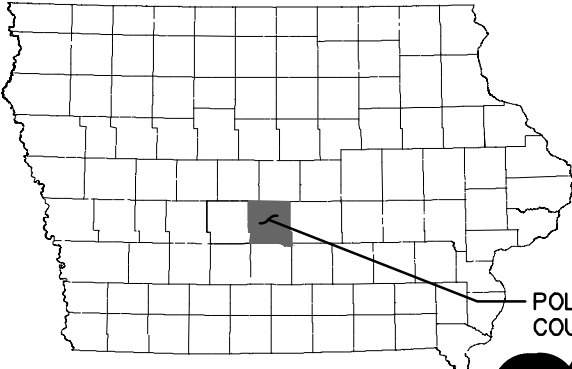
Meesha Legg

Digitally signed by
Meesha Legg
Date: 2022.06.13
14:54:50 -05'00'

Meesha Legg

Flood Plain Management and Dam Safety Section

STATE MAP



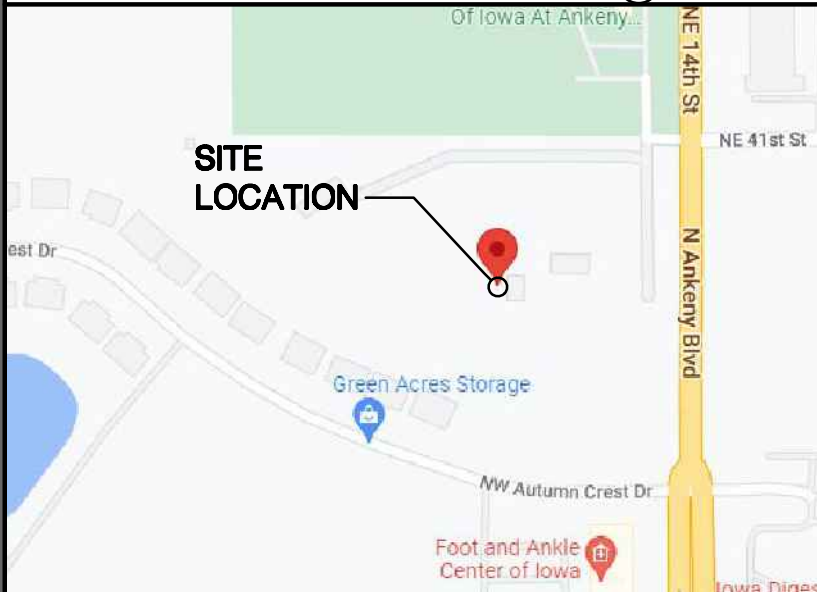
POLK COUNTY





1-800-522-6543

LOCATION MAP



SITE LOCATION

PROFESSIONAL CERTIFICATION

I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

(SIGNATURE)

(DATE)

NAME: _____

LICENSE NUMBER: _____

MY LICENSE RENEWAL DATE IS: _____

PAGES OR SHEETS COVERED BY THIS SEAL: T-1, N-1, N-2, N-3, N-4, N-5, N-6, N-7, C-1.0, C-2.0, C-1.2, C-3.0, C-4.0, C-5.0, C-5.1, C-5.2, C-5.3, C-5.4, C-5.5, C-6.0, C-7.0, C-7.1, C-7.2, C-8.0, C-9.0, C-9.1, C-9.2, C-10.0, C-10.1, C-11.0, C-12.0, C-13.0

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGN FIRM IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



7601333

ANKENY NE 36TH

3950 N. ANKENY BLVD, ANKENY, IA, 50023 - POLK COUNTY

PROJECT # 22-06-04

NEW SITE BUILD

ACCESS AND LOCATION INFORMATION

LATITUDE: N41° 45' 49.27" (41.763686°)

LONGITUDE: W93° 36' 05.76" (-93.601600°)

ELEVATION AT GRADE: 943'

TOWER TYPE: STEALTH MONOPOLE

SPECIAL ACCESS ISSUES: N / A

GATE COMBO: 8722

SCOPE OF WORK

TOWER SCOPE:

PROPOSED U.S. CELLULAR TOWER EQUIPMENT: W5.1020 (NO B5)

PROPOSED DESIGN: TM-2T2R

- (3) OCT8-2LX2HX-BW65 ANTENNA
- (1) 1-1/4"Ø HYBRID CABLE
- (1) RAYCAP RUSDC-6267-PF-48
- (4) 4480 - RRU
- (1) 30' STEALTH CANISTER

GROUNDING:

- TOP TOWER GROUND BAR
- BOTTOM GROUND BAR

GROUND LEVEL WORK:

PROPOSED U.S. CELLULAR STEALTH MONOPOLE

PROPOSED U.S. CELLULAR ACCESS DRIVE.

PROPOSED U.S. CELLULAR CHAIN LINK FENCE.

PROPOSED U.S. CELLULAR 10'x12' STEEL PLATFORM w/ OUTDOOR EQUIPMENT CABINETS.

PROPOSED U.S. CELLULAR RAYCAP MOUNTED TO PROPOSED H-FRAME

PROPOSED U.S. CELLULAR ICE BRIDGE AND FRAMING.

PROPOSED U.S. CELLULAR ELECTRICAL SERVICE AS OUTLINED IN THE ATTACHED PLANS.

PROPOSED U.S. CELLULAR COMMUNICATION SERVICE AS OUTLINED IN THE ATTACHED PLANS.

PROJECT DESCRIPTION DOES NOT INCLUDE ALL EQUIPMENT & MATERIALS FOR A COMPLETE INSTALLATION

PROJECT TEAM

PROPERTY OWNER:

TONY ALLEN JOHNSON AND TERRY RAE JOHNSON REVOCABLE TRUST

CONTACT: TONY AND TERRY JOHNSON

(515) 988-5880

PROJECT CONTACT:

U.S. CELLULAR

800 CORNERSTONE DR.

KNOXVILLE, TN 37932

STEVE HATMAKER

PROJECT MANAGER:

GSS, INC.

3311 109TH ST

URBANDALE, IA 50322

ALBERT AGUIRRE

(515) 689-6357

DESIGN FIRM:

PBM WIRELESS SERVICES

3620 DEVELOPERS ROAD

INDIANAPOLIS, IN 46227

(815) 931-5288

JEFF PFAFF

POWER PROVIDER:

MID-AMERICAN ENERGY

(888) 427-5632

FIBER PROVIDER:

UPN

PROJECT SUMMARY

JURISDICTION:

ANKENY, IA

CURRENT ZONING:

C-2

PARCEL NUMBER:

181/00219-090-001

CODE COMPLIANCE

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

TIA/EIA-222G OR LATEST EDITION IECC (2015) NEC (2014) IFC (2015) IBC (2015)

SHEET INDEX		
SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	3
N-1	GENERAL NOTES	3
N-2	GENERAL NOTES	3
N-3	GENERAL NOTES	3
N-4	GENERAL NOTES	3
N-5	GENERAL NOTES	3
N-6	GENERAL NOTES	3
N-7	SYMBOLS & ABBREVIATIONS	3
C-1.0	PARTIAL SITE PLAN	3
C-2.0	COMPOUND PLAN	3
C-2.1	LANDSCAPE PLAN	3
C-3.0	ELEVATION	3
C-4.0	ANTENNA INFORMATION & DETAILS	3
C-4.1	RDP INFORMATION (REF ONLY)	3
C-4.2	RF PLUMBING DIAGRAM (REF ONLY)	3
C-4.3	RAYCAP INFORMATION (REF ONLY)	3
C-4.4	EQUIPMENT INFORMATION (REF ONLY)	3
C-4.5	EQUIPMENT INFORMATION (REF ONLY)	3
C-4.6	HYBRID & CBL COLOR CODING (REF ONLY)	3
C-4.7	CABLING INFORMATION (REF ONLY)	3
C-4.8	CABLING INFORMATION & DETAILS (REF ONLY)	3
C-5.0	EQUIPMENT PLAN & DETAILS	3
C-5.1	PLATFORM DETAILS	3
C-5.2	PLATFORM DETAILS	3
C-5.3	PLATFORM DETAILS	3
C-5.4	EQUIPMENT CABINET DETAILS	3
C-5.5	EQUIPMENT CABINET DETAILS	3
C-6.0	ICE BRIDGE & DETAILS	3
C-7.0	FENCE DETAILS	3
C-7.1	FENCE DETAILS	3
C-7.2	DETAILS	3
C-8.0	ACCESS ROAD PLANS	3
C-9.0	UTILITY SITE PLAN	3
C-9.1	ONE-LINE DIAGRAM	3
C-9.2	EQUIPMENT SCHEMATIC	3
C-10.0	ELECTRICAL DETAILS	3
C-10.1	ELECTRICAL DETAILS	3
C-11.0	GROUNDING PLAN	3
C-12.0	GROUNDING RISER	3
C-13.0	GROUNDING DETAILS	3
-	-	-
-	-	-
-	SITE SURVEY - SHEETS 1 - 5	C



12020 RIDGEMONT DR.
URBANDALE, IA 50323



JA 08/16/22

INTERNAL REVIEW

JAP

0 08/19/22

CLIENT REVIEW

JAP

1 09/22/22

CLIENT REVIEW

JAP

2 11/07/22

CITY COMMENTS

JAP

3 11/09/22

CITY COMMENTS

JAP

7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD

ANKENY, IA 50023 - POLK COUNTY

NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

SHEET TITLE

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T-1

GENERAL NOTES:

1. THE EXISTING TOPOGRAPHY AND VERTICAL GEOMETRY REPRESENTED ON THESE DRAWNGS IS TO BE VERIFIED BY CONTRACTOR. CONTRACTOR SHALL CONTACT UTILITY LOCATE SERVICES A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION TO IDENTIFY THE EXISTENCE AND LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. CONTRACTOR IS TO IMMEDIATELY NOTIFY ENGINEER OF DISCREPANCIES OR INTERFERENCE THAT WILL EFFECT THIS PROJECT. EXISTING UTILITIES SHALL BE PROTECTED AND REPAIRED @ THE CONTRACTORS EXPENSE IF DAMAGED, EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
2. DAMAGE TO THE EXISTING FACILITY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING ORIGINAL CONDITIONS AT THE CONTRACTOR’S EXPENSE.
3. EXISTING INACTIVE UTILITIES, WHICH PROHIBIT CONSTRUCTION, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AS REQUIRED TO ALLOW CONSTRUCTION TO CONTINUE, COORDINATE WITH PROJECT MANAGER, OWNER, AND /OR LOCAL UTILITY COMPANIES FOR APPROVAL.
4. CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER OF THE CONSTRUCTION START WELL IN ADVANCE (MIN. 1 WEEK) OF THE CONSTRUCTION DATE.
5. INFORMATION ON TOWER STRUCTURE, FOUNDATIONS, EQUIPMENT, AND/OR SHELTER SHALL BE PROVIDED BY OTHERS.
6. A 20’ HORIZONTAL CLEARANCE SHALL BE MAINTAINED FROM EXISTING POWER LINES TO PROPOSED TOWER COMPOUND.

7. SURVEY INFORMATION REFERENCED IN THESE DRAWINGS COMPLIES WITH FAA ORDER 8260.19D ACCURACY TOLERANCES.
8. PROVIDE LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR, AND INCIDENTAL TO COMPLETION OF WORK AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN.
9. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS SHALL BE GOVERNED BY ACTUAL FIELD CONDITIONS AND/OR INSTRUCTIONS OF THE ENGINEER AND/OR TOWER OWNER’S REPRESENTATIVE.
10. THE CONTRACTOR SHALL FURNISH AND INSTALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICALLY INDICATED OR NOT. SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO OWNER’S ACCEPTANCE.
11. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC., REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.
12. THE CONTRACTOR SHALL MAINTAIN BENCHMARKS, CONSTRUCTION STAKING, AND OTHER ELEVATION CONTROL POINTS AND SHALL REESTABLISH, IF DISTURBED OR DESTROYED, AT NO ADDITIONAL COST TO THE OWNER.

13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND OR RESTORATION OF DAMAGE TO THE EXISTING ACCESS ROADWAY AND ADJACENT SITE AREAS AS A RESULT OF USE DURING CONSTRUCTION. DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF WORK AT THE EXPENSE OF THE CONTRACTOR.
14. THE CONTRACTOR SHALL REMOVE WASTE, DEBRIS AND TRASH FROM SITE AND DISPOSE OF IN A LEGAL MANNER ON A DAILY BASIS.
15. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION STAGING AREA AND PARKING WITH THE PROPERTY OWNER PRIOR TO THE CONSTRUCTION START DATE.
16. CONTRACTOR SHALL VERIFY WITH THE LOCAL AUTHORITIES (CITY, COUNTY, OR STATE) FOR THE GOVERNING BUILDING CODE.
17. THE CONTRACTOR SHALL NOT INTERFERE w/ THE FACILITY’S NORMAL OPERATIONS. ACCESS TO THE WORK AREA SHALL BE AS DIRECTED BY THE FACILITY’S OWNER.
18. THE CONTRACTOR SHALL CONFINE THEIR OPERATIONS TO THE DESIGNATED AREAS AND SHALL KEEP THE CONSTRUCTION AREA CLEAN. AISLES AND PATHWAYS SHALL BE KEPT UNOBSTRUCTED.
19. THE CONTRACTOR SHALL COORDINATE THE WORK OF VARIOUS TRADES SO AS TO INSURE PROPER SEQUENCING AND INSTALLATION.
20. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS:

A. GENERAL INSTRUCTION TO BIDDERS.

B. CELL SITE GROUNDING STANDARD.

C. CONSTRUCTION STANDARDS FOR CELL SITE FACILITIES.

D. ANTENNA AND COAX INSTALLATION & LABELING SCHEME.

ELECTRICAL INSTALLATION NOTES:

1. ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER–STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING AND TI CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2” PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE FACILITY SHALL BE LABELED IN ACCORDANCE WITH OSHA 1910.335(b)(1) AND SAFETY AND ACCIDENT PREVENTION TAGS SHALL BE USED WHERE NECESSARY TO WARN EMPLOYEES OF ELECTRICAL HAZARDS PER OSHA 1910.145.
7. ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH PLASTIC TAPE PER COLOR SCHEDULE. EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (I.E. PANEL BOARD AND CIRCUIT ID’S).
8. PANEL BOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
9. TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (14 AWG OR LARGER), 600 V, OIL RESISTANT THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET & DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.

11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (6 AWG OR LARGER), 600V, OIL RESISTANT THWN–2 GREEN INSULATION CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (14 AWG OR LARGER), 600 V, OIL RESISTANT THWN–2, CLASS B STRANDED COPPER CABLE RATED FOR 90° C (WET AND DRY) OPERATION WITH OUTER JACKET LISTED OR LABELED FOR THE LOCATION USED UNLESS OTHERWISE SPECIFIED.
13. POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75° C (90° C IF AVAILABLE).
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) OR RIGID METALLIC CONDUIT FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), SHALL BE USED FOR CONCEALED INDOOR LOCATIONS WHERE PERMITTED BY NEC.
17. GALVANIZED STEEL RIGID METAL CONDUIT (RMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
18. RIGID NONMETALLIC CONDUIT (I.E. RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
19. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.

21. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
22. WIREWAYS SHALL BE EPOXY–COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER).
23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND RATED NEMA 1 (OR BETTER) INDOORS OR NEMA 3R (OR BETTER) OUTDOORS.
24. 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 RATED NEMA 1 (OR BETTER)
25. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
26. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.
27. UTILITY POLES SHALL BE 35 FT., CLASS 4., UNO OR AS REQUIRED BY LOCAL UTILITY COMPANIES.



12020 RIDGEMONT DR.
URBANDALE, IA 50323



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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 – POLK COUNTY
NEW SITE BUILD – STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AUK

SHEET TITLE
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SITE WORK GENERAL NOTES

1 SITE AREA

- 1.1

VERIFY THAT SITE LOCATION CONFORMS TO THE SITE PLAN. THE FOUR (4) CORNERS OF THE SITE AREA SHALL BE STAKED AND ADEQUATE PRECAUTIONS SHALL BE TAKEN TO PROTECT THEM DURING THE CLEARING OPERATION. IF THE STAKES ARE MISSING OR DO NOT CONFORM TO INFORMATION ON SITE PLAN, CONSULT WITH THE PROJECT MANAGER.
- 1.2

A REGISTERED LAND SURVEYOR UNDER CONTRACT WITH THE TOWER OWNER SHALL STAKE OUT THE SITE AREA, ROAD AND GUY AREAS. CARELESS REMOVAL OF MARKERS, MONUMENTS OR STAKES SHALL BE REPLACED BY THE SURVEYOR AT COSTS TO THE CONTRACTOR.
- 1.3

THE SITE AREA SHALL BE GRADED TO PROVIDE A MAXIMUM SLOPE OF ONE PERCENT (1%) UNLESS OTHERWISE SPECIFIED & CAUSE SURFACE WATER TO FLOW AWAY FROM SHELTER / EQUIPMENT & TOWER AREAS.
- 1.4

GRADING SHALL NOT EXCEED THE LEASED OR PURCHASED PROPERTY LINES. SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- 1.5

EXISTING INACTIVE UTILITIES WHICH PROHIBIT CONSTRUCTION SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AS REQUIRED TO ALLOW CONSTRUCTION TO CONTINUE. COORDINATE WITH PROJECT MANAGER, OWNER, AND /OR LOCAL UTILITY COMPANIES FOR APPROVAL.
- 1.6

FILL OR EMBANKMENT MATERIAL SHALL NOT BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN FILL OR EMBANKMENT.

2 SPECIAL REQUIREMENTS

- 2.1

VERIFY THAT THE ACCESS ROAD RIGHT-OF-WAY AND SITE LOCATION CONFORM TO THE SITE PLAN AND DO NOT EXCEED LEASED OR PURCHASED PROPERTY LINES.
- 2.2

COMPARE SURVEYOR STAKE POSITIONS WITH EXISTING USE OF AREA FOR CONFLICTS.
- 2.3

IF ACCESS ROAD ENTERS ROAD OR HIGHWAY, DETERMINE LOCAL PERMIT OR ENVIRONMENTAL REQUIREMENTS BEFORE CONSTRUCTION TO ENSURE COMPLIANCE.
- 2.4

CLEARING AND GRUBBING SHALL BE RESTRICTED TO AREAS DETERMINED ON SPECIFIC PLAN FOR SITE. AREAS OF 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 PROJECT SPECIFICATIONS AND PER LOCAL MUNICIPALITY REQUIREMENTS.
- 2.5

DISPOSAL OF ITEMS REMOVED SHALL BE IN ACCORDANCE WITH THE PROJECT MANAGER AND/OR LOCAL ORDINANCES.
- 2.6

SITE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE TOWER OWNER TECHNICAL SPECIFICATIONS FOR SITE SIGNAGE & LOCAL SIGN ORDINANCES/REQUIREMENTS.

3 ACCESS ROAD

- 3.1

VERIFY WITH THE LANDOWNER (IF OTHER THAN TOWER OWNER), BEFORE STARTING CONSTRUCTION TO ENSURE THEIR UNDERSTANDING OF CONSTRUCTION ACTIVITY.
- 3.2

ROAD SHALL BE CONSTRUCTED PROPERLY WITH RESPECT TO LINES AND GRADES. EACH SITE SHALL HAVE DIFFERENT CONSIDERATIONS DURING CONSTRUCTION TO AVOID PROBLEMS IN THE FUTURE (I.E. SWAMPS, BOGS, STEEP INCLINES, UNSTABLE SOIL, SOLID ROCK AND LAYERED ROCK). ROAD SHALL BE BUILT-UP AND CROWNED. DEEP INITIAL CUTS SHALL BE AVOIDED. REFERENCE DETAILS FOR TYPICAL CROSS SECTION.
- 3.3

SUITABLE BASE COARSE MATERIALS SHALL BE USED. REFERENCE DETAILS FOR TYPICAL CROSS SECTION SHOWING PREFERRED MATERIALS.

- 3.4

BASE COARSE SHALL BE APPLIED IN MAXIMUM 5" LAYERS AND COMPACTED. THE MATERIAL SHALL BE DAMP FOR GOOD COMPACTING.
- 3.5

IN SITUATIONS WHERE WATER IS PREVALENT NEAR THE SURFACE (SUB-GRADE), THE USE OF 6 OZ. GEOTEXTILE BY TENCATE OR EQUIVALENT TYPE MATERIAL, TO RETAIN SOIL AND PERMIT WATER TO FLOW IS REQUIRED. LARGE BASE MATERIAL MINIMUM 4" SHALL BE USED.
- 3.6

IF THE AREA WHERE THE ACCESS ROAD IS BEING CONSTRUCTED IS BEING USED FOR ANIMAL CONTAINMENT, SAFEGUARDS SHALL BE TAKEN TO PREVENT THEIR ESCAPE UNTIL PERMANENT GUARDS OR FENCING CAN BE INSTALLED.
- 3.7

CHANGES IN METHODS OR MATERIALS MUST BE APPROVED IN ADVANCE BY THE PROJECT MANAGER.

4 DRAINAGE

- 4.1

DRAINAGE DITCHES SHALL BE DEEP AND WIDE ENOUGH TO CONTROL THE WATER RUN OFF. CHECK DAMS SHALL BE INSTALLED IN DITCHES ON SLOPES OF GREATER THAN 10 PERCENT (10%).
- 4.2

DRAINAGE DITCHES SHALL NOT CREATE WATER PROBLEMS WITH THE LANDLORD OR LOCAL RESIDENTS. LOCAL PERMITS AND ENVIRONMENTAL REQUIREMENTS MUST BE VERIFIED PRIOR TO DE-WATERING.
- 4.3

DRAINAGE DITCHES SHALL BE PROTECTED FROM EROSION WITH SEEDING, RIP-RAP OR SOD AS REQUIRED BY LOCAL REQUIREMENTS.
- 4.4

CULVERTS SHALL BE INSTALLED ACCORDING TO THE SITE PLAN AND SITE CONDITIONS. VERIFY WITH THE HIGHWAY DEPARTMENT TO DETERMINE THE TYPE AND SIZE OF CULVERT REQUIRED WHEN THE ACCESS ROAD ENTERS A ROAD OR HIGHWAY. CULVERTS AT THE ENTRANCE TO THE ACCESS ROAD SHALL BE A MINIMUM 18" DIAMETER AND 32' IN LENGTH.
- 4.5

CULVERTS SHALL HAVE SUFFICIENT COVER OVER THE PIPE SO THAT THE MOUTH OF THE CULVERT IS PROTECTED AGAINST JAMMING OR COLLAPSE.
- 4.6

CULVERTS SHALL HAVE, AT EACH END, A MINIMUM 30 SQ FT LAYER OF 5" ROCK.
- 4.7

ADEQUATE PROVISIONS SHALL BE TAKEN FOR WATER DRAINAGE IN LOW-LYING AREAS.
- 4.8

IN THE OCCURRENCE OF LOCATING EXISTING FIELD TILE: CARE MUST BE TAKEN BY CONTRACTOR NOT TO DESTROY TILE FOR DRAINAGE. FIELD TILE DESTROYED BY CONTRACTOR MUST BE REPAIRED BY SUCH CONTRACTOR AT CONTRACTOR'S EXPENSE.

5 GRADING / SEDIMENT & EROSION CONTROL:

- 5.1

SEDIMENT AND EROSION CONTROL SHALL NOT BE LIMITED TO THE MEASURES SHOWN ON THE PLANS. THE CONTRACTOR, WITH THE APPROVAL OF THE LOCAL INSPECTOR, SHALL UTILIZE BEST MANAGEMENT PRACTICES TO PREVENT SEDIMENT FROM ENTERING ADJACENT PROPERTIES, ROADWAYS, STORM SEWERS, AND DRAINAGEWAYS.
- 5.2

FILLED PLACES UNDER PROPOSED STORM AND SANITARY SEWER LINES AND/OR PAVED AREAS INCLUDING TRENCH BACKFILLS WITHIN AND OFF THE ROAD RIGHT-OF-WAY SHALL BE COMPACTED TO 90 PERCENT OF MAXIMUM DENSITY AS DETERMINED BY THE "MODIFIED AASHTO T-180 COMPACTION TEST" (ASTM D-1557). TESTS SHALL BE VERIFIED BY A SOILS ENGINEER CONCURRENT WITH GRADING AND BACKFILLING OPERATIONS.
- 5.3

DEBRIS AND FOUNDATION MATERIAL FROM EXISTING ON-SITE BUILDING OR STRUCTURE WHICH IS SCHEDULED TO BE REMOVED FOR THIS DEVELOPMENT MUST BE PROPERLY DISPOSED OF OFF-SITE.
- 5.4

SOFT SOILS IN THE BOTTOM AND BANKS OF EXISTING OR FORMER POND SITES OR TRIBUTARIES OR SEDIMENT BASINS OR TRAPS SHOULD BE REMOVED, SPREAD OUT AND PERMITTED TO DRY SUFFICIENTLY TO BE USED AS FILL. NONE OF THIS MATERIAL SHOULD BE PLACED IN PROPOSED PUBLIC RIGHT-OF-WAY LOCATIONS OR ON STORM SEWER LOCATION.

- 5.5

A PRE-CONSTRUCTION REVIEW CONFERENCE MUST BE SCHEDULED WITH THE CONSTRUCTION MANAGER PRIOR TO THE START OF EACH CONSTRUCTION PHASE OF LAND DISTURBANCE ACTIVITY. THE PERMITEE WILL BE RESPONSIBLE FOR NOTIFYING CONTRACTORS, UTILITY CREWS, AND OTHER ENTITIES THAT WILL PERFORM WORK AT THE SITE TO BE IN ATTENDANCE.
- 5.6

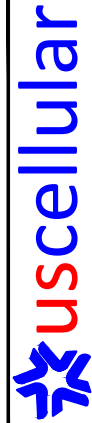
NOTIFY THE EROSION CONTROL INSPECTOR OF THE JURISDICTION (IF APPLICABLE), A MINIMUM OF 48 HOURS PRIOR TO THE COMMENCEMENT OF CLEARING, GRADING, AND/OR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION TO ARRANGE FOR AN INSPECTION OF THE SITE.
- 5.7

TEMPORARY SILTATION CONTROL MEASURES (STRUCTURAL) SHALL BE MAINTAINED UNTIL VEGETATIVE COVER IS ESTABLISHED AT A SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE.
- 5.8

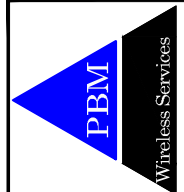
UPON COMPLETION OF STORM SEWERS, SILTATION CONTROL SHALL BE PROVIDED AROUND OPEN SEWER INLETS AND SHALL REMAIN UNTIL THE DISTURBED DRAINAGE AREAS HAVE BEEN PROPERLY STABILIZED.
- 5.9

WHERE NATURAL VEGETATION IS REMOVED DURING GRADING, VEGETATION SHALL BE RE-ESTABLISHED IN SUCH A DENSITY AS TO PREVENT EROSION.
- 5.10

WHEN GRADING OPERATIONS ARE COMPLETED OR SUSPENDED FOR MORE THAN 30 DAYS, PERMANENT GRASS MUST BE ESTABLISHED AT SUFFICIENT DENSITY TO PROVIDE EROSION CONTROL ON THE SITE. BETWEEN PERMANENT GRASS SEEDING PERIODS, TEMPORARY COVER SHALL BE PROVIDED ACCORDING TO THE RECOMMENDATION OF THE JURISDICTIONAL REQUIREMENTS (IF APPLICABLE) OR STANDARD STATE ADOPTED PROCEDURE WHERE LOCAL REQUIREMENTS ARE NOT SPECIFIED. FINISHED GRADES IN EXCESS OF 20% SLOPES (5:1) SHALL BE MULCHED AND TACKED AT THE RATE OF 100 POUNDS PER 1,000 SQUARE FEET WHEN SEEDED.



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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

SHEET TITLE
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N-2

CABLE & ANTENNA INSTALLATION NOTES:

SCOPE:
THIS SECTION COVERS THE SPECIFICATIONS FOR ANTENNA & COAX & HYBRID CABLE INSTALLATION. THE AREAS OF FOCUS ARE THE INSTALLATION OF THE ANTENNAS, CABLE CONNECTIONS, AND ICE BRIDGE.

- ANTENNAS:
- 1. DIRECTIONAL ANTENNAS SHALL BE ORIENTED TO PROPER AZIMUTH PROVIDED ON THE RF SPECIFICATION SHEET. NOTE: THE ANTENNA MAY BE ORIENTED USING THE REFLECTOR AS THE REFERENCE, ADJUSTING ITS AZIMUTH 180 DEGREES FROM MAXIMUM ANTENNA RADIATION.
 - 2. A TRANSIT SHALL BE USED TO PROPERLY ALIGN CELLULAR ANTENNAS.
- CABLE:
- 1. CABLE SHALL BE SUPPORTED WITH SNAP IN HANGERS. SNAP IN HANGERS SHOULD BE USED EVERY 3 FEET THE ENTIRE HEIGHT OF TOWER. ANGLE ADAPTERS OR ROUND MEMBER ADAPTERS WITH BUTTERFLY CLAMPS SHALL BE USED ELSEWHERE, I.E. SIDEARMS, PLATFORMS, AND MICROWAVE MOUNTS.
 - 2. CABLE SHALL ALSO BE SUPPORTED WITH HOISTING GRIPS, INSTALLED AT MAXIMUM INTERVALS OF 200 FEET. HOISTING GRIPS SHALL BE ATTACHED WITH SHACKLES, BOLTED IN THE 7/16" HOLE OF WAVEGUIDE LADDER.
 - 3. JUMPERS USED BETWEEN CABLE AND ANTENNA SHALL BE SUPPORTED WITHIN 18 INCHES OF ANTENNA, USING BUTTERFLY CLAMPS WITH ANGLE ADAPTERS OR ROUND MEMBER ADAPTERS AROUND PIPES. CELLULAR ANTENNAS TYPICALLY USE 6' JUMPERS.
 - 4. CABLE SHALL BE NEATLY BENT WHEN REQUIRED, USING A MINIMUM BENDING RADIUS OF 10 TIMES THE DIAMETER OF THE COAXIAL CABLE. DRIP LOOPS SHOULD BEGIN AT THE ICE BRIDGE. THE BEND IN THE CABLE SHOULD BE AT A LOWER HEIGHT THAN THE ENTRY PORT.
 - 5. CABLE SHALL BE SUPPORTED WITH SNAP IN HANGERS ON THE WAVEGUIDE LADDER UNDER ICE BRIDGE. CABLE SHOULD BE NEATLY CUT 16" INSIDE BUILDING AND TERMINATED AT THE QUARTER WAVE SHORTS.
 - 6. CONNECTORS WILL NORMALLY BE PROVIDED FIRST OFF REEL FROM FACTORY. CONNECTORS TERMINATED IN BUILDING SHALL BE NEATLY INSTALLED PER MANUFACTURER'S SPECIFICATIONS.
 - 7. OPENINGS #1, #2, AND #3 SHOULD BE USED FOR THE X SECTOR; OPENINGS #5, #6, AND #7 SHOULD BE USED FOR THE Y SECTOR; OPENINGS #9, #10 AND #11 SHOULD BE USED FOR THE Z SECTOR; OPENINGS #4, #8, AND #12 SHOULD BE RESERVED FOR MICROWAVE WAVEGUIDE.
 - 8. CABLES SHOULD BE LABELED WITH TAGS INSIDE THE BUILDING.
 - 9. THE CABLE BANDING TECHNIQUES WILL NEED TO BE APPLIED AT BOTH TERMINATING ENDS OF CABLE THAT WOULD INTERFACE WITH THE ANTENNAS; THIS MUST ALSO INCLUDE FEEDER OR JUMPER CABLE.
 - 10. BANDING FOR THE CABLE PARAMETERS WILL REQUIRE AT LEAST A DOUBLE WRAP OF TAPE TO ENSURE THE BANDS APPLIED AT CABLE TERMINATION POINTS ON THE TOWER CAN BE VIEWED WITH BINOCULARS FROM A GROUND LOCATION.
 - 11. CONTRACTOR IS RESPONSIBLE FOR OBTAINING PIM (PASSIVE INTERMODULATION) TESTING EQUIPMENT AT CONTRACTOR'S EXPENSE AND PERFORMING THE APPROVED PROCEDURE AFTER THE INSTALLATION OR REPLACEMENT OF TOWER CABLE(S).
 - 12. EXCEPTIONS NEED TO BE VERIFIED WITH THE PROJECT MANAGER.

- CONNECTORS:
- 1. CONNECTIONS, AND GROUNDING KITS SHALL BE WEATHER PROOFED USING COLD SHRINK OR ANDREW APPROVED WEATHER STRIPPING.
NOTE: NO PORTION OF CONNECTOR SHALL BE EXPOSED TO THE ELEMENTS.
 - 2. CABLE SHALL BE GROUNDED USING GROUNDING KITS AT THE TOP, BELOW THE BEND; BOTTOM, ABOVE THE BEND ON TOWER GROUND BAR; AND ON BUILDING GROUND BAR BEFORE ENTRY INTO WAVEGUIDE PORTS. 4" CABLE BOOTS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
 - 3. GROUNDING KITS SHALL BE NEATLY INSTALLED SO THAT THE JUMPER RUNS IN THE SAME DIRECTION AS THE CABLE AND GROUND BAR. JUMPER WIRE SHOULD RUN IN A DIRECT PATH TO THE GROUND BAR/TOWER LADDER, BUT HAVE ADEQUATE SLACK FOR EXPANSION, CONTRACTION, AND REPAIR. NO-OX GREASE SHOULD BE APPLIED BETWEEN LUG AND BAR/TOWER.
 - 4. TOWER GROUND BAR SHALL BE INSTALLED ON THE ANGLE BEHIND THE FIRST DIAGONAL WAVEGUIDE LADDER RUNG, ABOVE 8'-6".

- HYBRID CABLES:
- 1. POWER AND FIBER OPTIC CONDUCTORS CONTAINED WITHIN ANY FIBER TRUNK CABLE INSTALLED ON BEHALF OF U.S. CELLULAR MUST CONFORM TO ALL OF THE SPECIFICATIONS AS STATED IN TELCORDIA INDUSTRY STANDARD GR3173 TITLED GENERIC REQUIREMENTS FOR HYBRID OPTICAL AND ELECTRICAL CABLES FOR USE IN WIRELESS OUTDOOR FIBER TO THE ANTENNA (FTTA) APPLICATIONS.
 - 2. GUYED, MONOPOLE, AND SELF-SUPPORTING TOWER SITES MUST USE THE EUPEN HYBRID CABLE CONFIGURATION. EACH SITE WILL NEED TO SELECT AN EUPEN HYBRID CABLE TYPE THAT WILL ACCOMMODATE THE POWER AND FIBER CAPACITIES FOR THAT SITE. AN EXCEPTION TO USE THE ROSENBERGER DISCRETE CABLE CONFIGURATION CAN BE MADE FOR SITES THAT ARE CONFIGURED WITH A WIDE VARIATION OF ANTENNA ELEVATIONS.
 - 3. GUYED, MONOPOLE, AND SELF-SUPPORTING TOWER SITES PRONE TO VANDALISM CAN USE THE ROSENBERGER DISCRETE CABLE CONFIGURATION.
 - 4. ROOFTOP AND WATER TANK LOCATIONS MAY USE A ROSENBERGER DISCRETE CABLE CONFIGURATION IN PLACE OF THE EUPEN HYBRID CABLE TO ALLOW FOR MORE FLEXIBILITY IN THE NUMBER OF FIBER AND COPPER CABLE RUNS.
 - 5. THE POWER CABLE GUAGE IN THE HYBRID CABLE MUST BE ENGINEERED TO ACCOMMODATE AN 8 HOUR BATTERY BACK UP REQUIREMENT; THE CALCULATION MUST BE PERFORMED USING THE COMPANY APPROVED VOLTAGE DROP CALCULATOR.
 - 6. ANY HYBRID CABLE THAT EXCEEDS 400 FT. WILL BE REQUIRED TO USE LOW INDUCTANCE CABLE.
 - 7. BECAUSE OF ICE LOADING CONCERNS, TOWER CREW INSTALLERS CANNOT STACK HYBRID CABLE ON TOP OF COAX CABLE AS PART OF THE FINISHED INSTALLATION.
 - 8. BECAUSE OF ICE LOADING CONCERNS, TOWER CREW INSTALLERS CANNOT STACK HYBRID CABLE ON TOP OF ANOTHER HYBRID CABLE; AN EXCEPTION CAN BE MADE FOR THIS TYPE OF INSTALLATION IF IT HAS BEEN APPROVED BY THE USCC MANAGER IN CHARGE OF THE INSTALLATION
 - 9. THE MAXIMUM LENGTH OF ANY 1/2 COAXIAL JUMPER CABLE BETWEN THE RRU AND THE ANTENNA SHALL BE 15 FEET
 - 10. THE RAYCAP JUNCTION BOX (RCKDC-6140-PF-48 OR EQUIVALENT) MUST BE DEPLOYED AT BOTH A TOWER TOP LOCATION AND AT A GROUND LEVEL LOCATION. SHELTER SITES MUST LOCATE THE GROUND LEVEL RAYCAP INSIDE THE SHELTER.
 - 11. THE TOWER TOP RAYCAP JUNCTION BOX MUST HAVE SURGE PROTECTION FOR EACH POWER PAIR, AND EACH SURGE PROTECTION DEVICE MUST DRAIN DIRECTLY INTO THE TOP TOWER GROUND BAR.
 - 12. THE GROUND LEVEL RAYCAP JUNCTION BOX MUST HAVE SURGE PROTECTION FOR EACH POWER PAIR, AND EACH SURGE PROTECTION DEVICE MUST DRAIN DIRECTLY INTO THE RF GROUNDING SYSTEM.
 - 13. THE FIBER TRUNK SHEATHING MUST BE CONNECTED TO THE RF GROUNDING SYSTEM USING THE VENDOR APPROVED GROUNDING KIT AT THE TOP TOWER GROUND BAR AND AT THE GROUND BAR OUTSIDE THE SHELTER; THE SHEATHING MUST ALSO BE CONNECTED TO THE MIDDLE TOWER GROUND BAR FOR TOWERS OVER 200 FEET
 - 14. POWER CABLES FROM THE TOWER RAYCAP BOX TO THE TOWER RADIO SHOULD NOT EXCEED 20 FT, AND IDEALLY SHOULD BE UNDER 15 FT
 - 15. THE RAYCAP JUNCTION BOX LOCATED AT GROUND LEVEL WILL BE THE DEMARCATION POINT FOR TOWER CREW INSTALLERS.
 - 16. EXCESS FIBER TRUNK CABLE AT OUTDOOR CABINET SITES MUST BE STORED AT GROUND LEVEL IN A GROUNDED, METAL BOX.
 - 17. TOWER CREW INSTALLERS MUST FOLLOW THE USCC APPROVED METHOD OF PROCEDURE FOR INSTALLING AND PERFORMING ACCEPTANCE TESTING AT A FIBER TRUNK CABLE SITE AND MUST INCLUDE PHOTOGRAPHIC PROOF OF PROPER VIP, ODTR, AND PIM TEST RESULTS. USCC REGIONAL PROJECT MANAGERS MUST REVIEW THE VIP, ODTR, AND PIM TEST RESULTS AT THE CLOSEOUT OF THE SITE TO ENSURE THE INSTALLATION WAS PERFORMED CORRECTLY; THEY MUST ALSO ENSURE THE PHOTOGRAPHIC PROOF OF THESE TEST RESULTS HAVE BEEN INCLUDED IN THE CLOSEOUT PACKAGE AND THAT THESE TEST RESULTS HAVE BEEN UPLOADED INTO FILESTAR.
 - 18. TOWER CREW INSTALLERS MUST ALSO COMPLETE A PHOTO LOG THAT WILL PROVIDE PHOTOGRAPHIC PROOF OF PROPER TOWER EQUIPMENT INSTALLATION. THE PHOTO LOG MUST INCLUDE--AT MINIMUM--ALL OF THE TOWER EQUIPMENT AND CABLING INSTALLATION PHOTOS LISTED BELOW. USCC REGIONAL PROJECT MANAGERS MUST REVIEW THE PHOTO LOG AT THE CLOSEOUT OF THE SITE TO ENSURE THE INSTALLATION WAS PERFORMED CORRECTLY; THEY MUST ALSO ENSURE THE PHOTO LOG HAS BEEN INCLUDED IN THE CLOSEOUT PACKAGE AND THAT THESE TEST RESULTS HAVE BEEN UPLOADED INTO MILLENNIA.



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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

SHEET TITLE
GENERAL NOTES

SHEET NUMBER
N-3

FIBER OPTIC CABLE INSTALLATION NOTES:

SCOPE:
THIS SECTION COVERS THE SPECIFICATIONS FOR FIBER OPTIC CABLE INSTALLATION.
THE AREAS OF FOCUS ARE THE INSTALLATION OF THE FIBER OPTIC CABLE AND TESTING
REQUIREMENTS. CONTRACTOR SHALL CONFORM TO THESE REQUIREMENTS AND SHALL REFER TO THE
LATEST EDITION OF U.S. CELLULAR STANDARD STD3 TO VERIFY CURRENT REQUIREMENTS.

FIBER OPTIC CABLE INSTALLATION:

1. FIBER OPTIC CABLE MUST TERMINATE USING THE TIA-568-C SCHEME.
2. FIBER OPTIC CABLE MUST BE CONSTRUCTED USING SINGLE MODE OPTICAL FIBER.
3. POWER AND FIBER OPTIC CONDUCTORS CONTAINED WITHIN FIBER TRUNK CABLE INSTALLED ON BEHALF OF U.S. CELLULAR MUST CONFORM TO THE SPECIFICATIONS AS STATED IN TELCORDIA INDUSTRY STANDARD GR3173 TITLED: GENERIC REQUIREMENTS FOR HYBRID OPTICAL AND ELECTRICAL CABLES FOR USE IN WIRELESS OUTDOOR FIBER TO THE ANTENNA (FTTA).
4. FIBER INSTALLATIONS, INCLUDING CABLES AND JUMPERS, MUST BE COMPLETED WITHIN THE MANUFACTURER’S MINIMUM BEND RADIUS INSTALLATION GUIDELINES. AVOIDANCE OF SHARP BENDS ALONG THE INSTALLATION ROUTE IS ABSOLUTELY ESSENTIAL. SHARP BENDS IN CABLE TRAYS OR IN CONDUITS CAN CAUSE MICRO-BENDS IN THE FIBERS AND CAN LEAD TO FIBER BREAKAGE OR ADVERSELY AFFECT SIGNAL ATTENUATION.
5. USE FLEX TUBING WITH THE MATCHING COLOR YELLOW OR ORANGE ONLY TO FEED THE FIBER CABLE INTO VARIOUS FIBER OPTIC TERMINALS OR FIBER DISTRIBUTION FRAMES IN CASES WHERE THE DOWNSPOUTS CANNOT BE POSITIONED DIRECTLY OVER THE FIBER ENTRY POINTS.
6. UNPACKAGED FIBER OPTIC CABLE SHALL BE NEATLY PLACED IN THE DESIGNATED STORAGE AREA; TESTING AND CLEANING IS NOT REQUIRED BEFORE STORING THE CABLE, BUT INSTALLERS SHOULD NEVER COIL FIBER OPTIC CABLES TIGHTER THAN 6 INCHES WHEN PLACING IN STORAGE.
7. FIBER INSULATION SHALL BE PLACED ON HANGER ROD(S) THAT PASSES THROUGH CABLE RACK(S).
8. FIBER OPTIC JUMPERS AND CABLES SHALL NOT BE PULLED, TWISTED OR KINKED. CONTRACTORS MUST VISUALLY INSPECT CABLING KINKS AND/OR TWISTS BEFORE COMPLETION OF THE WORK.
9. FIBER OPTIC JUMPERS SHALL BE WRAPPED WITH TWO LAYERS OF 1/64 INCH SHEET FIBER PROTECTION WHEN THEY ARE SECURED TO CABLE BRACKETS OR OTHER SUPPORTS.
10. UNLESS NOTED OTHERWISE, FIBER OPTIC JUMPERS AND CABLES SHALL BE RUN SEPARATE FROM OTHER TYPES OF CABLE AND PLACED ON OR IN DEDICATED RACK, COMPARTMENT, OR DUCT. NO OTHER TYPES OF CABLES SHALL RUN WITH FIBER OPTIC JUMPERS OR CABLES.
11. FIBER PROTECTION SHALL BE PLACED AT LOCATIONS WHERE CABLES TURN OFF THE CABLE RACK ACROSS THE STRINGER AND DROP 3 INCHES OR MORE, WHETHER OR NOT THE CABLES ARE IN PHYSICAL CONTACT WITH THE STRINGERS INITIALLY.
12. FIBER PROTECTION SHALL BE SECURED TO THE CROSS STRAPS WITH TWINE.
13. SOFT RUBBER JACKETED POWER CABLES (SUPER FLEX) SHALL BE PROTECTED FROM CONTACT WITH CABLE BRACKETS, CABLE RACKS, FRAMEWORK, AND SEWING TWINE BY WRAPPING THE CABLES WITH TWO LAYERS OF 1/64 INCH OR ONE 1/32 INCH SHEET FIBER.
14. SMALL SPLIT DUCT (WIRE LOOM) MAY BE USED TO PROTECT EXPOSED JUMPERS FOR SHORT DISTANCES UP TO 6” WHERE FIBER GUIDE TRANSITIONS ARE NOT FEASIBLE. SPIRAL WRAP IS NOT TO BE USED. FIBER GUIDE RUNS WILL BE CONTINUOUS AND FREE OF GAPS. TRANSITION SECTION (“T” OR ELBOW) WILL BE INSERTED WHERE REQUIRED.
15. VERTICAL AND HORIZONTAL FIBER RUNS BETWEEN CABLE RACK AND EQUIPMENT BAYS OR BETWEEN EQUIPMENT BAYS WILL BE PROTECTED BY SMALL SPLIT DUCT, OR FIBER DUCT.
16. TENSIONS ON THE FIBER OPTIC CABLE SHALL NOT EXCEED THE MAXIMUM ALLOWABLE CABLE TENSION LIMIT SPECIFIED BY THE MANUFACTURER.
17. PLASTIC TIE WRAPS SHALL NOT BE USED TO SECURE COILED FIBER CABLES. VELCRO STRAPS SHALL BE USED INSTEAD. IF VELCRO STRAPS ARE NOT AVAILABLE, THE CABLE SHALL BE PLACED IN A PLASTIC BAG PRIOR TO BEING PLACED IN A STORAGE CABINET.
18. FIBER OPTIC PROBES SHALL BE USED TO INSPECT FIBER OPTIC END-FACES FOR CONTAMINATION OR DAMAGE.

19. IF A FIBER HAS BEEN TERMINATED AND SUBSEQUENTLY UNSEATED FROM IT’S TERMINATION POINT, IT MUST BE CLEANED BEFORE RE-TERMINATION OF THE FIBER.
20. FIBER CONNECTORS MAY BE CLEANED USING ANY OF THESE THREE APPROVED U.S. CELLULAR METHODS:

A. FIBER CLEANING TISSUES

B. FIBER CASSETTE-TYPE CLEANERS

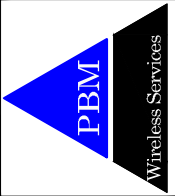
C. FIBER CLEANING PEN
21. THE FIBER MUST EITHER BE COLORED AND FOLLOW AN ETA598-A COLOR SCHEME OR MUST HAVE NUMBERING ENGRAINED ON A HARD PLASTIC AND TIED TO THE CABLE.
22. FIBER CABLES USING EITHER THE ETA598-A COLOR SCHEME OR THE NUMBERING SCHEME MUST BE PLACED ON THE BULKHEAD AS SHOWN ABOVE.
23. U.S. CELLULAR FIBER BULKHEAD WITH REQUIRED FIBER CONNECTOR CABLE COLORS OR NUMBER DESIGNATOR (TX AND RX WILL BE THE SAME COLOR).
24. REFER TO U.S. CELLULAR STANDARD STD72
25. EXCEPTIONS NEED TO BE VERIFIED WITH THE PROJECT MANAGER.

FIBER OPTIC CABLE TESTING:

1. TEST FIBER ON THE REEL FOR CONTINUITY TO ENSURE NO DAMAGE WAS INCURRED DURING SHIPMENT. TESTING CAN BE DONE WITH A VISUAL FAULT LOCATOR OR FIBER TRACER.
2. TEST END-TO-END INSERTION LOSS USING AN OLTS POWER METER AND SOURCE.
3. CONTRACTOR IS RESPONSIBLE FOR OBTAINING OPTICAL FIBER TESTING EQUIPMENT AT CONTRACTOR'S EXPENSE, TESTING AND RECORDING SINGLE-MODE FIBER CABLES PER TIA/EIA 526-7 (SINGLE-MODE).
4. TOTAL LOSS SHALL BE LESS THAN THE CALCULATED MAXIMUM LOSS FOR THE CABLE BASED ON APPROPRIATE STANDARDS OR CUSTOMER SPECIFICATIONS.
5. OPTICAL FIBER INSTALLATIONS SHALL BE TESTED AND SIGNAL STRENGTH SHALL BE RECORDED PER TIA 568.B.
6. A FIBER OPTIC POWER METER (FLUKE FIBER OPTIC METER, JDSU T-BERD 8000 OR EQUIVALENT) SHALL BE USED TO TEST LIGHT LEVELS ON THE FIBER OPTIC CABLE. IF THE CABLE TESTS BAD AND INTEGRITY CANNOT BE RESTORED, THE CABLE SHALL BE APPROPRIATELY DISPOSED OF.
7. FIBER OPTIC CABLE THAT HAS BEEN PREVIOUSLY USED MUST FIRST BE CLEANED, TESTED, CAPPED AND PROPERLY COILED PRIOR TO BEING STORED TO ENSURE CABLE INTEGRITY. BOTH ENDS OF THE FIBER OPTIC CABLE SHALL BE CLEANED (CLETOP-S, IBC BRAND FIBER OPTIC CLEANER OR EQUIVALENT) AND THEN CAPPED FOR PROTECTION FROM DAMAGE AND/OR CONTAMINATION. A LABEL MAKER SHALL BE USED TO CREATE A LABEL THAT INCLUDES THE DATE CABLE WAS TESTED, WHAT ACTION WAS TAKEN, INITIALS OF THE PERSON THAT HANDLED THAT CABLE AND THE APPROXIMATE LENGTH OF THE CABLE.
8. CONTRACTOR IS RESPONSIBLE FOR OBTAINING OPTICAL FIBER TESTING EQUIPMENT AT CONTRACTOR’S EXPENSE AND TESTING AND RECORDING SINGLE-MODE FIBER CABLES PER TIA/EIA 526-7 (SINGLE-MODE).
9. OPTICAL FIBER INSTALLATIONS SHALL BE TESTED AND SIGNAL STRENGTH SHALL BE RECORDED PER TIA 568.B.
10. THE MAXIMUM LENGTH OF ANY HYBRID CABLE SHALL BE 400’.
11. REFER TO U.S. CELLULAR STANDARD STD3 & STD72.



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NEW SITE BUILD - STEALTH MONOPOLE

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CHKD BY: AJK

SHEET TITLE
GENERAL
NOTES

SHEET NUMBER
N-4

GENERAL STEEL NOTES:

1. STEEL WORK SHALL BE GALVANIZED UNLESS NOTED OTHERWISE.

2. NON-GALVANIZED STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS NOTED OTHERWISE.

3. WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS USING E70XX ELECTRODES. WELDING SHALL CONFORM TO AISC & AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", LATEST EDITION. AT THE COMPLETION OF WELDING, DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED.

4. STEEL BOLTING – ASTM A325–N BOLTS, SEE PLAN/DETAILS FOR DIAMETER, NON SLIP CRITICAL CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.

5. DAMAGE TO THE EXISTING FACILITY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING ORIGINAL CONDITIONS AT THE CONTRACTOR’S EXPENSE.

6. STEEL DESIGN, FABRICATION AND ERECTION SHALL BE IN ACCORDANCE WITH AISC STANDARDS LATEST EDITION.

7. STEEL W SHAPES SHALL CONFORM TO ASTM A992 (MINIMUM YIELD STRENGTH=50KSI) GRADE 50.

8. SIZE STANDARD BEAM CONNECTIONS BASED ON 3/4 OF THE TOTAL UNIFORM LOAD CAPACITY OF THE BEAM. USE DOUBLE CLIP ANGLES AND AISC TABLE 10–1 UNLESS INDICATED OTHERWISE.
9. STEEL ANGLES AND PLATES – ASTM A36. (MINIMUM YIELD STRENGTH = 36KSI)

10. STEEL TUBE SHAPES – ASTM A500 GRADE B. (MINIMUM YIELD STRENGTH = 46KSI)

11. STEEL PIPES – ASTM A53 TYPE E. (MINIMUM YIELD STRENGTH = 35KSI)

12. CONTRACTOR SHALL COORDINATE AND VERIFY LAYOUT, PLACEMENT, ETC. OF EQUIPMENT PRIOR TO FABRICATION AND ERECTION.

13. VERIFY EQUIPMENT MOUNTING DIMENSIONS PER MANUFACTURER DRAWINGS.

14. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER’S RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER’S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER’S MAXIMUM ALLOWABLE LOADS.

CONCRETE & REINFORCING STEEL NOTES

1. CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION FOR CAST-IN-PLACE CONCRETE.

2. CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS. STRUCTURE MAY BE INSTALLED ON FOUNDATION AT A TIME EARLIER THAN 28 DAYS WITH CONFIRMING CONCRETE CYLINDER TEST RESULTS. AT CONTRACTOR’S OPTION, A HIGH EARLY STRENGTH (TYPE III) CEMENT OR A STRENGTH ACCELERATING ADMIXTURE MAY BE USED. NO CALCIUM CHLORIDE ALLOWED. SUBMIT DESIGN MIX FOR APPROVAL.

3. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC, U.N.O. SPLICES SHALL BE CLASS "B" AND HOOKS SHALL BE STANDARD, U.N.O.

4. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE ACI "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

5. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH.....3 IN.

CONCRETE EXPOSED TO EARTH OR WEATHER:

#6 AND LARGER.....2 IN.

#5 AND SMALLER & WWF...1 1/2 IN.

6. A 3/4" CHAMFER SHALL BE PROVIDED AT EXPOSED EDGES OF CONCRETE, U.N.O., IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

7. SAMPLES FOR STRENGTH TESTS SHALL BE TAKEN IN ACCORDANCE WITH ASTM C172.

8. CYLINDERS FOR STRENGTH TESTS SHALL BE IN ACCORDANCE WITH ASTM C31 AND TESTED IN ACCORDANCE WITH ASTM C39.

9. SAMPLES FOR STRENGTH TESTS SHALL BE IN ACCORDANCE WITH ACI 318 WITH A MINIMUM OF (4) CYLINDERS. (1) 7 DAY, (1) 14 DAY AND (2) 28 DAY.
10. SCOPE / SUBMITTALS
CONCRETE FOR SHELTER FOUNDATION AND FENCE POST SETTING – SUBMIT PROPOSED MODIFICATIONS TO THESE DRAWINGS AND SPECIFICATIONS FOR APPROVAL BY TOWER OWNER.

11. QUALITY STANDARDS
QUALITY STANDARDS COMPLY WITH THE STANDARDS OF THE AMERICAN CONCRETE INSTITUTE, THE CONCRETE REINFORCING STEEL INSTITUTE, AND APPLICABLE ASTM REQUIREMENTS.

12. FORMWORK MATERIALS
CONCRETE HAS GENERALLY BEEN DESIGNED FOR PLACEMENT AGAINST EARTH OR FILL MATERIALS, HOWEVER, THE TOP 4-FOOT MINIMUM OF SHELTER AND TOWER FOUNDATIONS SHALL BE PLACED USING FORMS. CONSTRUCT FORMWORK TO PROVIDE FINISHED CONCRETE ACCURATE TO LINES AND LEVELS SHOWN ON THE DRAWINGS. CONSTRUCT FORMWORK WITH TIGHT JOINTS TO MINIMIZE LEAKAGE. INCLUDE ACCESSORIES NECESSARY TO SUPPORT EMBEDDED ITEMS DURING PLACEMENT OF CONCRETE.

13. PLACEMENT AND FINISHING
INSTALL FORMWORK AND REINFORCING AS REQUIRED FOR CONFIGURATION OF CONCRETE SHOWN ON THE DRAWINGS. PLACE CONCRETE CONTINUOUSLY IN EACH LOCATION. CONSOLIDATE CONCRETE USING EQUIPMENT APPROPRIATE TO EACH CONDITION, LIMITING THE DURATION TO PREVENT BRINGING AN EXCESS OF FINE AGGREGATE TO THE SURFACE. BRING SURFACES TO CORRECT LEVEL WITH STRAIGHT EDGE, FLOAT SMOOTH AND TROWEL TO A HARD, DENSE FINISH HAVING A TOLERANCE OF 1/8" IN 10'-0". EXTERIOR WALKING SURFACES SHALL BE GIVEN A BROOMED FINISH PERPENDICULAR TO DIRECTION OF TRAVEL. HOT AND COLD WEATHER PLACEMENT SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 305 AND 306.



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CHKD BY: AJK

SHEET TITLE

GENERAL NOTES

SHEET NUMBER

N-5

GENERAL NOTES:

1.

CONTRACTOR SHALL PROVIDE LABOR, MATERIALS, EQUIPMENT AND SERVICES NECESSARY FOR AND INCIDENTAL TO THE COMPLETE INSTALLATION AND OPERATION OF ELECTRICAL WORK.
2.

CONTRACTOR SHALL CONFORM TO THE REQUIREMENT OF THE RULES, REGULATIONS, AND CODES OF LOCAL, STATE, AND FEDERAL AUTHORITIES HAVING JURISDICTION, AND CONFORM TO THE NATIONAL ELECTRICAL SAFETY CODES, AND NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION LATEST EDITIONS.
3.

CONTRACTOR SHALL NOTE THAT DRAWINGS ARE GENERALLY DIAGRAMMATIC. BENDS, FITTINGS AND ACCESSORIES ARE NOT NECESSARILY SHOWN. PROVIDE SUCH ITEMS AS REQUIRED.
4.

CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION & INSTALLATION OF ELECTRICAL SERVICE CABLE SIZES & RUNS BASED ON LOCAL CODE REQUIREMENTS & OR NEC (LATEST ENFORCED EDITIONS). CONTRACTOR SHALL USE U.S. CELLULAR PREFERRED "KS-24194 POWER WIRE" CABLE OR APPROVED EQUIVALENT; CONTRACTOR SHALL REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD STD42 TO VERIFY COLOR CODING, SIZING, CRIMPING, LABELING, LUG AND INSTALLATION REQUIREMENTS. CHANGE ORDERS WILL NOT BE ACCEPTED DUE TO LACK OF VERIFICATION.
5.

CONTRACTOR SHALL EQUIP CONDUIT WITH A 200-LB (MINIMUM) TEST PULL WIRE/STRING INSTALLED END TO END FOR VERIFICATION AND PULLING PURPOSES.

ELECTRICAL IDENTIFICATION:

1.

GENERAL:
LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.
2.

NAMEPLATES:
PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND OTHER ELECTRICAL CABINETS.
3.

UNDERGROUND WARNING TAPE:
DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE SIX INCHES BELOW FINISHED GRADE. WARNING TAPE SHALL BE TYPE IID. DETECTABLE THREE LAYER LAMINATE.
4.

AT COMPLETION OF PROJECT, ACCURATELY COMPLETE EACH PANELBOARD CIRCUIT DIRECTORY CARD, IDENTIFYING LOAD SERVED OR "SPARE" OR "SPACE" FOR EACH CIRCUIT POLE. WHEN MODIFYING CIRCUITS, UPDATE THE EXISTING (OR PROVIDE NEW) CIRCUIT DIRECTORY CARD TO ACCURATELY REFLECT FINAL CONDITIONS.

GROUNDING NOTES:

1.

BENDS SHALL BE MADE WITH THE GREATEST PRACTICAL RADIUS AND SHALL NOT BE LESS THAN 8".
2.

CONDUITS SHALL BE SUPPORTED w/ NON-METALLIC MATERIAL.
3.

METAL CONDUITS USED AS RACEWAYS FOR GROUNDING CONDUCTORS SHALL BE ELECTRICALLY CONTINUOUS AND SHALL BE BONDED AT BOTH ENDS IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE (NEC), THE LATEST EDITION.
4.

EXTERIOR CONNECTIONS TO THE ANTENNA MASTS, AND FACILITY STRUCTURAL STEEL FRAME SHALL BE MADE BY EXOTHERMIC WELD.
5.

MECHANICAL LUGS SHALL BE TWO HOLE, STAINLESS STEEL BOLTED COMPRESSION CLAMP FITTING PROPERLY SIZED FOR THE CONDUCTOR USED. MECHANICAL CONNECTIONS SHALL BE SANDED TO BARE METAL AND TREATED WITH ANTI-OXIDANT COMPOUND.
6.

GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE (NEC), THE LATEST EDITION.
7.

SYSTEM GROUND RESISTANCE SHALL NOT EXCEED 5 OHMS.
8.

CLAMP CONNECTIONS SHALL BE MADE ACCESSIBLE FOR INSPECTION.
9.

EXOTHERMIC WELDS ON EXPOSED SURFACES SHALL BE TREATED WITH TWO COATS OF ZINC RICH, COLD GALVANIZING PAINT.
10.

MATERIAL, INDICATED AS FOLLOWING:

A.

CONDUCTORS: COPPER SOLID TINNED BCW AS SHOWN ON THE DRAWINGS.

B.

GROUND WIRE CLAMPS: HEAVY DUTY CLAMPS AS MANUFACTURED BY BURNDY.

C.

WELDS: HEAVY DUTY EXOTHERMIC WELDS AS MANUFACTURED BY EXOTHERMIC WELD. WELDS SHALL BE PROTECTED FROM CORROSION w/ COMPOUND AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS CO.

D.

ATTACHMENT OF GROUND BARS SHALL BE STAINLESS STEEL.

11.

A "FOUR TERMINAL" EARTH RESISTANCE "MEGGER" TEST SHALL BE PERFORMED BY THE CONTRACTOR.

A.

TESTS ARE TO BE PERFORMED IN ACCORDANCE WITH ASTM G 57-06 (2012)

B.

TYPICALLY FIVE (5) TESTS SHALL BE PERFORMED AT EACH SITE. HOWEVER, LOCAL CONDITIONS MAY WARRANT ADDITIONAL TEST RUNS.

C.

PROVIDE A WRITTEN REPORT CONSISTING OF THE FOLLOWING: SITE NAME, ADDRESS, AND IDENTIFICATION NUMBER, DESCRIPTION OF SITE SOIL AND MOISTURE CONDITION, DESCRIPTION OF WEATHER FOR SEVEN DAYS PRECEDING TEST, MODEL OF TEST EQUIPMENT, DATE OF LAST CALIBRATION, SITE SKETCH SHOWING LOCATION OF TESTS, AND FIELD DATA COLLECTED INCLUDING READINGS, RANGE, TEST, MILLIAMPS, ETC. IN TABULAR FORMAT.
12.

GROUND LEADS FROM ABOVE GRADE ROUTED TO BELOW GRADE SHALL BE IN 1/2" FLEX CONDUIT (OR APPROVED EQUIVALENT) AND SEALED w/ SILICONE.
13.

EXTERNAL GROUNDS SHALL BE EXOTHERMIC WELDED OR USE 2 HOLE SS LUGS, EXCEPT FOR (PROPANE TANKS, GENERATOR HOUSING AND IN MOST CASES FENCE POST).
14.

GROUND SURGE ARRESTOR BRACKET TO MAIN GROUND BAR INSIDE SHELTER (MECHANICAL OR EXOTHERMIC WELD.)
15.

GPS COAX SHALL BE GROUNDED TO THE EXTERNAL GROUND BAR AT THE SHELTER ENTRANCE (OUTSIDE.).
16.

CONTRACTOR SHALL RETAIN THE SERVICES OF A THIRD-PARTY VENDOR TO CONDUCT GROUND TEST PRIOR TO UTILITY SERVICE CONNECTIONS AND SHALL PROVIDE WRITTEN CERTIFICATION OF TEST RESULTS TO U.S. CELLULAR PROJECT MANAGER.
17.

CONTRACTOR SHALL GROUND NEW RRU WITH 6 AWG STRANDED INSULATED GREEN CU GROUND WIRE ROUTED TO GROUND BAR, CONNECT WITH 2-HOLE LUG CONNECTION.
18.

CONTRACTOR SHALL GROUND NEW HYBRID CABLE TO EXTERNAL GROUND BAR (EGB), LOWER TOWER GROUND BAR, AND UPPER TOWER COLLECTOR GROUND BAR WITH CABLE MANUFACTURER APPROVED METHOD; CONNECT WITH 2-HOLE LUG CONNECTION
19.

CONTRACTOR SHALL GROUND NEW RAYCAP JUNCTION BOX WITH 6 AWG STRANDED INSULATED GREEN CU GROUND WIRE ROUTED TO EXTERNAL GROUND BAR (EGB) AND CONNECTED WITH 2-HOLE LUG CONNECTION

USC-01-NO-08-004



12020 RIDGEMONT DR.
URBANDALE, IA 50323



A	08/16/22	INTERNAL REVIEW	JAP
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2	11/07/22	CITY COMMENTS	JAP
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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

PLAN SYMBOLS		UTILITY PLAN SYMBOLS		GROUNDING PLAN SYMBOLS		ABBREVIATIONS			
	NEW ANTENNA		TELEPHONE PEDESTAL		EXOTHERMIC WELD	ADJ	ADJUSTABLE	N.I.C.	NOT IN CONTRACT
	EXISTING ANTENNA		ELECTRIC BOX		BOLTED CONNECTION	APPROX	APPROXIMATE	NTS	NOT TO SCALE
	NEW PARKING BOLLARD		PAD MOUNTED TRANSFORMER		GROUND BAR	BCW	BARE COPPER WIRE	O.C.	ON CENTER
	EXISTING PARKING BOLLARD		EXISTING UTILITY POLE		GROUND ROD	CAB	CABINET	OPP	OPPOSITE
	BENCH MARK		NEW UTILITY POLE		GROUND ACCESS PORT	CLG	CEILING	RMC	RIGID METAL CONDUIT
	TOWER CENTER		GUY ANCHOR		GROUND RING/GROUND CONDUCTOR	CONC	CONCRETE	SF	SQUARE FOOT
	FOUND MONUMENT		MANHOLE		COILED GROUND CONNECTION	CONT	CONTINUOUS	SHT	SHEET
	SPOT ELEVATION		LIGHT POLE			CJ	CONSTRUCTION JOINT	SIM	SIMILAR
	REVISION		EXISTING OVERHEAD TELEPHONE			DIA	DIAMETER	SS	STAINLESS STEEL
	GRID REFERENCE		NEW OVERHEAD TELEPHONE			DWG	DRAWING	STL	STEEL
	DETAIL REFERENCE		EXISTING UNDERGROUND TELEPHONE			EGB	EXTERNAL GROUND BAR	T/C	TOP OF CONCRETE
	ELEVATION		NEW UNDERGROUND TELEPHONE			EA	EACH	T/M	TOP OF MASONRY
	SECTIONS & DETAILS		EXISTING OVERHEAD POWER			ELEC	ELECTRICAL	T/S	TOP OF STEEL
	ELEVATION TAG		NEW OVERHEAD POWER			EL	ELEVATION	(TYP.)	TYPICAL
	CENTER LINE		NEW OVERHEAD POWER & TELEPHONE			EQ	EQUAL	F.V.	FIELD VERIFY
	PROPERTY LINE		EXISTING UNDERGROUND POWER			EQUIP	EQUIPMENT	UNO	UNLESS NOTED OTHERWISE
	COAXIAL CABLE		NEW UNDERGROUND POWER			(E)	EXISTING	WWF	WELDED WIRE FABRIC
	EXISTING CONTOUR LINE		NEW UNDERGROUND POWER & TELEPHONE			EXT	EXTERIOR	w/	WITH
	NEW CONTOUR LINE		EXISTING UNDERGROUND POWER			FF	FINISHED FLOOR	XMFR	TRANSFORMER
	EXISTING FENCE		NEW UNDERGROUND POWER			GA	GAUGE		
	NEW FENCE		NEW UNDERGROUND POWER & TELEPHONE			GALV	GALVANIZED	BTS	BASE TRANSMISSION STATION
	EXISTING FENCE WOOD/VINYL		EXISTING UNDERGROUND POWER			GC	GENERAL CONTRACTOR	PCS	PERSONAL COMMUNICATIONS SERVICES
	NEW FENCE WOOD/VINYL		NEW UNDERGROUND POWER			GRND	GROUND		
	NEW SILT FENCE		NEW UNDERGROUND POWER			LG	LONG		
	NEW RIGHT OF WAY		NEW UNDERGROUND POWER & TELEPHONE			MAX	MAXIMUM	℄	CENTERLINE
	PROPOSED LEASE AREA		EXISTING UNDERGROUND POWER			MECH	MECHANICAL	℄	PLATE
	PROPOSED ACCESS/UTILITY EASEMENTS		NEW UNDERGROUND POWER			MFR	MANUFACTURER	&	AND
	EXISTING LEASE AREA		NEW UNDERGROUND POWER & TELEPHONE			MGB	MASTER GROUND BAR	⊙	AT
	EXISTING ACCESS/UTILITY EASEMENTS		EXISTING UNDERGROUND POWER			MIN	MINIMUM		
			NEW UNDERGROUND POWER			MTL	METAL		
			NEW UNDERGROUND POWER & TELEPHONE						
			EXISTING UNDERGROUND POWER						



1

PARTIAL SITE PLAN

SCALE: 1"=60'

N

uscellular

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Wireless Services
Think outside the triangle.

A	08/16/22	INTERNAL REVIEW	JAP
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7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

SHEET TITLE

PARTIAL SITE PLAN

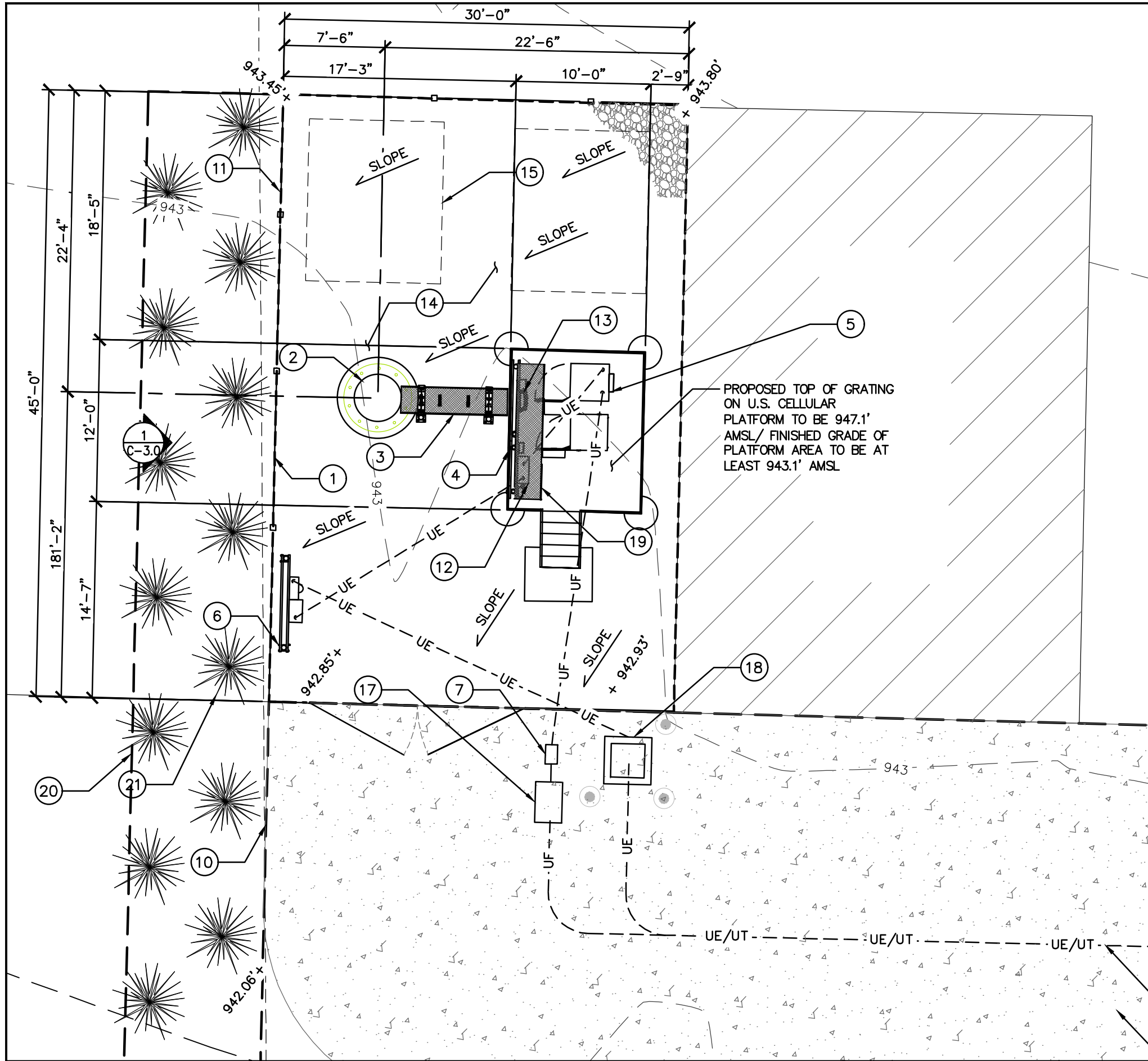
SHEET NUMBER

C-1.0

APPROXIMATE
LOCATION OF
RIGHT-OF-WAY
LINE (TYP.)

PROPOSED 30' WDE
U.S. CELLULAR
ACCESS/UTILITY
EASEMENT

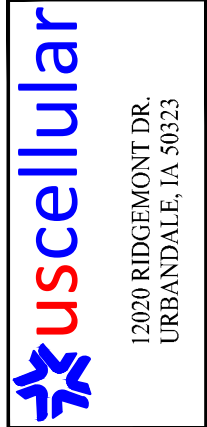
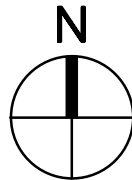
PROPOSED
U.S. CELLULAR SERVICE
CONDUITS ROUTED TO EDGE
OF RIGHT-OF-WAY, CAP,
LABEL, AND STAKE
CONDUITS



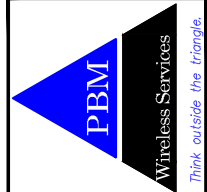
KEY NOTES:

- 1 PROPOSED U.S. CELLULAR VINYL FENCE, SEE SHEET C-7.0
- 2 PROPOSED U.S. CELLULAR STEALTH MONOPOLE, (DESIGN BY OTHERS)
- 3 PROPOSED U.S. CELLULAR ICE BRIDGE & FRAMING, SEE SHEET C-6.0
- 4 PROPOSED U.S. CELLULAR GPS ANTENNA, (TYP. 2), MOUNTED TO ICE BRIDGE POST, SEE SHEET C-6.0
- 5 PROPOSED U.S. CELLULAR EQUIPMENT CABINETS ON ELEVATED STEEL PLATFORM, SEE SHEET(S) C-5.0, C-5.1, C-5.2, C-5.3, C-5.4
- 6 PROPOSED U.S. CELLULAR COMPOUND UTILITY RACK, SEE SHEET C-10.0
- 7 PROPOSED U.S. CELLULAR FIBER VAULT, SEE SHEET C-10.0
- 8 PROPOSED U.S. CELLULAR 8' WIDE ACCESS GATES, SEE SHEET C-7.0
- 9 PROPOSED U.S. CELLULAR CONCRETE ACCESS DRIVE, SEE SHEET C-8.0
- 10 PROPOSED U.S. CELLULAR ACCESS/UTILITY EASEMENT
- 11 PROPOSED U.S. CELLULAR LEASE AREA.
- 12 PROPOSED U.S. CELLULAR PPC CABINET RACK, SEE DETAIL 1/C-5.1
- 13 PROPOSED U.S. CELLULAR RRU AND EQUIPMENT RACK, SEE DETAIL 2/C-10.0
- 14 CLEAR & GRUB AREA PRIOR TO CONSTRUCTION. COORDINATE w/ OWNER AND U.S. CELLULAR PROJECT MANAGER.
- 15 PROPOSED FUTURE CARRIER LEASE AREA, EXACT SIZE AND LOCATION TO BE DETERMINED.
- 16 PROPOSED ELECTRICAL & COMMUNICATION SERVICE ROUTED TO EDGE OF R.O.W.
- 17 PROPOSED FIBER PROVIDER VAULT TO BE PLACED BY OTHERS, FIELD VERIFY EXACT LOCATION
- 18 PROPOSED PAD MOUNTED TRANSFORMER w/ BOLLARDS, (BY OTHERS)
- 19 PROPOSED 24"x10' ICE BRIDGE OVER EQUIPMENT
- 20 PROPOSED 10' WIDE U.S. CELLULAR LANDSCAPE EASEMENT
- 21 PROPOSED U.S. CELLULAR LANDSCAPING, SEE SHEET C-2.1

1 COMPOUND PLAN
SCALE: 1/8" = 1'-0"



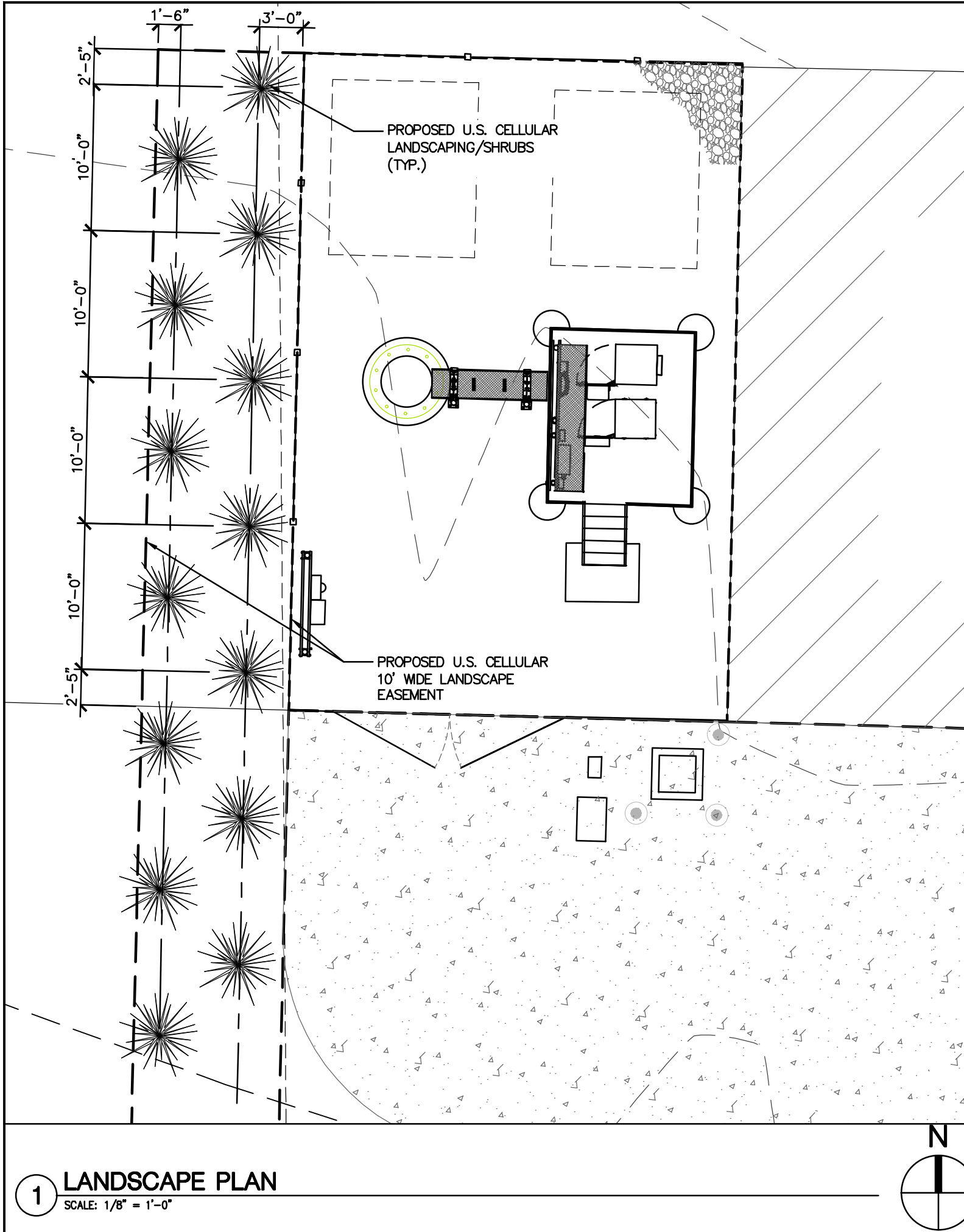
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DATE	REVIEW	BY
08/16/22	INTERNAL REVIEW	JAP
08/19/22	CLIENT REVIEW	JAP
09/22/22	CLIENT REVIEW	JAP
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11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH. 3950 N ANKENY BLVD ANKENY, IA 50023 - POLK COUNTY NEW SITE BUILD - STEALTH MONOPOLE	PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK
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SHEET TITLE COMPOUND PLAN	SHEET NUMBER C-2.0
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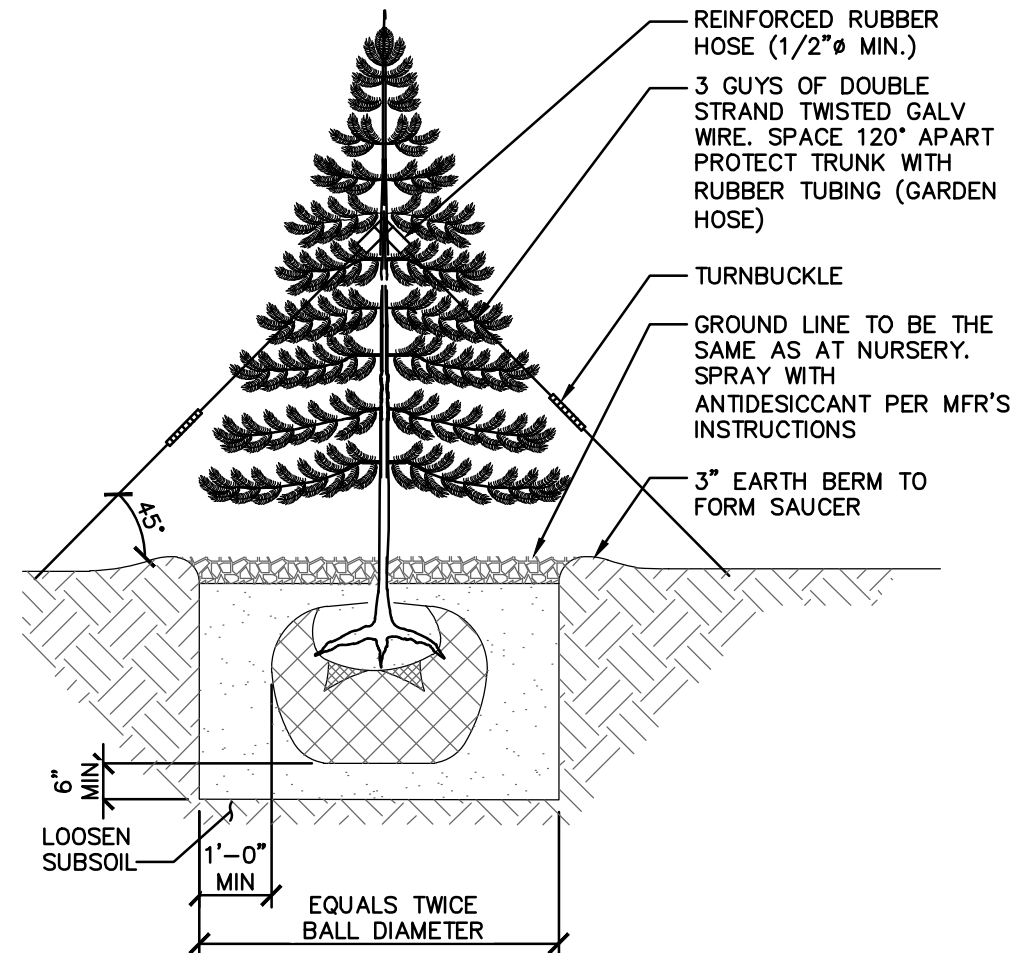


1 LANDSCAPE PLAN
SCALE: 1/8" = 1'-0"

PLANTING SCHEDULE							
ITEM	QTY.	BOTANICAL NAME	COMMON NAME	HEIGHT @ PLANTING	HEIGHT @ MATURITY	SPREAD/CALIPER	SPACING
	14	RED-OSIER DOGWOOD	CORNUS STOLONIFERA	6'-0" (MIN)	10'-0" (MIN)	2"	SEE PLAN
	-	-		-	-	-	-

LANDSCAPING NOTES:

1. TOPSOIL TO BE PROVIDED BY SITE CONTRACTOR IN ROUGH GRADE TO WITHIN 1" OF FINISHED GRADE.
2. EACH PLANT TO BE IN THE TOP OF ITS CLASS AFTER SHEARING AND PRUNING
3. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, MECHANICAL INJURIES, AND IN RESPECTS BE SUITABLE FOR FIELD PLANTING
4. PLANTS ARE GUARANTEED TO BE INSTALLED PROPERLY AND HEALTHY, HOWEVER CARE AND LONG TERM VIABILITY ARE SUBJECT TO OWNER'S CARE
5. PLANTS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-1973, IN REGARD TO SIZING, GROWING AND B&B SPECIFICATIONS
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBS WITHIN THE CONSTRUCTION AREA IDENTIFIED AS "TO REMAIN" FROM DAMAGE BY EQUIPMENT AND CONSTRUCTION ACTIVITIES

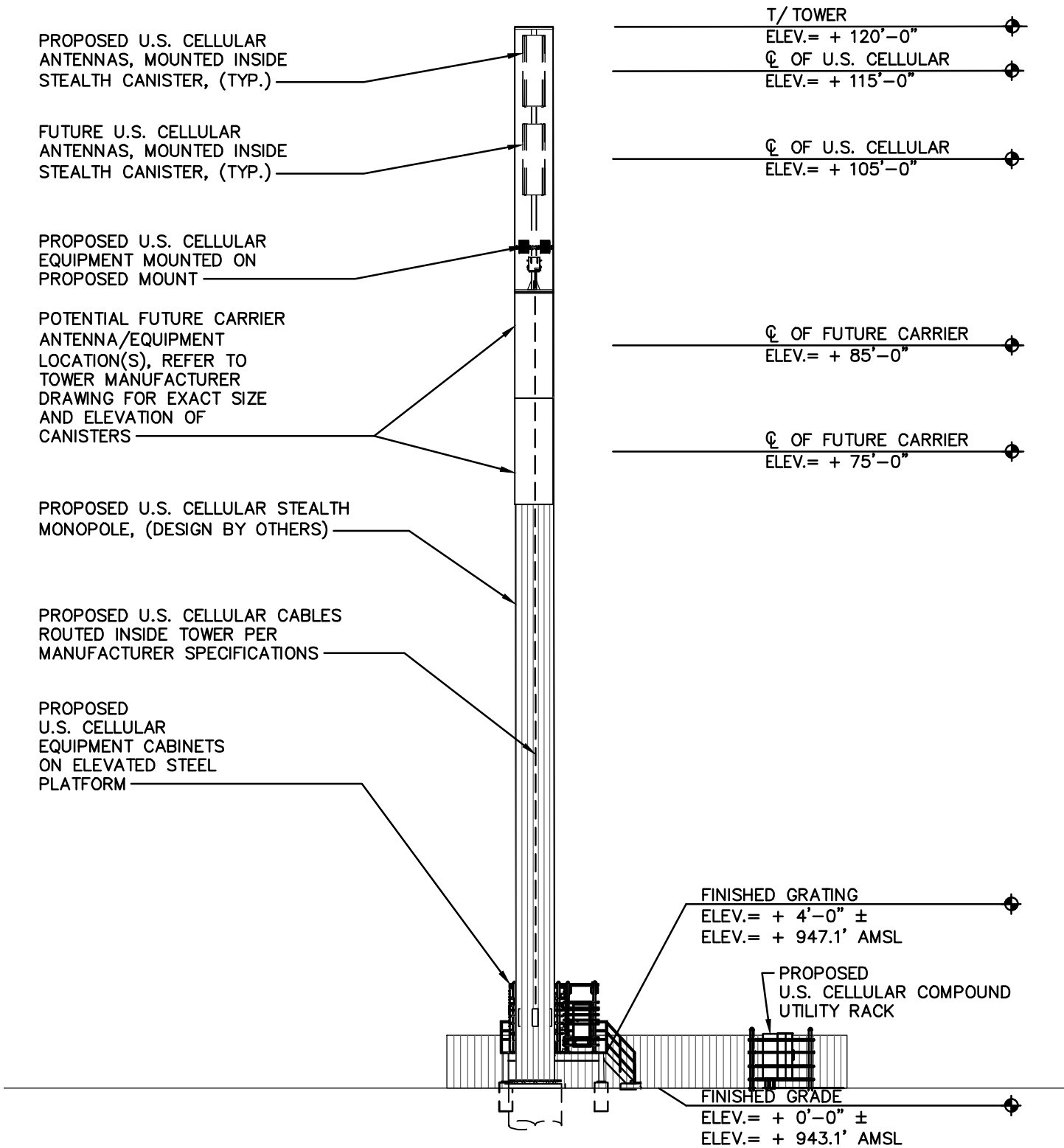


2 PLANTING DETAIL
SCALE: NONE

08/16/22	INTERNAL REVIEW	JAP
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11/09/22	CITY COMMENTS	JAP

GENERAL NOTES:

- 1. CENTERLINE ELEVATION NOTED FOR FUTURE CARRIERS ARE SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. ACTUAL FUTURE CENTERLINES SHALL BE COORDINATED AND APPROVED BY U.S. CELLULAR.
- 2. FUTURE ANTENNA AND MOUNTING PLATFORMS MAY NOT BE DEPICTED ON TOWER ELEVATION.
- 3. TOWER DESIGN AND PASSING STRUCTURAL ANALYSIS TO BE THE RESPONSIBILITY OF AND PROVIDED BY TOWER MANUFACTURER SEPARATE FROM THESE CONSTRUCTION DRAWING.



1 ELEVATION (WEST LOOKING EAST)
SCALE: 1/16" = 1'-0"



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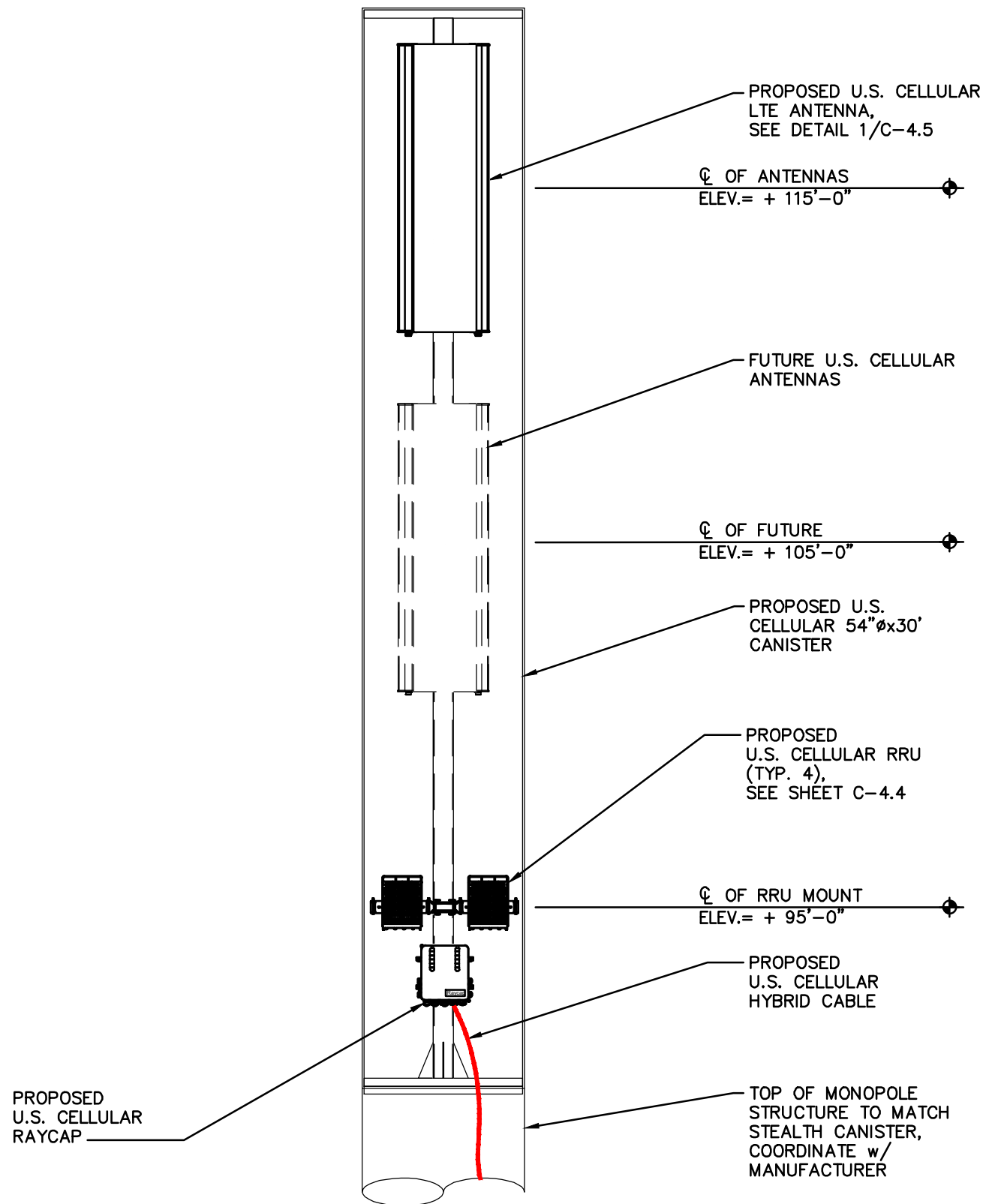
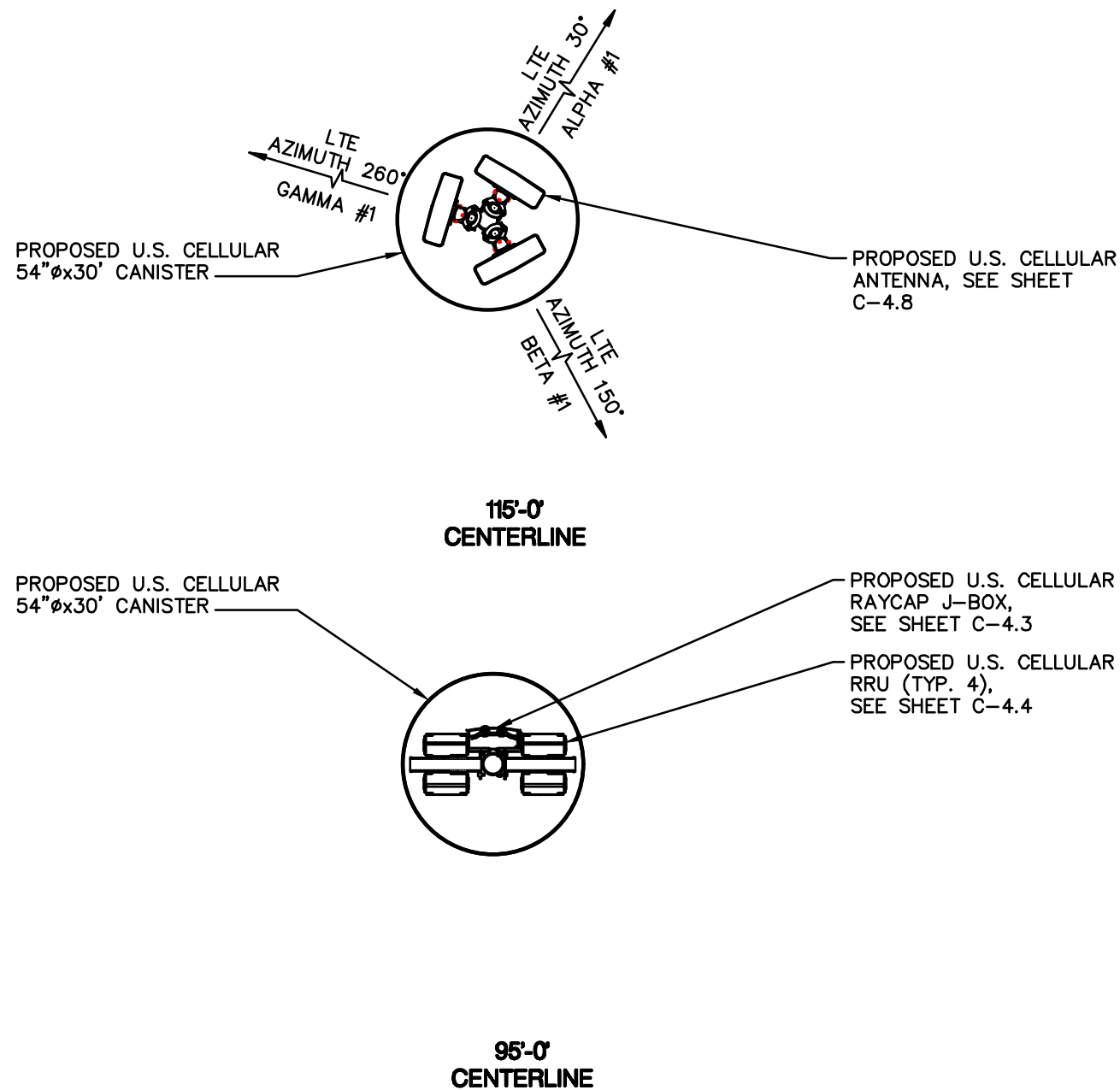
CHKD BY: AJK

SHEET TITLE

ELEVATION

SHEET NUMBER

C-3.0

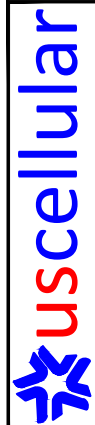


1 PROPOSED ANTENNA ORIENTATION (TOP VIEW)
SCALE: 1/4" = 1'-0"

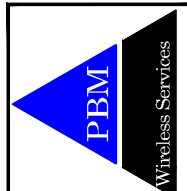


2 PROPOSED SECTION VIEW AT CANISTER
SCALE: 1/4" = 1'-0"

MP SF ANTENNA PLAN



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3950 N ANKENY BLVD
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NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
**ANTENNA
INFORMATION
& DETAILS**

SHEET NUMBER
C-4.0

PROPOSED LOADING																						
SECTOR	ANTENNA POSITION	TECH.	MANUFACTURER/ MODEL NUMBER	ANT. QTY	RAD CENTER	AZIMUTH	LB ELEC. TILT	HB ELEC. TILT	MECH TILT	RAYCAP	B71/B12 RADIO (RRU)	RADIO QTY.	B5 RADIO (RRU)	RADIO QTY.	B2 RADIO (RRU)	RADIO QTY.	B4 RADIO (RRU)	RADIO QTY.	COMBINER/ DIPLEXER	DIPLEXER QTY	CABLE TYPE	CABLE QTY.
ALPHA	A1	LTE	DENGYO OCT8-2LX2HX-BW65	1	115'	30°	2°	2°	0°	1	4480	1	-	-	4480	1	-	-	-	-	HYBRID 1-1/4"	1
ALPHA	A2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALPHA	A3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
ALPHA	A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BETA	B1	LTE	DENGYO OCT8-2LX2HX-BW65	1	115'	150°	2°	2°	0°	SHARED	-	-	-	-	-	-	-	-	-	-	SHARED	-
BETA	B2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BETA	B3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BETA	B4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMMA	G1	LTE	DENGYO OCT8-2LX2HX-BW65	1	115'	260°	2°	2°	0°	SHARED	4480	1	-	-	4480	1	-	-	-	-	SHARED	-
GAMMA	G2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMMA	G3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
GAMMA	G4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

FIBER JUMPER CABLE INFO		
RAYCAP TO 4480 (B12)		QTY.
ALPHA SECTOR:	32.8' (10m)	2
BETA SECTOR:	32.8' (10m)	-
GAMMA SECTOR:	32.8' (10m)	2
RAYCAP TO 4480 (B2)		QTY.
ALPHA SECTOR:	32.8' (10m)	2
BETA SECTOR:	32.8' (10m)	-
GAMMA SECTOR:	32.8' (10m)	2
N / A		QTY.
ALPHA SECTOR:	32.8' (10m)	N / A
BETA SECTOR:	32.8' (10m)	N / A
GAMMA SECTOR:	32.8' (10m)	N / A

POWER JUMPER CABLE INFO		
RAYCAP TO 4480 (B12)		QTY.
ALPHA SECTOR:	16.4' (5m)	1
BETA SECTOR:	16.4' (5m)	-
GAMMA SECTOR:	16.4' (5m)	1
RAYCAP TO 4480 (B2)		QTY.
ALPHA SECTOR:	16.4' (5m)	1
BETA SECTOR:	16.4' (5m)	-
GAMMA SECTOR:	16.4' (5m)	1
N / A		QTY.
ALPHA SECTOR:	16.4' (5m)	N / A
BETA SECTOR:	16.4' (5m)	N / A
GAMMA SECTOR:	16.4' (5m)	N / A

COAX JUMPER CABLE INFO		
4480 (B12) TO ANTENNA		QTY.
ALPHA SECTOR:	25 FT *	2
BETA SECTOR:	25 FT *	2
GAMMA SECTOR:	25 FT *	4
4480 (B2) TO ANTENNA		QTY.
ALPHA SECTOR:	25 FT *	2
BETA SECTOR:	25 FT *	2
GAMMA SECTOR:	25 FT *	4
N / A		QTY.
ALPHA SECTOR:	-	-
BETA SECTOR:	-	-
GAMMA SECTOR:	-	-
N / A		QTY.
ALPHA SECTOR:	-	-
BETA SECTOR:	-	-
GAMMA SECTOR:	-	-

RET JUMPER CABLE INFO		
4480 (B12) TO ANTENNA		QTY.
ALPHA SECTOR:	32.8' (10m)	1
BETA SECTOR:	32.8' (10m)	-
GAMMA SECTOR:	32.8' (10m)	1
4480 (B2) TO ANTENNA		QTY.
ALPHA SECTOR:	32.8' (10m)	1
BETA SECTOR:	32.8' (10m)	-
GAMMA SECTOR:	32.8' (10m)	1

HYBRID CABLE LENGTH	
HYBRID CABLE QUANTITY FROM GROUND TO RAYCAP	1
POWER CABLE QUANTITY FROM GROUND TO RAYCAP	-
LENGTH FROM GROUND RAYCAP TO ICE BRIDGE	5'
LENGTH ALONG ICE BRIDGE	15'
LENGTH FROM ICE BRIDGE TO TOWER RAYCAP	115'
TOTAL LENGTH OF HYBRID CABLE	135'
ROUNDED HYBRID CABLE LENGTH	200'

FOR
REFERENCE ONLY

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E// B12/B71 2T2R / B2/B66 2T2R

ALPHA SECTOR

PCS/AWS/LTE
2100/1900/700/600 MHz
4.3-10 CONNECTORS



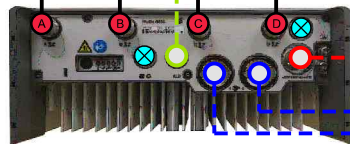
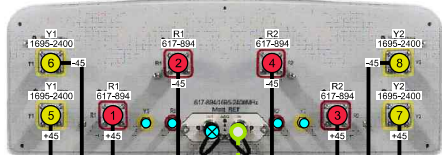
BETA SECTOR

PCS/AWS/LTE
2100/1900/700/600 MHz
4.3-10 CONNECTORS

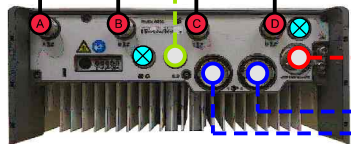


GAMMA SECTOR

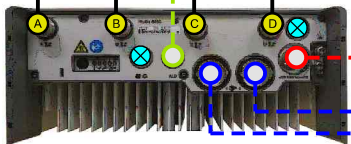
PCS/AWS/LTE
2100/1900/700/600 MHz
4.3-10 CONNECTORS



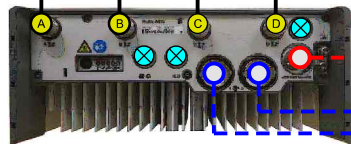
ERICSSON RRU4480 B12/B71
4.3-10 CONNECTORS
10 GB SFP



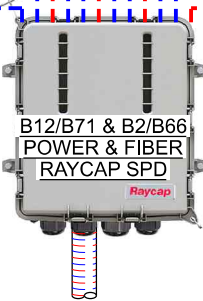
ERICSSON RRU4480 B12/B71
4.3-10 CONNECTORS
10 GB SFP



ERICSSON RRU4480 B2/B66
4.3-10 CONNECTORS
10 GB SFP



ERICSSON RRU4480 B2/B66
4.3-10 CONNECTORS
10 GB SFP



HYBRID CABLE TO
BASE EQUIPMENT

CABLE LEGEND

- EUPEN HYBRID CABLE
- 1/2" COAX JUMPER
- FIBER JUMPER
- POWER JUMPER
- RET JUMPER
- MID BAND PORT
- LOW BAND PORT
- WEATHERPROOF CAP

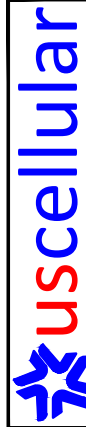
DATE CREATED: 01/20/2022

PLUMBING DIAGRAM: W5.DX1020 (No B5)
2T2R DESIGN: Yes-2 - no B5

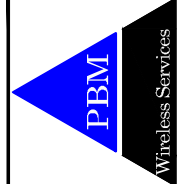
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NOTES:

- ALL JUMPERS BETWEEN RADIO UNITS & ANTENNAS MUST BE THE SAME LENGTH.
- CONTRACTOR TO INSTALL WEATHERPROOF CAP ON ALL UN-USED PORTS.



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2	11/07/22	CITY COMMENTS	JAP
3	11/09/22	CITY COMMENTS	JAP

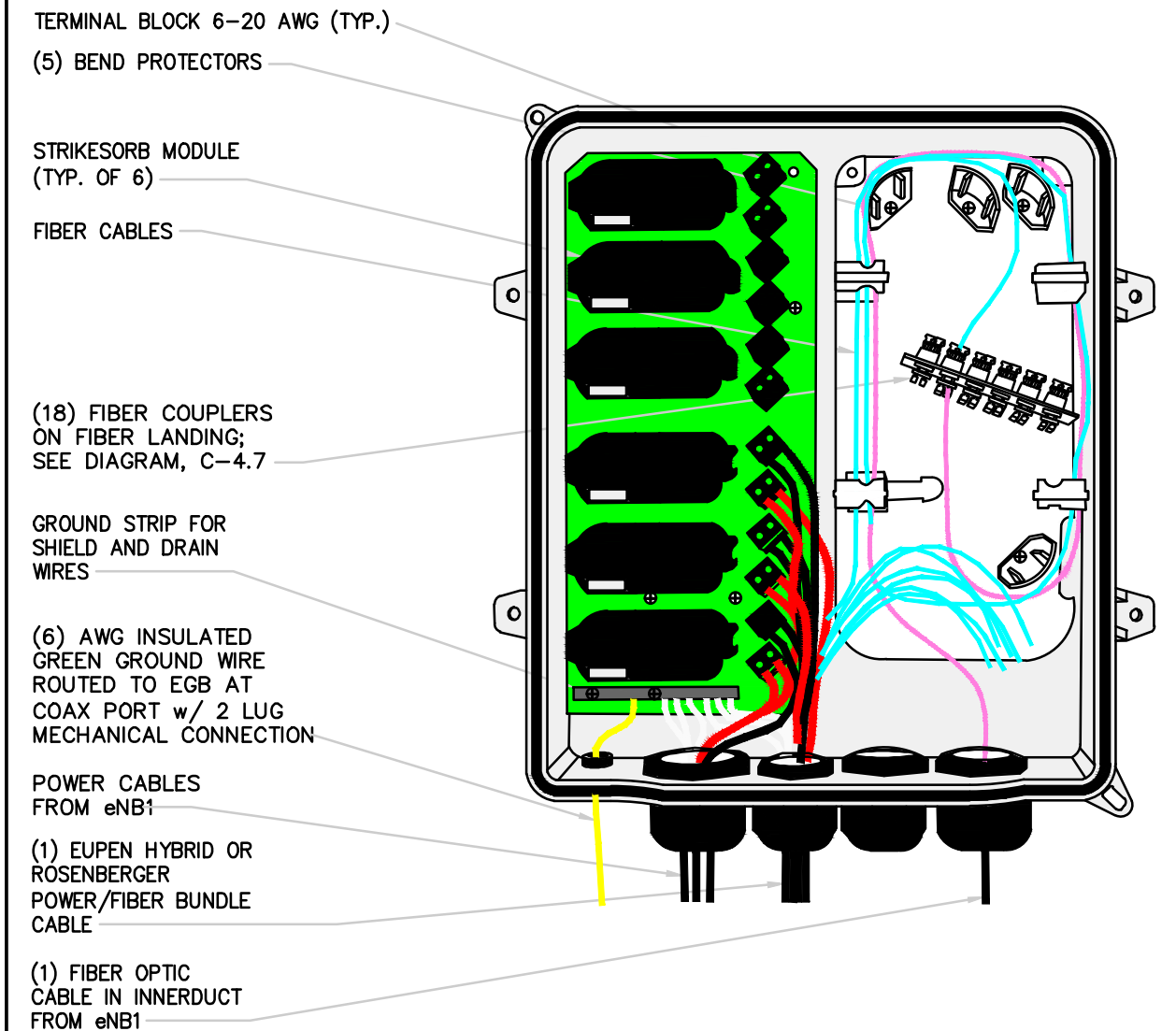
7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

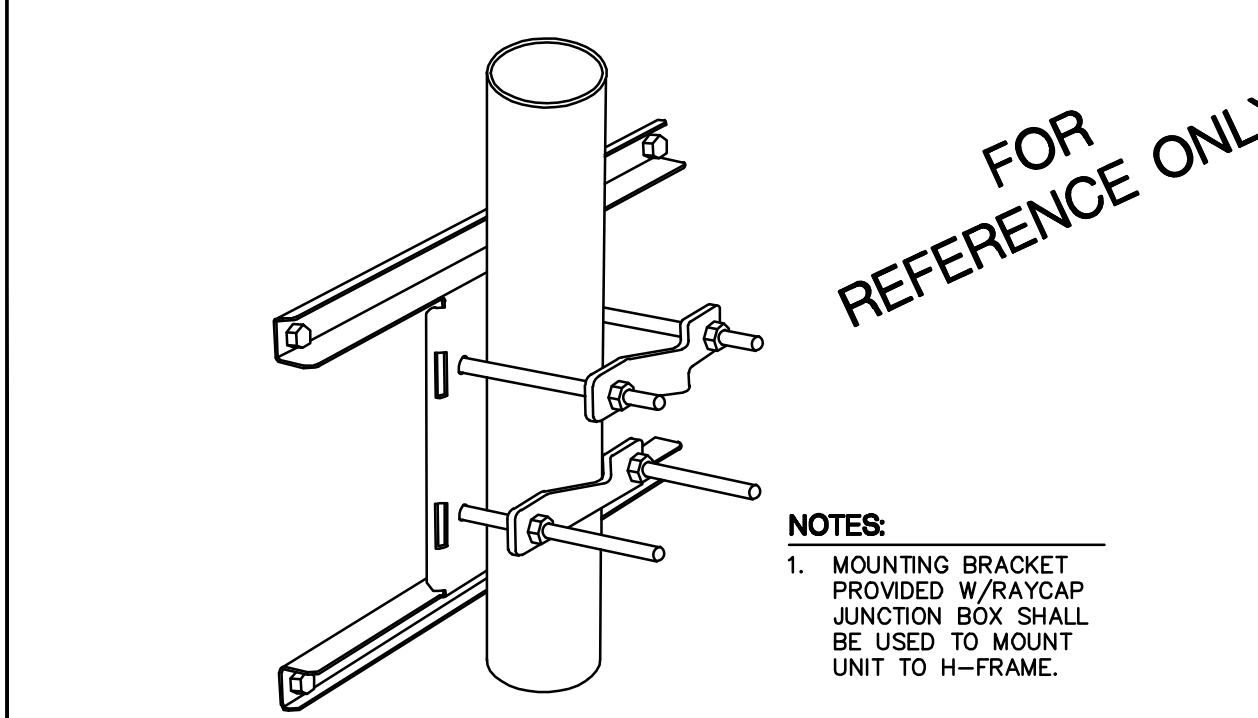
PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AUK

SHEET TITLE
RF PLUMBING
DIAGRAM

SHEET NUMBER
C-4.2



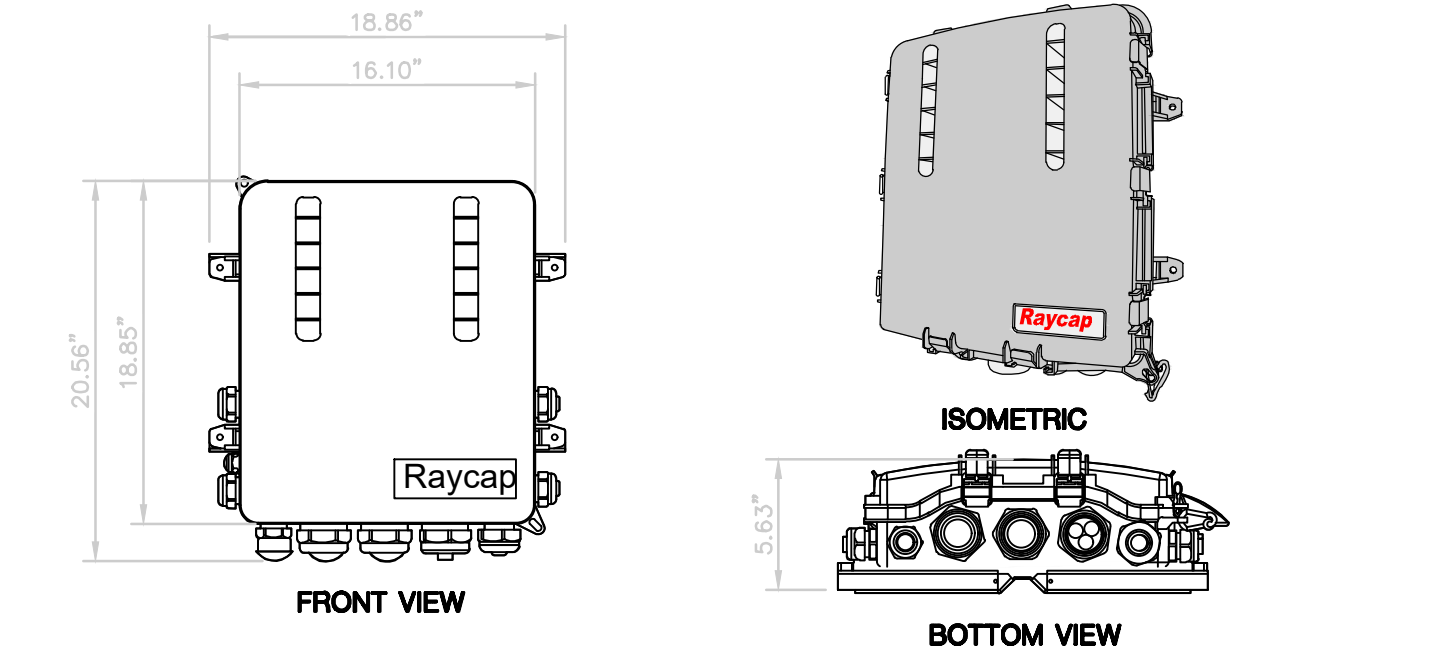
1 RAYCAP CABLING DETAIL
SCALE: NONE
RAYCAP CABLING DETAIL



2 RAYCAP - JUNCTION BOX MOUNTING BRACKET
SCALE: NONE
RAYCAP CABLING DETAIL

ELECTRICAL	
MODEL NUMBERS	RUSDC-6267-PF-48
SURGE PROTECTIVE DEVICE (SPD) CLASS AS PER IEC 61643-11	CLASS I
NORMAL OPERATING VOLTAGE	48VDC
MAXIMUM CONTINUOUS OPERATING VOLTAGE	75 VDC
NOMINAL DISCHARGE CURRENT PER UL 1446 3RD EDITION	20kA 8/20
IMPULSE DISCHARGE CURRENT PER IEC 61643-11	5kA 10/350
MAXIMUM SURGE CURRENT PER NEMA-LS-1	60kA 8/20
VOLTAGE PROTECTION RATING PER UL 1449 3RD EDITION	400V
POWER TRUNK (2)	UP TO .795" [20.2MM]
HYBRID TRUNK	UP TO 1-1/2" [38MM]
STRIKESORB MODULE TYPE	30-V1-HV
PLUGGABLE STRIKESORK MODULES	6

ACCESSORIES	
3 GLAND KITS KIT A: (FACTORY INSTALLED) POWER AND FIBER INPUT FOR UP TO TWO (2) 7/8" HYBRID TRUNKS. POWER OUTPUT TO SUPPORT SIX (6) RRU's AND FIBER OUTPUT TO SUPPORT UP TO NINE (9) FIBER JUMPERS. KIT B: (BAGGED AND LABELED) POWER INPUT TO SUPPORT UP TO TWO (2) 8AWG/6-CONDUCTOR POWER TRUNKS AND ONE (1) 18-PAIR FIBER TRUNK. KIT C: (BAGGED AND LABELED) POWER INPUT TO SUPPORT SINGLE 1.5" HYBRID TRUNK AND TWO (2) 3-HOLE GLANDS TO SUPPORT POWER JUMPERS TO RRU.	



3 RAYCAP SURGE PROTECTOR / JUNCTION BOX
SCALE: NONE
RAYCAP CUT SHEET

MECHANICAL	
SUPPRESSION CONNECTION METHOD	COMPRESSION LUG, #14 -#2/O AWG COPPER; #12-#2/O AWG ALUMINUM
FIBER CONNECTION METHOD	DUPLEX LC TO DUPLEX LC
LC-LC FIBER CONNECTIONS	18 PAIR
ENVIRONMENTAL RATING	IP 67
OPERATING TEMPERATURE	-40°C TO +80°C
UV RESISTANT	YES
WEIGHT	SYSTEM: 15.8 LBS MOUNT: 4.15 LBS TOTAL: 19.95 LBS
COMBINED WIND LOADING	150MPH (SUSTAINED): 135.55 LBS 195MPH (GUST): 176.02 LBS

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Wireless Services
Think outside the triangle.

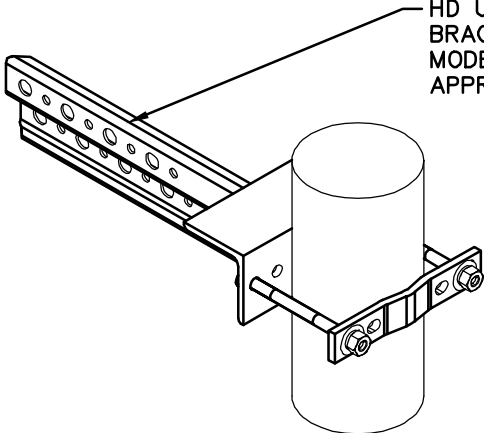
A	08/16/22	INTERNAL REVIEW	JAP
O	08/19/22	CLIENT REVIEW	JAP
1	09/22/22	CLIENT REVIEW	JAP
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3	11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04
DWG BY: JAP
CHKD BY: AJK

SHEET TITLE
RAYCAP
INFORMATION

SHEET NUMBER
C-4.3



HD UNIVERSAL SUPPORT
BRACKET, SITEPRO 1
MODEL#UTL-8 OR CLIENT
APPROVED EQUIVALENT

1

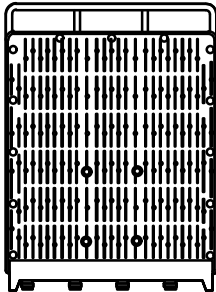
UNIVERSAL CABLE SUPPORT BRACKET

SCALE: NONE

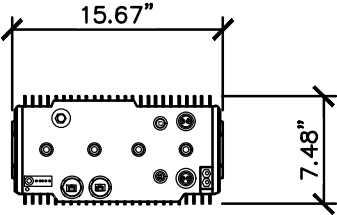
SITEPRO1 – UTL8

REMOTE RADIO UNIT

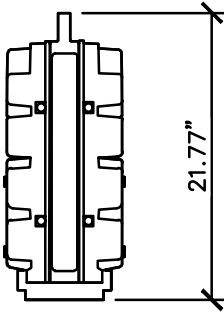
MANUF:	ERICSSON
PART #:	RRU 4480
B12/B71 HEIGHT:	21.77"
WIDTH:	15.67"
DEPTH:	7.48"
WEIGHT:	82.898 LBS



FRONT



BOTTOM



SIDE

- NOTES:
- DO NOT COVER THE WATERPROOF VENT VALVE: THE UNIT IS VENTILATED THROUGH THE WATERPROOF VENT VALVE. THE VALVE MUST NOT BE BLOCKED.
 - THE RRU CAN BE PAINTED IF THE WATERPROOF VALVE IS NOT CLOGGED AND THE CONNECTORS ARE NOT PAINTED.
 - MOUNT THE RRU IN AN UPRIGHT VERTICAL POSITION WITH THE CONNECTORS POINTING DOWNWARDS.

2

ERICSSON (REMOTE RADIO UNIT)

SCALE: NONE

RRU-4480



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7601333 - ANKENY NE 36TH.
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ANKENY, IA 50023 – POLK COUNTY
NEW SITE BUILD – STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

CHKD BY: AJK

SHEET TITLE

EQUIPMENT
INFORMATION

SHEET NUMBER

C-4.4



BASE STATION ANTENNAS

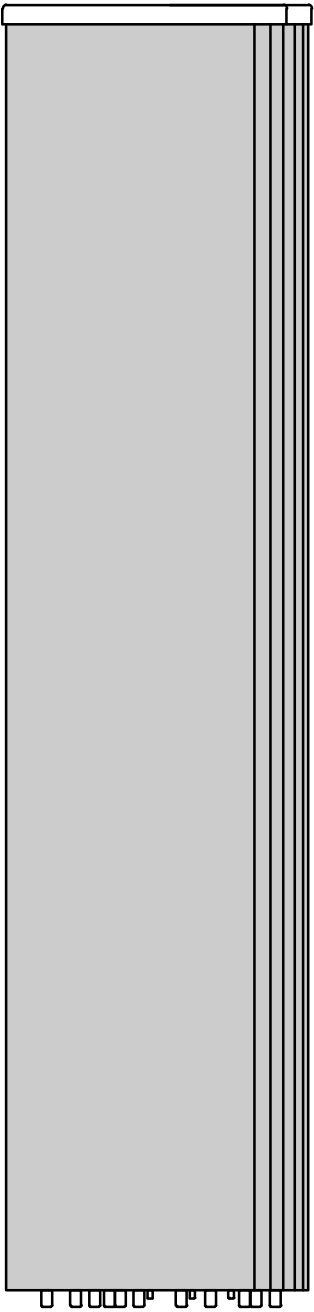
OCT8-2LX2HX-BW65 (8-PORT PANEL / XPOL / 65° / 2438 mm (95.9 IN))

8-PORTS 617-894/ 617-894/ 1695-2400/ 1695-2400MHZ 65°
16/ 16/ 1 8/ 18DBI, 2°-12°/ 2°-12°/ 2°-12°/ 2-12° TILT ANTENNA WITH 4 INTEGRATED RCUS.

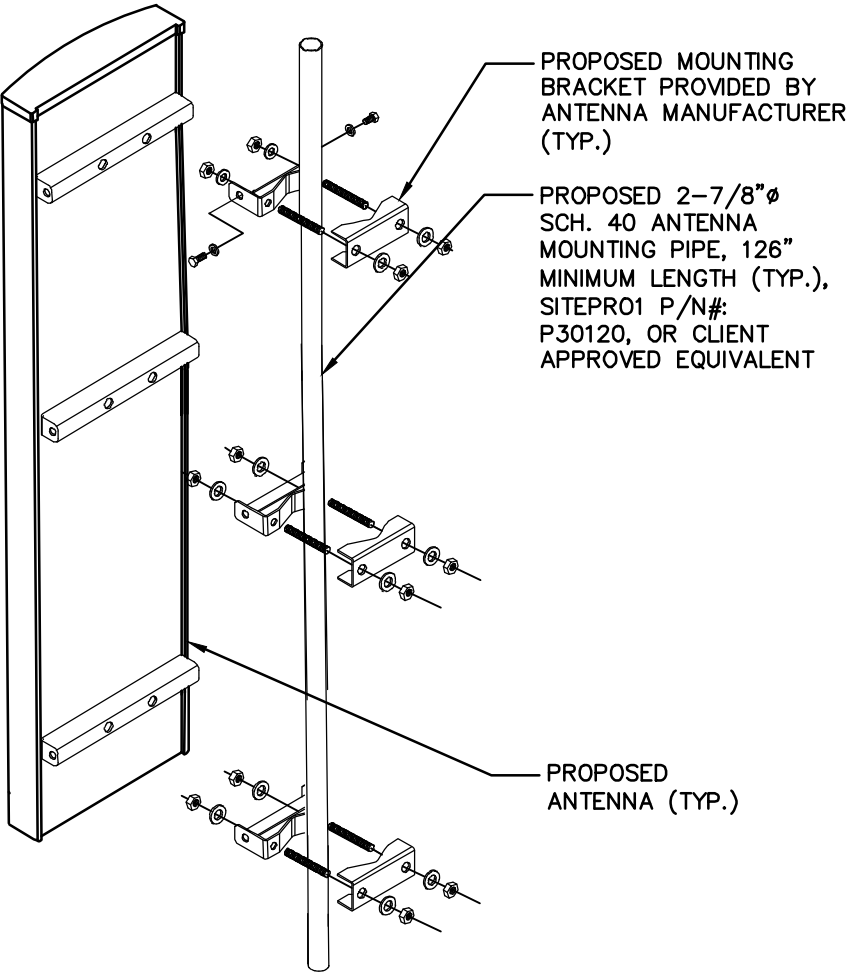
ELECTRICAL CHARACTERISTICS	LOW BAND R1 R2			HIGH BAND Y1 Y2		
FREQUENCY BANDS (MHz)	(2x) 617–894 MHz			(2x) 1695–2400 MHz		
	617–698	698–824	824–894	1695–1920	1920–2180	2300–2400
POLARIZATION	±45°			(2x) ±45°		
AZIMUTH BEAMWIDTH (3dB)	70.0°	65.0°	60.0°	66.0°	63.0°	58.0°
ELEVATION BEAMWIDTH (3dB)	10.4°	9.1°	8.0°	5.5°	5.0°	4.3°
GAIN	15.1 dBi	15.6 dBi	16.0 dBi	17.6 dBi	18.0 dBi	18.1 dBi
ELECTRICAL DOWNTILT (°)	2° – 12°			2° – 12°		
UPPER SIDELobe SUPPRESSION	≥16	≥16	≥16	≥16	≥16	≥16
FRONT–TO–BACK RATIO	≥25	≥25	≥25	≥25	≥25	≥25
CROSS POLAR MAIN DIRECTION RATIO	≥17	≥17	≥17	≥17	≥17	≥17
	±60°	≥ 7	≥ 7	≥ 7	≥ 7	≥ 7
IMPEDANCE	50Ω					
VSWR	< 1.5					
INTERMODULATION IM3	< –150 dBc (2x43dBm carrier)					
ISOLATION PORTS	≥25 dB					
ISOLATION FREQUENCY	≥30 dB					
MAXIMUM POWER PER PORT	500 W			300 W		
CONNECTOR(S)	(4x) 4.3–10 FEMALE LONG NECK			(4x) 4.3–10 FEMALE LONG NECK		

MECHANICAL CHARACTERISTICS		
DIMENSIONS (HEIGHT x WIDTH x DIAMETER)		95.9" x 21.0" x 6.3"
WEIGHT w/o MOUNT BRACKET		88.2 lbs
WEIGHT WITH MOUNT BRACKET		101.4 lbs
SURVIVAL WIND SPEED		> 150 mph
WIND LOAD AT 100MPH	FRONT	1.9 ft²
	LATERAL	1.1 ft²
	REAR SIDE (N)	49 lbf

FOR REFERENCE ONLY



ISOMETRIC VIEW



1 ANTENNA MOUNTING
SCALE: NONE

TYPICAL ANTENNA MOUNT

2 ANTENNA DETAILS
SCALE: NONE



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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

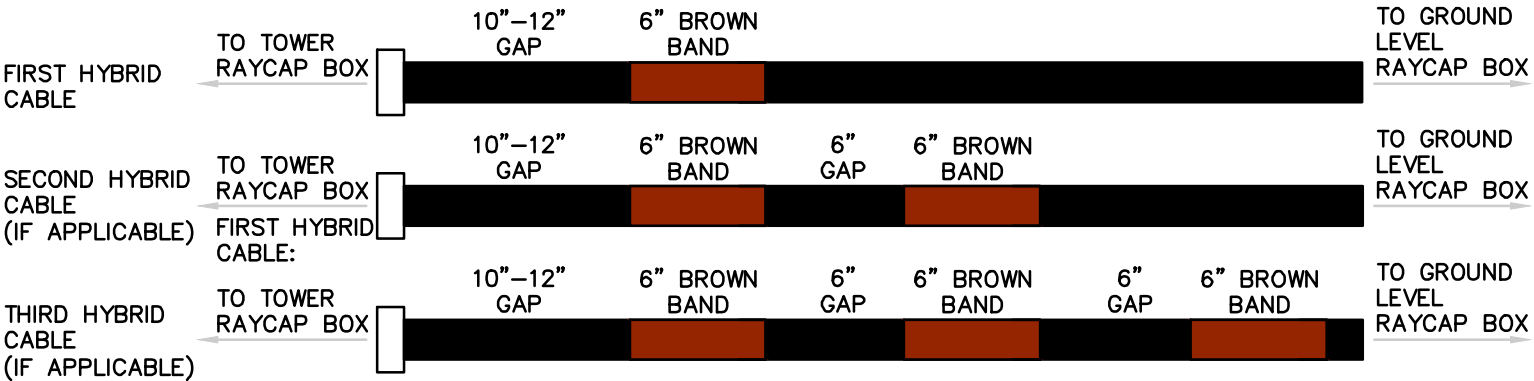
PROJ #: 22-06-04
DWG BY: JAP
CHKD BY: AJK

SHEET TITLE
EQUIPMENT INFORMATION

SHEET NUMBER
C-4.5

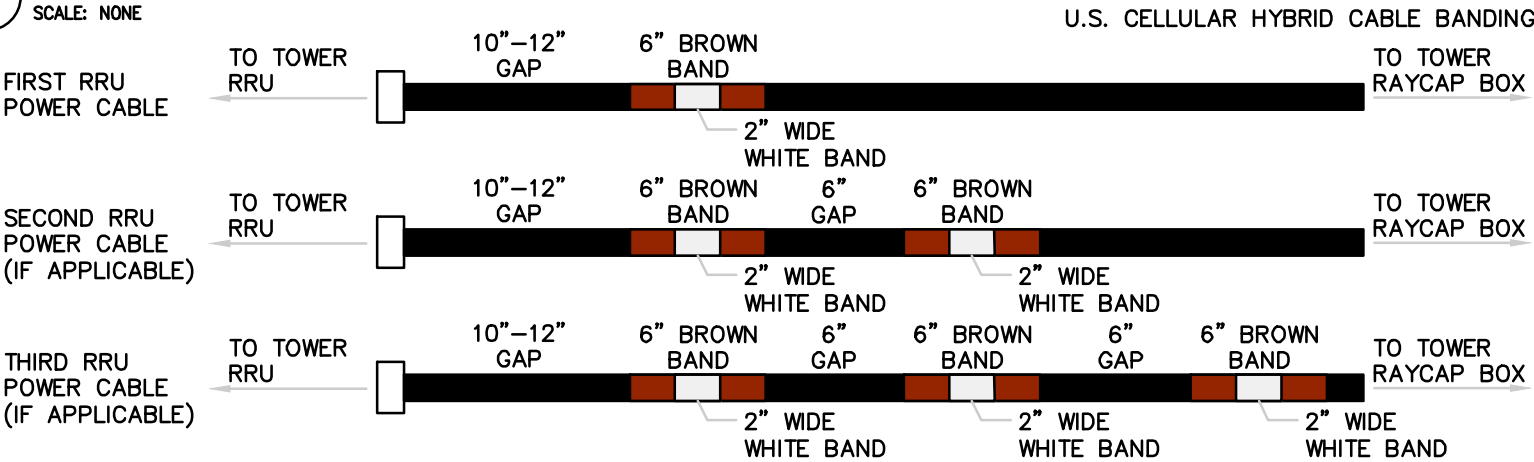
ANTENNA AND CABLING NOTES:

1. CONTRACTOR TO VERIFY FINAL RF CONFIGURATION w/ U.S. CELLULAR RF ENGINEER PRIOR TO START OF CONSTRUCTION.
2. CONTRACTOR TO INSTALL ANTENNAS AT CENTERLINE AND AZIMUTH AS SHOWN ON THE FINAL RF CONFIGURATION SHEET. CABLE ROUTING ON, IN, OR ABOUT SUPPORT STRUCTURES TO BE AS DETAILED IN THE STRUCTURAL ANALYSIS.
3. COAX LENGTHS & SIZES INDICATED ABOVE ARE APPROXIMATE, CONTRACTOR TO VERIFY ACTUAL LENGTHS BEFORE ORDERING.
4. LOCATION OF ANTENNAS AS SHOWN HAVE BEEN APPROVED BY U.S. CELLULAR’S RADIO FREQUENCY ENGINEERS. PBM WIRELESS ASSUMES NO RESPONSIBILITY FOR, NOR HAS PBM WIRELESS PERFORMED ANY INVESTIGATIONS OR STUDIES CONCERNING, THE COMPLIANCE OR NONCOMPLIANCE OF SAID ANTENNA LOCATIONS WITH ANY RADIO FREQUENCY EXPOSURE REGULATIONS.
5. CONTRACTOR TO ADD COLOR CODE BANDING AT CABINET, AND AT TOP OF TOWER FOR EACH COAX/CABLE RUN.
6. CONTRACTOR TO USE "SCOTCH PROFESSIONAL GRADE COLOR CODING VINYL ELECTRICAL TAPE 35" OR APPROVED EQUIVALENT FOR COAXIAL BANDING.



NOTES:
AT THE TOP OF THE TOWER (OR HIGH RISE BUILDING / WATER TOWER) AND ALSO AT THE ENTRY POINT INTO THE GROUND LEVEL JUNCTION BOX, HYBRID / DISCRETE CABLES MUST BE BANDED ACCORDING TO THE ILLUSTRATION BELOW. THE ILLUSTRATION SHOWS THE FIRST HYBRID / DISCRETE CABLE INSTALLED ON THE TOWER MUST HAVE ONE BROWN BAND, THE SECOND HYBRID CABLE MUST HAVE TWO BROWN BANDS, AND THE THIRD HYBRID / DISCRETE CABLE MUST HAVE THREE BROWN BANDS

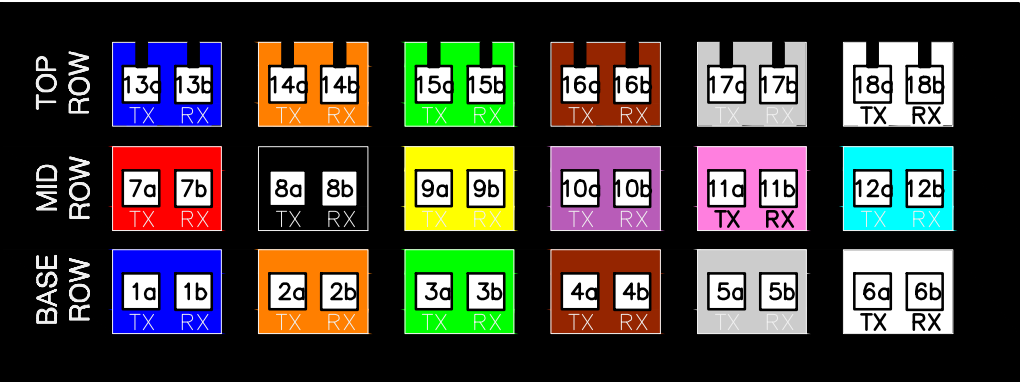
1 TYPICAL HYBRID CABLE BANDING



2 TYPICAL CABLE BANDING

SCALE: NONE U.S. CELLULAR FIBER CABLE BANDING

- NOTES:**
1. CONTRACTOR SHALL REFER TO SHEET N-6 FOR FIBER OPTIC CABLE INSTALLATION NOTES.
2. REFER TO CURRENT EDITION OF U.S. CELLULAR DOCUMENT "TOWER MOUNTED EQUIPMENT AND TOWER CABLE STANDARDS AT CELL SITES" FOR COMPLETE COLOR CODING STANDARDS.

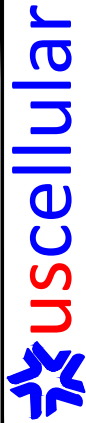


RAYCAP FIBER OPTIC COLOR SCHEDULE

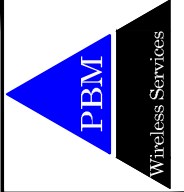
CONNECTOR #13 13a: BLUE TX 13b: BLUE RX	CONNECTOR #14 14a: ORANGE TX 14b: ORANGE RX	CONNECTOR #15 15a: GREEN TX 15b: GREEN RX	CONNECTOR #16 16a: BROWN TX 16b: BROWN RX	CONNECTOR #17 17a: SLATE TX 17b: SLATE RX	CONNECTOR #18 18a: WHITE TX 18b: WHITE RX
CONNECTOR #7 7a: RED TX 7b: RED RX	CONNECTOR #8 8a: BLACK TX 8b: BLACK RX	CONNECTOR #9 9a: YELLOW TX 9b: YELLOW RX	CONNECTOR #10 10a: VIOLET TX 10b: VIOLET RX	CONNECTOR #11 11a: ROSE TX 11b: ROSE RX	CONNECTOR #12 12a: AQUA TX 12b: AQUA RX
CONNECTOR #1 1a: BLUE TX 1b: BLUE RX	CONNECTOR #2 2a: ORANGE TX 2b: ORANGE RX	CONNECTOR #3 3a: GREEN TX 3b: GREEN RX	CONNECTOR #4 4a: BROWN TX 4b: BROWN RX	CONNECTOR #5 5a: SLATE TX 5b: SLATE RX	CONNECTOR #6 6a: WHITE TX 6b: WHITE RX

3 TYPICAL FIBER CABLE LABELING

SCALE: NONE U.S. CELLULAR FIBER CABLE LABELING



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7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

DWG BY: JAP
CHKD BY: AJK
PROJ #: 22-06-04

SHEET TITLE
HYBRID & CABLE
COLOR CODING

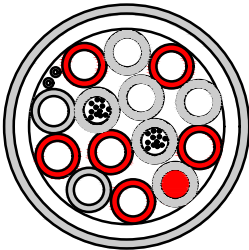
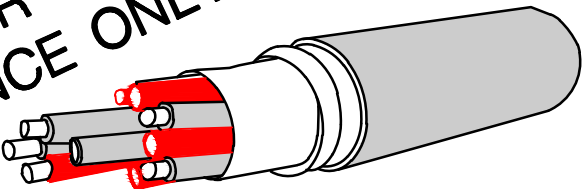
SHEET NUMBER
C-4.6



EUCAHYBRID 114-12AWG6-2x12MM5-CP

EUCAHYBRID 114-12AWG6-2x12SM-CP

FOR
REFERENCE ONLY



1-1/4" HYBRID FIBER OPTIC CABLE WITH 48V ENERGY FEEDER IN A CORRUGATED ALUMINUM SHIELDING WITH UV RESISTANT PE JACKET MULTI MODE AND SINGLE MODE FIBER AVAILABLE

TECHNICAL FEATURES

CONSTRUCTION	MM5	SM
COPPER FEED LINES - QUANTITY - CONDUCTOR - SECTION	12 ELECTROLYTIC COPPER 13,3 MM ²	
DRY CONTACT - QUANTITY - CONDUCTOR MATERIAL - COPPER DIAMETER - OUTER DIAMETER (EACH WIRE)	2 (ONE PAIR) ELECTROLYTIC COPPER 0,8 MM 1,6 MM	
FIBER OPTIC CABLE - QUANTITY - FIBER QUANTITY - FIBER TYPE - FIBER SIZE - REINFORCEMENT	2 12 MULTI MODE 50/125/900 UM ARAMIDE FIBER	SINGLE MODE 9/125/900 UM
RIPCORD - QUANTITY - MATERIAL - DIAMETER	1 STEEL WIRE 0,8 MM	
OUTER SHIELD - MATERIAL - DIAMETER	CORRUGATED ALUMINUM TUBE 36 MM	
JACKET - MATERIAL - THICKNESS - DIAMETER	BLACK POLYETHYLENE 1,5 MM 39 MM	

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3	11/09/22	CITY COMMENTS	JAP

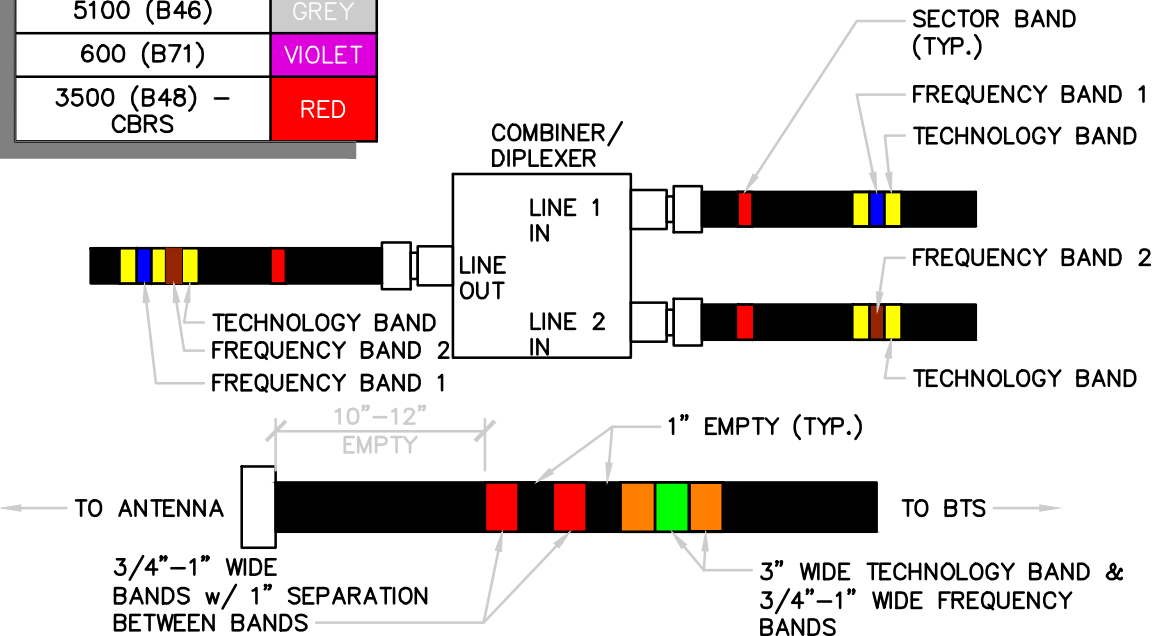
SECTOR BAND ASSIGNMENTS (MOST COMMON CASE: SINGLE TECHNOLOGY WITHIN THE SECTOR)					
SECTOR BAND	ASSIGNED COLOR	LINE 1	LINE 2	LINE 3	LINE 4
ALPHA (SECTOR 1)	RED	1 RED BAND	2 RED BANDS	3 RED BANDS	4 RED BANDS
BETA (SECTOR 2)	WHITE	1 WHITE BAND	2 WHITE BANDS	3 WHITE BANDS	4 WHITE BANDS
GAMMA (SECTOR 3)	BLUE	1 BLUE BAND	2 BLUE BANDS	3 BLUE BANDS	4 BLUE BANDS
DELTA (SECTOR 4, IF APPLICABLE)	GREEN	1 GREEN BAND	2 GREEN BANDS	3 GREEN BANDS	4 GREEN BANDS
EPSILON (SECTOR 5, IF APPLICABLE)	VIOLET	1 VIOLET BAND	2 VIOLET BANDS	3 VIOLET BANDS	4 VIOLET BANDS
ZETA (SECTOR 6, IF APPLICABLE)	BROWN	1 BROWN BAND	2 BROWN BANDS	3 BROWN BANDS	4 BROWN BANDS

SECTOR BAND ASSIGNMENTS (EXCEPTION CASE) ALPHA SECTOR, CDMA ON COAX CABLES ONES AND FOUR, LTE ON COAX CABLE TWO AND THREE					
SECTOR BAND	ASSIGNED COLOR	LINE 1 (CDMA)	LINE 2 (LTE)	LINE 3 (LTE)	LINE 4 (CDMA)
ALPHA (SECTOR 1)	RED	1 RED BAND	1 RED BAND	2 RED BANDS	2 RED BANDS

FREQUENCY BAND	
700 (B12)	GREEN
800 (B5)	BROWN
1900 (B2)	BLUE
2100 (B4 & B66)	WHITE
5100 (B46)	GREY
600 (B71)	VIOLET
3500 (B48) – CBRS	RED

TECHNOLOGY BAND	
CDMA	YELLOW
LTE	ORANGE

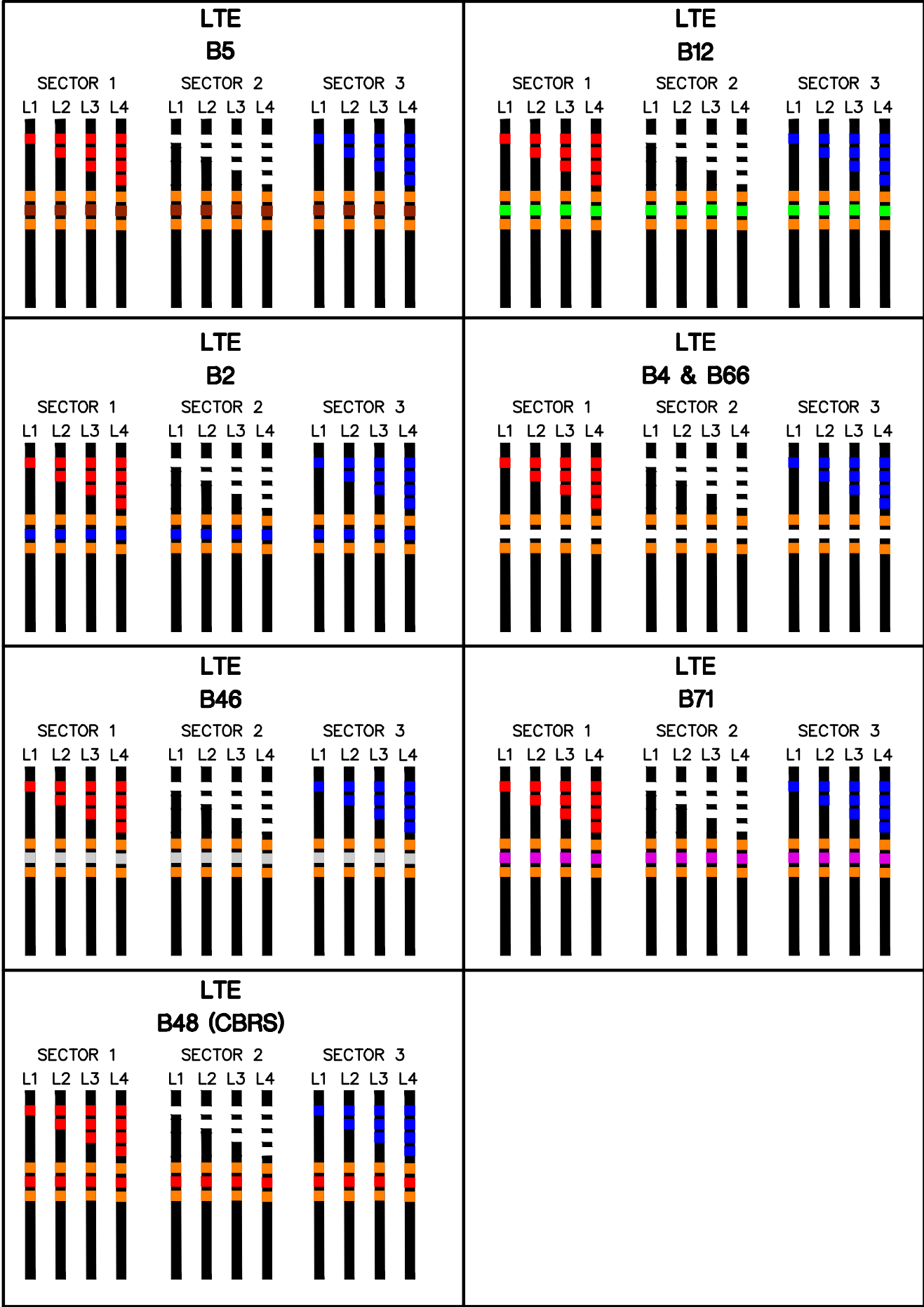
NOTE: REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD; STD72 TO VERIFY CURRENT COLOR CODING



1 TYPICAL COAX CABLE BANDING

SCALE: NONE

U.S. CELLULAR COAX BANDING



2 U.S. CELLULAR COAX COLOR CODE STANDARD

SCALE: NONE

U.S. CELLULAR COAX COLOR CODE STANDARD



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ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04
DWG BY: JAP
CHKD BY: AJK

SHEET TITLE
CABLING
INFORMATION
& DETAILS

SHEET NUMBER
C-4.8

KEY NOTES:

- 1

3-1/2" O.D. SCH. 40 STD. PIPE x 10'-0" LONG
- 2

NEMA 3R 20 AMP GFCI DUPLEX RECEPTACLE (TYP.)
- 3

UTILITY CONDUITS, SEE DETAIL 1/C-9.2
- 4

U.S. CELLULAR PPC CABINET
- 5

U.S. CELLULAR RBS CABINET
- 6

P1000 UNISTRUT FRAMING LENGTH AS REQUIRED & SPACING PER EQUIPMENT CABINET SPECIFICATIONS (TYP.)
- 7

FLOOD LIGHT LITHONIA LIGHTING MODEL # OFL-100M-120-LP-BZ OR APPROVED EQUIVALENT
- 8

RAYCAP JUNCTION BOX, SEE SHEET C-4.3
- 9

NEMA 3R LIGHT SWITCH WITH TIMER (TYP.)
- 10

NEMA 3R J-BOX, 12"x12"x6" FOR DC AND FIBER JUMPERS, SEE DETAIL 1/C-9.2
- 11

GROUND LEAD @ POST (TYP.), SEE DETAIL 5/C-13.0
- 12

U.S. CELLULAR ELEVATED EQUIPMENT PLATFORM, SEE SHEET(S) C-5.1, C-5.2, & C-5.3
- 13

NOT USED
- 14

PROPOSED U.S. CELLULAR RRU AND EQUIPMENT RACK
- 15

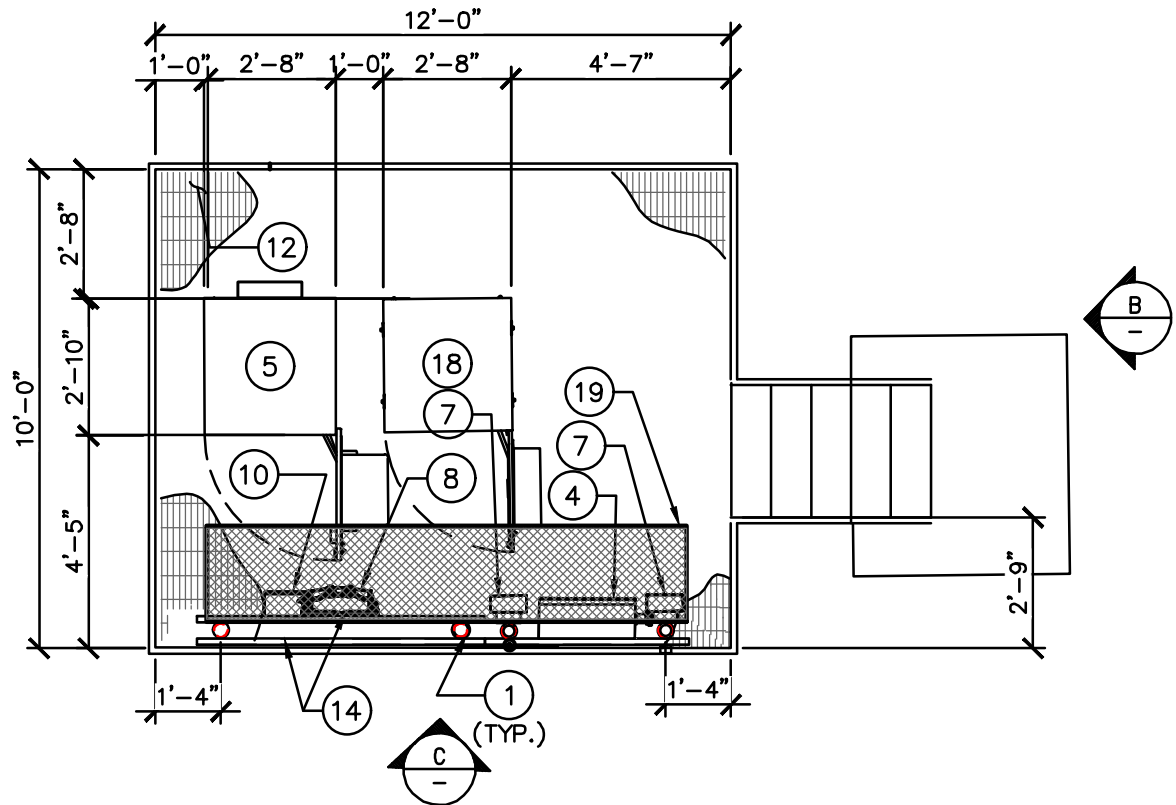
CONDUIT FOR SERVICE TO CHARLES FOR FIBER JUMPERS, SEE DETAIL 1/C-9.2
- 16

CONDUIT FOR SERVICE TO CHARLES FOR DC JUMPERS, SEE DETAIL 1/C-9.2
- 17

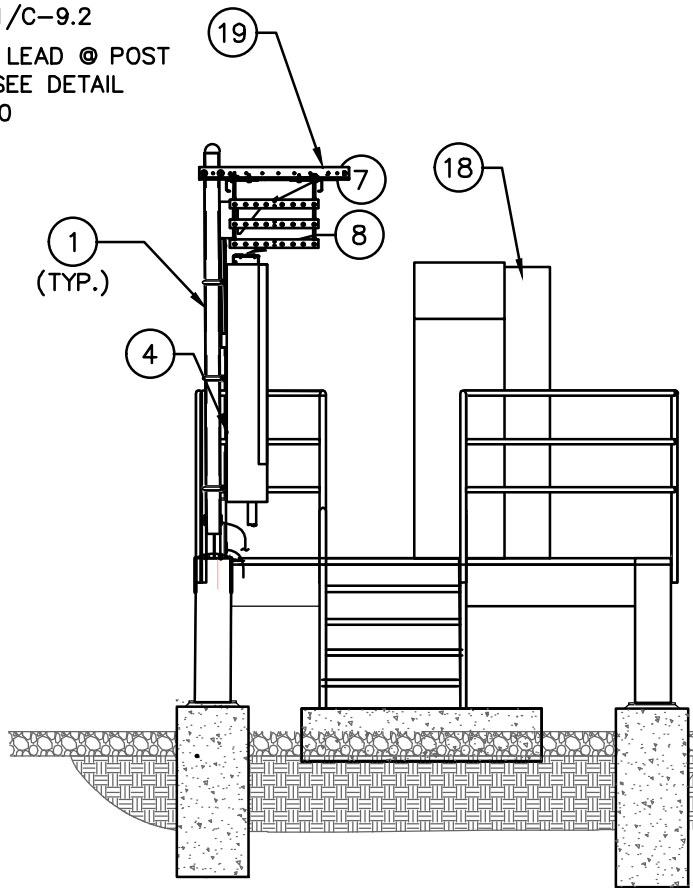
EQUIPMENT GROUND BUS BAR, SEE DETAIL 4/C-11.0
- 18

U.S. CELLULAR BATTERY CABINET
- 19

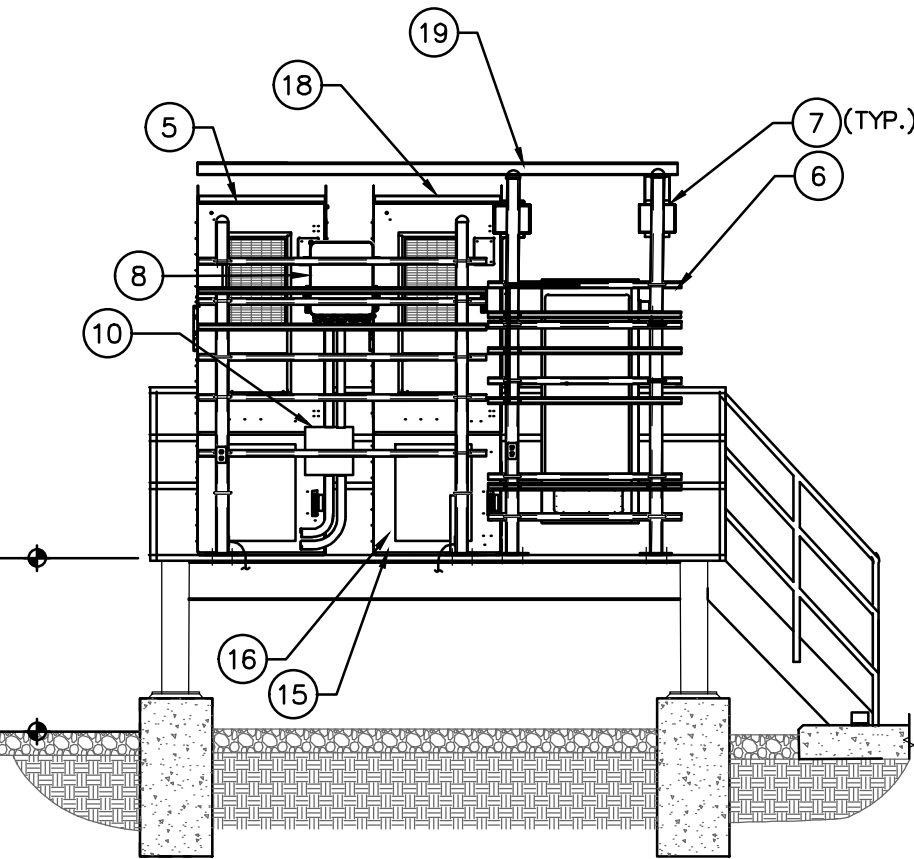
24"x10' ICE BRIDGE SECTION OVER EQUIPMENT



PLAN VIEW



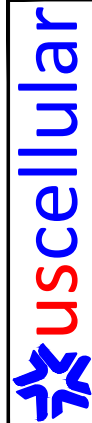
FRONT VIEW - B



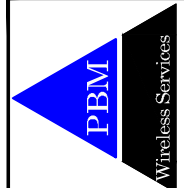
SIDE VIEW - C

1 EQUIPMENT LAYOUT PLANS

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



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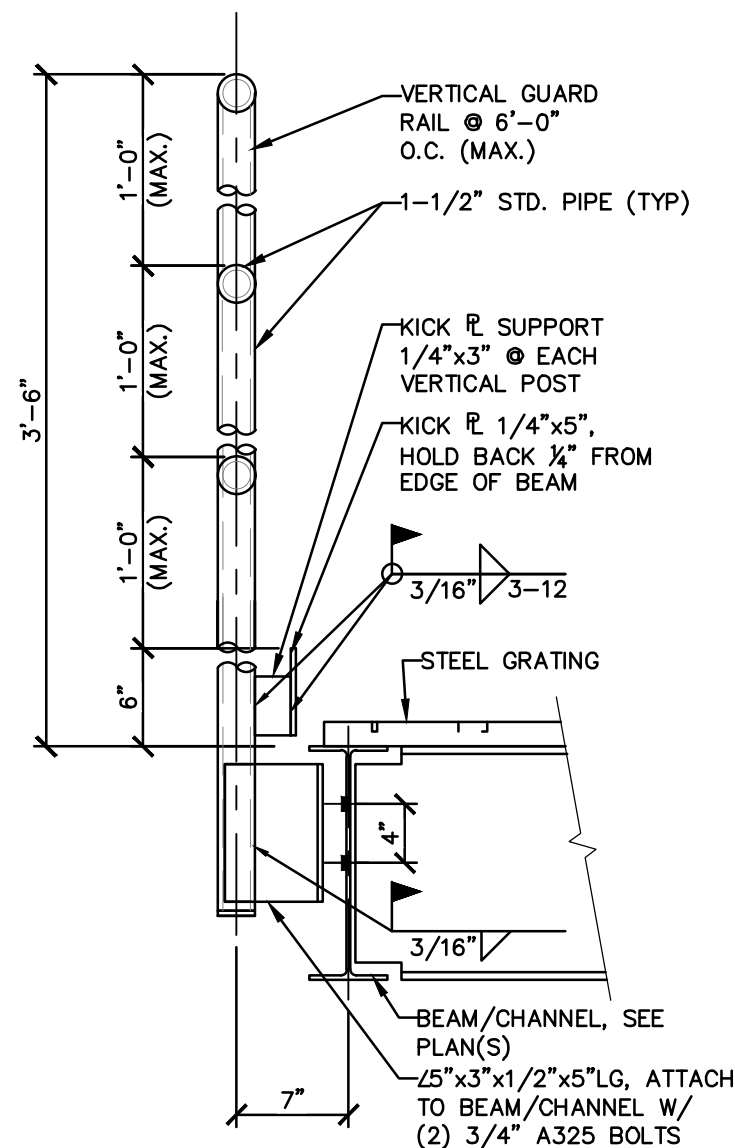
7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
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NEW SITE BUILD - STEALTH MONOPOLE

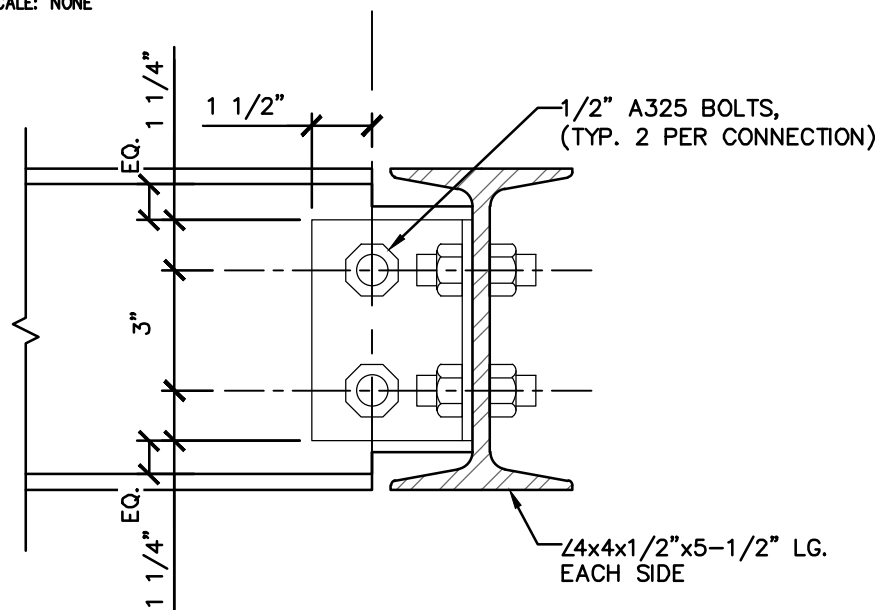
PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
EQUIPMENT PAD
& DETAILS

SHEET NUMBER
C-5.0

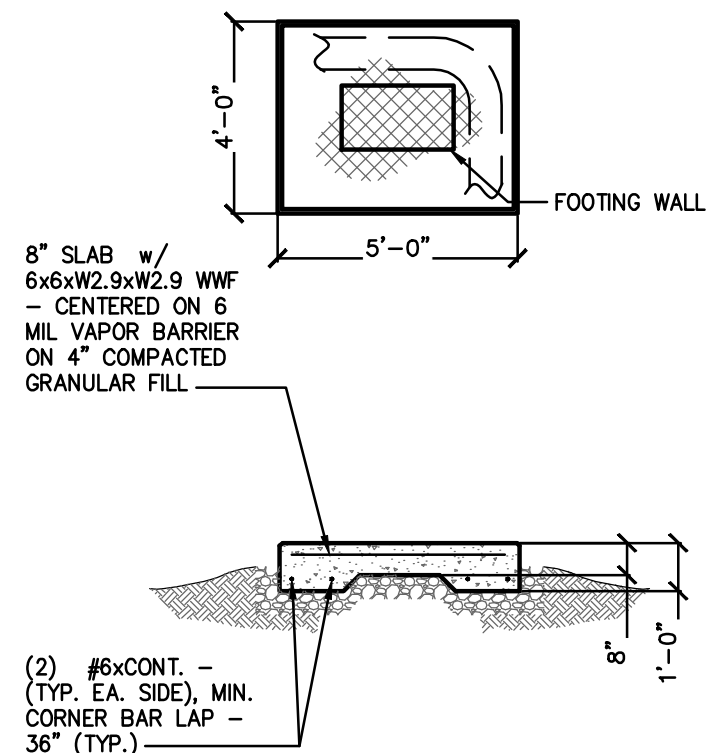
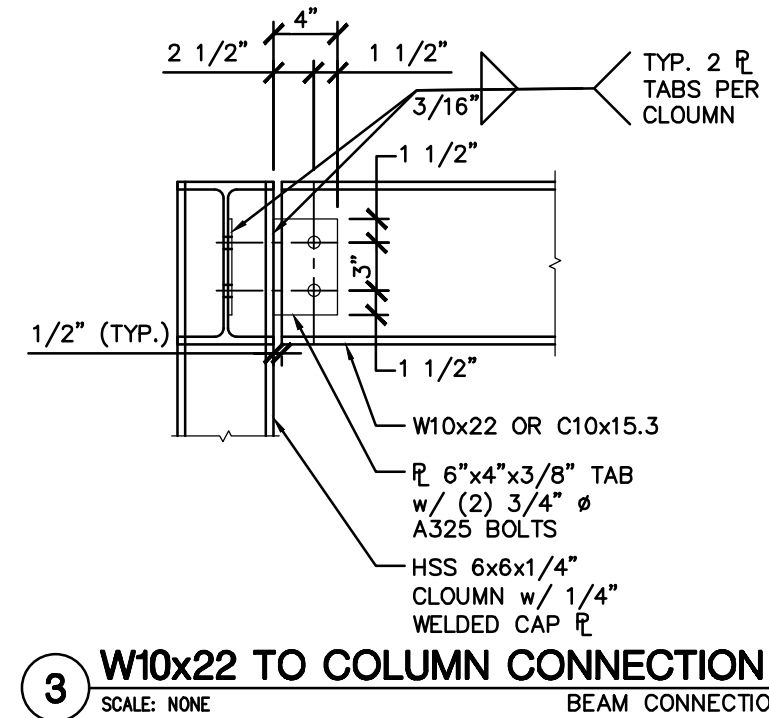
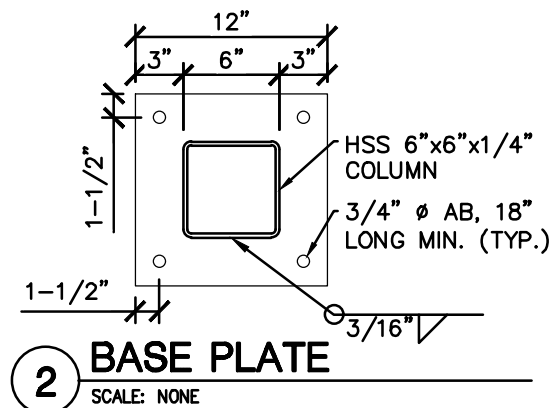


1 GUARDRAIL DETAILS
SCALE: NONE



NOTE:
VERIFY BEAM SIZE PER PLAN, SEE 1/C-5.1

4 TYPICAL CHANNEL TO BEAM CONNECTION
SCALE: NONE



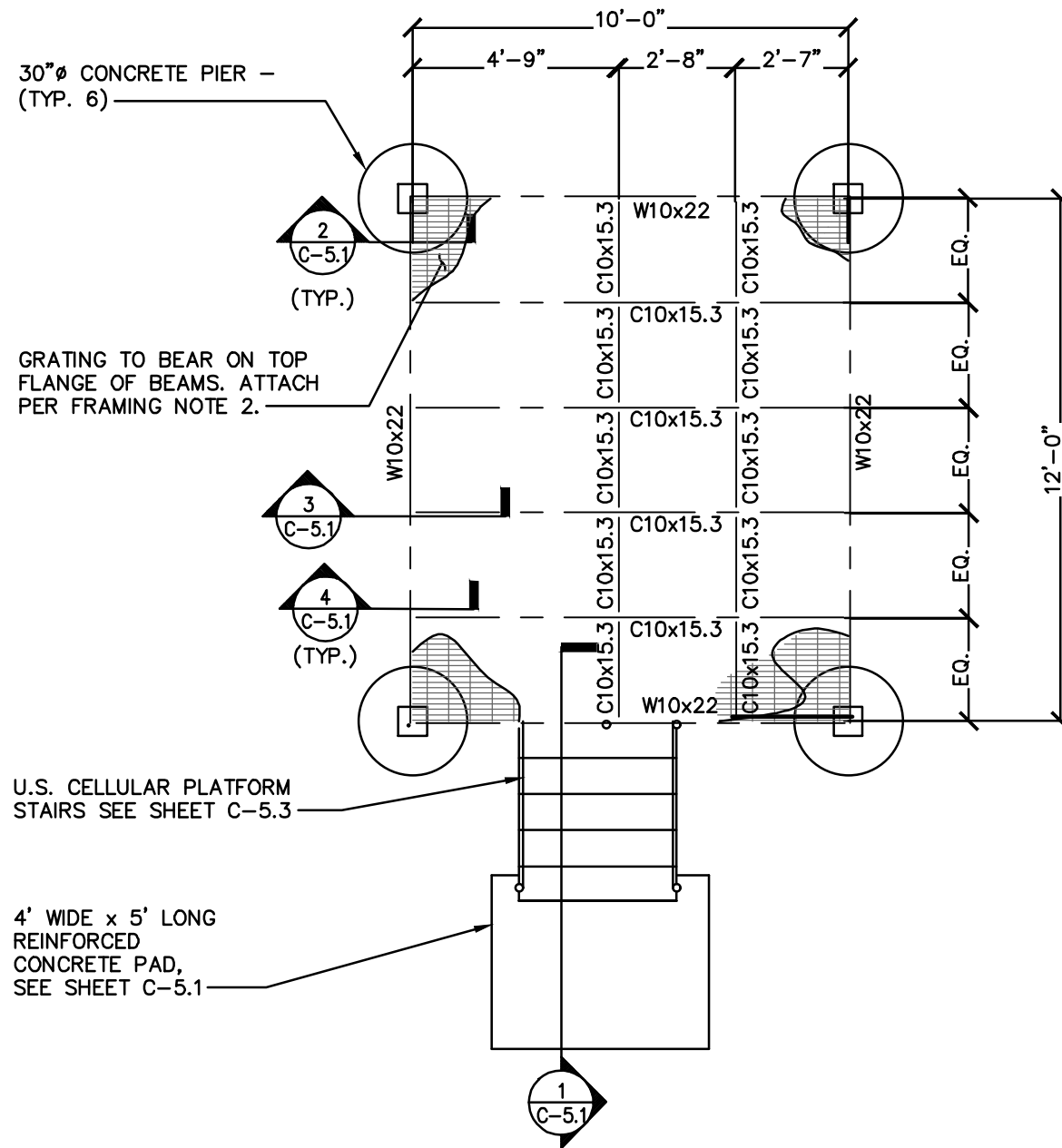
5 STOOP DETAIL
SCALE: NONE

08/16/22	INTERNAL REVIEW	JAP
08/19/22	CLIENT REVIEW	JAP
09/22/22	CLIENT REVIEW	JAP
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11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH. 3950 N ANKENY BLVD ANKENY, IA 50023 - POLK COUNTY NEW SITE BUILD - STEALTH MONOPOLE	DWG BY: JAP CHKD BY: AJK
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SHEET TITLE PLATFORM DETAILS

SHEET NUMBER C-5.1



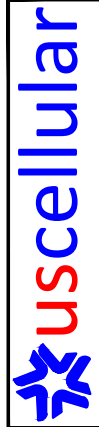
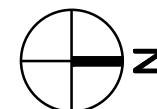
FRAMING PLAN NOTES:

1. STEEL HOT-DIP GALVANIZED.
2. WELDED STEEL GRATING BEARING BARS 1 1/4" x 3/16 @ 1 3/16" O.C. w/ CROSS BARS @ 4" O.C.- FULLY BANDED. ATTACH GRATING USING GALV. STEEL SADDLE CLIPS & SELF TAPPING SCREWS INSTALLED PER GRATING MFR. RECOMMENDATIONS.
3. FINISHED GRADE ELEVATION = 943.1'
4. BASE FLOOD ELEVATION = 946.1'
5. T/GRATING = ±4'-0" ABOVE FINISHED GRADE.
6. COORDINATE FINAL SUPPORT FRAMING DIMENSIONS WITH EQUIPMENT / SHELTER PROVIDER,
7. ATTACH EQUIPMENT / SHELTER TO SUPPORT STEEL PER MANUFACTURER INSTALLATION REQUIREMENTS.

1

ELEVATED STEEL PLATFORM FRAMING AND FOUNDATION PLAN

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



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2	11/07/22	CITY COMMENTS	JAP
3	11/09/22	CITY COMMENTS	JAP

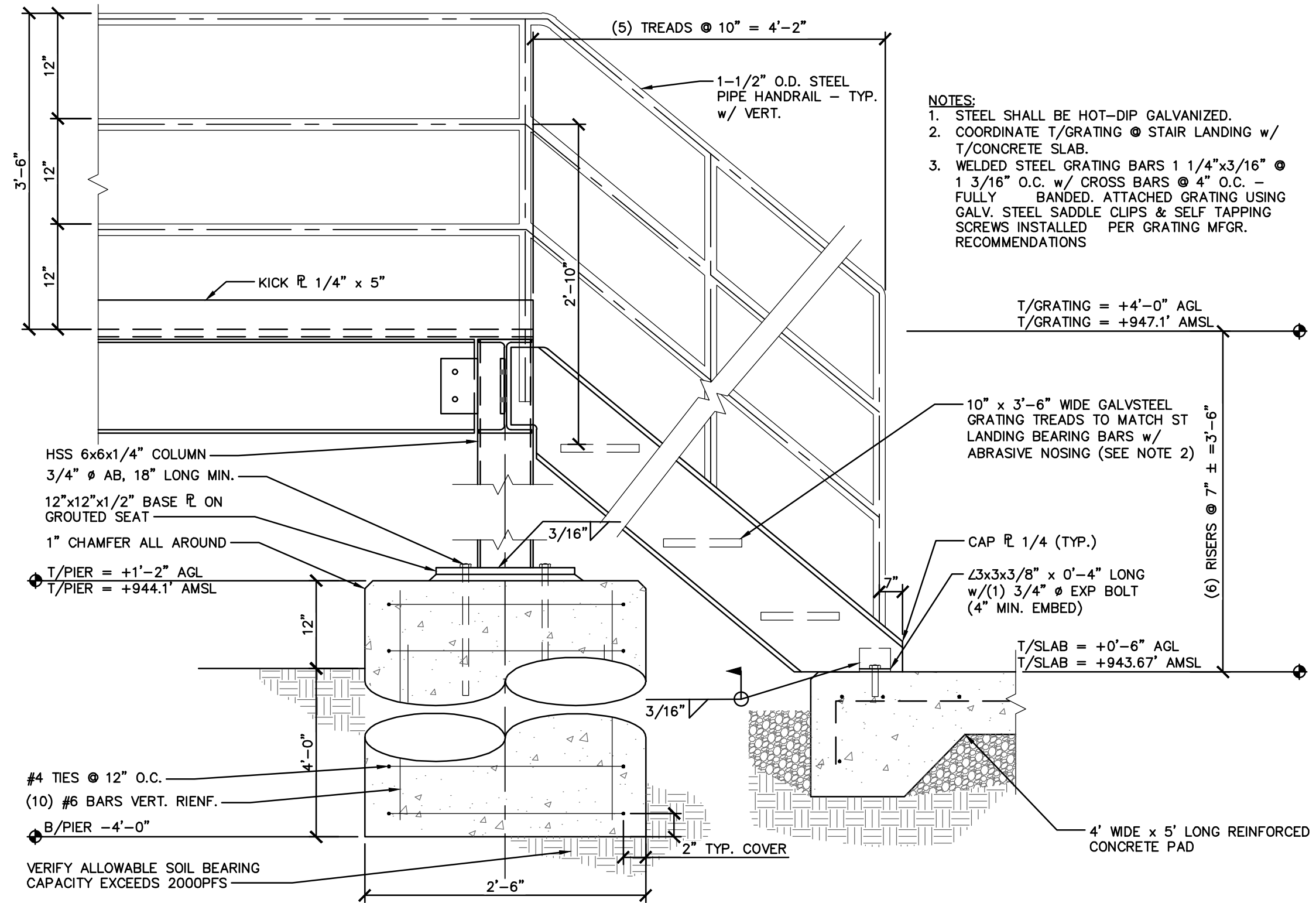
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NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
**PLATFORM
DETAILS**

SHEET NUMBER
C-5.2



- NOTES:
1. STEEL SHALL BE HOT-DIP GALVANIZED.
 2. COORDINATE T/GRATING @ STAIR LANDING w/ T/CONCRETE SLAB.
 3. WELDED STEEL GRATING BARS 1 1/4"x3/16" @ 1 3/16" O.C. w/ CROSS BARS @ 4" O.C. - FULLY BANDED. ATTACHED GRATING USING GALV. STEEL SADDLE CLIPS & SELF TAPPING SCREWS INSTALLED PER GRATING MFG. RECOMMENDATIONS

1 PLATFORM FRAMING • STAIR SECTION
SCALE: NONE

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08/16/22	INTERNAL REVIEW	JAP
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11/09/22	CITY COMMENTS	JAP

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SHEET TITLE
PLATFORM
DETAILS

SHEET NUMBER
C-5.3



RBS 6120

Table 5 AC Power

Conditions	Values and Ranges
Nominal voltage ⁽¹⁾	200–250 V AC
Operating voltage ⁽¹⁾	180–275 V AC
Conditions	Values and Ranges
Non-destructive voltage	0–300 V AC
Operating frequency	45–65 Hz
Maximum supported current	125 A single-phase; 63 A three-phase
Maximum cross-sectional cable area ⁽²⁾	50 mm ²

Table 6 Fuse and Circuit Breaker Recommendations (AC-Powered Cabinet)

Voltage Range	PCU AC Type	3 x PSU (A)	4 x PSU (A)	5 x PSU (A)	6 x PSU (A)	7 x PSU (A)
180–275 V AC, single-phase, and two-phase	AC Interface	50	63	80	95	125
180–275 V AC, three-phase	AC Interface	20	32	32	32	63

Table 7 Two-Wire –48 V DC Power Supply

Conditions	Values and Ranges
Nominal voltage	–48 V DC
Operating voltage	–40 to –58.5 V DC
Non-destructive voltage	0 to –60 V DC

Table 8 Fuse and Circuit Breaker Recommendations (DC-Powered Cabinet)

DC Power	Recommended Fuse Ratings for Fully Utilized Power System	Maximum Cross-Sectional Cable Area
–48 V DC, two-wire	450 A (maximum)	120 mm ²

Dimensions (mm)	
Height cabinet (without climate roof module)	1524
Width cabinet	700
Depth Cabinet without door	700
Maximum depth cabinet with DAC door	830
Maximum depth cabinet with heat exchanger door	710
Height Large DAC climate roof module	453
Height heat exchanger climate roof module	758
Height GBF	250
Weight (kg)	
Cabinet (standard equipped ⁽¹⁾) without backup batteries	380
Weight Large DAC climate roof module (with fans)	58
Weight heat exchanger climate roof module (with fans)	104
Color	
Light Gray	Reference number: NCS S 2002-B Gloss <6

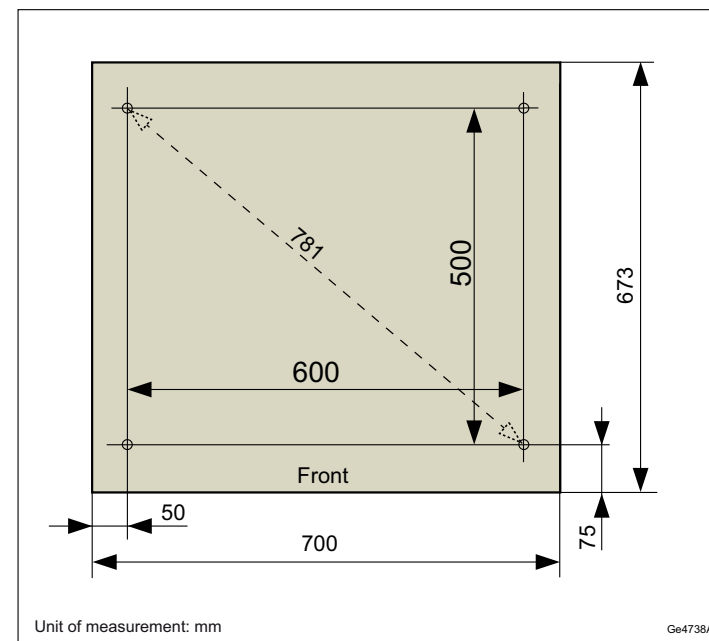


Figure 8 Drilling Pattern (Cabinet without a Door)

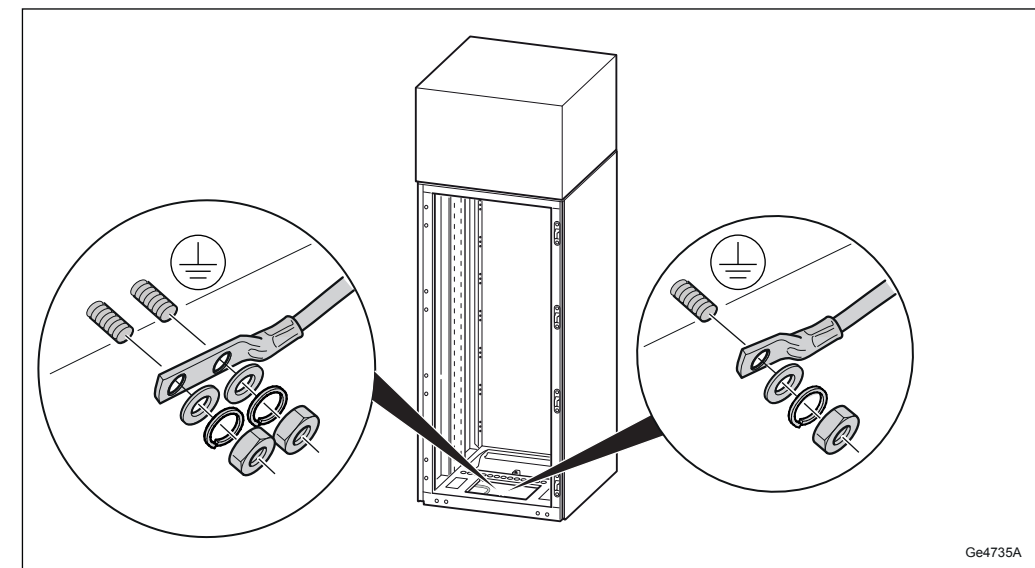
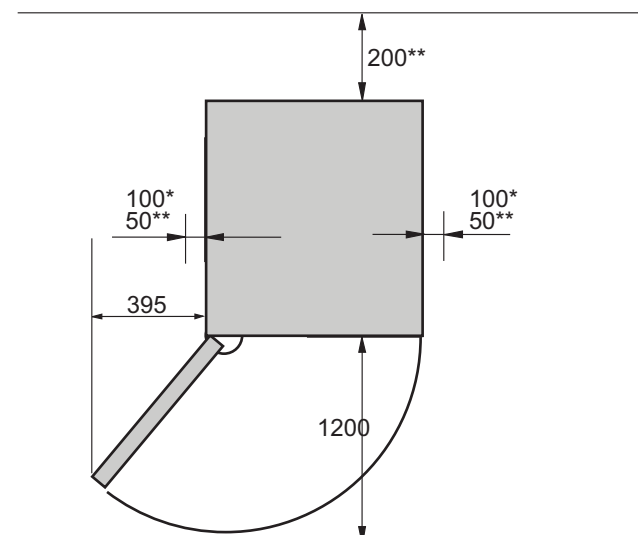
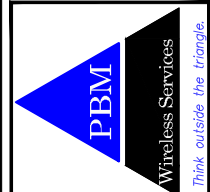
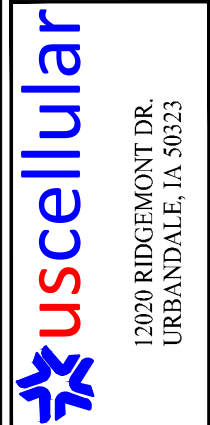


Figure 29 Cabinet Grounding Interface



A	08/16/22	INTERNAL REVIEW	JAP
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SHEET TITLE EQUIPMENT CABINET DETAILS
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SHEET NUMBER C-5.4



Enclosure 6160 AC

MECHANICAL SPECIFICATION

Weight	145 kg (excluding active equipment) 320 lbs (excluding active equipment)
Dimension (H x W x D)	1600 x 650 x 650 mm (incl. Base frame) 63 x 26 x 26 in. (incl. Base frame)
Base frame height	150 mm 6 in.
Mounting position	Ground
Enclosure material	Aluminum
Color	Power paint NCS 2002-B
Door	Front access
Rack type	19" (IEC 60297-3-100)
Locking type	Pad lock or Cylinder

POWER SYSTEM

Input voltage	3P+N+PE: 346/200-415/240 VAC 2P+N+PE: 208/120-220/127 VAC 1P+N+PE: 200-250 VAC
Input power	<33kW
Output load (-48VDC)	24kW
Total capacity (-48VDC)	31.5kW
AC SPD	Class 2/Type 2
DC SPD	Class 2/Type 2
PSU Slots	9x
Service outlet	Optional
Priority load	8x Circuit Breaker
LLVD 1	6x Circuit Breaker
LLVD 2	6x Circuit Breaker
CB ratings	3A / 5A / 10A / 15A / 20A / 25A / 30A / 40A / 50A / 60A / 80A / 100A
Battery Interface	2x Circuit Breaker
Battery Circuit Breaker rating	125A 2pol (200A)

PSU capacity	3500W
PSU efficiency	96%
PSU output voltage (nominal)	-48VDC
PSU rated current	73A
PSU power factor	≥0.99
PSU emissions	EN 55022 Class B
Ingress protection power system	IP20
DC/DC Voltage booster	PSU 48 13 - 3x -58V ports PDU 02 03 - 3x -58V ports/4x -48V ports Both units are optional

CABLE I/O

Entry point	Bottom
Plinth cable access	Rear and side access
AC In	1x Ø16-35mm
DC Out (shielded)	32x Ø10-18mm
DC In (battery feed)	6x Ø19mm
Signal Cable Outlet	10x Ø10mm
Signal Cable Inlet	8x Ø6mm
Optical	32x Ø6mm
Conduits knock-out plates	6x Ø2"
Punched holes	3x Ø26mm



CAPACITY

Rack space user equipment	19U (19" rack)
Hardware capabilities	Power and CPRI support for multi-standard remote radios (RRU or AIR) ERS Baseband and Transport units Li-Ion batteries 3PP equipment Additional power feed available as option



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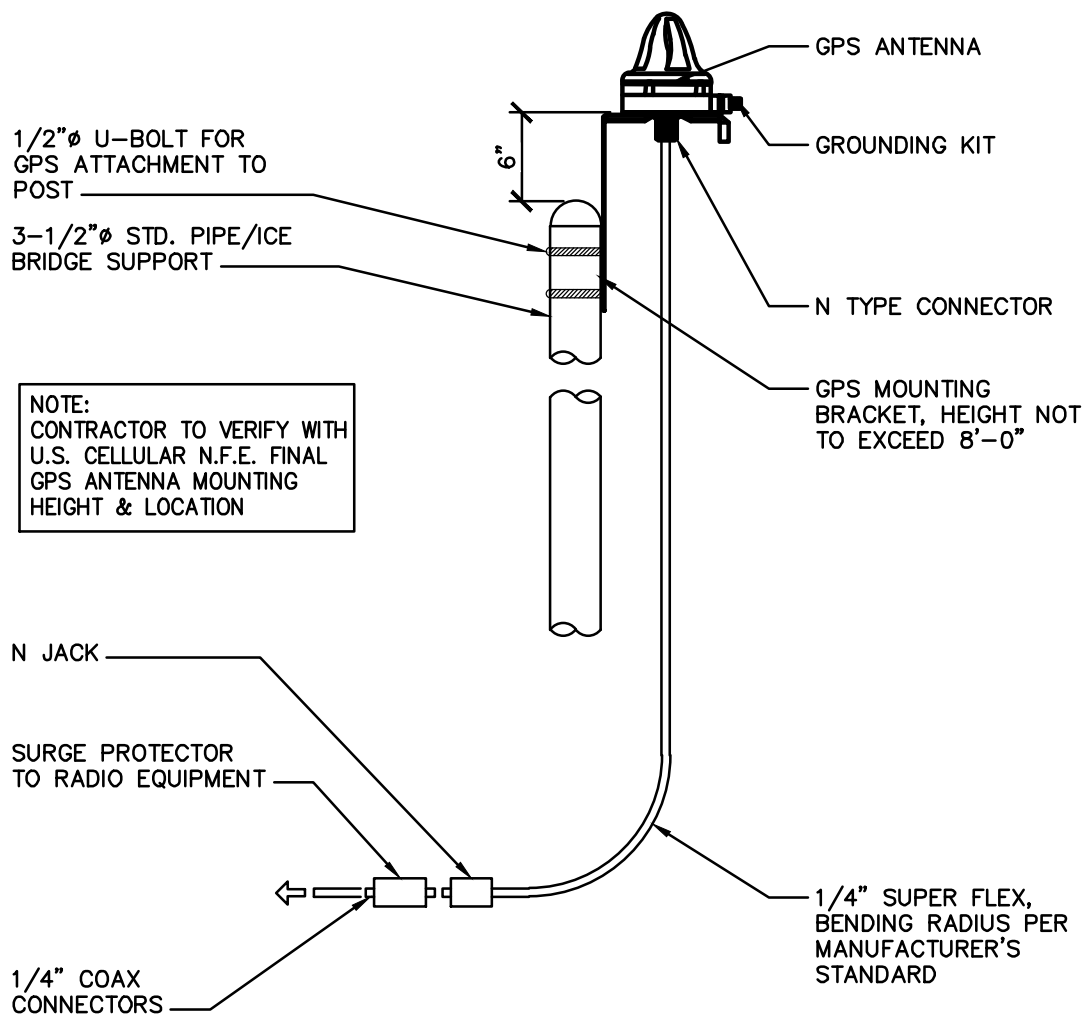
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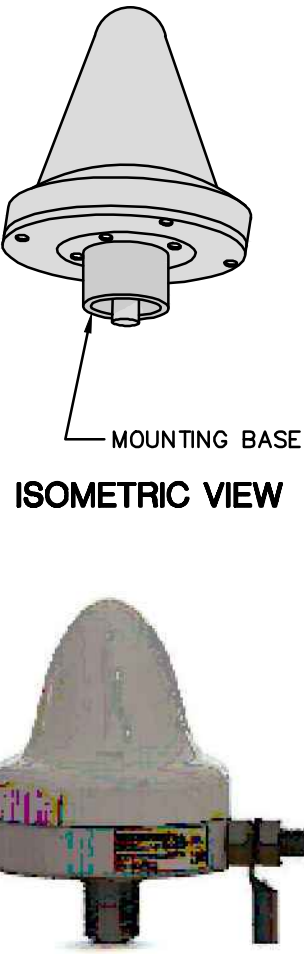
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SHEET TITLE
EQUIPMENT
CABINET
DETAILS

SHEET NUMBER
C-5.5



ELEVATION VIEW



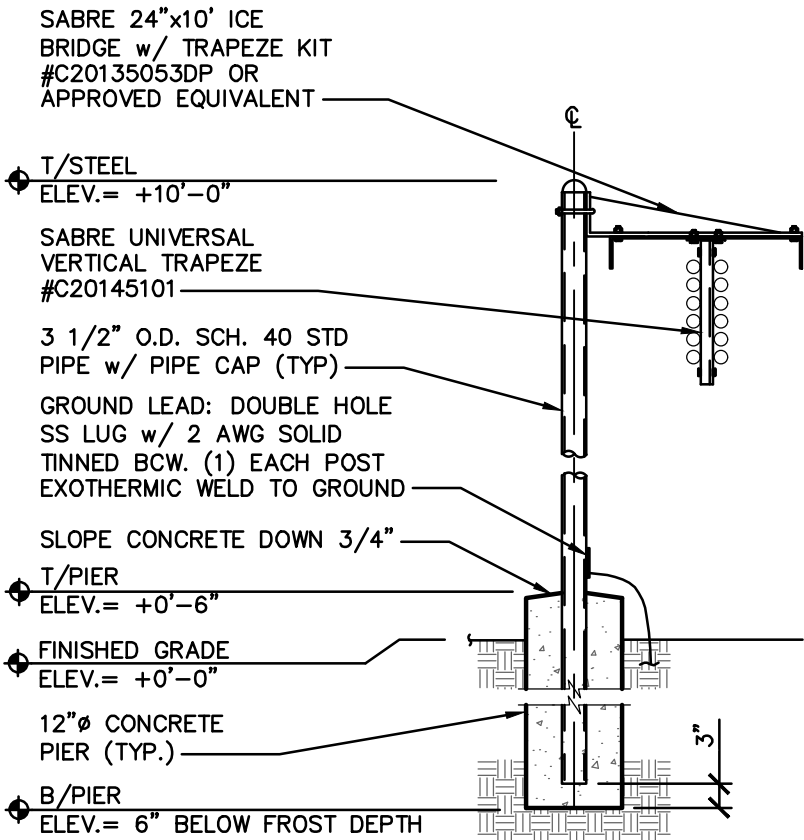
ISOMETRIC VIEW

- NOTES:**
1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.

1 GPS ANTENNA MOUNTING - (ROSENBERGER GPS-36-N-SC)

SCALE: NONE

GPS ANTENNA MOUNT - U.S. CELLULAR - ROSENBERGER - GPS-36-N-SC



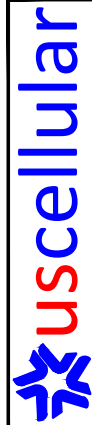
NOTES:

1. *- COORDINATE ELEVATIONS WITH PORT HEIGHT.
2. DO NOT ATTACH ICE BRIDGE TO BUILDING STRUCTURE.
3. ICE BRIDGE TO TERMINATE WITHIN 6" OF BUILDING & TOWER.
4. PROTECTIVE COAX PIECE TO BE INSTALLED AT TOWER END OF ICE BRIDGE TO PROVIDE RADIUS PROTECTION FOR COAX RUNS.
5. STEEL HOT DIP GALVANIZED.

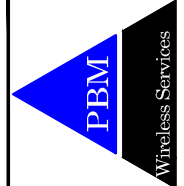
2 COAX SUPPORT / ICE BRIDGE DETAIL

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

SABRE ICE BRIDGE



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11/07/22	CITY COMMENTS	JAP
11/09/22	CITY COMMENTS	JAP

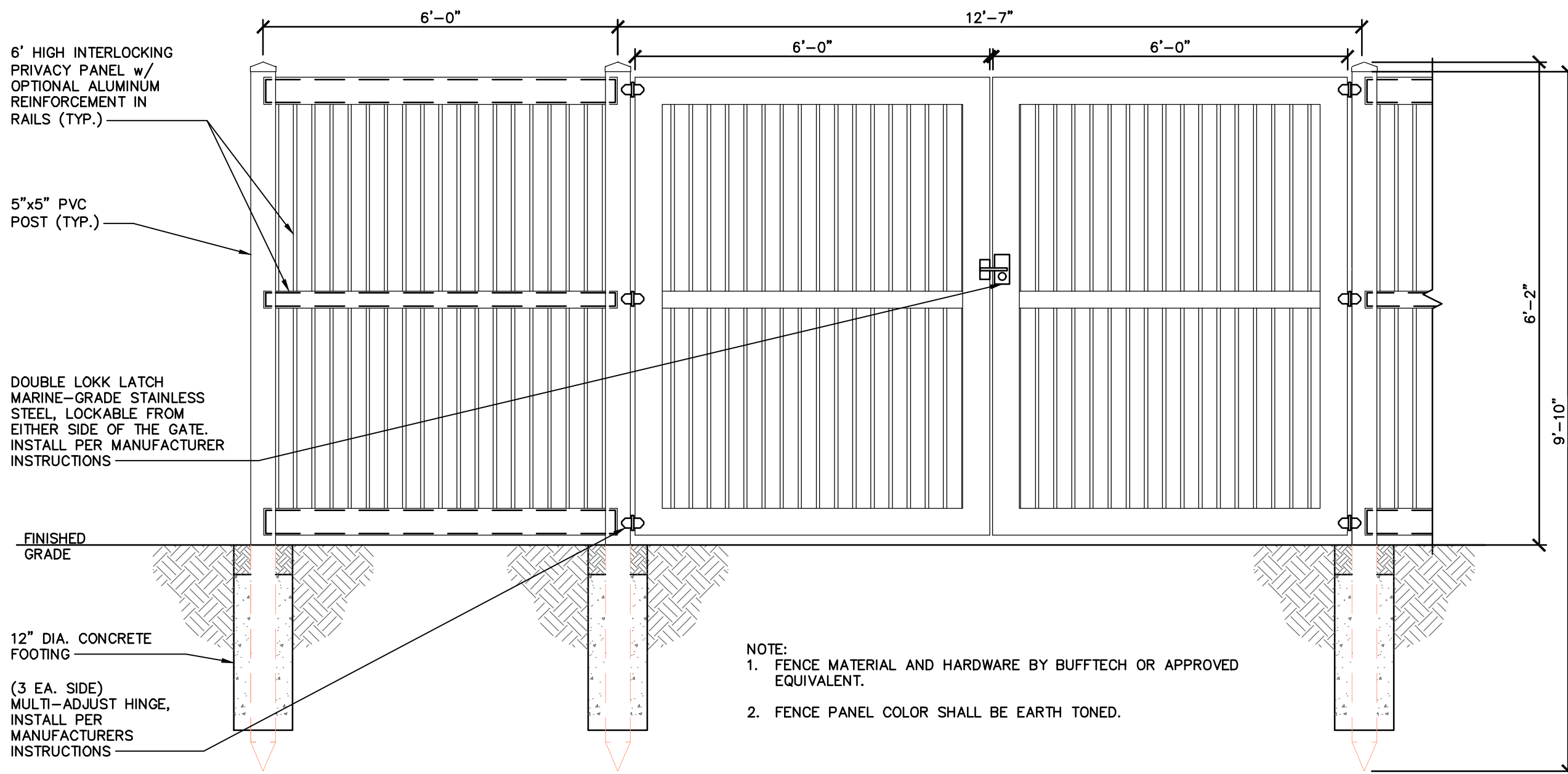
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NEW SITE BUILD - STEALTH MONOPOLE

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SHEET TITLE
**ICE BRIDGE
& DETAILS**

SHEET NUMBER
C-6.0



1 TYPICAL VINYL FENCE SECTION AND GATE
SCALE: 1/2" = 1'-0"

6FT VINYL FENCE DBL GATE

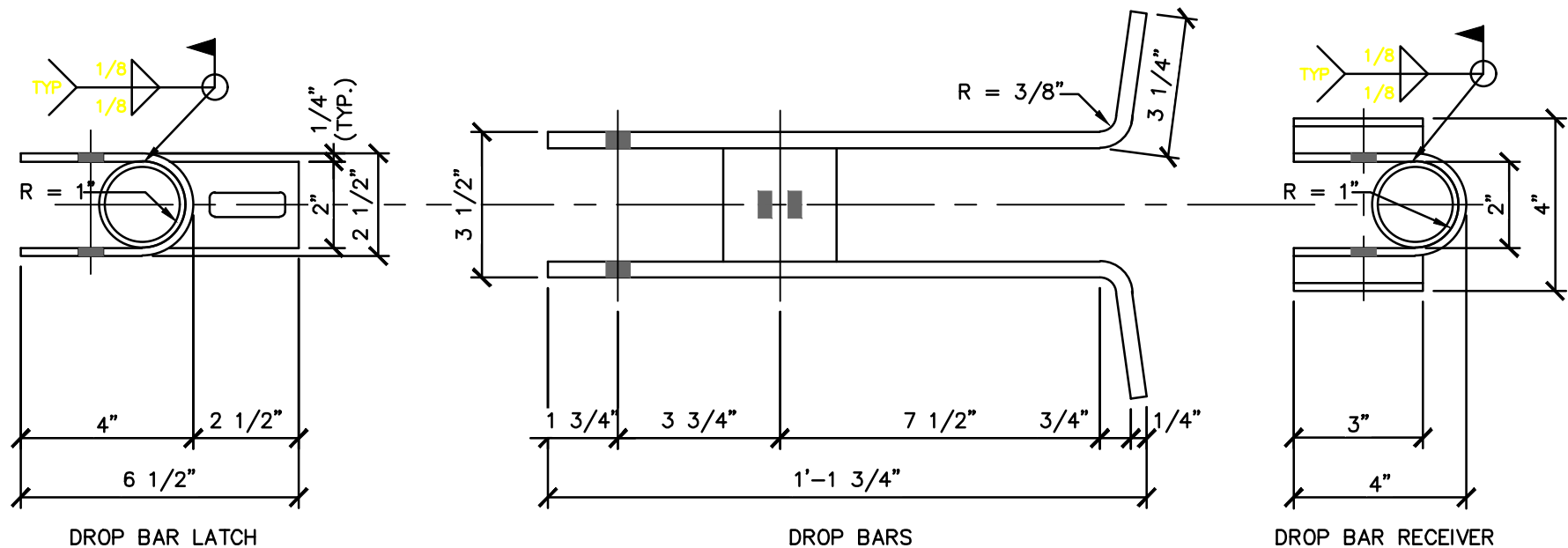
DATE	REVIEW	BY
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08/19/22	CLIENT REVIEW	JAP
09/22/22	CLIENT REVIEW	JAP
11/07/22	CITY COMMENTS	JAP
11/09/22	CITY COMMENTS	JAP

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SHEET TITLE
**FENCE
DETAILS**

SHEET NUMBER
C-7.0



- NOTES:**
1. STEEL SHALL BE HOT DIPPED GALVANIZED, SPOT WELD GATE LATCHES.
 2. DETAIL BASED ON A-1 FENCE COMPANY HEAVY DUTY COMMERCIAL GATE LATCH FOR DOUBLE DRIVE GATES.
 3. VERIFY DIMENSIONS & LATCH MANUFACTURER W/ U.S. CELLULAR PROJECT MANAGER PRIOR TO INSTALLATION.

1 GATE DROP BAR LATCH DETAIL

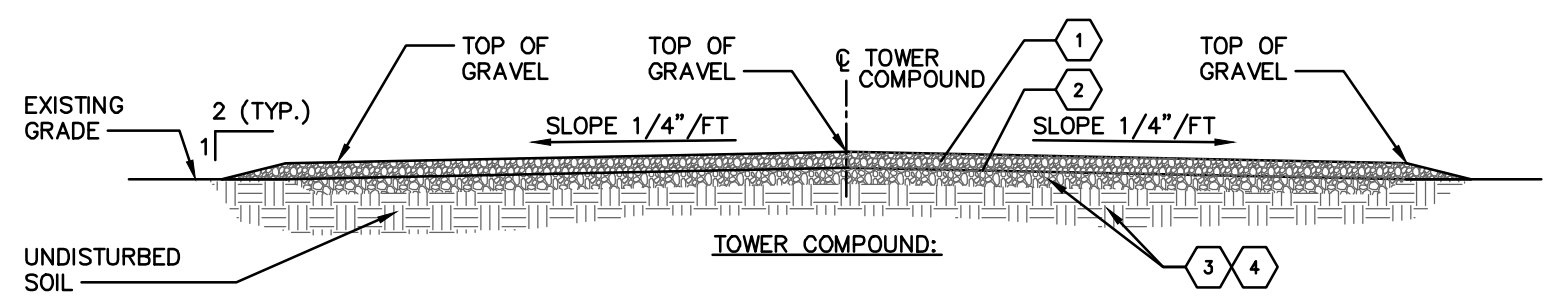
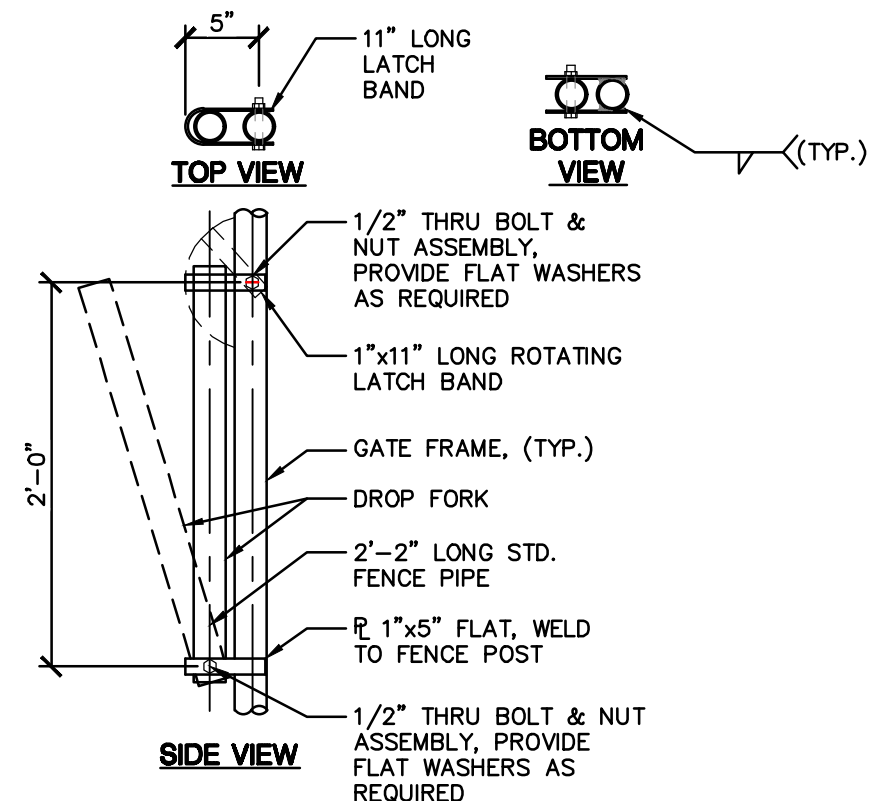
SCALE: 3" = 1'-0"

GATE BAR LATCH DETAIL

2 TYPICAL GATE STOP

SCALE: 1" = 1'-0"

GATE STOP DETAIL



- 1 3" OF 3/4"-1" MINUS (CHRUSHER RUN, FINE) ROCK.
- 2 WEED CONTROL FABRIC - MIRAFI 500X, OR APPROVED EQUIVALENT (WHEN SPECIFIED BY PROJECT MANAGER)
- 3 5" BASE ROCK OF 3" DIA. ROCK (ROAD BASE), PROOF-ROLL PRIOR TO INSTALLATION OF FINISHED GRAVEL.
- 4 SITE SHALL BE CLEARED OF ORGANIC MATERIAL OR UNSUITABLE MATERIAL. SUBGRADE MUST BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY AND VERIFIED BY PROOF-ROLL OR GEOTECHNICAL RECOMMENDATIONS.
5. SITES WITH NO FENCE SHALL HAVE AN AREA COVERED WITH WEED BARRIER THAT IS A MINIMUM OF 5 FT WIDE AROUND THE SHELTER AND TOWER AREAS; THIS AREA SHALL BE USABLE AS PARKING SPACE OR FOR STORAGE OF A PORTABLE GENERATOR. LOCAL FIRE CODES MIGHT DICTATE MORE STRINGENT REQUIREMENTS.
6. THE FINISHED GRADE SHALL DIRECT WATER AWAY FROM THE SHELTER &/OR TOWER.

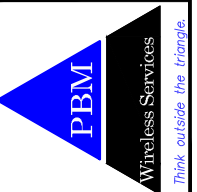
3 TYPICAL COMPOUND SECTION

SCALE: NONE

TYPICAL-COMPOUND-SECTION



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11/09/22	CITY COMMENTS	JAP

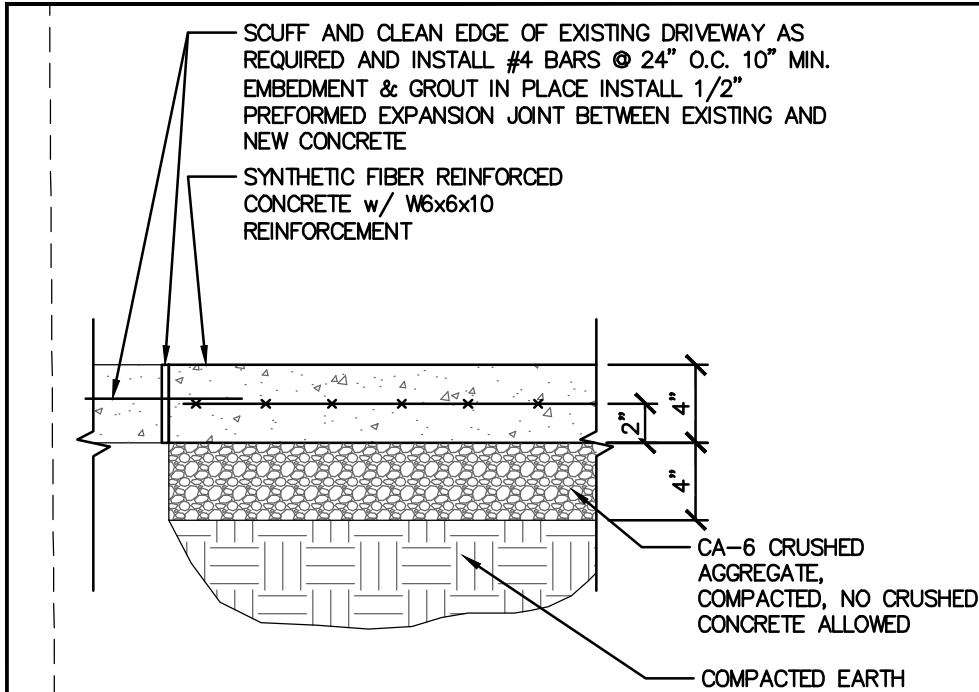
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NEW SITE BUILD - STEALTH MONOPOLE

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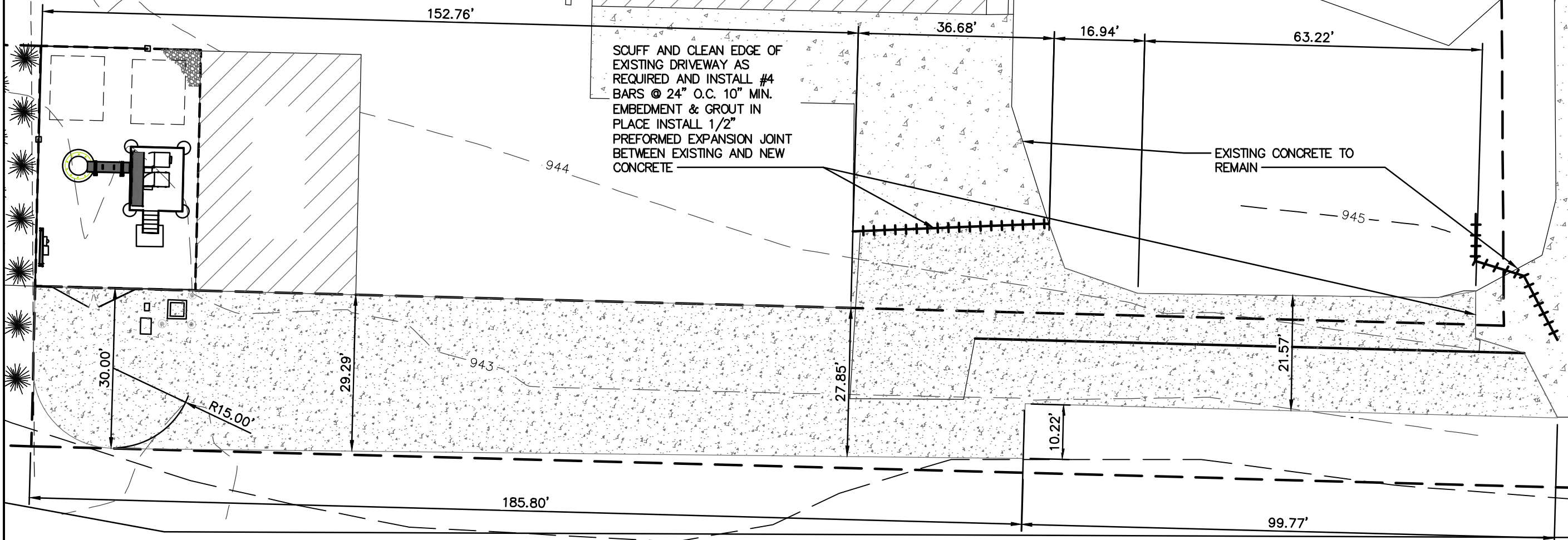
SHEET TITLE
DETAILS

SHEET NUMBER
C-7.1

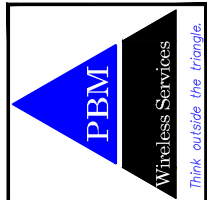
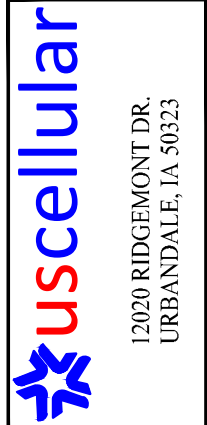


2 TYPICAL DRIVEWAY SECTION
SCALE: NONE

DRIVEWAY MATERIAL REQUIRED	
SQ. FT. OF CONCRETE DRIVEWAY	8159.16 ft ²
CU FT OF CONCRETE REQ'D	32636.64 ft ³
CU YD OF CONCRETE REQ'D	924.1667 yd ³
CU FT OF CA-6 CRUSHED BASE ROCK REQUIRED.	32636.64 ft ³
CU FT OF CA-6 CRUSHED BASE ROCK REQUIRED.	924.1667 yd ³



1 ACCESS ROAD PLAN
SCALE: 1"=20'



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SHEET TITLE
ACCESS ROAD PLAN
SHEET NUMBER
C-8.0

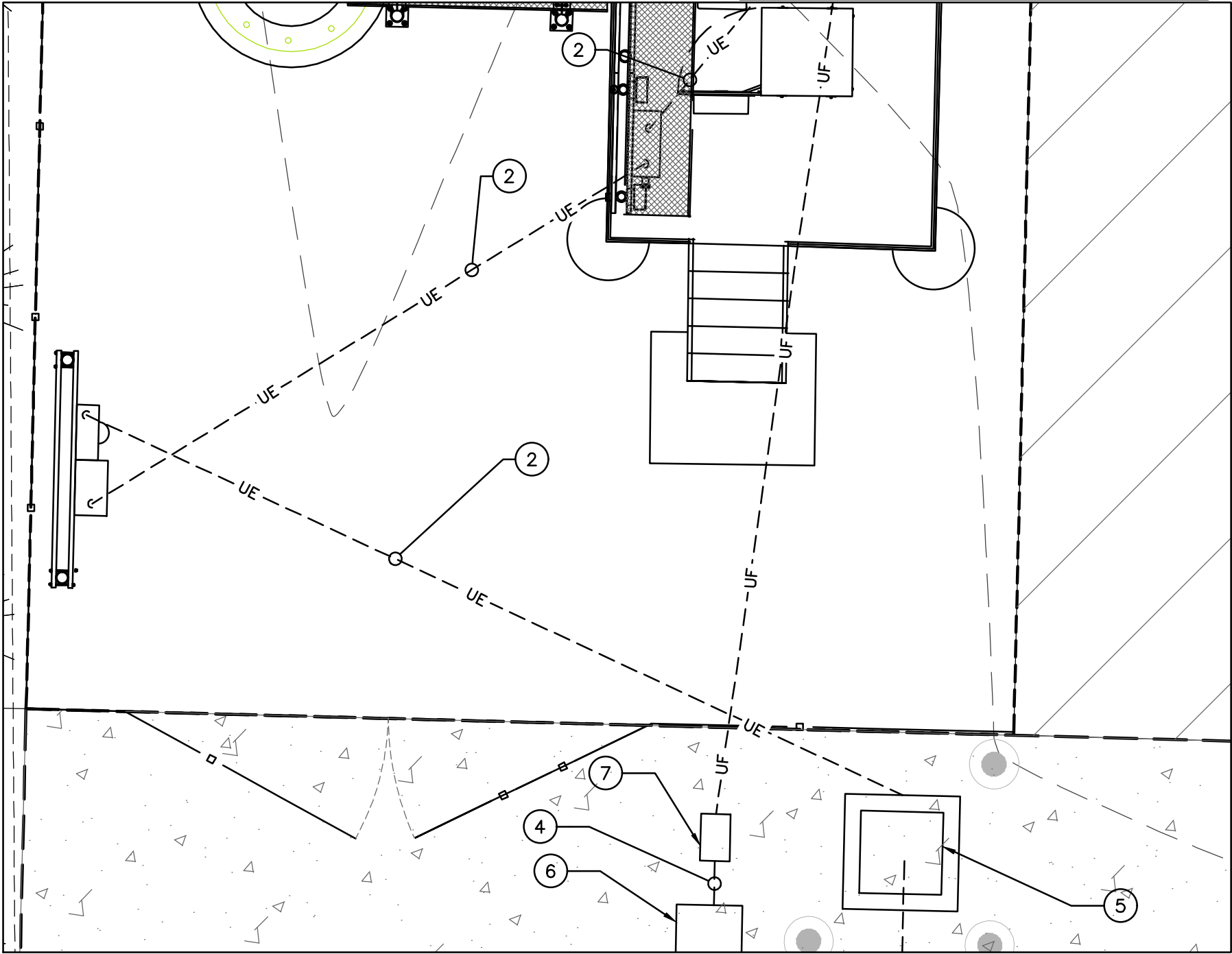
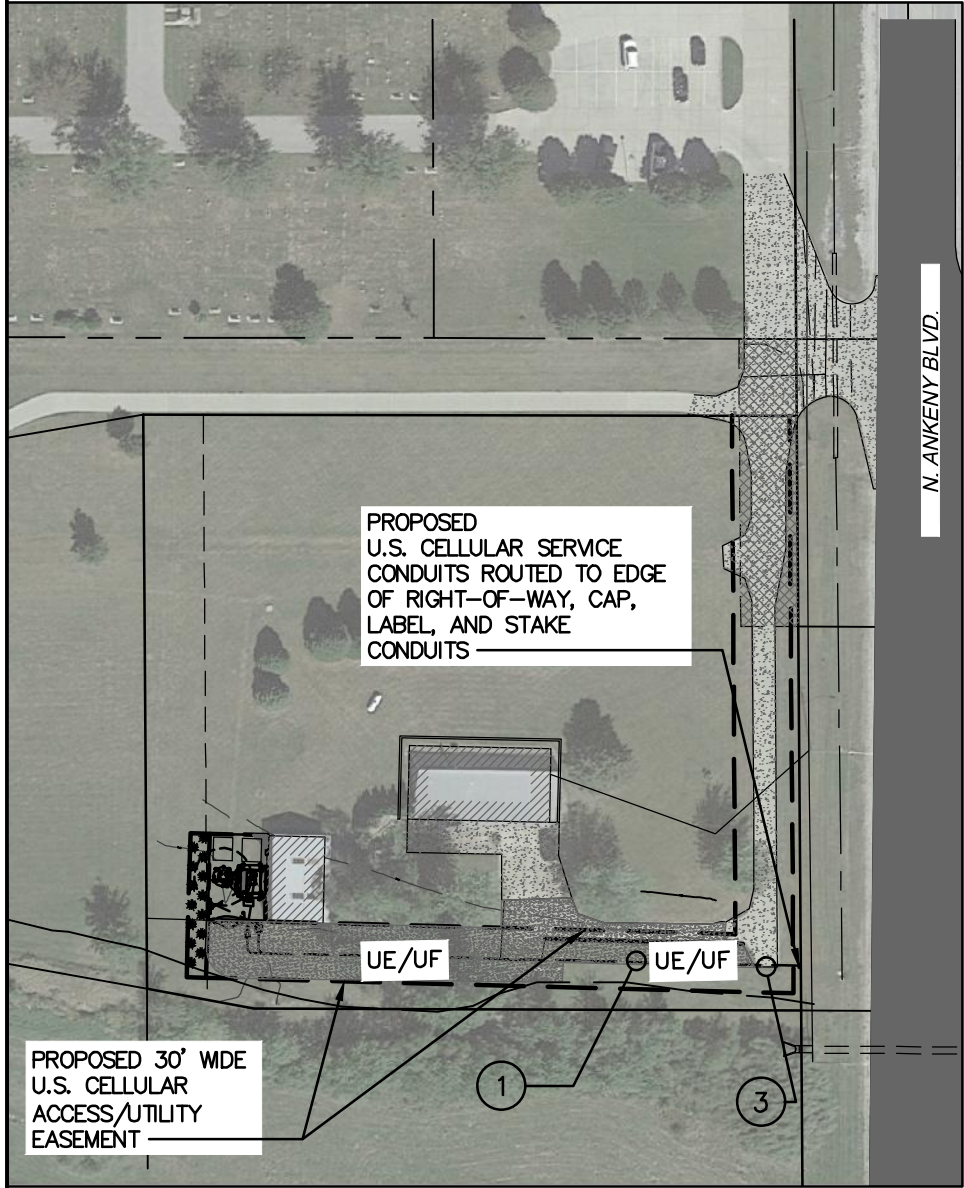
SERVICE NOTES:

- 1. SERVICE POWER SHALL BE (120/240VAC, 800A, 1Ø, 3W) OR (208/120VAC, 800A, 3Ø,4W) CONTRACTOR SHALL ADJUST FEEDER AND CIRCUIT ACCORDINGLY AS PLANS ARE NOTED FOR (120/240VAC, 800A, 1Ø, 3W).
- 2. A 800 AMP, 120/240V, 1Ø METER RACK SHALL BE INSTALLED WHERE IT IS ACCESSIBLE FOR READOUT. THE NUMBER OF JAWS IN THE METER SOCKET AND THEIR ARRANGEMENT WILL DEPEND ON THE VOLTAGE SERVICE.
- 3. CABLE SIZES SHALL BE ADJUSTED TO COMPENSATE FOR VOLTAGE DROP IF LONGER THAN 180FT. VERIFY CONDUIT SIZE WHEN CHANGING CABLE SIZE.
- 4. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS PROVIDED BY MANUFACTURER.
- 5. CONDUITS ROUTED BELOW GRADE NEAR ACCESS DRIVE OR WITH/IN COMPOUND SHALL BE SCHEDULE 40 PVC (U.N.O.).

UTILITY SERVICE NOTES:

- 1 ELECTRICAL SERVICE: (2) SETS OF (3) 750 KCMIL IN 4" SCH 40 PVC OR DIRECT BURY BY LOCAL ELECTRICAL COMPANY, COORDINATE WITH LOCAL UTILITY COMPANY.
- 2 SECONDARY ELECTRICAL SERVICE: (3) 3/0 AWG CU, 6 AWG CU GND, IN 2" SCH 40 PVC.
- 3 FIBER SERVICE: 2" SCH. 40 PVC CONDUIT w/ MULE TAPE & PULL CORD
- 4 FIBER SERVICE: 2" SCH. 40 PVC CONDUIT OR DIRECT BURY FROM PROVIDER VAULT TO U.S. CELLULAR UTILITY VAULT.
- 5 PROPOSED PAD MOUNTED TRANSFORMER, (BY OTHERS)
- 6 FIBER PROVIDER VAULT, EXACT LOCATION MAY VARY INSTALLED BY OTHERS, FIELD VERIFY
- 7 U.S. CELLULAR FIBER VAULT

UTILITY CONDUIT LENGTH TABLE:			
FROM R.O.W./DEMARC TO VAULT / TRANSFORMER			
UTILITY SERVICE	ELECTRIC	COMMUNICATION	
	±310'	±310'	
FROM TRANSFORMER / VAULT TO METER/VAULT			
UTILITY SERVICE	ELECTRIC	COMMUNICATION	
	±85'	±50'	
FROM UTILITY RACK/VAULT TO EQUIPMENT			
UTILITY SERVICE	ELECTRIC	COMMUNICATION	
	±40'	±30'	



1 UTILITY SITE PLAN
SCALE: 1" = 100'

2 ENLARGED UTILITY PLAN
SCALE: Custom



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PBM
Wireless Services
Think outside the triangle.

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SHEET TITLE
UTILITY SITE PLAN

SHEET NUMBER
C-9.0

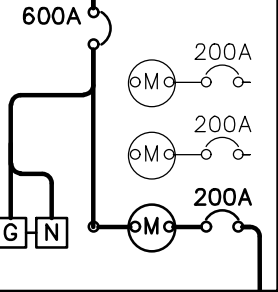
REFERENCE SITE
PLAN/COMPOUND PLAN FOR
EXACT UTILITY ROUTE,
COORDINATE w/ LOCAL
ELECTRIC UTILITY COMPANY

UTILITY/MUNICIPALITY APPROVED
MULTIGANG METER CENTER &
METER SOCKET, PROVIDED AND
INSTALLED BY G.C

SOLID TINNED BCW
GROUND WIRE &
GROUND ROD PER NEC,
LATEST EDITION

SERVICE ENTRANCE
GROUND ROD

ELECTRICAL
SERVICE
FROM
DEMARICATION



METER TO MTS/DISTRIBUTION PANEL
(3) - 3/0 AWG CU
(1) 6 AWG CU GROUND WIRE
2" SCH. 40 PVC

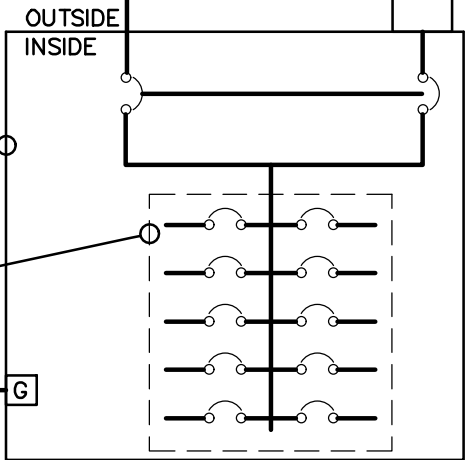
200 AMP MTS/DISTRIBUTION
PANEL, (PROVIDED BY PPC
CABINET MANUFACTURER)

BRANCH CIRCUITS,
(BY PPC CABINET
MANUFACTURER)

TO
GROUND
RING

GENERATOR
PLUG

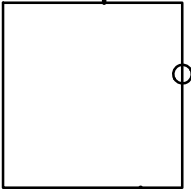
OUTSIDE
INSIDE



FIBER
SERVICE
FROM
DEMARICATION

REFERENCE SITE
PLAN/COMPOUND PLAN
FOR EXACT UTILITY ROUTE,
COORDINATE w/ LOCAL
COMMUNICATION PROVIDER

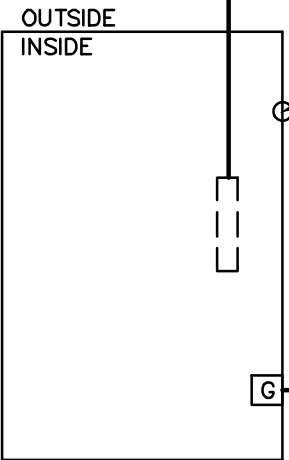
U.S. CELLULAR
COMMUNICATION VAULT



GENERATOR PLUG
MOUNTED ON PPC
CABINET

PROPOSED 2" SCH 40
PVC CONDUIT w/ MULE
TAPE & PULL STRING,
SUBCONTRACTOR TO
COORDINATE
CONNECTION WITH
LOCAL UTILITY COMPANY

OUTSIDE
INSIDE



RACK SPACE FOR
FIBER PROVIDER
INSIDE ERICSSON
CABINET

TO
GROUND
RING

ONE-LINE DIAGRAM

SCALE: NONE

200A ONLINE WITH NEW MULTIGANG METER



12020 RIDGEMONT DR.
URBANDALE, IA 50323



AI	08/16/22	INTERNAL REVIEW	JAP
0	08/19/22	CLIENT REVIEW	JAP
1	09/22/22	CLIENT REVIEW	JAP
2	11/07/22	CITY COMMENTS	JAP
3	11/09/22	CITY COMMENTS	JAP

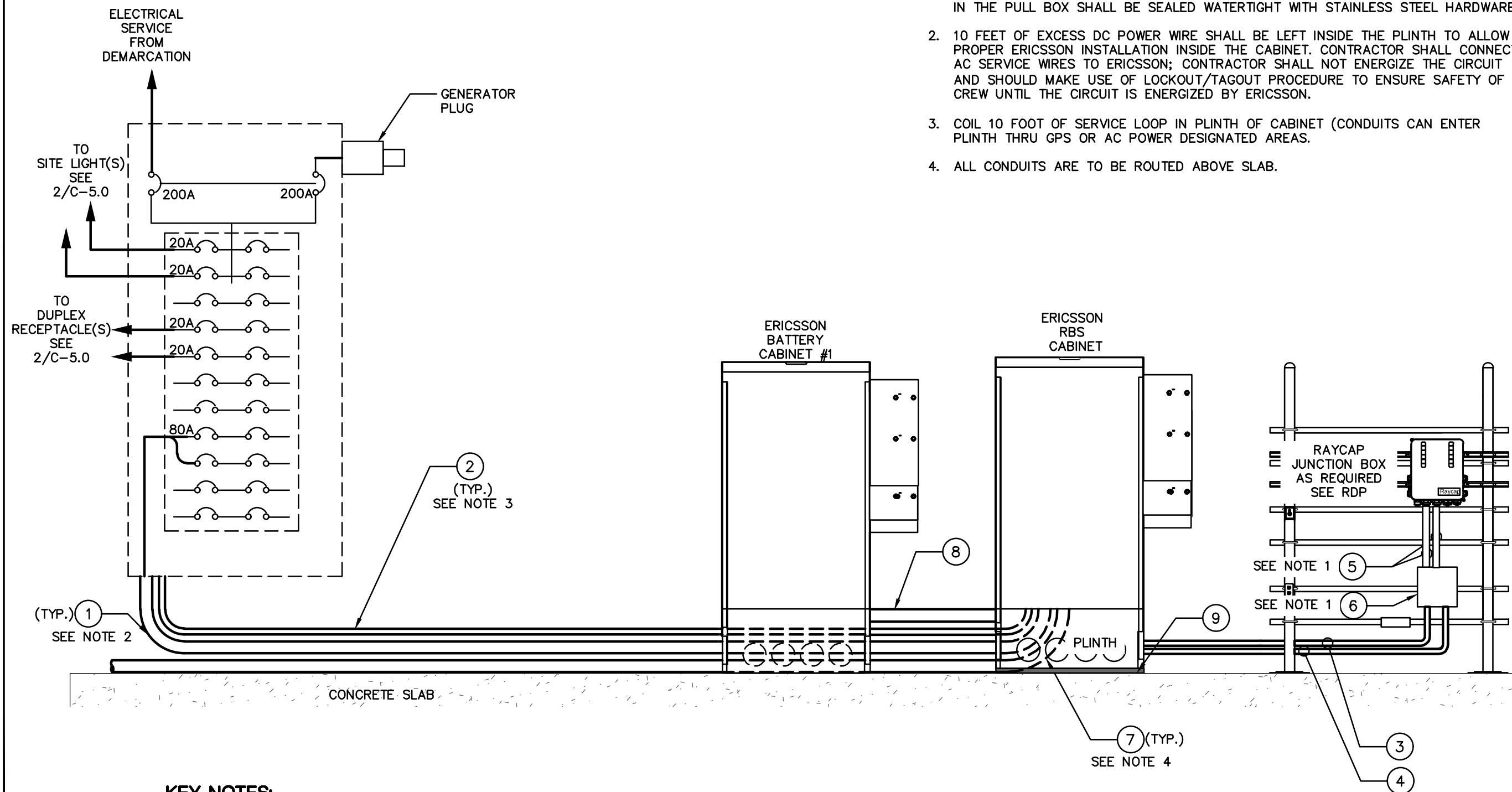
7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
**ONE-LINE
DIAGRAM**

SHEET NUMBER
C-9.1



KEY NOTES:

- 1 ERICSSON CABINET SERVICE:
(3) 4 AWG CU
(1) 8 AWG CU GROUND
2" PVC
- 2 ALARM CABLES:
(1) CAT 5e OR EQUIVALENT
1" PVC

- 3 ERICSSON CABINET TO J-BOX:
2" SEALTITE (12) 6 AWG FOR DC POWER
- 4 ERICSSON CABINET TO J-BOX:
2" SEALTITE FIBER JUMPERS

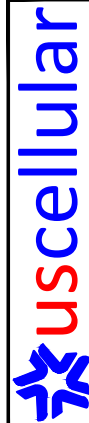
- 5 J-BOX TO RAYCAP:
(2) 2" SEALTITE, (1) FIBER & (1) DC POWER
- 6 12"x12"x6" NEMA-3R J-BOX FOR FIBER AND POWER JUMPERS

- 7 ERICSSON CABINET TO FIBER VAULT:
FIBER JUMPERS FROM VAULT TO ERICSSON CABINET, 2" PVC, TERMINATE CONDUIT @ RBS WITH ROXTEC GLAND OR APPROVED CLIENT EQUIVALENT TO INSURE RODENTS CANNOT ACCESS CABINET BASE
- 8 ERICSSON RBS CABINET TO ERICSSON BBS CABINET:
2-1/2" SEALTITE

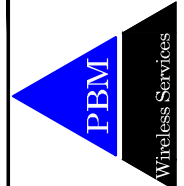
- 9 1/2" RUBBER MAT INSTALLED UNDER PLINTH (TYP.)

GENERAL NOTES:

1. FIBER AND POWER WIRES FROM METAL PULL BOX TO RAYCAP ROUTED IN SEALTITE CONDUIT. CONDUIT SHOULD EXIT REAR PANEL OF METAL PULL BOX TO ENSURE FIBER AND POWER WIRES EXIT THE PULL BOX HORIZONTAL TO GRADE. PRE-DRILLED HOLES IN THE PULL BOX SHALL BE SEALED WATERTIGHT WITH STAINLESS STEEL HARDWARE.
2. 10 FEET OF EXCESS DC POWER WIRE SHALL BE LEFT INSIDE THE PLINTH TO ALLOW PROPER ERICSSON INSTALLATION INSIDE THE CABINET. CONTRACTOR SHALL CONNECT AC SERVICE WIRES TO ERICSSON; CONTRACTOR SHALL NOT ENERGIZE THE CIRCUIT AND SHOULD MAKE USE OF LOCKOUT/TAGOUT PROCEDURE TO ENSURE SAFETY OF CREW UNTIL THE CIRCUIT IS ENERGIZED BY ERICSSON.
3. COIL 10 FOOT OF SERVICE LOOP IN PLINTH OF CABINET (CONDUITS CAN ENTER PLINTH THRU GPS OR AC POWER DESIGNATED AREAS).
4. ALL CONDUITS ARE TO BE ROUTED ABOVE SLAB.



12020 RIDGEMONT DR.
URBANDALE, IA 50323



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3	11/09/22	CITY COMMENTS	JAP

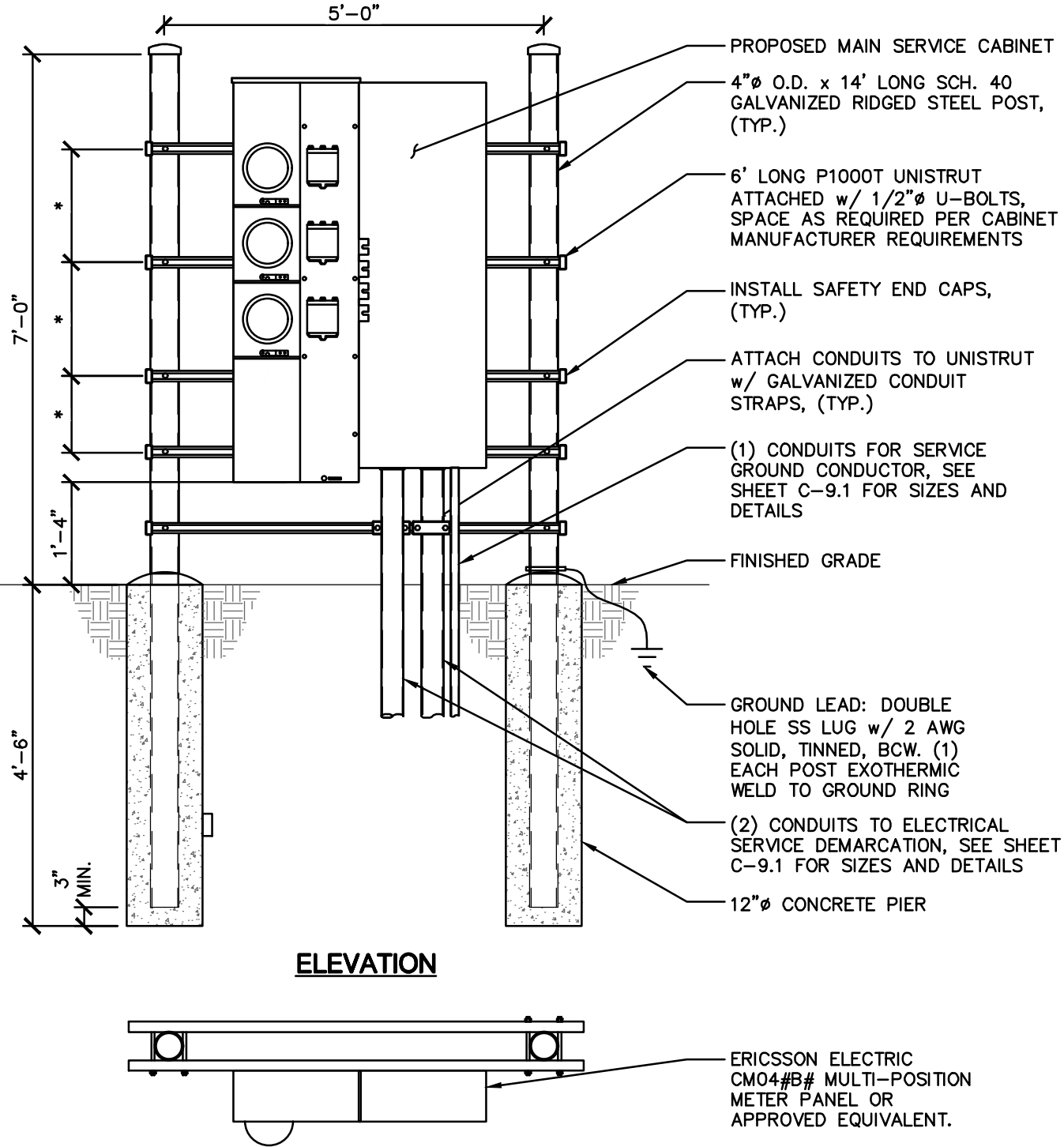
7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
EQUIPMENT
SCHEMATIC

SHEET NUMBER
C-9.2



- NOTES:**
- 1. *- COORDINATE ELEVATIONS WITH EQUIPMENT/MOUNTING HEIGHT.
 - 2. STEEL SHALL BE HOT DIP GALVANIZED.
 - 3. CABINETS SHALL BE MOUNTED WITH STAINLESS STEEL BOLTS.
 - 4. METAL POSTS ARE NOT ALLOWED TO SERVE AS EQUIPMENT GROUNDING CONDUCTOR.
 - 5. UNISTRUT SHALL NOT EXTEND BEYOND POST & MUST HAVE SAFETY END CAPS.
 - 6. METALLIC PARTS SHALL BE BONDED ACCORDING TO THE NEC LATEST EDITION.
 - 7. GROUNDING SHALL CONFORM TO NEC AND SECTION 436-439.
 - 8. FACE OF METER SHALL BE 48" MINIMUM FROM OF FENCE.

1 UTILITY RACK

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

METAL UTILITY RACK

12020 RIDGEMONT DR.
URBANDALE, IA 50323

Wireless Services
Think outside the triangle.

A	08/16/22	INTERNAL REVIEW	JAP
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3	11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH.
3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

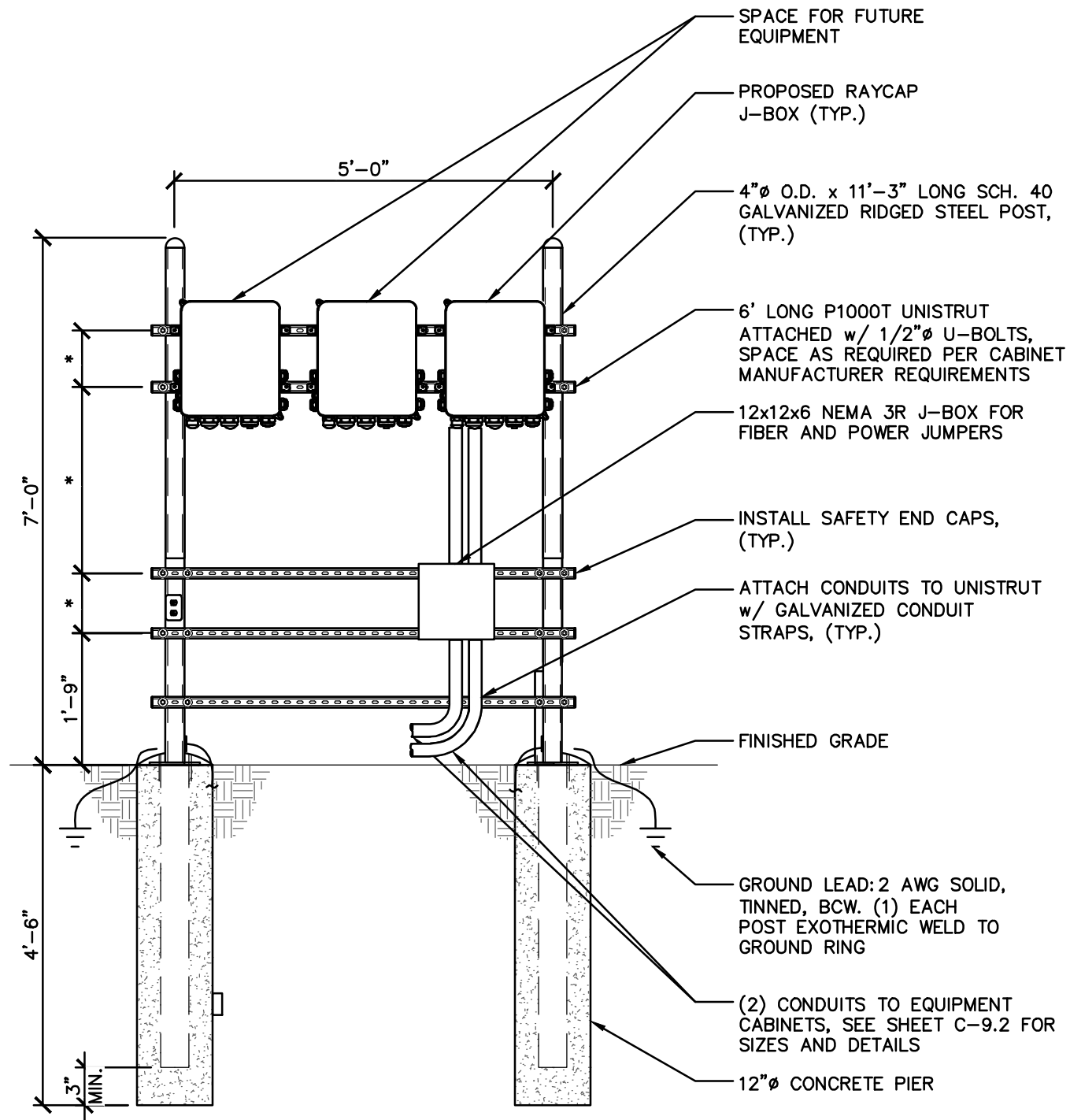
CHKD BY: AJK

SHEET TITLE

**ELECTRICAL
DETAILS**

SHEET NUMBER

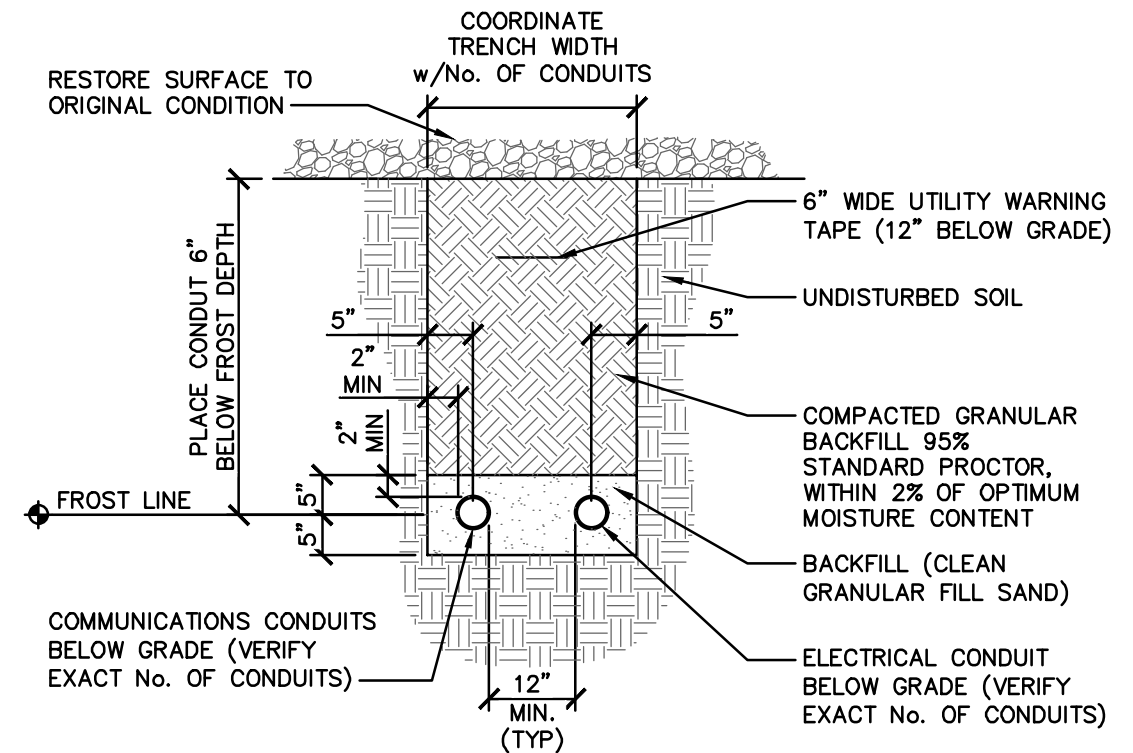
C-10.0



ELEVATION

1 RAYCAP UTILITY RACK
SCALE: 1/2" = 1'-0"

METAL RAYCAP UTILITY RACK

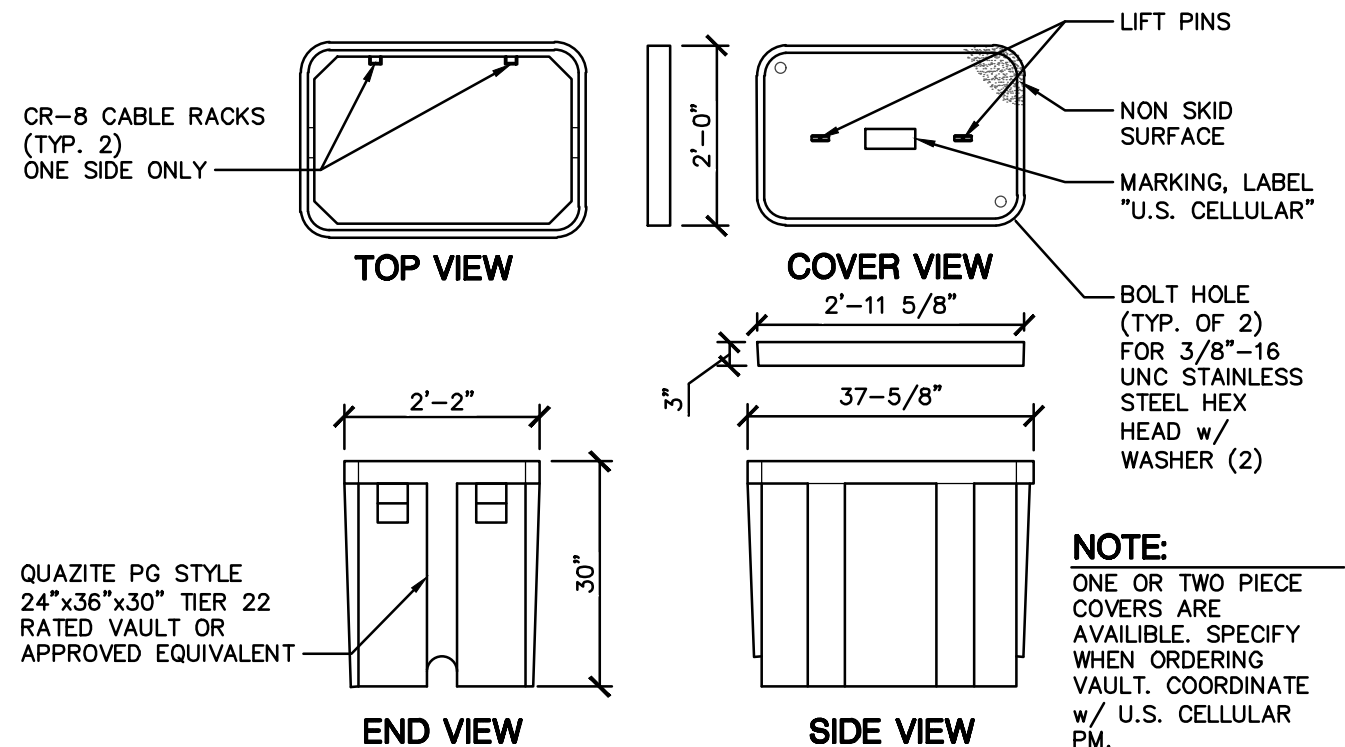


NOTE:

- SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

2 JOINT TRENCH ELECTRIC/COMMUNICATIONS
SCALE: NONE

JOINT TRENCH DETAIL



3 2'x3' VAULT DETAILS
SCALE: 1" = 1'-0"

UTILITY VAULT - PG STYLE

A	08/16/22	INTERNAL REVIEW	JAP
0	08/19/22	CLIENT REVIEW	JAP
1	09/22/22	CLIENT REVIEW	JAP
2	11/07/22	CITY COMMENTS	JAP
3	11/09/22	CITY COMMENTS	JAP

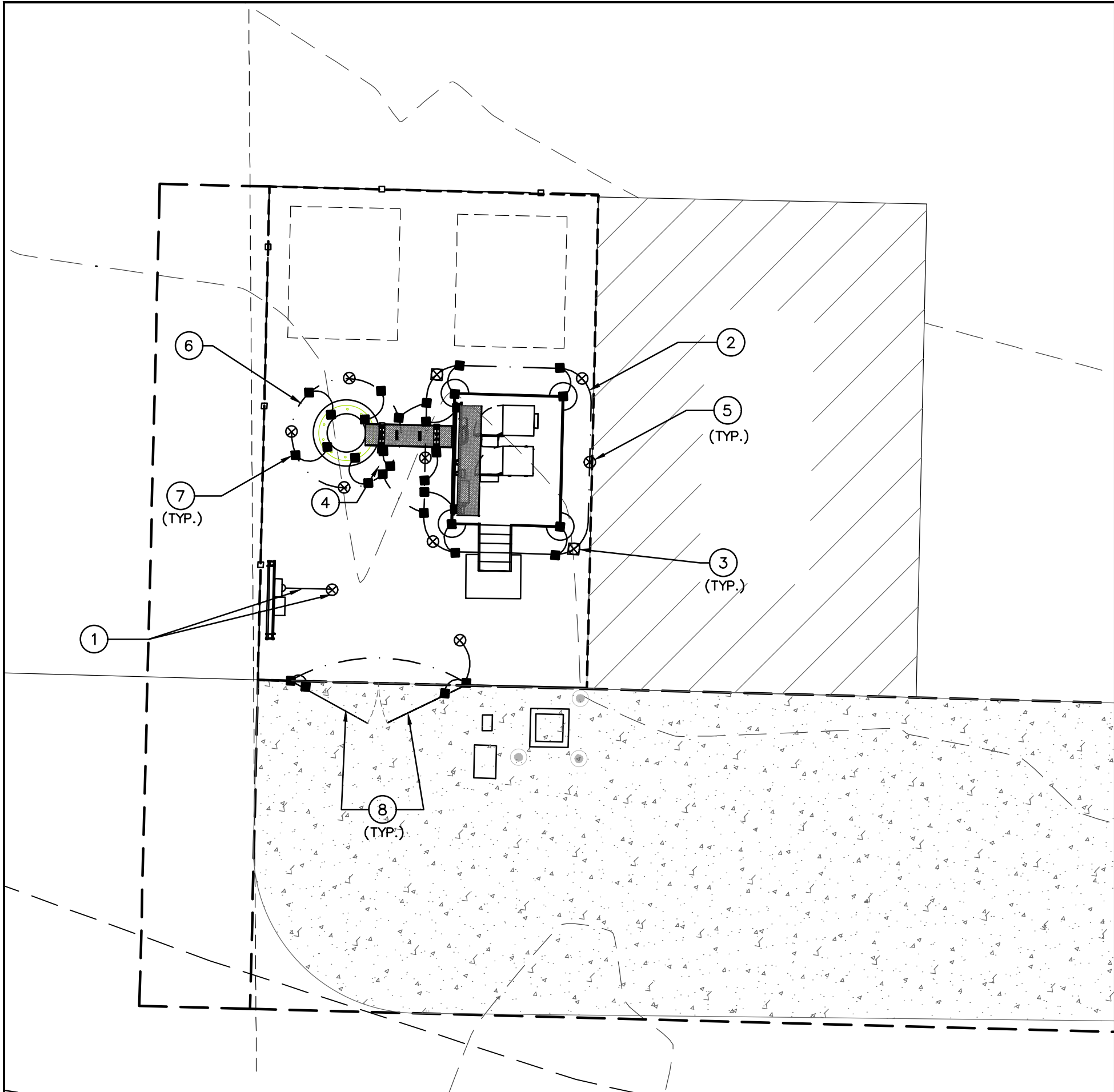
7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
ELECTRICAL DETAILS

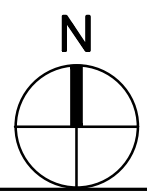
SHEET NUMBER
C-10.1



- NOTES:**
1. GROUND WIRES ARE 2 AWG SOLID TINNED BCW U.N.O.
 2. GROUND RING/RODS SHALL BE 6" BELOW FROST DEPTH, DEPTH MAY VARY.
 3. METALS WITHIN 6' OF THE GROUND RING SHALL BE BONDED TO THE GROUND RING.
 4. EXOTHERMIC WELD, (3) 2 AWG SOLID TINNED BCW, @ TOWER BASE PLATE. CONNECT TO TOWER GROUND RING w/ EXOTHERMIC WELD (TYP. 3 PLACES.)

- KEY NOTES:**
- 1 UTILITY GROUND ROD & WIRE, PER NEC LATEST EDITION
 - 2 FOR DETAILED EQUIPMENT GROUNDING SEE SHEET C-13.0
 - 3 INSPECTION WELL (TYP. 2), SEE SHEET C-13.0
 - 4 2 AWG SOLID TINNED BCW ICE BRIDGE CONNECTION
 - 5 3/4"X10'-0" LONG COPPER CLAD STEEL GROUND ROD @ 10' O.C. (TYP.) SEE SHEET C-13.0
 - 6 2 AWG SOLID TINNED BCW TOWER GROUND RING, MIN. 6" BELOW FROST DEPTH, SEE NOTE 2.
 - 7 EXOTHERMIC WELD CONNECTION (TYP.)
 - 8 FENCED COMPOUND ACCESS GATE (TYP. 2)

1 GROUNDING PLAN
SCALE: 1" = 10'



DATE	REVIEW	BY
08/16/22	INTERNAL REVIEW	JAP
08/19/22	CLIENT REVIEW	JAP
09/22/22	CLIENT REVIEW	JAP
11/07/22	CITY COMMENTS	JAP
11/09/22	CITY COMMENTS	JAP

GROUNDING RISER KEY NOTES:

- 1

2 AWG SOLID TINNED BCW, EXOTHERMIC WELD TO GROUND RING
- 2

2 AWG SOLID TINNED BCW, EXTERNAL GROUND RING, 6" BELOW FROST DEPTH (MIN.)
- 3

3/4" X 10' LONG COPPER CLAD STEEL GROUND ROD, CONNECT TO GROUND RING w/ EXOTHERMIC WELD, (TYP.)
- 4

EQUIPMENT CABINET
- 5

(2) 2 AWG SOLID TINNED INSULATED GREEN CU, GROUND WIRE w/ EXOTHERMIC WELD
- 6

LIGHT FIXTURE
- 7

PPC CABINET
- 8

MASTER GROUND BUS BAR
- 9

2 AWG SOLID TINNED BCW, EQUIPMENT GROUND (TYP.), TO PLINTH, RBS AND BBS
- 10

GPS ANTENNA
- 11

ICE BRIDGE FRAMING AND POST
- 12

CABLE GROUND KIT TO FURNISHED AND INSTALLED BY CONTRACTOR, (TYP. 1 PER CABLE)
- 13

6 AWG STRANDED INSULATED GREEN CU, CONNECT TO EGB w/ 2-HOLE LUG COMPRESSION, (TYP.)
- 14

EXOTHERMIC WELD CONNECTION
- 15

1/4"x4"x20" (TYP.) COLLECTOR GROUND BAR, THE TOP TGB SHALL BE ATTACHED TO TOWER BELOW ANTENNAS USING SS HARDWARE. 2 AWG SOLID TINNED BCW SHALL BE EXOTHERMICALLY WELDED TO THE GROUND BAR. 2 AWG SOLID TINNED BCW FROM THE GROUND BAR SHALL BE BONDED TO THE TOWER USING HARGER CPC CLAMP
- 16

2 AWG STRANDED INSULATED GREEN CU, GROUND SPLICE, 2 HOLE SS COMPRESSION LUG, (TYP.)
- 17

HYBRID/COAXIAL SIGNAL CABLES, (TYP.)
- 18

ANTENNA MOUNTING MAST GROUND WITH 2 AWG SOLID TINNED BCW TO MAST w/ SS HARDWARE, 2 HOLE SS COMPRESSION LUG TO SECTOR BAR, (TYP.)
- 19

AIR TERMINAL, BONDED w/ 2 AWG SOLID TINNED BCW, USE HARGER CPC CLAMP
- 20

NOT USED
- 21

2 AWG SOLID TINNED BCW, EXOTHERMIC WELD TO MAST, 2-HOLE SS COMPRESSION LUG CONNECTION TO SECTOR BUS, (TYP.)
- 22

1/4"x4"x20" (TYP.) LOWER COLLECTOR GROUND BAR. THE BOTTOM TGB SHALL BE ATTACHED TO THE TOWER USING STAINLESS STEEL HARDWARE BELOW THE TRANSMISSION CABLE GROUNDING KITS. (2) 2 AWG SOLID TINNED BCW SHALL BE EXOTHERMICALLY WELDED TO GROUND BAR. (2) 2 AWG SOLID TINNED BCW FROM GROUND BAR SHALL BE BONDED TO GROUND RING
- 23

1/4"x4"x20" (TYP.) COAX GROUND BAR. THE BOTTOM CGB SHALL BE ATTACHED TO THE ICE BRIDGE USING STAINLESS STEEL HARDWARE. THE TRANSMISSION CABLE GROUNDING KITS. (2) 2 AWG SOLID TINNED BCW SHALL BE EXOTHERMICALLY WELDED TO GROUND BAR. (2) 2 AWG SOLID TINNED BCW FROM GROUND BAR SHALL BE BONDED TO GROUND RING
- 24

TOWER FOUNDATION
- 25

PANEL ANTENNA (TYP.)
- 26

TOWER GROUND RING: 2 AWG SOLID TINNED BCW, SPACE @ 2'-0" FROM TOWER FOUNDATION MIN., OF, (3) 3/4"Øx10' LONG COPPER CLAD STEEL GROUND RODS
- 27

1/2" FLEX CONDUIT SEALED w/SILICONE. CONDUIT TO EXTEND 12" ABOVE & BELOW GRADE, (TYP.)
- 28

2 AWG SOLID TINNED BCW, BONDED TO TOWER BASE PLATE w/ SS HARDWARE & EXOTHERMICALLY WELDED TOWER GROUND RING, (TYP. 3, EQUALLY SPACED)
- 29

RAYCAP JUNCTION BOX, GROUNDED w/ 6 AWG STRANDED INSULATED GREEN CU TO EXTERNAL GROUND BAR w/ 2-HOLE LUG CONNECTION.
- 30

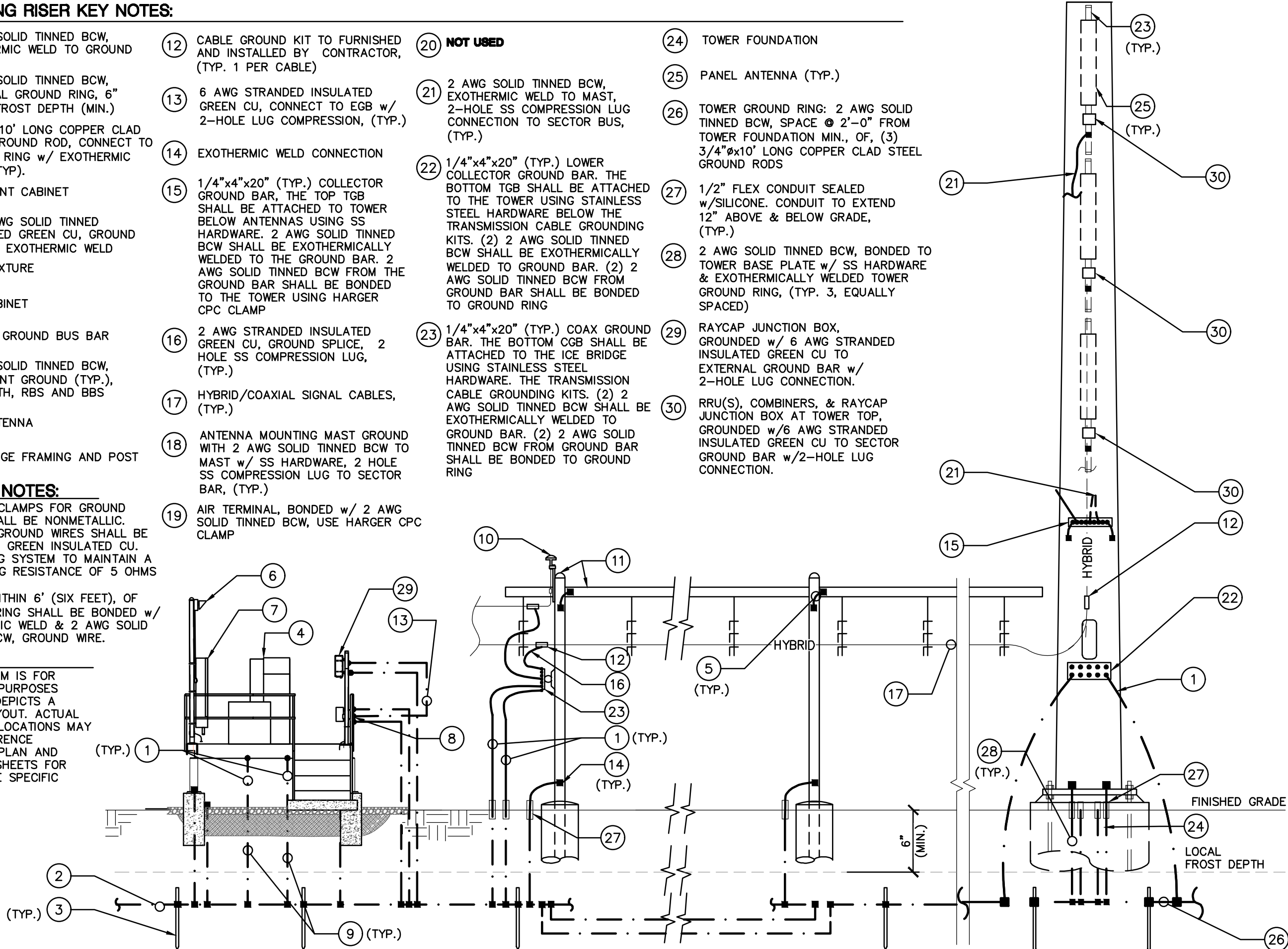
RRU(S), COMBINERS, & RAYCAP JUNCTION BOX AT TOWER TOP, GROUNDED w/6 AWG STRANDED INSULATED GREEN CU TO SECTOR GROUND BAR w/2-HOLE LUG CONNECTION.

GENERAL NOTES:

1. SUPPORT CLAMPS FOR GROUND WIRES SHALL BE NONMETALLIC.
2. INTERIOR GROUND WIRES SHALL BE STRANDED GREEN INSULATED CU.
3. GROUNDING SYSTEM TO MAINTAIN A GROUNDING RESISTANCE OF 5 OHMS OR LESS.
4. METALS WITHIN 6' (SIX FEET), OF GROUND RING SHALL BE BONDED w/ EXOTHERMIC WELD & 2 AWG SOLID TINNED BCW, GROUND WIRE.

NOTE:

THIS DIAGRAM IS FOR SCHEMATIC PURPOSES ONLY AND DEPICTS A TYPICAL LAYOUT. ACTUAL EQUIPMENT LOCATIONS MAY VARY. REFERENCE COMPOUND PLAN AND ELEVATION SHEETS FOR ACTUAL SITE SPECIFIC CONDITIONS.



1 TYPICAL GROUNDING RISER DIAGRAM
SCALE: NONE

PLATFORM STEALTH RISER

uscellular

12020 RIDGEMONT DR.
URBANDALE, IA 50323

PBM

Wireless Services
Think outside the triangle.

01/08/16/22	INTERNAL REVIEW	JAP
01/08/19/22	CLIENT REVIEW	JAP
01/09/22/22	CLIENT REVIEW	JAP
01/11/07/22	CITY COMMENTS	JAP
01/11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04

DWG BY: JAP

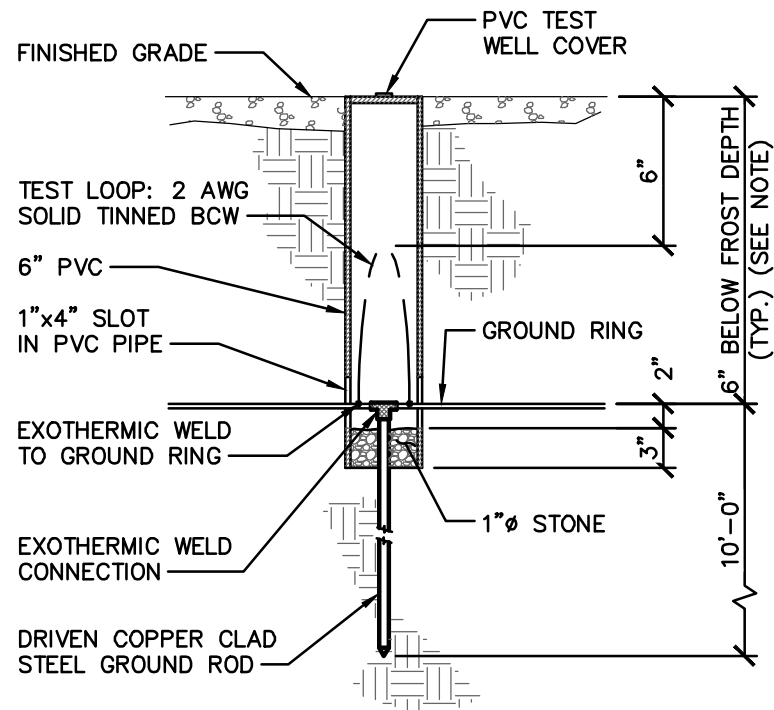
CHKD BY: AJK

SHEET TITLE

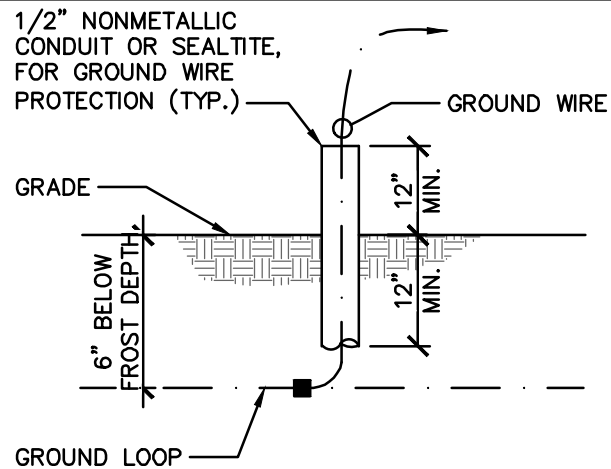
GROUNDING
RISER

SHEET NUMBER

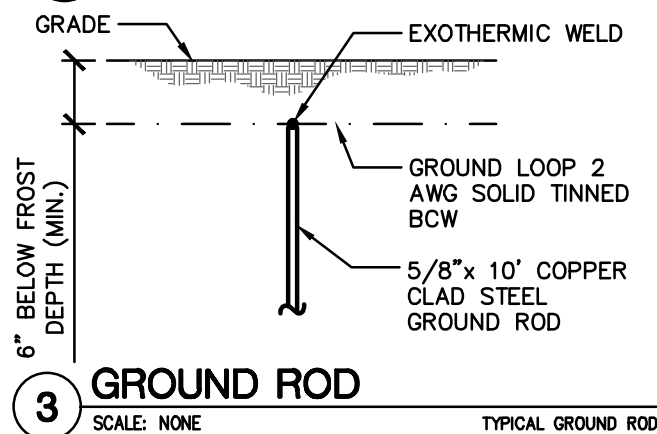
C-12.0



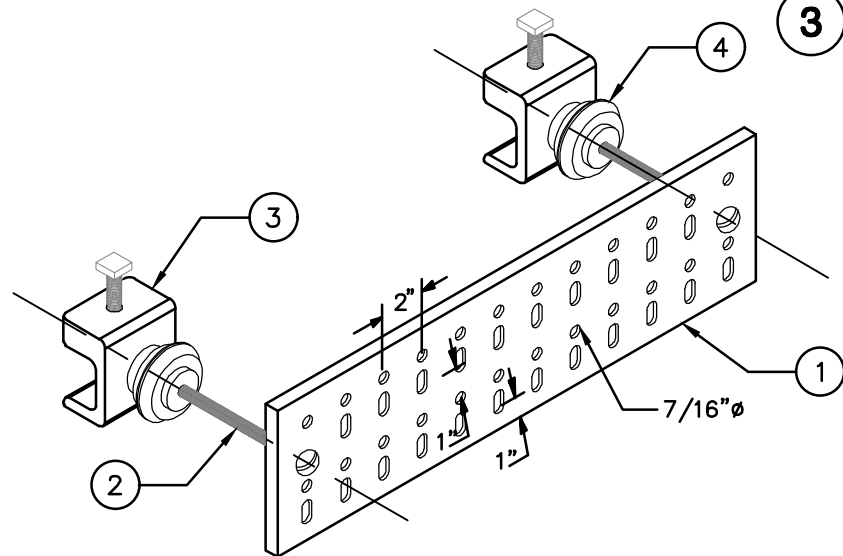
1 INSPECTOIN WELL DETAIL
SCALE: NONE GROUND INSPECTION WELL



TO BE USED WITH GROUND WIRES ENTERING THE EARTH.
2 GROUND WIRE PROTECTION
SCALE: NONE GROUND WIRE PROTECTION



3 GROUND ROD
SCALE: NONE TYPICAL GROUND ROD



KEY LEGEND

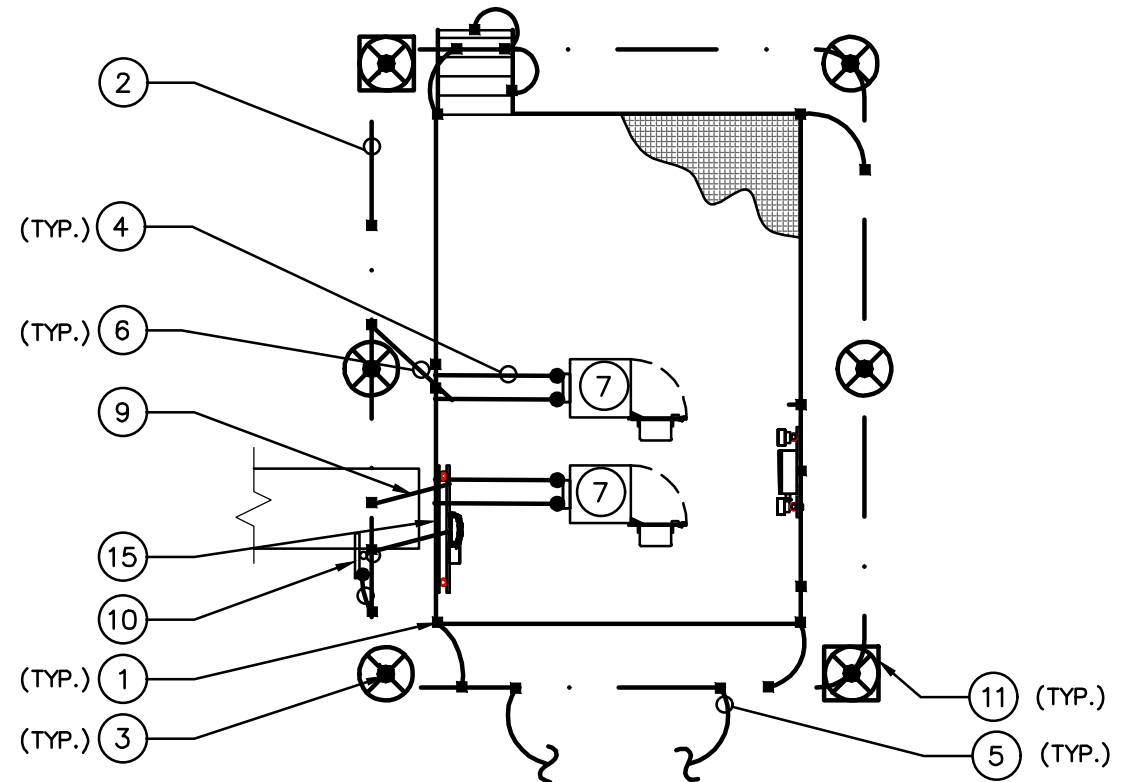
- 1 COPPER GROUND BAR, 1/4"x 4"x 20", HOLE CENTERS TO MATCH NEMA DOUBLE HOLE LUG CONFIGURATION.
- 2 3/8" STAINLESS STEEL BOLT
- 3 STAINLESS STEEL UNIVERSAL CLAMP
- 4 INSULATOR PROVIDED WITH GROUND BAR MOUNTING KIT (TYP. 2)

NOTE:

NO DRILLING, CUTTING OR WELDING SHALL BE DONE ON THE TOWER WHENEVER POSSIBLE, CONNECTIONS MUST BE MADE TO PRE-EXISTING HOLES ALREADY IN THE TOWER OR BY UTILIZING A UNIVERSAL CLAMP AS SHOWN.

4 GROUND BAR DETAIL

SCALE: NONE ISO-GROUND-BAR-20-HOLE



- 1 EXOTHERMIC WELD CONNECTION (TYP.)
- 2 2 AWG SOLID TINNED BCW, EQUIPMENT GROUND RING @ 6" BELOW FROST DEPTH.
- 3 3/4"x10'-0" LONG COPPER CLAD STEEL GROUND ROD, SPACE @ 10'-0" O.C. MAX. (TYP.)
- 4 6 AWG SOLID TINNED BCW, FOR EQUIPMENT FRAMES.
- 5 2 AWG SOLID TINNED BCW, CONNECT TO TOWER GROUND RING (TYP. 2)
- 6 2 AWG SOLID TINNED BCW, TO GROUND RING (TYP.)
- 7 U.S. CELLULAR EQUIPMENT CABINET
- 8 2 AWG SOLID TINNED BCW, FOR UTILITY RACK GROUNDING
- 9 6 AWG INSULATED STRANDED GREEN CU GROUND WIRE FOR COAX CABLE GROUND & RAYCAP JUNCTION BOX GROUND (TYP.).
- 10 COAX GROUND BUS BAR MOUNTED TO ICE BRIDGE POST
- 11 GROUND INSPECTION WELL, SEE DETAIL 1/C-13.0
- 12 MASTER GROUND BUS BAR MOUNTED TO BOTTOM OF UTILITY RACK

NOTES:

1. GROUND LEADS TO BE INSTALLED ON REAR SIDE OF EQUIPMENT.
2. SEE COMPOUND PLAN FOR CORRECT CABINET ORIENTATION (TYP.)

5 TYPICAL CABINET GROUNDING PLAN

SCALE: NONE

A	08/16/22	INTERNAL REVIEW	JAP
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1	09/22/22	CLIENT REVIEW	JAP
2	11/07/22	CITY COMMENTS	JAP
3	11/09/22	CITY COMMENTS	JAP

7601333 - ANKENY NE 36TH.

3950 N ANKENY BLVD
ANKENY, IA 50023 - POLK COUNTY
NEW SITE BUILD - STEALTH MONOPOLE

PROJ #: 22-06-04 DWG BY: JAP CHKD BY: AJK

SHEET TITLE
GROUNDING DETAILS

SHEET NUMBER
C-13.0



NE 41st St

N Ankeny Blvd

NW Autumn Crest Dr

N
1 inch = 80 feet
Date: 11/9/2022

3950 N Ankeny Blvd.
Stealth Monopole



**CITY OF ANKENY
ZONING BOARD OF ADJUSTMENT
COMMUNITY DEVELOPMENT DEPARTMENT STAFF REPORT**

To: Members of the Zoning Board of Adjustment
From: Laura Hutzell, Associate Planner
Filing #: 22-15, 22-16, 22-17, 22-18 *EJC*
Meeting Date: November 22, 2022
Address: 3950 N Ankeny Blvd.

APPELLANT REQUEST

1. A Special Use Permit for the construction of a 120-foot stealth monopole including associated equipment used solely for the purpose of the transmission or relay of telephone utility service at 3950 N Ankeny Blvd in accordance with Ankeny Municipal Code Section 196.02(1)(H).
2. A 75-foot height variance to Ankeny Municipal Code Section 192.09(3)(G), to allow a 120-foot stealth monopole in a C-2, General Retail, Highway Oriented, and Central Business Commercial District, which has a 45-foot maximum height limitation.
3. An 8.67-foot rear yard setback variance to Ankeny Municipal Code Section 192.08(3)(F), to allow a 31.33-foot rear yard setback for the construction of a 120-foot stealth monopole in a C-2, General Retail, Highway Oriented, and Central Business Commercial District, which has a 40-foot rear yard setback requirement.
4. A Conditional Use Permit for the construction of a 120-foot stealth monopole in a floodway fringe area. Ankeny Municipal Code Section 193.01(14) state that *requests for conditional uses shall be submitted to the Zoning Administrator who shall forward such to the Board of Adjustments for consideration.*

STAFF POSITION

Grant a Special Use Permit to allow a stealth monopole with associated equipment to be located at 3950 N Ankeny Blvd is granted provided the following conditions are met:

- Site Plan approval by the Plan & Zoning Commission.
- That the tower be white or off white in color to match other cell towers in Ankeny.

The requested Special Use Permit is based on a finding that the criteria for a Special Use Permit for a communication tower preserves the intent and purpose of the Zoning Ordinance to promote public health, safety, morals, and the general welfare.

Grant a 75-foot height variance to Ankeny Municipal Code Section 192.09(3)(G), to allow for the construction of a 120-foot stealth monopole with associated equipment, in a C-2, General Retail and Highway Oriented Commercial District, located at 3950 N Ankeny Blvd.

Staff's position is based on a determination that the increased height from the resulting monopole will not impair adequate supply of air and light, will not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

Grant an 8.67-foot variance to Ankeny Municipal Code Section 192.08(3)(F) to allow a 31.33-foot rear yard setback for construction of a stealth monopole with associated equipment at 3950 N Ankeny Blvd.

Staff's position is based on a determination that the decreased rear yard setback will not impair adequate supply of air and light, will not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

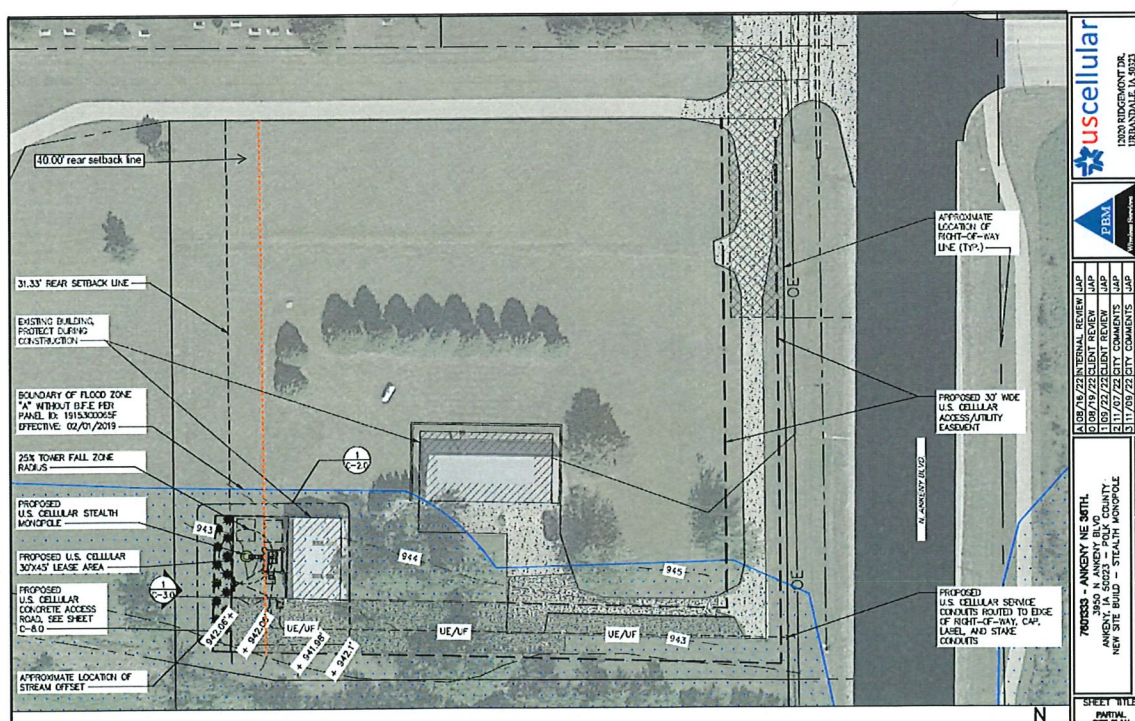
Grant a Conditional Use Permit in a FEMA designated General Floodplain for construction of a stealth monopole with associated ground equipment in an area determined to be in a special flood hazard area based on a review by the Iowa Department of Natural Resources.

Staff's position is based on the appellant following the proper procedures with the Iowa Department of Natural Resources and City Code, as well as elevating the appropriate equipment above the determined flood plain elevation.

PROJECT SUMMARY

GSS, Inc has applied on behalf of Tony and Terry Johnson, to locate a new, 120-foot stealth monopole/cellular tower in a leased 30x45' area at 3950 N Ankeny Blvd. The 30x45' lease area is shown on the plans to be enclosed by a six-foot high vinyl fence and located approximately 304 feet west of N Ankeny Blvd and 333 feet north of NW Autumn Crest Drive in an effort to increase coverage for US Cellular and their customers located in the northern portions of Ankeny.

3950 N Ankeny Blvd is owned by Tony and Terry Johnson. The property is zoned C-2, General Retail and Highway Oriented Commercial Business District. The properties directly north and west are zoned R-1, south and east are zoned C-2, and properties to the SW are zoned R-3.



The parcel of land where the monopole is proposed is roughly 2.4 acres in size and sits within a portion of Zone A (an undefined flood zone that does not have a base flood elevation or floodway established) on the FEMA Flood Insurance Rate Map (FIRM). Because the proposed project lies within Zone A of the FIRM map, further discussions with the City's Floodplain Coordinator and the Iowa Department of Natural Resources was required. It was determined in a letter dated June 13, 2022, that a portion of the project property lies within the Special Flood Hazard Area with an estimated 100-year flood plain elevation to be 946.1'. The letter goes on to state that the minimum elevation for any structures deemed as "high damage potential" with this project are to be elevated to a minimum of 947.1'. The plans for the proposed monopole lay out the associated ground equipment required for this project, anything that has been deemed as "high damage potential" has been elevated.

There is a proposed 269-foot, paved, drive extending west off of the existing driveway on the property with room for at least one parking stall and a turnaround as required by Code. This drive provides extended access from N Ankeny Blvd to the monopole site.

There is a 10-foot wide landscape easement proposed with this project, which includes installation of 14 trees to provide for screening of the base ground equipment in addition to required type C screen (opaque vinyl fence) as required by code.

A letter of authorization from the property owner, dated September 27, 2022, has been received, which has authorized GSS, Inc to proceed with the necessary application process.

The applicant has submitted the required site plan for Plan & Zoning Commission approval. The site plan addresses the screening, paving, parking and other site related issues.

SPECIAL USE PERMIT:

Criteria for a Special Use Permit:

196.02(1) Board of Adjustment Authorization.

1. *Board of Adjustment Authorization. Board of Adjustment may, by special permit after public hearing, authorize the location of any of the following buildings or uses in any district from which they are prohibited by this Zoning Ordinance:*

H. Aboveground buildings or structures used solely for the purpose of the transmission or relay of electric or telephone utility service.

The Applicant is proposing a self-supporting tower that is a stealth monopole by design with room for several co-locates on the proposed tower, which is what has been consistently required by the Board. Some screening of the base of the tower and the ground equipment will be required. A proposed, six-foot, vinyl, opaque fence with the addition of a 10-foot wide landscape easement, will reduce the impact on adjacent properties.

The Appellant's statement has addressed coverage gaps and a need to increase capacity in this area, which necessitates a cell tower on this site.

VARIANCE:

Criteria for a Variance:

197.01(4) Powers and Duties.

B. To grant a variation in the regulations when a property owner can show ...that by reason of exceptional narrowness, shallowness, or shape of a specific piece of property or by reason of exceptional topographical conditions or other extraordinary or exceptional situation, the strict application of the terms of this title actually prohibits the use of this property in the district; and that the board is satisfied under the evidence before it that a literal enforcement of the provisions of this title would result in unnecessary hardship; provided, however, that all variations granted under this clause shall be in harmony with the intended spirit and purpose of this title.

The first requested variance is to Section 192.09(3)(G), which states: Maximum Height – 45 feet

The second requested variance is to Section 192.08(3)(F) which states: Rear Yard – 40 feet. Any rear yard adjoining an R district shall be buffered by use of landscaping, walls or fences to efftely screen the commercial use from the adjoining R district.

CONDITIONAL USE PERMIT:

Ankeny Municipal Code Section 193.01 Flood Plain Regulations:

193.01(10)(C) General Flood Plain (Overlay) Subdistrict (GF). The general flood plain subdistrict shall be those areas identified as Zone A on the Official Flood Plain Zoning Map.

193.01(11)(C)(2): General Flood Plain (Overlay) Subdistrict (FP). Any uses which involve placement of structures, factory-built homes, fill, or other obstructions, storage of materials or equipment, excavation or alteration of a watercourse may be allowed only upon issuance of a conditional use permit by the Board of Adjustments, as provided for in Section 14 of this Ordinance. All such uses shall be reviewed by the Department of Natural Resources to determine (i) whether the land involved is either wholly or partly within the floodway or floodway fringe and (ii) the base flood-elevation. The applicant shall be responsible for providing the Department of Natural Resources with sufficient techincal information to make the determination. The Board, under certain conditions and safeguards, may have the authority to grant the request

Ankeny Municipal Code Section 193.01(14): requests for conditional uses shall be submitted to the Zoning Administrator who shall forward such to the Board of Adjustments for consideration.

Because this property lies in Zone A, an unidentified flood zone that does not have a base elevation or floodway established on the FEMA Flood Insurance Rate Map (FIRM), the City of Ankeny does not have the authority to determine the base flood elevation or the floodway boundary. Therefore, the applicant has been in contact with the Iowa Department of Natural Resources regarding the determination of the boundary and 100-year flood elevation for the existing property. In a letter dated, June 13, 2022, the Iowa Department of Natural Resources has determined this property to be located in the Special Flood Hazard Area, and has estimated the current existing 100-year flood elevation to be 946.1' at this specific project location. Therefore, it has been determined that the minimum elevation for any structures deemed as "high damage potential" be elevated 947.1' to reduce flood risk. In a second letter, dated November 7, 2022 in response to an inquiry of a Flood Plain Development Permit application, it was determined by the DNR that the proposed project does not require a state Flood Plain Development Permit, but will require a City of Ankeny Floodplain Development Permit after Board of Adjustment approval.

FINDINGS OF FACT

The property at 3950 N Ankeny Blvd is located West of N Ankeny Blvd and North of NW Autumn Crest Drive. The property is zoned C-2, General Retail, Highway Oriented, and Central Business Commercial District, and is surrounded by properties to the north and east that are zoned R-1, property to the south is zoned C-2, and properties to the SW are zoned R-3.

The property consists of a single-family home with a detached barn, which sits on a 2.41-acre lot and is considered to be located within a floodplain area. In addition to the existing structures on site, the applicant GSS, Inc has proposed locating a 120-foot stealth monopole with associated ground equipment at this site in an effort to increase coverage for US Cellular and their customers located in the northern portions of Ankeny, resulting in a request for a Special Use Permit as required by Ankeny Code.

The proposed monopole will be 120-feet tall, sitting with associated ground equipment inside a leased 30x45' area. The height of the monopole exceeds the required 45-foot height limitation by 75 feet. A cell tower at 45 feet would comply with the height requirements of the code, however it would not provide adequate coverage.

The location where the applicant has proposed the monopole allows for the best access from the existing driveway with as little disruption to the homeowner's property as possible, however this results in placing the monopole and associated structures inside a leased 30x45' area approximately 8.67 feet within the required 40-foot rear yard setback.

The requests are to grant a 75-foot variance to the height and an 8.67-foot variance to the rear yard setback.

Because the property is located within a General Floodplain Subdistrict, a Conditional use permit is required by the City of Ankeny. In conjunction with this request, the applicant has been continuously working with the City's Floodplain Coordinator and has pursued the necessary information from the Iowa Department of Natural Resources as required by code (see attached letters).

Staff notified all property owners within a 370-foot radius (includes ROW) of 3950 N Ankeny Blvd of this appeal by mail on November, 10, 2022. To date, staff has not received any communication expressing concern or disapproval, nor communication endorsing the variance.

Furthermore, similar monopole/cell tower requests have been approved by the Zoning Board of Adjustment in the past. The most recent being June 7, 2016.

SUMMARY

The staff position is to grant a Special Use Permit to allow a stealth monopole with associated equipment to be located at 3950 N Ankeny Blvd is granted provided the following conditions are met:

1. Site Plan approval by the Plan & Zoning Commission.
2. That the tower be white or off white in color to match other cell towers in Ankeny.

The requested Special Use Permit is based on a finding that the criteria for a Special Use Permit for a communication tower preserves the intent and purpose of the Zoning Ordinance to promote public health, safety, morals, and the general welfare.

The staff position is to grant a 75-foot height variance to Ankeny Municipal Code Section 192.09(3)(G), to allow for the construction of a 120-foot stealth monopole with associated equipment, in a C-2, General Retail and Highway Oriented Commercial District, located at 3950 N Ankeny Blvd.

Staff's position is based on a determination that the increased height from the resulting monopole will not impair adequate supply of air and light, will not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

The Staff Position is to grant an 8.67-foot variance to Ankeny Municipal Code Section 192.08(3)(F) to allow a 31.33-foot rear yard setback for construction of a stealth monopole with associated equipment at 3950 N Ankeny Blvd.

Staff's position is based on a determination that the decreased rear yard setback will not impair adequate supply of air and light, will not increase public danger of fire, or diminish property values; and that this request is in harmony with the intended spirit and purpose of the Ankeny Municipal Code.

The staff position is to Grant a Conditional Use Permit in a FEMA designated General Floodplain for construction of a stealth monopole with associated ground equipment in an area determined to be in a special flood hazard area based on a review by the Iowa Department of Natural Resources.

Staff's position is based on the appellant following the proper procedures with the Iowa Department of Natural Resources and City Code, as well as elevating the appropriate equipment above the determined flood plain elevation.



11/7/2022

ALBERT AGUIRRE
GSS INC
3311 109TH ST
URBANDALE, IA 50322

Project Description: Buildings and Associated Fill: 120' monopole cell tower. 30'x45' compound. 269' long access drive.; (Unnamed stream)

Project Latitude / Longitude Location(s): Buildings and Associated Fill 41.7637/-93.6016; Polk County

Iowa DNR Project ID Number: 2022-2251

Dear Albert Aguirre:

This letter is in response to your Flood Plain Development Permit application concerning the above referenced project. Based on the information received, the Iowa Department of Natural Resources has determined that the proposed project does not require a state Flood Plain Development Permit. You may download additional copies, or verify the Iowa DNR Flood Plain and Dam Safety Section (Department) official response document(s) for this project at the Iowa DNR Flood Plain PERMT website using the tracking number above. (PERMT Website Address: <https://programs.iowadnr.gov/permt/>)

The project may require a local flood plain development permit(s) from Ankeny. If you have not yet done so, please contact the following local Flood Plain Manager(s) for assistance in applying for the local flood plain permit(s):

- Ankeny: Deb Gervais , 1210 NW Prairie Ridge DR, Ankeny, IA, 50023-1564, DGervais@ankenyiowa.gov, 515-963-3558

No land or water, under the jurisdiction of the State of Iowa, is involved in the project area; therefore, a Sovereign Lands Construction Permit pursuant to Chapter 461A of the Iowa Code will not be required for this project.

The applicant is responsible for complying with all other local, state, and federal statutes, ordinances, rules, and permit requirements applicable to the construction, operation, and maintenance of the approved works. Approval through the Corps of Engineers Section 404 Permit Program may be required for this project. The Corps of Engineers will contact you separately regarding their approval. Questions can be directed to the Corps by phone at 309-794-5057 or by email at iowaregulatory@usace.army.mil.

Please contact me by phone at 515-393-1891 or by email at Meesha.Legg@dnr.iowa.gov with any questions.

Sincerely,

Meesha Legg

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Meesha Legg
Date: 2022.11.07
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Meesha Legg

Iowa DNR, Flood Plain Management and Dam Safety Section



6/13/2022

COMPLETE DESIGN SOLUTIONS
C/O DALTON CREACH
637 CORNETT BRANCH RD.
LAKE OZARK, MO 65049

Project Description: Proposed site for monopole and equipment compound. Need BFE to determine equipment platform height. 3950 N Ankeny Blvd. Ankeny, IA 50023.; (Unnamed Stream)

Project Latitude / Longitude Location(s): Buildings and Associated Fill 41.7638/-93.6009; Polk County

Iowa DNR Project ID Number: 2022-0695

Dear Dalton Creach:

This is in reference to your request for determination of the "100-year" flood elevation (a.k.a. the base flood elevation, or BFE) for the existing structure / property identified on your application. The Flood Insurance Rate Map (FIRM) for Polk County shows a portion of this property as being in the Special Flood Hazard Area (SFHA).

Based on the information available, we estimate the current existing condition 100-year flood elevation to be 946.1', NAVD88 at the upstream parcel boundary of the location referenced above. The floodway offset at this upstream boundary is 17 feet from the left (north) top of bank. The minimum elevation for any structures deemed as high-damage potential is 947.1'. You may download additional copies, or verify the Iowa DNR Flood Plain and Dam Safety Section (Department) official response document(s) for this project at the Iowa DNR Flood Plain PERMT website using the tracking number above. (PERMT Website Address: <https://programs.iowadnr.gov/permt/>)

Please be aware when planning future construction that elevating beyond the required 1 foot above the BFE will not only reduce flood risk, but might also result in lower flood insurance rates.

Please contact me by phone at 515-393-1891 or by email at Meesha.Legg@dnr.iowa.gov with any questions.

Sincerely,

Meesha Legg

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Meesha Legg
Date: 2022.06.13
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Meesha Legg

Flood Plain Management and Dam Safety Section