



# TYPE II APPLICATION – LAND USE

File #: VAR22-0004

**TYPES – PLEASE CHECK ONE:**

- Design review
- Tentative Plan for Partition
- Tentative Plan for Subdivision
- Type II Major Modification
- Variance EFR application to extend monopole height by 10'
- Other: (Explain) \_\_\_\_\_

**APPLICANT INFORMATION:**

**APPLICANT:** Crown Castle for Dish Wireless, C/O Gary Abrahams  
**ADDRESS:** 590 - 1st Ave. South, #705 **CITY:** Seattle **STATE:** WA **ZIP:** 98104  
**EMAIL ADDRESS:** Gary@gmanetworkservices.com **PHONE:** 206-349-4279 **MOBILE:** 206-349-4279

**OWNER** (if different from above): Crown Castle as Tower and Facility Owner **PHONE:** 309-269-7254  
**ADDRESS:** 1505 Westlake Ave. North, #800 **CITY:** Seattle **STATE:** WA **ZIP:** 98109

**ENGINEER/SURVEYOR:** PM&A **CONTACT:** Chad Wilhoit  
**EMAIL ADDRESS:** \_\_\_\_\_ **PHONE:** (678) 280-2325 **MOBILE:** \_\_\_\_\_

**GENERAL INFORMATION:**

**PROJECT LOCATION:** 2400 Douglas Ave. (a/k/a 1421 Deborah Road), Newberg, OR **PROJECT VALUATION:** \$ 25,000.00  
**PROJECT DESCRIPTION/USE:** Dish proposes to extend the existing tower by 10' (W/antenna tip height @ 102'), and collocate on tower  
**MAP/TAX LOT NO. (i.e. 3200AB-400):** R3217-02500 **SITE SIZE:** 72 SQ. FT.  ACRE   
**COMP PLAN DESIGNATION:** PQ **CURRENT ZONING:** R-1  
**CURRENT USE:** Newberg High School with an existing Crown Castle tower and wireless communication facility  
**SURROUNDING USES:**  
**NORTH:** Newberg High School/Sports field **SOUTH:** Newberg High School sports field  
**EAST:** Newberg High School **WEST:** Newberg High School

**ATTACHED PROJECT CRITERIA AND REQUIREMENTS (check all that apply)**

**General Checklist:**  Fees  Public Notice Information  Current Title Report  Written Criteria Response  Owner Signature  
 2 Copies of full Application Packet

For detailed checklists, applicable criteria for the written response, and other requirements per application type, turn to:

Design Review .....	p. 13
Partition Tentative Plat .....	p. 15
Subdivision Tentative Plat .....	p. 17
Variance Checklist .....	p. 20
Short-term Rental .....	p. 22

The Application Packet can be submitted to [Planning@newbergoregon.gov](mailto:Planning@newbergoregon.gov) or at 414 E First St., Newberg OR. 97132  
 If the Application is emailed 2 physical copies must be mailed or brought into the Community Development Department

The above statements and information herein contained are in all respects true, complete, and correct to the best of my knowledge and belief. Tentative plans must substantially conform to all standards, regulations, and procedures officially adopted by the City of Newberg. All owners must sign the application or submit letters of consent. Incomplete or missing information may delay the approval process.

[Signature] 10/15/22  
 Applicant Signature Date

SEE Attached  
 Owner Signature Date

Gary Abrahams  
 Print Name

See Crown Castle signature attached  
 Print Name



**Crown Castle**  
1505 Westlake Avenue North  
Suite 800  
Seattle, WA 98109

September 17, 2020

Re: Crown Castle – PNW

Subject: Gary Abrahams – Authorized Consultant for Crown Castle

Dear Reviewing Parties:

This letter serves to notify you that Crown Castle has retained the services of Gary Abrahams, as approved agent to submit application for and obtain local jurisdiction approvals including but not limited to zoning and building permits. This includes applicable permitting for any and all customers seeking to install or modify their equipment on Crown Castle towers.

Please feel free to contact me directly with any questions. Thank you for your expeditious processing of applications filed by Mr. Abrahams.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Chris Listfeld', with a long horizontal flourish extending to the right.

Chris Listfeld  
Site Acquisition Project Manager – Seattle  
[Chris.Listfeld@crowncastle.com](mailto:Chris.Listfeld@crowncastle.com)  
(206) 336-7403



# Yamhill County, Oregon

*In the heart of the Willamette Valley*

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McMinnville, OR 97128  
503-434-7521

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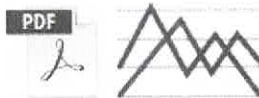
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## Property Account Summary

10/26/2022



Click image above for more information

Account Number	33895	Property Address	1421 DEBORAH RD , , OR
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### General Information

Alternate Property #	R3217 02500
Property Description	See Metes & Bounds
Property Category	Land &/or Buildings
Status	Active, Host Other Property, Locally Assessed
Tax Code Area	29.0
Remarks	

### Tax Rate

Description	Rate
Total Rate	

### Property Characteristics

Neighborhood	Misc Exempt
Land Class Category	921 Exempt School Improved
Account Acres	72.0000
Change Property Ratio	Exempt

### Parties

Role	Name
Owner	SCHOOL DISTRICT NO 29

### Related Properties

521257 is Located On this property

## Property Values

Value Type	Tax Year 2022	Tax Year 2021	Tax Year 2020	Tax Year 2019	Tax Year 2018
Assessed Value AVR	\$15,094,776	\$14,655,122	\$14,228,274	\$13,813,858	\$13,411,513
Exempt Value EAR	\$15,094,776	\$14,655,122	\$14,228,274	\$13,813,858	\$13,411,513
Taxable Value TVR					
Real Market Land MKLTL	\$22,631,600	\$22,631,600	\$22,631,600	\$20,167,044	\$17,253,600
Real Market Buildings MKITL	\$2,320,184	\$2,320,184	\$2,320,184	\$2,320,184	\$2,320,184
Real Market Total MKTTL	\$24,951,784	\$24,951,784	\$24,951,784	\$22,487,228	\$19,573,784
M5 Market Land MKLND	\$22,631,600	\$22,631,600	\$22,631,600	\$20,167,044	\$17,253,600
M5 Limit SAV M5SAV					
M5 Market Buildings MKIMP	\$2,320,184	\$2,320,184	\$2,320,184	\$2,320,184	\$2,320,184
M50 MAV MAVMK	\$15,094,776	\$14,655,122	\$14,228,274	\$13,813,858	\$13,411,513
Assessed Value Exception					
Market Value Exception					
SA Land (MAVUUse Portion) SAVL					

## Active Exemptions

307.090-School Districts

## Tax Balance

No Available Tax Charges Information for this Property at the Moment.

Installments Payable/Paid for Tax Year(Enter 4-digit Year, then Click-Here): 2022

## Receipts

Date	Receipt No.	Amount Applied	Amount Due	Tendered	Change
No Receipts Found					

## Sales History

## Property Details

Living Area Sq Ft	Manf Struct Size	Year Built	Improvement Grade	Stories	Bedrooms	Full Baths	Half Baths

## Printable Version

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**VIA EMAIL**

**(2) FULL COPIES OF APPLICATION PACKET - VIA FEDEX**

**CITY OF NEWBERG, OR**

October 31, 2022

CITY OF NEWBERG, OR  
Attention: Ashley Smith  
Community Development  
414 E. FIRST ST.  
NEWBERG, OR 97132

\*\*\*\*\*NOTICE OF ELIGIBLE FACILITIES REQUEST\*\*\*\*\*

RE: Request for Minor Modification to Existing Wireless Facility – Section 6409  
Site Address: 2400 DOUGLAS AVENUE, NEWBERG, OR 97132  
a/k/a 1421 Deborah Road per Yamhill County, OR records  
**TYPE II APPLICATION – LAND USE: VARIANCE (for height extension)**  
**ASSOCIATED WITH MIMD122-0001 (previously submitted)**

Crown Site Number: 856521 / Crown Site Name: NEWBERG EAST  
Customer Site Number: PRPDX00328B / Application Number: 576279

Dear Ms. Smith:

On behalf of DISH Wireless L.L.C. (“Dish Wireless” or “Applicant”), Crown Castle USA Inc. (“Crown Castle”) is pleased to submit this request to modify the existing wireless facility noted above through the collocation, replacement and/or removal of the Applicant’s equipment as an eligible facilities request for a minor modification under Section 6409<sup>1</sup> and the rules of the Federal Communications Commission (“FCC”).<sup>2</sup>

Section 6409 mandates that state and local governments must approve any eligible facilities request for the modification of an existing wireless tower or base station that does not substantially change the

<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. No. 112-96, § 6409 (2012) (codified at 47 U.S.C. § 1455).

<sup>2</sup> *Acceleration of Broadband Deployment by Improving Wireless Facility Siting Policies*, 29 FCC Rcd. 12865 (2014) (codified at 47 CFR § 1.6100); and *Implementation of State & Local Governments’ Obligation to Approve Certain Wireless Facility Modification Requests Under Section 6409(a) of the Spectrum Act of 2012*, WT Docket No. 19-250 (June 10, 2020).

<sup>3</sup> See 47 CFR § 1.6100 (c)(3). <sup>4</sup> See 2020 Upgrade Order at paragraph 16.

**The Foundation for a Wireless World**

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physical dimensions of such tower or base station. Under Section 6409, to toll the review period, if the reviewing authority determines that the application is incomplete, it must provide written notice to the applicant within 30 days, which clearly and specifically delineates all missing documents or information reasonably related to whether the request meets the federal requirements.<sup>3</sup> Additionally, if a state or local government, fails to issue any approvals required for this request within 60 days, these approvals are deemed granted. The FCC has clarified that the 30-day and 60-day deadlines begins when an applicant: (1) takes the first step required under state or local law; and (2) submits information sufficient to inform the jurisdiction that this modification qualifies under the federal law<sup>4</sup>. Please note that with the submission of this letter and enclosed items, the thirty and sixty-day review periods have started. Based on this filing, the deadline for written notice of incomplete application is **November 30, 2022**, and the deadline for issuance of approval is **December 30, 2022**.

The proposed scope of work for this project includes:

Add or replace antennas, ancillary equipment and ground equipment as per plans for an existing carrier on an existing wireless communication facility.

At the end of this letter is a checklist of the applicable substantial change criteria under Section 6409. Additionally, please find enclosed the following information in support of this request:

- (1) Eligible Facilities Request cover letter and narrative (see this document) with **Attachment “A,”** Section 6409 Substantial Change Checklist, and **Attachment “B,”** Proposed Scope of Work; **Attachment “C,”** Section 6409 and FCC Upgrade Order (as defined below); **Attachment “D,”** Completeness Letter from City of Newberg, OR review of MIMD122-0001 requiring a variance for the proposed height extension; **Attachment “E,”** ***Variance Written Criteria Response***;
- (2) Copy of Section 6409 and a copy of Declaratory Ruling & Notice of Proposed Rule Making, dated 6/10/20 (a/k/a the “FCC Upgrade Order”) – which stipulates that the shot clock commences when an applicant takes the first procedural step to file an application, and the jurisdiction has thirty (30) days to determine if an application is complete and a total of sixty (60) days to approve the application, which cannot be conditioned or denied, otherwise the application will be deemed granted ;
- (3) City of Newberg Type II Application – Land Use, for a variance application;
- (4) Fees: to be paid via credit card;
- (5) Construction Drawings – prepared by PM&A dated 12/17/2021;
- (6) Public Notice Information:**
- (7) Draft Type II Notice of information to be mailed to properties within a 500’ radius;
- (8) Address Labels, Radius search of 500’ around subject property;
- (9) Draft of sign for posting on site;
- (10) Written Statement and Criteria Response (see **Attachment “E,”**), this document; and
- (11) Crown Castle Authorization to submit for permit applications.



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**RE: CURRENT TITLE REPORT REQUIREMENT FOR SUBMITTAL (WITHIN 60 DAYS OLD):**

A request for a title report is not “reasonably related” to determining whether the subject application is an Eligible Facilities Request (“EFR”) and therefore the omission of this submittal item does not toll the 60-day period for review and approval of this EFR application. Per Section 6409, a local government, such as the City of Newberg, OR, “may *not* require [Dish Wireless] to submit any documentation” other than that which is “reasonably related” to determining whether the application is an EFR. A title report in no way bears on whether the application qualifies as an EFR. As the subject application is an EFR, it is therefore entitled to streamlined processing and mandatory approval under federal law. Notwithstanding the foregoing, Crown Castle explains that there has been a wireless facility located at the Site since 2006 pursuant to that certain Oregon Lease Agreement dated July 21, 2006 by and between the tower operator and the Newberg School District. See Yamhill Cty. Rec. No. 2006-18092. Based upon federal law under Section 6409, Crown Castle will not be providing a title report as part of this application.

As these documents indicate, (i) the modification involves the collocation, removal or replacement of transmission equipment; and (ii) such modification will not substantially change the physical dimensions of such tower or base station. As such, it is an “eligible facilities request” as defined in the FCC’s rules to which the 60-day deadline for approval applies. Accordingly, Applicant requests all authorization necessary for this proposed minor modification under Section 6409.

Our goal is to work with you to obtain approvals earlier than the deadline. We will respond promptly to any request for related information you may have in connection with this request. Please let us know how we can work with you to expedite the approval process. We look forward to working with you on this important project, which will improve wireless telecommunication services in your community using collocation on existing infrastructure. If you have any questions, please do not hesitate to contact me.

Regards,

*Gary Abrahams*

Gary Abrahams

[Gary@GMAnetworkservices.com](mailto:Gary@GMAnetworkservices.com)

Agent for Crown Castle

## Attachment “A”

### Section 6409 Substantial Change Checklist Towers Outside of the Public Right of Way

The Federal Communications Commission has determined that a modification substantially changes the physical dimension of a wireless tower or base station under 47 U.S.C. § 1455(a) if it meets one of six enumerated criteria under 47 C.F.R. § 1.6100.

#### Criteria for Towers Outside the Public Rights of Way

YES/NO  <b>NO</b>	Does the modification increase the height of the tower by more than the greater of: (a) 10% (b) or, the height of an additional antenna array plus separation of up to 20 feet from the top of the nearest existing antenna?  <b>EXISTING TOWER IS 90' AS APPROVED UNDER VAR07-002 (CUP-06-002, DR2-06-019).</b> <b>CROWN CASTLE, ON BEHALF OF DISH WIRELESS, PROPOSES TO EXTEND THE TOWER BY 10' TO 100' (W/ANTENNA TIP HEIGHT PROPOSED TO BE @ 102').</b> <b>UNDER SECTION 6409, A TOWER CAN BE EXTENDED BY A MAXIMUM OF THE HEIGHT OF AN ADDITIONAL ANTENNA ARRAY PLUS UP TO 20' OF SEPARATION BETWEEN THE TIP OF THE EXISTING ANTENNA AND THE BOTTOM OF THE PROPOSED ANTENNA.</b> <b>CROWN'S PROPOSED TOWER EXTENSION FALLS WITHIN THE ALLOWABLE HEIGHT INCREASE PER SECTION 6409.</b>
YES/NO  <b>NO</b>	Does the modification add an appurtenance to the body of the tower that would protrude from the edge of the tower more than 20 feet or more than the width of the tower structure at the level of the appurtenance, whichever is greater?
YES/NO  <b>NO</b>	Does the modification involve the installation of more than the standard number of new equipment cabinets for the technology involved or add more than four new equipment cabinets?
YES/NO  <b>NO</b>	Does the modification entail any excavation or deployment outside the current site by more than 30 feet in any direction, not including any access or utility easements?
YES/NO  <b>NO</b>	Does the modification defeat the concealment elements of the eligible support structure?
YES/NO  <b>NO</b>	Does the modification violate conditions associated with the siting approval with the prior approval the tower or base station other than as specified in 47 C.F.R. § 1.6100(c)(7)(i) – (iv)?

If all questions in the above section are answered “NO,” then the modification does not constitute a substantial change to the existing tower under 47 C.F.R. § 1.6100.



## Attachment “B”

### Proposed Scope of Work

#### SCOPE OF WORK

**THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:**

**TOWER SCOPE OF WORK:**

- **INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)**
- **INSTALL (1) PROPOSED PLATFORM ANTENNA MOUNT**
- **INSTALL PROPOSED JUMPERS**
- **INSTALL (6) PROPOSED RRUs (2 PER SECTOR)**
- **INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)**
- **INSTALL (1) PROPOSED HYBRID CABLE**
- **INSTALL (1) PROPOSED 10' TOWER EXTENSION**

**GROUND SCOPE OF WORK:**

- **INSTALL (1) PROPOSED CONCRETE PAD**
- **INSTALL (1) PROPOSED ICE BRIDGE**
- **INSTALL (1) PROPOSED PPC CABINET**
- **INSTALL (1) PROPOSED EQUIPMENT CABINET**
- **INSTALL (1) PROPOSED POWER CONDUIT**
- **INSTALL (1) PROPOSED TELCO CONDUIT**
- **INSTALL (1) PROPOSED TELCO-FIBER BOX**
- **INSTALL (1) PROPOSED GPS UNIT**
- **INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)**
- **INSTALL (1) PROPOSED FIBER MID (IF REQUIRED)**
- **INSTALL (1) PROPOSED METER SOCKET**

**DISH WIRELESS PROPOSES TO EXTEND THE EXISTING TOWER BY 10', WITH THE ANTENNAS PROPOSED TO EXTEND TO A TIP HEIGHT OF 102'.**

## Attachment “C”

### SECTION 6409 AND SHOT CLOCK RULES

**Section IV, B.1, page 1259 of Section 6409, the shot clock “begins to run when an application is first submitted, not when it is deemed complete...”**

*B. Discussion*

**1. Completeness of Applications**

131. The Commission finds that it should clarify under what conditions the presumptively reasonable timeframes may be tolled on grounds that an application is incomplete. As an initial matter, the Commission notes that under the *2009 Declaratory Ruling*, the presumptively reasonable timeframe begins to run when an application is first submitted, not when it is deemed complete. Accordingly, to the extent municipalities have interpreted the clock to begin running only after a determination of completeness, that interpretation is incorrect.

132. Further, consistent with proposals submitted by Crown Castle and PCIA, the Commission clarifies that, following a submission in response to a determination of incompleteness, any subsequent determination that an application remains incomplete must be based solely on the applicant’s failure to supply information that was requested within the first 30 days. The shot clock will begin running again after the applicant makes a supplemental submission. The State or local government will have 10 days to notify the applicant that the supplemental submission did not provide the information identified in the original notice delineating missing information. In other words, a subsequent

determination of incompleteness can result in further tolling of the shot clock only if the local authority provides it to the applicant in writing within 10 days of the supplemental submission, specifically identifying the information the applicant failed to supply in response to the initial request. Once the 10-day period passes, the period for review of the application may not thereafter be tolled for incompleteness.

133. The Commission further provides that, in order to toll the timeframe for review on grounds of incompleteness, a municipality's request for additional information must

plai  
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app  
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mo

***See page 9, Section A.14, Commencement of Shot Clock, in the FCC Upgrade Order, which stipulates that a jurisdiction has 60 days to review and approve an Eligible Facilities Request, and such approval cannot be conditioned or denied.***

ambiguities leading to disputes that could undermine the goals of the Spectrum Act, i.e., to advance wireless broadband service.<sup>38</sup>

**A. Commencement of Shot Clock**

14. Section 1.6100(c)(2) provides that the 60-day review period for eligible facilities requests begins “on the date on which an applicant submits a request seeking approval.”<sup>39</sup> If the local jurisdiction “fails to approve or deny a request seeking approval under this section within the timeframe for review (accounting for any tolling), the request shall be deemed granted.”<sup>40</sup> The *2014 Infrastructure Order* discusses the procedures that local governments need to implement in order to carry out their obligations to approve eligible facilities requests within 60 days;<sup>41</sup> it does not, however, define the date on which an applicant is deemed to have submitted an eligible facilities request for purposes of triggering the 60-day shot clock.

15. There is evidence in the record that some local jurisdictions effectively postpone the date on which they consider eligible facilities requests to be duly filed (thereby delaying the commencement of the shot clock) by treating applications as incomplete unless applicants have complied with time-



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## ATTACHMENT “D”

### COMPLETENESS LETTER FROM APPLICATION MIMD122-0001 REQUIRING A VARIANCE FOR THE PROPOSED HEIGHT EXTENSION



Community Development

February 1, 2022

Emilie Deschamps - Crown Castle for Dish Wireless  
PO Box 2006  
Bellevue, WA 98009

Re: MIMD122-0001 – 2400 E Douglas (cell tower modification) – Completeness Notice

Dear Ms. Deschamps,

We have performed the completeness review of MIMD122-0001 – 2400 E Douglas (cell tower modification). During the review it was noted that the conditional use permit referenced in the narrative is associated with a variance; VAR07-002. This variance allowed for the original cell tower placement to be a maximum height of 90 feet compared to the 48-foot limit for the R-1 zone. The current application for modifications to increase the height to 102 feet surpasses the allowed height set in the variance and could not be approved.

To move forward, you will need to submit application for a second variance requesting a height allowance of at least 102 feet. Once we have received the variance application, we will perform a completeness review. Once the variance application is deemed complete you will be notified about the number of plans sets needed for the referral process. We will concurrently review both applications and issue one inclusive decision.

If an application for a variance, or written refusal to submit a variance application, is not received within 180 days from today (July 31, 2022), our findings determination for MIMD122-0001 will be based on the current information we have.

I have included the original conditional use permit and variance decision associated with this cell tower for your reference.

Please free to contact me at [ashley.smith@newbergoregon.gov](mailto:ashley.smith@newbergoregon.gov) or at 503-540-7768, if you have any further questions.

Sincerely,

Ashley Smith  
Assistant Planner  
Community Development  
City of Newberg  
she/her/hers

The Foundation for a Wireless World

CrownCastle.com



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Seattle, WA 98109

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## **ATTACHMENT “E”**

### **Variance Criteria Response**

#### **WRITTEN STATEMENT**

The existing Base Station (monopole) is currently 90 feet in height as approved under VAR07-002. A variance was required for the initial installation due to the height limit in the R-1 zone.

***Dish Wireless proposes to extend the existing Base Station by 10 feet, to 100 feet in height, with the Dish antennas proposed to extend to a height of 102 feet.***

The additional height is necessary for Dish to obtain coverage objectives at this location, and the extension is allowed under Section 6409. The subject application meets all requirements of an EFR as delineated herein, and the City of Newberg is required to review and approve the application within 60 days of the application.

#### **Provide a written response that specifies how your project meets the following criteria:**

(A) That strict or literal interpretation and enforcement of the specified regulation would result in practical difficulty or unnecessary physical hardship inconsistent with the objectives of this code.

#### **Applicant Response:**

*The Base station is an existing monopole and Dish proposes to extend the monopole to provide coverage to this part of Newberg. The proposed extension is allowed under Section 6409, notwithstanding any height limit in the City’s zoning code. The City of Newberg is requiring a variance for the height extension as the existing Base Station is 90 feet and exceeds the zone height limit. Crown Castle on behalf of Dish Wireless is submitting for this variance application as required by the City, however the City is required under Section 6409 to approve this application.*

(B) That there are exceptional or extraordinary circumstances or conditions applicable to the property involved or to the intended use of the property which do not apply generally to other properties classified in the same zoning district.

#### **Applicant Response:**

*The Base station is an existing monopole and Dish proposes to extend the monopole to provide coverage to this part of Newberg. The proposed extension is allowed under Section 6409, notwithstanding any height limit in the City’s zoning code. The City of Newberg is requiring a variance for the height extension as the existing Base Station is 90 feet and exceeds the zone height limit. Crown Castle on behalf of Dish Wireless is submitting for this variance application as required by the City, however the City is required under Section 6409 to approve this application.*

(C) That strict or literal interpretation and enforcement of the specified regulation would deprive the applicant of privileges enjoyed by the owners of other properties classified in the same zoning district.

**Applicant Response:**

*The Base station is an existing monopole and Dish proposes to extend the monopole to provide coverage to this part of Newberg. The proposed extension is allowed under Section 6409, notwithstanding any height limit in the City's zoning code. The City of Newberg is requiring a variance for the height extension as the existing Base Station is 90 feet and exceeds the zone height limit. Crown Castle on behalf of Dish Wireless is submitting for this variance application as required by the City, however the City is required under Section 6409 to approve this application.*

(D) That the granting of the variance will not constitute a grant of special privilege inconsistent with the limitations on other properties classified in the same zoning district.

**Applicant Response:**

*The Base station is an existing monopole and Dish proposes to extend the monopole to provide coverage to this part of Newberg. The proposed extension is allowed under Section 6409, notwithstanding any height limit in the City's zoning code. The City of Newberg is requiring a variance for the height extension as the existing Base Station is 90 feet and exceeds the zone height limit. Crown Castle on behalf of Dish Wireless is submitting for this variance application as required by the City, however the City is required under Section 6409 to approve this application.*

*Further, as noted, the Base Station is an existing monopole and approval of an extension to the existing Base Station will not grant a special privilege to the subject property inconsistent with limitations on other properties.*

(E) That the granting of the variance will not be detrimental to the public health, safety or welfare or materially injurious to properties or improvements in the vicinity.

**Applicant Response:**

*The subject application for a variance is an EFR, and the proposed tower extension will not be detrimental to the public health, safety or welfare or materially injurious to surrounding properties. The application for a tower extension takes advantage of an existing Base Station to provide additional coverage to the City of Newberg, which is a benefit to the community as an additional Base Station is not required.*



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**Have you met the criteria for a variance? Use these questions to help you determine whether your application meets the above criteria.**

1) What code requirement and code section applies to the proposed variance (i.e: setback, lot coverage, height, etc.)?

**Applicant Response:**

*The City of Newberg height limit in the R-1 zone is 48 feet, and a variance was required for the initial installation of the Base Station with a 90-foot height. Under Section 6409, a tower can be extended by the height of an antenna array PLUS separation of 20 feet from the top of the existing antenna on the tower to the bottom of the proposed antenna. The subject application comports with the allowable height extension under Section 6409 and the City of Newberg is required to approve the subject application within the time allocated under the shot clock and without conditions.*

2) What is the reason for the variance?

**Applicant Response:**

*The City of Newberg height limit in the R-1 zone is 48 feet, and a variance was required for the initial installation of the Base Station with a 90-foot height. Per the City of Newberg, a variance is required for the tower extension proposed by Dish Wireless, though the subject application must be approved as an EFR under Section 6409.*

3) What difficulty or hardship would result from complying with the standard in the code?

**Applicant Response:**

*The existing Base Station is 90 feet in height. The additional height is required for Dish's coverage in Newberg, and, further, the height is allowable under an EFR, which the City must approve under Section 6409.*

4) How is your situation unique or exceptional and how is this different from other properties that have the same zoning (i.e: unusual lot shape, steep topography, stream on the property, etc.)?

**Applicant Response:**

*The City of Newberg height limit in the R-1 zone is 48 feet, and a variance was required for the initial installation of the Base Station with a 90-foot height. Per the City of Newberg, a variance is required for the tower extension proposed by Dish Wireless, though the subject application must be approved as an EFR under Section 6409.*

5) What type of impacts would granting the variance have on the neighboring properties?

**Applicant Response:**

*The City of Newberg height limit in the R-1 zone is 48 feet, and a variance was required for the initial installation of the Base Station with a 90-foot height. Per the City of Newberg, a variance is required for the tower extension proposed by Dish Wireless, though the subject application must be approved as an EFR under Section 6409.*

*The additional height would have minimal impact on the neighboring properties; however, this criterion has no impact on the review of the subject application which comports with the requirements of an EFR and must be approved by the City.*

6) Are you aware of any concerns previously voiced by the neighbors and if so what are they?

**Applicant Response:**

*We are not aware of any concerns.*

7) What can you offer to minimize or mitigate the requested variance (i.e: landscaping, screening, public improvements, etc.)?

**Applicant Response:**

*No mitigation is required for this project. Further, under Section 6409, the City of Newberg cannot condition or deny the subject proposed EFR.*

End of analysis





## Community Development Department

P.O. Box 970 • 414 E First Street • Newberg, Oregon 97132  
503-537-1240. Fax 503-537-1272 [www.newbergoregon.gov](http://www.newbergoregon.gov)

### WE WANT YOUR COMMENTS ON A PROPOSED NEW DEVELOPMENT IN YOUR NEIGHBORHOOD

A property owner in your neighborhood submitted an application to the City of Newberg requesting a variance to extend an existing monopole by ten (10) feet. You are invited to take part in the City's review of this project by sending in your written comments. You also may request that the Planning Commission hold a hearing on the application. The applicable criteria used to make a decision on this application for a variance is found in Newberg Development Code 15.215.040. For more details about giving comments, please see page 2.

The development would include extending the existing monopole by ten (10) feet to allow Dish Wireless to collocate on the monopole, with Dish's antennas at a tip height of 102 feet. The application is an Eligible Facilities Request as governed by Federal Law under Section 6409.

**Applicant:** Gary Abrahams for Crown Castle, on behalf of Dish Wireless  
**Applicant's phone number:** 206-349-4279  
**Tower/Facility owner:** Crown Castle  
**Property Owner:** School District No. 29  
**Location:** 2400 Douglas Ave. (a/k/a 1421 Deborah Road), Newberg, OR  
**Tax Lot Number:** R3217-02500



We are mailing you information about this project because you own land within 500 feet of the proposed new project. We invite you to send any written comments for or against the proposal within 14 days from the date this notice is mailed. You also may request that the Newberg Planning Commission hold a hearing on the application by sending a written request during this 14-day period and identifying the issues you would like the Planning Commission to address.

If you mail your comments to the City, please put the following information on the outside of the envelope:

Written Comments: File No. \_\_\_\_\_  
City of Newberg  
Community Development  
PO Box 970  
Newberg, OR 97132

All written comments must be turned in by 4:30 p.m. on \_\_\_\_\_. Any issue which might be raised in an appeal of this case to the Land Use Board of Appeals (LUBA) must be submitted to the City in writing before this date. You must include enough detail to enable the decision maker an opportunity to respond. The applicable criteria used to make a decision on this application for a variance is found in Newberg Development Code 15.215.040.

You can look over all the information about this project or drop comments off at Newberg City Hall, 414 E. First Street. You can also buy copies of the information for a cost of 25 cents a page. If you have any questions about the project, you can call the Newberg Planning Division at 503-537-1240.

The Community Development Director will make a decision at the end of a 14-day comment period. If you send in written comments about this project, you will be sent information about any decision made by the City relating to this project.

Date Mailed: \_\_\_\_\_

ARLEN & ELAINE BENSON  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 11  
NEWBERG OR 97132

MARIA URIBE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 1  
NEWBERG OR 97132

KENNETH & RUBY LAWSON  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD 10  
NEWBERG OR 97132

JUDITH & CHARLES CARSLY  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 16  
NEWBERG OR 97132

LINDA GARRITY  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 26  
NEWBERG OR 97132

HERMOSILLO GERMAN  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD 21  
NEWBERG OR 97132

ROBERT & SHERRE FERRALL  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 38  
NEWBERG OR 97132

IGNACIA CORREA & RUBI  
RODRIGUEZ-ALEJANDRO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 19  
NEWBERG OR 97132

JEAN WITTROCK & JOHN GRAHAM  
SR  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 35  
NEWBERG OR 97132

PATRICIA BERGER  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 33  
NEWBERG OR 97132

LAURA JIMENEZ & RAFAEL  
GUTIERREZ  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 14  
NEWBERG OR 97132

JENIFER LEON-AGUILERA  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 44  
NEWBERG OR 97132

JUAN MENDOZA-ARREOLA &  
NANCY MORA-PUGA  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 24  
NEWBERG OR 97132

MELANIE ONEIL  
OR CURRENT RESIDENT  
ATTN: VINCENT ONEIL  
GUERNEVILLE CA 95446

MICHAL MOORE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 39  
NEWBERG OR 97132

PAMELA STEVAHN  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 25  
NEWBERG OR 97132

CARLOS PINTOR & BEATRIZ  
ABREGO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 41  
NEWBERG OR 97132

CARMEN BARRON-SOTELO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 13  
NEWBERG OR 97132

JUAN MANUEL & GABRIELA  
AGUILERA  
OR CURRENT RESIDENT  
707 MARIE AVE  
NEWBERG OR 97132

VERNOLD STEVAHN SR &  
BARBARA STEVAHN  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 47  
NEWBERG OR 97132

MARIA URIBE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 42  
NEWBERG OR 97132

KAREN CEDERQUIST  
OR CURRENT RESIDENT  
280 SW 10TH AVE  
CANBY OR 97013

MARTHA MARSHALL  
OR CURRENT RESIDENT  
ATTN: MEYERS MARTHA  
NEWBERG OR 97132

PANFILO GAMBOA  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 45  
NEWBERG OR 97132

JOSE & PEDRO ESCOBEDO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 9  
NEWBERG OR 97132

JOAQUIN RAMIREZ-ALDACO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD 4  
NEWBERG OR 97132

CONNIE LINTHICUM  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 40  
NEWBERG OR 97132

SHARON GSTETTENBAUER  
OR CURRENT RESIDENT  
1907 CAROL AVE  
NEWBERG OR 97132

JUDY DURKEE  
OR CURRENT RESIDENT  
1911 CAROL AVE  
NEWBERG OR 97132

JOHN PASSAGLIA & DEBORAH  
GRIFFIN-PASSAGLIA  
OR CURRENT RESIDENT  
17354 SW BRANDYSHIRE CT  
PORTLAND OR 97224

AYDELOTTE BEVERLY TRUSTEE  
FOR  
OR CURRENT RESIDENT  
1920 CAROL AVE  
NEWBERG OR 97132

BRIAN & MICHELLE REIMER  
OR CURRENT RESIDENT  
3006 DOUGLAS AVE  
NEWBERG OR 97132

ERIN FRIES  
OR CURRENT RESIDENT  
3004 LINDQUIST CT  
NEWBERG OR 97132

DON & ELSIE CLEMENTS  
OR CURRENT RESIDENT  
3005 LINDQUIST CT  
NEWBERG OR 97132

HEATHER HETZLER  
OR CURRENT RESIDENT  
3955 NE WINTERS HILL RD  
DAYTON OR 97114

LINDSAY & JEREMY HAYDEN  
OR CURRENT RESIDENT  
3000 LINDQUIST CT  
NEWBERG OR 97132

VALERIE NELSON  
OR CURRENT RESIDENT  
1618 CEDAR ST  
NEWBERG OR 97132

BRANDON CASE  
OR CURRENT RESIDENT  
1614 CEDAR ST  
NEWBERG OR 97132

NICHOLAS PELOQUIN  
OR CURRENT RESIDENT  
1610 CEDAR ST  
NEWBERG OR 97132

CERESS SANDERS & SAMUEL  
SANDERS JR  
OR CURRENT RESIDENT  
1613 CEDAR ST  
NEWBERG OR 97132

CLAUDIA GARCIA & REYBEL  
HERRERA  
OR CURRENT RESIDENT  
1617 CEDAR ST  
NEWBERG OR 97132

RAMZI SADEK & SARAH  
BEHREND  
OR CURRENT RESIDENT  
1621 CEDAR ST  
NEWBERG OR 97132

PLATT FAMILY TRUST  
OR CURRENT RESIDENT  
1701 CEDAR ST  
NEWBERG OR 97132

CRAIG & LISA REDDING  
OR CURRENT RESIDENT  
1705 CEDAR ST  
NEWBERG OR 97132

JUSTIN & MELISSA POSEY  
OR CURRENT RESIDENT  
1709 CEDAR ST  
NEWBERG OR 97132

FENNELL, ROBERT P TRUSTEE  
OR CURRENT RESIDENT  
1713 CEDAR ST  
NEWBERG OR 97132

CYNTHIA REYES & ORANTES  
SALAZAR  
OR CURRENT RESIDENT  
1717 CEDAR ST  
NEWBERG OR 97132

JOSHUA DONDINO  
OR CURRENT RESIDENT  
1721 CEDAR ST  
NEWBERG OR 97132

COBY & STEPHANY COBLENTZ  
OR CURRENT RESIDENT  
1725 CEDAR ST  
NEWBERG OR 97132

LINDSEY & ROBERT HANKINS  
OR CURRENT RESIDENT  
1524 HESS CREEK CT  
NEWBERG OR 97132

JAMES & DANIELLE RINGSETH  
OR CURRENT RESIDENT  
1528 HESS CREEK CT  
NEWBERG OR 97132

AZALEA GARDENS MOBILE  
MANOR LLC  
OR CURRENT RESIDENT  
PO BOX 17  
GUERNEVILLE CA 95446

AZALEA GARDENS MOBILE  
MANOR LLC  
OR CURRENT RESIDENT  
PO BOX 17  
GUERNEVILLE CA 95446

CHURCH OF JESUS CHRIST OF  
LATTER DAY SAINTS  
OR CURRENT RESIDENT  
50 E NOTH TEMPLE ST  
SALT LAKE CITY UT 84150

GARY & MARY RUFF  
OR CURRENT RESIDENT  
2908 CRESTVIEW DR  
NEWBERG OR 97132

MARILYN FISHER & DAVID ADERS  
OR CURRENT RESIDENT  
3002 CRESTVIEW DR  
NEWBERG OR 97132

JUDY & DONALD HOCHSTEIN  
OR CURRENT RESIDENT  
2912 CRESTVIEW DR  
NEWBERG OR 97132

KEITH & MOLLY MARSHALL  
OR CURRENT RESIDENT  
2909 DOUGLAS AVE  
NEWBERG OR 97132

SCOTT & DIANE PINE  
OR CURRENT RESIDENT  
2913 DOUGLAS AVE  
NEWBERG OR 97132

NICOLAS GERHARD  
OR CURRENT RESIDENT  
1801 N CEDAR ST  
NEWBERG OR 97132

JORY SMITH & BRANDI  
SCHMELING  
OR CURRENT RESIDENT  
1805 CEDAR ST  
NEWBERG OR 97132

CONSTANCE JONES & BENJAMIN  
TEXLEY  
OR CURRENT RESIDENT  
1809 CEDAR ST  
NEWBERG OR 97132

CHRISTOPHER & NICHOLE  
GIEBER  
OR CURRENT RESIDENT  
1901 CEDAR ST  
NEWBERG OR 97132

DAVID & SHANNA ANDRES  
OR CURRENT RESIDENT  
1905 CEDAR ST  
NEWBERG OR 97132

JOHN & LAURIE LIEGGI  
OR CURRENT RESIDENT  
1909 CEDAR ST  
NEWBERG OR 97132

CHRISTOPHER & JANA FERRIS  
OR CURRENT RESIDENT  
1913 CEDAR ST  
NEWBERG OR 97132

DENNY MCDONALD SR & CYNTHIA  
MCDONALD  
OR CURRENT RESIDENT  
3001 DOGWOOD AVE  
NEWBERG OR 97132

K & J REAL ESTATE LLC  
OR CURRENT RESIDENT  
ATTN: AUSTIN INDUSTRIES  
NEWBERG OR 97132

DAVID & MARY STROUP  
OR CURRENT RESIDENT  
1904 CEDAR ST  
NEWBERG OR 97132

ADAM ZABINSKI & SHELIA  
JANUARY  
OR CURRENT RESIDENT  
1900 CEDAR ST  
NEWBERG OR 97132

MEGHAN OLOUGHLIN  
OR CURRENT RESIDENT  
3005 MIDDLEBROOK DR  
NEWBERG OR 97132

GERARDO ALFARO  
OR CURRENT RESIDENT  
3006 MIDDLEBROOK DR  
NEWBERG OR 97132

JORDAN HUME & ANGELA AASEN  
OR CURRENT RESIDENT  
3000 MIDDLEBROOK DR  
NEWBERG OR 97132

CHRISTOPHER MANN & KRISTEN  
HODGE  
OR CURRENT RESIDENT  
1800 N CEDAR ST  
NEWBERG OR 97132

BARBARA MINOR  
OR CURRENT RESIDENT  
2910 DOUGLAS AVE  
NEWBERG OR 97132

GUY WITCRAFT  
OR CURRENT RESIDENT  
3094 CAMAS ST  
WOODBURN OR 97071

DEBORAH COURT ASSOC OR LTD  
OR CURRENT RESIDENT  
ATTN: VIRIDIAN MANAGEMENT  
ENTERPRISE OR 97828

SPRINGBROOK APTS LLC  
OR CURRENT RESIDENT  
3811 SW BARBUR BLVD  
PORTLAND OR 97239

ANDY TRUMBO  
OR CURRENT RESIDENT  
17880 NE HILLSBORO HWY  
NEWBERG OR 97132

K & J REAL ESTATE LLC  
OR CURRENT RESIDENT  
ATTN: MARV NELSON  
NEWBERG OR 97132

AUSTIN, G KENNETH III TRUSTEE  
OR CURRENT RESIDENT  
2601 CRESTVIEW DR  
NEWBERG OR 97132

HAZELDEN SPRINGBROOK INC  
OR CURRENT RESIDENT  
ATTN: HAZELDEN  
FOUNDATION/CHIEF FIN OFF  
CENTER CITY MN 55012

HAZELDEN SPRINGBROOK INC  
OR CURRENT RESIDENT  
ATTN: HAZELDEN  
FOUNDATION/CHIEF FIN OFF  
CENTER CITY MN 55012

KENNETH & DANYA OCHSNER  
OR CURRENT RESIDENT  
1821 ANN CT  
NEWBERG OR 97132

MARIA HASS & THOMAS  
FUHRMANN  
OR CURRENT RESIDENT  
1810 N EMERY DR  
NEWBERG OR 97132

DANIEL & SARA ALLEGRE  
OR CURRENT RESIDENT  
1821 WAREHAM LN  
NEWBERG OR 97132

STEVE ASHBY & PATRICIA  
CONNER  
OR CURRENT RESIDENT  
2900 CRESTVIEW DR  
NEWBERG OR 97132

JASON & LISA BULL  
OR CURRENT RESIDENT  
1918 N EMERY DR  
NEWBERG OR 97132

YORDI ROSARIO & EDITH MARIA  
OR CURRENT RESIDENT  
2808 CRESTVIEW DR  
NEWBERG OR 97132

KEVIN & DENISE BROOKS  
OR CURRENT RESIDENT  
2008 N EMERY DR  
NEWBERG OR 97132

MARILYN WRIGHT & KENNETH  
WHITE  
OR CURRENT RESIDENT  
2812 CRESTVIEW DR  
NEWBERG OR 97132

HEAD START OF YAMHILL  
COUNTY INC  
OR CURRENT RESIDENT  
ATTN: MICHAEL EICHMAN  
MCMINNVILLE OR 97128

HEAD START OF YAMHILL  
COUNTY INC  
OR CURRENT RESIDENT  
ATTN: MICHAEL EICHMAN  
MCMINNVILLE OR 97128

J  
OR CURRENT RESIDENT  
478 17TH ST  
SANTA MONICA CA 90402

J  
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478 17TH ST  
SANTA MONICA CA 90402

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478 17TH ST  
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478 17TH ST  
SANTA MONICA CA 90402

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OR CURRENT RESIDENT  
478 17TH ST  
SANTA MONICA CA 90402

ANTONIO SOLORZANO  
OR CURRENT RESIDENT  
1210 N ELLIOTT RD  
NEWBERG OR 97132

CHURCH OF CHRIST  
OR CURRENT RESIDENT  
2503 HAWORTH AVE  
NEWBERG OR 97132

NORMAN & STEFFANIE WOOLEN  
OR CURRENT RESIDENT  
1705 GEMINI LN  
NEWBERG OR 97132

ROBERT & SHARON SIMPSON  
OR CURRENT RESIDENT  
1204 N ELLIOTT RD  
NEWBERG OR 97132

DEVIN & REGINA BYNON  
OR CURRENT RESIDENT  
1202 ELLIOTT RD  
NEWBERG OR 97132

CHURCH OF CHRIST  
OR CURRENT RESIDENT  
2503 HAWORTH AVE  
NEWBERG OR 97132

FIRST UNITED METHODIST  
CHURCH  
OR CURRENT RESIDENT  
1205 DEBORAH RD  
NEWBERG OR 97132

SCHOOL DISTRICT NO 29  
OR CURRENT RESIDENT  
714 E 6TH ST  
NEWBERG OR 97132

THOMAS & TERESA MARSHALL  
OR CURRENT RESIDENT  
2409 HAWTHORNE DR  
NEWBERG OR 97132

WADE & AUDREY LUSBY  
OR CURRENT RESIDENT  
2405 HAWTHORNE DR  
NEWBERG OR 97132

ROBERT & LOUELLA VAN NAME  
OR CURRENT RESIDENT  
2401 HAWTHORNE DR  
NEWBERG OR 97132

LISA BUCKLEY  
OR CURRENT RESIDENT  
2307 HAWTHORNE DR  
NEWBERG OR 97132

VICKI KLEIN  
OR CURRENT RESIDENT  
2305 HAWTHORNE DR  
NEWBERG OR 97132

MATTHEW GRANT  
OR CURRENT RESIDENT  
1103 NE BURKE PL  
CORVALLIS OR 97330

SHANE & VICTORIA DURANDO  
OR CURRENT RESIDENT  
1300 SITKA AVE  
NEWBERG OR 97132

RALPH & ROBERTA OSBURN  
OR CURRENT RESIDENT  
2300 HAWTHORNE DR  
NEWBERG OR 97132

DANIEL & MARY SPERLING  
OR CURRENT RESIDENT  
31751 NE WILSONVILLE RD  
NEWBERG OR 97132

CAITLIN & SAMUEL HOCKETT  
OR CURRENT RESIDENT  
2304 E HAWTHORNE DR  
NEWBERG OR 97132

JEFF & DEBORAH SALO  
OR CURRENT RESIDENT  
2308 HAWTHORNE DR  
NEWBERG OR 97132

JAMES & BRENDA SLAGLE  
OR CURRENT RESIDENT  
2400 HAWTHORNE DR  
NEWBERG OR 97132

JAMES ROBINSON & LINDSAY  
ROLLINS  
OR CURRENT RESIDENT  
2404 HAWTHORNE DR  
NEWBERG OR 97132

NATHALIE KWIESELEWICZ  
OR CURRENT RESIDENT  
1209 N ELLIOTT RD  
NEWBERG OR 97132

THOMAS & WANDA SPENCER  
OR CURRENT RESIDENT  
1207 ELLIOTT RD  
NEWBERG OR 97132

JEFFREY & CONTONA VAN  
BERGEN  
OR CURRENT RESIDENT  
1205 N ELLIOTT RD  
NEWBERG OR 97132

SHAUN & KARRIE MULCAHY  
OR CURRENT RESIDENT  
1203 N ELLIOTT RD  
NEWBERG OR 97132

GARY & CHERI REDWINE  
OR CURRENT RESIDENT  
2409 WILLOW DR  
NEWBERG OR 97132

RYAN & AMANDA WILMOT  
OR CURRENT RESIDENT  
1200 ELM LN  
NEWBERG OR 97132

BETTY WILSON  
OR CURRENT RESIDENT  
1202 ELM LN  
NEWBERG OR 97132

WILLIAM & TRACEY LONG  
OR CURRENT RESIDENT  
1204 ELM LN  
NEWBERG OR 97132

HENRY & ELIZABETH ENGLISH  
OR CURRENT RESIDENT  
1206 ELM LN  
NEWBERG OR 97132

DEREK GITTS  
OR CURRENT RESIDENT  
1205 ELM LN  
NEWBERG OR 97132

MAX BRUENING & ALEXANDRA  
MICHELIN  
OR CURRENT RESIDENT  
1203 N ELM LN  
NEWBERG OR 97132

RICK & CATHERINE WYATT  
OR CURRENT RESIDENT  
1201 ELM LN  
NEWBERG OR 97132

WILLIAM & LAURA ALSTON  
OR CURRENT RESIDENT  
2301 WILLOW DR  
NEWBERG OR 97132

ROBERT & CHRISTIBEL LAUINGER  
OR CURRENT RESIDENT  
2213 WILLOW DR  
NEWBERG OR 97132

BARBARA NOLAND  
OR CURRENT RESIDENT  
2209 WILLOW DR  
NEWBERG OR 97132

CHRISTINA GROSS  
OR CURRENT RESIDENT  
24337 LOWER PLEASANT RIDGE  
RD  
WILDER ID 83676

CLAYTON & DARLENE DAWSON  
OR CURRENT RESIDENT  
1206 SITKA AVE  
NEWBERG OR 97132

STACIE ENGLUND & JESSICA  
PIERCE  
OR CURRENT RESIDENT  
1210 SITKA AVE  
NEWBERG OR 97132

SANDRA PREWITT  
OR CURRENT RESIDENT  
2300 E ALDER LN  
NEWBERG OR 97132

PATTY BRYANT  
OR CURRENT RESIDENT  
2302 ALDER LN  
NEWBERG OR 97132

REID & BRONTE HORNBERGER  
OR CURRENT RESIDENT  
2304 E ALDER LN  
NEWBERG OR 97132

HILDA HEAD  
OR CURRENT RESIDENT  
2305 ALDER LN  
NEWBERG OR 97132

SHELLY CARSON & SHIRLEY  
FODGE  
OR CURRENT RESIDENT  
2301 ALDER LN  
NEWBERG OR 97132

ELMER & BRENDA WOOLDRIDGE  
OR CURRENT RESIDENT  
2408 WILLOW DR  
NEWBERG OR 97132

MILTON CASH III & DEBORA CASH  
OR CURRENT RESIDENT  
1822 ANN CT  
NEWBERG OR 97132

SCOTT & MEGAN DIEFENBAUGH  
OR CURRENT RESIDENT  
2019 CAROL AVE  
NEWBERG OR 97132

DOUGLAS VONDRACHEK  
OR CURRENT RESIDENT  
1824 ANN CT  
NEWBERG OR 97132

STEPHEN & ANNA ASHBY  
OR CURRENT RESIDENT  
1826 ANN CT  
NEWBERG OR 97132

JAMES & LORISSA DAVIES  
OR CURRENT RESIDENT  
1828 ANN CT  
NEWBERG OR 97132

MCKENNA CHRISTIAN & ANDREW  
FLEMING  
OR CURRENT RESIDENT  
2001 CAROL AVE  
NEWBERG OR 97132

BOBBY CLARK  
OR CURRENT RESIDENT  
2007 CAROL AVE  
NEWBERG OR 97132

MICHAEL VALLERY  
OR CURRENT RESIDENT  
2015 N CAROL AVE  
NEWBERG OR 97132

THOMAS & SHANNON MEAD  
OR CURRENT RESIDENT  
2025 CAROL AVE  
NEWBERG OR 97132

JAY & TRACY GRIMSTAD  
OR CURRENT RESIDENT  
2028 CAROL AVE  
NEWBERG OR 97132

SEAN & AMANDA FIELD  
OR CURRENT RESIDENT  
2024 CAROL AVE  
NEWBERG OR 97132

JEREMIAH & ARIEL DAVIS  
OR CURRENT RESIDENT  
2020 CAROL AVE  
NEWBERG OR 97132

JOHN & KATHERINE MURPHY  
OR CURRENT RESIDENT  
12875 NE DUDLEY RD  
NEWBERG OR 97132

LEONARDO & LORETTA ROMERO  
OR CURRENT RESIDENT  
2012 CAROL AVE  
NEWBERG OR 97132

SARAH WAIGHT & BRYANT HAYES  
OR CURRENT RESIDENT  
2008 CAROL AVE  
NEWBERG OR 97132

JAMES DAVIS  
OR CURRENT RESIDENT  
2004 CAROL AVE  
NEWBERG OR 97132

RANDAL & JANELLE NORDYKE  
OR CURRENT RESIDENT  
2000 CAROL AVE  
NEWBERG OR 97132

BRADLEY & ANNE BEALS  
OR CURRENT RESIDENT  
1930 CAROL AVE  
NEWBERG OR 97132

DAVID RIGHTMIRE & LYDIA  
SCHRAMM  
OR CURRENT RESIDENT  
1912 CAROL ANN DR  
NEWBERG OR 97132

JOHN & AMY NATZKE  
OR CURRENT RESIDENT  
1900 CAROL ANN DR  
NEWBERG OR 97132

CHAD NUTTER  
OR CURRENT RESIDENT  
1826 E CAROL ANN DR  
NEWBERG OR 97132

MEREDITH ROYBAL  
OR CURRENT RESIDENT  
1813 ANN CT  
NEWBERG OR 97132

BRENT & TABATHA WEAVER  
OR CURRENT RESIDENT  
1815 ANN CT  
NEWBERG OR 97132

KIMRA PEFFERS  
OR CURRENT RESIDENT  
17302 SW GREENGATE DR  
SHERWOOD OR 97140

RACHEL BREWSTER  
OR CURRENT RESIDENT  
1819 ANN CT  
NEWBERG OR 97132

ROHR REV TRUST  
OR CURRENT RESIDENT  
410 N COLLEGE ST  
NEWBERG OR 97132

SETH & KRISTIN ANDERSON  
OR CURRENT RESIDENT  
2008 HAWTHORNE DR  
NEWBERG OR 97132

ROBERT & JUDITH RECORDS  
OR CURRENT RESIDENT  
2009 HAWTHORNE LOOP  
NEWBERG OR 97132

BRIAN & LINDA MITCHELL  
OR CURRENT RESIDENT  
1203 SITKA AVE  
NEWBERG OR 97132

CORRINE RICE  
OR CURRENT RESIDENT  
1205 SITKA AVE  
NEWBERG OR 97132

LUCIA DE GARCIA  
OR CURRENT RESIDENT  
1209 SITKA AVE  
NEWBERG OR 97132

DAWN & JOSEPH PETERSON  
OR CURRENT RESIDENT  
1211 N SITKA AVE  
NEWBERG OR 97132

JUAN ABREGO & ELVIRA VARGAS  
OR CURRENT RESIDENT  
2206 HAWTHORNE LP  
NEWBERG OR 97132

WALL FAMILY TRUST  
OR CURRENT RESIDENT  
2205 HAWTHORNE LOOP  
NEWBERG OR 97132

JOURNEY LIVING TRUST  
OR CURRENT RESIDENT  
4281 TWIN OAKS AVE NE  
ST PAUL OR 97137

COUNCIL JEFFREY A  
OR CURRENT RESIDENT  
2201 HAWTHORNE LP  
NEWBERG OR 97132



JEFFRY & JANET BORG  
OR CURRENT RESIDENT  
22220 NE FRYER HILL RD  
DUNDEE OR 97115

BYRON & SANDRA VOSS  
OR CURRENT RESIDENT  
1205 HAWTHORNE LOOP  
NEWBERG OR 97132

FRANCISCO CAMPUZANO-ANGEL  
& MARIA CAMPUZANO  
OR CURRENT RESIDENT  
2001 BIRCH LN  
NEWBERG OR 97132

MUTHIAH RICHARD N TRUSTEE  
OR CURRENT RESIDENT  
1907 BIRCH LN  
NEWBERG OR 97132

GTR LLC  
OR CURRENT RESIDENT  
ATTN: MARV NELSON  
NEWBERG OR 97132

DARRYL BROWN  
OR CURRENT RESIDENT  
1905 BIRCH LN  
NEWBERG OR 97132

PAUL & PRISCILLA STURGES  
OR CURRENT RESIDENT  
1906 BIRCH LN  
NEWBERG OR 97132

MATHER RICHARD G & NANCY J  
TRUSTEES FOR  
OR CURRENT RESIDENT  
1203 HAWTHORNE LP  
NEWBERG OR 97132

MATHER RICHARD G & NANCY J  
TRUSTEES FOR  
OR CURRENT RESIDENT  
1203 HAWTHORNE LP  
NEWBERG OR 97132

KELLY & PEGGY JOHNSON  
OR CURRENT RESIDENT  
1201 HAWTHORNE LOOP  
NEWBERG OR 97132

GRIFFEN KAREN K & PHILIP J CO-  
TRUSTEES  
OR CURRENT RESIDENT  
2004 HAWTHORNE LP  
NEWBERG OR 97132

GREGG & SANDI WAALKES  
OR CURRENT RESIDENT  
2006 HAWTHORNE LOOP  
NEWBERG OR 97132

CARLEEN JACKSON  
OR CURRENT RESIDENT  
1200 HAWTHORNE LP  
NEWBERG OR 97132

CHRISTOPHER & KENDALL  
EKERSON  
OR CURRENT RESIDENT  
1202 HAWTHORNE LOOP  
NEWBERG OR 97132

STEVEN & JACQUELINE TOPF  
OR CURRENT RESIDENT  
1204 HAWTHORNE LOOP  
NEWBERG OR 97132

BRIAN & COURTNEY JOURNEY  
OR CURRENT RESIDENT  
2204 HAWTHORNE LP  
NEWBERG OR 97132

COSIER GORDON H & APRIL L  
TRUSTEES FOR  
OR CURRENT RESIDENT  
26755 SW MARKHAVEN ST  
SHERWOOD OR 97140

RONALD & TAMMI GARDNER  
OR CURRENT RESIDENT  
2801 HAWORTH AVE  
NEWBERG OR 97132

ANGELA BOURNE  
OR CURRENT RESIDENT  
2781 NW PINOT NOIR DR  
MCMINNVILLE OR 97128

JENNA HOLMES  
OR CURRENT RESIDENT  
2713 HAWORTH AVE  
NEWBERG OR 97132

ANDREW CUDDEFORD & DESTINY  
JOHNSTON  
OR CURRENT RESIDENT  
2709 HAWORTH AVE  
NEWBERG OR 97132

MERLE & DANA AMES  
OR CURRENT RESIDENT  
2705 HAWORTH AVE  
NEWBERG OR 97132

JOSE ELIAS  
OR CURRENT RESIDENT  
2701 HAWORTH AVE  
NEWBERG OR 97132

HERRON DAVE & JANET LIVING  
TRUST  
OR CURRENT RESIDENT  
2605 HAWORTH AVE  
NEWBERG OR 97132

LAVERA MCCORD  
OR CURRENT RESIDENT  
2601 HAWORTH AVE  
NEWBERG OR 97132

SCHOOL DISTRICT NO 29  
OR CURRENT RESIDENT  
714 E 6TH ST  
NEWBERG OR 97132

JORGE JIMENEZ & SILVIA  
ESCODEDO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 8  
NEWBERG OR 97132

MICHAEL WATSON  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 43  
NEWBERG OR 97132

PAULA SCHROEDER  
OR CURRENT RESIDENT  
1812 N EMERY DR  
NEWBERG OR 97132

STEVENS JOANNE M TRUSTEE  
FOR  
OR CURRENT RESIDENT  
2715 E DOUGLAS AVE  
NEWBERG OR 97132

LISA BLACKBURN  
OR CURRENT RESIDENT  
1808 N EMERY DR  
NEWBERG OR 97132

STEVENS, JO ANNE M TRUSTEE  
OR CURRENT RESIDENT  
2715 E DOUGLAS AVE  
NEWBERG OR 97132

JOSE LUNA & PATRICIA VARGAS  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 52  
NEWBERG OR 97132

ELLEN FINLEY  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 53  
NEWBERG OR 97132

JUAN CRISANTO-RODRIGUEZ  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 51  
NEWBERG OR 97132

TRINIDAD & SHANNON BENITO-  
MENDEZ  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 3  
NEWBERG OR 97132

LEON & TAMARA WOLF  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 12  
NEWBERG OR 97132

MORALES MARTINEZ &  
FLORENCIA CASTRO  
OR CURRENT RESIDENT  
704 N ELLIOTT RD NO 3  
NEWBERG OR 97132

MIRANDA RADILLA  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 5  
NEWBERG OR 97132

JEROMY & ANGELA MILLER  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 46  
NEWBERG OR 97132

PIROS FAMILY TRUST  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 50  
NEWBERG OR 97132

HUGO FERNANDEZ-VILLARREAL  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 48  
NEWBERG OR 97132

JANINE FERRALL  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 34  
NEWBERG OR 97132

DANIEL SEELYE  
OR CURRENT RESIDENT  
PO BOX 964  
NEWBERG OR 97132

ANDREW BONNEVILLE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 17  
NEWBERG OR 97132

CESAR & MICHELLE MARES  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 24  
NEWBERG OR 97132

TERRY & CYNTHIA BRUCE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 7  
NEWBERG OR 97132

ANGELA LINDERMAN  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD 37  
NEWBERG OR 97132

DANIEL & DANIELLE EMERSON  
OR CURRENT RESIDENT  
1900 N EMERY DR  
NEWBERG OR 97132

LAURA WAGNER  
OR CURRENT RESIDENT  
1906 EMERY DR  
NEWBERG OR 97132

DE ESTRADA & PEDRO REYES-  
CAMPUZANO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 30  
NEWBERG OR 97132

JACK & ALLISON KING  
OR CURRENT RESIDENT  
1912 N EMERY DR  
NEWBERG OR 97132

ANTHONY & ANNE  
MILDENBERGER  
OR CURRENT RESIDENT  
1930 N EMERY DR  
NEWBERG OR 97132

LINDA POTTER  
OR CURRENT RESIDENT  
2000 N EMERY DR  
NEWBERG OR 97132

JERRY & KAREN NEMEC  
OR CURRENT RESIDENT  
1920 N EMERY DR  
NEWBERG OR 97132

JENNIFER RICKS & CHARLES  
RICKS II  
OR CURRENT RESIDENT  
1924 N EMERY DR  
NEWBERG OR 97132

MARY BENSON  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 6  
NEWBERG OR 97132

KENNETH & JOHANNA SEPEDA  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 20  
NEWBERG OR 97132

WILLIAM SCHMIDT  
OR CURRENT RESIDENT  
11670 NE JOHNSON RD  
CARLTON OR 97111

RESIDENTIAL CARE HOMES LLC  
OR CURRENT RESIDENT  
210 SE 4TH AVE  
HILLSBORO OR 97123

DEANNA RICE  
OR CURRENT RESIDENT  
1905 WAREHAM LN  
NEWBERG OR 97132

ERIC & JUDITH MILLER  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 23  
NEWBERG OR 97132

ALEXIS & JAMES BRITTAIN  
OR CURRENT RESIDENT  
1819 N WAREHAM LN  
NEWBERG OR 97132

CATHERINE HILL  
OR CURRENT RESIDENT  
2901 DOUGLAS AVE  
NEWBERG OR 97132

MICHAEL GUTIERREZ  
OR CURRENT RESIDENT  
3411 HAYES ST APT 724  
NEWBERG OR 97132

JADEN SHEFFEY  
OR CURRENT RESIDENT  
2908 DOUGLAS AVE  
NEWBERG OR 97132

MARCIA LEBLANC  
OR CURRENT RESIDENT  
1610 DEBORAH RD  
NEWBERG OR 97132

MARISSA COMELLA  
OR CURRENT RESIDENT  
1608 DEBORAH RD  
NEWBERG OR 97132

JESSICA QUILLEN  
OR CURRENT RESIDENT  
1606 DEBORAH RD  
NEWBERG OR 97132

DANIEL & NANCY GOMEZ  
OR CURRENT RESIDENT  
1604B DEBORAH RD  
NEWBERG OR 97132

BRYAN & TERRI STEWART  
OR CURRENT RESIDENT  
1604 DEBORAH RD NO A  
NEWBERG OR 97132

MARTHA KNAPP  
OR CURRENT RESIDENT  
1602 DEBORAH RD UNIT E  
NEWBERG OR 97132

NICHOLAS OLINGER & LORI  
BROUILLETTE  
OR CURRENT RESIDENT  
1602 DEBORAH RD UNIT D  
NEWBERG OR 97132

KATY & ANTHONY HEIL  
OR CURRENT RESIDENT  
1602 DEBORAH RD APT C  
NEWBERG OR 97132

HILL MACKEY W & ROSA T  
TRUSTEES FOR  
OR CURRENT RESIDENT  
1602-B DEBORAH RD  
NEWBERG OR 97132

JUDY GILLUM  
OR CURRENT RESIDENT  
33240 N CAT HILLS AVE  
QUEEN CREEK AZ 85142

MYRNA LIEBENOW  
OR CURRENT RESIDENT  
1510 N DEBORAH RD UNIT 3  
NEWBERG OR 97132

JAMES & MAGGIE POLAND  
OR CURRENT RESIDENT  
1510 DEBORAH RD UNIT 1  
NEWBERG OR 97132

ANTONIO ESPERON & FELICITAS  
MARTINEZ  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 27  
NEWBERG OR 97132

STEPHANIE KEGLEY  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 18  
NEWBERG OR 97132

JOHN & ALICE PAYNE  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 29  
NEWBERG OR 97132

MICHAEL CILLO  
OR CURRENT RESIDENT  
1103 N SPRINGBROOK RD NO 15  
NEWBERG OR 97132

VALLEY VINEYARD  
OR CURRENT RESIDENT  
1871 KILKENNY DR  
LAKE OSWEGO OR 97034

ALLISON PROPERTIES LLC  
OR CURRENT RESIDENT  
3113 CRESTVIEW DR  
NEWBERG OR 97132

ALLISON PROPERTIES LLC  
OR CURRENT RESIDENT  
3113 CRESTVIEW DR  
NEWBERG OR 97132

# LAND USE NOTICE

**FILE #** \_\_\_\_\_

**PROPOSAL:** Extend an existing monopole by ten (10) feet to 100 feet, with proposed antennas to extend to 102 feet in height.

**FOR FURTHER INFORMATION, CONTACT:**

**CITY OF NEWBERG**

**COMMUNITY DEVELOPMENT DEPARTMENT**

**414 E FIRST STREET**

**NEWBERG, OR 97132**

**PHONE: 503-537-1240**



DISH Wireless L.L.C. SITE ID:

**PRPDX00328B**

DISH Wireless L.L.C. SITE ADDRESS:

**2400 DOUGLAS AVENUE  
NEWBERG, OR 97132**

**OREGON CODE COMPLIANCE**

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

CODE TYPE	CODE
BUILDING	2019 OSSC/2018 IBC
MECHANICAL	2019 OMSC/2018 IMC
ELECTRICAL	2017 OESC/2017 NEC

**SHEET INDEX**

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
A-1	PARCEL SITE PLAN
A-1.1	COMPOUND, OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	CONCRETE PAD AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

**SCOPE OF WORK**

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

- TOWER SCOPE OF WORK:**
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
  - INSTALL (1) PROPOSED PLATFORM ANTENNA MOUNT
  - INSTALL PROPOSED JUMPERS
  - INSTALL (6) PROPOSED RRU's (2 PER SECTOR)
  - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
  - INSTALL (1) PROPOSED HYBRID CABLE
  - INSTALL (1) PROPOSED 10' TOWER EXTENSION

- GROUND SCOPE OF WORK:**
- INSTALL (1) PROPOSED CONCRETE PAD
  - INSTALL (1) PROPOSED ICE BRIDGE
  - INSTALL (1) PROPOSED PPC CABINET
  - INSTALL (1) PROPOSED EQUIPMENT CABINET
  - INSTALL (1) PROPOSED POWER CONDUIT
  - INSTALL (1) PROPOSED TELCO CONDUIT
  - INSTALL (1) PROPOSED TELCO-FIBER BOX
  - INSTALL (1) PROPOSED GPS UNIT
  - INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
  - INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
  - INSTALL (1) PROPOSED METER SOCKET

**SITE PHOTO**



UNDERGROUND SERVICE ALERT - OREGON 811  
UTILITY NOTIFICATION CENTER OF OREGON  
(800) 332-2344  
WWW.DIGSAFELYOREGON.COM



CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

**GENERAL NOTES**

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE, NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

**SITE INFORMATION**

PROPERTY OWNER: NEWBERG SCHOOL DIS. 29J 1  
ADDRESS: 714 E 6TH ST  
ATTN BUSINESS OFFICE  
NEWBERG, OR 97132

TOWER TYPE: MONOPOLE

TOWER CO SITE ID: 856521

TOWER APP NUMBER: 576279

COUNTY: YAMHILL

LATITUDE (NAD 83): 45° 18' 39.29" N  
49.327581X N

LONGITUDE (NAD 83): 122° 57' 9.79" W  
-122.952719

ZONING JURISDICTION: CITY OF NEWBERG, OR

ZONING DISTRICT: TBD

PARCEL NUMBER: 33895

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: V-B

POWER COMPANY: PORTLAND GENERAL ELECTRIC

TELEPHONE COMPANY: VERIZON WIRELESS

**PROJECT DIRECTORY**

APPLICANT: DISH Wireless L.L.C.  
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

TOWER OWNER: CROWN CASTLE  
2000 CORPORATE DRIVE  
CANONSBURG, PA 15317  
(877) 486-9377

SITE DESIGNER: PM&A  
1000 HOLCOMB WOODS PKWY  
SUITE 210  
ROSWELL, GA 30076  
(678) 280-2325

SITE ACQUISITION: ANDREW MAGOON  
(602) 845-1793

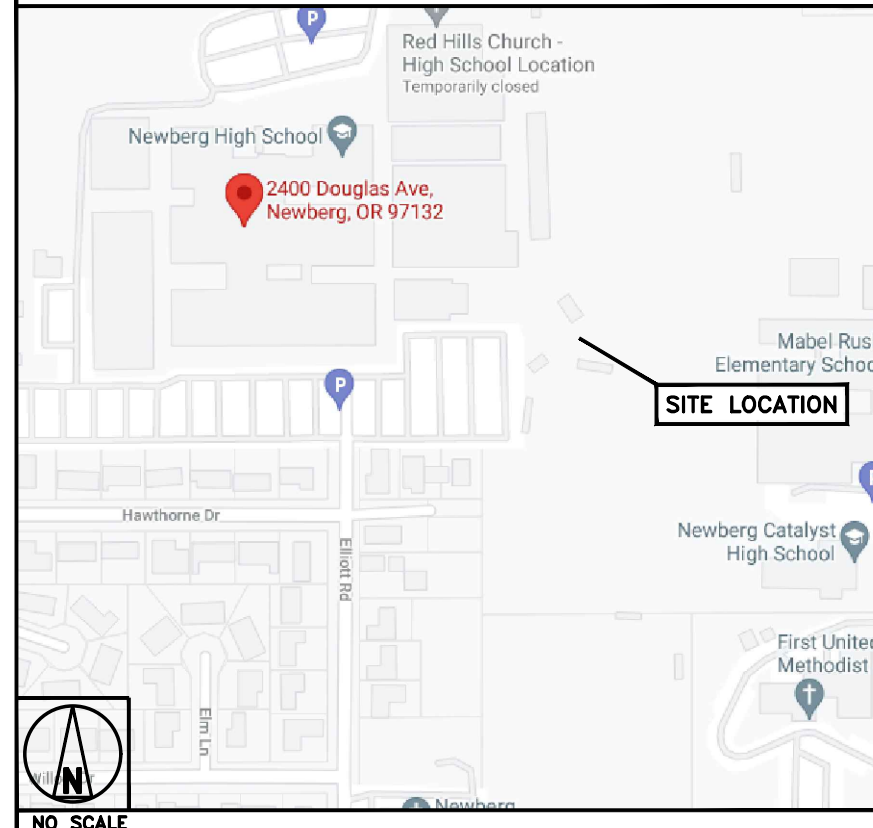
FIELD CONST. MANAGER: TONY FILIPPELLO  
(360) 430-4084

RF MANAGER: MIKE ZIEHNERT  
(503) 754-9725

**DIRECTIONS**

**DIRECTIONS FROM PORTLAND INTERNATIONAL AIRPORT:**  
GET ON I-205 S FROM NE AIRPORT WAY 6 MIN (2.7 MI) TAKE I-84 W/US-30 W, I-5 S AND OR-99W S/PACIFIC HWY W TO N SPRINGBROOK RD IN NEWBERG 43 MIN (30.6 MI) TAKE DEBORAH RD TO E DOUGLAS AVE 3 MIN (0.8 MI) 2400 DOUGLAS AVE NEWBERG, OR 97132

**VICINITY MAP**



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



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

DRAWN BY: LTH  
CHECKED BY: DM  
APPROVED BY: MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

SUBMITTALS

REV	DATE	DESCRIPTION
A	11/15/2021	ISSUED FOR REVIEW
D	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**PRPDX00328B**  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
**T-1**

**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



EXPIRES: 6/30/2022

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

DRAWN BY:	CHECKED BY:	APPROVED BY:
LTH	DM	MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	11/15/2021	ISSUED FOR REVIEW
D	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

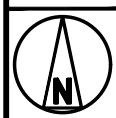
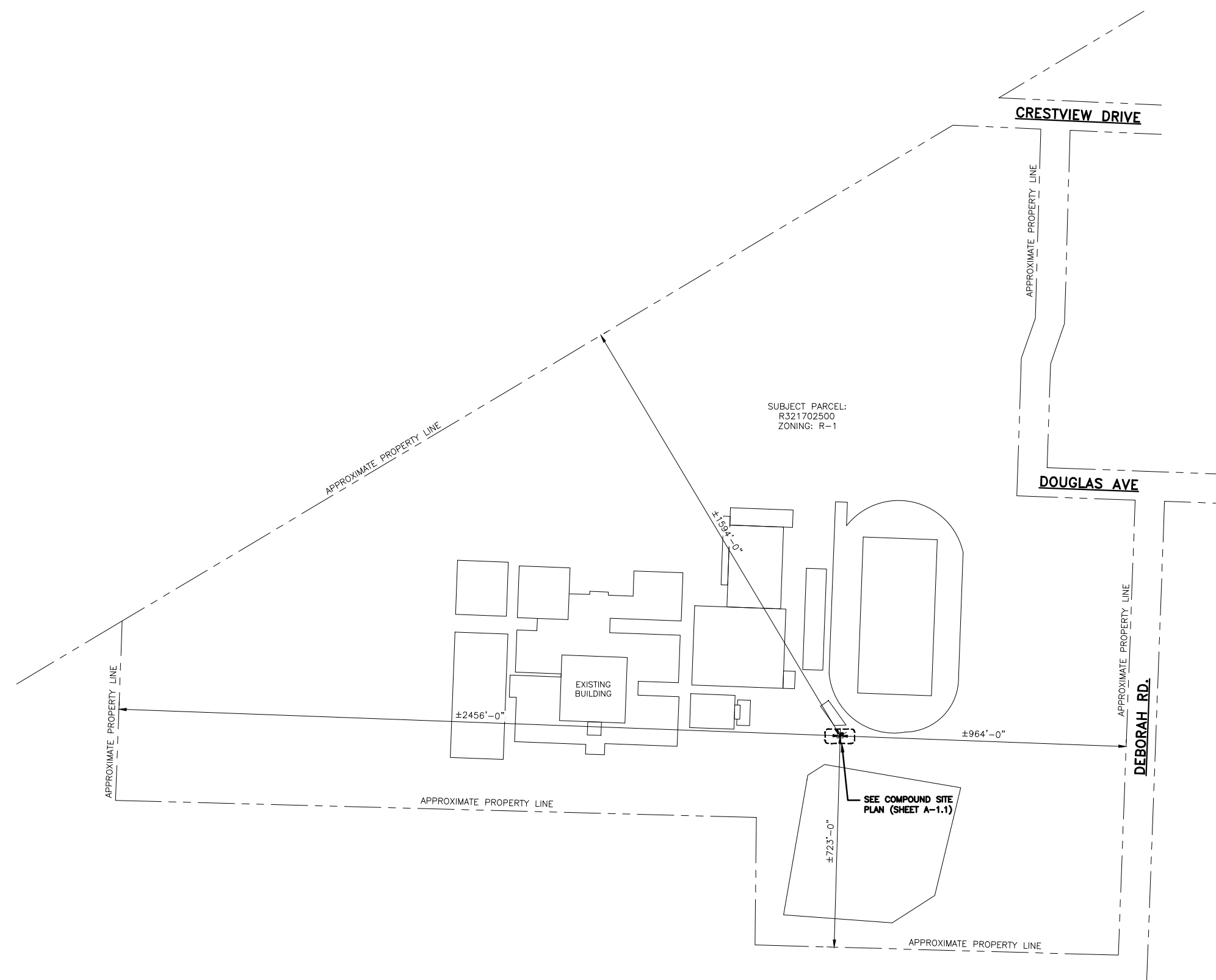
DISH Wireless L.L.C.  
PROJECT INFORMATION

PRPDX00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

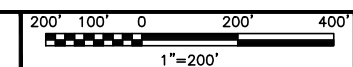
SHEET TITLE  
PARCEL  
SITE PLAN

SHEET NUMBER

**A-1**



**PARCEL SITE PLAN**



**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

**dish wireless.**

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**PM&A**

1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



EXPIRES: 6/30/2022

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DRAWN BY: LTH  
CHECKED BY: DM  
APPROVED BY: MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

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A	11/15/2021	ISSUED FOR REVIEW
D	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION

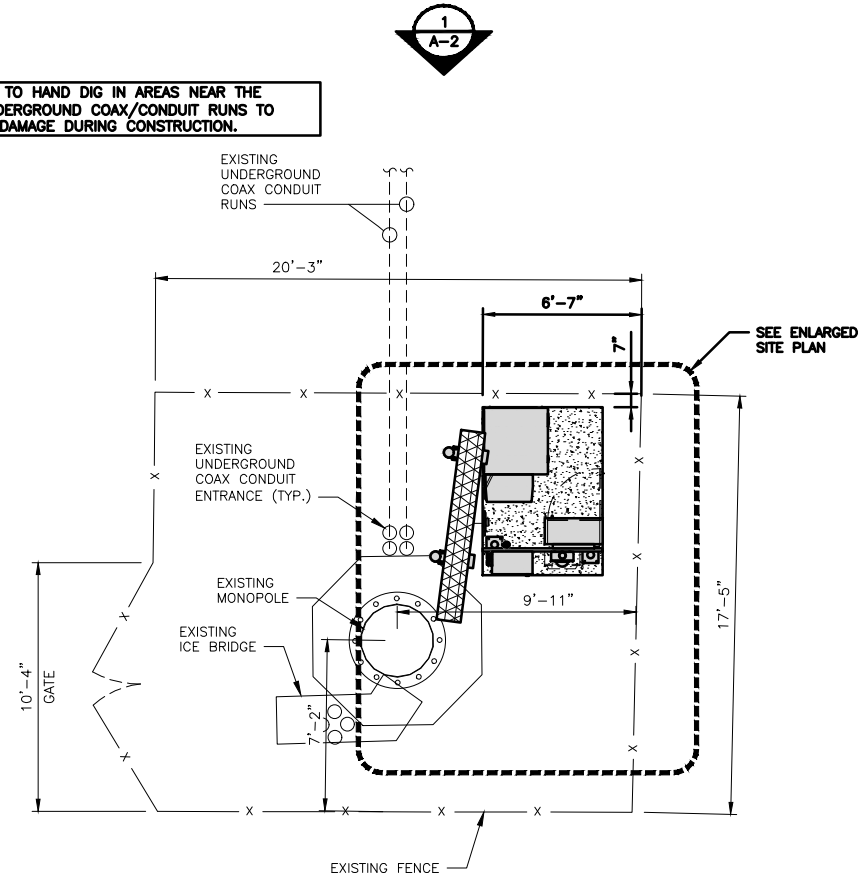
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
COMPOUND, OVERALL AND  
ENLARGED SITE PLAN

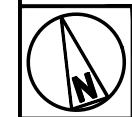
SHEET NUMBER

**A-1.1**

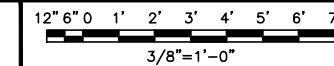
CONTRACTOR TO HAND DIG IN AREAS NEAR THE EXISTING UNDERGROUND COAX/CONDUIT RUNS TO ENSURE NO DAMAGE DURING CONSTRUCTION.



PROPOSED DISH Wireless L.L.C. HANDHOLE (CONTRACTOR TO FIELD DETERMINE LOCATION)



**ENLARGED SITE PLAN**



2

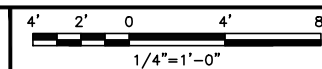


**OVERALL SITE PLAN**

NO SCALE

3

**COMPOUND SITE PLAN**

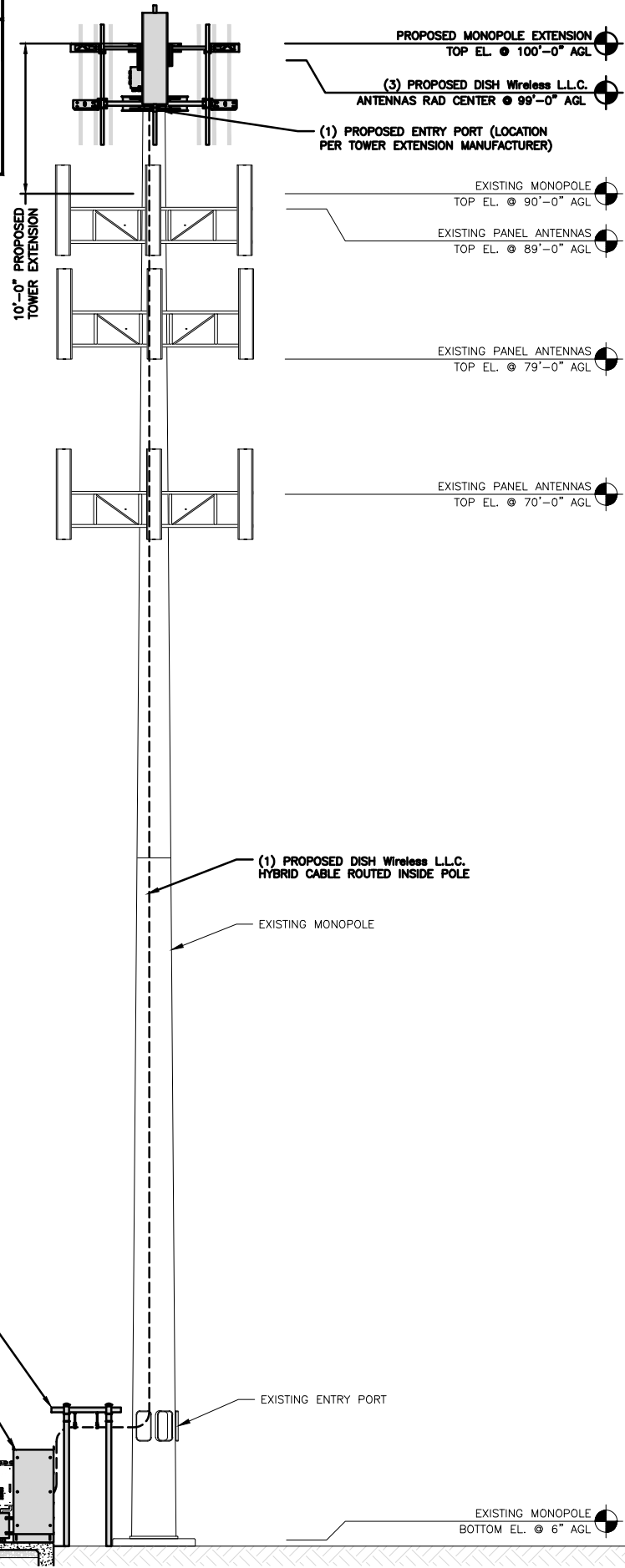


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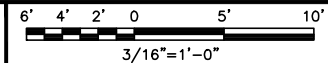


**NOTES**

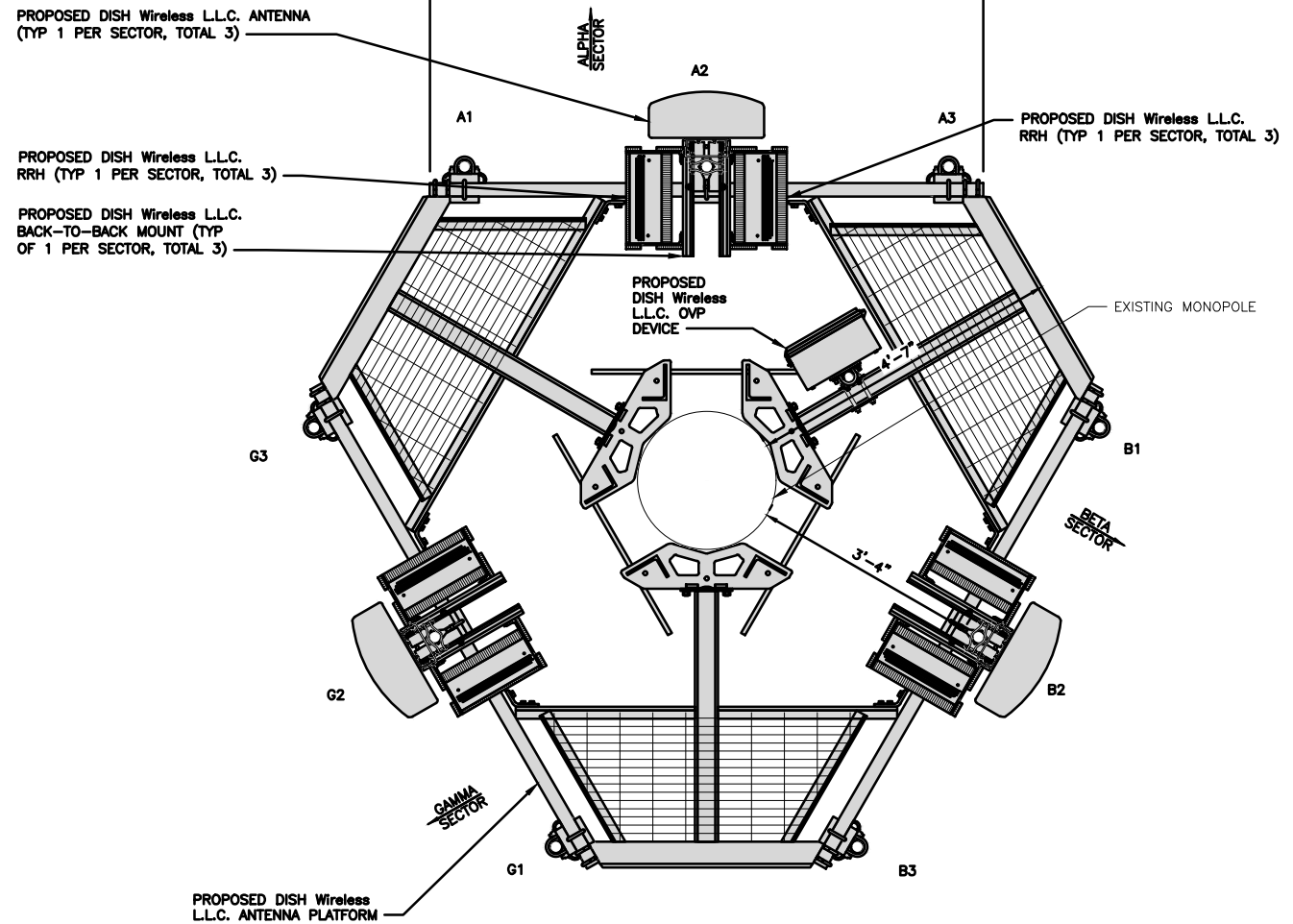
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



**PROPOSED NORTH ELEVATION**

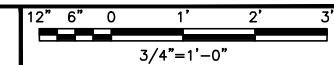


1



**PROPOSED DISH Wireless L.L.C. ANTENNA PLATFORM**

**ANTENNA LAYOUT**



2



SECTOR POS.	ANTENNA							TRANSMISSION CABLE FEED LINE TYPE AND LENGTH	RRH			OVP MANUFACTURER MODEL
	EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECH	AZIMUTH	MECH TILT	RAD CENTER	MANUFACTURER - MODEL NUMBER		TECH	POS.		
A1	---	---	---	---	---	---	(1) HIGH-CAPACITY HYBRID CABLE (150' LONG)	FUJITSU TA08025-B604	5G	A2	RAYCAP RDIDC-9181-PF-48	
A2	PROPOSED	JMA - MX08FRO665-21	5G	0°	-4°	99'-0"		FUJITSU TA08025-B605	5G	A2		
A3	---	---	---	---	---	---		---	---	---		
B1	---	---	---	---	---	---	SHARED W/ALPHA	FUJITSU TA08025-B604	5G	B2	SHARED W/ALPHA	
B2	PROPOSED	JMA - MX08FRO665-21	5G	120°	-4°	99'-0"		FUJITSU TA08025-B605	5G	B2		
B3	---	---	---	---	---	---		---	---	---		
C1	---	---	---	---	---	---	SHARED W/ALPHA	FUJITSU TA08025-B604	5G	C2	SHARED W/ALPHA	
C2	PROPOSED	JMA - MX08FRO665-21	5G	240°	0°	99'-0"		FUJITSU TA08025-B605	5G	C2		
C3	---	---	---	---	---	---		---	---	---		

**NOTES**

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

**ANTENNA SCHEDULE**

NO SCALE

3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



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DRAWN BY: LTH  
CHECKED BY: DM  
APPROVED BY: MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	11/15/2021	ISSUED FOR REVIEW
0	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

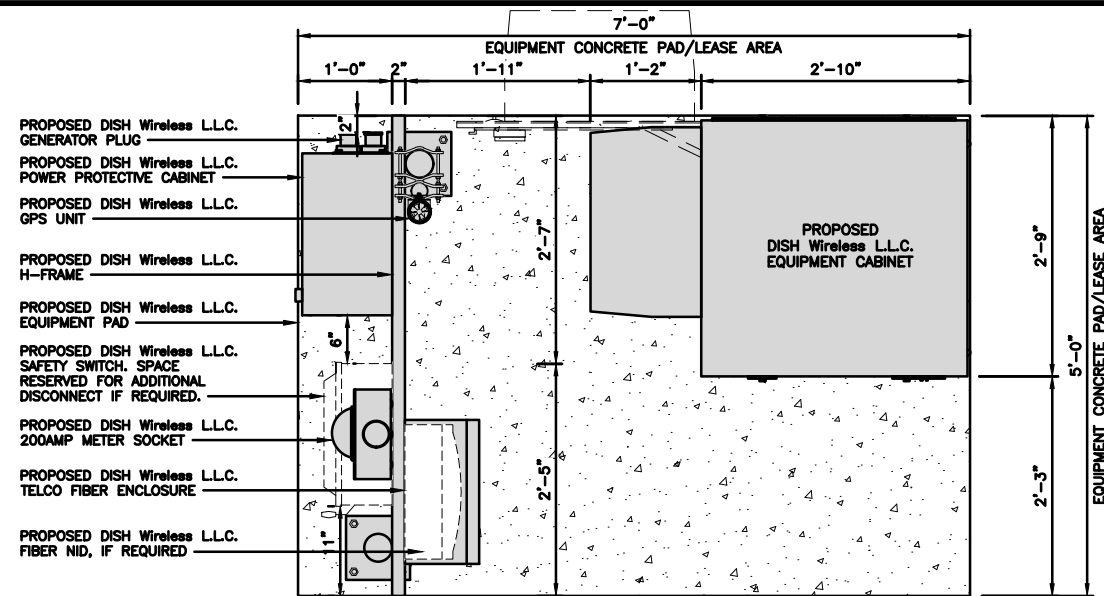
DISH Wireless L.L.C.  
PROJECT INFORMATION  
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
ELEVATION, ANTENNA  
LAYOUT AND SCHEDULE

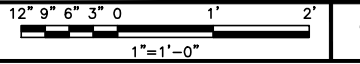
SHEET NUMBER

**A-2**

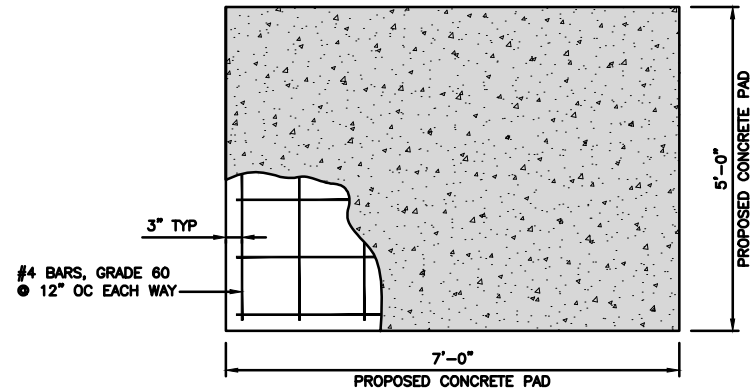




EQUIPMENT PLAN

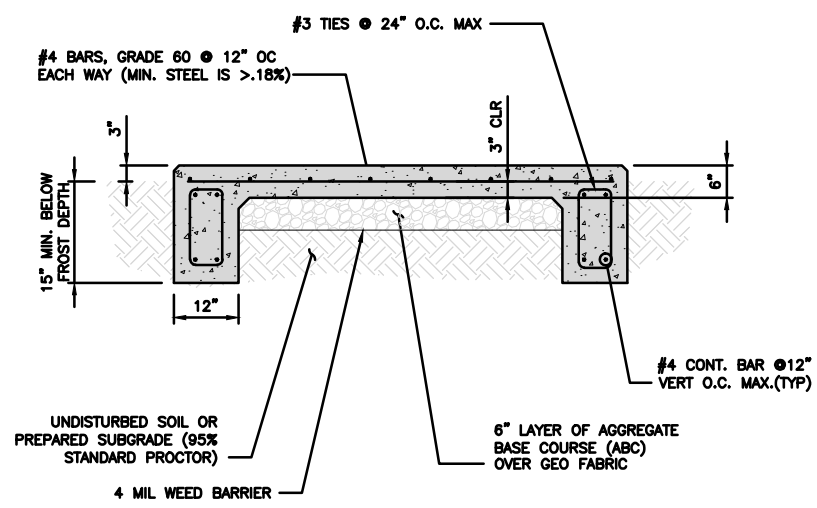


CONTRACTOR TO PROVIDE AND INSTALL BREAKOUT FOR POWER AND FIBER CONDUITS. COORDINATE SIZE AND LOCATION WITH DISH CM.



TYPICAL CONCRETE PAD DETAIL

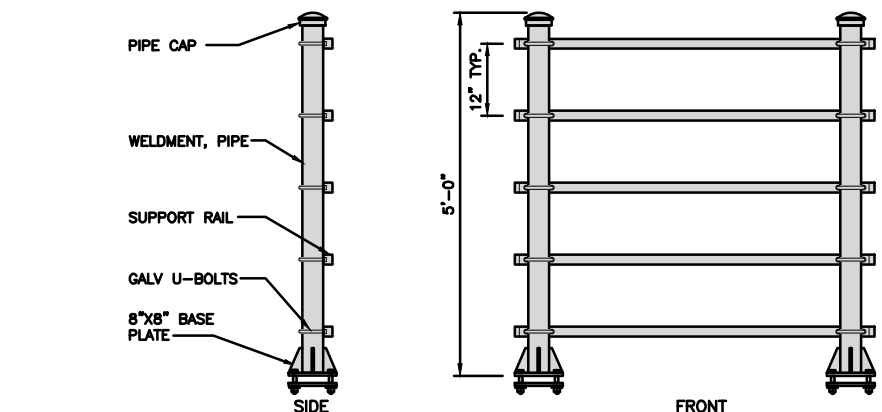
NO SCALE 2



TYPICAL CONCRETE SECTION DETAIL

NO SCALE 3

KENWOOD T1701KT5-5S H-FRAME	
UNISTRUT/SUPPORT RAIL	5
WEIGHT/ VOLUME	173.6 LBS

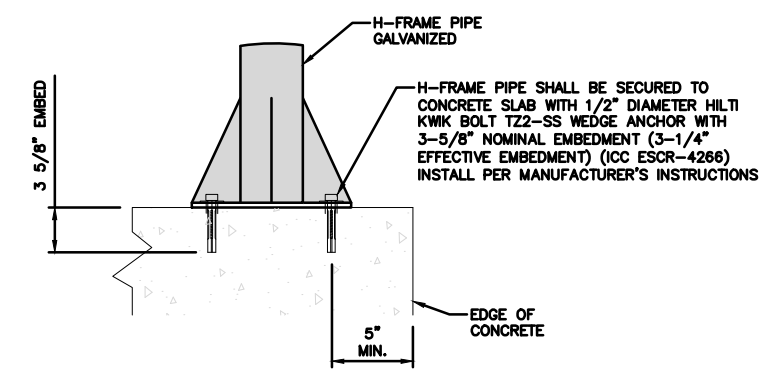


H-FRAME DETAIL

NO SCALE 4

H-FRAME	
UNISTRUT/SUPPORT RAIL	6

SPECIAL INSPECTION REQUIRED:  
SPECIAL INSPECTIONS AND STRUCTURAL OBSERVATIONS FOR POST INSTALLED ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH THE STATE BUILDING CODE AND CITY OF PORTLAND SPECIAL INSPECTION PROGRAM ADMINISTRATIVE RULES

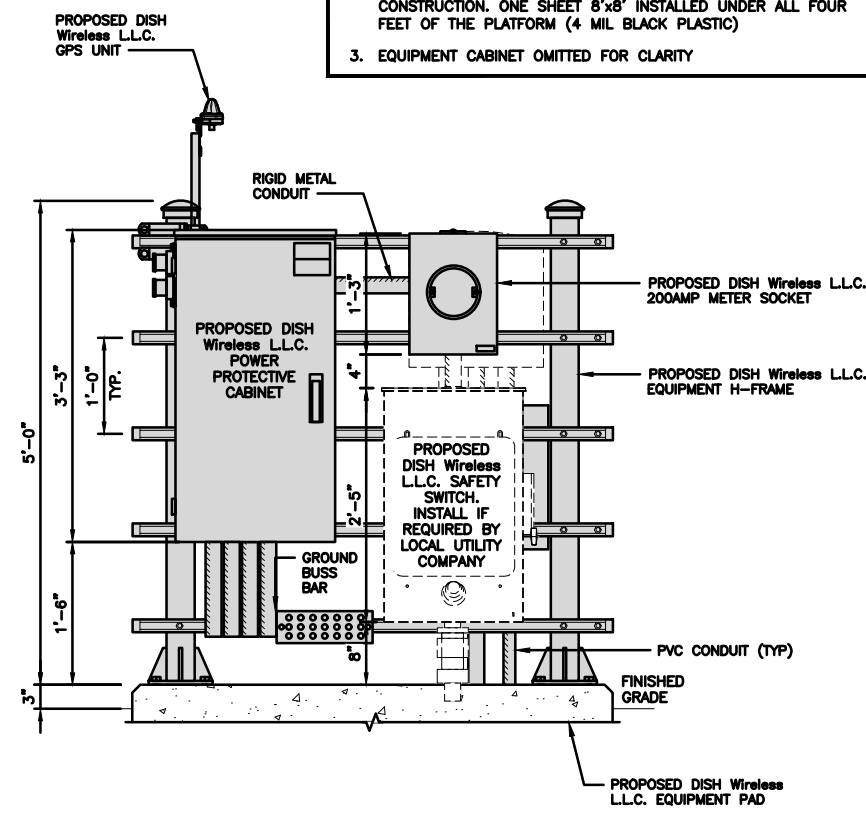


H-FRAME CONCRETE SLAB INSTALLATION DETAIL

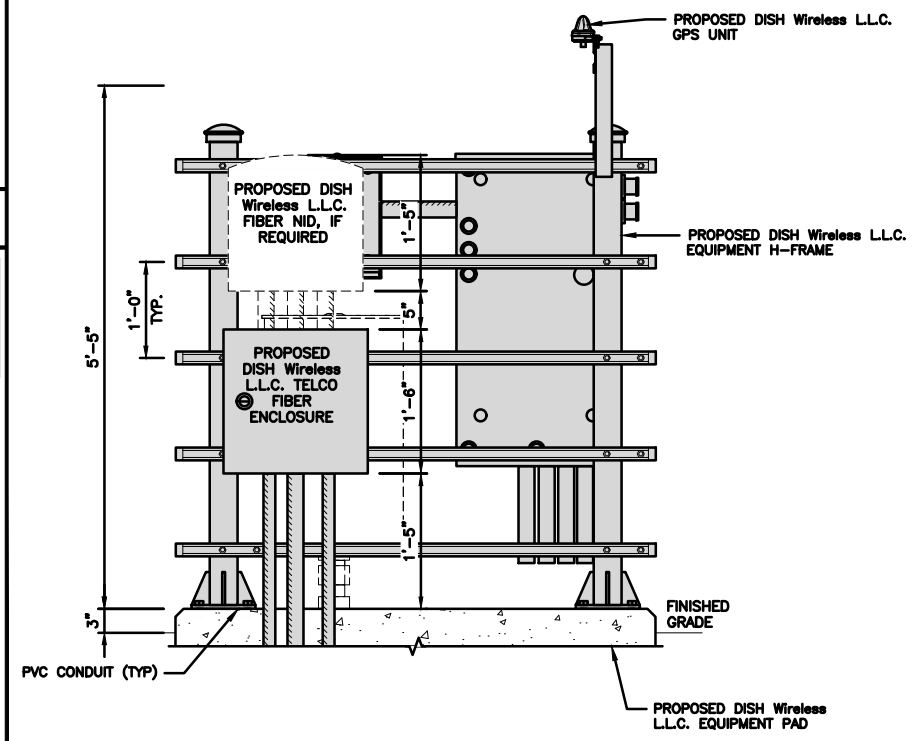
NO SCALE 5

NOTES

- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
- WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
- EQUIPMENT CABINET OMITTED FOR CLARITY



FRONT ELEVATION



BACK ELEVATION



H-FRAME EQUIPMENT ELEVATION

NO SCALE 6



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



EXPIRES: 6/30/2022

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LTH	DM	MSB

RFDS REV #: ---

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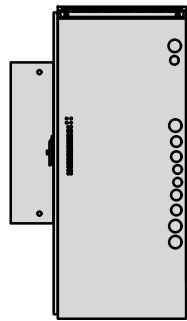
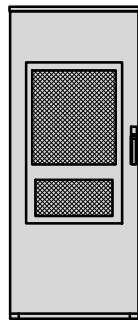
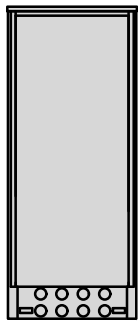
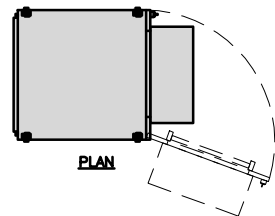
A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C. PROJECT INFORMATION  
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
CONCRETE PAD AND H-FRAME DETAILS

SHEET NUMBER  
**A-3**

ENERSYS HEX CABINET 2000005996	
DIMENSIONS (HxWxD):	73"x30"x32"
WEIGHT EMPTY:	376 lbs
HEATER	800W
POWER SYSTEM	-48V ALPHA/600A



CABINET DETAIL

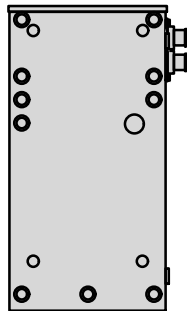
NO SCALE

1

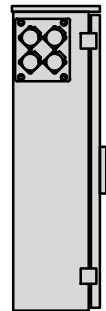
RAYCAP PPC RDIAC-2465-P-240-MTS	
ENCLOSURE DIMENSIONS (HxWxD):	39"x22.855"x12.593
WEIGHT:	80 lbs
OPERATING AC VOLTAGE	240/120 1 PHASE 3W+G



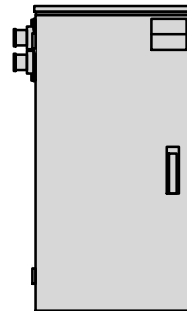
TOP



BACK



SIDE



FRONT



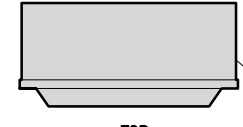
SIDE

POWER PROTECTION CABINET (PPC) DETAIL

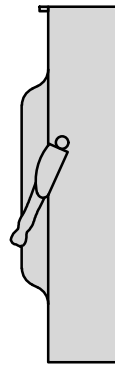
NO SCALE

2

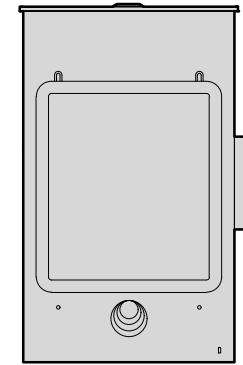
SQUARE D SAFETY SWITCHES D224NRB	
ENCLOSURE DIM (HxWxD)	29.25"x19.00"x8.50"
ENCLOSURE TYPE	NEMA 3R RAINPROOF
UL LISTED	FILE E-2875



TOP



SIDE



FRONT

SAFETY SWITCH DETAIL

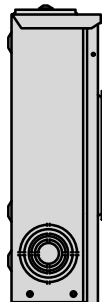
NO SCALE

3

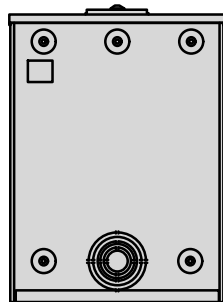
EATON METER SOCKET UNRRS213BEUSE	
METER SOCKET TYPE	RING
ENCLOSURE DIM (HxWxD)	16"x12"x6"
MAIN AMPERE RATING	200A
WEIGHT	18 LBS



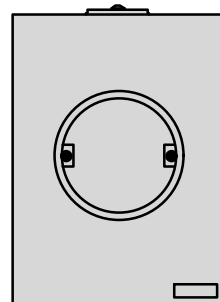
PLAN



SIDE



BACK



FRONT

METER SOCKET DETAIL

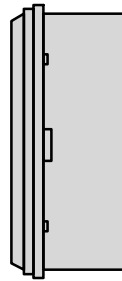
NO SCALE

4

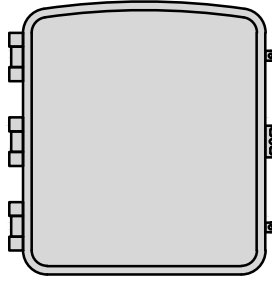
PROPOSED FIBER NID ENCLOSURE	
DIMENSIONS (HxWxD)	17"x16.8"x7"
WEIGHT	28.6 lbs



TOP



SIDE



FRONT

FIBER NID ENCLOSURE DETAIL

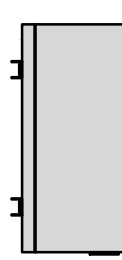
NO SCALE

5

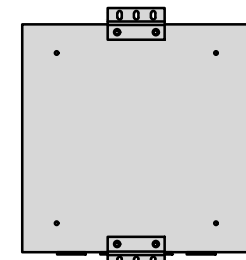
CHARLES CFIT-PF2020DSH1 FIBER TELCO ENCLOSURE	
ENCLOSURE DIMS (HxWxD)	20"x20"x9"
ENCLOSURE WEIGHT	20 lbs
MOUNTING	WALL
COMPLIANCE	TYPE 4



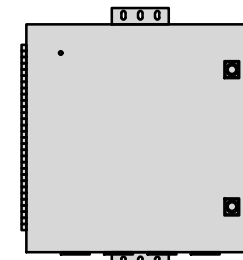
FRONT



SIDE



BACK



FRONT

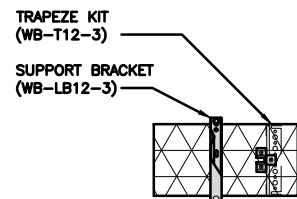
FIBER TELCO ENCLOSURE DETAIL

NO SCALE

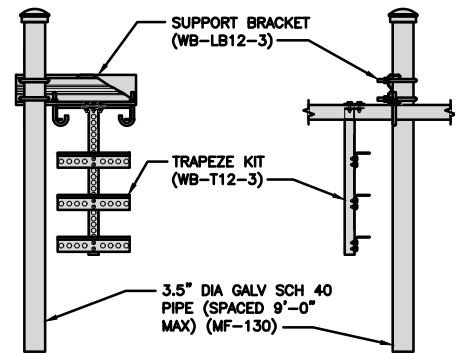
6

COMMSCOPE WB-K110-B WAVEGUIDE BRIDGE KIT	
DIMENSIONS (HxL)	160"x10"
WEIGHT/ VOLUME	325.0 LBS
CABLE RUN (QTY)	12

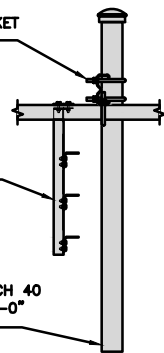
INCLUDED PRODUCTS:	WB-T12-3 TRAPEZE KIT, 3 RUNGS
	WB-LB12-3 SUPPORT BRACKET
	MF-130 DIRECT BURIAL PIPE COLUMN, 13'-4"



PLAN



FRONT

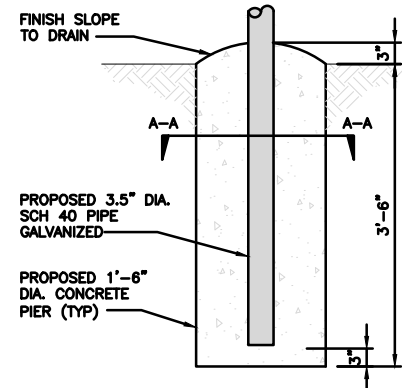


SIDE

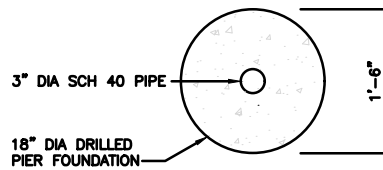
ICE BRIDGE DETAIL

NO SCALE

7



CONCRETE PIER

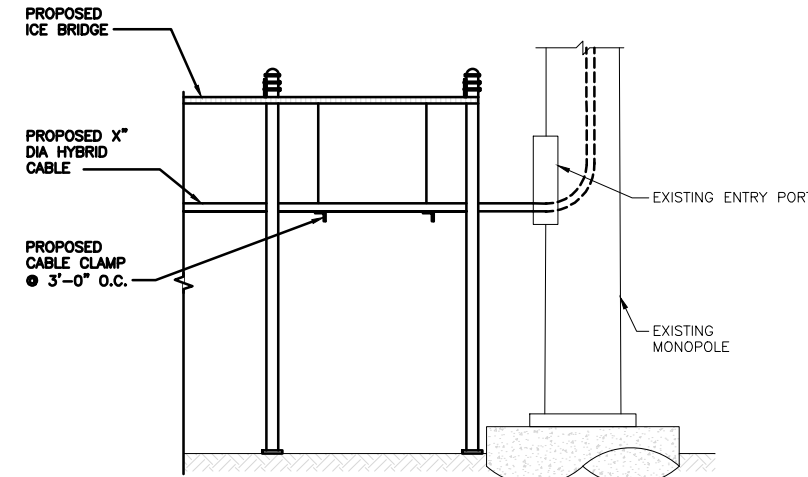


A-A SECTION

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8



HYBRID CABLE RUN

NO SCALE

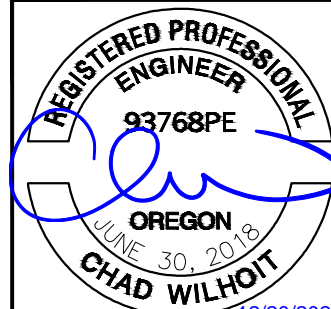
9

**dish**  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

**PM&A**

1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



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LTH	DM	MSB

RFDS REV #: ---

**CONSTRUCTION  
DOCUMENTS**

SUBMITTALS		
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A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION

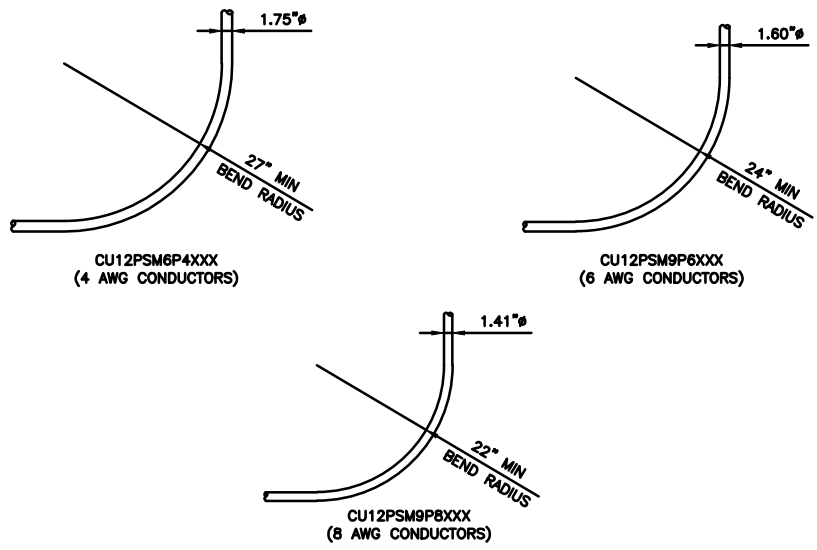
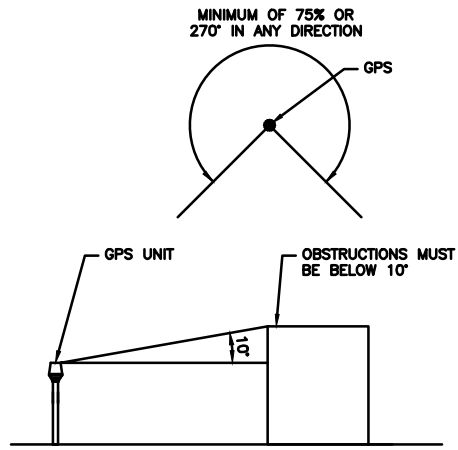
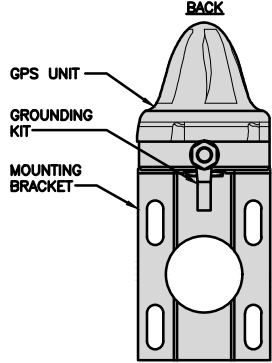
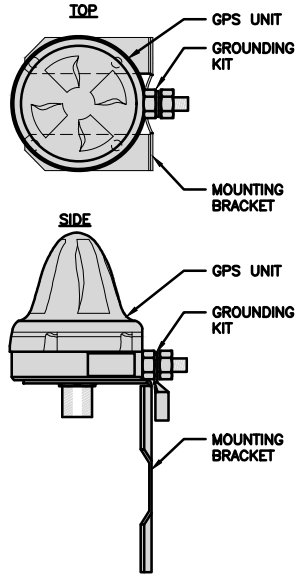
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER

**A-4**

ROSENBERGER GPSGLONASS-36-N-S	
DIMENSION (DIA x H)	69mm x 98.5mm
WEIGHT (WITH ACCESSORIES)	515.74g
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1559 MHz ~ 1610.5MHz



GPS ANTENNA DETAIL

NO SCALE 1

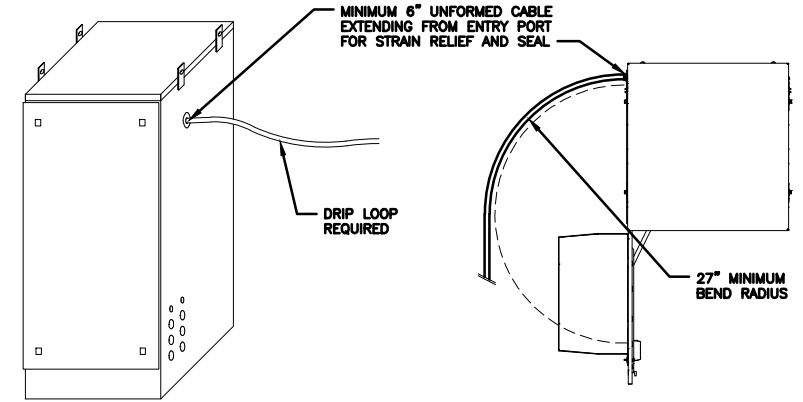
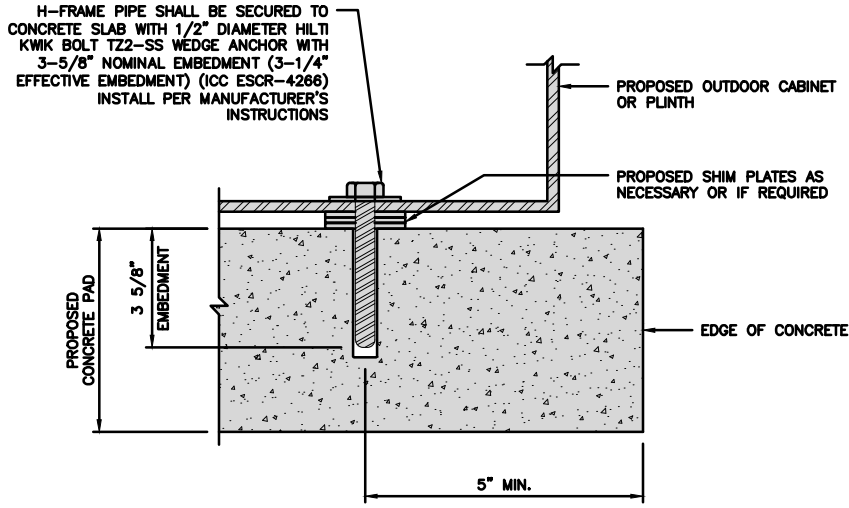
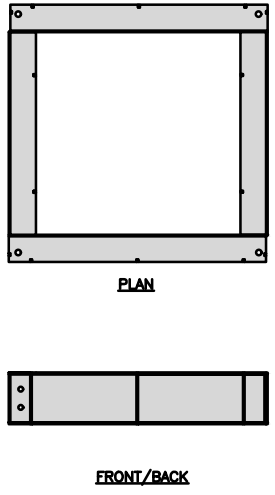
GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE 2

CABLES UNLIMITED HYBRID CABLE  
MINIMUM BEND RADIUSES

NO SCALE 3

ENERSYS PURCELL 1000034439 - PLINTH 6 INCH	
DIMENSIONS (HxWxD):	6"x 30.188"x 29.982"
NOTE: GASKET AND MOUNTING HARDWARE INCLUDED	



PLINTH DETAIL

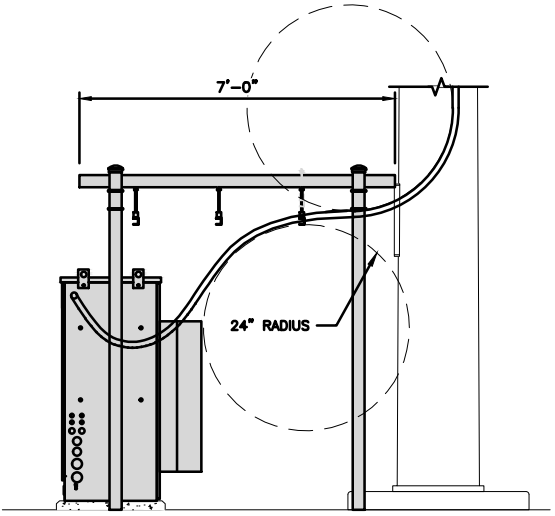
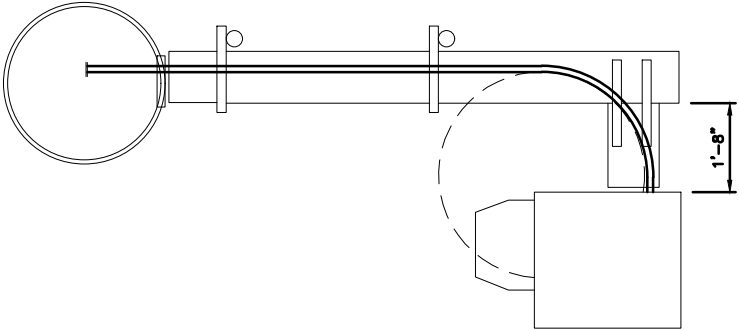
NO SCALE 4

TYPICAL OUTDOOR EQUIPMENT TO  
CONCRETE SLAB ANCHORAGE

NO SCALE 5

DRIP LOOP DETAIL

NO SCALE 6



CABLE BEND DETAIL

NO SCALE 7

CABLE BEND DETAIL

NO SCALE 8

NOT USED

NO SCALE 9



5701 SOUTH SANTA FE DRIVE  
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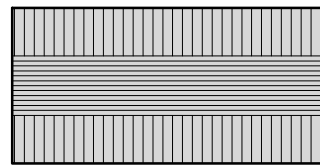
A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION  
PRPDX00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

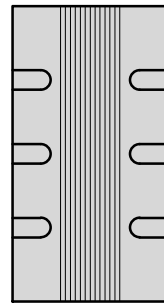
SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-5**

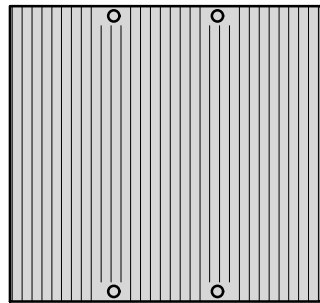
FUJITSU TA08025-B604 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x200/14.9"x15.7"x7.8"
WEIGHT(KG,LB)/ VOLUME	29kg,63.9lb/ 30L
POWER SUPPLY	DC-58~-36V



PLAN

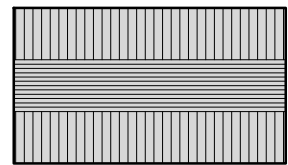


SIDE

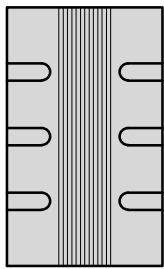


FRONT

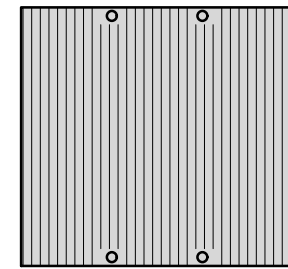
FUJITSU TA08025-B605 RRH	
DIMENSIONS (HxWxD) (KG/IN)	380x400x230/14.9"x15.7"x9.0"
WEIGHT(KG,LB)/ VOLUME	34kg,74.9lb/ 35L
POWER SUPPLY	DC-58~-36V



PLAN



SIDE



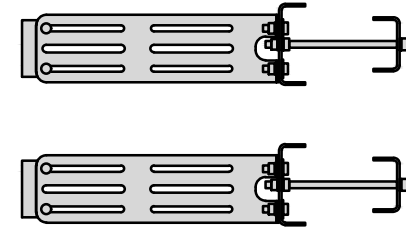
FRONT

COMMSCOPE RR-FA2 LARGE STABILIZER	
DIMENSIONS (HxWxD)	16.4"x8.5"x18"
WEIGHT	39.2 lbs

DESIGN NOTES:  
MOUNT WILL FIT LEGS UP TO:  
- 5.6" ROUND  
- 6.0" 60° ANGLE  
- 4.5" 90° ANGLE



PLAN



SIDE

NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

REMOTE RADIO HEAD DETAIL

NO SCALE

1

REMOTE RADIO HEAD DETAIL

NO SCALE

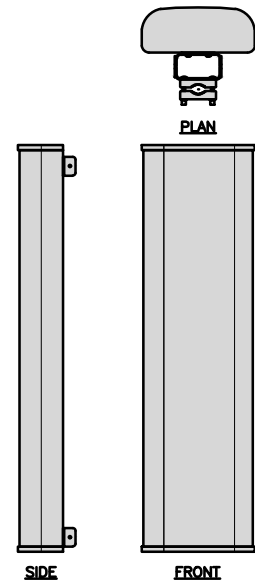
2

RRH MOUNT DETAIL

NO SCALE

3

JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs

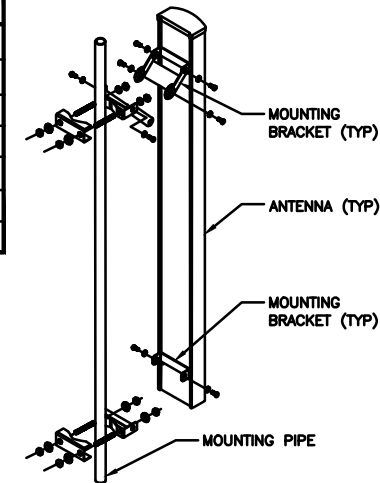


PLAN

SIDE

FRONT

M04 MOUNTING BRACKET HPA-33R-BUU-H4-K	
WIDTH	5" (135mm)
DEPTH	2" (51mm)
HEIGHT	8" (213mm)
TOTAL WEIGHT (WITH BRACKETS)	1.5 LBS (15.50 Kg)
HOUSING MATERIAL	ASA/ABS/ALUMINUM
RADOME COLOR	LIGHT GRAY
CONNECTOR	1X8-PIN DAISY CHAIN



MOUNTING BRACKET (TYP)

ANTENNA (TYP)

MOUNTING BRACKET (TYP)

MOUNTING PIPE

NOT USED

NO SCALE

4

ANTENNA DETAIL

NO SCALE

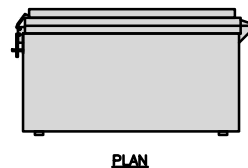
5

ANTENNA MOUNTING DETAIL

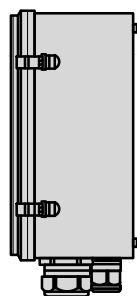
NO SCALE

6

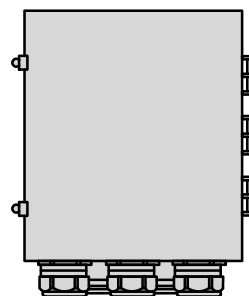
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



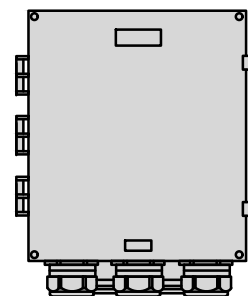
PLAN



SIDE



BACK



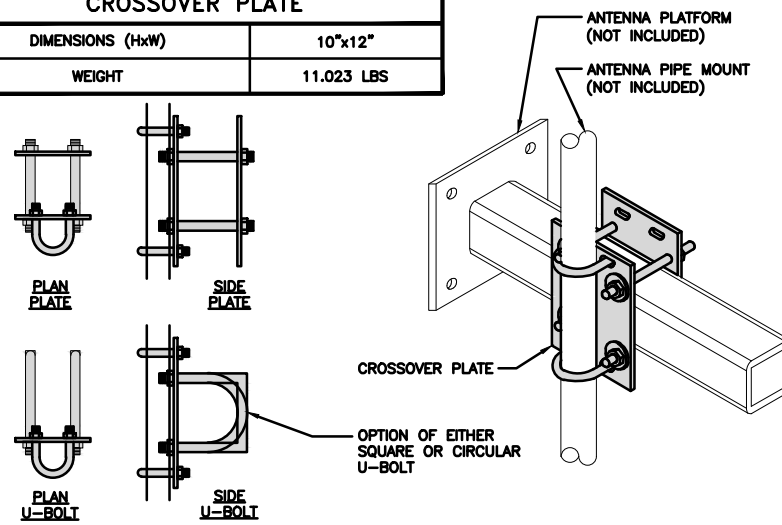
FRONT

SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11.023 LBS



ANTENNA PLATFORM (NOT INCLUDED)

ANTENNA PIPE MOUNT (NOT INCLUDED)

CROSSOVER PLATE

OPTION OF EITHER SQUARE OR CIRCULAR U-BOLT

PLAN PLATE

SIDE PLATE

PLAN U-BOLT

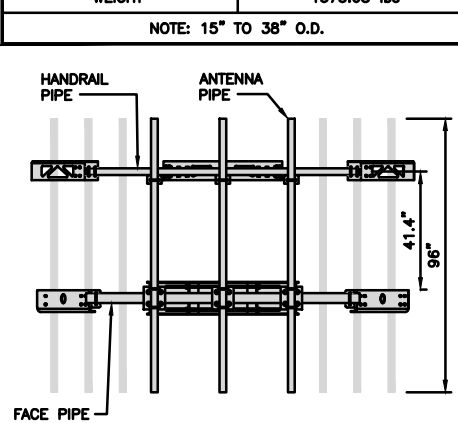
SIDE U-BOLT

RRH/OVP MOUNT DETAIL

NO SCALE

8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	



FACE PIPE

HANDRAIL PIPE

ANTENNA PIPE

PLATFORM

ANTENNA PLATFORM DETAIL

NO SCALE

9

**dish**  
wireless.

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LITTLETON, CO 80120

**PM&A**

1000 HOLCOMB WOODS PKWY,  
SUITE 210  
ROSWELL, GA 30076  
678-280-2325



EXPIRES: 6/30/2022

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A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION

PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

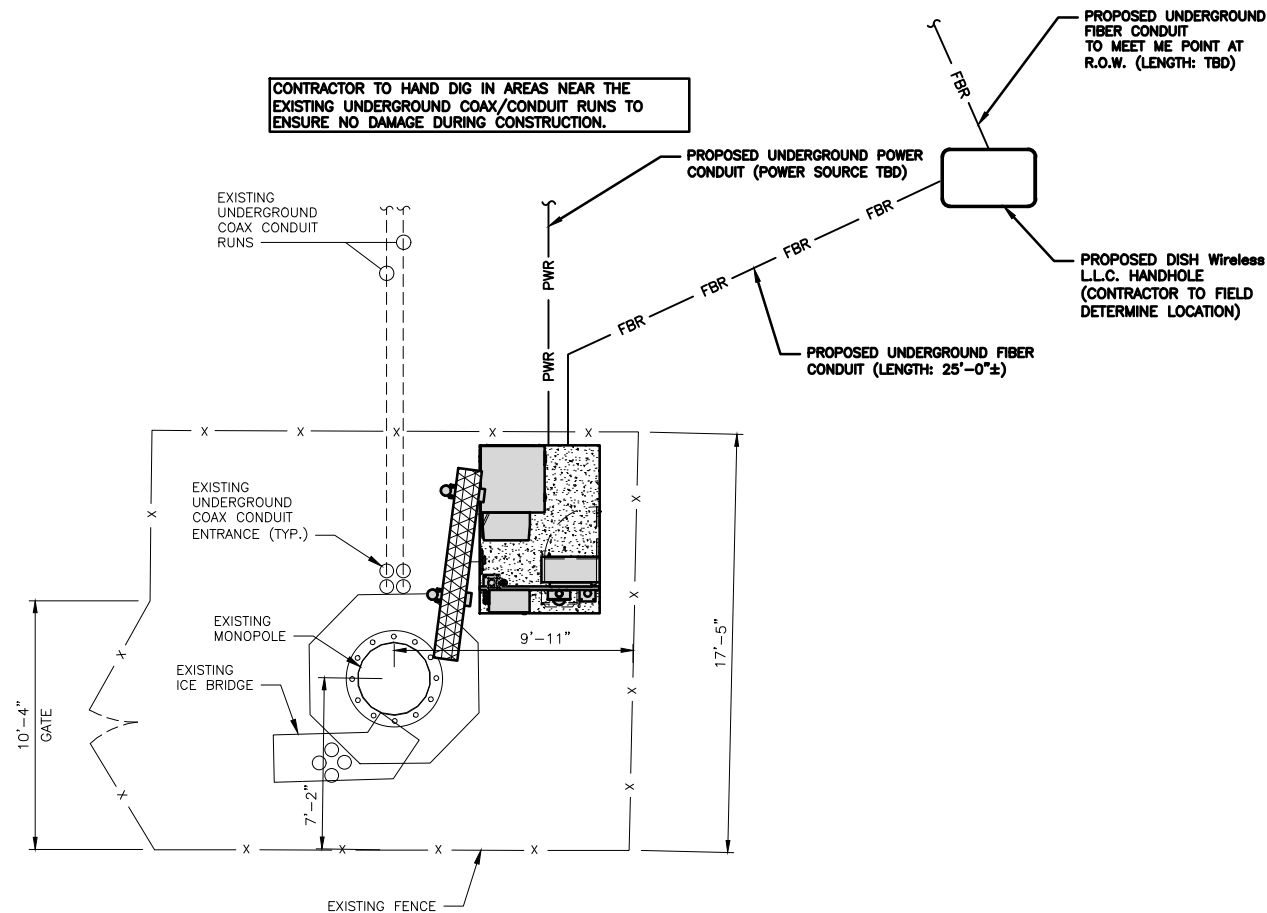
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EQUIPMENT DETAILS

SHEET NUMBER

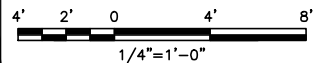
A-6

**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.
3. DUE TO UTILITY EASEMENT RIGHTS SPECIFIED IN THE GROUND LEASE, CUSTOMER MAY INSTALL EQUIPMENT WITHIN SPECIFIED UTILITY EASEMENT AREA. PWR AND FBR PATH DEPICTED ON A-1 AND E-1 REPRESENT PLANNED ROUTING BASED ON BEST AVAILABLE INFORMATION INCLUDING BUT NOT LIMITED TO A SURVEY, EXHIBITS, METES AND BOUNDS OF THE UTILITY EASEMENT, FIELD VERIFICATION, PRIOR PROJECT DOCUMENTATION AND OTHER REAL PROPERTY RIGHTS DOCUMENTS. WHEN INSTALLING THE UTILITIES PLEASE LOCATE AND FOLLOW EXISTING PATH. IF EXISTING PATH IS MATERIALLY INCONSISTENT WITH THE PWR AND FBR PATH DEPICTED ON A-1 AND E-1 AND SAID VARIANCE IS NOT NOTED ON CDS, PLEASE NOTIFY CROWN CASTLE REAL ESTATE AS FURTHER COORDINATION MAY BE NEEDED.



**UTILITY ROUTE PLAN**



DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG

**ELECTRICAL NOTES**

NO SCALE



NOTE:  
UTILITY EASEMENT SHOWN PER SURVEY PROVIDED BY OTHERS. CONTRACTOR TO COORDINATE AND ROUTE UTILITIES WITHIN EXISTING UTILITY EASEMENT. DISH WIRELESS L.L.C. SHALL BE RESPONSIBLE FOR OBTAINING EASEMENT RIGHTS AS REQUIRED FOR INSTALLATION OF ALL UTILITIES.

**OVERALL UTILITY PLAN**

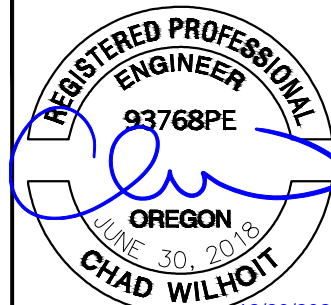
NO SCALE



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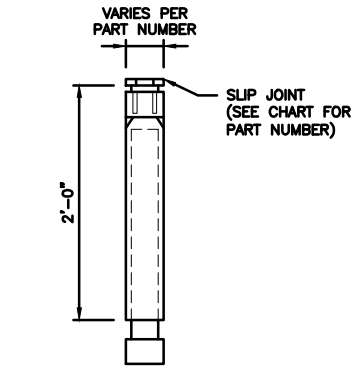
DISH Wireless L.L.C.  
PROJECT INFORMATION

PRPDX00328B  
2400 DOUGLAS AVE.  
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SHEET TITLE  
ELECTRICAL/FIBER ROUTE  
PLAN AND NOTES

SHEET NUMBER

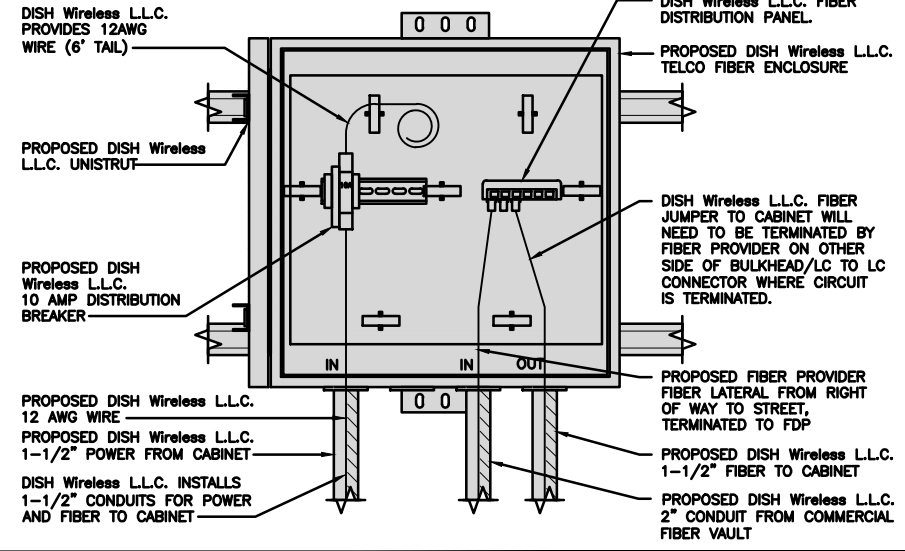
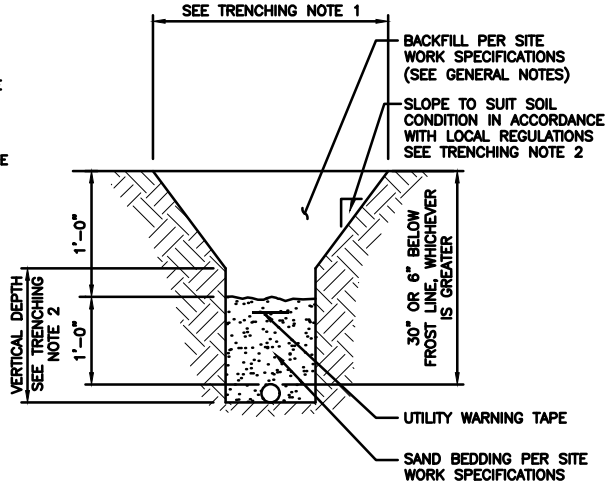
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"



NOTE: CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

**TRENCHING NOTES**

- CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



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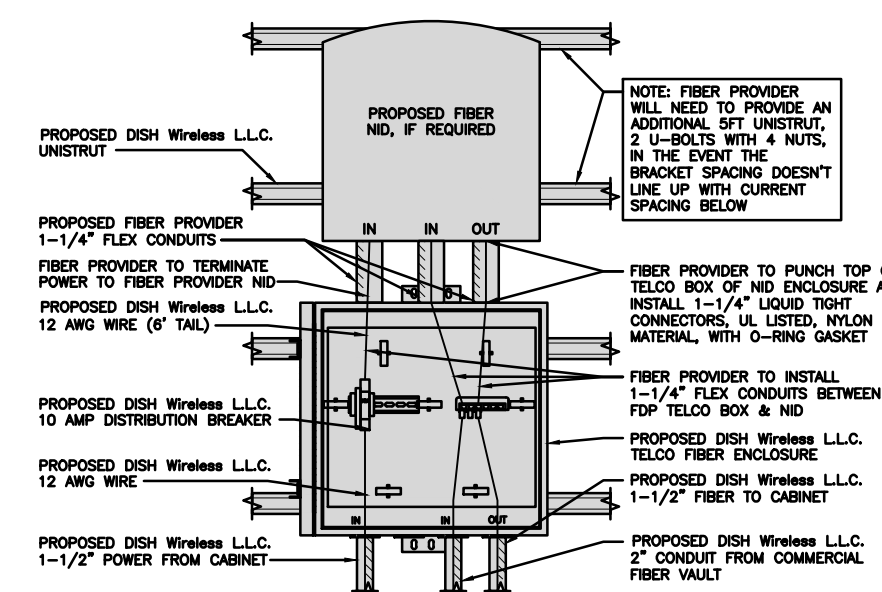
SHEET TITLE  
ELECTRICAL  
DETAILS

SHEET NUMBER  
**E-2**

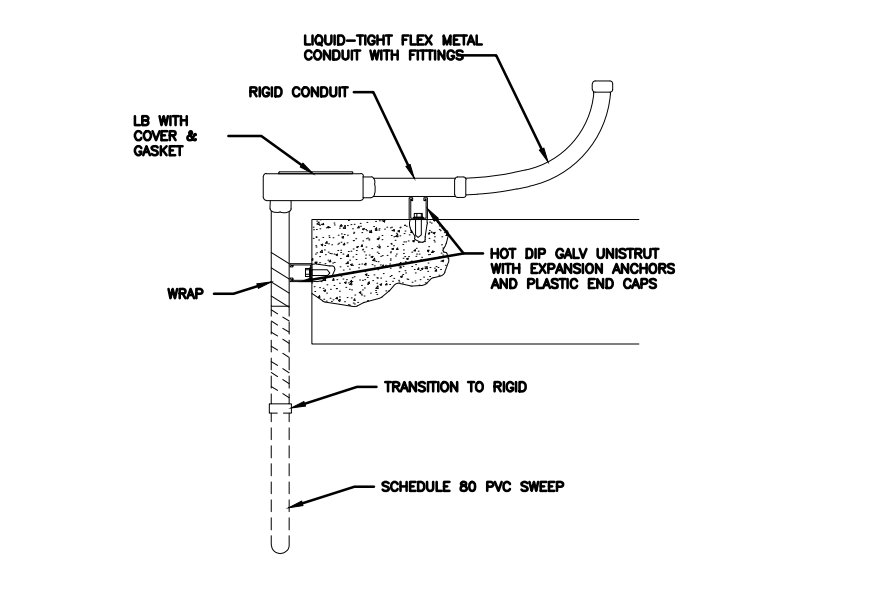
EXPANSION JOINT DETAIL NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL NO SCALE 2

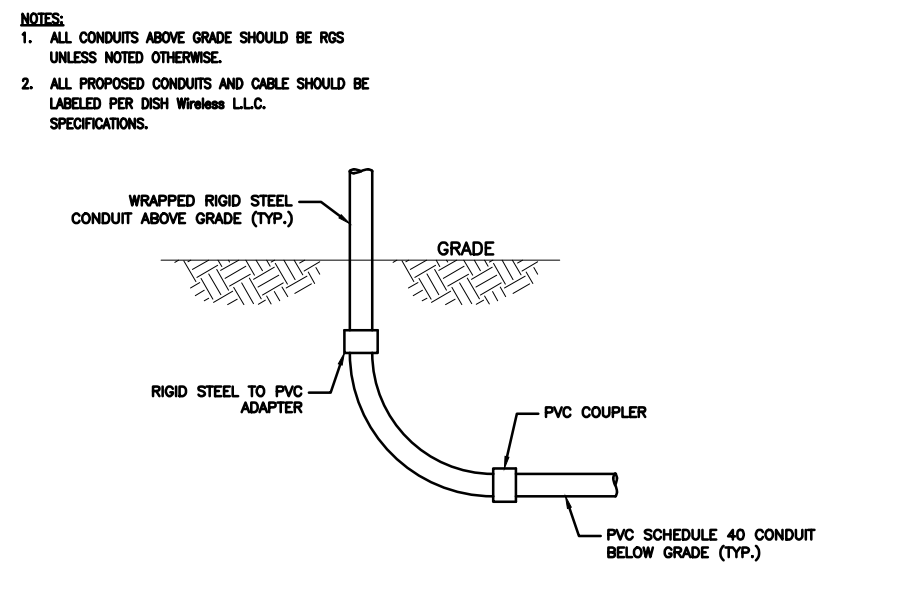
DARK TELCO BOX - INTERIOR WIRING LAYOUT NO SCALE 3



LIT TELCO BOX - INTERIOR WIRING LAYOUT (OPTIONAL) NO SCALE 4



CABINET CONDUIT DETAIL NO SCALE 5

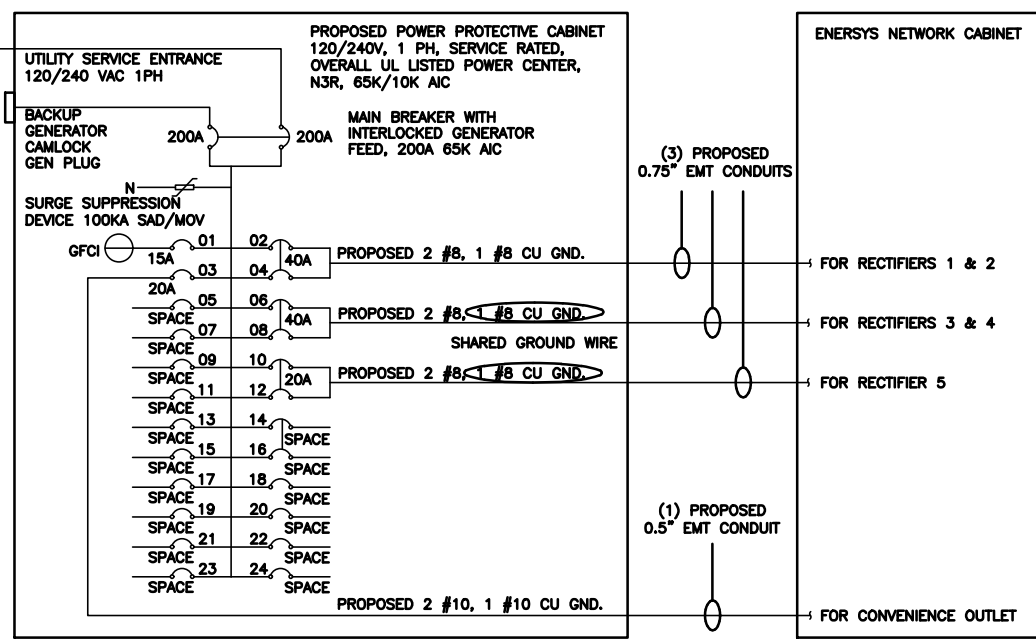
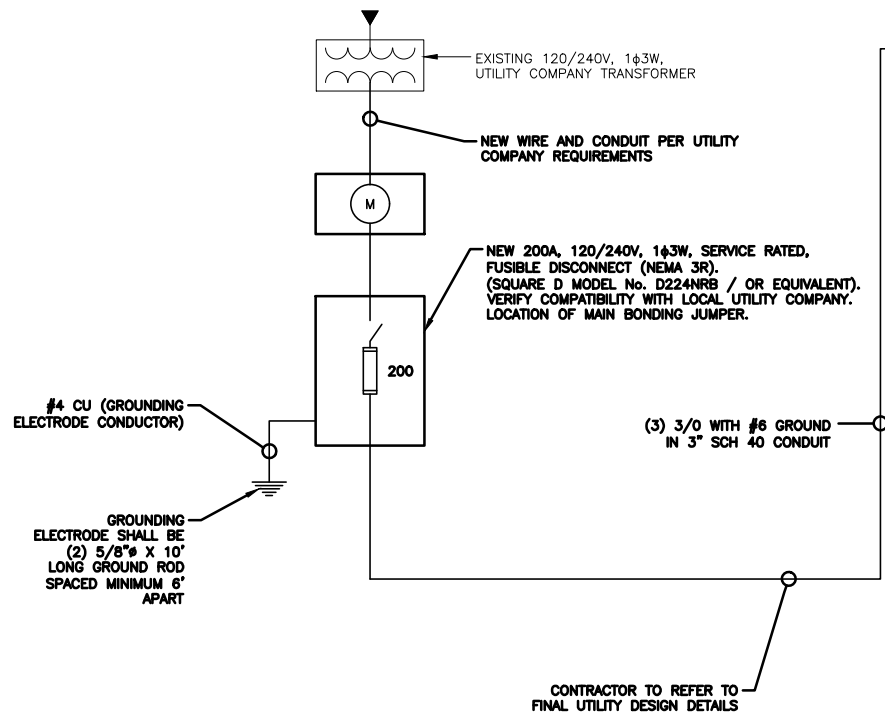


TYPICAL UNDERGROUND CONDUIT STUB-UP DETAIL NO SCALE 6

NOT USED NO SCALE 7

NOT USED NO SCALE 8

NOT USED NO SCALE 9



**NOTE:** BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

**BREAKERS REQUIRED:**

(2) 40A, 2P BREAKER - SQUARE D P/N:Q0240

(1) 20A, 2P BREAKER - SQUARE D P/N:Q0220

(1) 20A, 1P BREAKER - SQUARE D P/N:Q0120

**NOTES**

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.

0.5" CONDUIT - 0.122 SQ. IN AREA

0.75" CONDUIT - 0.213 SQ. IN AREA

2.0" CONDUIT - 1.316 SQ. IN AREA

3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.

#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN

#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND

TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (3 CONDUITS): USING UL1015, CU.

#8 - 0.0552 SQ. IN X 2 = 0.1103 SQ. IN

#8 - 0.0131 SQ. IN X 1 = 0.0131 SQ. IN <BARE GROUND

TOTAL = 0.1234 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.

3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN

#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND

TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

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**PM&A**

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SUITE 210  
ROSWELL, GA 30076  
678-280-2325

REGISTERED PROFESSIONAL ENGINEER  
93768PE  
OREGON  
JUNE 30, 2018  
CHAD WILHOIT  
12/20/2021  
EXPIRES: 6/30/2022

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PROJECT INFORMATION  
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
ELECTRICAL ONE-LINE, FAULT  
CALCS & PANEL SCHEDULE

SHEET NUMBER  
**E-3**

PPC ONE-LINE DIAGRAM

NO SCALE 1

**PROPOSED ENERSYS PANEL SCHEDULE**

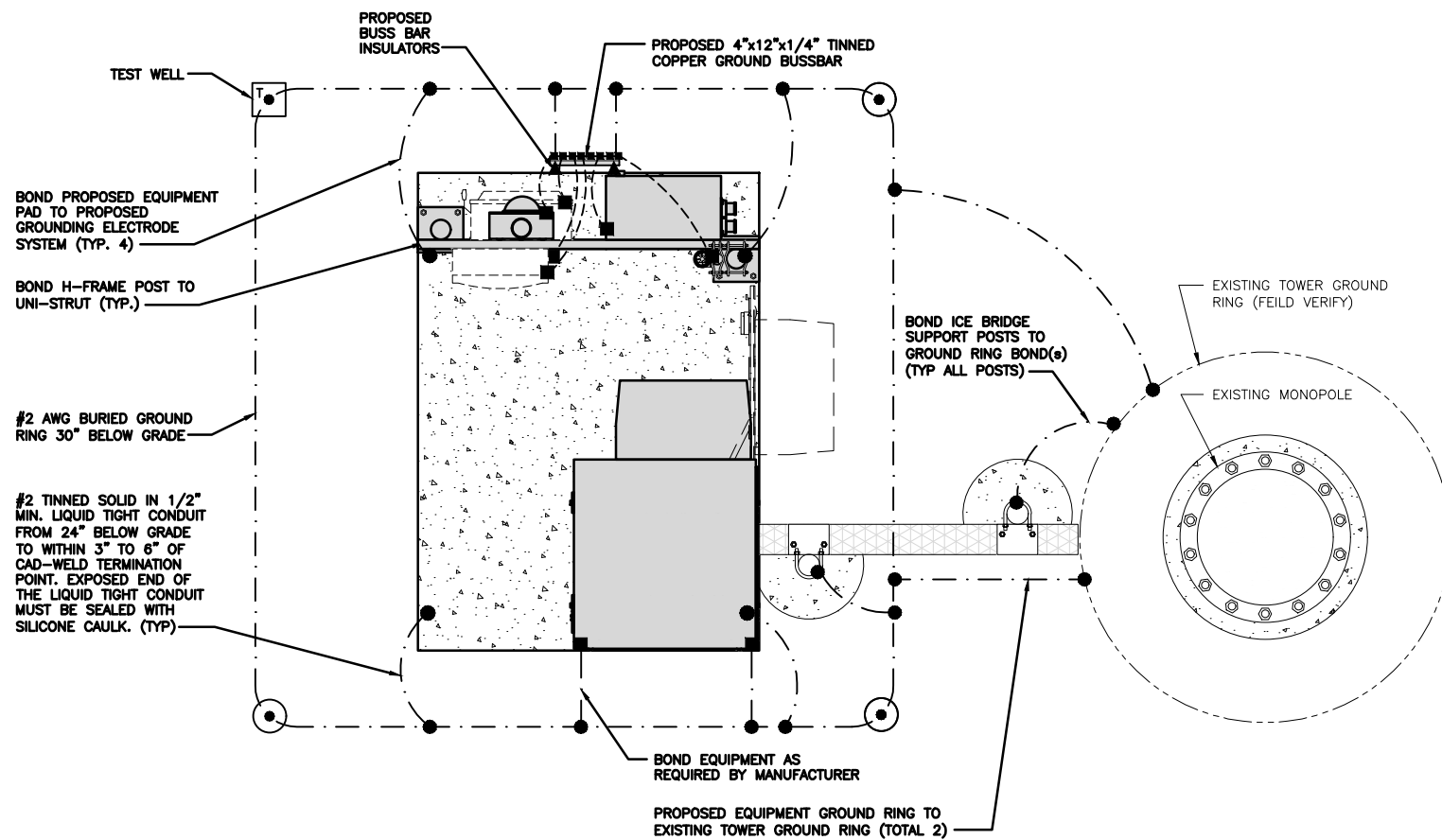
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED
	L1	L2						L1	L2	
PPC GFCI OUTLET	180	180	15A	1	A	2	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIERS 1 & 2
ENERSYS GFCI OUTLET			20A	3	B	4	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4
-SPACE-				5	A	6	40A	3840	3840	ENERSYS ALPHA CORDEX RECTIFIER 3 & 4
-SPACE-				7	B	8	20A	1920	1920	ENERSYS ALPHA CORDEX RECTIFIER 5
-SPACE-				9	A	10				
-SPACE-				11	B	12				
-SPACE-				13	A	14				
-SPACE-				15	B	16				
-SPACE-				17	A	18				
-SPACE-				19	B	20				
-SPACE-				21	A	22				
-SPACE-				23	B	24				
VOLTAGE AMPS								9500	9500	
200A MCB, 1ϕ, 24 SPACE, 120/240V				L1	L2					
MB RATING: 65,000 AIC				9680	9680					
				81	81					
				81						
				102						

PANEL SCHEDULE

NO SCALE 2

NOT USED

NO SCALE 3

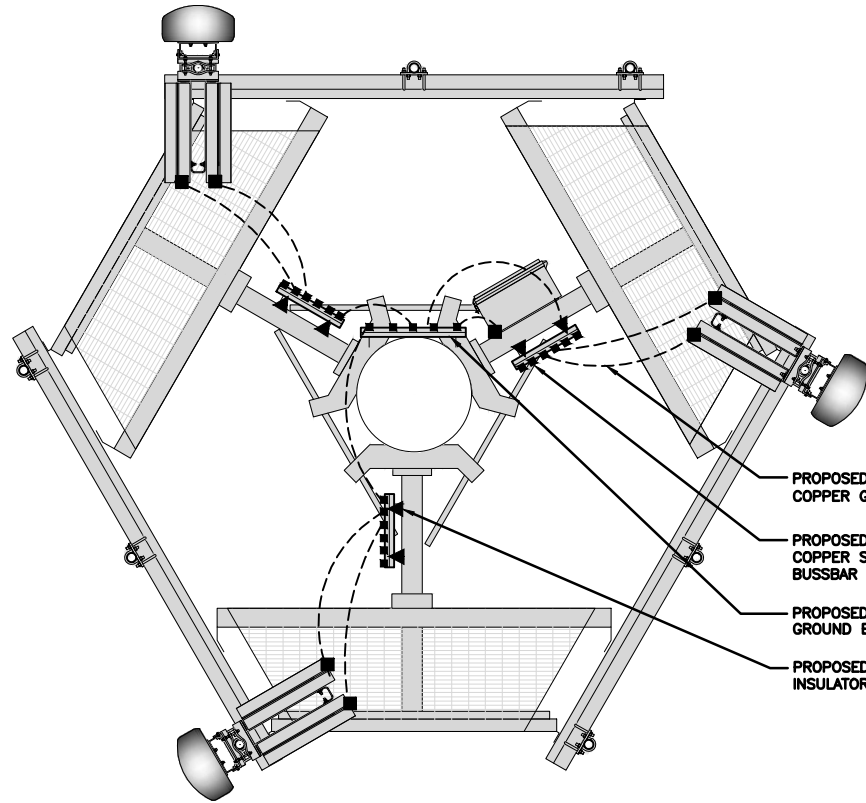


TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1

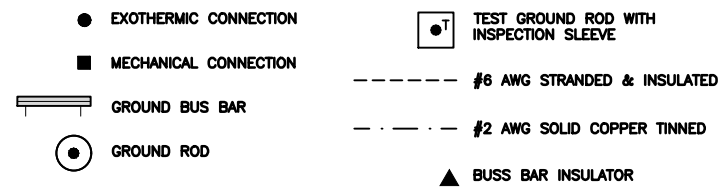
NOTES

1. ANTENNAS AND OVP SHOWN ARE GENERIC AND NOT REFERENCING TO A SPECIFIC MANUFACTURER. THIS LAYOUT IS FOR REFERENCE ONLY



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



GROUNDING LEGEND

1. GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
2. CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
3. ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

- (A) **EXTERIOR GROUND RING:** #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.
- (B) **TOWER GROUND RING:** THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.
- (C) **INTERIOR GROUND RING:** #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.
- (D) **BOND TO INTERIOR GROUND RING:** #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.
- (E) **GROUND ROD:** UL LISTED COPPER CLAD STEEL MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.
- (F) **CELL REFERENCE GROUND BAR:** POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.
- (G) **HATCH PLATE GROUND BAR:** BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.
- (H) **EXTERIOR CABLE ENTRY PORT GROUND BARS:** LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.
- (I) **TELCO GROUND BAR:** BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (J) **FRAME BONDING:** THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (K) **INTERIOR UNIT BONDS:** METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.
- (L) **FENCE AND GATE GROUNDING:** METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.
- (M) **EXTERIOR UNIT BONDS:** METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE
- (N) **ICE BRIDGE SUPPORTS:** EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.
- (O) **DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR**
- (P) **TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR. REFER TO DISH Wireless L.L.C. GROUNDING NOTES.**

GROUNDING KEY NOTES

NO SCALE 3



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21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION

PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
GROUNDING PLANS  
AND NOTES

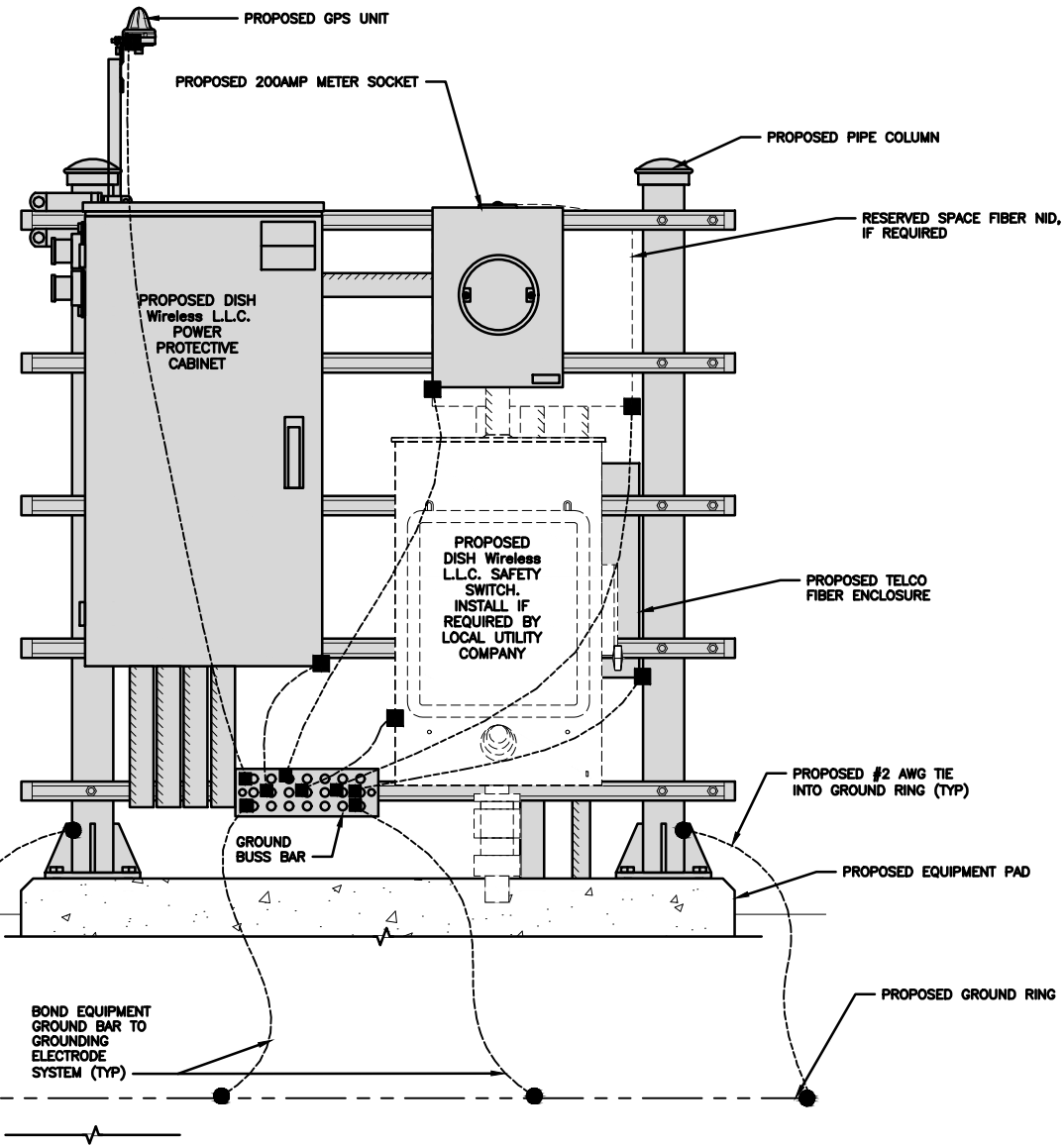
SHEET NUMBER

G-1



**NOTES**

EQUIPMENT CABINET OMITTED FOR CLARITY



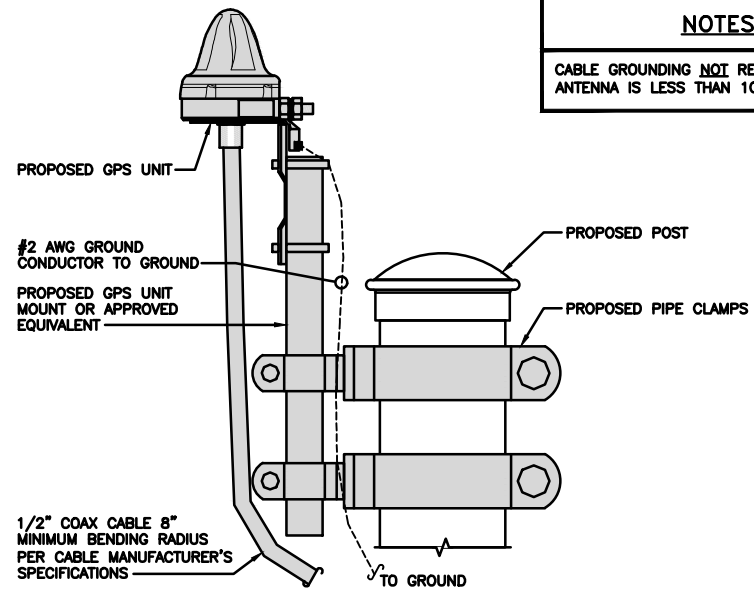
#2 TINNED SOLID IN 1/2" MIN. LIQUID TIGHT CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. EXPOSED END OF THE LIQUID TIGHT CONDUIT MUST BE SEALED WITH SILICONE CAULK. (TYP)

**H-FRAME GROUNDING DETAIL**

NO SCALE 1

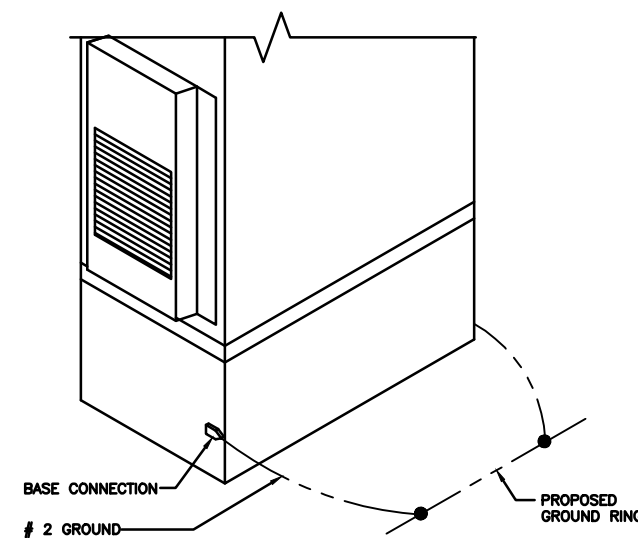
**NOTES**

CABLE GROUNDING NOT REQUIRED WHEN ANTENNA IS LESS THAN 10' FROM CABINET



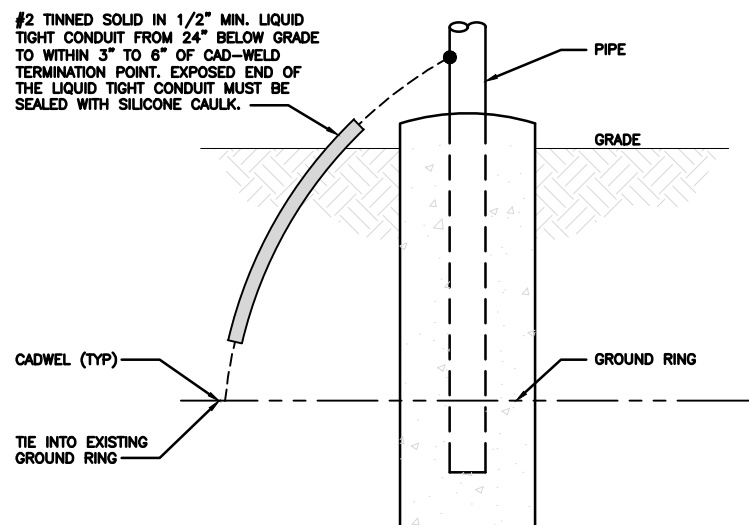
**TYPICAL GPS UNIT GROUNDING**

NO SCALE 2



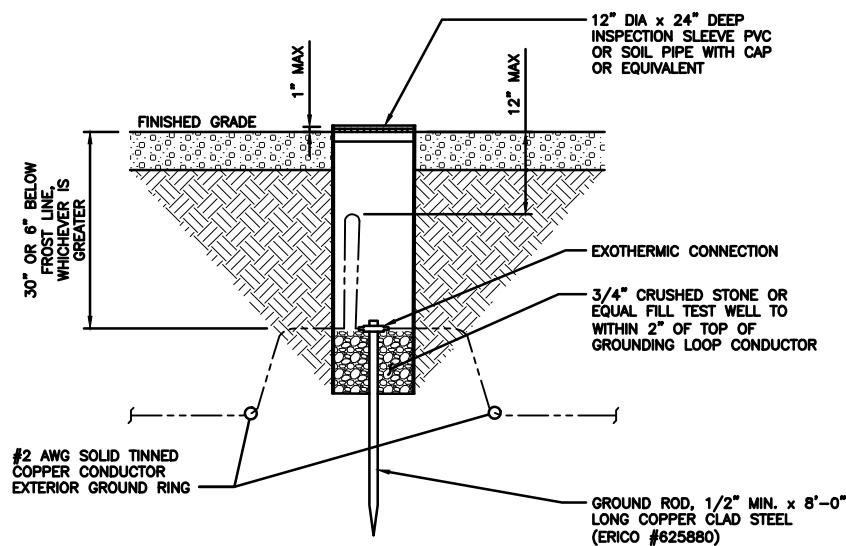
**OUTDOOR CABINET GROUNDING**

NO SCALE 3



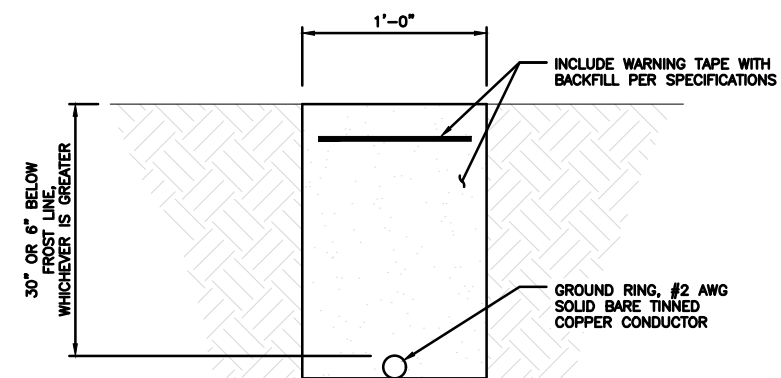
**TRANSITIONING GROUND DETAIL**

NO SCALE 4



**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE**

NO SCALE 5



**TYPICAL GROUND RING TRENCH**

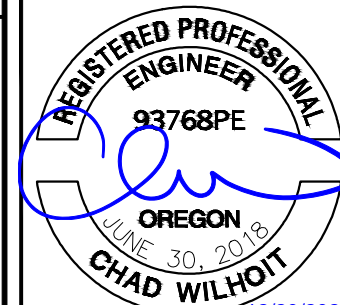
NO SCALE 6

**dish wireless.**

5701 SOUTH SANTA FE DRIVE  
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**PM&A**

1000 HOLCOMB WOODS PKWY,  
 SUITE 210  
 ROSWELL, GA 30076  
 678-280-2325



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DRAWN BY: LTH  
 CHECKED BY: DM  
 APPROVED BY: MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
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D	12/17/2021	ISSUED FOR CONSTRUCTION

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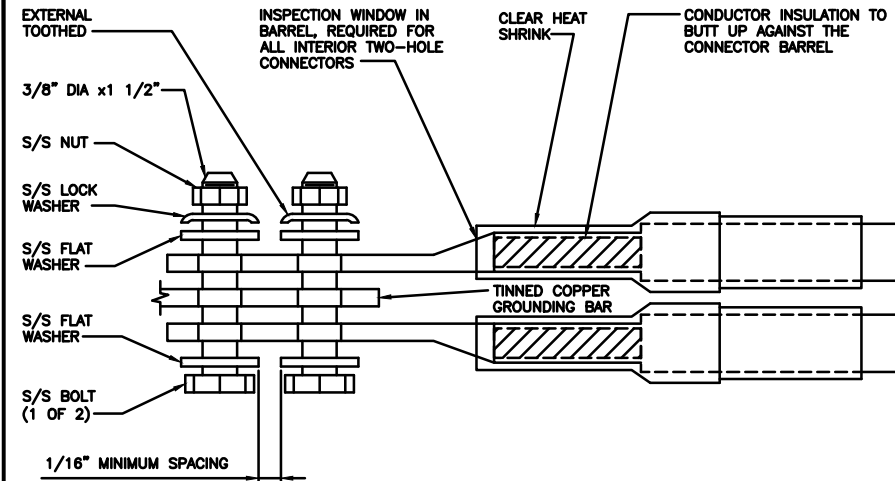
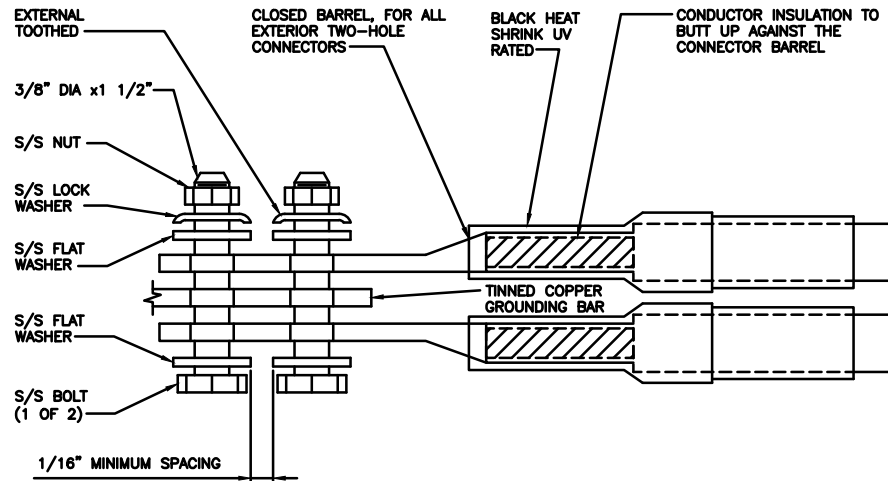
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SHEET TITLE  
 GROUNDING DETAILS

SHEET NUMBER

**G-2**

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).



TYPICAL GROUNDING NOTES

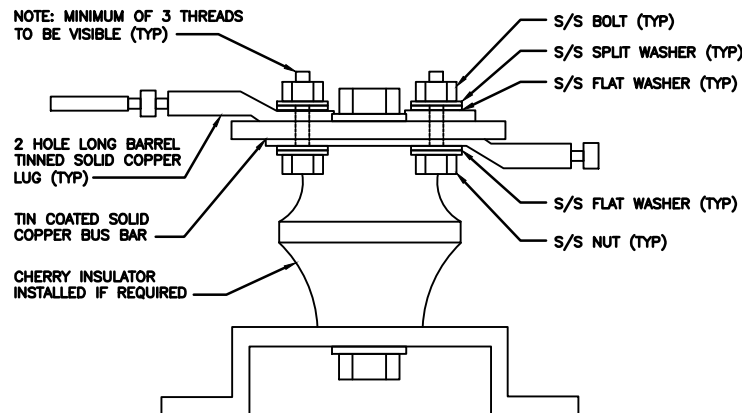
NO SCALE 1

TYPICAL EXTERIOR TWO HOLE LUG

NO SCALE 2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE 3



LUG DETAIL

NO SCALE 4

NOT USED

NO SCALE 5

NOT USED

NO SCALE 6

NOT USED

NO SCALE 7

NOT USED

NO SCALE 8

NOT USED

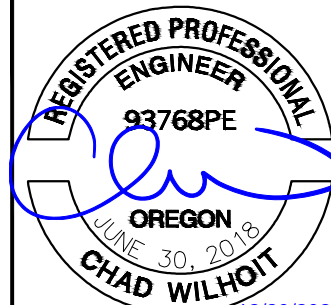
NO SCALE 9

**dish**  
wireless.

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**PM&A**

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LTH DM MSB

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NEWBERG, OR 97132

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER

**G-3**

**RF JUMPER COLOR CODING**

3/4" TAPE WIDTHS WITH 3/4" SPACING

LOW-BAND RRH - (600MHz N71 BASEBAND) + (850MHz N26 BAND) + (700MHz N29 BAND) - OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND (CBRS WILL USE YELLOW BANDS)

ALPHA RRH				BETA RRH				GAMMA RRH			
PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT
RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
	WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

MID-BAND RRH - (AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND (CBRS WILL USE YELLOW BANDS)

RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

**HYBRID/DISCREET CABLES**

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS

EXAMPLE 1 - HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
RED	RED	RED
BLUE	BLUE	
GREEN	GREEN	ORANGE
ORANGE	YELLOW	PURPLE
PURPLE		

**FIBER JUMPERS TO RRHs**

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**POWER CABLES TO RRHs**

LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**RET MOTORS AT ANTENNAS**

ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**MICROWAVE RADIO LINKS**

LINKS WILL HAVE A 1.5-2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE. ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID'S

FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-360 DEGREES	
PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
RED	RED	BLUE	BLUE	GREEN	GREEN
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED		BLUE		GREEN
	WHITE		WHITE		WHITE

**RF CABLE COLOR CODES**

NO SCALE

1

LOW BANDS (N71+N26) OPTIONAL - (N29)



AWS (N66+N70+H-BLOCK)



CBRS TECH (3 GHz)



NEGATIVE SLANT PORT ON ANT/RRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

NOT USED

NO SCALE

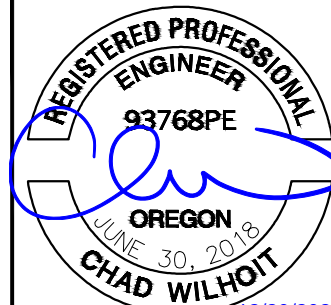
4



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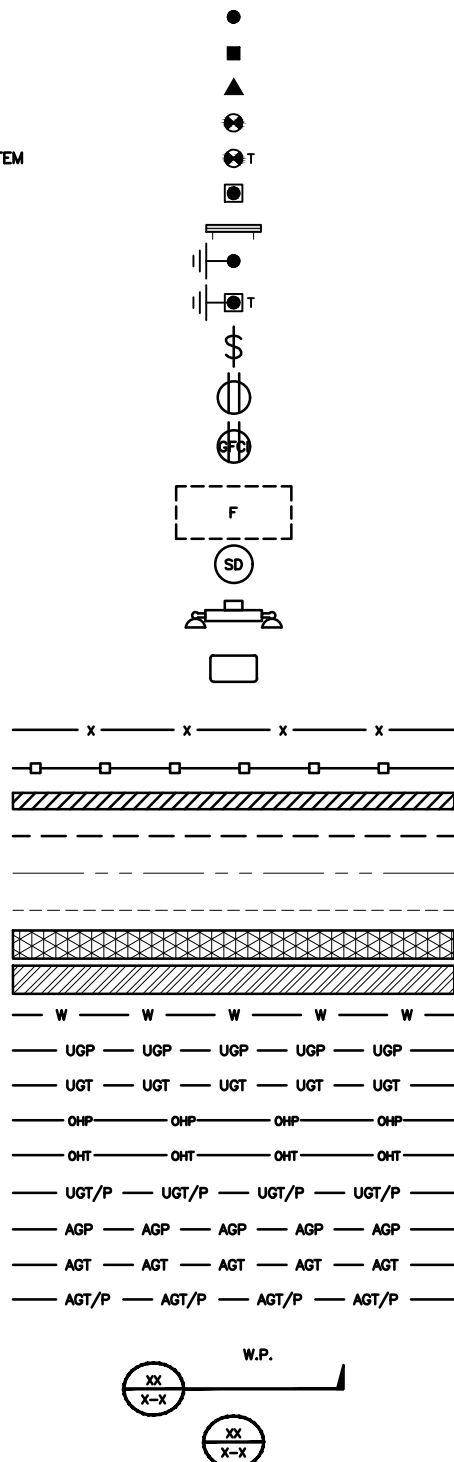
DISH Wireless L.L.C.  
PROJECT INFORMATION

PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
RF  
CABLE COLOR CODES

SHEET NUMBER  
**RF-1**

EXOTHERMIC CONNECTION  
 MECHANICAL CONNECTION  
 BUSS BAR INSULATOR  
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 EXOTHERMIC WITH INSPECTION SLEEVE  
 GROUNDING BAR  
 GROUND ROD  
 TEST GROUND ROD WITH INSPECTION SLEEVE  
 SINGLE POLE SWITCH  
 DUPLEX RECEPTACLE  
 DUPLEX GFCI RECEPTACLE  
 FLUORESCENT LIGHTING FIXTURE  
 (2) TWO LAMPS 48-T8  
 SMOKE DETECTION (DC)  
 EMERGENCY LIGHTING (DC)  
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW  
 LED-1-25A400/51K-SR4-120-PE-DBTDX  
 CHAIN LINK FENCE  
 WOOD/WROUGHT IRON FENCE  
 WALL STRUCTURE  
 LEASE AREA  
 PROPERTY LINE (PL)  
 SETBACKS  
 ICE BRIDGE  
 CABLE TRAY  
 WATER LINE  
 UNDERGROUND POWER  
 UNDERGROUND TELCO  
 OVERHEAD POWER  
 OVERHEAD TELCO  
 UNDERGROUND TELCO/POWER  
 ABOVE GROUND POWER  
 ABOVE GROUND TELCO  
 ABOVE GROUND TELCO/POWER  
 WORKPOINT  
 SECTION REFERENCE  
 DETAIL REFERENCE



**LEGEND**

AB ANCHOR BOLT	IN INCH
ABV ABOVE	INT INTERIOR
AC ALTERNATING CURRENT	LB(S) POUND(S)
ADDL ADDITIONAL	LF LINEAR FEET
AFF ABOVE FINISHED FLOOR	LTE LONG TERM EVOLUTION
AFG ABOVE FINISHED GRADE	MAS MASONRY
AGL ABOVE GROUND LEVEL	MAX MAXIMUM
AIC AMPERAGE INTERRUPTION CAPACITY	MB MACHINE BOLT
ALUM ALUMINUM	MECH MECHANICAL
ALT ALTERNATE	MFR MANUFACTURER
ANT ANTENNA	MGB MASTER GROUND BAR
APPROX APPROXIMATE	MIN MINIMUM
ARCH ARCHITECTURAL	MISC MISCELLANEOUS
ATS AUTOMATIC TRANSFER SWITCH	MTL METAL
AWG AMERICAN WIRE GAUGE	MTS MANUAL TRANSFER SWITCH
BATT BATTERY	MW MICROWAVE
BLDG BUILDING	NEC NATIONAL ELECTRIC CODE
BLK BLOCK	NM NEWTON METERS
BLKG BLOCKING	NO. NUMBER
BM BEAM	# NUMBER
BTC BARE TINNED COPPER CONDUCTOR	NTS NOT TO SCALE
BOF BOTTOM OF FOOTING	OC ON-CENTER
CAB CABINET	OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
CANT CANTILEVERED	OPNG OPENING
CHG CHARGING	P/C PRECAST CONCRETE
CLG CEILING	PCS PERSONAL COMMUNICATION SERVICES
CLR CLEAR	PCU PRIMARY CONTROL UNIT
COL COLUMN	PRC PRIMARY RADIO CABINET
COMM COMMON	PP POLARIZING PRESERVING
CONC CONCRETE	PSF POUNDS PER SQUARE FOOT
CONSTR CONSTRUCTION	PSI POUNDS PER SQUARE INCH
DBL DOUBLE	PT PRESSURE TREATED
DC DIRECT CURRENT	PWR POWER CABINET
DEPT DEPARTMENT	QTY QUANTITY
DF DOUGLAS FIR	RAD RADIUS
DIA DIAMETER	RECT RECTIFIER
DIAG DIAGONAL	REF REFERENCE
DIM DIMENSION	REINF REINFORCEMENT
DWG DRAWING	REQ'D REQUIRED
DWL DOWEL	RET REMOTE ELECTRIC TILT
EA EACH	RF RADIO FREQUENCY
EC ELECTRICAL CONDUCTOR	RMC RIGID METALLIC CONDUIT
EL ELEVATION	RRH REMOTE RADIO HEAD
ELEC ELECTRICAL	RRU REMOTE RADIO UNIT
EMT ELECTRICAL METALLIC TUBING	RWY RACEWAY
ENG ENGINEER	SCH SCHEDULE
EQ EQUAL	SHT SHEET
EXP EXPANSION	SIAD SMART INTEGRATED ACCESS DEVICE
EXT EXTERIOR	SIM SIMILAR
EW EACH WAY	SPEC SPECIFICATION
FAB FABRICATION	SQ SQUARE
FF FINISH FLOOR	SS STAINLESS STEEL
FG FINISH GRADE	STD STANDARD
FIF FACILITY INTERFACE FRAME	STL STEEL
FIN FINISH(ED)	TEMP TEMPORARY
FLR FLOOR	THK THICKNESS
FDN FOUNDATION	TMA TOWER MOUNTED AMPLIFIER
FOC FACE OF CONCRETE	TN TOE NAIL
FOM FACE OF MASONRY	TOA TOP OF ANTENNA
FOS FACE OF STUD	TOC TOP OF CURB
FOW FACE OF WALL	TOF TOP OF FOUNDATION
FS FINISH SURFACE	TOP TOP OF PLATE (PARAPET)
FT FOOT	TOS TOP OF STEEL
FTG FOOTING	TOW TOP OF WALL
GA GAUGE	TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION
GEN GENERATOR	TYP TYPICAL
GFCI GROUND FAULT CIRCUIT INTERRUPTER	UG UNDERGROUND
GLB GLUE LAMINATED BEAM	UL UNDERWRITERS LABORATORY
GLV GALVANIZED	UNO UNLESS NOTED OTHERWISE
GPS GLOBAL POSITIONING SYSTEM	UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM
GND GROUND	UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)
GSM GLOBAL SYSTEM FOR MOBILE	VIF VERIFIED IN FIELD
HDG HOT DIPPED GALVANIZED	W WIDE
HDR HEADER	W/ WITH
HGR HANGER	WD WOOD
HVAC HEAT/VENTILATION/AIR CONDITIONING	WP WEATHERPROOF
HT HEIGHT	WT WEIGHT
IGR INTERIOR GROUND RING	

**ABBREVIATIONS**



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SHEET TITLE  
 LEGEND AND ABBREVIATIONS

SHEET NUMBER  
**GN-1**

**SITE ACTIVITY REQUIREMENTS:**

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

**GENERAL NOTES:**

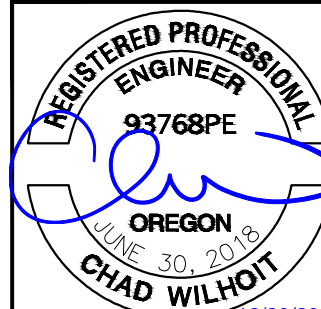
1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
CARRIER: DISH Wireless L.L.C.  
TOWER OWNER: TOWER OWNER
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



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EXPIRES: 6/30/2022

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DRAWN BY:	CHECKED BY:	APPROVED BY:
LTH	DM	MSB

RFDS REV #: ---

**CONSTRUCTION DOCUMENTS**

SUBMITTALS		
REV	DATE	DESCRIPTION
A	11/15/2021	ISSUED FOR REVIEW
0	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION  
  
PRPD00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-2**

**CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:**

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:  
 #4 BARS AND SMALLER 40 ksi  
 #5 BARS AND LARGER 60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BARS AND LARGER 2"
    - #5 BARS AND SMALLER 1-1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    - SLAB AND WALLS 3/4"
    - BEAMS AND COLUMNS 1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

**ELECTRICAL INSTALLATION NOTES:**

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- TIE WRAPS ARE NOT ALLOWED.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C."
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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0	12/17/2021	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
21CCD12N-0051

DISH Wireless L.L.C.  
PROJECT INFORMATION  
PRPDX00328B  
2400 DOUGLAS AVE.  
NEWBERG, OR 97132

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
**GN-3**

**GROUNDING NOTES:**

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.



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SHEET TITLE  
GENERAL NOTES

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**GN-4**