



Land Use Planning Division
1600 SE 190th Ave, Ste 116
Portland OR 97233
Ph: 503-988-3043 Fax: 503-988-3389
multco.us/landuse

**GENERAL
APPLICATION
FORM**

pd EFT
\$14077.00
9/4/19
KF

PROPERTY IDENTIFICATION

Property Address See attached narrative - pg. 4

State Identification _____ Site Size _____

A&T Alternate Account Number R# _____

OTHER PARCEL (if applicable)

Property Address _____

State Identification _____ Site Size _____

A&T Alternate Account Number R# _____

PROPERTY OWNER(S) ☒ OR CONTRACT PURCHASER(S) ☐

Name City of Portland - Portland Water Bureau

Mailing Address 400 SW 6th Avenue

City Portland State OR Zip Code 97204

Phone# 503-823-3573 I authorize the applicant below to make this application.

[Signature]
Property Owner Signature #1

Property Owner Signature #2

NOTE: By signing this form, the property owner or property owner's agent is granting permission for Planning Staff to conduct site inspections on the property.

If no owner signature above, a letter of authorization from the owner is required. ☐

APPLICANT'S NAME AND SIGNATURE

Applicant's Name Robert Fraley

Mailing Address 400 SW 6th Avenue, Suite 400

City Portland State OR Zip Code 97204 Phone # 503-823-3573

Fax _____ E-mail robert.fraley@portlandoregon.gov

[Signature]
Applicant's Signature

GENERAL DESCRIPTION OF APPLICATION (REQUIRED)

Please provide a brief description of your project.

Application for Modification of T3-2018-10227 [Approval of Community Service Conditional Use (CSU), Design Review (DR), Forest Development Zone, Exception to Secondary Fire Safety Zone, Variances to site a new microwave communication tower], and Application for a Category 1 Land Division.

For Staff Use

CASE NUMBER

T3-2019-12391

LAND USE PERMIT(S)

Mod CS - Cat 1 LD -

FDS-DR-Ex-VAR

DATE SUBMITTED

9/4/19

Compliance

Related ☐

Potential
Transportation

Impact ☐

PA-2019-11745

PF/PA No.

Related Case No.

Related Case No.

ZONING

CFU

Zoning District

Zoning Overlay

EXHIBIT

A.1

City of Portland Water Bureau

Bull Run Watershed Land Exchange with US Forest Service

***Application for a Modification of Casefile T3-2018-10227:
Community Service Use, Design Review, Fire Safety Zone Exception,
and Variance Approvals to Allow a Microwave Communication Tower and
Accessory Equipment in the Commercial Forest Use 3 Zone.***

***Application for a Category 1 Land Division
A Four-Lot Land Division in the Commercial Forest Use 3 Zone.***

To: Lisa Estrin, Senior Planner
Multnomah County Land Use and Transportation Program

From: Robert Fraley, Senior Planner
Portland Water Bureau

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BY:

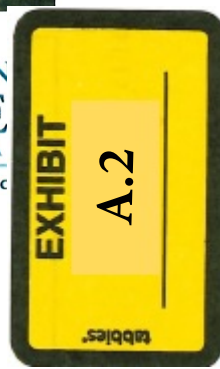


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Applicant and Property Information

Applicant/Owner: City of Portland - Portland Water Bureau
1120 SW Fifth Avenue, Room 600
Portland, Oregon 97204
Contact: Robert Fraley, 503-823-3573

Location: East Multnomah County

Site Address: 56150 National Forest Road 1200126, Bull Run Watershed (TL 2500 only)

Legal Descriptions: T-1S R-6E, SECTION 20 TL 2500 (Camp Creek Microwave Tower Site – 240 ac)
T-1S R-6E, SECTION 20 TL 2400 (80.0 ac)
T-1S R-6E, SECTION 19 TL 2200 (630.32 ac)
T-1S R-5E, SECTION 24 TL 1000 (20 ac)
T-1S R-5E, SECTION 24 TL 900 (620 ac)

Zoning: Commercial Forest Use District 3 (CFU3)

Land Use Reviews: Application for Modification of T3-2018-10227 [Approval of Community Service Conditional Use (CSU), Design Review (DR), Forest Development Zone, Exception to Secondary Fire Safety Zone, Variances to site a new microwave communication tower], and Application for a Category 1 Land Division.

Pre-app Date: April 25, 2019

Submittal Date: August 23, 2019

Acronyms

The following acronyms are used in this narrative or in supporting figures and attachments:

BRWMU	Bull Run Watershed Management Unit
CFU	Commercial Forest Use District (Multnomah County base zone)
CPO	Community Planning Organization (Multnomah County)
CS	Community Service Use
CU	Conditional Use
DR	Design Review
EFU	Exclusive Farm Use District
FERC	Federal Energy Regulatory Commission
GIS	Geographic Information System
MCC	Multnomah County Zoning and Development Ordinance
NEPA	National Environmental Policy Act
NIER	Non-Ionizing Electromagnetic Radiation
ODF	Oregon Department of Forestry
PWB	Portland Water Bureau (aka “the Bureau” or PWB)
SCADA	Supervisory Control and Data Acquisition - a monitoring and control system used to monitor and control various mechanical and electrical components (valves, meters, pumps, etc.) in a water distribution system.
TBR	Timber District (Clackamas County base zone)
TSP	Multnomah County Transportation System Plan
USDA	United States Department of Agriculture Forest Service (Forest Service)
USFS	United States Forest Service

Figures, Photos, and Plan Sheets

The following figures, photos, and plan sheets are referenced in the narrative:

Figure 1	Overview of Portland’s Water System
Figure 2	Area Zoning
Figure 3	City of Portland Microwave Network
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Appendices

The following appendices are referenced in this narrative:

Appendix A	Completed Land Use Application Form
Appendix B	Title Reports and Lot of Record Deeds
Appendix C	Pre-Application Conference Notes (April 25, 2019)/T3-2018-10227 Decision
Appendix D	Local/State/Federal Forms
Appendix E	Camp Creek Tower Plan Sheets
Appendix F	New Tower Engineering Reports
Appendix G	Emissions Letter/Licensing Information/Microwave Dish Information
Appendix H	Equipment Building Plans/Elevations
Appendix I	Preliminary Land Division Plat

SECTION 1: INTRODUCTION

This section describes the reasons for the proposed project, its history and context, and reviews the public involvement process.

Section 2 proposes modification of T3-2018-10227 and includes findings demonstrating compliance with Community Service Conditional Use, Design Review, Forest Development Zone, Exception to Secondary Fire Safety Zone, and Variance standards to site a new microwave communication tower.

Section 3 includes findings demonstrating compliance with Category 1 Land Division standards.

A. GENERAL DESCRIPTION OF THE PROJECT

1. The Bull Run Watershed

The Bull Run watershed has been used by the City of Portland, Oregon and the region for water supply since 1895. The City's water system provides water to residents and businesses within the city limits of Portland as well as to a number of surrounding communities. The entire watershed has been managed under increasing levels of protection since it was established as a Forest Reserve in 1892. Both the watershed that drains to the water supply and the protected buffer lands are known as the Bull Run Watershed Management Unit (BRWMU). The BRWMU is approximately 147 square miles in size. Unauthorized public entry is not allowed inside the BRWMU. City land management activities are limited to those necessary to protect water quality and operate the water supply and hydroelectric power facilities.

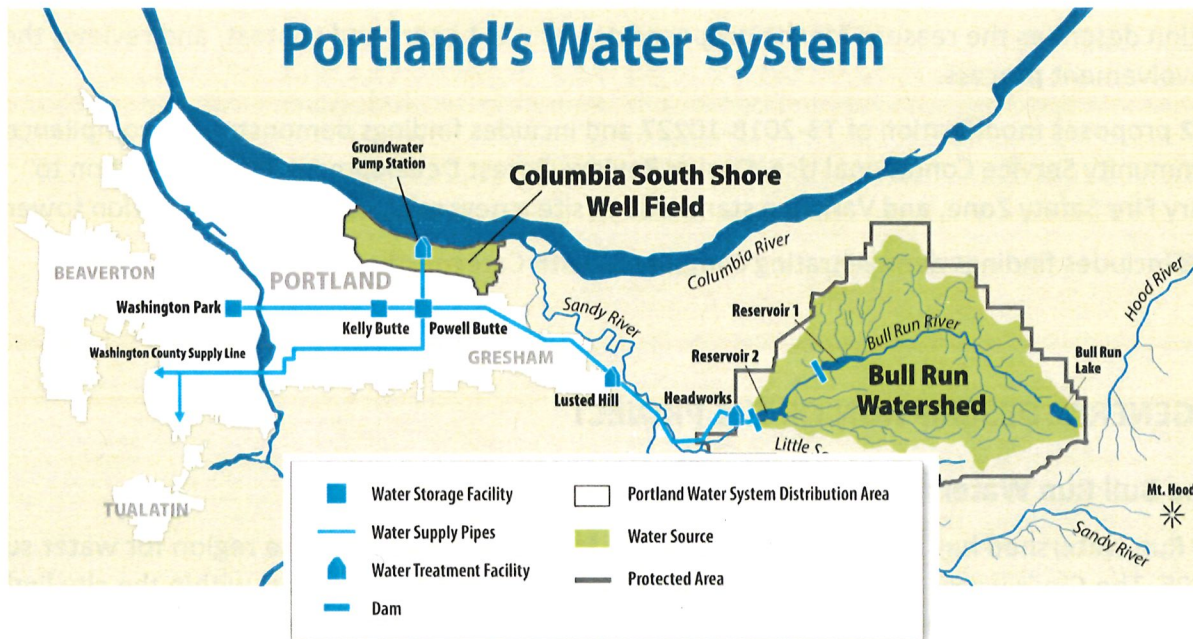
The City and the Forest Service have been partners in the stewardship and management of the Bull Run watershed for more than a century. The BRWMU Agreement guides long term cooperative management and protection of the watershed. It was adopted by the City and Forest Service in 2007.¹ The overall goal of the Bull Run Watershed Management Unit is to serve as the primary water supply for the City of Portland and its service areas, with the principal objective of the production of "pure, clear, raw potable" water (preamble to Public Law 95-200).

Most lands within the BRWMU are under federal ownership (96%) and the rest are owned by the City of Portland (4%). The Bull Run watershed is informally treated as one large parcel for purposes of land management and stewardship. The Water Bureau is responsible for developing and maintaining a Habitat Conservation Plan to protect federally-listed fish species, monitoring stream flow and water quality, providing security services and controlling access, managing vegetation along all roadways and facilities, and maintaining the roads and culverts within the watershed.

The BRWMU is carefully managed to sustain and supply clean drinking water to a quarter of Oregon's population. As of FY 2016-17, approximately 952,000 Oregonians received all or part of their water supply from Bull Run. The Bull Run water supply system is the largest municipal water supply system in the state.

¹ For the complete BRWMU Agreement, please visit <https://www.portlandoregon.gov/water/article/403933>.

Figure 1: Overview of Portland's Water Delivery System



2. Project Overview and Rationale

The City of Portland (the City), through the Portland Water Bureau (PWB), has been working with the United States Forest Service (USFS) for more than a decade to exchange certain property in the Bull Run watershed. The purpose of this property exchange is to consolidate the PWB land holdings to encompass the lands containing City's drinking water-related infrastructure. City-owned parcels not needed for water supply infrastructure will be transferred to the USFS. This consolidation will clarify and simplify administration of the land and infrastructure, including the acquisition and maintenance of permits. After an extensive process, including a full environmental assessment to consider potential impacts of the exchange under the National Environmental Policy Act (NEPA) process and public benefits determination, the City and USFS are proceeding to convey approximately 2,890 acres of National Forest System land to the City of Portland in exchange for approximately 2,200 acres of City-owned lands. On July 31, 2019, Portland City Council approved Ordinance No. 189631 authorizing signing an exchange agreement to finalize the exchange.

To carry out this land exchange, the City is proposing a four-lot land division (see Section 3, Figure 14) that will plat four existing legal lots of record into the desired lot configuration. The desired lot configuration was established by a professional land appraiser under contract with the USFS. The objective of the appraisal was to establish a set of City-owned parcels of equivalent financial value to a set of USFS-owned parcels, such that the exchange could be accomplished without either of the parties paying cash for property.

The City recently received approval to construct a microwave communications facility on the 240-acre Taxlot 2500 (Multnomah County Casefile File T3-2018-10227). This communication tower site, referred to as 'Camp Creek', is one of several key locations involved in the City-wide effort to upgrade its microwave communication system throughout the Portland metropolitan region, including areas in and near the Bull Run watershed. Casefile T3-2018-10227 included approval of a Community Service Use, a Design Review, Forest Development Standards Review, an Exception to Secondary Fire Safety Zone, and two Variances.

The approvals in Casefile T3-2018-10227 were based, in part, on the existing size (240 acres) and configuration of Taxlot 2500. Because the City submitted Casefile T3-2018-10227 prior to completion of the USFS appraisal of lands for the land exchange and NEPA decision, PWB was unable to determine the intended final lot size and configuration of Taxlot 2500. One result of the proposed land division is that Taxlot 2500 will be divided, reducing the size of the lot to be retained by the City for construction of the microwave communication tower from 240-acres to 41.9 acres. The site is in the CFU-3 zone, which generally requires lots to be at least 80 acres.

With the proposed lot size reduction below the minimum 80-acres in the CFU-3 District, the City must seek a modification of this land use decision. County code requires this to be done using the same procedures and standards as the original decision (see MCC 39.1170(E)). The original decision was processed and approved as a Type 3 land use review (heard by a hearings officer). Additionally, modification of Casefile T3-2018-10227 must also be processed as a *de novo* application and must re-evaluate the criteria for the Community Service Use, Design Review, Fire Safety Zone Exception, and Variance approvals in the Commercial Forest Use 3 Zone based on the proposed reduction in site area of Taxlot 2500 to facilitate the land exchange.

If the microwave communication facility can be approved on the proposed 41.9-acre lot, then the four-lot land division can be reviewed pursuant to MCC 39.4140 to determine whether the approval criteria for this Category 1 Land Division can be met. As described below in the application for the land division, if the land division is approved the City will complete the platting process and will proceed with the land exchange with the USFS.

The City of Gresham has issued construction permits (Building Permit #BP18-00002956) for the communication tower and the City has begun construction. Construction is expected to be complete in 2019.

3. Previous Land Use Reviews

The County has record of the following land use review applicable to the subject City properties.

Casefile T3-2018-10227

In 2018, Multnomah County approved a conditional use, design review, forest development standards review, an exception to the secondary fire safety zone requirement, a variance to reduce the forest practice setback from 130 feet to 30 feet from the east property line to site the proposed tower and accessory structures, and a variance to reduce the tower setback requirement from 20% of the total tower height (39 feet) to 15.4% (30 feet) of the total tower height from the east property line to site the proposed tower.

Compliance with Conditions of Approval for Previous Land Use Reviews

The County Hearings Officer approved Casefile T3-2018-10227 with the following conditions:

- 1. Approval for this Community Service Permit is based on the submitted written narrative(s) and plan(s). No work shall occur under this permit other than that which is specified within these documents or within subsequent land use permits. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.***

Response: The City has acquired County Land Use Planning plan approval and construction permits (Building Permit #BP18-00002956) from the City of Gresham for the communication tower and has begun construction. Construction is expected to be complete in fall 2019.

- 2. *This land use permit expires two years from the date the decision is final if (a) development action has not been initiated; (b) building permit has not been issued as required. The property owner may request to extend the timeframe within which this permit is valid, as provided in MCC 37.0690.***

Response: The City has acquired construction permits (Building Permit #BP18-00002956) from the City of Gresham for the communication tower. Construction is expected to be complete in 2019.

- 3. *The property shall maintain the tower so that it continues to meet federal, state and County non-ionizing electromagnetic radiation standards. The background radiation shall be measured prior to operation of the tower to establish base line data and periodic measurement shall be made to confirm the new source meets the required standards.***

Response: PWB will maintain the tower to federal, state, and County NIER standards. Background radiation will be measured after construction of the tower but before operation. Periodic measurements will be made to ensure standards are met.

- 4. *The towers shall be painted green from base to tree line, with the remainder painted silver or have a galvanized finish.***

Response: The tower will be painted green from base to tree line, with the remainder painted silver or galvanized prior to finalizing the construction permit.

- 5. *Prior to issuance of County Land Use Planning signoff on the plans for the building permit, the applicant shall demonstrate that the project qualifies as a Minimal Impact or obtain a Grading and Erosion Control permit. The applicant shall show erosion control measures sufficient to ensure that visible or measurable erosion does not leave the site shall be maintained during development.***

Response: Prior to issuance of County Land Use Planning signoff and issuance of the building permit, PWB demonstrated that the project qualified as a Minimal Impact development. This condition is met.

- 6. *The property owner shall establish and maintain a minimum of two parking spaces for maintenance of the tower.***

Response: As demonstrated on the approved site plan, two parking spaces and one loading space will be provided for maintenance of the tower. This condition will be inspected and met at the time of building permit signoff.

- 7. *Prior to building tower, the property owner or representative shall apply for and obtain a building permit for the tower and equipment accessory building. The equipment accessory building shall be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. The property owner shall ensure that a final inspection for its construction is completed prior to its operation.***

Response: The City has acquired construction permits (Building Permit #BP18-00002956) from the City of Gresham for the communication tower. Construction is expected to be complete in 2019. Final inspection will occur prior to sign-off on the building permit and operation of the tower.

8. The property owner shall establish and maintain a primary fire safety zone and a secondary fire safety zone.

- ***A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. All trees within this primary fire safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.***
- ***A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District.***

Response: PWB has established and will maintain a 30-foot primary and 100-foot secondary fire safety zone. This condition will be inspected at the time of final building permit signoff.

4. Required Land Use Reviews

PWB is proposing a four-lot land division that will plat four existing legal lots of record into the desired lot configuration. One result of the land division is that Taxlot 2500 will be divided, reducing the size of the lot to be retained by the City for construction of a microwave communication tower from 240-acres to 41.9 acres. As such, MCC 39.4140 Lot Size for Conditional Uses allows lots less than 80 acres in the CFU-3 district for the uses listed in MCC 39.4070(R) and 39.4080(A)(1) through (6), (9) through (13), and (16) and (B)(1) through (4), after conditional use approval is obtained pursuant to MCC 39.4100 and based upon findings that: (A) the new lot is the minimum site size necessary for the proposed use; (B) the nature of the proposed use in relation to its impact on nearby properties; and (C) consideration of the purposes of this base zone. Since the proposed land exchange involves land on which a conditional use was recently approved by Multnomah County in Casefile T3-2018-10227 to site a microwave communication tower and associated equipment, a modification of this decision must first be approved. Modification of Casefile T3-2018-10227 must be processed as a new application to re-evaluate all applicable criteria for the Community Service Use, Design Review, Fire Safety Zone Exception, and Variance Approvals in the Commercial Forest Use 3 Zone based on the proposed reduction in site area.

Radio and television transmission towers are listed as a **Community Service Use**, which requires a **Conditional Use review** in the CFU-3 District (MCC 39.4080(A)(11)). The proposal must meet the Community Service standards and approval criteria of MCC 39.7500 through 39.7525 as well as the Radio Transmission Towers standards and approval criteria of MCC. 39.7550 through 39.7575.

Design review is required (MCC 39.8000 through 39.8050) and includes compliance with applicable development standards (parking and circulation, landscaping, utilities, storm drainage and erosion control) found in MCC 39.6000 through 39.6850.

A **Forest Development Standards Review** is required to ensure that setbacks and fire safety zones are satisfied and that specific development standards are met for the CFU-3 zone (MCC 39.4110 and 39.4115). As part of this review, PWB requests an **exception to the Secondary Fire Safety Zone** requirement (MCC 39.4155).

A **Variance** is required to reduce (up to a 77% reduction) the forest practice setback from 130 feet to 30 feet from the east property line to site the proposed tower and accessory structures.

A **Variance** is required to reduce the tower setback requirement under MCC 39.7565 (1)(2)(b) from 20% of the total tower height (39 feet) to 15.4% (30 feet) of the total tower height from the east property line to site the proposed tower.

Upon finding that siting the microwave communication tower on a smaller lot will have no significant adverse impact on the surrounding area and activities, and that the land use approval criteria can be met, PWB requests approval for a **Category 1 Land Division** proposing a four-lot land division to facilitate the proposed land exchange.

5. Description of Surrounding Area

Land Uses in the Near Vicinity

The subject property and all lands surrounding the property are owned by either the City or the USFS. They are part of the Bull Run Watershed Management Unit (BRWMU). The land uses permitted on these properties are limited to activities consistent with the collection of water for the City's water system. The primary facilities are two dams and associated structures (which includes Bear Creek House), the Headworks Treatment facility, water supply pipelines, and structures for collecting and monitoring water flow and water quality in the streams feeding the reservoirs. The Forest Service maintains one observation tower for monitoring for fires. There are no industrial, commercial, residential, commercial forestry, or agricultural uses permitted by the City or USFS in the BRWMU. As described above, the land is managed to conserve and protect the watershed and to provide water supply.

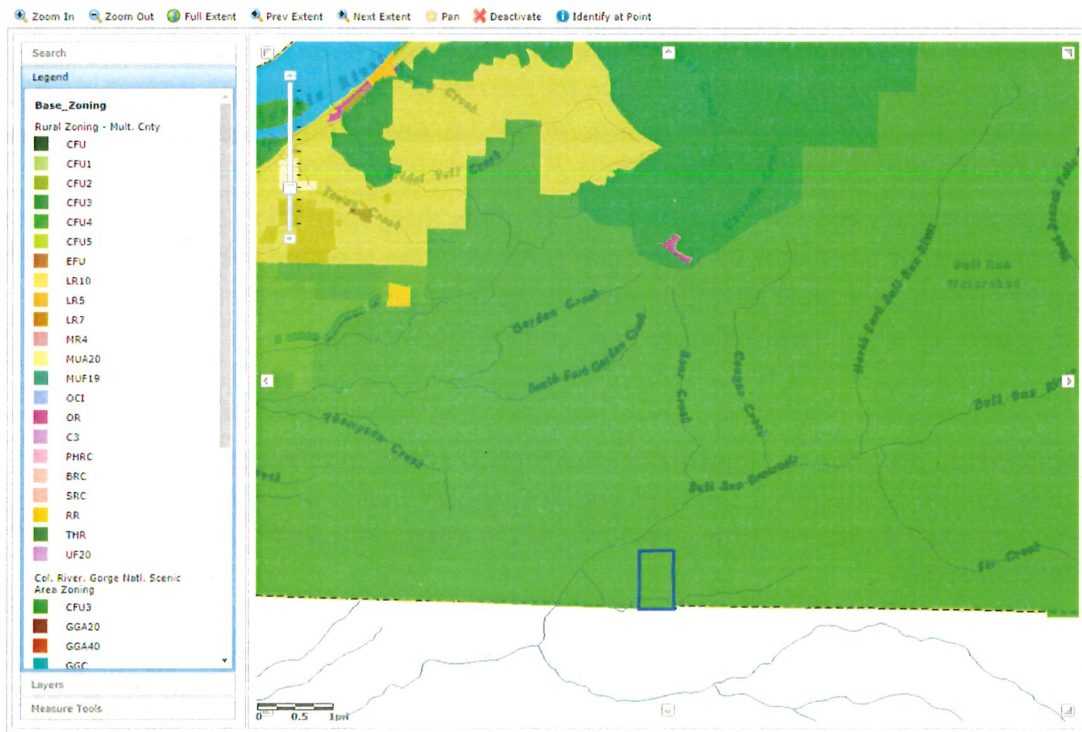
6. Zoning

The Camp Creek site and surrounding properties to the north, west, and east are zoned Commercial Forest Use (CFU-3). Land immediately south of the property is in Clackamas County and zoned Timber (TBR). See Figure 2.

The CFU-3 Zone implements the Commercial Forest Use policies of the Multnomah County Zoning Code and Statewide Planning Goal 4 Forest Lands, which include conserving and protecting designated lands for commercially growing and harvesting timber and other compatible forest uses. The purposes of the Commercial Forest Use Base Zones (CFU) are to conserve and protect designated lands for continued commercial growing and harvesting of timber and the production of wood fiber and other forest uses; to conserve and protect watersheds, wildlife habitats and other forest associated uses; to protect scenic values; to provide for agricultural uses; to provide for recreational opportunities and other uses which are compatible with forest use; implement applicable Comprehensive Plan policies, and to minimize potential hazards or damage from fire, pollution, erosion or urban development.

Figure 2 below shows the significant extent of the Multnomah County CFU-3 zoning around the site (outlined in blue). The subject site and adjacent City-owned properties are not located in a Significant Environmental Concern (SEC) overlay, mapped slope or flood hazard area, and does not contain high-value farm soils.

Figure 2: Area Zoning



7. Response to Key Issues Identified in Pre-Application Conference

Appendix C includes a copy of the “Pre-application Conference Notes” from the April 25, 2019 pre-application conference. In these notes (pp. 5-7) Land Use planner Lisa Estrin lists six (6) “Key Issues.”

The following information is provided to address each key issue.

Key Issue 1

It is not feasible to create a new parcel via a Property Line Adjustment. It does not matter if it will then be consolidated through a later property line adjustment or land division. Property line adjustments cannot create new parcels. [MCC 39.9300(A)]

Response: This application proposes a four-lot land division of existing legal lots of record to achieve the desired land exchange between the City and USFS.

Key Issue 2

To reduce the minimum lot size for the radio tower site approved in T3-2018-10227 below the CFU Minimum Lot Size of 80 acres, the applicant would have to request a modification of the land use case, T3-2018-10227 as the only way to utilize the MCC 39.4140 Lot Size for Conditional Uses criteria.

MCC 39.1170(E) requires that a modification to a permit or condition must be processed in the same manner and shall be subject to the same standards as the original permit. The land use findings for the Microwave tower would have to be reviewed and modified by a Hearings Officer. The applications considered by T3-2018-10227 were a Community Service Conditional Use, Design Review, Forest Development Standards, Exception to Secondary Fire Safety Zone and two Variances. Then as part of the application, the applicant can propose a lot size smaller than 80 acres for the tower and related improvements. T3-2018-10227 approved the radio tower on a 240 acre property. All findings would come into play in the application.

Planning staff informed the Portland Water Bureau during that application process that any revision to the tower's site size would require a new decision for the tower. It is not feasible to just use MCC 39.4140 at this time to modify the applicable lot size for the microwave tower. MCC 39.4140 is used in conjunction with certain conditional use applications. It is not a stand-alone criteria. [MCC 39.1170(E)]

Response: PWB requests modification of T3-2018-10227 to allow the approved microwave tower and associated improvements to be sited on a 41.9-acre parcel to facilitate the land exchange with USFS. Section 2 below addresses all applicable development criteria for approval of a modification to the decision. Section 3 addresses all applicable Category 1 Land Division criteria.

Key Issue 3

If the applicant wants to continue to propose the modification of the conditional use, the subject application would require a Category 1 Land Division. A Category 1 Land Division has the most approval criteria and could be heard at the same time as the Microwave Radio Tower revision application. [MCC 39.9035]

Response: PWB requests modification of T3-2018-10227 to allow the approved microwave tower and associated improvements to be sited on a 41.9-acre parcel to facilitate the desired land exchange with USFS. A Category 1 Land Division application (see Section 3) is submitted along with this application.

Key Issue 4

All land divisions must take access via a public or private street [MCC 39.9525]. A "Public Street" means "a road over which the public has a right of use that is a matter of public record. County roads, city streets, state highways, federal road and local access roads are all public roads." Due to the size of the proposed parcels, a "Private Street" would not be feasible as it could not exceed 300 feet in length. [MCC 39.9055 Definitions and MCC 39.9525 Street Design]

☐☐The applicant will need to explain as part of the application materials whether the access shown as "Forest Rd XXXX" meets the definitions of a "Public Street"

Response: In Casefile T3-2018-10227, PWB requested an exception to the secondary fire safety zone. County Code stipulates that the secondary fire safety zone for structures may be reduced when the structure is proposed to be located within 130 feet of the centerline of a public or private road serving two or more properties. The Hearing's Officer decision found:

"The road accessing the property is a federal road, thus a public owned road and by definition a public road. The Bull Run Watershed is closed to the general public, without permission it cannot be entered. The road can be used by the public whom have business or other authorization to enter the Bull Run Watershed. The proposed tower and accessory structures are to be located about 30 feet from the

centerline of the access road. Staff finds that the road threshold criterion is met, thus an Exception is allowed.”

Based on this finding and the fact that the proposed reduction in size of Taxlot 2500 does not change the proximity of the approved microwave tower and equipment building to the centerline of the public road, and the resulting land division of Taxlot 2500 will continue to take access via this public road, the County can find that this requirement is met.

Key Issue 5

If the Microwave Radio Tower Parcel was increased in size to 80 acres (minimum lot size in the CFU zone), T3-2018-10227 would not need to be reviewed again through the conditional use application process as MCC 39.4140 Lot Sizes for Conditional Uses would not be utilized. The applicant would need to demonstrate that the Microwave Radio Tower Facility structures would meet MCC 39.4110 Forest Practices Setbacks and Fire Safety Zones and MCC 39.4115 Development Standards for ...Structures. The applicant would then have options to achieve the proposed parcel layouts. These options would be:

☐☐A Category 1 Land Division proposing a four lot subdivision. A public hearing would be held and a hearings officer would make the decision.

☐☐Two Category 3 Land Divisions....

Response: PWB requests modification of T3-2018-10227 to allow the approved microwave tower and associated improvements to be sited on a 41.9-acre parcel to facilitate the desired land exchange with USFS. A Category 1 Land Division application (see Section 3) is submitted along with this application.

Key Issue 6

Transportation Planning has indicated that a Driveway Permit will be required as part of the application. If you have any questions regarding their requirements please contact row.permits@multco.us for your questions to be answered or call 503.988.3582 and leave a message.

Response: PWB will obtain a Driveway Permit.

8. Application Submission

A. ADMINISTRATION AND PROCEDURES

This section identifies where the information required by MCC 39.1130 can be found in both land use applications.

§ 39.1115 Initiation of Action

Except as provided in MCC 39.1200 and 39.9700, Type I - IV applications may only be initiated by written consent of the owner of record or contract purchaser, or by a government agency that has the power of eminent domain. PC (legislative) actions may only be initiated by the Board, Planning Commission, or Planning Director.

Response: The proposed project is located on Tax Lot 2500, Section 20, Township: 1 South, Range: 6 East. Assessment & Taxation records show that the land is owned by the City of Portland, care of Portland Water Bureau. The City of Portland, through the Portland Water Bureau, is the applicant.

§ 39.1515 Code Compliance And Applications.

Except as provided in subsection (A), the County shall not make a land use decision, or issue a building permit approving development, including land divisions and property line adjustments, for any property that is not in full compliance with all applicable provisions of the Multnomah County Land Use Code and/or any permit approvals previously issued by the County.

Response: Casefile T3-2018-10227 authorized construction of a microwave facility at this property. The Portland Water Bureau has acquired the necessary construction permits from the City of Gresham (Building Permit #BP18-00002956) and waited for the end of owl nesting season in July to carry out the construction. When construction is completed, and the construction permits are closed out, all conditions of approval will have been satisfied.

Portland Water Bureau is currently unaware of any violations or non-compliance issues on the subject taxlots.

§ 39.1130 Complete Application Requirements—Required Information.

Informational requirements are quoted below and are followed by PWB's response:

(A) One copy of a completed county application form that includes the following information:

- (1) An accurate legal description, tax account number(s), map and location of all properties that are the subject of the application.***
- (2) Name, address, telephone number and authorization signature of all record property owners or contract owners or a representative for the government agency that has the power of eminent domain, and the name, address and telephone number of the applicant, if different from the property owner(s) or the government agency.***

Response: Please see completed application forms in Appendix A, and applicant information provided on page 2.

(B) A complete list of the permit approvals sought by the applicant.

Response: We understand from the preapplication conference and review of the County Code that we need to apply for a modification of conditional use review, design review, forest development standards review, and two variances per approval in T3-2018-10227 before a Conditional Use Land Division may be considered, but both may be reviewed concurrently. Therefore, PWB is submitting a Category 1 Land Division application for consideration.

(C) A current (within 30 days prior to application) preliminary title report for the subject property.

PWB Response: Appendix B contains the title reports and property deeds.

(D) A complete and detailed narrative description that describes the proposed development, existing site conditions, existing buildings, public facilities and services and other natural features. The narrative shall also explain how the criteria are or can be met, and address any other information indicated by staff at the pre-application conference as being required.

Response: This application contains all information required in (D).

(E) Copy of the pre-application meeting notes.

Response: Appendix C contains the April 25, 2019 pre-application meeting notes.

(F) Up to 10 copies of all reports, plans, site plans and other documents required by the section of this code corresponding to the specific approval(s) sought.

Response: PWB has provided **two** copies of the application narrative and supporting appendices and figures.

(G) At least one copy of the site plan and all related drawings shall be in a readable/legible 8 ½ by 11 inch format for inclusion into the County's record of the application.

Response: A full set of plans are included in 11 by 17 format, as well as a reduced set in 8 ½ by 11 inch format. These are in Appendix E.

(H) All required application fees.

Response: PWB has provided the following application fees with this application, as indicated in the Pre-Application Conference Notes and July 1, 2019 Fee Schedule:

Lot of Record (3 taxlots)	\$3,264
Conditional / Community Service Use:	\$3,054
Forest Development Standards:	\$667
Design Review:	\$1,424
Exception to CFU Safety Zone	\$261
Variance (2)	\$2,000
Category 1 Land Division:	\$3,204
Notice Fee	\$183
Notice Hearing Sign	\$20
Total	\$14,077

SECTION 2: MODIFICATION OF COMMUNITY SERVICE REVIEW T3-2018-10227 IN THE COMMERCIAL FOREST USE ZONE

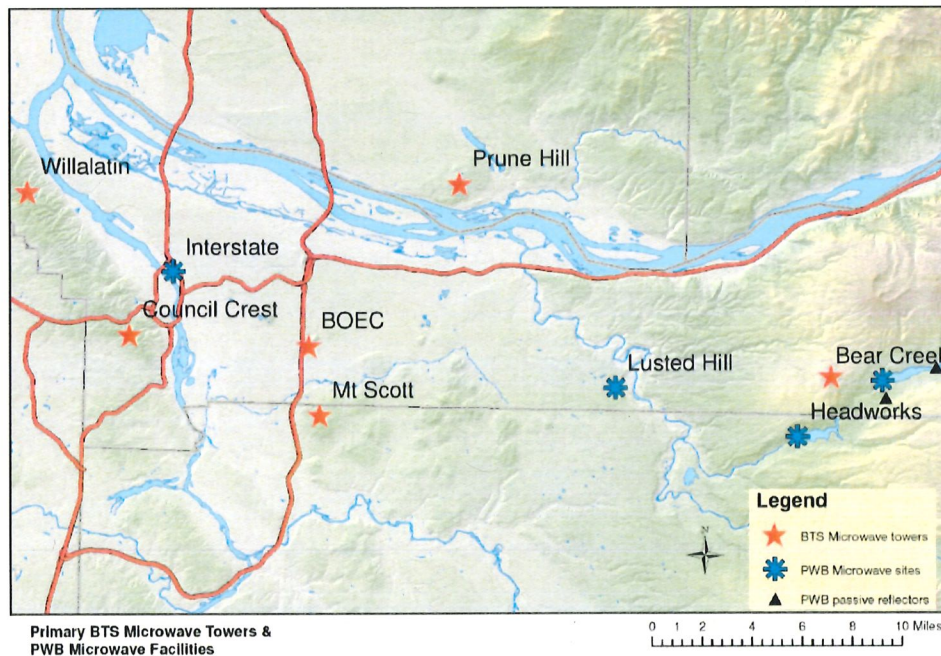
This section supplements the background information provided in Section 1 by providing findings to support compliance with applicable conditional use, design review, commercial forest and variance review criteria.

Quotations from applicable Multnomah County Zoning Ordinance (MCC) text are shown in ***bold italic font***, followed by the Portland Water Bureau's (PWB's) **Response** demonstrating compliance with the applicable review standard.

A. INTRODUCTION

Microwave communication is used by the City for multiple purposes. It serves as a data conduit, allowing the City to route phone calls, computer communication, and data from the City's "Supervisory Control and Data Acquisition" system (the SCADA system) to other locations in the region. The microwave network also serves a critical role as the conduit for 800 MHz radio communications. This type of microwave communication requires line-of-sight connections between transmitters, reflectors, and receivers. The City has a series of towers throughout the region to carry this communication traffic. The microwave network enters the watershed through Lookout Point tower.

Figure 3: City of Portland Microwave Network



The microwave network within the Bull Run watershed is a passive design (low power and signal), which uses two reflectors (one at the east end of Bull Run Reservoir 1, the other on the end of Camp Creek ridge), to pass the signal to Bear Creek House at Dam 1 and the Headworks Treatment facility at

Dam 2. The current design requires PWB staff to maintain view corridors through the forest between the reflectors and the facilities. The passive design operates with a weaker signal that limits the amount of data that can be communicated via microwave. The microwave signal can be intermittent due to snow accumulation on the reflectors and tree growth blocking the signal path.

The proposal for the Bull Run Watershed is to replace the microwave equipment that is at end-of-life and redesign the system to provide a stronger microwave communications system. The new proposed design is an active system that provides a higher bandwidth. The design calls for the use of a single tower, sited so that it can receive a signal from Lookout Point tower, and send it to Bear Creek House and Headworks Treatment facility. The ideal location for this new tower is on the end of the Camp Creek ridge, adjacent to the existing reflector. The City of Portland owns this land.

The microwave communication tower approved in Casefile T3-2018-10227 will be a 195-foot high, self-supporting lattice tower, antennas, and accessory communications equipment. The 195-foot tower is the minimum needed for the microwave dish to be above the existing tree line and have the necessary line-of-sight connection with the Lookout Point tower, Bear Creek House, and Headworks Treatment facility.

The approved microwave accessory building and equipment will be powered by a solar panel array, located approximately half way up the tower (Photo 3). When the solar panels are unable to provide enough electricity to the equipment and when cooling and heating is required, a 1,000-gallon propane-powered generator (Photo 6) will supplement the solar-generated power. This combination system is used elsewhere within the watershed and around the region and has been an effective and efficient design.

The microwave communications tower will be centered on a 35' x 35' concrete slab located 30 feet from the east property line. The proposed slab foundation will be 3 feet in depth with a maximum 12-inch reveal above grade (see Sheet 3 and 5 in Appendix E). A 20' x 12' accessory communications equipment building is proposed immediately north and adjacent to the proposed tower that will house a generator and communications equipment (see Photos 4 & 5 and Appendix H Plan Set and Elevations). The above-ground propane tank is proposed to be located on the tower slab, adjacent to the maintenance building. There is a loading space adjacent to the tank, allowing for easy filling or replacement.

Site and Surrounding Vicinity

The site is on a 240-acre parcel owned by the City. The City is seeking to divide this property to be approximately 41.9 acres as part of a four-lot land division. The total developed area or footprint containing the tower, accessory building and equipment, and parking/loading area onsite is approximately 2,000 square feet or about 0.09% of the proposed 41.9-acre site area.

The 240-acre property that includes the proposed 41.9-acre Camp Creek parcel is located inside the Bull Run Watershed and is just over one mile southwest of Bull Run Reservoir 1.

Figure 4: Vicinity Maps

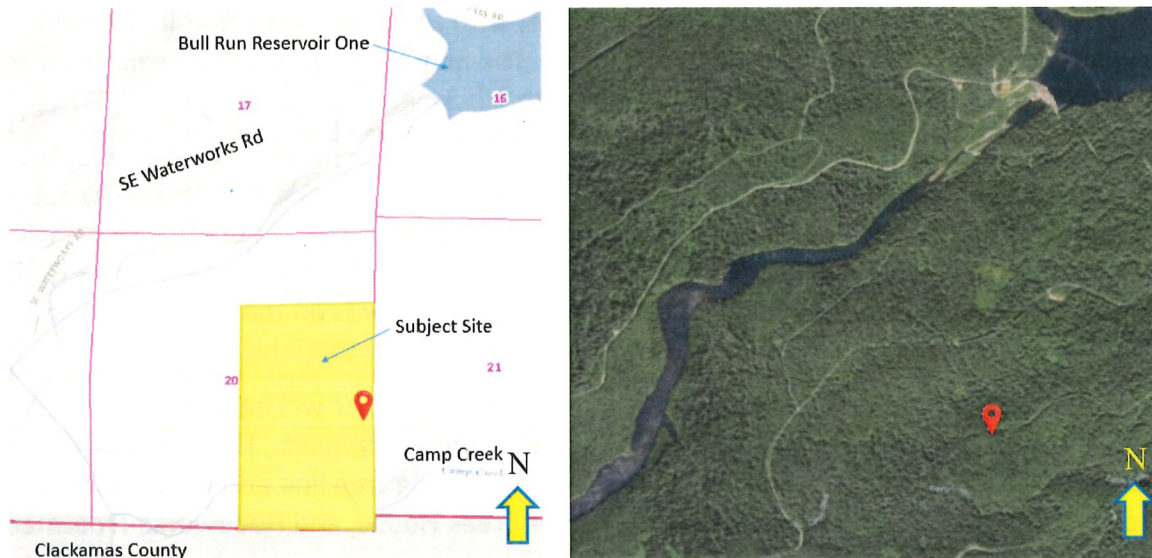


Figure 5: 3D Vicinity Map. Source: Google Images



As can be seen from Figures 4 and 5, the site is located in the middle of a large forest, which extends for miles in all directions. The tower will be situated approximately 1,200 feet from the south property line, 1200 feet from the west property line, 240 feet from the closest point of the proposed north property line and 30 feet from the east property line.

The only access to the top of the ridge is via Forest Road 1200-126 that is maintained by the Water Bureau and enters the property at the east property line. The road can be seen in Figures 4 and 5 above.

The site and surrounding property are densely forested, primarily with Douglas Fir, Western Hemlock, and Western Red Cedar, and contain a thick understory of native vegetation. The primary purpose of the land is to serve as a catchment basin for water, and the only allowed uses are those supporting the water system. Access to the watershed is very restricted to ensure protection of the water supply, and no commercial forestry, agricultural, recreational, or other uses are allowed by the City on this site.

The portion of the property proposed for the new tower and accessory equipment building is situated at the top of a ridge at an elevation of approximately 1,600 feet above mean sea level. The property falls off in elevation significantly to the north, south and west of the proposed development area. The slopes in these areas are 40 to 65 percent.

The proposed site for the tower is a relatively flat existing clearing, located at the end of Forest Service Road 1200-126 (Photos 1 & 2). This area is approximately 60 feet wide and 100 feet deep and will require minimal additional clearing and limited grading to site the proposed tower and accessory structures.

Photo 1: Camp Creek Development Area - View west from the end of Forest Service Road 1200-126



Photo 2: Camp Creek Development Area - View east toward Forest Service Road 1200-126



Figure 6: Aerial – Existing Site Conditions



Figure 7: Proposed Site Layout – As Approved in T3-2018-10227.

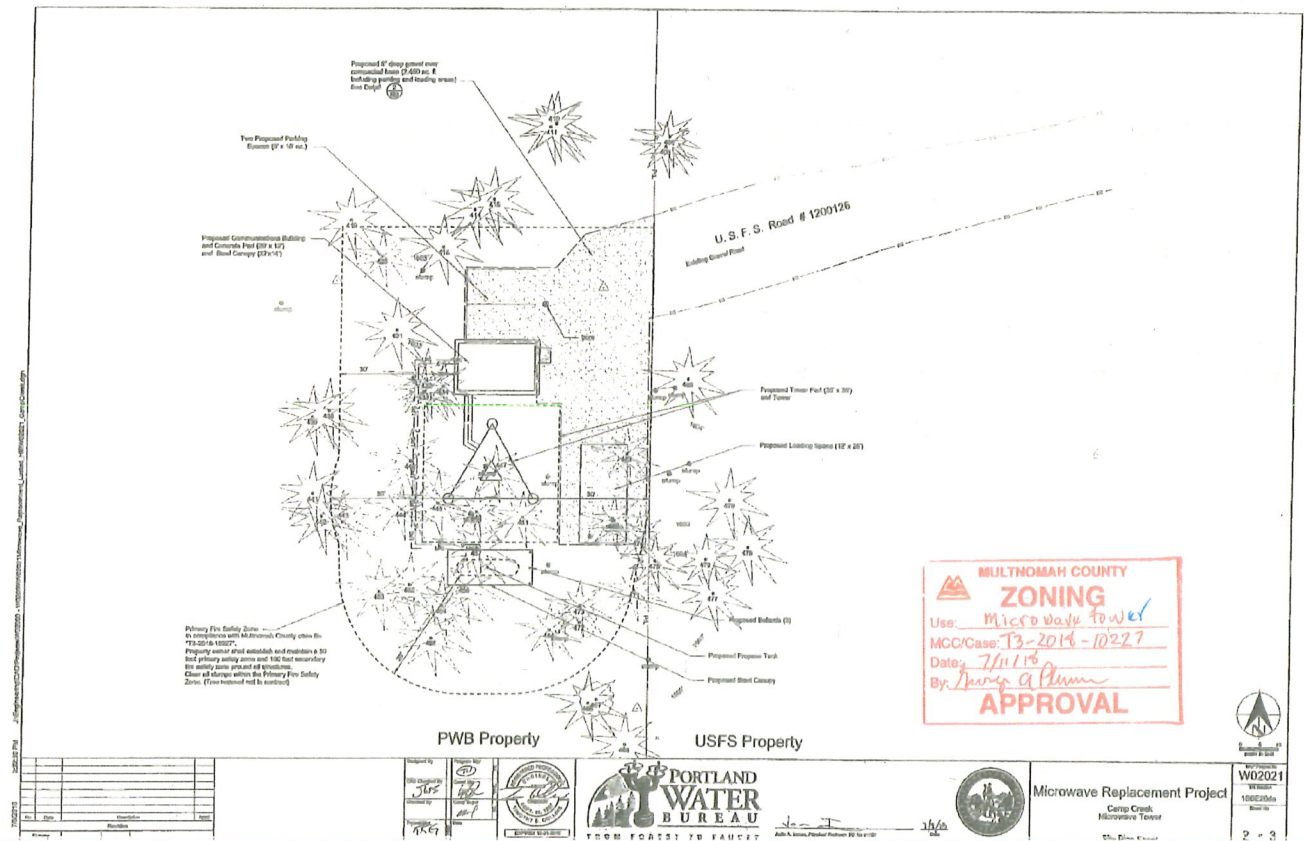


Photo 3: Hickman tower, also in the Bull Run watershed, with solar array. The Camp Creek tower will have a similar solar array.



Photo 4: Accessory Communications Equipment Building currently stored at Headworks Treatment facility. The communications equipment building for Headworks is also seen in the photo. It is identical to this one.



Photo 5: Accessory Communications Equipment Building – End View



Photo 6: Propane Tank at Headworks Treatment facility. The Camp Creek tank will be similar



Rationale for Siting the Tower

PWB requests to construct the proposed communication tower for the following reasons:

- The City is redesigning its current microwave system to provide a more robust design, which requires the use of a tower instead of two passive reflectors.
- The site, located at the end of Camp Creek ridge, provides an optimal location for the proposed 195-foot tower, with clear line-of-sight to Lookout Point tower, Bear Creek House, and the Headworks Treatment facility.
- The Camp Creek site is the only location on City property within the watershed that can meet the line-of-sight siting requirements.
- The proposed tower site is a level existing clearing that provides adequate area for the tower and accessory structures. Because it is already level and clear, this site allows the City to minimize grading and other disturbance to the site to prepare it for installation of the structures. This approach will avoid or minimize impacts to habitat, wildlife, or water resources.
- This site is surrounded for miles in all directions by land dedicated to providing a water collection ecosystem. There will be no adverse impacts on surrounding forest land.

Camp Creek Operational Characteristics

Once the radio transmission tower is fully operational, there will be no staff assigned to work at the site. It will be operated remotely and require only occasional visits for maintenance.

Employees and Vehicle Trips

The property currently has no habitable structures, so vehicular trips are primarily limited to staff clearing vegetation on the two line-of-site paths from the microwave reflector to Bear Creek House and Headworks Treatment facility. This amounts to maybe one or two trips a year. Staff occasionally need to visit in winter and remove snow from the reflector, which sits at the edge of Camp Creek ridge. This might require one or two visits a winter, depending upon snow load.

The microwave equipment on the site are designed to be operated remotely. No staff will be permanently stationed at the site. It is anticipated that staff will make short visits to the site maybe 12 times a year, to service the air conditioner, generator, possible servicing of the microwave equipment, and to check propane levels and refill as necessary. This is an increase in the number of trips, but the visits are of short duration and will have no measurable impact on traffic in the watershed.

Net Traffic Impacts

The existing trips to the site to maintain the site corridors and snow removal on the reflector will go away. They will be replaced with perhaps a dozen trips a year to the site for routine maintenance. The proposed Camp Creek tower and accompanying structures will have a minimal impact on traffic in the watershed and will have no impact on the primary use of the surrounding properties, which is to serve as a catchment basin for water.

B. LOT OF RECORD

§ 39.3005 – Lot of Record – Generally.

(A) An area of land is a “Lot of Record” if it meets the standards in Subsection (B) of this Section and meets the standards set forth in this Part for the Zoning District in which the area of land is located.

(B) A Lot of Record is a parcel, lot, or a group thereof that, when created or reconfigured, (a) satisfied all applicable zoning laws and (b) satisfied all applicable land division laws, or (c) complies with the criteria for the creation of new lots or parcels described in MCC 39.9700. Those laws shall include all required zoning and land division review procedures, decisions, and conditions of approval.

(a) “Satisfied all applicable zoning laws” shall mean: the parcel, lot, or group thereof was created and, if applicable, reconfigured in full compliance with all zoning minimum lot size, dimensional standards, and access requirements.

(b) “Satisfied all applicable land division laws” shall mean the parcel or lot was created:

- 1. By a subdivision plat under the applicable subdivision requirements in effect at the time; or*
- 2. By a deed, or a sales contract dated and signed by the parties to the transaction, that was recorded with the Recording Section of the public office responsible for public records prior to October 19, 1978; or*
- 3. By a deed, or a sales contract dated and signed by the parties to the transaction, that was in recordable form prior to October 19, 1978; or*
- 4. By partitioning land under the applicable land partitioning requirements in effect on or after October 19, 1978; and*
- 5. “Satisfied all applicable land division laws” shall also mean that any subsequent boundary reconfiguration completed on or after December 28, 1993 was approved under the property line adjustment provisions of the land division code. (See Date of Creation and Existence for*

the effect of property line adjustments on qualifying a Lot of Record for the siting of a dwelling in the EFU and CFU districts.)

§ 39.3040 Lot of Record – Commercial Forest Use-3 (CFU-3).

(A) In addition to the standards in MCC 39.3005, for the purposes of the CFU-3 district a Lot of Record is either:

- (1) A parcel or lot which was not contiguous to any other parcel or lot under the same ownership on February 20, 1990, or**
 - (2) A group of contiguous parcels or lots:**
 - (a) Which were held under the same ownership on February 20, 1990; and**
 - (b) Which, individually or when considered in combination, shall be aggregated to comply with a minimum lot size of 19 acres, without creating any new lot line.**
- 1. Each Lot of Record proposed to be segregated from the contiguous group of parcels or lots shall be a minimum of 19 acres in area using existing legally created lot lines and shall not result in any remainder individual parcel or lot, or remainder of contiguous combination of parcels or lots, with less than 19 acres in area. See Examples 1 and 2 in this subsection.**
 - 2. There shall be an exception to the 19 acre minimum lot size requirement when the entire same ownership grouping of parcels or lots was less than 19 acres in area on February 20, 1990, and then the entire grouping shall be one Lot of Record. See Example 3 in this subsection.**
 - 3. Three examples of how parcels and lots shall be aggregated are shown in MCC 39.3070 Figure 1 with the solid thick line outlining individual Lots of Record:**
 - 4. The requirement to aggregate contiguous parcels or lots shall not apply to lots or parcels within exception, urban, or Columbia River Gorge National Scenic Area zones (e.g. MUA-20, RR, SRC, R-10, GGA-40), but shall apply to contiguous parcels and lots within all farm and forest resource zones (i.e. EFU and CFU), or**
- (3) A parcel or lot lawfully created by a partition or a subdivision plat after February 20, 1990.**
- (4) Exceptions to the standards of (A)(2) above:**
 - a) Where two contiguous parcels or lots are each developed with a lawfully established habitable dwelling, the parcels or lots shall be Lots of Record that remain separately transferable, even if they were held in the same ownership on February 20, 1990.**
 - (b) Where approval for a “Lot of Exception” or a parcel smaller than 19 acres under the “Lot Size for Conditional Uses” provisions has been given by the Hearing Authority and the parcel was subsequently lawfully created, then the parcel shall be a Lot of Record that remains separately transferable, even if the parcel was contiguous to another parcel held in the same ownership on February 20, 1990.**

(B) In this district, significant dates and ordinances applicable for verifying zoning compliance may include, but are not limited to, the following:

- (1) July 10, 1958, F-2 zone applied;**
- (2) December 9, 1975, F-2 minimum lot size increased, Ord. 115 & 116;**
- (3) October 6, 1977, MUF-20 and CFU-38 zones applied, Ord. 148 & 149;**
- (4) August 14, 1980, MUF-19 & 38 and CFU-80 zones applied, Ord. 236 & 238;**
- (5) February 20, 1990, Lot of Record definition amended, Ord. 643;**

(6) January 7, 1993, MUF-19 & 38 zones changed to CFU-80, Ord. 743 & 745;

(7) August 8, 1998, CFU-3 zone applied, Ord. 916 (reenacted by Ord. 997);

(8) May 16, 2002, Lot of Record section amended, Ord. 982, reenacted by Ord. 997.

(C) A Lot of Record which has less than the minimum lot size for new parcels, less than the front lot line minimums required, or which does not meet the access requirements of MCC 39.4135, may be occupied by any allowed use, review use or conditional use when in compliance with the other requirements of this district.

(D) The following shall not be deemed a Lot of Record:

(1) An area of land described as a tax lot solely for assessment and taxation purposes;

(2) An area of land created by the foreclosure of a security interest;

(3) A Mortgage Lot.

(4) An area of land created by court decree.

Response:

T-1S R-6E, SECTION 20 TL 2500 (240 acres)

PWB purchased Taxlot 2500 in 1920. Taxlot 2500 has existed in its current configuration since its creation. The County did not have zoning until the mid-1950's; therefore, when the property was created it satisfied all applicable zoning and land division laws. Additionally, tax lot 2500 (Camp Creek site) was determined to be a Lot of Record as evidenced by the previous approvals in Casefile T3-2018-10227. The subject taxlot meets the definition and standards for a Lot of Record.

C. COMMERCIAL FOREST USE

§ 39.4080 Conditional Uses.

The following uses may be permitted when found by the approval authority to satisfy the applicable standards of this Chapter:

(A) The following Community Service Uses pursuant to all applicable approval criteria, including but not limited to the provisions of MCC 39.4100, MCC 39.4105, MCC 39.4110, MCC 39.4115, and MCC 39.7500 through MCC 39.7525. For purposes of this Section, the applicable criteria of MCC 39.7515 shall be limited to Subsections (A) through (H) of that Section.

(11) Radio and television transmission towers subject to the definitions, restrictions and standards in MCC 39.7515, 39.7520 (A) (8) and 39.7550 through 39.7575 and wireless communications facilities when found to satisfy the requirements of MCC 39.7700 through 39.7765.

Response: This proposal seeks approval of a Community Service Conditional Use for a Radio and Television Transmission Tower in the CFU-3 base zone. The subject site is zoned CFU 3 – Commercial Forest Use 3. Radio and Television Transmission Towers are listed as a Community Service Use in MCC 39.4080(A)(11). The provisions of MCC 39.7515 Approval Criteria are separately addressed below. Transmission towers pursuant to 39.7515 are required to meet the approval criteria of MCC 39.7550 through 39.7575 instead of 39.7515 A through H.

§ 39.4100 Use Compatibility Standards.

(A) Specified uses of MCC 39.4075 (D) and (E) and MCC 39.4080 (A), (B) and (C) may be allowed upon a finding that:

(1) The use will:

(a) Not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding forest or agricultural lands.

Response: The proposed microwave transmission tower and accessory equipment building will have no impact on use of the surrounding properties. There is no farming in the area. All properties are owned by the Water Bureau or the USFS and are restricted to activities consistent with the collection of water for the City's water system.

All adjacent public properties are owned by the USFS and are part of the Bull Run Watershed Management Unit. In 1996, Congress created significant additional protections for Bull Run in the Oregon Resources Conservation Act, which amended PL 95-200 to prohibit timber harvest inside the BRWMU. Similarly, commercial timber harvest is prohibited on City land by City code (Title 21). Therefore, the microwave communication tower use may be allowed and the County can find that the use will not significantly change or increase the cost of accepted forestry or farming practices on surrounding forest or agricultural lands.

(b) Not significantly increase fire hazard, or significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel; and

Response: Fire hazard. The proposed tower and accessory structures are not a fire hazard for the following reasons:

- The site will meet the primary fire safety zone standard of 30 feet. No vegetation will be allowed within that zone.
- The proposed tower is steel, will not burn, and is not a fire source.
- The equipment building has concrete walls and a non-combustible roof. It meets IFC 504 Class 1 Ignition Resistance Construction, which is required when a secondary fire safety zone of 50 feet or less is proposed.
- The microwave equipment runs on low amperage, is solid state and designed to operate at low temperatures and is unlikely to cause a fire. The equipment is contained within the fireproof equipment building, and has numerous alarms on it, allowing staff to remotely control and monitor the equipment. There is a monitor specifically for air temperature within the building.
- A generator is located within the equipment building. It is housed within a separate compartment in the equipment building, with a fireproof wall between it and the microwave equipment. It is only a backup system but has the potential to be a fire source. It will be fully alarmed and carefully monitored and maintained and operated well within accepted operating best practices.
- The propane tank will be located outside, next to the tower. It provides the fuel for the generator. It is a possible fire source, although when used following industry safety and use best practices is considered a relatively safe energy source. The Water Bureau and Fire Service have evaluated this risk and consider the use of propane within the

watershed to be an acceptable risk. Propane is used in several locations within the watershed at this time.

Fire Suppression. The criteria focus on significantly increasing fire suppression costs, and increased risk to fire suppression personnel. Forest fire is one of the most significant concerns of the Water Bureau and the USFS in management of the Bull Run watershed. A fire within the watershed has the potential to significantly impact drinking water quality and to pose a life-threatening hazard to all staff working within the watershed. Fire is part of the reason that activity is carefully monitored within the watershed and access is controlled. The USFS actively monitors for fires from its lookout at Hickman Butte. The Water Bureau and the USFS have a fire plan for the Bull Run Watershed and follow it carefully in coordination with Oregon Department of Forestry, Sandy Fire Department, and Portland Fire and Rescue.

It would be difficult to say that any one facility within the watershed will significantly increase fire suppression costs or pose increased risk to fire suppression personnel. A major wildfire within the watershed would be a significant disaster to the Water Bureau and the region. All care will be taken to preserve life and to put out fire as quickly as possible.

For the purposes of this Conditional Use review, the Water Bureau considers the Camp Creek tower site to meet this approval criteria.

(2) A statement has been recorded with the Division of Records that the owner and the successors in interest acknowledge the rights of owners of nearby property to conduct forest operations consistent with the Forest Practices Act and Rules, and to conduct accepted farming practices.

Response: Although the Portland Water Bureau can add this to the deed, it is in direct conflict with federal regulations applicable to the adjacent property, which prohibit forestry and agricultural practices. For this reason, the Water Bureau requests that this requirement be waived.

§39.4105 Building Height Requirements.

(A) Maximum structure height – 35 feet.

(B) Structures such as barns, silos, windmills, antennae, chimneys, or similar structures may exceed the height requirements.

Response: The tower will be more than 35 feet tall but is exempt from this height limit under paragraph (B). The proposed equipment building will be a single-story, rectangular structure consisting of concrete and metal materials including a non-combustible roof. It will be approximately 12 feet in height.

§ 39.4110 Forest Practices Setbacks and Fire Safety Zones.

The Forest Practice Setbacks and applicability of the Fire Safety Zones is based upon existing conditions, deviations are allowed through the exception process and the nature and location of the proposed use. The following requirements apply to all structures as specified:

Minimum Forest Practices Setback Dimensions*:

<i>Use</i>	<i>Forest Practice Setbacks</i>	<i>Fire Safety Zones</i>
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<i>Description of use and location</i>	<i>Non-conforming Setbacks</i>	<i>Front Property Line Adjacent to County-Maintained Road (feet)</i>	<i>All Other Setbacks (feet)</i>	<i>Fire Safety Zone Requirements (FSZ)</i>
<i>Other Accessory Structures</i>	<i>N/A</i>	<i>30</i>	<i>130</i>	<i>Primary and Secondary required</i>
<i>Other Structures</i>	<i>N/A</i>	<i>30</i>	<i>130</i>	<i>Primary and Secondary required</i>

(*Note: These are the applicable dimensions from MCC 39.4110, Table 1.)

(A) Reductions to a Forest Practices Setback dimension shall only be allowed pursuant to approval of an adjustment or variance.

(B) Exception to the Secondary Fire Safety Zone shall be pursuant to MCC 39.4155 only. No reduction is permitted for a required Primary Fire Safety Zone through a nonconforming, adjustment or variance process.

(C) The minimum forest practices setback requirement shall be increased where the setback abuts a street having insufficient right-of-way width to serve the area. The county Road Official shall determine the necessary right-of-way widths based upon the county "Design and Construction Manual" and the Planning Director shall determine any additional setback requirements in consultation with the Road Official.

(D) Fire Safety Zones on the Subject Tract

(1) Primary Fire Safety Zone

(a) A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. Trees within this safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.

(2) Secondary Fire Safety Zone

A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District. The secondary fire safety zone required for any dwelling or structure may be reduced under the provisions of 39.4155.

(3) No requirement in (1) or (2) above may restrict or contradict a forest management plan approved by the State of Oregon Department of Forestry pursuant to the State Forest Practice Rules; and

(4) Required Primary and Secondary Fire Safety Zones shall be established within the subject tract as required by Table 1 above.

(5) Required Primary and Secondary Fire Safety Zones shall be maintained by the property owner in compliance with the above criteria listed under (1) and (2).

Response: The proposed microwave communications tower and equipment building are considered 'Other Structures' and 'Other Accessory Structures' under Table 1 in the CFU District. As such, both structure types must be 30 feet from a front setback line, and 130 feet from all other property lines to meet the forest practice setbacks.

The property is served by Forest Road 1200-126 but has no dedicated rights-of-way on any of its lot lines, nor do any of the parcels within the watershed. Multnomah County regulations only allow a property line to be considered a front line if it borders dedicated right-of-way.

Due to this interpretation, the Water Bureau requests a Variance (see Section 2 of this narrative) to reduce the required forest practice setback along the east property line from 130 feet to 30 feet. The tower complies with all other setback requirements for the west, north, and south property lines. It will sit approximately 1,200 feet from the south property line, 1200 feet from the west property line, and 240 feet from the closest point of the proposed north property line.

The proposed development must also meet the fire safety zones as defined in MCC 39.4110. "Other Structures" and "Other Accessory Structures" are required to establish 30-foot primary and 130-foot (100 feet beyond the primary) secondary fire safety zones within the property.

Figure 8 shows the primary and secondary fire safety zone boundaries. The site's topography allows the Water Bureau to provide the 30-foot primary fire safety zone around the tower wholly within City property.

A 100-foot secondary fire safety zone is required in all directions around the primary safety zone (130' total). This zone is required to be within the property. As can be seen from Figure 8, due to topography constraints in siting the tower, the secondary zone extends into the adjacent parcel, owned by USFS. PWB cannot meet the requirement for the zone to be wholly on City property. In Casefile T3-2018-10227, the Hearings Officer found:

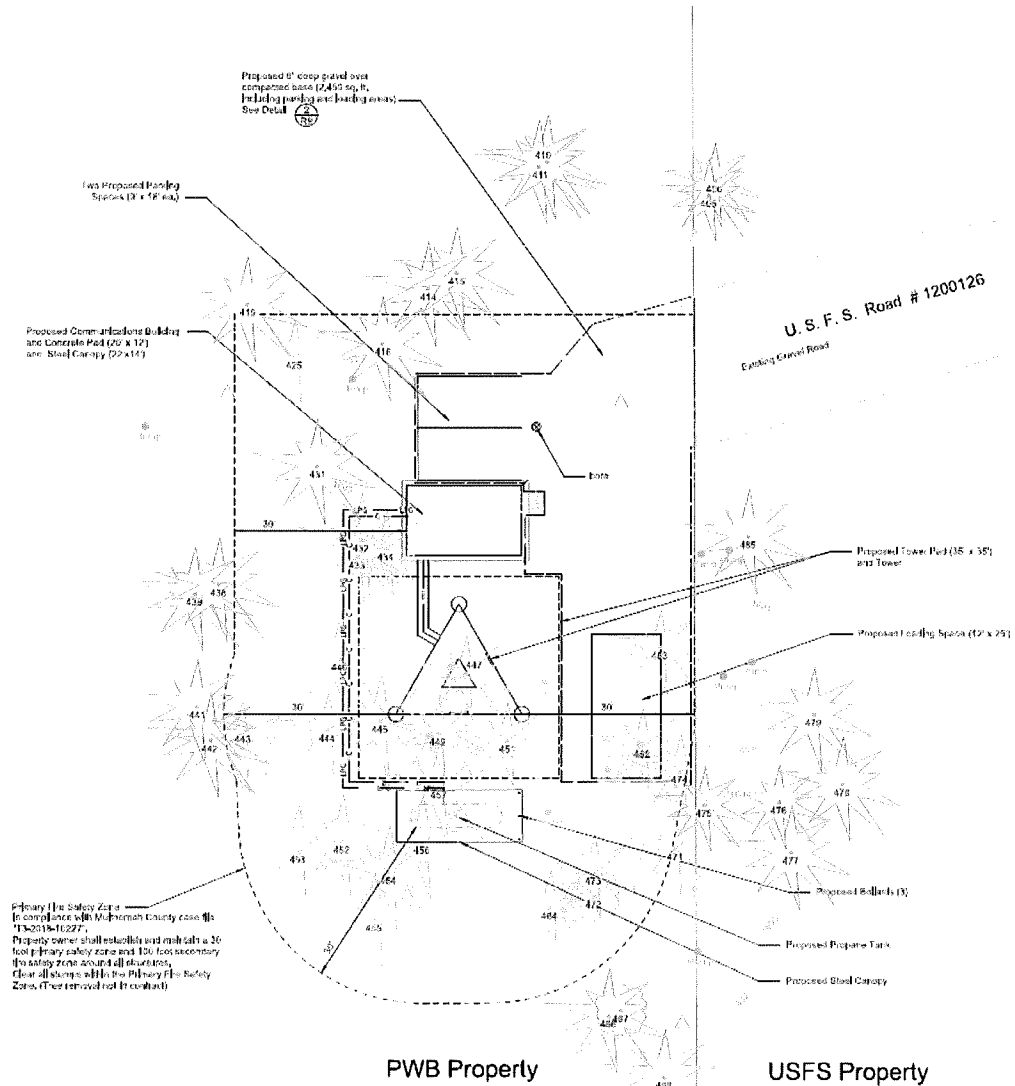
A secondary fire safety zone must be maintained on the subject property or subject ownership or an Exception to the Secondary Fire Safety Zone approval must be obtained.

While the applicant has requested an Exception to the Secondary Fire Safety Zone (findings in Section 3.5 of this staff report), staff finds that while the City owns the subject property and the US Forest Service (USFS) owns the adjacent (east) property, they are within the same management unit (Bull Run Watershed Management Unit) managed together. Given they are in the same management, it is staff's understanding that a secondary fire safety zone could be met and maintained just as if the property was in the same ownership. Staff recommends an on-going condition of approval that the secondary fire safety zone be established and maintained. The proposal meets these standards through implementing recommended condition of approval that the secondary fire safety zone be established and maintained on the property.

The Water Bureau seeks an exception to the secondary fire safety zone, as provided for in MCC 39.4155. Note: The Water Bureau and USFS fully agree with the concept of the fire safety zones and have established the secondary fire safety zone on the adjacent parcel and will continue to make sure that the vegetation clearance and maintenance requirements are met. While the Water Bureau is asking for the exception, it is reducing the zone only to comply with the Multnomah County requirement that the secondary fire zone be on City property. Even if granted the exception, the Water Bureau has already created the full 130-foot fire safety zone and will continue to implement the complete secondary fire zone on the abutting property. Based on the Hearings Officer's decision in T3-2018-10227 and the finding that the previously approved site plan remains the same, the Hearings

Officer can find the exception standards to be satisfied with establishment and maintenance of the fire safety zone.

Figure 8: Primary and Secondary Fire Safety Zones



Multnomah County regulation 39.4155 provides three situations where the secondary fire safety zone can be reduced.

§ 39.4115 Development Standards for Dwellings and Structures.

All dwellings and structures shall comply with the approval criteria in (B) through (D) below except as provided in (A):

(A) For the uses listed in this subsection, the applicable development standards are limited as follows:

(3) Accessory buildings.

(a) Accessory buildings within 100 feet of the existing dwelling: Shall meet the development standards of MCC 39.4115(C);

(b) Accessory buildings located farther than 100 feet from the existing dwelling: Shall meet the development standards of MCC 39.4115(B)&(C);

Response: The proposed tower will be the primary use on the proposed 41.9-acre parcel. An accessory building is proposed adjacent to the tower to house operational equipment for the tower; no dwellings are proposed. Therefore, the proposed structures are required to meet the standards of MCC 39.4115(B & C). These are evaluated below.

(B) New dwellings shall meet the following standards in (1) and (3) or (2) and (3); restored or replacement dwellings greater than 100-feet from an existing dwelling, and accessory buildings (or similar structures) greater than 100-feet from the existing dwelling shall meet the following standards in (1) and (3) or (2) and (3):

Response: Standards 2 and 3 are addressed below to satisfy (B) above.

(2) The structure shall satisfy the following requirements:

(a) It has the least impact on nearby or adjoining forest or agricultural lands and satisfies the standards in MCC 39.4110;

(b) Adverse impacts on forest operations and accepted farming practices on the tract will be minimized;

(c) The amount of forest land used to site the dwelling or other structure, access road, and service corridor is minimized;

Response: All lands abutting the proposed 41.9-acre parcel are either owned by USFS or the City. They are part of the BRWMU and are restricted to uses that support the primary purpose of providing water. The tower will not have any impact on these parcels continuing to function in that use. The proposed development takes advantage of the existing public access road and is proposed primarily in an existing clearing. Vegetation removal will be confined to the minimum necessary to build the tower, provide the 30-foot primary fire safety zone, and the 130-foot secondary fire safety zone. The project is designed to provide minimal impact on the site and surrounding properties. With the proposed reduction in size of Taxlot 2500, the communication tower would be sited on a more appropriately sized lot for a use with a small development footprint consisting of approximately 2,000 sq. ft.

(d) Any access road or service corridor in excess of 500 feet in length is demonstrated by the applicant to be necessary due to physical limitations unique to the property and is the minimum length required; and

Response: We are not adding any new access roads as part of this project.

(3) The risks associated with wildfire are minimized. Provisions for reducing such risk shall include:

(a) Access roadways shall be approved, developed and maintained in accordance with the requirements of the structural fire service provider that serves the property. Where no structural fire service provider provides fire protection service, the access roadway shall meet the Oregon Fire Code requirements for fire apparatus access.

(b) Access for a pumping fire truck to within 15 feet of any perennial water source of 4,000 gallons or more within 100 feet of the driveway or road on the lot. The access shall meet the fire apparatus access standards of the Oregon Fire Code with permanent signs posted along the access route to indicate the location of the emergency water source.

Response: We are not adding any additional access roads as part of this project or as a result of the proposed Category 1 Land Division. Fire service for structures in the watershed is provided by the

Sandy Fire Department, in cooperation with and supported by Portland Fire and Rescue. The Sandy Fire Department is aware of where City facilities are in the watershed, and potential sources of water. Camp Creek is located approximately a mile before the tower site, and can be accessed by a pumper truck, if needed. Additionally, during the building permit phase of the project, PWB worked with the County and the City's Bureau of Emergency Communication (BOEM) to ensure that the communication tower site was addressed and mapped correctly for 911 response should emergency services need to respond to the site.

(C) The dwelling or structure shall:

- (1) Comply with the standards of the applicable building code or as prescribed in ORS 446.002 through 446.200 relating to mobile homes;***
- (2) If a mobile home, have a minimum floor area of 600 square feet and be attached to a foundation for which a building permit has been obtained;***
- (3) Have a fire retardant roof; and***
- (4) Have a spark arrester on each chimney.***

Response: The proposed tower and accessory equipment building will be attached to a concrete foundation. The proposal does not include a mobile home; the tower does not have a roof or chimney. The proposed accessory equipment building has a non-combustible roof and does not have a chimney.

(D) The applicant shall provide evidence that the domestic water supply is from a source authorized in accordance with the Department of Water Resources Oregon Administrative Rules for the appropriation of ground water (OAR 690, Division 10) or surface water (OAR 690, Division 20) and not from a Class 1 stream as defined in the Forest Practices Rules.

- (1) If the water supply is unavailable from public sources, or sources located entirely on the property, the applicant shall provide evidence that a legal easement has been obtained permitting domestic water lines to cross the properties of affected owners.***
- (2) Evidence of a domestic water supply means:***
 - (a) Verification from a water purveyor that the use described in the application will be served by the purveyor under the purveyor's rights to appropriate water; or***
 - (b) A water use permit issued by the Water Resources Department for the use described in the application; or***
 - (c) Verification from the Water Resources Department that a water use permit is not required for the use described in the application. If the proposed water supply is from a well and is exempt from permitting requirements under ORS 537.545, the applicant shall submit the well constructor's report to the county upon completion of the well.***

Response: A water use permit is not required for the proposed use. There is no water service on this site and the proposed use will not require water service; therefore, a Water Service Provider Form is not included with this application.

§ 39.4120 Lot Size Requirements.

- (A) The minimum lot size for new parcels or lots shall be 80 acres, except as provided in MCC 39.4125, 39.4130, 39.4140, 39.3010, 39.3020, 39.3030, 39.3040, 39.3050 and 39.3060.***
- (B) That portion of a street which would accrue to an adjacent lot if the street were vacated shall be included in calculating the size of such lot.***

(C) The minimum Front Lot Line Length is 50 feet, except for flag lots as provided in MCC 39.9510(D).

Response: Pursuant to MCC 39.4140, a lot less than the minimum specified in MCC 39.4120(A) may be created for the uses listed in MCC 39.4070(R) and 39.4080(A)(1) through (6), (9) through (13), and (16) and (B)(1) through (4), after approval is obtained pursuant to MCC 39.4100. The proposed use is a microwave communication tower and is a use listed under MCC 39.4080(A)(11) as a Conditional Use. Please see findings below addressing MCC 39.4140 Lot Size for Conditional Uses.

§ 39.4135 Access.

All lots and parcels in this district shall abut a street, or shall have other access deemed by the approval authority to be safe and convenient for pedestrians and for passenger and emergency vehicles. This access requirement does not apply to a preexisting lot and parcel that constitutes a Lot of Record described in MCC 39.3040(C).

Response: Access to the site is provided via Forest Road 1200-126, which the Water Bureau maintains. As demonstrated under MCC 39.3005 and 39.3040 in Section 2 above, the properties are a lot of record; therefore, this standard does not apply.

§ 39.4140 Lot Size for Conditional Uses.

Lots less than the minimum specified in MCC 39.4120(A) may be created for the uses listed in MCC 39.4070(R) and 39.4080(A)(1) through (6), (9) through (13), and (16) and (B)(1) through (4), after approval is obtained pursuant to MCC 39.4100 and based upon:

(A) A finding that the new lot is the minimum site size necessary for the proposed use;

Response: The proposed radio communication tower is listed as a conditional use in the CFU-3 District per 39.4080(A)(11). The proposed creation of Lot 4 reduces the existing communication tower parcel area from 240 acres to 41.9 acres. This reduction ensures that the proposed communication tower continues to meet all County development standards, while siting the communication tower on a more appropriately sized lot for a use with a small development footprint consisting of approximately 2,000 sq. ft.

The 41.9-acre lot is also the minimum lot size needed to successfully achieve the land exchange between PWB and USFS. The land exchange negotiations with the USFS lasted for over a decade. Points of view about what exact acreages should be exchanged changed over that time. Originally, the USFS did not want any City inholdings after the exchange. The Forest Service also had mandates to achieve no net loss of wetlands on federal ownership. Spotted owl nesting sites, floodplains and cultural resource protection were also considerations.

Later, the USFS agreed with the City that it would be beneficial for both parties if the Camp Creek microwave site remained in city ownership. The idea for what would be retained at that time was a 2.5-acre parcel.

Both parties also wanted to exchange land of equal financial value so that neither party would need to make a payment for land to the other party. A professional appraisal was used to establish the land values. The preliminary appraisal determined that the lands offered were not equal in value and the City land was worth \$5 million more. To finalize the appraisal at equal values (and after discussion of a 2.5-acre parcel), the City selected lands to retain from what had been originally offered. The City selected lands to retain that would not change the National Environmental Policy Act (NEPA) effects determinations for wetlands, floodplains, owl habitat, cultural resources, etc. The City also selected

lands to retain that would have enough large trees of significant financial value to achieve a final determination of equal values but did so without knowing the values of specific lots or portions of parcels. Discretion was given to the appraiser to finalize the details of the parcels to be exchanged because the appraiser had the most detailed knowledge of the appraisal methodology and the land valuation at any one location.

During the appraisal process, the appraiser defined a parcel of greater than 2.5 acres but less than 80 acres at the proposed microwave tower communication site. To change the lot size to 80 acres now would be expensive and time consuming. No contract mechanisms are currently in place between the City and USFS, or between the USFS and a federally-certified appraiser – as would be required by USFS rules to complete another appraisal.

There is no intent to develop or use a site larger than the one currently proposed for the microwave communication tower. The remainder of the proposed lot will be left as undeveloped forest. Commercial forest management on all City land in the BRWMU is prohibited by city code.

Finally, the proposed lot size reduction below the minimum 80-acres in the CFU-3 District does not adversely force a significant change in or cost of accepted farming or forest practices on surrounding properties, since there are none in the vicinity. The Secondary Fire Safety Zone can be maintained onsite and on the adjacent USFS property immediately to the east, as both properties are part of the Watershed Management Unit. Overall, the amount of forest land used to site the structure, access road, parking and primary fire safety zone is minimized to about half an acre of the proposed 41.9-acre lot.

(B) The nature of the proposed use in relation to its impact on nearby properties; and

Response: The property is heavily forested, as are all adjacent properties. The tower will be situated approximately 1,200 feet from the south property line, 1200 feet from the west property line, and 240 feet from the closest point of the proposed north property line.

The surrounding properties are all in forest use and are undeveloped/uninhabited tax lots. The tower and accessory building will be adequately screened by the dense surrounding forest trees and vegetation. The tower and accessory building will not have any visual or physical impacts to adjacent properties. Additionally, concerns regarding light, noise, privacy, and stormwater runoff are adequately mitigated by the fact that the development area will be clustered in a relatively small development area on the subject property and thus will have no impact on surrounding properties. The area of the development is relatively flat and will not become unstable. No streams are near the proposed development area. Access to the site is via Forest Service Road 1200-126. Due to the remote operational characteristics of the microwave tower, PWB staff visits will be limited to the site.

The tower is designed to exacting engineering standards for large towers and is designed to withstand strong winds and high ice loads. It is extremely unlikely to fail, but if it does, it is unlikely to fall over and would instead buckle. If the tower should fully collapse, the abutting property to the east is heavily forested, with no people or structures on it, so a collapsing tower or falling ice will pose no danger to human life or property.

Finally, there is no danger of human exposure to NIER emissions as demonstrated in Appendix G. The height of the tower and the fact that the microwave dishes are point-to-point with almost all energy focused in the path between the two dishes means there will be no detectable emissions at 1.5 meters above ground. In addition, there are no inhabited structures located along the paths between the

towers. As shown in the emissions study in Appendix G, the site will comply with all NIER emissions standards. Based on the above stated reasons, there will be no measurable impact on the adjacent property owners.

(C) Consideration of the purposes of this base zone.

Response: The CFU District's primary purpose is "to conserve and protect lands for continued commercial growing and harvesting of timber and the production of wood fiber and other forest uses." It also provides for recreational opportunities and other uses which are found to be compatible with forest use.

Land uses permitted in the BRWMU are activities consistent with the collection of water for the City's water system. The primary facilities are two dams and associated structures (which includes Bear Creek House), the Headworks Treatment facility, the Water Bureau's supply pipeline, and structures for collecting and monitoring water flow and water quality in the streams feeding the reservoirs. The Forest Service maintains one observation tower for monitoring for fires. There are no industrial, commercial, commercial forestry, or agricultural uses permitted in the BRWMU. The addition of the proposed Camp Creek microwave communication tower is necessary for multiple reasons. It serves as a data conduit, allowing the City to route phone calls, computer communication, and data from the SCADA system, to other locations in the region. The microwave network also serves a critical role as the conduit for 800 MHz radio communications. The County's approval in T3-2018-10227 found that the proposed communication tower was appropriate for the CFU-3 District and compatible with the surrounding area and uses. The proposed land division would not necessitate any additional impacts beyond those already addressed in Casefile T3-2018-10227 and in this subsequent application to modify that decision. The microwave communication tower development proposal remains unchanged since County approval, and it will meet all land use and building code requirements once constructed. The City of Gresham has issued the building permit for the proposed communication tower and PWB anticipates finalization of this permit in Fall 2019.

§ 39.4145 Offstreet Parking and Loading.

Offstreet parking and loading permitted as an accessory use shall be provided as required by MCC 39.6500 through 39.6600.

Response: The Water Bureau will provide the two required off-street parking spaces and one loading space, in accordance with the requirements of MCC 39.6500 through 39.6600 (please see the discussion under those code sections below).

§ 39.6505 General Provisions.

In the event of the erection of a new building or an addition to an existing building, or any change in the use of an existing building, structure or land which results in an intensified use by customers, occupants, employees or other persons, off-street parking and loading shall be provided according to the requirements of this Section. [...]

Response: The proposed tower and equipment building are new structures to the site. PWB will provide the required two off-street parking spaces and one loading space. Accordingly, these spaces are provided on the submitted site plan and meet the off-street parking standards requirements under MCC 39.6565.

§ 39.6560 Access

(A) Where a parking or loading area does not abut directly on a public street or private street approved under MCC 39.9000 et. seq., the Land Division Chapter, there shall be provided an unobstructed driveway not less than 20 feet in width for two-way traffic, leading to a public street or approved private street. Traffic directions therefore shall be plainly marked.

Response: The proposed parking and loading areas do not abut directly on a public or private street approved under MCC 39.9000; therefore, a driveway not less than 20 feet in width is required. The proposed site plan demonstrates compliance with this standard by providing a minimum 25-foot wide driveway to the required parking spaces. The proposed drive aisles allow for forward in and forward out maneuvering onsite.

(B) The Approval Authority may permit and authorize a deviation from the dimensional standard in paragraph (A) of this section upon finding that all the following standards in subparagraphs (1) through (4) are met.....

Response: The spaces are all designed to Multnomah County standards.

(C) Parking or loading space in a public street shall not be counted in fulfilling the parking and loading requirements of this section. Required spaces may be located in a private street when authorized in the approval of such private street.

Response: Parking and loading spaces are proposed onsite and meet the Multnomah County standard.

§ 39.6565 Dimensional Standards.

(A) Parking spaces shall meet the following requirements:

- (1) At least 70% of the required off-street parking spaces shall have a minimum width of nine feet, a minimum length of 18 feet, and a minimum vertical clearance of six feet, six inches.*
- (2) Up to 30% of the required off-street parking spaces may have a minimum width of eight-and-one-half feet, a minimum length of 16 feet, and a vertical clearance of six feet if such spaces are clearly marked for compact car use.*
- (3) For parallel parking, the length of the parking space shall be 23 feet.*
- (4) Space dimensions shall be exclusive of access drives, aisles, ramps or columns.*

Response: Two (2) off-street parking spaces are provided with a minimum width of nine feet, a minimum length of 18 feet, and a minimum vertical clearance of 6'- 6".

(B) Aisle width shall be not less than:

- (1) 25 feet for 90 degree parking,*
- (2) 20 feet for less than 90 degree parking, and*
- (3) 12 feet for parallel parking.*
- (4) Angle measurements shall be between the center line of the parking space and the center line of the aisle.*

(C) Loading spaces shall meet the following requirements:

(1)

District	Minimum Width	Minimum Depth

All	12 Feet	25 Feet
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(2) Minimum vertical clearance shall be 13 feet.

Response: Two (2) off-street parking spaces are provided with a minimum width of nine feet, a minimum length of 18 feet, and a minimum vertical clearance of 6' - 6". One (1) loading space is provided with a minimum width of 12 feet, a minimum length of 25 feet, and minimum clearance of 6' - 6".

The proposed vehicle parking spaces are angled at 90 degrees and require a minimum drive aisle width of 25 feet. A minimum 25-foot wide drive aisle meeting this requirement is proposed adjacent to the east property line and will allow for forward in and forward out motion.

The proposed 12-foot wide by 25-foot long loading space is provided adjacent to the east property line and allows convenient refilling of the propane tank when needed. The drive aisle is designed for a loading vehicle to either pull forward into the loading space and utilize the drive aisle behind it to maneuver and drive forward out of the site; or a loading vehicle could back into the loading space for forward maneuvering out of the site. The proposed loading space dimension is exclusive of the 20-foot drive aisle requirement.

§ 39.6570 Improvements.

(A) Surfacing

- (1) Except as otherwise provided in this section, all areas used for parking, loading or maneuvering of vehicles, including the driveway, shall be surfaced with at least two inches of blacktop on a four inch crushed rock base or at least six inches of Portland cement, unless a design providing additional load capacity is required by the fire service provider, building official or County Engineer, as applicable.**
- (2) The Approval Authority may permit and authorize a deviation from the surfacing standard in paragraph (A)(1) of this section and thereby authorize alternate surfacing systems that provide a durable dustless surface, including gravel. A deviation under this paragraph may be permitted and authorized only upon finding that each parking area supporting the existing and the proposed development meets the following standards in subparagraphs (a) and (b) and, for parking areas of four or more required parking spaces, also meets the following standards in subparagraphs (c) and (d):**
 - (a) The authorized provider of structural fire protection services verifies that the proposed deviation complies with such provider's fire apparatus access standards, or, if there is no such service provider, the building official verifies that the proposed deviation complies with the Oregon Fire Code;**
 - (b) The County Engineer verifies that the proposed deviation complies with the County Road Rules and the County Design and Construction Manual Standards. Alternative surfacing can be considered for all areas used for parking, loading and maneuvering, including the driveway; however, approaches to paved public rights-of-way shall be paved for a minimum distance of 21 feet from the fog line, or for a greater distance when required by the County Engineer;**

Response: Due to the remote nature of the site and its location in the Bull Run watershed, PWB proposes to use gravel for the parking, loading and maneuvering areas instead of concrete or blacktop. These graveled areas will still meet the access and dimensional standards required by code but will be more compatible with and sensitive to the forested environment. T3-2018-10227 approved two (2)

unpaved (gravel), off-street parking spaces. These spaces are provided on the submitted site plan in addition to one (1) required loading space and meet the off-street parking standard requirements under MCC 39.6565.

(B) Curbs and Bumper Rails

- (1) All areas used for parking, loading, and maneuvering of vehicles shall be physically separated from public streets or adjoining property by required landscaped strips or yards or in those cases where no landscaped area is required, by curbs, bumper rails or other permanent barrier against unchanneled motor vehicle access or egress.***
- (2) The outer boundary of a parking or loading area shall be provided with a bumper rail or curbing at least four inches in height and at least three feet from the lot line or any required fence except as provided in (3) below.***
- (3) Except for development within the SRC, CFU-3, and CFU-4 zones, the outer boundary of a parking or loading area with fewer than four required parking spaces may use a five foot wide landscape strip or yard planted with a near-continuous number of shrubs and/or trees. If the outer boundary of the parking area is within 50 feet of a dwelling on an adjacent parcel, the plant materials shall create a continuous screen of at least four feet in height except at vision clearance areas where it shall be maintained at three feet in height.***

(C) Marking – All areas for the parking and maneuvering of vehicles shall be marked in accordance with the approved plan required under MCC 39.6515, and such marking shall be continually maintained. Except for development within the SRC zone, a graveled parking area with fewer than four required parking spaces is exempt from this requirement.

Response: The proposed parking, loading and maneuvering areas do not directly abut a public street and are physically separated by the surrounding forested area. Vehicle parking and loading spaces will each be provided with a wheel stop bumper meeting this standard. Additional landscaping to screen parking areas is not proposed due to the remote nature of the site, the existing densely forested area surrounding the development site, and required primary fire break needed to reduce fire fuel. The development site is not within 50 feet of a dwelling on an adjacent property. Fewer than four parking spaces are required and are graveled; therefore, parking area marking/stripping is not required.

(D) Drainage – All areas for the parking and maneuvering of vehicles shall be graded and drained to provide for the disposal of all surface water on the lot.

Response: All parking and vehicle maneuvering areas will be graveled to allow stormwater to infiltrate directly into the ground.

(E) Covered Walkways – Covered walkway structures for the shelter of pedestrians only, and consisting solely of roof surfaces and necessary supporting columns, posts and beams, may be located in an O-P district. Such structures shall meet the setback, height and other requirements of the district which apply.

Response: The site is not located in an O-P district. There is no need for covered walkway structures.

§ 39.4155 Exceptions to Secondary Fire Safety Zones.

(A) The secondary fire safety zone for dwellings and structures may be reduced pursuant to the provisions of 39.4155 (B) when:

- (1) The tract on which the dwelling or structure is proposed has an average lot width or depth of 330 feet or less, or***

(2) The dwelling or structure is proposed to be located within 130 feet of the centerline of a public or private road serving two or more properties; or

(3) The proposed dwelling or structure is proposed to be clustered with a legally existing dwelling or structure.

Response: The tower and accessory equipment building are located on a Lot of Record comprised of a single parcel. In T3-2018-10227, the County Hearings Officer found that the site was eligible for a secondary fire safety zone exception pursuant to criterion (1) above and meeting the provisions of 39.4155 (B) addressed below. The County's staff report noted:

"The road accessing the property is a federal road, thus a public owned road by definition of a public road. The Bull Run Watershed is closed to the general public, without permission it cannot be entered. The road can be used by the public whom have business or other authorization to enter the Bull Run Watershed. The proposed tower and accessory structures are to be located about 30 feet from the centerline of the access road. Staff finds that the road threshold criterion is met, thus an Exception is allowed."

Additionally, the proposed lot configuration resulting from the proposed land division neither changes the previously approved location of the communication tower and associated improvements relative to proposed setbacks from the adjacent property lines nor changes the setback from the centerline of the existing public road. Therefore, this criterion is met.

(B) Exceptions to secondary fire safety zones shall only be granted upon satisfaction of the following standards:

(1) If the proposed secondary fire safety zone is between 50 and 100 feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban– Wildland Interface Code Section 505 Class 2 Ignition Resistant Construction as adopted August, 1996, or as later amended, or

(2) If the proposed secondary fire safety zone is less than fifty feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, and

Response: The proposed secondary fire safety zone can be met on the tract to the north, south and west, as the property lines are over 130 feet away in each direction. The proposed tower and accessory equipment building are setback 30 feet from the east property line. As required for secondary fire zones less than fifty (50) feet, the proposed accessory equipment building will be constructed in accordance with the International Fire Code Institute Urban – Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. City of Gresham has reviewed these plans for compliance with this standard and the permit has been issued. This criterion is met.

(3) There shall be no combustible fences within 12 feet of the exterior surface of the dwelling or structure; and

Response: No combustible fences are proposed on the property.

(4) A dwelling shall have a central station monitored alarm system if the secondary fire safety zone equivalents of MCC 39.4155 (B) (1) are utilized, or

(5) A dwelling shall have a central station monitored 13D sprinkler system if the secondary fire safety zone equivalents of MCC 39.4155 (B) (2) are utilized. Exception: Expansions of existing single family dwellings as allowed by MCC 39.4075 (A) shall not be required to meet this standard, but shall satisfy the standard of MCC 39.4115(C)(3).

Response: The development proposal does not propose construction of a dwelling.

(6) All accessory structures within the fire safety zone setbacks required by MCC 39.4110, and all accessory structures within 50 feet of a dwelling, shall have a central monitored alarm system.

Response: There are no structures within 50 feet of a dwelling. The proposed accessory equipment building will be equipped with a central monitored alarm system.

(7) All accessory structures within 50 feet of a building shall have exterior walls constructed with materials approved for a minimum of one-hour-rated fire-resistive construction, heavy timber, log wall construction or constructed with noncombustible materials on the exterior side.

Response: The proposed metal lattice tower is considered the primary use and structure onsite and will not burn. The proposed equipment building is considered an accessory structure. It has concrete sides and roof and meets the International Fire Code Institute Urban – Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction standards.

(8) When a detached accessory structure is proposed to be located so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches of the ground, with exterior wall construction in accordance with Section 504.5 of the International Fire Code Institute Urban– Wildland Interface Code Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, or underfloor protection in accordance with Section 504.6 of that same publication. Exception: The enclosure may be omitted where the underside of all exposed floors and all exposed structural columns, beams and supporting walls are protected as required for exterior one-hour-rated fire resistive construction or heavy-timber construction.

Response: None of the proposed structures will be located over a descending slope surface greater than 10 percent. This criterion does not apply.

§ 35.4205 Minimum Required Off-Street Parking Spaces.

(E) Unspecified Uses

Any use not specifically listed above shall have the requirements of the listed use or uses deemed most nearly equivalent by the Planning Director.

Response: Radio and Television Transmission Towers are not specifically listed and provided a standard and is therefore considered an unspecified use. However, MCC 39.7565 (D) states that new transmission towers shall provide two parking spaces onsite. T3-2018-10227 approved two off-street parking spaces (unpaved). Accordingly, these spaces are shown on the submitted site plan, in addition to one required loading space, and meet the off-street parking standards requirements under MCC 39.6565.

D. COMMUNITY SERVICE USES

§39.7515 Community Service Use Approval Criteria

In approving a Community Service use, the approval authority shall find that the proposal meets the following approval criteria, except for transmission towers, which shall meet the approval criteria of MCC 39.7550 through 39.7575, wireless communications facilities, subject to the provisions of MCC

39.7705, and except for regional sanitary landfills, which shall comply with MCC 39.7600 through 39.7625.

Response: Transmission tower are subject to the approval criteria of MCC 39.7550 through 39.7575. These standards are addressed below under sub-section E.

E. RADIO AND TELEVISION TRANSMISSION TOWERS IN THE COMMERCIAL FOREST USE ZONE

RADIO and TELEVISION TRANSMISSION TOWERS, CS (Community Service)

§ 39.7550 – Purpose.

The purposes of the Section are to:

- (A) Minimize visual impacts of towers through careful design, siting and vegetative screening.***
- (B) Avoid potential damage to adjacent properties from tower failure and falling ice, through engineering and careful siting of tower structures.***
- (C) Lessen traffic impacts on surrounding residential areas.***
- (D) Ensure that the amount of non-ionizing electromagnetic radiation emitted by antennas does not exceed the amount at which human health has been found to be affected and is the minimum necessary to provide adequate access to the area's broadcasters by requiring compliance with stated emission standards and required separation standards.***

Response: The proposed tower design minimizes its impacts on the site and surrounding properties. The site and surrounding properties are kept in a forested state and use of this land is restricted to activities consistent with the delivery of water. There are no structures or people on any of the surrounding properties. There will be no potential damage to surrounding properties from tower failure or falling ice. The project has no real impact on traffic in the watershed. The microwave network is point-to-point between the various towers, with no facilities or employees located between the towers, and will have no measurable emissions that could cause a risk to human health.

§ 39.7560 Application Requirements.

An application for approval of a Community Service designation for a radio or television transmission tower shall contain at least the following information before it is complete:

- (A) Site plan or plans to scale specifying the location of towers(s), guy anchors (if any), transmission building and/or other accessory uses, access, parking, fences, landscaped areas, and adjacent land uses. Such plan shall also demonstrate compliance with MCC 39.7565 (I) and 39.7565 (J).***
- (B) Landscape plan to the scale indicating size, spacing and type of plantings required in 39.7565 (B).***
- (C) Report from a professional engineer licensed in the State of Oregon, documenting the following:***
 - (1) Tower height and design, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design. A cross-section of the tower structure shall be included.***
 - (2) Total anticipated capacity of the structure, including number and types of antennas which can be accommodated.***

- (3) Evidence of structural integrity of the tower structure as required by the Building Official.*
- (4) Failure characteristics of the tower and demonstration that site and setbacks are of adequate size to contain debris.*
- (5) Ice hazards and mitigation measures which have been employed, including increased setbacks and/or deicing equipment.*
- (D) Statements from the F.A.A, O.S.A.D., and F.C.C., that the standards of MCC 39.7565 (G) are met or the required good faith, timely effort it achieve such responses.*
- (E) Written authorization from adjoining property owners, if needed, under MCC 39.7565 (J).*
- (F) Responses to the applicable Comprehensive Plan Policies.*

Response:

- A site plan is included in Figure 7, and is also attached in Appendix E. It is the same site plan approved in Casefile T3-2018-10227 and has an issued building permit with the City of Gresham.
- The City is proposing to keep the site in a forested state and are providing no additional landscaping. A landscaping plan is not provided.
- The tower design specifications, signed by a professional engineer, are attached. It addresses the design of the tower, anticipated capacity, and the federal standards to which it is designed. It is the same tower design approved in T3-2018-10227 and issued a building permit by the City of Gresham. The tower will be inspected after it is constructed to ensure the structural integrity of the tower. The tower is designed to exacting engineering standards for large towers and is designed to withstand strong winds and high ice loads. It is extremely unlikely to fail, but if it does, it is unlikely to fall over but would instead buckle. Even if it did collapse, the abutting property to the east is heavily forested, with no people or structures on it, so a collapsing tower or falling ice will pose no danger to human life.
- Please see Appendix D for the FCC, FAA, and OSAD responses. PWB did not request updated responses for the subject applications, as the tower plans remain unchanged and the facility already has an issued building permit.
- No written authorization is needed from adjacent property owners.
- No Comprehensive Plan policies were identified by County staff at the April 25, 2019 pre-application or found to apply to this property.

§ 39.7565 Approval Criteria for New Transmission Towers.

New transmission towers in rural districts permitted under MCC 39.7520 (A) (15) (a) or (b) may be allowed, based on findings by the approval authority that the following criteria are met.

(A) The site is of a size and shape sufficient to provide the following setbacks:

- (1) For a tower located on a lot abutting an urban residential district or a public property or street, except a building-mounted tower, the site size standards of MCC 39.7565 (I) and 39.7565 (J) are met as to those portions of the property abutting the residential or public uses.***
- (2) For all other towers, the site shall be of sufficient size to provide the setback required in the underlying district between the base of the tower, accessory structures and uses, and guy anchors, if any, to all abutting property lines.***

Response: The parcel that the development is proposed to be on does not abut an urban residential district or dedicated right-of-way. However, the surrounding property is owned by the City of Portland and USFS and could be considered public land. The setback requirements of (A)(1) apply. A detailed response is provided to the standards of MCC 39.7565 (I) and (J) under that heading below. Based on these findings the site meets this standard.

(B) The required setbacks shall be improved to meet the following landscaping standards to the extent possible within the area provided:

(1) Landscaping at the perimeter of the property which abuts streets, residences, public parks or areas with access to the general public other than the owner of such adjoining property. Such landscaping plan shall demonstrate the following:

(a) For towers 200 feet tall or less, a buffer area no less than 25 feet wide shall commence at the property line. At least one row of evergreen shrubs shall be spaced not more than five feet apart. Materials should be of a variety which can be expected to grow to form a continuous hedge at least five feet in height within two years of planting. At least one row of evergreen trees or shrubs, not less than four feet height at the time of planting, and spaced not more than 15 feet apart, also shall be provided. Trees and shrubs in the vicinity of guy wires shall be of a kind that would not exceed 20 feet in height or would not affect the stability of the guys, should they be uprooted, and shall not obscure visibility of the anchor from the transmission building or security facilities and staff.

(b) For towers more than 200 feet tall... (does not apply).

(c) In lieu of these standards, the approval authority may allow use of an alternate detailed plan and specifications for landscape and screening, including plantings, fences, walls and other features designed to screen and buffer towers and accessory uses. The plan shall accomplish the same degree of screening achieved in (a) and (b) above, except as lesser requirements are desirable for adequate visibility for security purposes and for continued operation of existing bona fide agricultural or forest uses, including but not limited to produce farms, nurseries, and tree farms.

Response: The proposed tower is 195 feet tall and is 30 feet from the east property line at its closest point. The land between the tower and the east property line falls within the primary fire safety zone and will be kept clear of vegetation. The site itself and the abutting property to the east are uninhabited and heavily forested. The surrounding parcels for miles in each direction are forest, with only some facilities associated with operating a water system. The natural landscaping over these distances provides screening that exceeds the minimum standard. No screening is proposed. There are no guy wires associated with the tower.

(C) The applicant shall demonstrate that the tower can be expected to have the least visual impact on the environment, taking into consideration technical, engineering, economic and other pertinent factors. Towers clustered at the same site shall be of similar height and design, whenever possible. Towers shall be painted and lighted as follows:

(1) Towers 200 feet or less in height shall have a galvanized finish or be painted silver. If there is heavy vegetation in the immediate area, such towers shall be painted green from base to treeline, with the remainder painted silver or given a galvanized finish.

(2) Towers more than 200 feet in height... (does not apply).

(3) Towers shall be illuminated as required by the Oregon State Aeronautics Division. However, no lighting shall be incorporated if not required by the Aeronautics Division or other responsible agency.

- (4) Towers shall be the minimum height necessary to provide parity with existing similar tower supported antenna, and shall be freestanding where the negative visual effect is less than would be created by use of a guyed tower.***

Response:

- The new tower will be 195 feet in height. The tower will be painted green from base to treeline, with the remainder painted silver or given a galvanized finish.
- The tower is less than 200 feet in height. Does not apply.
- The Oregon State Aeronautics Division does not require illumination for the tower.
- The 195-foot height is the minimum to allow the microwave dish to be above the tree tops and have line-of-sight with Lookout Point tower, Bear Creek house, and the Headworks Treatment facility.

(D) A minimum of two parking spaces shall be provided on each site; an additional parking space for each two employees shall be provided at facilities which require on-site personnel, provided additional parking may be required in accordance with MCC 39.6500 to 39.6600 if the site serves multiple purposes.

Response: Two off-street parking spaces are provided on the property in accordance with this standard and MCC 39.6500 through MCC 39.6600. The site will not be staffed by on-site employees; therefore, additional parking beyond the required two spaces is not required.

(E) The applicable policies of the Comprehensive Plan are met.

Response: MCC 39 implements all applicable Comprehensive Plan policies. No additional Comprehensive plan policies apply in this case. Additionally, the April 25, 2018 pre-application notes did not indicate any applicable policies to be addressed.

(F) The NIER standards of MCC 39.7575 are met.

Response: The NIER standards of MCC 39.7575 will be met. See the discussion of the provisions of MCC 39.7575 in that section, below.

(G) The following agency coordination standards are met:

- (1) A written statement provided by the applicant from the appropriate official in the Federal Aviation Administration that the application has not been found to be a hazard to air navigation under Part 77, Federal Aviation Regulations, or a statement that no compliance with Part 77 is required;***
- (2) A written statement provided by the applicant from the appropriate official in the Oregon State Aeronautics Division that the application has been found to comply with the applicable regulations of the Division, or a statement that no such compliance is required; and,***
- (3) A written statement provided by the applicant from the appropriate official in the Federal Communications Commission that the application complies with the regulations of the Commission or a statement that no such compliance is necessary.***
- (4) The statements in (1) through (3) may be waived when the applicant demonstrates that a good faith, timely effort was made to obtain such responses but that no such response was forthcoming, provided the applicant conveys any response received; and further provided any subsequent response that is received is conveyed to the approval authority as soon as possible.***

Response: PWB contacted all three agencies named in (G)(1) through (3) above. The FCC responded that the tower does not need to be registered with them. Their response is found in Appendix D along with all other agency correspondence as part of the original application T3-2018-10227. PWB did not

request updated agency coordination letters as the tower plans provided with this application are the same as when each agency reviewed them and are the plans for which the City of Gresham has issued a building permit.

(H) For a proposed tower in the EFU, CFU-3, CFU-4 and MUA-20 districts, the following restrictions on accessory uses shall be met:

(1) Accessory uses shall include only such buildings and facilities necessary for transmission function and satellite ground stations associated with them, but shall not include broadcast studios, offices, vehicle storage areas, nor other similar uses not necessary for the transmission function.

Response: The microwave equipment necessary for operation of the tower will be placed inside the proposed equipment building on site. Broadcast studios, offices, vehicle storage areas, and other similar uses are not proposed.

(2) Accessory uses may include studio facilities for emergency broadcast purposes or for other special, limited purposes found by the approval authority not to create significant additional impacts nor to require construction of additional buildings or facilities exceeding 25 percent of the floor area of other permitted buildings.

Response: No emergency broadcast studio facilities or other “special, limited” accessory uses are proposed.

(I) Site size and tower setbacks:

(1) The site shall be of a size and shape sufficient to provide an adequate setback from the base of the tower to any property line abutting an urban residential district, public property, or public street. Such setback shall be sufficient to:

(a) Provide for an adequate vegetative, topographic or other buffer, as provided in MCC 39.7565 (C) and 39.7565 (B),

(b) Preserve the privacy of adjoining residential property,

Response: The property does not abut an urban residential district, public land or public street. The proposed lattice tower will be set back 30 feet from the east lot line, approximately 1,200 feet from the south property line, 1,200 feet from the west property line, and 240 feet from the north property line. The combination of topography, heavy forest cover, and distance provide adequate setback distances to the north, west, and south lot lines. The east setback is much closer, but is adequate as the adjacent parcel is uninhabited, forested, and will be kept this way.

(c) Protect adjoining property from the potential impact of tower failure and ice falling from the tower by being large enough to accommodate such failure and ice on the site, based on the engineer's analysis required in MCC 39.7560 (C) (4) and (5), and

Response: The proposed lattice tower will be set back 30 feet from the east lot line, approximately 1,200 feet from the south property line, 1,200 feet from the west property line, and 240 feet from the north property line. The property to the east is owned by USFS and is undeveloped, uninhabited, and heavily forested. If ice or debris should fall onto the site or adjacent property, it would pose no hazards to human life or developed infrastructure.

The proposed tower is also designed to the latest TIA-222 Standards – the Structural Standards for Antenna Supporting Structures and Antennas and is designed to not collapse. The TIA-Standards also factor ice and seismic loads, as well as materials into the design strength of the tower. Based on the

structural analysis provided, the tower is designed to be structurally sound and extremely resistant to failure.

(d) Protect the public from NIER in excess of the standard of MCC 39.7575 (A).

Response: There is no danger of human exposure to NIER emissions. The height of the tower and the fact that the microwave dishes are point-to-point with almost all energy focused in the path between the two dishes means there will be no detectable emissions at 1.5 meters above ground. In addition, there are no inhabited structures located along the paths between the towers. As shown in Appendix H, the site complies with NIER emissions standards.

(2) A site is presumed to be of sufficient size when it:

(a) Meets the requirements of (1) (c) and (d) above,

(b) Provides a setback equal to 20 percent of the height of the tower to any property line abutting an urban residential district, public property, or public street, and

(c) Provides a setback equal to or exceeding the rear yard setback required for the adjoining property where the adjoining property is not in an urban residential district nor a public property or a public street.

Response:

(a) This site meets the requirements of (1)(c) and (d) as shown above.

(b) No property line on the site abuts an urban residential district or public street. The property is surrounded by land that is publicly owned, either by the Water Bureau or the USDA Forest Service. While publicly owned, they are uninhabited and undeveloped and will remain that way due to the use restrictions on the properties. There is very limited public access to the property.

The tower is 195 feet tall, and 20 percent is equal to 39 feet. The proposed lattice tower will be set back 30 feet from the east lot line, approximately 1,200 feet from the south property line, 1,200 feet from the west property line, and 240 feet from the north property line. The proposed tower and accessory equipment building will be located at least 30 feet (15.4% of tower height) from the east property line. A Variance to this standard is requested below.

Criterion (c) above is not applicable because the adjoining property is a public property.

Based on the above discussion, the County can find that the site is of sufficient size to safely site a microwave communications tower because the site is part of the overall Bull Run Watershed.

(3) Placement of more than one tower on a lot shall be permitted, provided all setback, design and landscape requirements are met as to each tower. Structures may be located as close to each other as technically feasible, provided tower failure characteristics of the towers on the site described in MCC 39.7560 (C) (4) will not lead to multiple failures in the event that one fails.

Response: Only one tower is proposed. This criterion does not apply.

(4) Structures and uses associated with the transmission use other than the transmission tower shall be located to meet the setbacks required in MCC 39.7525.

(MCC 39.7525 RESTRICTIONS, reads:

A) Minimum yards in EFU, MUA-20, RR, and SRC Districts:

(1) Front yards shall be 30 feet.

(2) Side yards for one-story buildings shall be 20 feet; for two-story buildings, 25 feet.

(3) Rear yards shall be as required in the district.)

Response: These standards do not apply to CFU-3 zoned lands; therefore, they are not applicable.

(J) Guy setbacks...

Response: This standard does not apply because no guys or guy anchors are proposed.

§ 39.7570 Design Review.

The use shall comply with the design review provisions of MCC 39.8000 to 39.8050. This may be implemented as a condition of approval.

Response: This proposal includes Design Review. See Section 4 below for discussion.

§ 39.7575 Radiation Standards.

Non-ionizing electromagnetic radiation standards.

(A) No source of non-ionizing electromagnetic radiation shall hereinafter be operating, which causes the general population to be exposed to radiation levels exceeding the mean squared electric (E2) or mean squared magnetic (H2) field strengths, or their equivalent plane wave free space power density, as specified in Table 1.

- (1) For near field exposures, measurements of the mean squared electric and magnetic field strengths are especially important to determine compliance with the standards in columns 2 and 3 of Table 1. For convenience, mean squared electric or magnetic field strengths may be specified as the equivalent plane-wave power density. At higher frequencies (e.g., above 30-300 MHz), measurement of mean-squared magnetic field strength may not be necessary if it can be reliably inferred from measurements of either mean squared electric field strength or equivalent plane-wave power density.***
- (2) In the event the federal government promulgates mandatory or advisory standards more stringent than those described herein, the more stringent standards shall apply.***
- (3) These standards are adapted from the American National Standards Institute's American National Standard C95.1-1982, Safety Levels with Respect to Human Exposure to Electromagnetic Fields (300 kHz to 100 GHz). This ANSI standard's documentation should be consulted to help resolve any future questions about the basis or interpretation of the standards in this section.***
- (4) Similarly, the latest revision of ANSI's American National Standards Institute's American National Standard C95.3, Techniques and Instrumentation for the Measurement of Potentially Hazardous Electro-Magnetic Radiation at Microwave Frequencies, is incorporated here by reference as one source of acceptable methods for measuring non-ionizing radiation levels in determining compliance with this standard.***
 - (a) For all measurements made to ensure compliance with this section, evidence shall be submitted showing that the instrument or instruments used were calibrated within the manufacturer's suggested periodic calibration interval; that the calibration is by methods traceable to the National Bureau of Standards; a statement that the measurements were made in accordance with good engineering practice; and a statement or statements as to the accuracy of the results of the measurements.***
- (5) The standards adopted herein shall be periodically reviewed by the Multnomah County Health Officer, in light of any new scientific knowledge as to the effects on the general population of non-ionizing electro-magnetic radiation; and these standards may hereafter be raised, lowered or***

otherwise changed as the County shall require by amendment of this section. The first such reports shall be delivered on or before January 1, 1984.

- (6) For average times less than 0.5 hour, the allowed power density P in $\mu\text{W}/\text{cm}^2$ as a function of averaging time t in hours is given by $P = k/t$ where in turn k is equal to $1/2$ times the allowed power density for averaging times of 0.5 hour and greater.*

(B) All existing sources of non-ionizing electromagnetic radiation in the frequency spectrum, 100 kHz to 300 GHz, except those exempted below, are within 120 days of the enactment of this section, hereby required to register with the County and provide the following information for each individual source on forms provided by the Planning Director.

- (1) Name and address of owner of transmitter and/or antenna.*
- (2) Name and address of owner of property on which the transmitter and/or antenna is located*
- (3) Location of transmitter.*
- (4) Location of antenna by geographic coordinates by either latitude and longitude or state plane coordinates.*
- (5) Output frequency of transmitter.*
- (6) Type of modulation and class of service.*
- (7) Power output of transmitter (average and peak).*
- (8) Power input to antenna.*
- (9) Manufacturer, type, manufacturer's model number of antenna and a copy of the antenna radiation patterns.*
- (10) Gain of antenna with respect to an isotropic radiator*
- (11) Polarization of radiation from antenna.*
- (12) Height of antenna above ground.*
- (13) Horizontal and radial distance of antenna to nearest point on property line and to nearest habitable space regularly occupied by others than immediate family or employees of transmitter and/or antenna owner and/or operator.*
- (14) Elevation above mean sea level of ground at the antenna location and the points specified in (B)(13).*
- (15) The call letters assigned to the source*
- (16) Date of installation of present transmitter, and date of installation of the associated antenna, date of installation of the structure, if any, on which the antenna is located.*
- (17) Any sources not so registered shall be regarded as a new source and any registered source with different essential technical characteristics than those of (B) (3) through (B) (13) above as a changed existing source.*

C) After August 19, 1982, no installation of a new source of non-ionizing electromagnetic radiation or changes in an existing source which in any way causes increases in the NIER or radiation pattern of the NIER source shall occur without first obtaining a Community Service use designation or modification thereof, unless otherwise provided herein.

Response: The proposed microwave equipment complies with all federal, state, and local regulations regarding emissions. Specific responses to (B) are included in Appendix G.

(D) The application for the use shall be on forms provided by the Planning Director, and shall show:

- (1) The information required under (1) through (16) of subpart (B) above.***
- (2) The measured existing non-ionizing radiation levels at the nearest point on the property lines of the predicted maximum radiation from the source, and the nearest point regularly occupied by other than the immediate family and/or employees of the transmitter owner and/or operator.***
 - (a) These measurements shall be made at a height of 1.5 meters above the ground or at the greater height if habitation occurs at a greater height with lesser radial distance to the source.***
 - (b) If the measured level is equal to or less than 1/5 of the limits, the measurement shall be made for the continuous period 6 a.m., to 6 p.m., on a regular business day.***
 - (c) If the measured level is greater than 1/5 of the limits, the measurement shall be made for a continuous period of 168 hours.***
 - (d) If there exists an operational situation which would cause higher levels to occur at some other time than the intervals of (b) or (c) above, the measurement shall be made during that time.***
 - (e) These measurements may be made by whatever means the registered professional engineer under whose direction and supervision they are made deems appropriate. The effects of contributing sources of frequency below the lower frequency limit of broadband instruments may be appropriate separate single instant measurements of the contribution due to these sources. Further, levels below 20 microwatts/cm² or the minimum sensitivity of the instruments used, whichever is lesser, shall be deemed zero for further computational purposes.***

Response: Multnomah County informed PWB that there is no separate form provided by the Planning Director, and to include the information for (B) in this application. It is included here. There is no existing microwave equipment on site at this time. The measuring of existing sources therefore does not apply.

(E) A Community Service use designation or modification thereof may be granted if the levels calculated in MCC 39.7575 (D), including the existing measured background, do not exceed the limits set forth in MCC 39.7575 (A), and if a new tower is required, the siting standards of this section are met. However, if the calculated levels, including existing measured background at any point specified in MCC 39.7575 (D) exceed one-third of the maximum levels of MCC 39.7575 (A), then, the approval shall be conditional upon measurements made after the new source is installed showing that the maximum levels of MCC 39.7575 (A) are not exceeded. If the calculated levels exceed the maximum level of MCC 39.7575 (A), the application shall be denied.

Response: The NIER study contained in Appendix H shows that this facility will comply with all Federal, State, and local NIER standards.

(F) All commercial intermittent sole source emitters of less than 1 KW average output are exempt from the measurement requirements of MCC 39.7575 (D) if they comply with the separation requirement of MCC 39.7575 (F) and all other requirements of this section. Prior to issuance of a building permit for a tower to support an antenna associated with one of these uses, the Planning Director shall determine that the antenna meets the following requirements:

- (1) For an effective radiated power (ERP) of less than 100 watts the highest current point of the antenna is located at least ten feet and all portions of the antenna three feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.***

- (2) For an ERP greater than 100 watts, but less than 1,000 watts, the highest current point of the antenna is at least 15 feet and all portions of the antenna at least six feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.
- (3) For an ERP equal to or greater than 1,000 watts, but less than 10 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.

Frequency	Minimum Distance from Highest Current Portion	Minimum Distance from Any Portion
<7 MHz	11 feet	5 feet
7 - 30 MHz	$f/0.67$ feet	$f/1.5$ feet
30 - 300 MHz	45 feet	20 feet
300 - 1500 MHz	$780 / \sqrt{f}$ feet	$364 / \sqrt{f}$ feet
>1500 MHz	20 feet	10 feet
Where f is frequency in megahertz.		

- (4) For an ERP equal to or greater than 10 kW, but less than 30 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source, and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.

Frequency	Minimum Distance from Highest Current Portion	Minimum Distance from Any Portion
<7 MHz	17.5 feet	8 feet
7 - 30 MHz	$f/0.4$ feet	$f/0.91$ feet
30 - 300 MHz	75 feet	33 feet
300 - 1500 MHz	$1300 / \sqrt{f}$ feet	$572 / \sqrt{f}$ feet
>1500 MHz	34 feet	15 feet

(G) The following uses are exempt from all requirements of this section:

- (1) All portable, handheld and vehicular transmission sources.
- (2) Industrial, scientific, and medical equipment operating at frequencies designated for that purpose by the FCC.
- (3) Radio frequency machines:
 - (a) Which have an effective radiated power of 7 watts or less;
 - (b) Which are designated and marketed as consumer products, such as microwave ovens, citizen band radios, and remote control toys, or

(c) Which are in storage, shipment or on display for sale, provided such machines are not operated.

(4) Amateur intermittent sole source emitters of less than 1 KW average output.

Response: The exemptions of (F) and (G) do not apply.

F. DESIGN REVIEW AND DEVELOPMENT STANDARDS

This section supplements the background information provided in Section 1 and the CFU District findings in Section 2 by providing findings to support compliance with applicable MCC 39.8000 Design Review provisions.

§ 39.8040 Design Review Criteria.

(A) Approval of a final design review plan shall be based on the following criteria:

(1) Relation of Design Review Plan Elements to Environment.

(a) The elements of the design review plan shall relate harmoniously to the natural environment and existing buildings and structures having a visual relationship with the site.

Response: The site and surrounding properties are heavily forested, undeveloped, and uninhabited. The top of the tower will appear slightly above the tree line, otherwise the proposed project will be heavily screened from view. The proposed equipment building is finished in earth tones that blend into the surrounding forested environment. The Water Bureau feels the proposed development relates harmoniously to its surrounding natural environment even when sited on a parcel less than 80 acres.

(b) The elements of the design review plan should promote energy conservation and provide protection from adverse climatic conditions, noise, and air pollution.

Response: The project is primarily powered by solar energy, with only occasional use of the generator when heating and cooling is required. The system is designed to be operated remotely, reducing vehicular trips to the site. Every trip eliminated reduces energy consumed and air pollution and noise created by vehicle traffic. The use of solar power supplemented by propane makes this a low-emission project. The only source of noise is the generator, which is located inside the equipment building, and it provides significant sound dampening.

The design promotes energy conservation and protection from noise and air pollution. The project will not introduce any new adverse climatic conditions.

(c) Each element of the design review plan shall effectively, efficiently, and attractively serve its function. The elements shall be on a human scale, interrelated, and shall provide spatial variety and order.

Response: The project has been designed to provide minimal disturbance to the site, and to have minimal impact on the surrounding lands. The tower has been designed to be at the minimum height necessary to ensure line-of-site connection to Lookout Point tower, Bear Creek house, and the Headworks Treatment facility. It is a very efficient design and will significantly improve microwave communications in the watershed.

(2) Safety and Privacy: The design review plan shall be designed to provide a safe environment, while offering appropriate opportunities for privacy and transitions from public to private spaces.

Response: The subject site and development area are located within the Bull Run Watershed and are not accessible to the public. Access to the site is restricted by locked security gates. All around the

proposed development area, the property is heavily forested, which screens the tower and equipment building from surrounding properties. There is no need to create transitions between public and private spaces.

(3) Special Needs of Handicapped: Where appropriate, the design review plan shall provide for the special needs of handicapped persons, such as ramps for wheelchairs and braille signs.

Response: The site is not open to the public; only PWB employees and contractors are allowed entrance. Access to the single-story equipment building structure is at ground-level. The new tower will not alter the accessibility of any part of the site, nor will it create any new accessibility needs.

(4) Preservation of Natural Landscape: The landscape and existing grade shall be preserved to the maximum practical degree, considering development constraints and suitability of the landscape or grade to serve their functions. Preserved trees and shrubs shall be protected during construction.

Response: The new tower and equipment building will be constructed with minimal disturbance to adjacent vegetation. All work will primarily be conducted in the existing cleared area onsite. Minimal grading will be needed. Vegetation removal will be the minimum needed to develop the site, and to meet the primary and secondary fire safety zone requirements. Trees will be protected during construction.

(5) Pedestrian and Vehicular circulation and Parking: The location and number of points of access to the site, the interior circulation patterns, the separations between pedestrians and moving and parked vehicles, and the arrangement of parking areas in relation to buildings and structures, shall be designed to maximize safety and convenience and shall be harmonious with proposed and neighboring buildings and structures.

Response: Two vehicle parking spaces and one loading parking space will be provided as part of the project. The locations have been chosen to provide adequate site circulation, which maximizes safety and convenience. The parking spaces are located adjacent to the equipment building, and the loading space is next to the propane tank.

There are no buildings or structures on adjacent properties. There is no pedestrian or vehicular circulation or interaction between the site and neighboring properties.

(6) Drainage: Surface drainage and stormwater systems shall be designed so as not to adversely affect neighboring properties or streets. Systems that insure that surface runoff volume after development is no greater than before development shall be provided on the lot.

Response: All stormwater from the roof of the accessory equipment building will drain to the ground where it can safely infiltrate. Surface drainage will have no impact on adjacent properties, as the site is 41.9 acres in size and the closest property line to the north is approximately 240 feet away. The two parking spaces and the loading zone will be graveled, allowing for rainwater infiltration. No additional stormwater systems are needed.

(7) Buffering and Screening: Areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking, and similar accessory areas and structures shall be designed, located, buffered or screened to minimize adverse impacts on the site and neighboring properties.

Response: As indicated throughout this document, the proposed tower site provides adequate setback from all property lines except for the east property line. The remote nature of the site and the

surrounding dense forest adequately screens and buffers the proposed tower, accessory structures, and required parking areas from neighboring properties.

(8) Utilities: All utility installations above ground shall be located so as to minimize adverse impacts on the site and neighboring properties.

Response: The propane is located adjacent to the maintenance building, thereby minimizing impact.

(9) Signs and Graphics: The location, texture, lighting, movement, and materials of all exterior signs, graphics or other informational or directional features shall be compatible with the other elements of the design review plan and surrounding properties.

Response: No signage or graphics are proposed.

§ 39.8045 Required Minimum Standards.

(A) and (B) do not apply.

(C) Required Landscape Areas

The following landscape requirements are established for developments subject to design review plan approval:

(1) A minimum of 15% of the lot area shall be landscaped; provided, however, that computation of this minimum may include areas landscaped under subpart 3 of this subsection.

(2) All areas subject to the final design review plan and not otherwise improved shall be landscaped.

Response: The subject lot is entirely forested with native vegetation. As established in T3-2018-10227, the site is already landscaped. The property is surrounded by dense forest for miles in all directions and directly abuts uninhabited, vacant properties that are part of the Bull Run Watershed. Therefore, no additional landscaping should be required.

(3) The following landscape requirements shall apply to parking and loading areas:

(a) A parking or loading area providing ten or more spaces shall be improved with defined landscaped areas totaling no less than 25 square feet per parking space. [...]

Response: The parking spaces and loading space are surrounded by native vegetation. No additional plantings are required.

(4) Provision shall be made for watering planting areas where such care is required.

(5) Required landscaping shall be continuously maintained.

(6) Maximum height of tree species shall be considered when planting under overhead utility lines.

(7) Landscaped means the improvement of land by means such as contouring, planting, and the location of outdoor structures, furniture, walkways and similar features.

Response: The subject lot is entirely forested with native vegetation that does not require additional watering or care. There are no overhead utility lines to be considered.

§ 39.8050 Minor Exceptions: Yard, Parking, Sign, And Landscape Requirements.

Response: This section does not apply.

G. VARIANCE STANDARDS

ADJUSTMENTS AND VARIANCES

§ 39.8200 Purpose.

(A) The regulations of this Zoning Code Chapter are designed to implement the Policies of the Comprehensive Framework Plan and each Rural Area Plan. However, it is also recognized that because of the diversity of lands and properties found in the county there should be a zoning provision that permits justifiable departures from certain Zoning Code dimensional standards where literal application of the regulation would result in excessive difficulties or unnecessary hardship on the property owner.

(B) To address those situations, modification of the dimensional standards given in MCC 39.8205 may be permitted if the approval authority finds that the applicant has satisfactorily addressed and met the respective approval criteria in MCC 39.8210, Adjustments, or 39.8215, Variances. If an Adjustment or Variance request is approved, the approval authority may attach conditions to the decision to mitigate adverse impacts which might result from the approval.

Response: This application requests two Variances: (1) to the required forest practice setback from 130 feet to 30 feet along the east property line. This is a reduction of 77 percent, which requires a Variance to the forest practices setback requirements of the CFU-3 District; and (2) a Variance to the tower siting setback standard under MCC 39.7565 (I)(2)(b) to reduce the required setback from the east property line from 20% of the proposed tower height or 39 feet to 15.4% of the proposed tower height or 30 feet. MCC 39.8205 (B) allows modification of these dimensional standards through the Variance review process.

(D) The Variance review process differs from the Adjustment review by providing a mechanism by which a greater variation from the standard than 40 percent may be approved for certain zoning dimensional requirements. The Variance approval criteria are based upon the traditional variance concepts that are directed towards consideration of circumstances or conditions on a subject property that do not apply generally to other properties in the same vicinity. All proposed modification of the dimensional standards given in MCC 39.8205(A)(2) shall be reviewed under the Variance review process regardless of the proposed percentage modification.

Response: This application is requesting a 77% reduction to the required forest practice setback along the east property line from 130 feet to 30 feet in the CFU-3 District. PWB also requests a Variance to the tower siting setback under MCC 39.7565 I (2)(b) to reduce the required setback from the east property line from 20% of the proposed tower height or 39 feet to 15.4% of the proposed tower height or 30 feet. MCC 39.8205(B) allows modification of these dimensional standards through the Variance process.

§ 39.8205 Scope.

(B) Dimensional standards that may be modified under a Variance review are yards, setbacks, forest practices setbacks, buffers, minimum front lot line length, building height, sign height, flag lot pole width, cul-de-sac length, cul-de-sac turnaround radius, and dimensions of a private street, except the following:

Response: The requested Variance is to the forest practices setback standard for the CFU-3 District. The forest practices setback requires a minimum setback of 130 feet in all directions. This application is requesting a 77% reduction to the forest practice setback along the east property line from 130 feet to 30 feet in the CFU-3 District. PWB also request a Variance to the tower siting setback standard in

39.7565 (1)(2)(b), which requires a minimum setback equal to 20% of the height of the tower, or a setback of 39 feet.

§ 39.8215 Variance Approval Criteria.

The Approval Authority may permit and authorize a variance from the dimensional standards given in MCC 39.8205 upon finding that all the following standards in (A) through (F) are met:

(A) A circumstance or condition applies to the property or to the intended use that does not apply generally to other property in the same vicinity or zoning district. The circumstance or condition may relate to:

- (1) The size, shape, natural features and topography of the property, or***
- (2) The location or size of existing physical improvements on the site, or***
- (3) The nature of the use compared to surrounding uses, or***
- (4) The zoning requirement would substantially restrict the use of the subject property to a greater degree than it restricts other properties in the vicinity or district, or***
- (5) A circumstance or condition that was not anticipated at the time the Code requirement was adopted.***
- (6) The list of examples in (1) through (5) above shall not limit the consideration of other circumstances or conditions in the application of these approval criteria.***

Response: Variances to the forest practices setback and to the tower siting setback requirement under 39.7565 I (2)(b) on the subject site will not authorize a prohibited use in the CFU-3 district. The requested variances will continue to allow the City of Portland to reasonably use its property without creating additional impacts on surrounding forest lands.

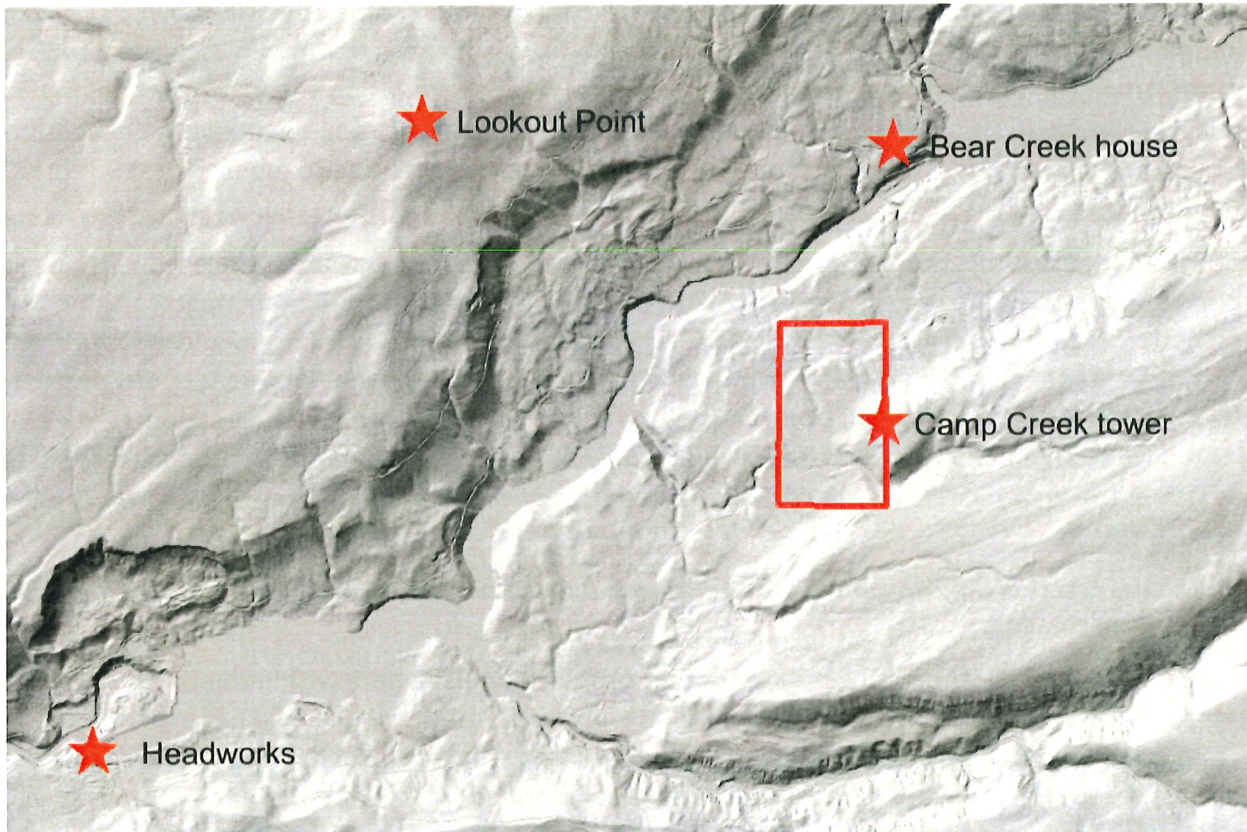
The need for these variances arises due to the existing location of the cleared area at the end of a forest road and its near proximity to steep slopes and the east property line. The proposed development area is situated at an elevation of approximately 1,600 feet above sea level at the top of a ridge with densely forested steep slopes just beyond to the north, south and west. Because the cleared area is surrounded by heavily forested steep slopes and is located at the terminus of Forest Road 1200-126, it is not feasible to site the tower and accessory structures at a greater setback than is proposed from the eastern property line. To do so would place a hardship on the applicant by requiring the siting of structures on slopes that exceed 60%.

Additionally, siting these structures on the surrounding steep slopes would require considerable removal of trees and vegetation and would unnecessarily reduce the forest canopy, contributing to erosion of the slopes, and impacting the main use and purpose of the property, which is to provide clean water to the City of Portland.

The City property located at the end of Camp Creek ridge is optimal for siting a microwave communications tower. This clearing at the top of the ridge is flat and is a large enough area to place the proposed tower and accessory building. The tower and accessory building locations at the end of Forest Road 1200-126 in an existing cleared area will minimize forest canopy reduction, pose the least impact to surrounding forest properties, and will not conflict with surrounding forest properties. Additionally, its location at the top of a ridge is ideal for optimal microwave signal transmission between in-town PWB and Bull Run Watershed facilities because a line-of-sight path can be easily

established to the other connected locations within the watershed (Lookout Point tower, Bear Creek house, Headworks Treatment facility). See Figure 9.

Figure 9: Facilities Connected to City via Microwave Communication



PWB reviewed alternative locations to siting the tower on the subject site to eliminate the need for these variances, but determined siting the microwave communication tower and accessory structures elsewhere on the subject property was not a practical solution to the variances for the following reasons:

- The existing cleared location at the end of Camp Creek ridge is situated at the highest elevation on the subject property (approximately 1,600 feet), which is not only the most logical place to site a microwave communications tower for optimal signal transmission, it is the most practicable, as it will require the least amount of disturbance to the site. Minimal tree clearing will be needed and a new road will not need to be developed, significantly reducing overall impacts to wildlife habitat in the area and to the Bull Run Watershed.
- There are no other City-owned locations within the watershed that can be used. The other City-owned parcels are located at lower elevations with no visual access to Lookout Point tower, making them unusable for microwave communications.

(B) The circumstance or condition in (A) above that is found to satisfy the approval criteria is not of the applicant's or present property owner's making and does not result solely from personal circumstances of the applicant or property owner. Personal circumstances include, but are not limited to, financial circumstances.

Response: The physical features of the lot limit the development location to the proposed development area. The proposed development area is situated at the top of a ridge and at the end of an existing forest road where the microwave communication system supported by the tower will have a clear line-of-sight path between it, the tower on Lookout Point, and the City's facilities at Bear Creek house and Headworks Treatment facility. The proposed development area is an existing cleared and relatively level area making it the most logical and practicable area to site a microwave communications tower because it already provides adequate space for the tower and accessory structures to be clustered, thereby reducing the need to remove trees and vegetation, while minimizing adverse impacts on wildlife or their habitat. The steep slopes surrounding the development area prevent it from being shifted farther back from the east property line to meet the required 130-foot setback.

Additionally, the existing access to the development site cannot be reasonably relocated without additional unnecessary financial costs to the City of Portland and environmental impacts to the watershed. The existing forest road provides secure access to the site and runs up and along a ridge to an existing vantage point that is ideal for microwave tower operations. Any other location considered on the subject property for siting a communications tower would be at a lower elevation, require additional road development and tree clearing, and would significantly reduce the signal transmission in and out of the watershed. Therefore, physical features of this site are existing and are not a self-imposed hardship.

(C) There is practical difficulty or unnecessary hardship to the property owner in the application of the dimensional standard.

Response: PWB has no other siting options on the property or elsewhere within the Bull Run Watershed. The proposed tower and accessory building locations at the top of a ridge offers little opportunity to shift the development area farther back from the east property line without placing the tower on a steep slope. Because the cleared area is surrounded by steep slopes and densely forested area, it is not feasible to site the tower and accessory structures at a greater setback than proposed from the eastern property line. To do so would require the removal of trees and vegetation on and around steeply sloping lands. This would unnecessarily reduce the forest canopy, contribute to erosion of the steep slopes, and place a hardship on the applicant by requiring the siting of structures on or near a potentially unstable slope increasing construction risks.

(D) The authorization of the variance will not be materially detrimental to the public welfare or injurious to property in the vicinity or zoning district in which the property is located, or adversely affects the appropriate development of adjoining properties.

Response: The property is heavily forested, as are all adjacent properties. The proposed lattice tower will be set back 30 feet from the east lot line, approximately 1,200 feet from the south property line, 1,200 feet from the west property line, and 240 feet from the north property line. The surrounding properties are all in forest use and are undeveloped/uninhabited tax lots. The tower and accessory building will be adequately screened by the dense surrounding forest trees and vegetation. The tower and accessory building will not have any visual or physical impacts to adjacent properties. Additionally, concerns regarding light, noise, privacy, and stormwater runoff are adequately mitigated by the fact that the development area will be clustered in a relatively small development area on the subject property and thus will have no impact on surrounding properties. The area of the development is relatively flat and will not become unstable. No streams are near the proposed development area. Access to the development site is via an existing forest road. Due to the remote operational characteristics of the microwave tower, PWB staff visits will be limited to the site.

The tower is designed to exacting engineering standards for large towers and is designed to withstand strong winds and high ice loads. It is extremely unlikely to fail, but if it does, it is unlikely to fall over and would instead buckle. If the tower should fully collapse, the abutting property to the east is heavily forested, with no people or structures on it, so a collapsing tower or falling ice will pose no danger to human life or property.

Finally, there is no danger of human exposure to NIER emissions. The height of the tower and the fact that the microwave dishes are point-to-point with almost all energy focused in the path between the two dishes means there will be no detectable emissions at 1.5 meters above ground. In addition, there are no inhabited structures located along the paths between the towers. As shown in the emissions study in Appendix G, the site will comply with all NIER emissions standards.

For these reasons, the requested variances will not be materially detrimental or injurious to public welfare or property and will not impact adjacent properties.

(E) The Variance requested is the minimum necessary variation from the Code requirement which would alleviate the difficulty.

Response: The Water Bureau has designed the tower location on the top of Camp Creek ridge to consider the limited amount of space at the top, the existing clearing, and a desire to minimize the number of trees cut down as part of the project. The remaining trees to the west are considered prime wildlife habitat. They also provide some measure of protection from wind and weather for the tower and structures. For all these reasons, PWB feels the requested variances to 30 feet is a reasonable distance and the minimum necessary to reasonably and safely site the proposed tower without impacting adjacent properties.

(F) Any impacts resulting from the variance are mitigated to the extent practical. That mitigation may include, but is not limited to, such considerations as provision for adequate light and privacy to adjoining properties, adequate access, and a design that addresses the site topography, significant vegetation, and drainage.

Response: The proposed site on the top of Camp Creek ridge sits in the middle of a forest that extends for over a mile in all directions, with the only development being access roads. There are no surrounding uses that will be impacted by the tower in any way. There are no issues with blocking light, stormwater runoff, or creating noise impacts to adjacent uses, and there are no restrictions to access to surrounding properties. The forest provides excellent screening for the tower. No streams are near the proposed development area, and the project will not destabilize any of the surrounding slopes. Based on the above stated reasons, there will be no measurable impact on the adjacent property owners or to future forest uses or operations.

Access to the development site is via Forest Service Road 1200-126. Due to the remote operational characteristics of the microwave tower, PWB staff visits will be limited to the site and will remain unchanged compared to the current situation. As demonstrated above, no impacts will occur to surrounding forest properties. Therefore, the requested variances should be approved.

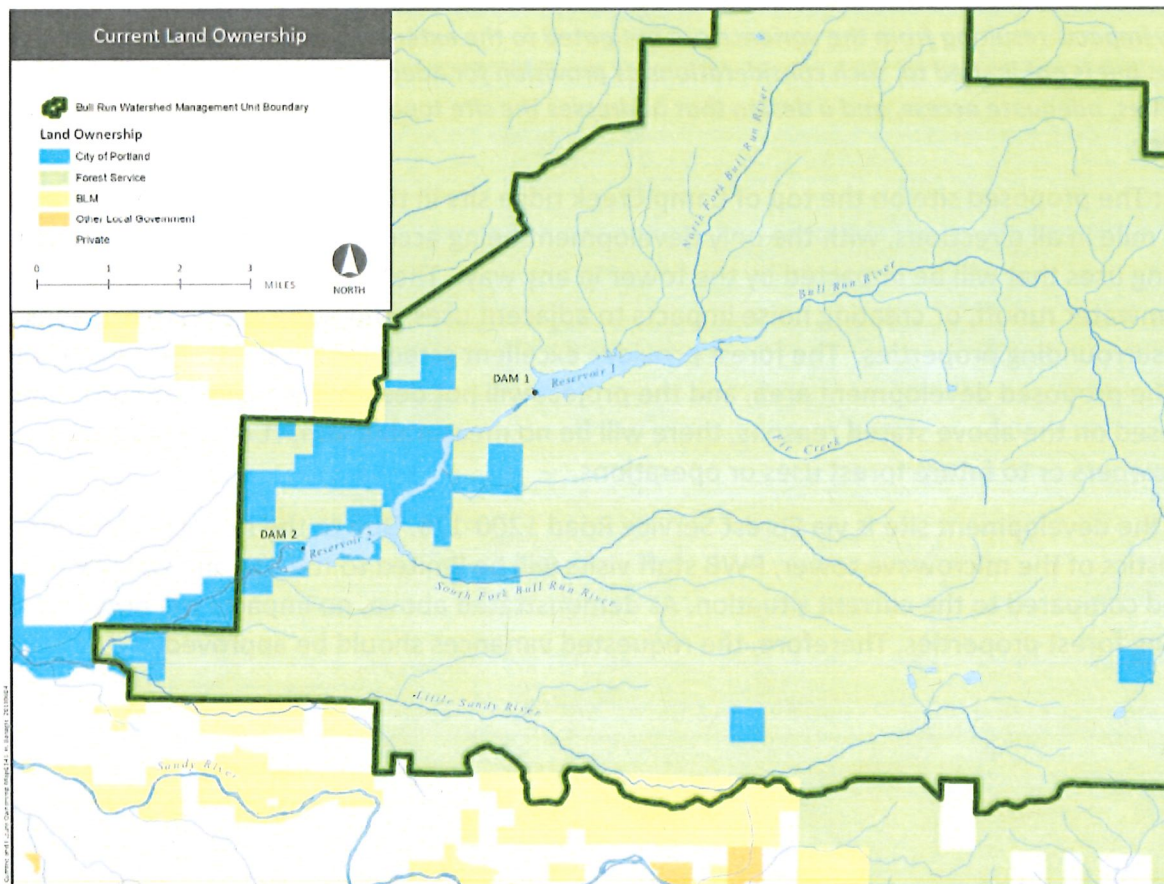
SECTION 3: APPLICATION FOR A CATEGORY 1 LAND DIVISION A FOUR-LOT LAND DIVISION IN THE CFU-3 DISTRICT

A. INTRODUCTION

With this application, the City seeks approval of a four-lot land division in the Bull Run watershed. The proposed land division is intended to enable completion of a land exchange between the City and the U.S. Forest Service. The City and the USFS are proposing a land-for-land exchange that would convey approximately 2,890 acres of National Forest System land to the City of Portland in exchange for approximately 2,200 acres of City-owned lands, all within the Bull Run Watershed Management Unit. The total size of the management unit is 94,196 acres. This proposed exchange affects roughly 5% of the lands within the unit.

The concept for the land exchange came about because although most of the land in the watershed is federally owned, the City owns a patchwork of properties purchased by the Portland Water Bureau from private owners over the years. These purchases ensured that the watershed would be protected from private development and would instead be managed to preserve water resources and water quality. Because the City's land ownership is dispersed, some Water Bureau infrastructure occupies Forest Service lands. Other bureau properties are simply isolated unused inholdings in the forest.

Figure 10: BRWMU Current Land Ownership



The primary purpose of this project is to provide for more effective administration of National Forest System and City-owned lands in the Bull Run Watershed Management Unit. The current ownership configuration in the Bull Run Watershed Management Unit requires the City to obtain and renew administrative authorizations from the Forest Service to access and manage its water supply infrastructure, which includes the two dams and reservoirs, diversion headworks, water transmission systems to the City of Portland, and hydroelectric generation facilities. Review and approval of City actions to operate the water supply on Federal land, in turn, creates an ongoing administrative burden on the Forest Service in a time of constrained resources.

The land exchange project has been pursued for more than a decade. In March 2019, the USFS issued its NEPA Decision Notice which formalized the parcels to be exchanged. These parcels were identified to satisfy the federal regulations governing such land exchanges. Environmental assessments (per National Environmental Policy Act) resulted in a finding of no significant impact.

At one property, Taxlot 2500, the land to be exchanged with the Forest Service will reduce the size of a site containing a proposed microwave communications facility that was recently approved in Casefile #T3-2018-10227. The land exchange plan calls for this 240-acre parcel to be reduced to 41.9 acres (Lot 4) with the remainder to be exchanged with USFS.

This change, along with changes to three other contiguous properties, leads the City to apply for the proposed four-lot land division. Because the lot containing the microwave facility is to be reduced in size, the City must also apply again for a Community Service Use review (and associated reviews) and seek new approvals through a modification of Casefile T3-2018-10227. The findings in that case must be reconsidered in view of the proposed reduction in lot size. The proposed four-lot land division can only be considered and approved if the Community Service Use (and associated reviews) is approved for a reduced lot size, as described in Section 2. Without that approval, it will not be possible to reduce the size of that lot as required by the land exchange.

The proposed land exchange would consolidate City ownership to lands surrounding the two water supply reservoirs and associated water infrastructure (see Figure 8). The USFS would acquire forested uplands that the City purchased from private landowners, mostly in the late 1800s and early 1900s. The acres of City land offered have been adjusted, based on a professional land appraisal, to equalize the financial value of the properties proposed for exchange.

Figure 11: BRWMU Proposed Land Exchange Ownership

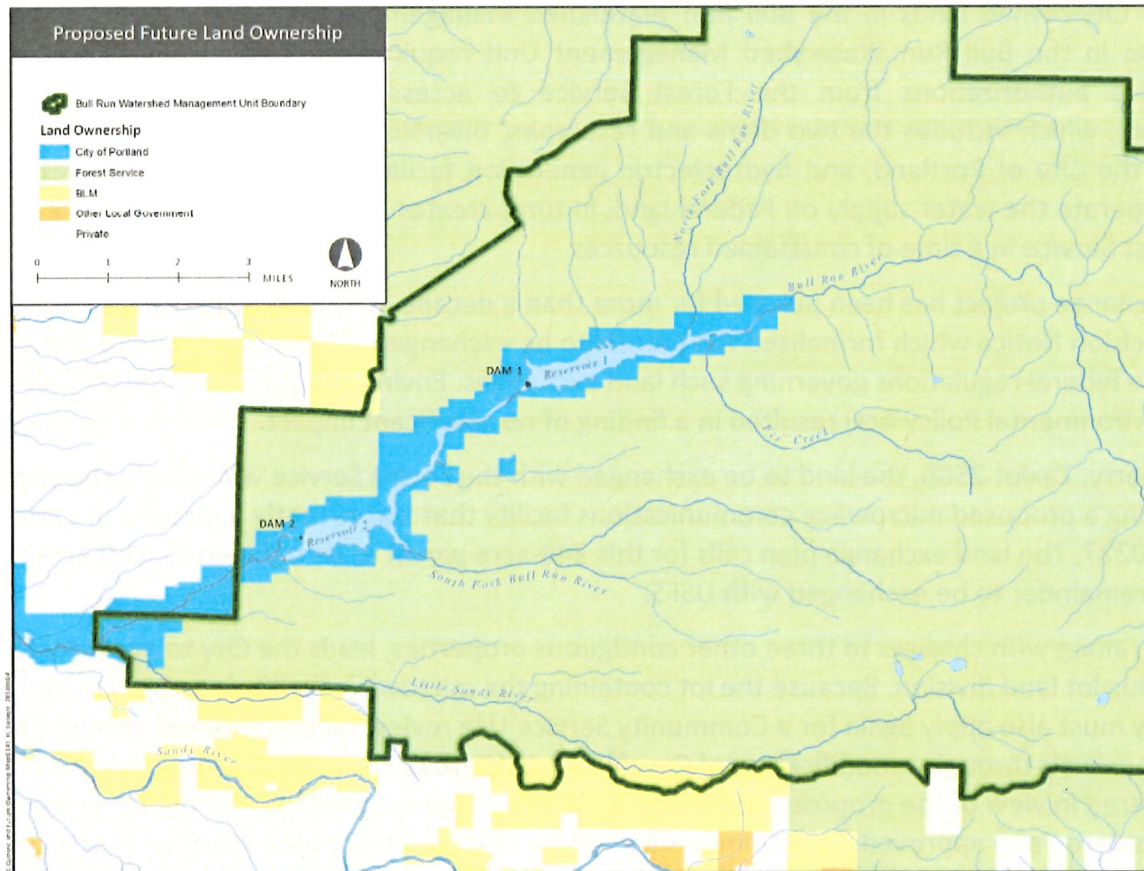
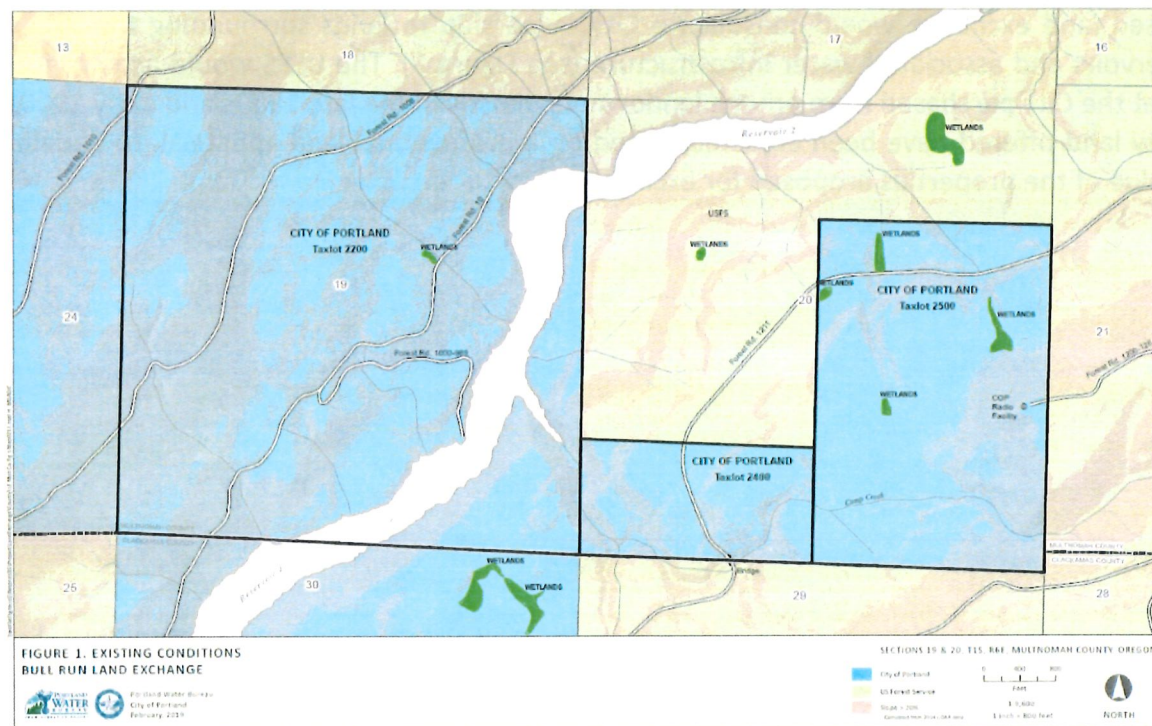


Figure 12: Existing Taxlot Configuration and Ownership

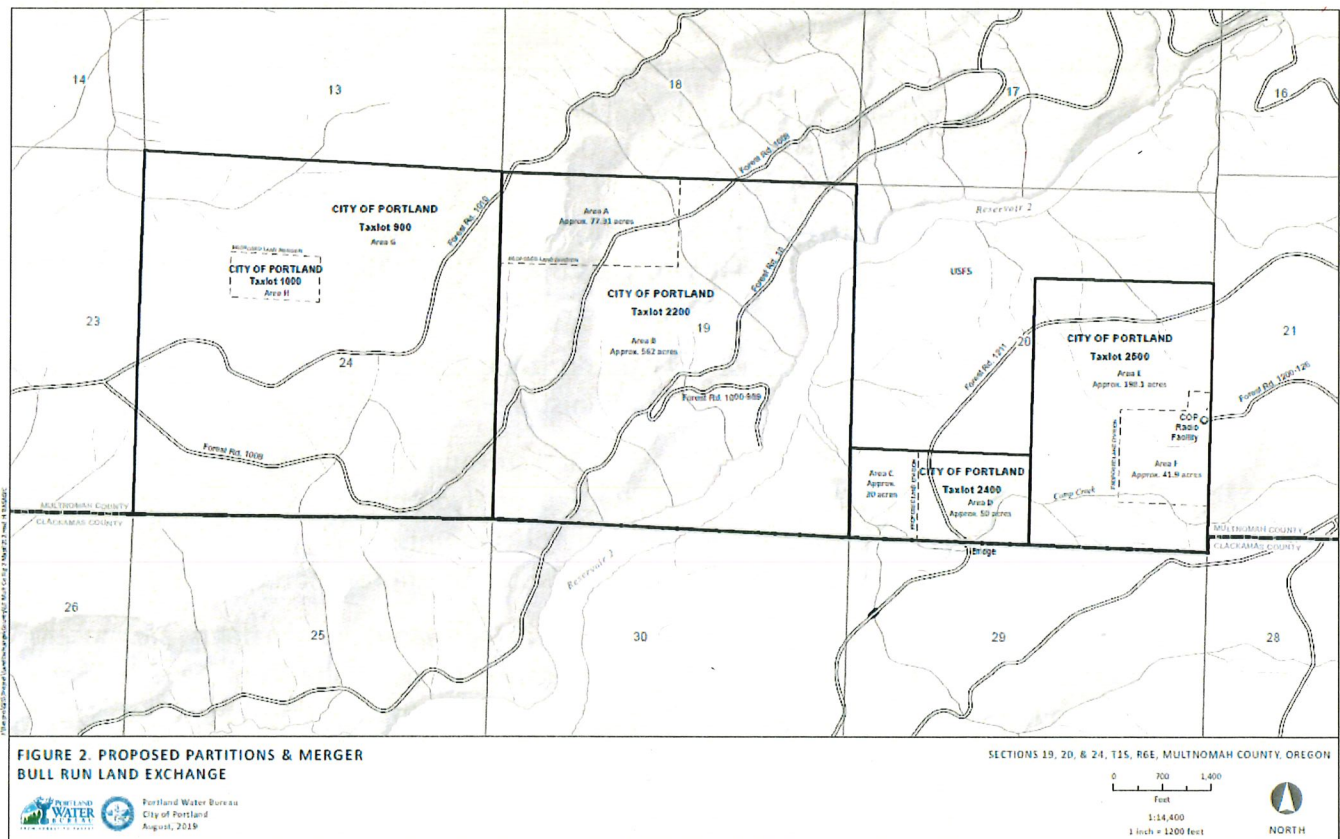


To accomplish the proposed exchange of land in Multnomah County, four existing City-owned taxlots, 900, 2200, 2400, and 2500, must be reconfigured through the proposed land division. The conveyances of parcels between the USFS and the City are to take place upon finalization of the proposed land division. Figures 13 and 14 below illustrates how each existing taxlot would be modified to achieve the desired lot configuration to facilitate the land exchange.

The proposed land division includes the following taxlot modifications:

- Area F (proposed Lot 4) would be created from Taxlot 2500 (Area E) and retained by the City of Portland to operate an approved microwave transmission tower. This facility was approved as a Community Service Conditional Use in 2018 under Casefile T3-2018-10227. The newly created lot would be 41.9 acres, less than the minimum 80 acres required in this zone.
- Area D consisting of 50 acres would be joined with Area E, a 190-acre parcel, for a total of approximately 240 acres. This reconfigured lot would be conveyed to the USFS.
- The proposed land division between Taxlot 2200 and Area C would transfer 30 acres from Area C to Taxlot 2200, which is to be retained by the City of Portland.
- Finally, the proposed land division would subtract 77.31 acres (Area A) from Taxlot 2200 and add it to Taxlot 900 (Area G) to the west. Taxlot 1000 (Area H), a 20-acre inholding, would be absorbed into Taxlot 900 comprising all 640 acres of Section 24. Section 24 and Area A when combined would be 717.31 acres and would be conveyed to the USFS.

Figure 13: Proposed Lot Reconfiguration



[illegible]

- Realignment of City ownership around daily water supply operation activities and water infrastructure, and transfer of forested uplands that are valuable for natural resource protection and ecosystem management to the USFS.
- Reduction of the number of administrative authorizations that the City would have to obtain from the USFS and reduction in the associated administrative effort and costs for the USFS.
- The transfer of ownership of the land beneath and surrounding the City's hydroelectric facility at Bull Run Dam 1 would enable the City's Bureau of Hydroelectric Power to forgo substantial payments required by the Federal Energy Regulatory Commission (FERC) for operating on federal lands. Based on current annual fees, the savings would be approximately \$150,000 per year.
- City ownership of the lands directly surrounding the water supply dams and reservoirs to acknowledge the City's need to meet infrastructure security and drinking water protection expectations of the Department of Homeland Security (public drinking water supplies are identified as critical infrastructure under the jurisdiction of the Federal Department of Homeland Security, Public Law 107-188) and EPA [Safe Drinking Water Act (40 CFR section 141.71)].

B. LOT OF RECORD

§ 39.3005 – Lot of Record – Generally.

(A) An area of land is a “Lot of Record” if it meets the standards in Subsection (B) of this Section and meets the standards set forth in this Part for the Zoning District in which the area of land is located.

(B) A Lot of Record is a parcel, lot, or a group thereof that, when created or reconfigured, (a) satisfied all applicable zoning laws and (b) satisfied all applicable land division laws, or (c) complies with the criteria for the creation of new lots or parcels described in MCC 39.9700. Those laws shall include all required zoning and land division review procedures, decisions, and conditions of approval.

(a) “Satisfied all applicable zoning laws” shall mean: the parcel, lot, or group thereof was created and, if applicable, reconfigured in full compliance with all zoning minimum lot size, dimensional standards, and access requirements.

(b) “Satisfied all applicable land division laws” shall mean the parcel or lot was created:

- 1. By a subdivision plat under the applicable subdivision requirements in effect at the time; or*
- 2. By a deed, or a sales contract dated and signed by the parties to the transaction, that was recorded with the Recording Section of the public office responsible for public records prior to October 19, 1978; or*
- 3. By a deed, or a sales contract dated and signed by the parties to the transaction, that was in recordable form prior to October 19, 1978; or*
- 4. By partitioning land under the applicable land partitioning requirements in effect on or after October 19, 1978; and*
- 5. “Satisfied all applicable land division laws” shall also mean that any subsequent boundary reconfiguration completed on or after December 28, 1993 was approved under the property line adjustment provisions of the land division code. (See Date of Creation and Existence for the effect of property line adjustments on qualifying a Lot of Record for the siting of a dwelling in the EFU and CFU districts.)*

§ 39.3040 Lot of Record – Commercial Forest Use-3 (CFU-3).

(A) In addition to the standards in MCC 39.3005, for the purposes of the CFU-3 district a Lot of Record is either:

- (1) A parcel or lot which was not contiguous to any other parcel or lot under the same ownership on February 20, 1990, or*
 - (2) A group of contiguous parcels or lots:*
 - (a) Which were held under the same ownership on February 20, 1990; and*
 - (b) Which, individually or when considered in combination, shall be aggregated to comply with a minimum lot size of 19 acres, without creating any new lot line.*
- 1. Each Lot of Record proposed to be segregated from the contiguous group of parcels or lots shall be a minimum of 19 acres in area using existing legally created lot lines and shall not result in any remainder individual parcel or lot, or remainder of contiguous combination of parcels or lots, with less than 19 acres in area. See Examples 1 and 2 in this subsection.*
 - 2. There shall be an exception to the 19 acre minimum lot size requirement when the entire same ownership grouping of parcels or lots was less than 19 acres in area on February 20, 1990, and then the entire grouping shall be one Lot of Record. See Example 3 in this subsection.*

3. *Three examples of how parcels and lots shall be aggregated are shown in MCC 39.3070 Figure 1 with the solid thick line outlining individual Lots of Record:*
 4. *The requirement to aggregate contiguous parcels or lots shall not apply to lots or parcels within exception, urban, or Columbia River Gorge National Scenic Area zones (e.g. MUA-20, RR, SRC, R-10, GGA-40), but shall apply to contiguous parcels and lots within all farm and forest resource zones (i.e. EFU and CFU), or*
- (3) A parcel or lot lawfully created by a partition or a subdivision plat after February 20, 1990.*
- (4) Exceptions to the standards of (A)(2) above:*
- a) Where two contiguous parcels or lots are each developed with a lawfully established habitable dwelling, the parcels or lots shall be Lots of Record that remain separately transferable, even if they were held in the same ownership on February 20, 1990.*
 - (b) Where approval for a "Lot of Exception" or a parcel smaller than 19 acres under the "Lot Size for Conditional Uses" provisions has been given by the Hearing Authority and the parcel was subsequently lawfully created, then the parcel shall be a Lot of Record that remains separately transferable, even if the parcel was contiguous to another parcel held in the same ownership on February 20, 1990.*
- (B) In this district, significant dates and ordinances applicable for verifying zoning compliance may include, but are not limited to, the following:*
- (1) July 10, 1958, F-2 zone applied;*
 - (2) December 9, 1975, F-2 minimum lot size increased, Ord. 115 & 116;*
 - (3) October 6, 1977, MUF-20 and CFU-38 zones applied, Ord. 148 & 149;*
 - (4) August 14, 1980, MUF-19 & 38 and CFU-80 zones applied, Ord. 236 & 238;*
 - (5) February 20, 1990, Lot of Record definition amended, Ord. 643;*
 - (6) January 7, 1993, MUF-19 & 38 zones changed to CFU-80, Ord. 743 & 745;*
 - (7) August 8, 1998, CFU-3 zone applied, Ord. 916 (reenacted by Ord. 997);*
 - (8) May 16, 2002, Lot of Record section amended, Ord. 982, reenacted by Ord. 997.*
- (C) A Lot of Record which has less than the minimum lot size for new parcels, less than the front lot line minimums required, or which does not meet the access requirements of MCC 39.4135, may be occupied by any allowed use, review use or conditional use when in compliance with the other requirements of this district.*
- (D) The following shall not be deemed a Lot of Record:*
- (1) An area of land described as a tax lot solely for assessment and taxation purposes;*
 - (2) An area of land created by the foreclosure of a security interest;*
 - (3) A Mortgage Lot.*
 - (4) An area of land created by court decree.*

Response:

T-1S R-6E, SECTION 20 TL 2400 (80.0 ac)

Taxlot 2400 was purchased by the City of Portland in 1922. The parcel has remained in the same ownership and configuration since 1922; therefore, it meets the definition and standards for a Lot of Record above.

T-1S R-6E, SECTION 19 TL 2200 (630.32 ac)

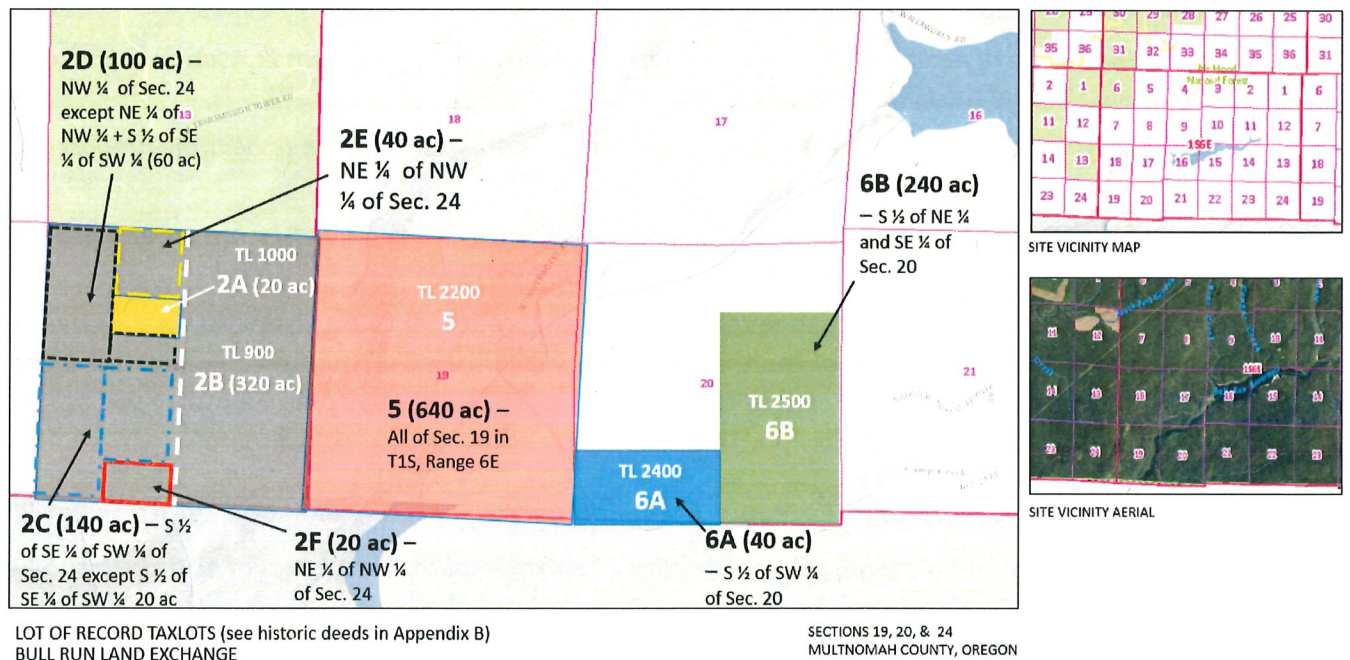
Taxlot 2200 is comprised of Section 19 located in Multnomah County. The City purchased the subject property in 1886. The property has remained in the same ownership and configuration since the purchase date. The submitted 1886 deed shows the property deed was recorded in Clackamas County. A subsequent deed was recorded a year later to correct this error (see Appendix B).

T-1S R-5E, SECTION 24 TL 900 (620 ac)

Taxlot 900 is a 620-acre parcel within Section 24. Section 24 also contains a separate 20-acre taxlot (TL 1000). Both are owned by the City of Portland and make up the full 640-acre section. Deeds from 1918, 1919, and 1921 conveyed ownership in pieces to the City of what is now Taxlot 900 (See Figure 15). The City purchased Taxlot 1000 in 2004. Taxlot 1000 will be consolidated into Taxlot 900 through the proposed Category 1 land division process and exchanged with the USFS. Taxlot 900 has been owned by the City and in its current configuration since 1921 and is therefore considered a Legal Lot of Record.

Therefore, the submitted deeds with this application demonstrate that the subject taxlots have remained in the same configuration and ownership since prior to County zoning regulations and are Legal Lots of Record. Please see Appendix B for each recorded deed. Figure 15 below shows each corresponding lot configuration as described in Appendix B. For example, the legal description for Taxlot 2400 is marked as '6A' on the deed in Appendix B.

Figure 15: Lot of Record Taxlots with Deed Reference



C. LAND DIVISION APPROVAL CRITERIA AND STANDARDS

§ 39.9035 Category 1 Land Divisions.

The following proposals are designated Category 1 Land Divisions:

- (A) A Rural Area subdivision;***
- (B) An Urban Area subdivision of more than 10 lots;***
- (C) Except as provided in subpart (3) below, a Rural or Urban Area partition which creates a new street, and an Urban Area subdivision of 10 lots or less when the Planning Director determines that:***
 - (1) The proposal includes the continuation of an existing or planned street to adjacent property, or,***
 - (2) The proposal either eliminates or makes impractical the continuation of an existing street or the provision of needed access to adjacent property.***
 - (3) Exception: A land division described in subsection (1) or (2) above is designated a Category 2 Land Division when, as determined by the Planning Director, the proposed street layout is consistent with a street pattern adopted as part of the Comprehensive Plan or with a future street plan approved under MCC 39.9400 through 39.9470.***
- (D) A subdivision or partition associated with an application affecting the same property for any action requiring a public hearing under this Chapter; and***
- (E) Any other land division proposal which, as determined by the Planning Director, will have a substantial impact on the use or development of nearby property such that determination at a public hearing is required, considering:***
 - (1) The nature of nearby land uses or the pattern of existing land divisions in relation to the applicable elements of the Comprehensive Plan;***
 - (2) Plans or programs for the extension of the street or utility systems on or near the proposed division; or***
 - (3) Physical characteristics of the tract or nearby area such as steep slopes, a history of flooding, poor drainage, landslides or other existing or potential hazards.***

Response: The proposed land exchange requires reconfiguration of four existing taxlots, including creation of Lot 4 in the rural area of Multnomah County. Multnomah County staff indicated in the April 25, 2019 pre-application conference that these parcel reconfigurations could be processed as a four-lot land division or Category I Land Division. This application addresses these standards.

§ 39.9400 - Criteria for Approval, Category 1 and Category 2 Tentative Plan and Future Street Plan.

In granting approval of a Category 1 or Category 2 tentative plan, the approval authority shall find that:

- (A) The tentative plan or future street plan is in accordance with the applicable elements of the Comprehensive Plan;***

Response: This application proposes the creation of Lot 4 that will be less than the minimum 80 acres required for new lots in the CFU-3 District. Section 2 above addresses all criteria for the County to find that the proposed microwave communication tower site area comprising 41.9 acres is enough to support the proposed communication tower. With this finding, the County can find that the proposed land division meets the CFU-3 zoning requirements. In addition to demonstrating compliance with MCC 39.4140 Lot Size for Conditional Uses, the proposed land division will also officially establish the subject

parcels by plat. Currently, all parcels are considered legal lots of record, as they were created by deed prior to County zoning and land division standards. Once platted, the land division will legally recognize the proposed lot pattern and will allow the City and USFS to proceed with the land exchange.

(B) Approval will permit development of the remainder of the property under the same ownership, if any, or of adjoining land or of access thereto, in accordance with this and other applicable ordinances;

Response: The proposed land division is a necessary step to facilitate the proposed land exchange between the City and USFS. The land to be exchanged with the Forest Service will reduce the size of Taxlot 2500 containing a microwave communications facility that was recently approved in Casefile T3-2018-10227. The land exchange plan calls for this 240-acre site to be reduced to a 41.9-acre lot with the sited tower. This change, along with changes to three other contiguous properties, requires the City to apply for the proposed four-lot land division. Because the proposed lot containing the microwave facility is to be reduced below 80 acres, the City must also apply again for the Community Service Use review (and the associated reviews) decided in T3-2018-10227. The findings in that case must be reconsidered considering the proposed reduction in lot size. Approval of the land division along with modified findings for T3-2018-10227 will allow the City to move forward with the land exchange.

(C) The tentative plan [or future street plan] complies with the applicable provisions, including the purposes and intent of this Ordinance.

(D) The tentative plan or future street plan complies with the Zoning Code or a proposed change thereto associated with the tentative plan proposal;

Response: The overall purpose and intent of the land division ordinance is to provide for the orderly division of land. Its stated purpose includes “furthering the health, safety, and general welfare of the people of Multnomah County.” Its stated intent includes facilitation of “adequate provisions for...water supply...and other public services and facilities.” The sole purpose of the proposed land division is to facilitate a land exchange between the City and USFS that will consolidate ownership to provide for more effective administration of National Forest System and City-owned lands in the BRWMU. The proposed ownership consolidation of lands in the BRWMU satisfies the Ordinance, as the subject parcels will be legally recognized lots by plat, demonstrating compliance with ORS 92 and the County land division standards. Additionally, the land exchange serves an overall public benefit for the City’s water customers by providing for a more effective administration of National Forest System and City-owned lands in the Bull Run Watershed Management Unit. The water system and infrastructure will continue to ensure the delivery of clean and safe drinking water to the City’s customers while preserving the vast forest environment of the watershed.

Because the lot containing the microwave facility is proposed to be less than 80 acres, the City must also apply again for the Community Service Use review (and the associated reviews) decided in Casefile #T3-2018-10227. The findings in that case must be reconsidered in view of the proposed reduction in lot size. Approval of the land division along with modified findings for Casefile T3-2018-10227 will allow the City to move forward with the land exchange. Based on the findings provided in this section along with those in Section 2 to modify the previous land use decision, the County can find that all applicable provisions of the Zoning Code and Land Division Ordinance are met.

(E) If a subdivision, the proposed name has been approved by the County Surveyor and does not use a word which is the same as, similar to or pronounced the same as a word in the name of any other subdivision in Multnomah County, except for the words town, city, place, court, addition or similar words, unless the land platted is contiguous to and platted by the same applicant that platted the subdivision bearing that name or unless the applicant files and records the consent of the party that platted the

subdivision bearing that name and the block numbers continue those of the plat of the same name last filed.

(F) The streets are laid out and designed so as to conform, within the limits of MCC 39.9520 and 39.9525 and the Multnomah County Road Rules and Design and Construction Manual, to the plats of subdivisions and maps of partitions already approved for adjoining property unless the approval authority determines it is in the public interest to modify the street pattern; and,

(G) Streets held for private use are laid out and designed so as to conform with MCC 39.9520 and 39.9525 and the Multnomah County Road Rules and Design and Construction Manual and are clearly indicated on the tentative plan and all reservations or restrictions relating to such private streets, including ownership, are set forth thereon.

(H) Approval will permit development to be safe from known flooding and flood hazards. Public utilities and water supply systems shall be designed and located so as to minimize or prevent infiltration of flood waters into the systems. Sanitary sewer systems shall be designed and located to minimize or prevent:

(1) The infiltration of flood waters into the system; and

(2) The discharge of matter from the system into flood waters.

Response: A Category 1 Land Division is proposed. PWB will work with the County Surveyor when selecting a name for the land division plat. No streets are created as part of the proposed land division. There are no identified flood areas near the subject lots. Utilities provided for the microwave communication tower on proposed Lot 4 do not include water, sewer or stormwater facilities.

§ 39.9405 Contents of Category 1 and Category 2 Tentative Plan.

A tentative plan shall consist of maps, written information and supplementary material adequate to provide the information required in MCC 39.9510 through 39.9425.

§ 39.9410 Category 1 and Category 2 Tentative Plan Map Specifications.

(A) The tentative plan map shall be drawn on a sheet 18 x 24 inches or 11 x 17 inches in size or a size approved by the Planning Director. The scale of the map shall be 10, 20, 30, 40, 50, 60, 100 or 200 feet to the inch or multiples of ten of any of these scales. The map shall include one copy of a scaled drawing of the proposed subdivision, on a sheet 8.5 x 11 inches, suitable for reproduction, mailing and posting with the required notices.

(B) A future street plan may be combined with the tentative plan map or may be drawn on a sheet 8.5 x 11 inches or larger in size at a scale of one inch to one hundred feet.

Response: The preliminary plat (Figure 14 and Appendix I) submitted with this application is drawn to scale on an 18 x 24-inch sheet. Additional copies are provided that are suitable for reproduction and distribution. No streets are proposed as part of the proposed land division.

§ 39.9415 Category 1 and Category 2 Tentative Plan Map Contents.

The tentative plan map shall indicate the following:

(A) General information:

(1) In the case of a subdivision, the proposed name which shall be in accord with subsection (E) of MCC 39.9400.

(2) Date, north point and scale of drawing.

(3) Description of the proposed land division sufficient to define its location and boundaries.

(4) Identification as a tentative plan map.

(B) Existing conditions:

- (1) Streets:** the location, name and present width of each street, alley or right-of-way in or serving the tract.
- (2) Easements:** location, width and nature of any easement of record on or serving the tract.
- (3) Utilities:** location and identity of all utilities on or serving the tract.
- (4) Contour lines** at two foot intervals for land inside the Urban Growth Boundary with 10% slope or less, five foot intervals for land inside the Urban Growth Boundary with slope exceeding 10%; contour lines at ten foot intervals for land outside the Urban Growth Boundary. The map shall state the source of the contour information.
- (5) The location of at least one temporary bench mark within the land division.**
- (6) Any natural features** such as rock outcroppings, marshes, wooded areas, major vegetation, etc., which may affect the proposal.
- (7) Water courses** on and abutting the tract, including their location, width and direction of flow.
- (8) The approximate location of areas subject to periodic inundation or storm sewer overflow, the location of any designated Flood Hazard Overlay (FH), and all areas covered by water.**
- (9) The location of any harbor line.**
- (10) Scaled location and size of all existing driveways and pedestrian walkways, and the scaled location and size and present use of all existing buildings or other structures, and designation of any existing buildings or structures proposed to remain on the property after division.**

(C) Proposed improvements:

- (1) Streets:** location, proposed name, right-of-way width and approximate radii of curves of each proposed street.
- (2) Any proposed pedestrian path or bikeway.**
- (3) Easements:** location, width and nature of all proposed easements.
- (4) Lots or parcels:** location and approximate dimensions of all lots or parcels, the minimum lot or parcel size and, in the case of a subdivision, the proposed lot and block numbers.
- (5) Water supply:** the proposed domestic water supply system.
- (6) Sewage disposal:** the proposed method of sewage disposal.
- (7) Drainage:** proposed methods for surface water disposal and any proposed drainage easements.
- (8) Other utilities:** the approximate location and nature of other utilities including the location of street lighting fixtures.
- (9) Railroad rights-of-way, if any.**
- (10) Changes to navigable streams, if any.**
- (11) A street tree planting plan and schedule.**

Response: The preliminary plat submitted as Appendix I includes all requisite details meeting this standard.

§ 39.9420 Written Information: Category 1 and Category 2 Tentative Plan.

Written information shall include:

- (A) Name, address and telephone number of the record owner(s), owner's representative, and designer(s) of the proposed land division and the name of the engineer(s) or surveyor(s) and the date of the survey, if any.**
- (B) Proof of record ownership of the tract and the representative's authorization.**
- (C) Legal description of the tract.**
- (D) Present and proposed uses of the tract including all areas proposed to be dedicated to the public.**
- (E) Statements of the manner in which the criteria for approval listed in MCC 39.9400 are satisfied.**
- (F) Statement of the improvements to be made or installed, including street tree planting, and the time such improvements are to be made or completed.**

§ 39.9425 Supplementary Material: Category 1 and Category 2 Tentative Plan.

The following supplementary material may be required by the Planning Director:

(A) A survey of the tract.

(B) A vicinity map showing existing divided and undivided land adjacent to the proposed land division, the existing uses and structures thereon, and an indication of the manner in which the proposed streets and utilities may be extended to connect to existing streets and utilities or to serve future land divisions.

(C) Proposed deed restrictions and methods of proposed ownership.

(D) Such other material as the Planning Director deems necessary to assist in the review and assessment of the land division proposal according to the provision of this Ordinance.

Response: Section 1 of this application narrative contains the narrative description; this section addresses relevant approval criteria. These sections also reference relevant drawings and appendices that support the narrative including proof of ownership, legal descriptions, and surveys.

§ 39.9500- Application of General Standards and Requirements.

Every land division proposal shall comply with the applicable provisions of MCC 39.9505 through 39.9585.

§ 39.9505 Land Suitability.

A land division shall not be approved on land found by the approval authority to be both unsuitable and incapable of being made suitable for the intended uses because of any of the following characteristics:

(A) Slopes exceeding 20%;

(B) Severe soil erosion potential;

(C) Within the 100-year flood plain;

(D) A high seasonal water table within 0-24 inches of the surface for three or more weeks of the year;

(E) A fragipan or other impervious layer less than 30 inches from the surface;

(F) Subject to slumping, earth slides or movement;

(G) Pre-existing field drains or other subsurface drainage systems.

§ 39.9510 Lots and Parcels.

The design of lots and parcels shall comply with the following:

(A) The size, shape, width, orientation and access shall be appropriate:

(1) To the types of development and uses contemplated;

(2) To the nature of existing or potential development on adjacent tracts;

(3) For the maximum preservation of existing slopes, vegetation and natural drainage;

(4) To the need for privacy through such means as transition from public to semi-public to private use areas and the separation of conflicting areas by suitable distances, barriers or screens; and

(5) To the climactic conditions including solar orientation and winter wind and rain.

(B) The side lot lines shall be perpendicular to the front lot line or radial to the curve of a street, to the extent practicable.

(C) Double frontage or reverse frontage lots or parcels shall be provided only when essential for separation of land uses from arterials or to overcome specific disadvantages of topography or orientation.

(D) A land division may include creation of a flag lot with a pole that does not satisfy the minimum frontage requirement of the applicable base zone, subject to the following:

(1) When a flag lot does not adjoin another flag lot, as shown in MCC 39.9510 Figure 1, the pole portion of the flag lot shall be at least 16 feet wide.

(2) Where two flag lots are placed back to back as shown in MCC 39.9510 Figure 2, the pole portion of each flag lot shall be at least 12 feet wide.

(E) Within a land division, flag lots shall not be stacked one behind the other as shown in MCC 39.9510 Figure 3. Instead, a private accessway shall be used as shown in MCC 39.9510 Figure 4.

Response: The proposed four-lot land division is in a remote, heavily forested area that comprises a portion of the Bull Run Watershed. All lots will remain in forest use and undeveloped except for Lot 4, which will contain the microwave communication tower. The relatively flat development area for the communication tower is suitable to support the proposed use. The development area is not on slopes exceeding 20%, it does not possess severe soil erosion potential, it is not located in the 100-year flood plain, it does not have a high seasonal water table or fragipan or other impervious layer less than 30 inches from the surface, is not subject to slumping, earth slides or movement, and does not contain pre-existing field drains or other subsurface drainage systems.

The microwave communication tower is situated on a level area on a ridge away from steeply sloping land to the west. Its placement in a small footprint contributes to the preservation of vegetation, trees, and existing slopes in the area. Natural drainage will remain unimpacted as the microwave communication tower is not near a natural drainage way. The proposed land division does not create double-frontage, reverse frontage or flag lots. All adjacent parcels are undeveloped and neither the land division nor microwave tower will conflict with adjacent properties.

The design of all lots provide for lot configurations that utilize size, shapes, and widths that are appropriate for the vast, primarily undeveloped forest environment. The proposed lot designs are also consistent with the larger lot pattern throughout the CFU-3 District.

All proposed lots meet the 80-acre minimum requirement except for proposed Lot 4. The proposed creation of Lot 4 utilizes MCC 39.4140 Lot Sizes for Conditional Uses, which allows new lots to be smaller for approved conditional uses when: *the new lot is the minimum size necessary for the proposed use; the nature of the proposed use in relation to its impacts on nearby properties are minimized; and the purpose of the base zone is considered.* Lot 4, a 41.9-acre lot, is an appropriately sized lot for the CFU-3 District and for the use. Summary findings previously discussed for MCC 39.4140 above under Section 2 are noted below:

- The proposed creation of Lot 4 reduces the existing communication tower parcel area from 240 acres to 41.9 acres. This reduction ensures that the proposed communication tower continues to meet all County development standards, while siting the communication tower on a smaller, more appropriately sized lot for a use with a small development footprint consisting of approximately 2,000 sq. ft.
- There is no intent to develop or use a site larger than the one currently proposed for the microwave communication tower. The remainder of the proposed 41.9-acre lot will be left as a remnant of the land exchange appraisal and will be left as undeveloped forest. Commercial forest management on all BRWMU land is prohibited by federal law and city code.
- The reduction in size of Taxlot 2500 does not adversely force a significant change in or cost of accepted farming or forest practices on surrounding properties, since there are none within several miles of the site.
- The Secondary Fire Safety Zone can be maintained onsite and on the adjacent USFS property immediately to the east, as both properties are part of the Watershed Management Unit.
- The amount of forest land used to site the structure, access road, parking and primary fire safety zone is minimized to about half an acre of the proposed 41.9-acre lot.

- The 41.9-acre lot is the minimum lot size needed to successfully achieve the equal value land exchange between PWB and USFS.
- The CFU District's primary purpose is "to conserve and protect lands for continued commercial growing and harvesting of timber and the production of wood fiber and other forest uses." The land uses permitted in the BRWMU are restricted and limited to those consistent with collection of water for the City's water system.
- The proposed 41.9-acre lot would not necessitate any additional impacts beyond those already addressed and mitigated in T3-2018-10227.
- The microwave communication tower development proposal remains unchanged since it was approved, and it will meet all land use and building code requirements once constructed. The City of Gresham has issued the building permit for the proposed communication tower and PWB anticipates finalization of this permit in Fall 2019.

Approval of the proposed land division would consolidate the City's land holdings in a way that brings the City's drinking water-related infrastructure onto City-owned property. The parties believe that consolidation of their holdings will clarify and simplify administration of the land and infrastructure, including the acquisition of permits.

Based on the findings provided above and in MCC 39.4140, the County can find that the proposed land division meets the land suitability and lot design standards, while ensuring that the microwave tower use is appropriate for the proposed lot size.

§ 39.9515 Acreage Tracts.

Where a tract of land is to be divided into lots or parcels capable of redivision in accordance with this or any other ordinance, the approval authority shall require an arrangement of lots, parcels and streets which facilitates future redivision. In such a case, building setback lines may be required in order to preserve future rights-of-way or building sites.

Response: The proposed land division is in a densely forested area used exclusively as the Bull Run Watershed. The only purpose of the land division is to consolidate diffused parcel ownership of City property around the water system and its facilities to enable the exchange of land between the City and USFS. No development is proposed in conjunction with the land division. No new public or private streets are proposed. The watershed is used exclusively as a water catchment ecosystem that provides potable water to nearly a million water customers per day. In 1996, Congress created significant additional protections for Bull Run through passage of the Oregon Resources Conservation Act, which amended PL 95-200 to prohibit timber harvest, including salvage logging, in the Bull Run water supply drainage and some of the lands that drain directly into the lower Bull Run River. Because of this law and companion City code, all publicly-owned lands within the BRWMU will remain intact and are protected from commercial forest operations and other non-water related development. Therefore, these standards are not applicable.

§ 39.9520 Street Layout.

(A) Except as otherwise provided in subsections (B) and (C) of this Section, the arrangement of streets in a land division shall be designed:

(1) To conform to the arrangement established or approved in adjoining land divisions;

- (2) To continue streets to the boundary of any adjoining undivided tract where such is necessary to the proper development of the adjoining land;*
- (3) To assure the maximum possible preservation of existing slopes, vegetation and natural drainage;*
- (4) To limit unnecessary through traffic in residential areas;*
- (5) To permit surveillance of street areas by residents and users for maximum safety;*
- (6) To assure building sites with appropriate solar orientation and protection from winter wind and rain;*
- (7) To assure storm water drainage to an approved means of disposal; and*
- (8) To provide safe and convenient access.*
- (B) Where topography or other conditions make conformance to the existing street pattern or continuance to an adjoining tract impractical, the street layout shall conform to an alternate arrangement authorized by the approval authority.*
- (C) Where a street layout affecting the proposed land division has been established by the Comprehensive Plan, the arrangement of streets in the land division shall conform to the established layout.*
- (D) A half street may be permitted only where appropriate to the future division of adjoining undeveloped property, provided that when possible, additional dedicated right-of-way exceeding one-half of a street may be required to provide adequate width to accommodate two-way vehicle traffic.*
- (E) When necessary for adequate protection of existing or proposed land uses or to afford separation of through and local traffic, a land division abutting or containing an existing or proposed arterial may be required to include, among other things, a frontage street, reverse frontage lots with extra depth, or screen plantings in a non-access reservation along a property line.*

Response: The proposed land division does not include the creation of any public or private streets. All proposed lots have direct access to the forest road network in the BRWMU.

§ 39.9525 Street Design.

The width, design and configuration of all streets in or abutting the land division shall comply with applicable ordinance standards as follows:

- (A) For a public street, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and*
- (B) For a private street, in accordance with the Multnomah County Road Rules and Design and Construction Manual, subject to the following additional requirements:*
 - (1) Accessways shall be designed in accordance with Permit Requirements for Accessway Construction published by the Multnomah County Department of Community Services Transportation Division. Accessways shall have a maximum length of 300 feet.*
 - (C) A cul-de-sac shall be as short as possible and shall have a maximum length of 400 feet and serve building sites for not more than 18 dwelling units. A cul-de-sac shall terminate with a turnaround having a radius of 50 feet.*

Response: The proposed land division does not include or require the creation of any public or private streets in or abutting the lots. Public street is not defined by County code but Public Road is defined. Proposed Lot 4 with the microwave communication tower is provided direct access from Forest Service Road 1200-126, a public road by definition and pursuant to County findings in Casefile T3-2018-10227 (see response to pre-application conference Key Issue 4, pg. 14 above). Forest Service Roads in the BRWMU are federal roads maintained by PWB and are not under the authority of Multnomah County Road Rules or standards. All proposed lots have direct access to the forest road network in the BRWMU.

§ 39.9530 Street Reservation Strips.

The land division shall provide for the appropriate extension or widening of streets serving the division or for allocating the improvement costs among future land divisions. A reserve strip or street plug may be required for such purposes. The control and disposition of reserve strips or plugs shall be placed within the jurisdiction of the County.

Response: The proposed land division does not include the creation of any public or private streets in or abutting the lots. Proposed Lot 4 with the microwave communication tower is provided direct access from Forest Service Road 1200-126, a public road by definition and pursuant to County findings in Casefile T3-2018-10227. Forest Service Roads in the BRWMU are federal roads maintained by PWB and are not under the authority of Multnomah County Road Rules or standards. Therefore, this standard is not applicable.

§ 39.9535 Temporary Turnarounds.

A temporary turnaround shall be provided on any street that is appropriate for continuation, either within the land division or beyond, when the street serves more than six interior lots.

Response: The proposed land division is in a heavily forested area where existing roads serving the land division are national forest system roads, not rural County or private streets. Therefore, this standard is not applicable.

§ 39.9540 Street Names.

Names for public streets shall conform to the street naming system of Multnomah County. In order to discourage unnecessary traffic, the nature of a private street, a dead end street or a cul-de-sac shall be identified by a sign approved as to design, content and placement by the County Engineer.

Response: The proposed land division is in a heavily forested area where existing roads serving the land division are national forest system roads. No streets are proposed for the land division. Therefore, this standard is not applicable.

§ 39.9545 Required Improvements.

Improvements in a land division shall be made in accordance with the provisions of MCC 39.9550 through 39.9590 and 39.9600.

§ 39.9550 Streets, Sidewalks, Pedestrian Paths and Bikeways.

(A) Sidewalks shall be required in Urban Area public streets in accordance with the provisions of the Multnomah County Road Rules and Design and Construction Manual.

(B) A sidewalk shall be required along any private street serving more than six dwelling units.

(C) A pedestrian path located outside a street right-of-way may be substituted for a required sidewalk when it serves the same circulation function.

(D) Where a pedestrian path and bikeway is part of an approved plan for the area or has been approved on adjoining property, the approval authority may require the provision of a pedestrian path or bikeway within the land division.

(E) In order to provide for an appropriate circulation system, the approval authority may require a pedestrian path and bikeway across an unusually long or oddly-shaped block.

(F) The width, design and configuration of sidewalks and pedestrian paths and bikeways shall comply with applicable standards, as follows:

(1) In a public right-of-way, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and

(2) On private property, as approved by the Planning Director in accordance with the Design Review provisions of this Chapter.

(G) Any street, pedestrian path or bikeway shall be improved as follows:

(1) In a public street, in accordance with this Chapter and the Multnomah County Road Rules and Design and Construction Manual; and

(2) In a private street, in accordance with this Chapter and the Multnomah County Road Rules and Design and Construction Manual;

(H) Underground utilities and street lighting facilities, sanitary sewers, storm drains and water mains located in a street shall be installed prior to the surfacing of the street.

Response: The proposed land division is in a heavily forested area where existing roads serving the land division are national forest system roads. Therefore, these standards are not applicable.

§ 39.9555 Easements.

Easements shall be provided and designed according to the following:

(A) Along the front property line abutting a street, a five foot utility easement shall be required. The placement of the utility easement may be modified as requested by a public or private utility provider. Utility infrastructure may not be placed within one foot of a survey monument location noted on a subdivision or partition plat.

(B) Where a tract is traversed by a water course such as a drainage way, channel or stream, a storm water easement or drainage right-of-way adequate to conform substantially with the lines of the water course shall be provided. In a Drainage District or Water Control District, such easement or right-of-way shall be approved by the District Board, in accordance with ORS 92.110. If not within such District, approval shall be by the County Engineer.

(C) Easements for pedestrian paths and bikeways shall be not less than 10 feet in width.

Response: The proposed land division is in rural Multnomah County in a heavily forested environment and all lots are accessible by federal roads. Utility easements are not anticipated as part of this land division as no development is proposed on the proposed lots except for the microwave communication tower on Lot 4. All electricity generated for the radio communication tower is sourced by solar panels located on the tower. When the solar panels are unable to provide enough electricity to the equipment and when cooling and heating is required, a 1,000-gallon propane-powered generator (Photo 6) will supplement the solar-generated power. No other utilities will serve this lot. This standard is not applicable.

§ 39.9560 Street Trees.

Street trees shall be planted by the applicant according to the street tree planting plan and schedule approved by the County Engineer as an element of the tentative plan. Trees which have not survived for one year after initial planting shall be replaced by the applicant within four months of loss.

Response: The proposed land division is in rural Multnomah County and is accessed by national forest system roads. This standard is not applicable.

§ 39.9565 Street Lighting.

Street lighting shall be provided in all Urban Area subdivisions in accordance with the requirements of the Multnomah County Road Rules and Design and Construction Manual.

Response: The proposed land division is in rural Multnomah County. This standard is not applicable.

§ 39.9570 Water System.

The provision of domestic water to every lot or parcel in a land division shall comply with the requirements of Subsections (4)(a), (b), or (c) of ORS 92.090 and the following:

(A) Water mains, service and fire hydrants shall meet the requirements of the Water District and shall be located as follows:

(1) In a public street, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and

(2) In a private street, as approved by the approval authority.

Response: Each of the proposed lots do not receive or require water service, including Lot 4 containing the microwave communication tower. Therefore, this standard does not apply.

§ 39.9575 Sewage Disposal.

The provision for the disposal of sewage from every lot or parcel in a land division shall comply with the requirements of Subsections (5)(a), (b) or (c) of ORS 92.090 and the following:

(A) Except as provided in Subsection (B) of this Section, a sanitary sewer line shall be installed to serve every lot or parcel in a land division by extension of an existing sewer line:

(1) In a public street, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and (2) In a private street, as approved by the approval authority.

(B) Where sanitary sewer is not available to the site or where the State Department of Environmental Quality determines that it is impractical to serve any lot or parcel by an existing sewer system, a private sewage disposal system approved by the Department shall be provided. All lots or parcels in a proposed land division which will utilize private subsurface sewage disposal system shall apply for and obtain approval of a Land Feasibility Study confirming the ability to utilize the system prior to tentative plan approval. In such cases, the approval authority may require that a sanitary sewer line, with branches to the right-of-way line for connection to a future sewer system, be constructed and sealed.

(C) Where a private subsurface sewage disposal system is used, the parcel or lot shall contain adequate land area to accommodate both a primary and reserve septic system drainfield area, and for surface and storm drainage systems.

Response: Sanitary sewer is not available to the subject properties. All lots in the proposed land division including Lot 4, which will contain the microwave tower, will not utilize a public or private sewage disposal system. This criterion states that “all lots or parcels in a proposed land division which will utilize private subsurface sewage disposal system [emphasis added] shall apply for and obtain approval of a Land Feasibility Study confirming the ability to utilize the system prior to tentative plan approval.” PWB reads MCC 39.9575(B) to mean that only when or if lots in a proposed land division utilize private subsurface sewage disposal systems are they required to apply for a Land Feasibility Study.

Additionally, *Rochlin v. City of Portland* found that a requirement that each lot in a subdivision be approved with provisions for sewage disposal is reasonably interpreted as not applying to lots that are

not to be developed. *Rochlin v. City of Portland*, 34 Or LUBA 379 (1998). In *Rochlin*, LUBA affirmed that “the challenged decision reasonably construes the sanitary disposal condition of approval to apply only to lots within the PUD, rather than to lot 7, where no residential use is proposed.”

Further, the CFU Districts implement the Forest Practices Act, Statewide Planning Goal 4, and the County’s Comprehensive Plan with one of the primary goals of “conserving and protecting designated lands for continued commercial growing and harvesting of timber.....and other forest uses.” The intent of the proposed partition is for the City and USFS to realign the undeveloped forest land to better manage and protect natural resource values in the Watershed. Given that no development is proposed in conjunction with the proposed land division and it will create four lots where water and septic systems are neither needed nor proposed, PWB believes that a study essentially confirming the buildability of each lot via the ability to utilize underground sewage systems is not necessary and is counter to the stated purpose of the CFU District.

If a Land Feasibility Study is required to be conducted for each lot, it means that two (2) test pits dug three (3) feet square by five (5) feet deep, spaced a minimum of seventy-five (75) feet apart, in the area to be used for the drainfield will be required to confirm suitable soil type for underground sewage systems. Each pit test would need to be dug using larger mechanical equipment such as a backhoe and would require digging in a dense forest environment. This would not only be disruptive to the root zones of trees but would also create unnecessary disturbance to the Watershed and its diverse habitat.

The purpose of the land division is to facilitate the exchange of land between the City and the USFS to improve the ability of each entity to meet its primary organizational responsibilities. Once completed, the City and USFS have no plans to develop these lands and will mutually carry out the provisions of the BRWMU Agreement.

Therefore, based on these findings, the Hearings Officer can conclude that a Land Feasibility Study and Septic Certification pursuant to this standard is not required to approve the proposed land division plat. PWB respectfully requests that the provisions of this section be deemed inapplicable.

§ 39.9580 Surface Drainage and Stormwater Systems.

Surface drainage and storm water control systems shall be provided as required by this section.

(A) On-site water disposal or retention facilities shall be adequate to insure that surface runoff rate or volume from the new parcels after development is no greater than that before development.

(B) Drainage facilities shall be constructed as follows:

(1) In a public street, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and

(2) In a private street and on lots or parcels, in accordance with the plans prepared by an Oregon licensed and registered professional engineer and approved by the approval authority.

Response: No development is proposed on the proposed lots except for Lot 4. The microwave communication tower and accessory equipment building are sited on a 41.9-acre lot and this amount of land area can easily accommodate the runoff generated from the concrete tower foundation and equipment building roof.

§ 39.9585 Electrical and Other Wires.

Wires serving within a land division, including but not limited to electric power, communication, street lighting and cable television wires, shall be placed underground. The approval authority may modify or waive this requirement in acting on a tentative plan upon a finding that underground installation:

(A) Is impracticable due to topography, soil or subsurface conditions;

*(B) Would result in only minor aesthetic advantages, given the existence of above-ground facilities nearby; or
(C) Would be unnecessarily expensive in consideration of the need for low-cost housing proposed on the lots or parcels to be served.*

Response: Electrical utilities are not needed for the land division. All electricity generated for the microwave communication tower is sourced by solar panels located on the tower. When the solar panels are unable to provide enough electricity to the equipment and when cooling and heating is required, a 1,000-gallon propane-powered generator (Photo 6) will supplement the solar-generated power. This combination system is used elsewhere within the watershed and around the region and has been an effective and efficient design. All other lots will remain undeveloped.

§ 39.9587 Required Improvements.

Improvements in a land division shall be made in accordance with the provisions of MCC 39.9587 through 39.9590 and 39.9600.

§ 39.9588 Streets, Sidewalks, Pedestrian Paths and Bikeways, Water System, Sewage Disposal, Surface Drainage and Storm water Systems.

(A) Any street, pedestrian path or bikeway shall be improved as follows:

- (1) In a public street — in accordance with this Chapter and the Street Standards Code and Rules; and,*
- (2) In a private street — in accordance with the Street Standards Code and Rules.*

(3) Underground utilities and street lighting facilities, storm drains and water mains located in a street shall be installed prior to the surfacing of the street.

(B) Water mains, service and fire hydrants shall meet the requirements of the Water District and shall be located as follows:

- (1) In a public street - in accordance with the Street Standards Code and Rules; and*
- (2) In a private street - as approved by the approval authority.*

(C) A sewage disposal system approved by the State Department of Environmental Quality, shall be provided. All lots or parcels in a proposed land division which will utilize private subsurface sewage disposal system shall apply for and obtain approval of a Land Feasibility Study confirming the ability to utilize the system prior to tentative plan approval. In such cases, the approval authority may require that a sanitary sewer line, with branches to the right-of-way line for connection to a future sewer system, be constructed and sealed.

(D) Drainage facilities shall be constructed as follows:

- (1) In a public street - in accordance with the Street Standards Code and Rules; and*
- (2) In a private street and on lots or parcels - in accordance with the plans prepared by an Oregon licensed and registered professional engineer and approved by the approval authority.*

Response: The proposed land division is in a densely forested area in the Bull Run Watershed. The only purpose of the land division is to facilitate the consolidation of non-contiguous parcel ownership of City property around the water system and its facilities. No development is proposed in conjunction with the land division. Lot 4 is proposed to be 41.9 acres and is of adequate size to manage stormwater flow from the proposed communication tower onsite. There is no water or septic service onsite. No public or private streets are proposed. Therefore, these standards are not applicable.

§ 39.9590 Other Utilities.

Other utilities, including electric, gas, street lighting and cable television facilities shall be provided as required by this Ordinance and as follows:

(A) In a public street, in accordance with the Multnomah County Road Rules and Design and Construction Manual; and

(B) In a private street, as approved by the approval authority.

Response: Each of the proposed lots do not receive or require utilities, including Lot 4 containing the microwave communication tower. Electric, gas, water, sewer, underground septic, cable television are not needed or proposed. No public or private streets are required or proposed. Therefore, this standard does not apply.

§ 39.9595 Adjustments and Variances.

An adjustment or variance from certain dimensional requirements in MCC 39.9500 through 39.9590 of this Ordinance may be authorized by the Approval Authority under the provisions of MCC 39.8200 through 39.8215

Response: No adjustments or variances from dimensional requirements in MCC 39.9500 through 9590 are requested.

CONCLUSION

In conclusion, as demonstrated in the findings and analysis included in Sections 2 and 3 of this narrative (including referenced appendices and figures), PWB believes that both applications contained herein meet all the applicable County land use approval criteria and applicable development standards.

In summary, modification of Casefile T3-2018-10227 and approval of the proposed four-lot land division will have no adverse impact on the surrounding area. Modification of Casefile T3-2018-10227 will continue to ensure that the proposed microwave communication tower complies with all land use and building code standards after completion of the land division. The previously approved site plan in T3-2018-10227 remains unchanged by these applications.

The land exchange facilitated by the modification of Casefile T3-2018-10227 and the land division will provide a significant public benefit by simplifying the patterns of land ownership in the Bull Run Watershed Management Unit and overall land management functions between the City and USFS. It will also further the policies for the Commercial Forest Use District. Therefore, the submitted applications should be approved.

PWB appreciates the assistance that Multnomah County staff has provided thus far in the review process and looks forward to working with Multnomah County staff to address any issues that may not have been adequately addressed in this proposal.



Land Use Planning Division
 1600 SE 190th Ave, Ste 116
 Portland OR 97233
 Ph: 503-988-3043 Fax: 503-988-3389
 multco.us/landuse

**GENERAL
APPLICATION
FORM**

RECEIVED
 SEP 04 2019

BY:

PROPERTY IDENTIFICATION

Property Address See attached narrative

State Identification _____ Site Size _____

A&T Alternate Account Number R# _____

OTHER PARCEL (if applicable)

Property Address _____

State Identification _____ Site Size _____

A&T Alternate Account Number R# _____

PROPERTY OWNER(S) ☒ OR CONTRACT PURCHASER(S) ☐

Name City of Portland - Portland Water Bureau

Mailing Address 400 SW 6th Avenue

City Portland State OR Zip Code 97204

Phone# 503-823-3573 I authorize the applicant below to make this application.

[Signature]
 Property Owner Signature #1

 Property Owner Signature #2

NOTE: By signing this form, the property owner or property owner's agent is granting permission for Planning Staff to conduct site inspections on the property.

If no owner signature above, a letter of authorization from the owner is required. ☐

APPLICANT'S NAME AND SIGNATURE

Applicant's Name Robert Fraley

Mailing Address 400 SW 6th Avenue, Suite 400

City Portland State OR Zip Code 97204 Phone # 503-823-3573

Fax _____ E-mail robert.fraley@portlandoregon.gov

[Signature]
 Applicant's Signature

GENERAL DESCRIPTION OF APPLICATION (REQUIRED)

Please provide a brief description of your project.

Application for Modification of T3-2018-10227 [Approval of Community Service Conditional Use (CSU), Design Review (DR), Forest Development Zone, Exception to Secondary Fire Safety Zone, Variances to site a new microwave communication tower], and Application for a Category 1 Land Division.

For Staff Use

CASE NUMBER

LAND USE PERMIT(S)

DATE SUBMITTED

Compliance
 Related ☐

Potential
 Transportation
 Impact ☐

PF/PA No.

Related Case No.

Related Case No.

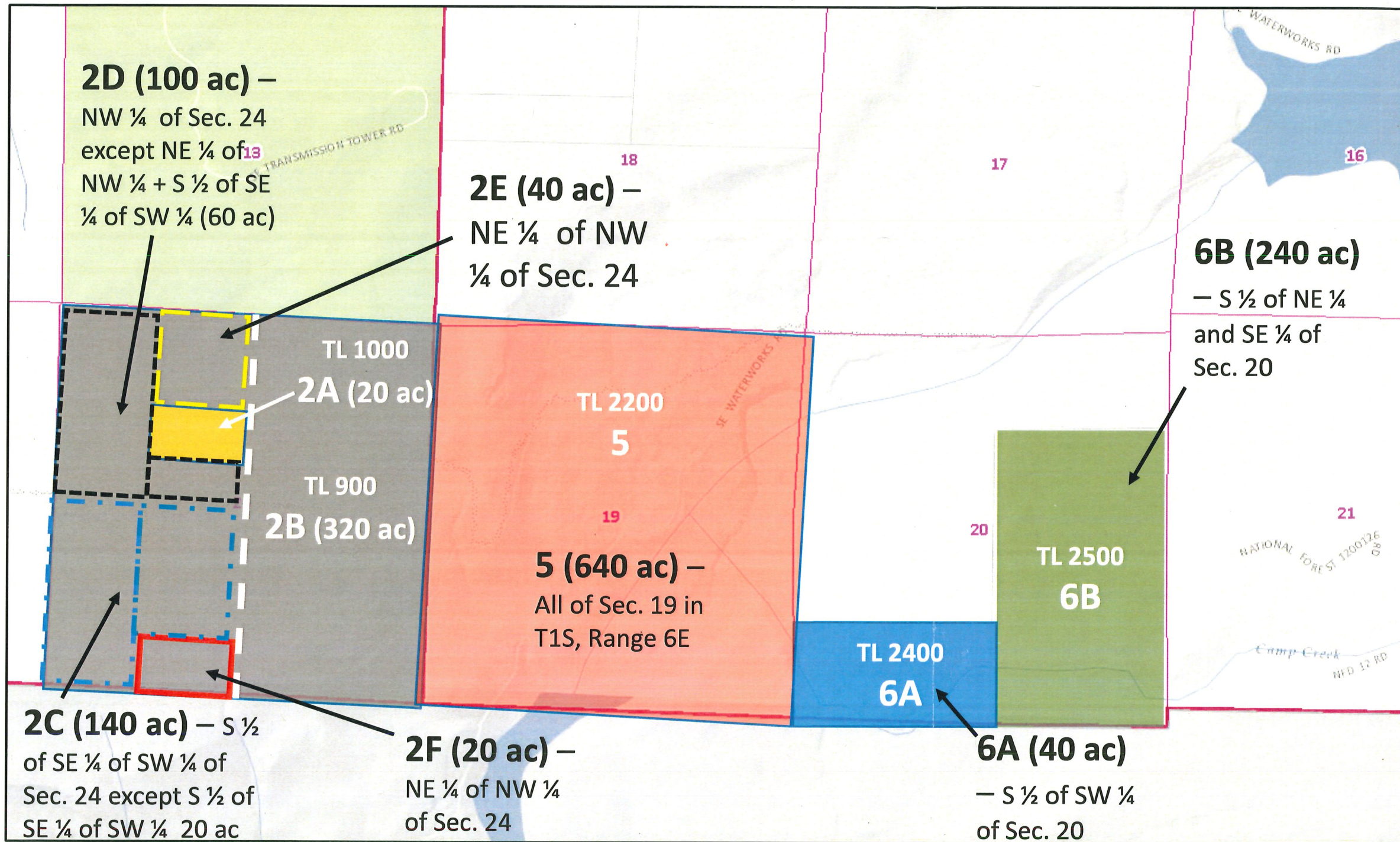
ZONING

Zoning District

Zoning Overlay

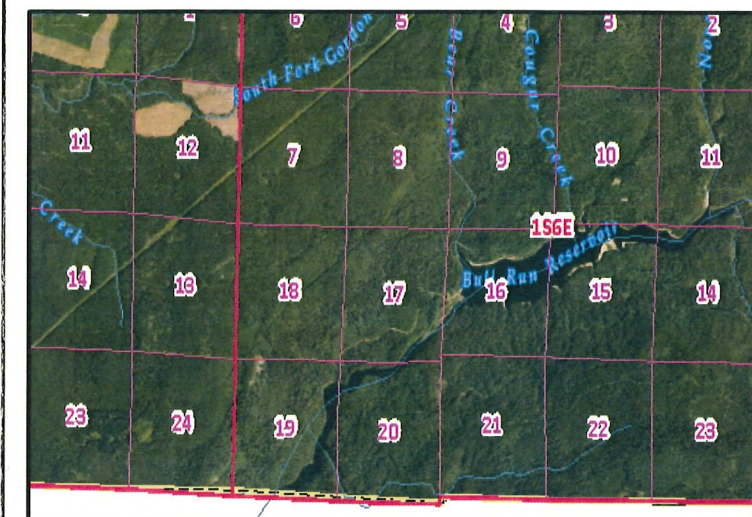
EXHIBIT

A.3



28	29	30	29	28	27	26	25	30
35	36	31	32	33	34	35	36	31
2	1	6	5	4	3	2	1	6
11	12	7	8	9	10	11	12	7
14	13	18	17	16	15	14	13	18
23	24	19	20	21	22	23	24	19

SITE VICINITY MAP



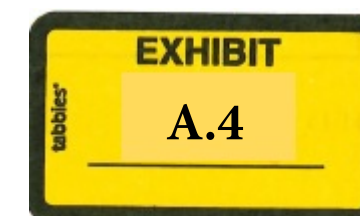
SITE VICINITY AERIAL

RECEIVED
SEP 04 2019

BY:

LOT OF RECORD TAXLOTS (see historic deeds in Appendix B)
BULL RUN LAND EXCHANGE

SECTIONS 19, 20, & 24
MULTNOMAH COUNTY, OREGON



Appix: b



BY:

PRELIMINARY REPORT

In response to the application for a policy of title insurance referenced herein Ticor Title Company of Oregon hereby reports that it is prepared to issue, or cause to be issued, as of the specified date, a policy or policies of title insurance describing the land and the estate or interest hereinafter set forth, insuring against loss which may be sustained by reason of any defect, lien or encumbrance not shown or referred to as an exception herein or not excluded from coverage pursuant to the printed Schedules, Conditions and Stipulations or Conditions of said policy forms.

The printed Exceptions and Exclusions from the coverage of said policy or policies are set forth in Exhibit One. Copies of the policy forms should be read. They are available from the office which issued this report.

This report (and any supplements or amendments hereto) is issued solely for the purpose of facilitating the issuance of a policy of title insurance and no liability is assumed hereby.

The policy(s) of title insurance to be issued hereunder will be policy(s) of Chicago Title Insurance Company, a/an Florida corporation.

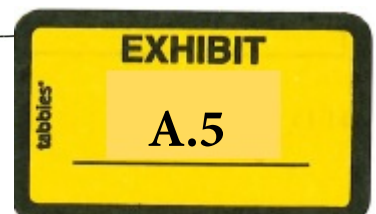
Please read the exceptions shown or referred to herein and the Exceptions and Exclusions set forth in Exhibit One of this report carefully. The Exceptions and Exclusions are meant to provide you with notice of matters which are not covered under the terms of the title insurance policy and should be carefully considered.

It is important to note that this preliminary report is not a written representation as to the condition of title and may not list all liens, defects and encumbrances affecting title to the land.

This preliminary report is for the exclusive use of the parties to the contemplated transaction, and the Company does not have any liability to any third parties nor any liability until the full premium is paid and a policy is issued. Until all necessary documents are placed of record, the Company reserves the right to amend or supplement this preliminary report.

Countersigned

Maggi Metcalfe





111 SW Columbia St., Ste 1000, Portland, OR 97201
(503)242-1210 FAX (503)242-0770

PRELIMINARY REPORT

ESCROW OFFICER: Candice Weischedel
Candice.Weischedel@TicorTitle.com
503-219-1112

ORDER NO.: 36261904746

TITLE OFFICER: Mark Davison

TO: Ticor Title Company of Oregon
111 SW Columbia St., Ste 1000
Portland, OR 97201

ESCROW LICENSE NO.: EA850600240

OWNER/SELLER: City of Portland

BUYER/BORROWER: TBD

PROPERTY ADDRESS: Map and Tax Lot: 1S5E00900; 1S5E01000; 1S6E02200; 1S6E02400 & 1S6E02500,
Corbett, OR 97019

EFFECTIVE DATE: August 13, 2019, 08:00 AM

1. THE POLICY AND ENDORSEMENTS TO BE ISSUED AND THE RELATED CHARGES ARE:

	<u>AMOUNT</u>	<u>PREMIUM</u>
Policy Coverage: TBD	\$ TBD	\$ TBD

2. THE ESTATE OR INTEREST IN THE LAND HEREINAFTER DESCRIBED OR REFERRED TO COVERED BY THIS REPORT IS:

A Fee

3. TITLE TO SAID ESTATE OR INTEREST AT THE DATE HEREOF IS VESTED IN:

The City of Portland, a municipal corporation of the State of Oregon, as to Parcel 1, 3, 4 and 5, and The City of Portland, through its Bureau of Water Works, a municipal corporation of the State of Oregon, as to Parcel 2

4. THE LAND REFERRED TO IN THIS REPORT IS SITUATED IN THE COUNTY OF MULTNOMAH, STATE OF OREGON, AND IS DESCRIBED AS FOLLOWS:

SEE EXHIBIT "A" ATTACHED HERETO AND MADE A PART HEREOF

EXHIBIT "A"
Legal Description

PARCEL 1:

A tract of land being Section 24, Township 1 South, Range 5 East of the Willamette Meridian, in the County of Multnomah and State of Oregon.

EXCEPTING THEREFROM the North half of the Southeast Quarter of the Northwest Quarter of said Section 24.

PARCEL 2:

A tract of land being the North half of the Southeast Quarter of the Northwest Quarter of Section 24, Township 1 South, Range 5 East of the Willamette Meridian, in the County of Multnomah and State of Oregon.

PARCEL 3:

A tract of land being all of Section 19, Township 1 South, Range 6 East of the Willamette Meridian, in the County of Multnomah and State of Oregon.

PARCEL 4:

A tract of land being the South half of the Southwest Quarter of Section 20, Township 1 South, Range 6 East of the Willamette Meridian, in the County of Multnomah and State of Oregon.

PARCEL 5:

A tract of land being the South half of the Northeast Quarter AND the Southeast Quarter of Section 20, Township 1 South, Range 6 East of the Willamette Meridian, in the County of Multnomah and State of Oregon.

AS OF THE DATE OF THIS REPORT, ITEMS TO BE CONSIDERED AND EXCEPTIONS TO COVERAGE IN ADDITION TO THE PRINTED EXCEPTIONS AND EXCLUSIONS IN THE POLICY FORM WOULD BE AS FOLLOWS:

GENERAL EXCEPTIONS:

1. Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
2. Any facts, rights, interests or claims, which are not shown by the Public Records but which could be ascertained by an inspection of the Land or which may be asserted by persons in possession thereof.
3. Easements, or claims thereof, which are not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof; water rights, claims or title to water.
4. Any encroachment, encumbrance, violation, variation or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land and not shown by the Public Records. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
5. Any lien, or right to a lien, for services, labor, material or equipment rental, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, heretofore or hereafter furnished, imposed by law and not shown by the Public Records.

SPECIFIC ITEMS AND EXCEPTIONS:

6. The subject property is under public, charitable, fraternal, or religious organization ownership and is exempt from ad valorem taxation. Any change in ownership prior to delivery of the assessment roll may result in tax liability.

Tax Account No.: [R343032](#), R343033, R343055, R343056 and R343058

7. Any adverse claim based upon the assertion that:
 - a) Said Land or any part thereof is now or at any time has been below the highest of the high watermarks of South Fork, Hickman Creek or unnamed creeks, in the event the boundary of said South Fork, Hickman Creek or unnamed creeks has been artificially raised or is now or at any time has been below the high watermark, if said South Fork, Hickman Creek or unnamed creeks is in its natural state.
 - b) Some portion of said Land has been created by artificial means or has accreted to such portion so created.
 - c) Some portion of said Land has been brought within the boundaries thereof by an avulsive movement of South Fork, Hickman Creek or unnamed creeks, or has been formed by accretion to any such portion.

The rights of the public and governmental bodies for fishing, navigation and commerce in and to any portion of the Land herein described, lying below the high water line of the South Fork, Hickman Creek or unnamed creeks.

The right, title and interest of the State of Oregon in and to any portion lying below the high water line of South Fork, Hickman Creek or unnamed creeks.

8. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by: United States of America
Purpose: Right-of-way for ditches or canals
Recording Date: March 2, 1893
Recording No: [Book 194, Page 91](#)
Affects: Parcel 1

9. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by: United States of America
Purpose: Right-of-way for ditches or canals
Recording Date: August 19, 1895
Recording No: [Book 227, Page 22](#)
Affects: Parcel 1

10. Reservation, exception or other severance of minerals, contained in or disclosed by instrument,

In favor of: United States of America
Reservation of: Minerals
Recording Date: November 30, 1903
Recording No.: [Book 313, Page 300](#)
Affects: Parcel 3

The Company makes no representation as to the present ownership of this interest or its encumbrances.

11. Easement(s) for the purpose(s) shown below and rights incidental thereto as reserved in a document;

Reserved by: United States of America
Purpose: Right-of-way for ditches or canals
Recording Date: February 10, 1920
Recording No: [Book 797, Page 450](#)
Affects: Parcel 5

12. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: United States of America, acting by and through the Forest Service, U.S.D.A.
Purpose: Road and telephone transmission lines
Recording Date: August 27, 1956
Recording No: [Book 1802, Page 276](#)
Affects: Parcel 3

13. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: United States of America, acting by and through the Forest Service, U.S.D.A
Purpose: Road and telephone transmission lines
Recording Date: October 24, 1957
Recording No: [Book 1868, Page 438](#)
Affects: Parcel 4 & 5

14. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: United States of America
Purpose: Right-of-way for road
Recording Date: April 23, 1962
Recording No: [Book 2112, Page 444](#)
Affects: Parcel 1, 2 & 3

15. Easement(s) for the purpose(s) shown below and rights incidental thereto, as granted in a document:

Granted to: United States of America
Purpose: Right-of-way for road
Recording Date: December 18, 1974
Recording No: [Book 1020, Page 880](#)
Affects: Parcel 1 & 3

16. Notwithstanding the insuring clauses of the policy, the company does not insure against loss or damage by reason of a lack of a right of access to and from the land.

17. Please be advised that our search did not disclose any open Deeds of Trust of record. If you should have knowledge of any outstanding obligation, please contact the Title Department immediately for further review prior to closing.

18. The transaction contemplated in connection with this Report is subject to the review and approval of the Company's Corporate Underwriting Department. The Company reserves the right to add additional items or make further requirements after such review.

19. If requested to issue an extended coverage ALTA loan policy, the following matters must be addressed:

- a) The rights of tenants holding under unrecorded leases or tenancies
- b) Matters disclosed by a statement as to parties in possession and as to any construction, alterations or repairs to the Land within the last 75 days. The Company must be notified in the event that any funds are to be used for construction, alterations or repairs.
- c) Any facts which would be disclosed by an accurate survey of the Land

ADDITIONAL REQUIREMENTS/NOTES:

- A. In addition to the standard policy exceptions, the exceptions enumerated above shall appear on the final 2006 ALTA Policy unless removed prior to issuance.

- B. Note: The name(s) of the proposed insured(s) furnished with this application for title insurance is/are:

No names were furnished with the application. Please provide the name(s) of the buyers as soon as possible.

- C. Note: No utility search has been made or will be made for water, sewer or storm drainage charges unless the City/Service District claims them as liens (i.e. foreclosable) and reflects them on its lien docket as of the date of closing. Buyers should check with the appropriate city bureau or water service district and obtain a billing cutoff. Such charges must be adjusted outside of escrow.
- D. Note: Effective January 1, 2008, Oregon law (ORS 314.258) mandates withholding of Oregon income taxes from sellers who do not continue to be Oregon residents or qualify for an exemption. Please contact your Escrow Closer for further information.
- E. THE FOLLOWING NOTICE IS REQUIRED BY STATE LAW: YOU WILL BE REVIEWING, APPROVING AND SIGNING IMPORTANT DOCUMENTS AT CLOSING. LEGAL CONSEQUENCES FOLLOW FROM THE SELECTION AND USE OF THESE DOCUMENTS. YOU MAY CONSULT AN ATTORNEY ABOUT THESE DOCUMENTS. YOU SHOULD CONSULT AN ATTORNEY IF YOU HAVE QUESTIONS OR CONCERNS ABOUT THE TRANSACTION OR ABOUT THE DOCUMENTS. IF YOU WISH TO REVIEW TRANSACTION DOCUMENTS THAT YOU HAVE NOT SEEN, PLEASE CONTACT THE ESCROW AGENT.
- F. Recording Charge (Per Document) is the following:
- | County | First Page | Each Additional Page |
|------------|------------|----------------------|
| Multnomah | \$82.00 | \$5.00 |
| Washington | \$81.00 | \$5.00 |
| Clackamas | \$93.00 | \$5.00 |
- Note: When possible the company will record electronically. An additional charge of \$5.00 applies to each document that is recorded electronically.
- G. Note: This map/plat is being furnished as an aid in locating the herein described Land in relation to adjoining streets, natural boundaries and other land. Except to the extent a policy of title insurance is expressly modified by endorsement, if any, the Company does not insure dimensions, distances or acreage shown thereon.
- H. Notice: Please be aware that due to the conflict between federal and state laws concerning the cultivation, distribution, manufacture or sale of marijuana, the Company is not able to close or insure any transaction involving Land that is associated with these activities.

EXHIBIT ONE

2006 AMERICAN LAND TITLE ASSOCIATION LOAN POLICY (06-17-06) EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

- (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to:
 - the occupancy, use, or enjoyment of the Land;
 - the character, dimensions or location of any improvement erected on the land;
 - the subdivision of land; or
 - environmental protection;or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
- Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
- Defects, liens, encumbrances, adverse claims, or other matters:
 - created, suffered, assumed or agreed to by the Insured Claimant;
 - not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

- resulting in no loss or damage to the Insured Claimant;
 - attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 11, 13, or 14); or
 - resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Insured Mortgage.
- Unenforceability of the lien of the Insured Mortgage because of the inability or failure of an Insured to comply with the applicable doing-business laws of the state where the Land is situated.
 - Invalidity or unenforceability in whole or in part of the lien of the Insured Mortgage that arises out of the transaction evidenced by the Insured Mortgage and is based upon usury or any consumer credit protection or truth-in-lending law.
 - Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is:
 - a fraudulent conveyance or fraudulent transfer, or
 - a preferential transfer for any reason not stated in the Covered Risk 13(b) of this policy.
 - Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the Insured Mortgage in the Public Records. This Exclusion does not modify or limit the coverage provided under Covered Risk 11(b).

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

- Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
- Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
- Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
- Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
- Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.

2006 AMERICAN LAND TITLE ASSOCIATION OWNER'S POLICY (06-17-06) EXCLUSIONS FROM COVERAGE

The following matters are expressly excluded from the coverage of this policy and the Company will not pay loss or damage, costs, attorneys' fees or expenses that arise by reason of:

- (a) Any law, ordinance or governmental regulation (including but not limited to building and zoning) restricting, regulating, prohibiting or relating to:
 - the occupancy, use, or enjoyment of the Land;
 - the character, dimensions or location of any improvement erected on the land;
 - the subdivision of land; or
 - environmental protection;or the effect of any violation of these laws, ordinances or governmental regulations. This Exclusion 1(a) does not modify or limit the coverage provided under Covered Risk 5.
- (b) Any governmental police power. This Exclusion 1(b) does not modify or limit the coverage provided under Covered Risk 6.
- Rights of eminent domain. This Exclusion does not modify or limit the coverage provided under Covered Risk 7 or 8.
- Defects, liens, encumbrances, adverse claims, or other matters:
 - created, suffered, assumed or agreed to by the Insured Claimant;
 - not known to the Company, not recorded in the Public Records at Date of Policy, but known to the Insured Claimant and not disclosed in writing to the Company by the Insured Claimant prior to the date the Insured Claimant became an Insured under this policy;

- resulting in no loss or damage to the Insured Claimant;
 - attaching or created subsequent to Date of Policy (however, this does not modify or limit the coverage provided under Covered Risk 9 and 10); or
 - resulting in loss or damage that would not have been sustained if the Insured Claimant had paid value for the Title.
- Any claim, by reason of the operation of federal bankruptcy, state insolvency or similar creditors' rights laws, that the transaction creating the lien of the Insured Mortgage, is:
 - a fraudulent conveyance or fraudulent transfer, or
 - a preferential transfer for any reason not stated in the Covered Risk 9 of this policy.
 - Any lien on the Title for real estate taxes or assessments imposed by governmental authority and created or attaching between Date of Policy and the date of recording of the deed or other instrument of transfer in the Public Records that vests Title as shown in Schedule A.

The above policy form may be issued to afford either Standard Coverage or Extended Coverage. In addition to the above Exclusions from Coverage, the Exceptions from Coverage in a Standard Coverage policy will also include the following Exceptions from Coverage.

SCHEDULE B - GENERAL EXCEPTIONS FROM COVERAGE

This policy does not insure against loss or damage (and the Company will not pay costs, attorneys' fees or expenses) which arise by reason of:

- Taxes or assessments which are not shown as existing liens by the records of any taxing authority that levies taxes or assessments on real property or by the Public Records; proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not shown by the records of such agency or by the Public Records.
- Facts, rights, interests or claims which are not shown by the Public Records but which could be ascertained by an inspection of the Land or by making inquiry of persons in possession thereof.
- Easements, or claims of easement, not shown by the Public Records; reservations or exceptions in patents or in Acts authorizing the issuance thereof, water rights, claims or title to water.
- Any encroachment, encumbrance, violation, variation, or adverse circumstance affecting the Title that would be disclosed by an accurate and complete land survey of the Land. The term "encroachment" includes encroachments of existing improvements located on the Land onto adjoining land, and encroachments onto the Land of existing improvements located on adjoining land.
- Any lien for services, labor or material heretofore or hereafter furnished, or for contributions due to the State of Oregon for unemployment compensation or worker's compensation, imposed by law and not shown by the Public Records.



Inquire before you wire!

WIRE FRAUD ALERT

This Notice is not intended to provide legal or professional advice.
If you have any questions, please consult with a lawyer.

All parties to a real estate transaction are targets for wire fraud and many have lost hundreds of thousands of dollars because they simply relied on the wire instructions received via email, without further verification. **If funds are to be wired in conjunction with this real estate transaction, we strongly recommend verbal verification of wire instructions through a known, trusted phone number prior to sending funds.**

In addition, the following non-exclusive self-protection strategies are recommended to minimize exposure to possible wire fraud.

- **NEVER RELY** on emails purporting to change wire instructions. Parties to a transaction rarely change wire instructions in the course of a transaction.
- **ALWAYS VERIFY** wire instructions, specifically the ABA routing number and account number, by calling the party who sent the instructions to you. DO NOT use the phone number provided in the email containing the instructions, use phone numbers you have called before or can otherwise verify. **Obtain the number of relevant parties to the transaction as soon as an escrow account is opened.** DO NOT send an email to verify as the email address may be incorrect or the email may be intercepted by the fraudster.
- **USE COMPLEX EMAIL PASSWORDS** that employ a combination of mixed case, numbers, and symbols. Make your passwords greater than eight (8) characters. Also, change your password often and do NOT reuse the same password for other online accounts.
- **USE MULTI-FACTOR AUTHENTICATION** for email accounts. Your email provider or IT staff may have specific instructions on how to implement this feature.

For more information on wire-fraud scams or to report an incident, please refer to the following links:

Federal Bureau of Investigation:
<http://www.fbi.gov>

Internet Crime Complaint Center:
<http://www.ic3.gov>

FIDELITY NATIONAL FINANCIAL
PRIVACY NOTICE
Revised May 1, 2018

Fidelity National Financial, Inc. and its majority-owned subsidiary companies (collectively, "FNF", "our," or "we") respect and are committed to protecting your privacy. This Privacy Notice explains how we collect, use, and protect personal information, when and to whom we disclose such information, and the choices you have about the use and disclosure of that information.

Types of Information Collected

We may collect two types of information from you: Personal Information and Browsing Information.

Personal Information. FNF may collect the following categories of Personal Information:

- contact information (e.g., name, address, phone number, email address);
- demographic information (e.g., date of birth, gender, marital status);
- identity information (e.g. Social Security Number, driver's license, passport, or other government ID number);
- financial account information (e.g. loan or bank account information); and
- other personal information necessary to provide products or services to you.

Browsing Information. FNF may automatically collect the following types of Browsing Information when you access an FNF website, online service, or application (each an "FNF Website") from your Internet browser, computer, and/or mobile device:

- Internet Protocol (IP) address and operating system;
- browser version, language, and type;
- domain name system requests; and
- browsing history on the FNF Website, such as date and time of your visit to the FNF Website and visits to the pages within the FNF Website.

How Personal Information is Collected

We may collect Personal Information about you from:

- information we receive from you on applications or other forms;
- information about your transactions with FNF, our affiliates, or others; and
- information we receive from consumer reporting agencies and/or governmental entities, either directly from these entities or through others.

How Browsing Information is Collected

If you visit or use an FNF Website, Browsing Information may be collected during your visit. Like most websites, our servers automatically log each visitor to the FNF Website and may collect the Browsing Information described above. We use Browsing Information for system administration, troubleshooting, fraud investigation, and to improve our websites. Browsing Information generally does not reveal anything personal about you, though if you have created a user account for an FNF Website and are logged into that account, the FNF Website may be able to link certain browsing activity to your user account.

Other Online Specifics

Cookies. When you visit an FNF Website, a "cookie" may be sent to your computer. A cookie is a small piece of data that is sent to your Internet browser from a web server and stored on your computer's hard drive. Information gathered using cookies helps us improve your user experience. For example, a cookie can help the website load properly or can customize the display page based on your browser type and user preferences. You can choose whether or not to accept cookies by changing your Internet browser settings. Be aware that doing so may impair or limit some functionality of the FNF Website.

Web Beacons. We use web beacons to determine when and how many times a page has been viewed. This information is used to improve our websites.

Do Not Track. Currently our FNF Websites do not respond to "Do Not Track" features enabled through your browser.

Links to Other Sites. FNF Websites may contain links to other websites. FNF is not responsible for the privacy practices or the content of any of those other websites. We advise you to read the privacy policy of every website you visit.

Use of Personal Information

FNF uses Personal Information for three main purposes:

- To provide products and services to you or in connection with a transaction involving you.
- To improve our products and services.
- To communicate with you about our, our affiliates', and third parties' products and services, jointly or independently.

When Information Is Disclosed

We may make disclosures of your Personal Information and Browsing Information in the following circumstances:

- to enable us to detect or prevent criminal activity, fraud, material misrepresentation, or nondisclosure;
- to nonaffiliated service providers who provide or perform services or functions on our behalf and who agree to use the information only to provide such services or functions;
- to nonaffiliated third party service providers with whom we perform joint marketing, pursuant to an agreement with them to jointly market financial products or services to you;
- to law enforcement or authorities in connection with an investigation, or in response to a subpoena or court order; or
- in the good-faith belief that such disclosure is necessary to comply with legal process or applicable laws, or to protect the rights, property, or safety of FNF, its customers, or the public.

The law does not require your prior authorization and does not allow you to restrict the disclosures described above. Additionally, we may disclose your information to third parties for whom you have given us authorization or consent to make such disclosure. We do not otherwise share your Personal Information or Browsing Information with nonaffiliated third parties, except as required or permitted by law.

We reserve the right to transfer your Personal Information, Browsing Information, and any other information, in connection with the sale or other disposition of all or part of the FNF business and/or assets, or in the event of bankruptcy, reorganization, insolvency, receivership, or an assignment for the benefit of creditors. By submitting Personal Information and/or Browsing Information to FNF, you expressly agree and consent to the use and/or transfer of the foregoing information in connection with any of the above described proceedings.

Please see "**Choices With Your Information**" to learn the disclosures you can restrict.

Security of Your Information

We maintain physical, electronic, and procedural safeguards to guard your Personal Information. We limit access to nonpublic personal information about you to employees who need to know that information to do their job. When we provide Personal Information to others as discussed in this Privacy Notice, we expect that they process such information in compliance with our Privacy Notice and in compliance with applicable privacy laws.

Choices With Your Information

If you do not want FNF to share your information with our affiliates to directly market to you, you may send an "opt out" request by email, phone, or physical mail as directed at the end of this Privacy Notice. We do not share your Personal Information with nonaffiliates for their use to direct market to you.

Whether you submit Personal Information or Browsing Information to FNF is entirely up to you. If you decide not to submit Personal Information or Browsing Information, FNF may not be able to provide certain services or products to you.

For California Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties, except as permitted by California law.

For Nevada Residents: You may be placed on our internal Do Not Call List by calling (888) 934-3354 or by contacting us via the information set forth at the end of this Privacy Notice. Nevada law requires that we also provide you with the following contact information: Bureau of Consumer Protection, Office of the Nevada Attorney General, 555 E. Washington St., Suite 3900, Las Vegas, NV 89101; Phone number: (702) 486-3132; email: BCPINFO@ag.state.nv.us.

For Oregon Residents: We will not share your Personal Information or Browsing Information with nonaffiliated third parties for marketing purposes, except after you have been informed by us of such sharing and had an opportunity to indicate that you do not want a disclosure made for marketing purposes.

For Vermont Residents: We will not disclose information about your creditworthiness to our affiliates and will not disclose your personal information, financial information, credit report, or health information to nonaffiliated third parties to market to you, other than as permitted by Vermont law, unless you authorize us to make those disclosures.

Information From Children

The FNF Websites are meant for adults and are not intended or designed to attract persons under the age of eighteen (18). We do not collect Personal Information from any person that we know to be under the age of thirteen (13) without permission from a parent or guardian.

International Users

FNF's headquarters is located within the United States. If you reside outside the United States and choose to provide Personal Information or Browsing Information to us, please note that we may transfer that information outside of your country of residence for any of the purposes described in this Privacy Notice. By providing FNF with your Personal Information and/or Browsing Information, you consent to our collection, transfer, and use of such information in accordance with this Privacy Notice.

FNF Website Services for Mortgage Loans

Certain FNF companies provide services to mortgage loan servicers, including hosting websites that collect customer information on behalf of mortgage loan servicers (the "Service Websites"). The Service Websites may contain links to both this Privacy Notice and the mortgage loan servicer or lender's privacy notice. The sections of this Privacy Notice titled When Information is Disclosed, Choices with Your Information, and Accessing and Correcting Information do not apply to the Service Websites. The mortgage loan servicer or lender's privacy notice governs use, disclosure, and access to your Personal Information. FNF does not share Personal Information collected through the Service Websites, except (1) as required or authorized by contract with the mortgage loan servicer or lender, or (2) as required by law or in the good-faith belief that such disclosure is necessary to comply with a legal process or applicable law, to enforce this Privacy Notice, or to protect the rights, property, or safety of FNF or the public.

Your Consent To This Privacy Notice; Notice Changes

By submitting Personal Information and/or Browsing Information to FNF, you consent to the collection and use of the information in accordance with this Privacy Notice. We may change this Privacy Notice at any time. The revised Privacy Notice, showing the new revision date, will be posted on the FNF Website. Each time you provide information to us following any amendment of this Privacy Notice, your provision of information to us will signify your assent to and acceptance of the terms of the revised Privacy Notice for all previously collected information and information collected from you in the future. We may use comments, information or feedback that you submit to us in any manner that we may choose without notice or compensation to you.

Accessing and Correcting Information; Contact Us

If you have questions, would like to access or correct your Personal Information, or want to opt-out of information sharing for affiliate marketing, send your requests via email to privacy@fnf.com, by phone to (888) 934-3354, or by mail to:

Fidelity National Financial, Inc.
601 Riverside Avenue,
Jacksonville, Florida 32204
Attn: Chief Privacy Officer

Seventeen Hundred Fifty (\$1750) Dollars to us paid by Albin Jussila and Alma Jussila, husband and wife, of the City of Portland, Multnomah County, State of Oregon, have bargained, sold and conveyed and by these presents do bargain, sell and convey unto the said Albin Jussila and Alma Jussila, husband and wife, their heirs and assigns all the following bounded and described real property, situate in the County of Multnomah, State of Oregon, to-wit:

All of lot numbered three (3) in block numbered six (6) in Wynkoop Villa, within the corporate limits of the City of Portland, in said County and State, and said description being in accordance with the recorded maps and plats of said tract as of record in said County.

Together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and also all of our right, title and interest in and to the same including dower and claim of dower.

TO HAVE AND TO HOLD the same unto the said Albin Jussila and Alma Jussila, husband and wife, their heirs and assigns forever. And we, C M Edmonds and Anna C Edmonds, husband and wife, the above named grantors, do covenant to and with the said Albin Jussila and Alma Jussila, husband and wife, the above named grantees, their heirs and assigns that the above granted premises are free from all incumbrances and that we will and our heirs, executors and administrators shall forever defend and warrant to the above named grantees, their heirs and assigns, the above granted premises and every part and parcel thereof, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, we have hereunto set our hands and seals this the 4th day of June, A D 1918.

Signed, sealed, witnessed and delivered in presence of:

A E Wheelock

C M Edmonds

B Lee Paget

Anna C Edmonds

\$2.00 U S I R S (Cancelled)

STATE OF OREGON)
County of Multnomah) SS

BE IT REMEMBERED, That on this the 4th day of June, A D 1918, before me the undersigned, a Notary Public in and for said County and State, personally appeared the within named C M Edmonds and Anna C Edmonds, husband and wife, who are known to me to be the identical persons described in and who executed the within and foregoing instrument and acknowledged to me that they executed the same freely and voluntarily for the uses and purposes therein mentioned.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my Notarial Seal the day and year last above written.

(Notarial Seal)

A E Wheelock

My commission expires Sept 21, 1919.

Notary Public for Oregon

Rec for record Jun 20, 1918, at 11:40 A M.

W K #149791

THE CAMERON-TAYLOR LBR CO TO CITY OF PORTLAND

KNOW ALL MEN BY THESE PRESENTS, That the Cameron-Taylor Lumber Company, a corporation organized under the laws of the State of Oregon, in consideration of Twelve Thousand Six Hundred Dollars (\$12,600), and other good and valuable considerations to it paid by The City of Portland, a municipal corporation of the State of Oregon, certain interest is hereby acknowledged, bargained and sold, and by these presents do bargain, sell and convey unto the said City of Portland, its successors and assigns, the following described real property to it:

EXHIBIT

A.6

tabbies

PARCEL 243

2B → PARCEL 2
2C → PARCEL 2 (EXCEPT 20 AC.)
2D → PARCEL 2 (EXCEPT 60 AC.)
PARCEL 3

1. The East half of Section twenty-four (24), Township one (1) South, Range five (5) East of the Willamette Meridian, in Multnomah County, Oregon, containing three hundred and twenty _ acres, more or less;
2. The Southwest quarter of Section twenty-four (24), Township one (1) South, Range five (5) East of the Willamette Meridian, in Multnomah County, Oregon, excepting therefrom twenty _ acres owned by L. A. Brandeis, which twenty _ acres is described as the South Half of Southeast Quarter of the Southwest Quarter of said Section twenty-four (24);
3. The Northwest Quarter of Section twenty-four (24), Township one (1) South, Range five (5) East of the Willamette Meridian, in Multnomah County, Oregon, excepting therefrom sixty (60) acres owned by J. H. Criss and the United States of America, which excepted sixty _ acres is described as the Northeast Quarter of the Northwest Quarter, and the North Half of the Southeast Quarter of the Northwest Quarter of said Section twenty-four (24);
4. The Northwest Quarter of Section twenty-six (26), Township one (1) South, Range five (5) East of the Willamette Meridian, in Clackamas County, Oregon, containing one hundred and sixty _ acres, more or less, but saving and reserving to the Cameron-Taylor Lumber Company its successors and assigns, the timber on said one hundred and sixty _ acres, and the right to cut and remove the same therefrom within ten years after the date hereof, all timber remaining on said land after the expiration of said ten year period to be the property of the City of Portland;
5. North seventy (70) acres of the West Half of the Northwest Quarter of Section thirty-four (34), Township one (1) South, Range five (5) East of the Willamette Meridian, in Clackamas County, Oregon; together with all and singular the tenements, hereditaments and appurtenances thereunto belonging or in anywise appertaining, and also all its estate, right, title and interest in and to the same.

TO HAVE AND TO HOLD the above described and granted premises unto the said City of Portland, its successors and assigns forever. And the said Cameron-Taylor Lumber Company, for itself and its successors, does covenant to and with the said City of Portland, its successors and assigns, that it, the said Cameron-Taylor Lumber Company, is well seized in fee simple of the said premises, and has good right to convey the same as aforesaid, and that the said premises are free from liens or incumbrances, and that the said Cameron-Taylor Lumber Company will and its successors shall forever warrant and defend the same and each and every part and parcel thereof, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, the said Cameron-Taylor Lumber Company has caused these presents to be executed in its name by its President and Secretary, and its corporate seal to be affixed hereto, by authority of its Board of Directors, this 9th day of May, 1918.

Executed in the presence

of us as witnesses:

John McCourt (Corporate Seal)
E. K. Thompson
\$56.50 U. S. I. R. S. (Cancelled)
STATE OF OREGON)
County of Multnomah) ss

CAMERON-TAYLOR LUMBER COMPANY
By J. E. Cameron, President
CAMERON-TAYLOR LUMBER COMPANY
By G. T. Hogg, Secretary

On this 9th day of May, 1918, before me appeared J. E. Cameron and G. T. Hogg, both to me personally known, who being duly sworn, did say that he, the said J. E. Cameron is the President, and he the said G. T. Hogg, is the Secretary of the Cameron-Taylor Lumber Company, the within named corporation, and that the seal affixed to said instrument is the corporate seal of said corporation, and that the said instrument was signed and sealed in behalf of the said corporation by authority of its Board of Directors, and said J. E. Cameron and G. T. Hogg acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal, this the 9th day of May, 1918, in this my official capacity.

all assessments for sewers and street improvements imposed by the City of Portland, State of Oregon and now standing as a lien against the above property

IN TESTIMONY WHEREOF I have hereunto set my hand and seal this 31st day of December one thousand nine hundred and nineteen (1919)

Executed in the presence of:

Pearl Polley

Muriel M Bronner

T B Whipple

STATE OF CALIFORNIA)

County of Stanislaus) SS



BE IT REMEMBERED that on this, the 31st day of December 1919 before me, the undersigned a notary public within and for the said County and State, personally appeared the within named T B Whipple, personally known to me to be the individual described in and who executed the within instrument and to me acknowledged that he executed the same freely and voluntarily and without fear or compulsion from anyone

IN WITNESS WHEREOF I have hereunto set my hand and affixed my notarial seal the day and Year in this certificate written

(Notarial Seal)

Pearl Polley

Notary Public for California

My commission expires Dec 27, 1921

See for record Feb 4, 1920 at 9:35 A M

---00---

M K #198057

DEED TO CITY OF PORTLAND

KNOW ALL MEN BY THESE PRESENTS that I, Harry J Cress, single, of Portland, Oregon for and in consideration of two thousand and no/100 (\$2000.00) dollars to me paid by the City of Portland, a municipal corporation, have granted, bargained, sold and conveyed and do hereby grant, bargain sell and convey unto said City of Portland, a municipal corporation under the constitution and laws of the State of Oregon, its successors and assigns all of the following bounded and described real property situate in the County of Multnomah, State of Oregon to-wit;

The northeast quarter of the northwest quarter of Section 24 in township 1 south of range 5 east of the Willamette Meridian

To have and to hold unto said The City of Portland, its successors and assigns forever, and I, the grantor above designated do hereby covenant to and with said grantee that I am the owner in fee simple of said premises and that said premises are free and clear of any and all liens or incumbrances, except the rights, if any, reserved by the Government in its patent to William F Grayson recorded in deed book 211 at page 281 and county roads and water rights, if any existing upon or against said premises and that I will warrant and forever defend said premises against all persons whomsoever except as above stated

IN WITNESS WHEREOF I have hereunto set my hand and seal this 24th day of January A D 1920

Executed in the presence of us as witnesses:

Ben S Morrow

L E Labourette

Harry J Cress

STATE OF OREGON)

County of Multnomah) SS



THIS IS TO CERTIFY that on this 24th day of January A D 1920 before me, the undersigned a notary public in and for said County and State, personally appeared the within named

ZE → NEW
MAY 14
624
(P. 2)

EXHIBIT

A.7

tabbies

2F

APPROXIMATE TO BE
542, SE 1/4, SW 1/4
NOT EXACT ABOUT
LOT 7 REFERENCE

BOOK 851
PAGE 168

168

Lot 7 in section 34, Township 1 south range 5 east of the Willamette Meridian,
containing 20 acres, more or less,

Together with all and singular the tenements, hereditaments and appurtenances
thereto belonging or in anywise appertaining, and also all our estate, right, title and inter-
est in and to the same, including covenants and claim of power.

TO HAVE AND TO HOLD the above described and granted premises unto the said The
City of Portland, its successors and assigns forever. And we, the grantors above named, do
covenant to and with the above named grantee, its successors and assigns that we lawfully
seized in fee simple of the above granted premises, that the above granted premises are free
from all incumbrances, and that we will and our heirs, executors and administrators, shall
warrant and forever defend the above granted premises, and every part and parcel thereof,
against the lawful claims and demands of all persons whomsoever, and we will and our heirs,
executors and administrators shall warrant and forever defend the above granted premises, and
every part and parcel thereof, against any claim or claims or demands by any person or persons
whomsoever that may be occasioned by a mortgage heretofore executed on said property by Edward
N Hall to Barbara Groener dated November 30, 1897, to secure a promissory note of same date
for sixty five (\$65.00) Dollars. We further agree and bind our heirs, executors and adminis-
trators as well to repay to The City of Portland any and all damages it may sustain growing
out of any claim or claims or demand or demands that may be occasioned by the execution of
said mortgage or the note given to secure the same.

IN WITNESS WHEREOF, we, the grantors above named, have hereunto set our hands
and seals this 4 day of June, 1921.

Executed in the presence of

E L Moulton,

Daisy Carter

STATE OF OREGON)

County of Multnomah) SS

L A Brandes

Ida Brandes

C A Brandes

Rose Brandes

Seal

Seal

Seal

Seal

BE IT REMEMBERED That on this 4 day of June, A D 1921, before me, the under-
signed, a Notary Public in and for said county and state, personally appeared the within named
L A Brandes and Ida Brandes, his wife, and C A Brandes and Rose Brandes, his wife, known to me
to be the identical persons described in and who executed the within instrument, and acknowl-
ged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and notarial seal the day
and year last above written.

(Notarial Seal)

My commission expires Jan 15, 1924.

6/18/21

Approved as to form

H M T

Frank S Grant, City Attorney

Rec for record Jun 22, 1921 At 10:24 A M

E L Moulton

Notary public for Oregon

N C #250599

HUGHES TO NICHOLSON

KNOW ALL MEN BY THESE PRESENTS, that I, F H Hughes (a widower) of Portland,
State of Oregon, in consideration of ten dollars to me paid by Ida J Nicholson, of Portland,
State of Oregon, have bargained and sold and by these presents do grant, bargain, sell and
convey unto said Ida J Nicholson, her heirs and assigns, all the following bounded and described

EXHIBIT

A.8

tabbies

157
of Portland, State of Oregon, in consideration of one Dollar to us paid by Robert Ganopole and Helen Ganopole of Portland, State of Oregon, have bargained and sold, and by these presents do grant, bargain, sell and convey unto said Robert Ganopole and Helen Ganopole, their heirs and assigns, all the following bounded and described real property, situated in the County of Multnomah and State of Oregon:

Lot seventeen (17) in Block sixty nine (69) Irvington in the City of Portland, as per duly recorded plat thereof

50. U S I R S Cancelled

Together with all and singular the tenements, hereditaments and appurtenances thereto belonging in anywise appertaining, and also all ... estate, right, title and interest in and to the same, including dower and claim of dower.

TO HAVE AND TO HOLD The above described and granted premises unto the said Robert Ganopole and Helen Ganopole their heirs and assigns forever, And we C E Bolds and May E Bolds grantors above named do covenant to and with Robert Ganopole and Helen Ganopole the above named grantees their heirs and assigns that we are lawfully seized in fee simple of the above granted premises, that the above granted premises are free from all incumbrances except mortgage given to secure the payment of the note for \$3500.00, and that we will and our heirs, executors and administrators shall warrant and forever defend the above granted premises, and every part and parcel thereof against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, we the grantors above named, have hereunto set our hands and seals this 20 day of June, 1921.

Executed in the presence of:

S J Bischoff

C E Bolds

M E Simon

May E Bolds

STATE OF OREGON)

County of Multnomah) SS

BE IT REMEMBERED That on this 20 day of June, A D. 1921, before me, the undersigned, a notary public in and for said county and state, personally appeared the within named C E Bolds and May E Bolds, his wife, who are known to me to be the identical persons described in and who executed the within instrument, and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and notarial seal the day and year last above written.

(Notarial Seal)

S J Bischoff

Notary Public state of Oregon

My commission expires March 30, 1923.

Ren for record Jun 22, 1922, at 10:10 A M

J C #250598

BRANDES ET AL TO THE CITY OF PORTLAND

KNOW ALL MEN BY THESE PRESENTS, That we, L A Brandes and Ida Brandes, his wife and C A Brandes and Rose Brandes, his wife, of Multnomah County, State of Oregon, in consideration of seven hundred and no/100 (\$700.00) Dollars to us paid by The City of Portland, a municipal corporation under the laws of the State of Oregon, have bargained and sold, and by these presents do grant, bargain, sell and convey unto said The City of Portland, its successors and assigns, all the following bounded and described real property, situated in the County of Multnomah, and State of Oregon:

BOOK 851
PAGE 167
6-22-1921

2
242-157-2

AFTER RECORDING RETURN TO:
CITY OF PORTLAND

71 SW Oak Street
Portland, OR 97204

Until a change is requested all tax
statements shall be sent to the following
address:

Same as above

Escrow No: 4500-49650-RE
Order No: 278904

Recorded in MULTNOMAH COUNTY, OREGON
C. Swick, Deputy Clerk

A37 4
Total : 36.00

2004-121621 07/02/2004 01:59:08pm

WARRANTY DEED - STATUTORY FORM
(INDIVIDUAL OR CORPORATION)

WESTERN RIVERS CONSERVANCY, a non-profit Oregon Public Benefit Corporation

Grantor, conveys and warrants to CITY OF PORTLAND THROUGH IT'S BUREAU OF WATER WORKS, a
municipal corporation of the State of Oregon

Grantee, the following described real property free of encumbrances except as specifically
set forth herein:

The North half of the Southeast Quarter of the Northwest Quarter of Section 24, Township
1 South, Range 5 East of the Willamette Meridian, in the County of Multnomah and State of
Oregon.

This instrument will not allow use of the property described in this instrument in violation
of applicable land use laws and regulations. Before signing or accepting this instrument,
the person acquiring fee title to the property should check with the appropriate city or
county planning department to verify approved uses and to determine any limits on lawsuits
against farming or forest practices as defined in ORS 30.930.

ENCUMBRANCES:

1. The assessment roll and the tax roll disclose that the premises herein
described were specially assessed as Forest Land. If the land becomes
disqualified for the special assessment under the statute, an additional tax
may be levied.

(Continued)

The true consideration for this conveyance is \$95,000.00

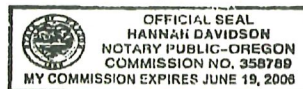
Dated June 18, 2004, if a corporate grantor, it has caused its name to
be signed by order of its board of directors.

WESTERN RIVERS CONSERVANCY

STATE OF OREGON, County of Multnomah
This instrument was acknowledged before me on

by Sue Doroff as Vice-President
of Western Rivers Conservancy

Notary Public for Oregon
My commission expires: June 19, 2006



EXHIBIT

A.9

278904
450049650 RE

CHICAGO

PARCEL
2A

2A

7-2-04

AFTER RECORDING RETURN 101
CITY OF PORTLAND, Bureau of Water Works

1120 SW 5th Avenue, Room 600
Portland, OR 97204

Unless a change is requested all tax
statements shall be sent to the following
address:

1120 SW 5th Avenue, Room 600
Portland, OR 97204
Encrow No: 4500-49650-KE
Order No: 278904

RECEIVED
M. A.
DATE 4/29/04

APPROVED BY:

Morteza Anoshiravani
MORTEZA ANOASHIRAVANI, PE, ADMINISTRATOR
CITY OF PORTLAND, BUREAU OF WATER WORKS

WARRANTY DEED - STATUTORY FORM
(INDIVIDUAL OR CORPORATION)

WESTERN RIVERS CONSERVANCY, a non-profit Oregon Public Benefit Corporation.

Grantor, conveys and warrants to CITY OF PORTLAND THROUGH IT'S BUREAU OF WATER WORKS, a
municipal corporation of the State of Oregon

Grantee, the following described real property free of encumbrances except as specifically
set forth herein:

The North half of the Southeast Quarter of the Northwest Quarter of Section 24, Township
1 South, Range 5 East of the Willamette Meridian, in the County of Multnomah and State of
Oregon.

This instrument will not allow use of the property described in this instrument in violation
of applicable land use laws and regulations. Before signing or accepting this instrument,
the person acquiring fee title to the property should check with the appropriate city or
county planning department to verify approved uses and to determine any limits on lawsuits
against farming or forest practices as defined in ORS 30.930.

ENCUMBRANCES:

1. The assessment roll and the tax roll disclose that the premises herein
described were specially assessed as Forest Land. If the land becomes
disqualified for the special assessment under the statute, an additional tax
may be levied.

(CONTINUED)

The true consideration for this conveyance is \$95,000.00

Noted: If a corporate grantor, it has caused its name to
be signed by order of its board of directors.

WESTERN RIVERS CONSERVANCY

STATE OF OREGON, County of _____, 1904.
This instrument was acknowledged before me on _____
by _____
This instrument was acknowledged before me on _____
by _____
at _____

Notary Public for Oregon
My commission expires _____

7-2-04

Encumbrances, continued

2. The rights of the public in and to that portion of the premises herein described lying within the limits of possible logging or fire road as delineated on the tax assessors map.
3. Lack of right of access to and from said land. The within described property does not appear of record to have access to a public street or way.

7-2-04

Easements, continued

2. The rights of the public in and to that portion of the premises herein described lying within the limits of possible logging or fire road as delineated on the tax assessors map.
3. Lack of right of access to and from said land. The within described property does not appear of record to have access to a public street or way.

7-2-04

Deed

H. Luelling
to
the Public

Book 246 page 418

Date 17 Dec 1897

Con.

Rec'd 22 Dec 1897

EXHIBIT

A.10

State of Oregon }
County of Clackamas } ss

I, H. Luelling, do hereby certify that I am the Recorder in and for the County of Clackamas State of Oregon, and the proper Recording Officer of said County and State.

That the records of my office ^{do} show that a deed, from A. G. Cunningham and the Bull Run Water and Power Company, to the City of Portland, Oregon, bearing date the 6th day of January 1888, and for a valuable consideration, conveying to the City of Portland, Oregon, lands in Township 1 South Range 5 East Township 2 South Range 5 East and Township 1 South of Range 6 East of the Willamette Meridian, was filed for record and in my office on the 9th day of January 1888 in Book 30 page 229 Records of Deeds for said County.

And I further certify that in said Deed so recorded on January 9, 1888 in Book 30 page 229, the following described tracts of land were included and recorded: The South 1/2 of South 1/2 and Northeast 1/4 of Southeast 1/4 of Section 23 in Township 1 South Range 5 East and all of Section 19. Township 1 South Range 6 East (over)

Willamette Meridian; and that said. South $\frac{1}{2}$ of
South $\frac{1}{2}$ and Northeast $\frac{1}{4}$ of Southeast $\frac{1}{4}$ of
Section 23 Township 1 South Range 5 East, and
all of Sections 19 Township 1 South Range 6 East
is situated in Multnomah County, State
of Oregon.

Recorder's
Seal

A. Luelling
Recorder of Conveyances

Cunningham
to
Helen Campbell

Now all men by this presents that for and in consideration of Two thousand shares
of the fully paid up stock of the par value of one hundred dollars per share of the stock
of the Pull River Water and Power Company a corporation duly incorporated and
organized under the general incorporation laws of the State of Oregon, having its
principal office and place of business at the City of Portland in the County of Multnomah
in and State of Oregon, I, A. J. Cunningham of said City of Portland do hereby
grant bargain sell convey and release unto said Pull River Water and Power
Company all of my right title claim and interest in and to the following
described tracts and parcels of land and real property to wit: The North West
quarter (N.W. 1/4) of the North East quarter (N.E. 1/4) and the South half (S. 1/2)
of the North East quarter (N.E. 1/4) and the North half (N. 1/2) of the North West
quarter (N.W. 1/4) and the South East quarter (S.E. 1/4) of the North West quarter
(N.W. 1/4) and the South East quarter (S.E. 1/4) and the North East quarter of
the South West quarter (S.W. 1/4) of Section number thirty one (31) in Township
one South of Range four East and the West half (W. 1/2) of the North East quarter
(N.E. 1/4) and the West half of the South East quarter (S.E. 1/4) of Section number
thirty three (33) in Township one South of Range four East and the North
half (N. 1/2) of Section four (4) in Township two South of Range four East and
the North East one fourth (N.E. 1/4) of the South East quarter (S.E. 1/4) and
the South half (S. 1/2) of the South East quarter and the South half (S. 1/2) of
the South West quarter (S.W. 1/4) of Section twenty three (23) in Township two
South of Range four East and the South half (S. 1/2) of the North East quarter
(N.E. 1/4) and the South half (S. 1/2) of Section twenty five (25) in Township
one South of Range four East and all of Section twenty seven (27) and
the East half (E. 1/2) of the North East quarter (N.E. 1/4) and the East half of the
South East quarter (S.E. 1/4) of Section thirty three (33) and the North half (N. 1/2) of the
North East quarter (N.E. 1/4) and the North West quarter (N.W. 1/4) of Section thirty five (35) and the
East half (E. 1/2) of the North East quarter (N.E. 1/4) and the East half (E. 1/2) of the
South East quarter (S.E. 1/4) of Section thirty three (33) all in Township one South of
Range four East and all of Section nineteen (19) in Township one South of
Range four East of the Willamette Meridian in Clatsop County in the
State of Oregon together with all the rights, privileges, tenements and her-
editaments and riparian right in and to the waters of the stream known
as the North Fork of the Sandy or Pull River into the said Mouth of
any of them appearing on a map of the Sandy or Pull River and to the land
underlying said Pull River and to the same and to the same and to the same

PRECEDE
1B

5

PRECEDE
1B

F S Fields

4283

Marcel F Royal

3786 + 3884
(S-61)

STATE OF OREGON)

COUNTY OF MULTNOMAH) SS

Book 911 Pages 8-9

BE IT REMEMBERED, That on this 22nd day of November 1922 before me, the undersigned a Notary Public in and for said County and State personally appeared the within named F N Royal and Marcell F Royal, husband and wife who are known to me to be the identical individuals described in and who executed the within instrument, and acknowledged to me that they executed the same freely and voluntarily.

IN TESTIMONY WHEREOF, I have hereunto set my hand and .. seal this day and year lastabove written.

(Notarial Seal)

F S Fields

My commission expires Nov 14, 1914

Notary Public for Oregon

Rec for record Nov 23 1922 at 11:56 A M

-----oOo-----

W M #313833

PRP

R 343058

LEWIS ET UX TO THE CITY OF PORTLAND

KNOW ALL MEN BY THESE PRESENTS, That C Glenn Lewis and Lavina S Lewis, husband and wife, of Grand Rapids, State of Michigan, in consideration of the sum of Fifteen Hundred Dollars (\$1500.00) to them paid by The City of Portland of Multnomah County, State of Oregon, have bargained and sold, and by these presents do grant, bargain, sell and convey unto said The City of Portland, its successors and assigns, all the following bounded and described real property, situated in the County of Multnomah and State of Oregon:

The south $\frac{1}{2}$ of the southwest $\frac{1}{4}$ of Section 20, Township 1 south, range 6 east of the Willamette Meridian, in the County of Multnomah and State of Oregon, together with all and singular the tenements, hereditaments and appurtenances thereto belonging or in anywise appertaining, and also all their estate, right, title and interest in and to the same, including dower and claim of dower.

TO HAVE AND TO HOLD, the above described and granted premises unto the said grantee, its successors and assigns forever. And C Glenn Lewis and Lavina S Lewis, grantors above named, do covenant to and with the above named grantee, its successors and assigns, that they are lawfully seized in fee simple of the above granted premises, that the above granted premises are free from all incumbrances, and that they will and their heirs, executors and administrators, shall warrant and forever defend the above granted premises, and every part and parcel thereof, against the lawful claims and demands of all persons whomsoever.

IN WITNESS WHEREOF, the grantors above named have hereunto set their hands and seals this 14th day of November 1922.

Executed in the presence of

John L Bailey

Thos A Davies

C Glenn Lewis

Seal

Lavina S Lewis

Seal

EXHIBIT

A.12

$\frac{1}{2} \left(\frac{1}{2} \right) = \frac{1}{4}$

and parlay these profits, in the process of which he had and restored him the old

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100. 101. 102. 103. 104. 105. 106. 107. 108. 109. 110. 111. 112. 113. 114. 115. 116. 117. 118. 119. 120. 121. 122. 123. 124. 125. 126. 127. 128. 129. 130. 131. 132. 133. 134. 135. 136. 137. 138. 139. 140. 141. 142. 143. 144. 145. 146. 147. 148. 149. 150. 151. 152. 153. 154. 155. 156. 157. 158. 159. 160. 161. 162. 163. 164. 165. 166. 167. 168. 169. 170. 171. 172. 173. 174. 175. 176. 177. 178. 179. 180. 181. 182. 183. 184. 185. 186. 187. 188. 189. 190. 191. 192. 193. 194. 195. 196. 197. 198. 199. 200. 201. 202. 203. 204. 205. 206. 207. 208. 209. 210. 211. 212. 213. 214. 215. 216. 217. 218. 219. 220. 221. 222. 223. 224. 225. 226. 227. 228. 229. 230. 231. 232. 233. 234. 235. 236. 237. 238. 239. 240. 241. 242. 243. 244. 245. 246. 247. 248. 249. 250. 251. 252. 253. 254. 255. 256. 257. 258. 259. 260. 261. 262. 263. 264. 265. 266. 267. 268. 269. 270. 271. 272. 273. 274. 275. 276. 277. 278. 279. 280. 281. 282. 283. 284. 285. 286. 287. 288. 289. 290. 291. 292. 293. 294. 295. 296. 297. 298. 299. 300. 301. 302. 303. 304. 305. 306. 307. 308. 309. 310. 311. 312. 313. 314. 315. 316. 317. 318. 319. 320. 321. 322. 323. 324. 325. 326. 327. 328. 329. 330. 331. 332. 333. 334. 335. 336. 337. 338. 339. 340. 341. 342. 343. 344. 345. 346. 347. 348. 349. 350. 351. 352. 353. 354. 355. 356. 357. 358. 359. 360. 361. 362. 363. 364. 365. 366. 367. 368. 369. 370. 371. 372. 373. 374. 375. 376. 377. 378. 379. 380. 381. 382. 383. 384. 385. 386. 387. 388. 389. 390. 391. 392. 393. 394. 395. 396. 397. 398. 399. 400. 401. 402. 403. 404. 405. 406. 407. 408. 409. 410. 411. 412. 413. 414. 415. 416. 417. 418. 419. 420. 421. 422. 423. 424. 425. 426. 427. 428. 429. 430. 431. 432. 433. 434. 435. 436. 437. 438. 439. 440. 441. 442. 443. 444. 445. 446. 447. 448. 449. 450. 451. 452. 453. 454. 455. 456. 457. 458. 459. 460. 461. 462. 463. 464. 465. 466. 467. 468. 469. 470. 471. 472. 473. 474. 475. 476. 477. 478. 479. 480. 481. 482. 483. 484. 485. 486. 487. 488. 489. 490. 491. 492. 493. 494. 495. 496. 497. 498. 499. 500. 501. 502. 503. 504. 505. 506. 507. 508. 509. 510. 511. 512. 513. 514. 515. 516. 517. 518. 519. 520. 521. 522. 523. 524. 525. 526. 527. 528. 529. 530. 531. 532. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

News Public for Michigan

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1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591 2592 2593 2594 2595 2596 2597 2598 2599 2600 2601 2602 2603 2604 2605 2606 2607 2608 2609 2610 2611 2612 2613 2614 2615 2616 2617 2618 2619 2620 2621 2622 2623 2624 2625 2626 2627 2628 2629 2630 2631 2632 2633 2634 2635 2636 2637 2638 2639 2640 2641 2642 2643 2644 2645 2646 2647 2648 2649 2650 2651 2652 2653 2654 2655 2656 2657 2658 2659 2660 2661 2662 2663 2664 2665 2666 2667 2668 2669 2670 2671 2672 2673 2674 2675 2676 2677 2678 2679 2680 2681 2682 2683 2684 2685 2686 2687 2688 2689 2690 2691 2692 2693 2694 2695 2696 2697 2698 2699 2700 2701 2702 2703 2704 2705 2706 2707 2708 2709 2710 2711 2712 2713 2714 2715 2716 2717 2718 2719 2720 2721 2722 2723 2724 2725 2726 2727 2728 2729 2730 2731 2732 2733 2734 2735 2736 2737 2738 2739 2740 2741 2742 2743 2744 2745 2746 2747 2748 2749 2750 2751 2752 2753 2754 2755 2756 2757 2758 2759 2760 2761 2762 2763 2764 2765 2766 2767 2768 2769 2770 2771 2772 2773 2774 2775 2776 2777 2778 2779 2780 2781 2782 2783 2784 2785 2786 2787 2788 2789 2790 2791 2792 2793 2794 2795 2796 2797 2798 2799 2800 2801 2802 2803 2804 2805 2806 2807 2808

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1050

THE NEW YORK PUBLIC LIBRARY

KNOW ALL MEN BY THESE PRESENTS, That W. T. Elliott and Anna D. Elliott, his wife of Portland County of Multnomah State of Oregon, in consideration of Ten Dollars, to us paid by H. T. Green and Mary Green his wife of Portland County of Multnomah State of Oregon, have bargained and sold and by these presents do grant, bargain, sell and convey unto said H. T. Green and Mary Green their heirs and assigns, all the following bounded and described real property, situated in the County of Multnomah and State of Oregon:

all of lot numbered (12) (1) in block numbe red Three (2) in Locality Addition
to the town of Lima, now within the corporate limits of the City of Portland, County of
Multnomah and State of Oregon.

[illegible]

Together with all and singular, the tenements, hereditaments and appurtenances
whereunto belonging or in anywise appertaining, and also all and singular estate, right, title and in-
terest in and to the same, including dower or claim of dower.

TO HAVE AND TO HOLD the above described and granted premises unto the said
H T Green and Mary Green, their heirs and assigns forever. And be, the said H T Elliott and
Anna E Elliott grantors above named do covenant to and with the said H T Green and Mary Green
the above named grantees their heirs and assigns, that the above granted premises are free
from all incumbrances and all claims and demands whatsoever for City and School Acs, and
Vancouver Acs, Third Estate or any or all of them, which shall after the said grantees assume and
agree to pay, and that we, the said heirs, executors and administrators, shall warrant and
forever defend the above granted premises and every part and parcel thereof, against the law-
ful claims and demands of all persons whomsoever, local, State, provincial or foreign assessments.

294
of Coleman, Mich., of the first part and The City of Portland, Multnomah County, Oregon, of the second part,

WITNESSETH: That the said parties of the first part for and in consideration of the sum of Two Thousand - - \$ Dollars to them in hand paid by the said parties of the second part the receipt whereof is hereby confessed and acknowledged do by these presents grant, bargain, sell, remise, release, alien and confirm unto the said party of the second part and its successors and assigns, forever, all those certain pieces or parcels of land situate and being in the County of Multnomah and State of Oregon and described as follows, to-wit:

The south half (S₂) of the North east quarter (NE₂) and the south east quarter (SE₂) of Section Twenty (20) Town.. One (1) South Range Six (6) East, Willamette Meridian, Two hundred forty acres more or less, according to the Government survey thereof

together with all and singular the hereditaments and appurtenances therunto belonging or in anywise appertaining: TO HAVE AND TO HOLD the said premises as herein described with the appurtenances unto the said party of the second part and to its successors and assigns forever. And the said John S Husted and Sarah M Husted parties of the first part for their heirs executors and their administrators do covenant, grant, bargain and agree to and with the said party of the second part its successors and assigns that at the time of the sealing and delivery of these presents they are well seized of the above granted premises in fee simple; and that they are free from all incumbrances whatever and that they will and their heirs, executors and administrators will and shall WARRANT AND DEFEND the same against all lawful claims whatsoever.

IN WITNESS WHEREOF the said parties of the first part have hereunto set their hands and seals the day and year first above written

Signed, sealed and delivered

in presence of

B C Stample

John S Husted

(L S)

Nettie M Allen

Sarah M Husted

(L S)

STATE OF MICHIGAN)

County of Midland) ss

On this 10th day of November in the year one thousand nine hundred and nineteen before me a Notary Public in and for said County, personally appeared John S Husted and Sarah M Husted, husband and wife, to me known to be the same persons described in, and who executed the within instrument, who acknowledged the same to be their free act and deed.

(Notarial Seal)

Geo M Moore

my commission expires Nov 15, 1921

Notary Public...

Rec for Record Feb 10, 1920 at 10:17 A.M.

---oOo---

A E #198750-

OREGON REALTY CO TO WAGNER

THIS DEED, made this 9th day of February 1920 by and between OREGON REALTY CO.,

EXHIBIT

A.13

4282

3786 + 3886

with the approbations, unto the said parties of the second part and to their heirs and assigns forever. And the said parties of the first part for themselves their heirs, executors and administrators, do covenant grant bargain and agree to and with the said parties of the second part their heirs and assigns that at the time of the executing and delivery of these presents they are well advised of the above granted premises in full simplicity and they are free from all incumbrances whatever except taxes which will be in October, 1901, and that they will and their heirs, executors and administrators shall WAHAW. WAS. WATTA the same against all lawful claims whatsoever except as above stated.

IN WITNESS WHEREOF the said parties of the first part have hereunto set their hands and seals the day and year first above written.

Signed, sealed and delivered

in presence of

Geo C Evans

Benjamin Hall

Geo F Frink

Mary M Hall

STATE OF MICHIGAN)

County of Antrim) ss

On this 21st day of July in the year one thousand nine hundred and seventeen before me, a Notary Public, in and for said county, personally appeared Benjamin Hall and Mary M Hall, his wife, to me known to be the same persons described in and who executed the within instrument who have acknowledged the same to be their free act and deed.

(Notarial Seal)

Geo F Frink

My commission expires Jan 5th, 1901.

Notary Public in and for Antrim Co. Michigan

STATE OF MICHIGAN)

Antrim County) ss

I, James Levy, Clerk of said County and Clerk of the Circuit Court for said County the same being a Court of Record having a Seal, do hereby certify that George F Frink whose name is subscribed to the jurat of the annexed affidavit, was at the time of taking said affidavit, a Notary Public in and for said County, duly appointed and qualified, and authorized by law to administer oaths and to take affidavits; and further that I am well acquainted with the handwriting of said George F Frink, and verily believe that his signature to the jurat of said affidavit is genuine and as such with acknowledgment was executed according to the laws of this State, entitled to full faith and credit.

IN WITNESS WHEREOF I have hereunto set my hand and affixed the seal of said Circuit Court at Bellaire, Mich., this 25th day of August A D 1901

(Circuit Court Seal)

James Levy, Clerk

Filed for Record Feb 10, 1900 at 10:10 A.M.

A B #190057-

RECORDED AT THE CLERK OF COURTS

THIS INSTRUMENT, made this 17th day of November in the year of our Lord one thousand nine hundred and nineteen between John C Hunted and Sarah M Hunted husband and wife,

EXHIBIT

A.14

68 NEW
542
58 W
TIS
RUE
52W

BOOK 850
pages 293-4

R343058

PRP

Appx: c

Department of Community Services
Land Use Planning Division
www.multco.us/landuse



1600 SE 190th Avenue, Portland OR 97233-5910 • PH. (503) 988-3043 • Fax (503) 988-3389

PRE-APPLICATION CONFERENCE NOTES

This is not a public hearing, it is an informational meeting.

Case File No.: PA 2019-11745

MEETING TIME AND PLACE

April 25, 2019 at 2 pm
1600 SE 190th Avenue, 1st Floor, Portland, OR

RECEIVED
SEP 04 2019
BY:

WHAT: A Pre-Application Meeting is to be held on the date above to discuss the applicable Multnomah County Land Use Code and County Transportation requirements for the proposed land division and/or property line adjustments in the Commercial Forest Use – 3 Zoning District.

LOCATION: Bull Run Watershed

Property A: Tax Lot 2400, Section 20, Township 1 South, Range 6 East, WM
Alt. Acct. #R996200010 Property ID #R343056 Site Size: 80 acres

Property B: Tax Lot 2200, Section 19, Township 1 South, Range 6 East, WM
Alt. Acct. #R996190010 Property ID #R343055 Site Size: 600.32 Acres

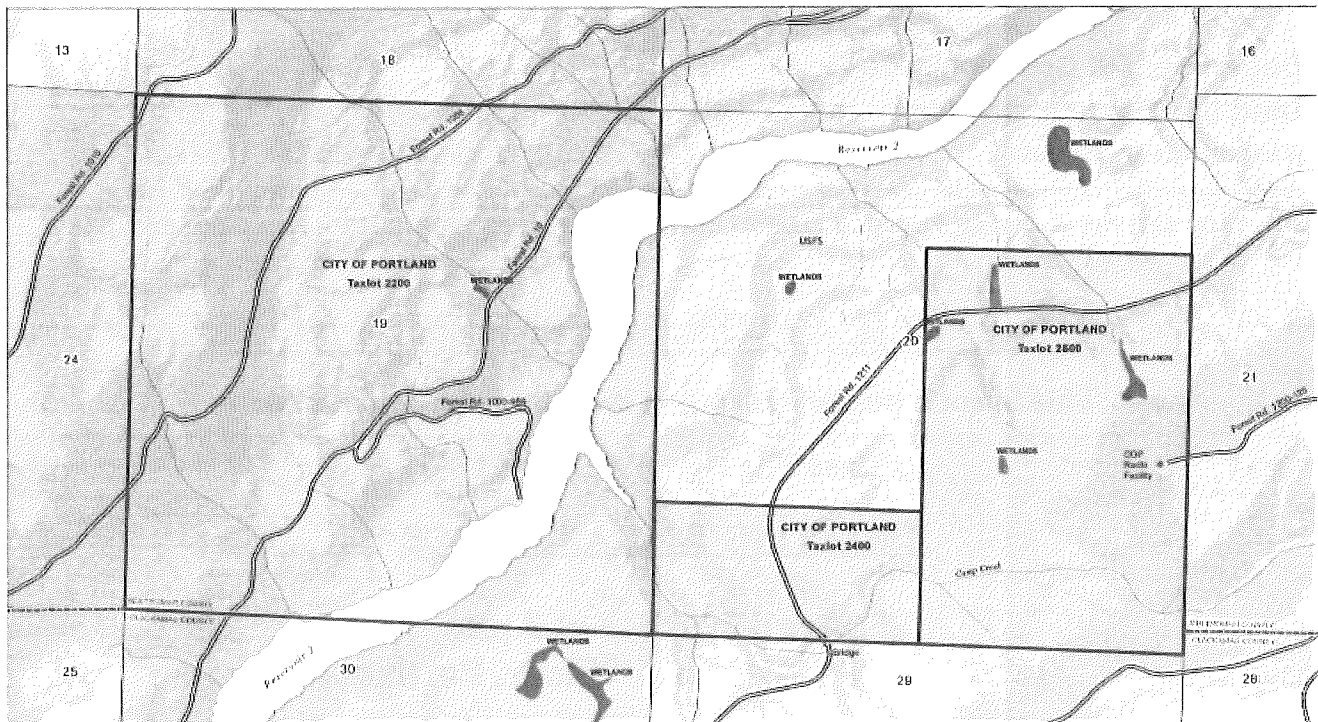
Property C: Tax Lot 2500, Section 20, Township 1 South, Range 6 East, W.M.
Alt. Acct. #R996200030 Property ID #R343058 Site Size: 240 acres

WHO: *Applicants:* Robert Fraley & Tom Carter, Portland Water Bureau

BASE ZONE: Commercial Forest Use – 3 (CFU-3)

CONTACT: The applicable County Code provisions, Comprehensive Plan Policies and County Transportation requirements will be discussed at the Pre-Application Meeting. For further information regarding the meeting, contact Lisa Estrin, Senior Planner at Multnomah County's Land Use Planning Division at (503)-988-0167 or email her at lisa.m.estrin@multco.us. The notes from this meeting can be obtained by attending the meeting or by contacting Multnomah County after the April 25, 2019 meeting date.





The following is for informational purposes only. No approvals or conclusions have been drawn about this project. Until such time as the necessary Land Use Applications are submitted and reviewed, no decisions will be or have been made regarding the project's compliance with the land use regulations of Multnomah County.

Outline of the Pre-Application Meeting's Purpose and Process

1. Meeting Purpose:

- (A) The Pre-Application meeting is to provide information to an applicant for a land use action that will assist them in completing the application.
- (B) The objectives of the meeting are to clarify the proposal, inform the applicant of the applicable procedures and approval criteria, and to identify all known issues.
- (C) A Pre-Application meeting is a standard requirement for all applications that require a public hearing.

2. Meeting Structure:

- (A) This is not a public hearing and no decisions will be made. The meeting is meant to be informal in nature.
- (B) The Multnomah County planning staff will be responsible for conducting the meeting. Staff will begin the meeting by asking for introductions of those in attendance.
- (C) The applicant will be responsible for explaining their proposal. This explanation is especially helpful to the public who have not seen the application materials and is an opportunity to share relevant information with their neighbors.
- (D) Planning staff will be responsible for reviewing the applicable procedures and approval criteria and to identify all known issues.
- (E) Members of the public and other agency representatives will be provided the opportunity to ask questions about the proposal and will be asked to identify any relevant issues.

3. Other Opportunities for Review:

- (A) If you are interested in the proposal and are unable to attend the Pre-Application meeting, you may review the Pre-Application case file at the offices of Multnomah County Land Use Planning, located at 1600 SE 190th Avenue, Portland, between 8:00 a.m. and 4:00 p.m., Tuesday through Friday, except holidays.
- (B) After the Pre-Application meeting, and after the application has been deemed “complete” by responding to each approval criteria, you will receive a notice announcing the date, time, and place of the Public Hearing. Failure to participate at the Pre-Application meeting will not preclude your involvement at the first scheduled hearing on the completed application.

MEETING PURPOSE

This Pre-Application meeting and the following notes are provided to assist you in preparing a land use application. Our objectives for the meeting are to clarify your proposal, inform you of the applicable procedures and approval criteria, and to identify all known issues. By the end of the meeting, we hope you will have a better understanding of the Code and the application process in relation to your proposed use. We will provide copies of applicable code.

The following notes are for informational purposes only. No approvals or conclusions have been drawn about this project. Until such time as the necessary land use applications are submitted and reviewed, no decisions will be made regarding the project's compliance with the applicable criteria.

Notwithstanding any representations by County staff at a Pre-Application meeting, staff is not authorized to waive any requirements of Multnomah County Code (MCC). Any omission or failure by staff to recite to an applicant all relevant applicable land use requirements shall not constitute a waiver by the County of any standard or requirement. [MCC 39.1120(C)]

After the meeting, if you have any questions regarding the criteria, the process or the next step, please contact the case planner, Lisa Estrin at 503.988.0167 or email her at lisa.m.estrin@multco.us.

INTRODUCTION

We understand you would like information about County permits that are required and application process to alter a series of parcels for a land exchange.

Project Goals:

Modification 1. Creation of Parcel F: Divide a 50.25 acre parcel from an existing 240 acre unit of land;

Modification 2. Transfer 50 acres (Area D) of land from tax lot 2400 to tax lot 2500;

Modification 3. Transfer 30 acres (Area C) of land from tax lot 2400 to tax lot 2200;

Modification 4. Transfer 77.31 acres (Area A) of land from tax lot 2200 to tax lot 900.

SUMMARY OF APPLICABLE PERMITS, CODES, POLICIES & FEES

These Multnomah County Code (MCC) sections can be found under the link titled *italic Chapter 39 - Zoning Code* on our webpage at multco.us/landuse/zoning-codes.

| Land Use Application | Code Criteria | Fees |
|---|--|-------------|
| Modification No. 1: (50.25 acre parcel for Radio Tower) | | |
| Community Service
Conditional Use | MCC 39.4080(A) CU – CS, (11) Radio ... Transmission Towers,
MCC 39.4100 Use Compatibility Standards,
MCC 39.4105 Building Height Requirements,
MCC 39.4115 Development Standards for ...Structures,
MCC 39.4140 Lot Size for Conditional Uses
MCC 39.7500 through MCC 39.7525 Community Service Uses,
MCC 39.7515(A) – (H),
MCC 39.7515 (All)*,
MCC 39.7520(A)(8) Radio...Transmission Towers, and | \$3,054 |

| | | |
|---|--|-----------------------------|
| *Per MCC 39.4080(A)(11). | MCC 39.7550 through 39.7575 Radio Transmission Towers (CS) | |
| Category 1 Land Division | See Land Division Criterion Below for approval criteria | \$3,204
(DEPOSIT) |
| Modification No 1: (80 acre parcel for Radio Tower Option) | | |
| Land Division | See Land Division Criterion below based on category | varies |
| CFU Development Standards | MCC 39.4110 Forest Practice Setbacks and Fire Safety Zones
MCC 39.4115 Development Standards for ...Structures | \$580 |
| | | |
| Land Division Criteria | | |
| Category 1 Land Division | MCC 39.9035 Category 1 Land Divisions
MCC 39.9400 Criteria for Approval, Category 1
MCC 39.9405 Contents of Category 1 Tentative Plan,
MCC 39.9410 Category 1 ...Tentative Plan Map Specifications,
MCC 39.9415 Category 1 Tentative Plan Map Contents
MCC 39.9420 Written Information: Category 1...Tentative Plan
MCC 39.9425 Supplementary Materials: Category 1,
MCC 39.9500 Application of General Standards and Requirements
MCC 39.9505 Land Suitability,
MCC 39.9510 Lots and Parcels,
MCC 39.9515 Acreage Tracts,
MCC 39.9520 Street Layout,
MCC 39.9525 Street Design,
MCC 39.9530 Street Reserve Strips,
MCC 39.9535 Temporary Turnarounds,
MCC 39.9540 Street Names,
MCC 39.9545 Required Improvements,
MCC 39.9555 Easements,
MCC 39.9560 Street Trees,
MCC 39.9565 Street Lighting,
MCC 39.9570 Water System,
MCC 39.9575 Sewage Disposal,
MCC 39.9580 Surface Drainage and Storm Sewer Systems,
MCC 39.9585 Electrical and Other Wires,
MCC 39.9587 Required Improvements,
MCC 39.9588 Streets, Sidewalks, Pedestrian Paths and Bikeways, Water System, Sewage Disposal, Surface Drainage and Storm Water Systems
MCC 39.9590 Other Utilities | \$3,204
(DEPOSIT) |
| Category 3 Land Division | MCC 39.9045 Category 3 Land Division | \$1,524 |

| | | |
|---------------------------------|--|---------|
| | MCC 39.9430 Criteria for Approval, Category 3 Tentative Plan
MCC 39.9435 Contents of Category 3 Tentative Plan
MCC 39.9440 Tentative Plan Approval
MCC 39.9500 Application of General Standards and Requirements
MCC 39.9505 Land Suitability,
MCC 39.9510 Lots and Parcels,
MCC 39.9515 Acreage Tracts,
MCC 39.9520 Street Layout,
MCC 39.9525 Street Design,
MCC 39.9530 Street Reserve Strips,
MCC 39.9535 Temporary Turnarounds,
MCC 39.9540 Street Names,
MCC 39.9545 Required Improvements,
MCC 39.9555 Easements,
MCC 39.9560 Street Trees,
MCC 39.9565 Street Lighting,
MCC 39.9570 Water System,
MCC 39.9575 Sewage Disposal,
MCC 39.9580 Surface Drainage and Storm Sewer Systems,
MCC 39.9585 Electrical and Other Wires,
MCC 39.9587 Required Improvements,
MCC 39.9588 Streets, Sidewalks, Pedestrian Paths and Bikeways, Water System, Sewage Disposal, Surface Drainage and Storm Water Systems
MCC 39.9590 Other Utilities | |
| Property Line Adjustment | MCC 39.4075(G) Review Uses, Lot Line Adjustment
MCC 39.4130 Lot Line Adjustment; Property Line Adjustment
MCC 39.4110 Forest Practices Setbacks and Fire Safety Zones
MCC 39.4135 Access
MCC 39.9300 Property Line Adjustment | \$1,067 |

KEY ISSUES

1. It is not feasible to create a new parcel via a Property Line Adjustment. It does not matter if it will then be consolidated through a later property line adjustment or land division. Property line adjustments cannot create new parcels. [MCC 39.9300(A)]

2. To reduce the minimum lot size for the radio tower site approved in T3-2018-10227 below the CFU Minimum Lot Size of 80 acres, the applicant would have to request a modification of the land use case, T3-2018-10227 as the only way to utilized the MCC 39.4140 Lot Size for Conditional Uses criteria. MCC 39.1170(E) requires that a modification to a permit or condition must be processed in the same manner and shall be subject to the same standards as the original permit. The land use findings for the Microwave tower would have to be reviewed and modified by a Hearings Officer. The applications considered by T3-2018-10227 were a Community Service Conditional Use, Design Review, Forest Development Standards,

Exception to Secondary Fire Safety Zone and two Variances. Then as part of the application, the applicant can propose a lot size smaller than 80 acres for the tower and related improvements. T3-2018-10227 approved the radio tower on a 240 acre property. All findings would come into play in the application.

Planning staff informed the Portland Water Bureau during that application process that any revision to the tower's site size would require a new decision for the tower. It is not feasible to just use MCC 39.4140 at this time to modify the applicable lot size for the microwave tower. MCC 39.4140 is used in conjunction with certain conditional use applications. It is not a stand-alone criteria. [MCC 39.1170(E)]

3. If the applicant wants to continue to propose the modification of the conditional use, the subject application would require a Category 1 Land Division. A Category 1 Land Division has the most approval criteria and could be heard at the same time as the Microwave Radio Tower revision application. [MCC 39.9035]

4. All land divisions must take access via a public or private street [MCC 39.9525]. A "*Public Street*" means "*a road over which the public has a right of use that is a matter of public record. County roads, city streets, state highways, federal road and local access roads are all public roads.*" Due to the size of the proposed parcels, a "*Private Street*" would not be feasible as it could not exceed 300 feet in length. [MCC 39.9055 Definitions and MCC 39.9525 Street Design]

- ❖ The applicant will need to explain as part of the application materials whether the access shown as "Forest Rd XXXX" meets the definitions of a "*Public Street*"

5. If the Microwave Radio Tower Parcel was increased in size to 80 acres (minimum lot size in the CFU zone), T3-2018-10227 would not need to be reviewed again through the conditional use application process as MCC 39.4140 Lot Sizes for Conditional Uses would not be utilized. The applicant would need to demonstrate that the Microwave Radio Tower Facility structures would meet **MCC 39.4110 Forest Practices Setbacks and Fire Safety Zones** and **MCC 39.4115 Development Standards for ...Structures**. The applicant would then have options to achieve the proposed parcel layouts. These options would be:

- ❖ A **Category 1 Land Division** proposing a four lot subdivision. A public hearings would be held and a hearings officer would make the decision.
- ❖ Two **Category 3 Land Divisions**. A Category 3 Land Division is allowed for the division of 3 or less legal parcels. No subdivisions or variances can be associated with the Category 3 Land Division application. Two separate land division applications and plats would be used to finish the entire land exchange. The first Category 3 land division application would propose two or three parcels and would be finished with a plat in one calendar year (2019). Then the second land division application would be propose to transfers the remaining areas between the parcels. The 2nd application would also be finished with a plat but would need to occur in another calendar year (2020). Each parcel would need to be a minimum of 80 acres in size. No substandard parcel sizes could be permitted by this option. The Microwave Tower and related buildings would need to demonstrate compliance with the Forest Practice Setbacks and Fire Safety Zones of MCC 39.4110 except for the existing variance to the eastern property line and the variance for the tower height setback of 30 feet. All other proposed parcel setbacks would need to be a minimum of 130 feet. The tower would also need to meet the tower standard of 39 feet as required for MCC 39.7565(I)(2)(b) but that should not be a problem due to the Forest Practice Setbacks. No new variance application or modifications to the Secondary Fire Safety Zones could be permitted through this option.
 - A partition which will result in a proposed parcel with an area four or more times the area of the smallest proposed parcel is a Category 3 Land Division.

- ❖ **One Category 3 Land Division and a Property Line Adjustment.** The first application would be for a Category 3 Land Division to create three parcels that are a minimum of 80 acres each. No substandard parcel sizes could be permitted through the Category 3 Land Division. The Microwave Tower and related buildings would need to demonstrate compliance with the Forest Practice Setbacks and Fire Safety Zones of MCC 39.4110 except for the existing variance to the eastern property line and the variance for the tower height setback of 30 feet. All other proposed parcel setbacks would need to be a minimum of 130 feet. The tower would also need to meet the tower standard of 39 feet as required for MCC 39.7565(1)(2)(b) but that should not be a problem due to the Forest Practice Setbacks. The approved land division would be finished by recording a plat. Then a Property Line Adjustment application would be submitted to transfers the 77.31 acres (Area A) of land from tax lot 2200 to tax lot 900. The property line adjustment would need to be finished with a plat to modify the newly created parcels. No variances or exceptions could be proposed as part of this process.

6. Transportation Planning has indicated that a Driveway Permit will be required as part of the application. If you have any questions regarding their requirements please contact row.permits@multco.us for your questions to be answered or call 503.988.3582 and leave a message.

APPLICATION SUBMITTAL

Multnomah County Land Use Planning Office will not accept an application that is lacking fundamental components. The planner on counter duty will briefly review materials submitted using the checklist below to determine if the fundamental components have been submitted. This cursory review is not a completeness review, which will be conducted within 30-days of application submittal.

| Application Checklist | | Req. | Inc. |
|-----------------------|--|------|------|
| 1. | Completed Application Form: signed by the all property owners and the applicant along with the required fee(s). | X | |
| 2. | Narrative: Written narrative providing a clear and complete description of your proposal and specifically addressing each applicable code section. List the code reference you are responding to in your narrative and your response to that criterion. Applicable criteria you must address in your narrative are previously listed in these notes. Reference in your narrative any supporting documents you are attaching (including required site map) to demonstrate how your proposal meets a particular code criterion. | X | |
| 3. | Scaled Tentative Plan Map(s) | X | |
| 4. | Certification of On-Site Sewage Disposal Form and site plan signed by the Sanitarian | ? | |
| 5. | Fire District Review Form | ? | |
| 6. | Certification of Water Service form | ? | |
| 7. | Sheriff's Office Review | | |
| 8. | School District Review Form | | |
| 9. | Storm Water Disposal Form: completed by a Oregon Registered Professional Engineer for the existing Microwave tower accessory building if over 500 sq. ft. in size. | ? | |
| 10. | Lot of Record status: Submit copy of current deed for the property & first deed that described the subject property in its current configuration | X | |
| 11. | Habitable Dwelling: Please provide recent photographs of the existing dwelling showing exterior walls and roof, indoor plumbing consisting of a kitchen sink, toilet and bathing facilities, septic tank lid, interior lights (turned on), and heating system. | | |
| 12. | Grading and Erosion Control Permit | | |
| 13. | Flood Development Permit – <input type="checkbox"/> One & Two Family Dwelling <input type="checkbox"/> other uses | | |
| 14. | Traffic Study | | |

APPLICATION COMPLETENESS

Once an application is submitted, it will be assigned to a planner. The planner has 30 days, by state law, to determine whether the application is complete. If an application is incomplete, the applicant has 180 days by state law to submit the requested additional information to make the application complete. If your application is found to be incomplete, we request that you submit the required additional information in one packet rather than trickling information in. This avoids confusion of whether or not you intend to submit other additional information.

ADDITIONAL ASSISTANCE

Please contact case planner Lisa Estrin at (503) 988-0167 or email her at [*lisa.m.estrin@multco.us*](mailto:lisa.m.estrin@multco.us) with any questions. Scheduling an appointment is necessary to see your case planner. In the event your case planner is unavailable, the planner on duty can also help answer questions at 503.988.3043. Hours for the planner on duty are Tuesday – Friday, 8:00 AM – 4:00 PM, except holidays. Please note a building permit plan check fee and erosion control inspection fee may be required at building plan signoff after the conclusion of the land use review process. These fees do not need to be paid at the time of land use application submittal.

Appx: d-1



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
10101 Hillwood Parkway
Fort Worth, TX 76177

Aeronautical Study No.
2018-ANM-961-OE

Issued Date: 04/19/2018

Scott Howes
City of Portland/BTS Communications
3732 SE 99th Avenue
Portland, OR 97055

RECEIVED
SEP 04 2019
BY:

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower Camp Creek
Location: Sandy, OR
Latitude: 45-27-56.60N NAD 83
Longitude: 122-05-12.80W
Heights: 1613 feet site elevation (SE)
195 feet above ground level (AGL)
1808 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- ☐ At least 10 days prior to start of construction (7460-2, Part 1)
☒ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 L Change 1.

This determination expires on 10/19/2019 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.



NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, effective 21 Nov 2007, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (310) 725-6591, or tameria.burch@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2018-ANM-961-OE.

Signature Control No: 358346004-363196544

(DNE)

Tameria Burch
Technician

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2018-ANM-96. E

| LOW
FREQUENCY | HIGH
FREQUENCY | FREQUENCY
UNIT | ERP | ERP
UNIT |
|------------------|-------------------|-------------------|-----|-------------|
| 6 | 7 | GHz | 55 | dBW |
| 10 | 11.7 | GHz | 55 | dBW |
| 10 | 11.7 | GHz | 42 | dBW |



Appx: d-2

Oregon

Kate Brown, Governor

Oregon Department of Aviation

3040 25th Street SE

Salem, OR 97302-1125

Office: 503-378-4880

Fax: 503-373-1688

March 27, 2018

Scott Howes
3732 SE 99th Avenue
Portland, OR 97266

RECEIVED
SEP 04 2019
BY:

Subject: **Oregon Department of Aviation comments regarding the construction / of a telecommunications tower constructed to 195-FEET in height located in Sandy, Oregon.**

Aviation Reference: 2018-ODA-C-063-OE

The Oregon Department of Aviation (ODA) has conducted an aeronautical study of this proposed construction and has determined that notice to the FAA is not required. The structure does / does not exceed FAR Part 77.9 (a-d) and Obstruction Standards of OAR 738-70-0100.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. Any changes to the original application will void this determination. Any future construction or alteration to the original application will require a separate notice from ODA.

This determination will expire 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

Mitigation Recommendation:

- ☒ We do not object with conditions to the construction described in this proposal. This determination does not constitute ODA approval or disapproval of the physical development involved in the proposal. It is a determination with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.
- ☐ Marking and lighting are required / recommended for aviation safety. We recommend it be installed and maintained in accordance with FAA Advisory Circular AC70/7460-1L
- ☐ The proposed obstruction should be lower to a height that is no longer a hazard to the airport primary and horizontal surface FAA FAR 77
- ☐ The proposed obstruction should be relocate outside the airport primary and horizontal surface FAA FAR 77

Sincerely,

Jeff Caines, AICP – Land Use Planner



Appx: d-3

FCC Website Registration Confirmation

TOWAIR Search Results

<http://wireless2.fcc.gov/UlsApp/AsrSearch/towairResult.jsp?printable>

TOWAIR Determination Results

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.

Your Specifications

NAD83 Coordinates

| | |
|-----------|------------------|
| Latitude | 45-27-56.6 north |
| Longitude | 122-05-12.8 west |

Measurements (Meters)

| | |
|--------------------------------|------|
| Overall Structure Height (AGL) | 59.4 |
| Support Structure Height (AGL) | 59.4 |
| Site Elevation (AMSL) | 490 |

Structure Type

LTOWER - Lattice Tower

Tower Construction Notifications

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

RECEIVED
SEP 04 2019
BY:



Appx: d-4

Fire Service Provider Letter

RECEIVED
SEP 04 2019

BY:



Land Use Planning Division
1600 SE 180th Ave, Ste 116
Portland OR 97233
Ph: 503-988-3043 Fax: 503-988-3389
multco.us/landuse

FIRE SERVICE AGENCY REVIEW

TO THE APPLICANT: Take this form to the Structural Fire Service Provider* that serves your property along with the following:

- ☐ A site plan drawn to scale showing the subject property, its improvements, location of fire hydrants and driveway information;
- ☐ A floor plan of the proposed development; and
- ☐ A fire flow report from your water purveyor (if applicable) [Not applicable for Properties served by MCRFD#14 customers]
- ☐ After the fire official signs this form, include it with your application material. See Fire Code Application Guide for fire-related access standards and fire flow information.

*If your property is not served by a structural fire service provider, your project is to be reviewed by the appropriate building official serving your property.

Address of Site Not addressed

Map & Tax Lot: 156E2D TL 2500 'R' number 2343058

Description of Proposed Use: Radio Communications Tower

Total Square Footage of Building (including roof projections, eaves & attached structures): 240 SF

Applicant Name: Portland Water Bureau - Robert T. Goldie Phone: 503-823-7022

Mailing Address: 400 SW 6th Avenue

City: Portland State: OR Zip Code: 97204 Email: robert.goldie@portland.oregon.gov

STRUCTURAL FIRE SERVICE AGENCY REVIEW

Fire Agency completing this form: SANDY FIRE Date of Review 3-15-18

- ☐ The subject property is located within our service boundaries or is under contract.
- ☐ The subject property is outside of our service boundaries and will not be providing fire protection services via contract. (Additional review is not needed.)

** Access Review by Structural Fire Service Agency Providing Service **

- ☒ The proposed development is in compliance with the fire apparatus access standards of the Oregon Fire Code standards as implemented by our agency.
- ☐ The following access improvements must be completed prior to issuance of the building permit and be re-inspected by our agency before flammable materials are placed on the property.

- ☐ The proposed development is not in compliance with the adopted Fire Service Agency's access standards. The proposed building/structure is required to have a fire sprinkler system installed in compliance with Section 903.1.3 (NFPA 13D) of the Oregon Fire Code.

Fire Official: Please sign or stamp the presented site plan & floor plan and attach it to this form.

Don Pally FIRE MARSHAL
Signature & Title of Fire Official

See Other Side

EXHIBIT

A.19

STRUCTURAL FIRE SERVICE AGENCY REVIEW, cont.**** Fire Flow by Structural Fire Service Agency Providing Service ****

The structure, building or addition is exempt from the fire flow standards of the OFC B-105.2.

- ☐ The proposed non-commercial structure is less than 3,600 sq. ft. (including the horizontal projections of the roof) and there is 1,000 gallons per minute of fire-flow available at 20 psi from public water lines. No mitigation measures are necessary.
- ☐ The proposed non-commercial structure is more than 3,600 sq. ft. (including the horizontal projections of the roof) and the fire-flow & flow duration at 20 psi is available from public water lines or private well and is in compliance with minimums specified in Appendix B, Table B105.1 of the Oregon Fire Code. No mitigation measures are necessary.
- ☐ The existing fire-flow & flow duration available from public water lines or private well is not adequate to serve the proposed non-commercial structure in compliance with Appendix B of the Oregon Fire Code. The following mitigation measures are necessary* and must be installed prior to occupancy or use of the structure.
 - ☐ A monitored fire alarm must be installed.
 - ☐ Class A or non-combustible roof materials must be installed.
 - ☐ Defensible space of 30 feet around the structure/building/addition.
 - ☐ A defensible space of 100 feet around the structure/building/addition due to slopes greater than 20 %.
 - ☐ A fire sprinkler system meeting Section 903.1.3 (NFPA 13D) of the Oregon Fire Code shall be installed.
 - ☐ Other _____

* The above required structural features are required by the Oregon Fire Code and shall be shown clearly on all building plans.

Commercial/Industrial Buildings & Uses.

- ☐ The minimum fire flow and flow duration is available from public water lines or private well as specified in Appendix B, Table B105.1. No mitigation measures are required.
- ☐ The minimum fire flow & flow duration is not available from public water lines or private well as specified in Appendix B, Table B105.1. The following mitigation measures are required:

Signature & Title of Fire Official

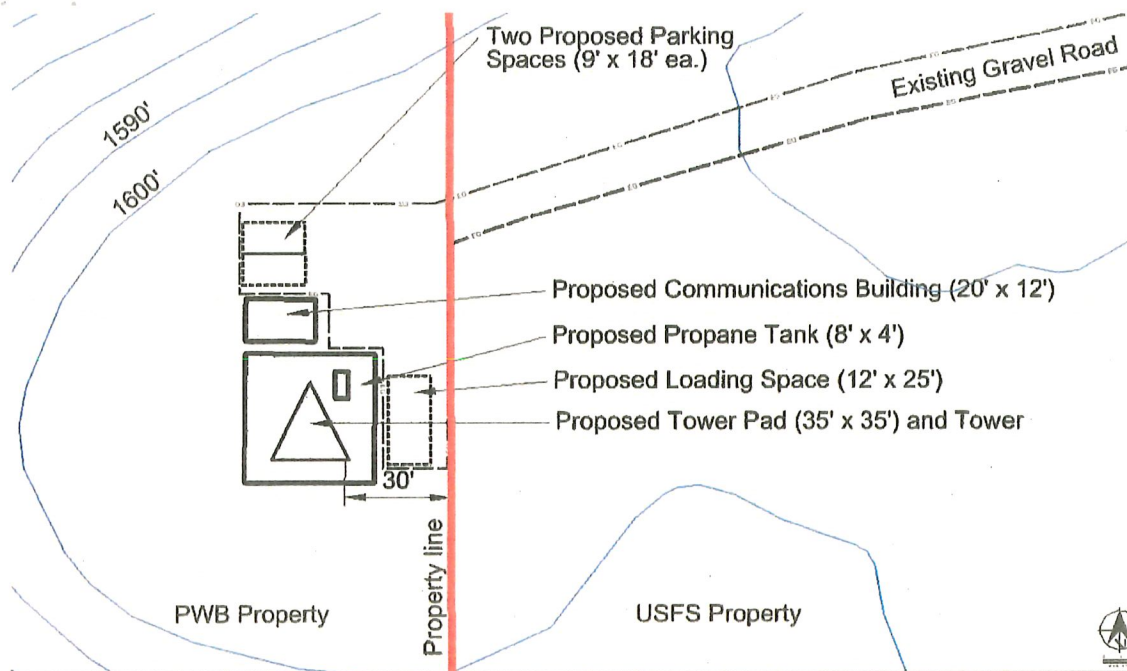
To the Fire Official:

- ☐ Land Use Planning has determined that the proposed building will qualify as an Exempt Farm Structure and the property owner has indicated that the building will be used solely for farm purposes and they intend on using the provision under ORS 455.315 and will not be obtaining a building permit for its construction.

Multnomah County Land Use Planning

3/13/2018

SitePlan_dottedspaces.png

**FIRE & LIFE SAFETY PLAN REVIEW**

☒ Approved as Submitted
☐ Approved with Corrections
☐ Not Approved

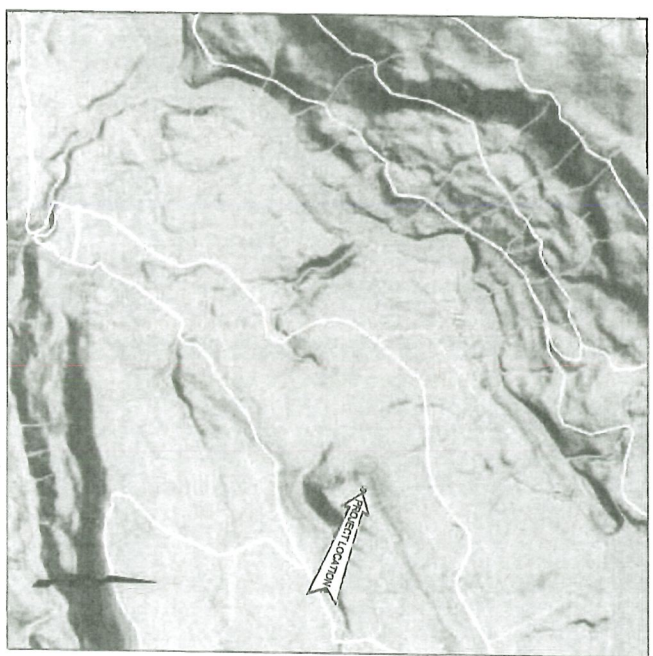
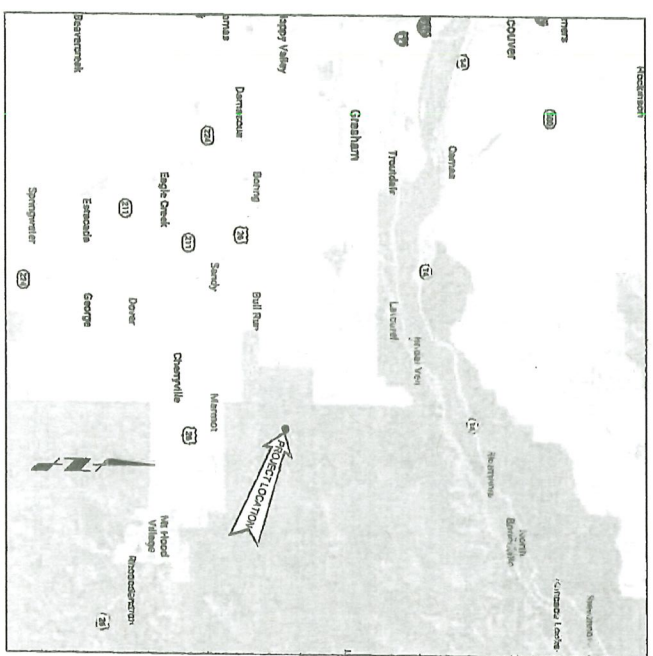
Reviewed By: Don Patty Date: 3-15-18
Sandy Fire Dist #72
17460 Bruns Ave
Sandy OR 97055
Fax (503) 668-7941

BY:

MICROWAVE REPLACEMENT PROJECT CAMP CREEK TOWER

EXHIBIT
A.20

| SHEET INDEX | |
|-------------|----------------------------------|
| SHEET | DESCRIPTION |
| 1 | COVER SHEET |
| 2 | GENERAL NOTES & LEGEND |
| 3 | SPECIAL INSPECTIONS |
| 4 | OVERALL SITE PLAN |
| 5 | ENLARGED SITE PLAN |
| 6 | ELEVATIONS |
| 7 | ERODING AND EROSION CONTROL PLAN |
| 8 | CATCHER DETAILS |
| 9 | SEALER FOUNDATION PLAN |
| 10 | COMPARED DETAILS |
| 11 | LIQUID PROPANE GAS DETAILS |
| 12 | ERODING PLAN & DETAILS |



Dig Safely.

Call the Oregon Office Center
 DIAL 811 or 1-800-532-2344

EMERGENCY TELEPHONE NUMBERS

| | |
|-----------------------|----------------|
| NW NATURAL GAS | 503-228-4211 |
| M-F 7:00am-6pm | 503-221-8433 |
| AFTER HOURS | 503-228-4211 |
| POE | 503-464-7777 |
| COMMUNITY | 1-800-571-3111 |
| OTY WATER & LANDWASTE | 503-463-1700 |
| CITY WATER | 503-463-4674 |
| VERSION | 1-800-463-1000 |

VICINITY MAP
SCALE: NTS

CONTACTS
ROBERT GOULDE
CITY OF PORTLAND AND WATER BUREAU
1123 SW FIFTH AVENUE, ROOM 503
PORTLAND, OR 97204
OFFICE: 503/221-7022

BOB OCHS
BUREAU OF TECHNOLOGICAL SERVICES
3732 SE 98TH AVENUE
PORTLAND, OR 97266
OFFICE: 503/82-4352

SITE MAP
SCALE: NTS

SITE INFORMATION
LOCATION: EAST MULTNOMAH COUNTY
TOWNSHIP 1 SOUTH, RANGE 6 EAST, SECTION 20 TL 2500 - R543059
CPL3 (COMMERICAL FOREST USE DISTRICT 3)
LAT/LONG: N 45° 27' 59.56" S, W 122° 05' 12.68"

PROJECT DESCRIPTION

PROJECT DESCRIPTION
CITY OF PORTLAND PROPOSES TO CONSTRUCT A NEW UNSTAFFED COMMUNICATIONS SERVICE FACILITY CONSISTING OF A NEW 195' TALL SELF SUPPORT TOWER WITH ANTENNAS AND A PRE-FABRICATED EQUIPMENT SHELTER AND PROPANE TANK.



Nick Fish
Commissioner

Michael P. Stuhr
Administrator



Microwave Replacement Project
Camp Creek
Microwave Tower

TITLE SHEET

| |
|--------------|
| Folio No |
| W02021 |
| SIA Division |
| 1S6E20da |
| Circuit No |

1. DRAWINGS ARE NOT TO BE SCALED. WRITTEN DIMENSIONS TAKE PRECEDENCE. THIS SET OF DOCUMENTS IS INTENDED TO BE USED FOR DIAGNOSTIC PURPOSES ONLY UNLESS NOTED OTHERWISE. THE GENERAL

- [illegible]

17. THE CONTRACTOR SHALL PERFORM WORK DURING SITE/PROPERTY OWNERS PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.

17. THE CONTRACTOR SHALL PERFORM WORK DURING STEEP-SLOPE OWNERS PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS.
 18. SEAL ALL PENETRATIONS THROUGH PRE-CASTED JOISTS UNTIL LISTED ON THE MARSHAL APPOINTED MATERIALS AS APPLICABLE TO THIS FACILITY AND OR PROJECT SITE.
 19. CONTRACTOR SHALL BE RESPONSIBLE FOR UTILITY LOCATES, SCHEDULING COORDINATING SPECIAL AND REPAIR DEPARTMENT INSPECTIONS.
 20. RECORDS OF ALL CONDITIONS, PESTS, CATASTROPHES ETC ARE NOTICED AS PROPOSED LOCATION ONLY. CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AND REPORTING ALL CONDITIONS PRIOR TO STARTING WORK.
- CONCRETE NOTES:**
1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE AC 308, AC 318 AND THE SPECIFICATION CAST IN PLACE CONCRETE.
 2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI WITH THE EXCEPTION OF THE TOWER WHICH IS 3000 PSI IN 28 DAYS (28D).
 3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WEAPED STEEL SHALL CONFORM TO ASTM A 616 WEAPED STEEL WITH FIBRIC UNLESS NOTED OTHERWISE. SIZES 6, 8, 9, 10, 11, 12, 14, 16, 18, 20, 22, 24, 28, 30, 36, 42, 48, 54, 60, 66, 72, 78, 84, 90, 96, 102, 108, 114, 120, 126, 132, 138, 144, 150, 156, 162, 168, 174, 180, 186, 192, 198, 204, 210, 216, 222, 228, 234, 240, 246, 252, 258, 264, 270, 276, 282, 288, 294, 300, 306, 312, 318, 324, 330, 336, 342, 348, 354, 360, 366, 372, 378, 384, 390, 396, 402, 408, 414, 420, 426, 432, 438, 444, 450, 456, 462, 468, 474, 480, 486, 492, 498, 504, 510, 516, 522, 528, 534, 540, 546, 552, 558, 564, 570, 576, 582, 588, 594, 600, 606, 612, 618, 624, 630, 636, 642, 648, 654, 660, 666, 672, 678, 684, 690, 696, 702, 708, 714, 720, 726, 732, 738, 744, 750, 756, 762, 768, 774, 780, 786, 792, 798, 804, 810, 816, 822, 828, 834, 840, 846, 852, 858, 864, 870, 876, 882, 888, 894, 900, 906, 912, 918, 924, 930, 936, 942, 948, 954, 960, 966, 972, 978, 984, 990, 996, 1002, 1008, 1014, 1020, 1026, 1032, 1038, 1044, 1050, 1056, 1062, 1068, 1074, 1080, 1086, 1092, 1098, 1104, 1110, 1116, 1122, 1128, 1134, 1140, 1146, 1152, 1158, 1164, 1170, 1176, 1182, 1188, 1194, 1200, 1206, 1212, 1218, 1224, 1230, 1236, 1242, 1248, 1254, 1260, 1266, 1272, 1278, 1284, 1290, 1296, 1302, 1308, 1314, 1320, 1326, 1332, 1338, 1344, 1350, 1356, 1362, 1368, 1374, 1380, 1386, 1392, 1398, 1404, 1410, 1416, 1422, 1428, 1434, 1440, 1446, 1452, 1458, 1464, 1470, 1476, 1482, 1488, 1494, 1500, 1506, 1512, 1518, 1524, 1530, 1536, 1542, 1548, 1554, 1560, 1566, 1572, 1578, 1584, 1590, 1596, 1602, 1608, 1614, 1620, 1626, 1632, 1638, 1644, 1650, 1656, 1662, 1668, 1674, 1680, 1686, 1692, 1698, 1704, 1710, 1716, 1722, 1728, 1734, 1740, 1746, 1752, 1758, 1764, 1770, 1776, 1782, 1788, 1794, 1800, 1806, 1812, 1818, 1824, 1830, 1836, 1842, 1848, 1854, 1860, 1866, 1872, 1878, 1884, 1890, 1896, 1902, 1908, 1914, 1920, 1926, 1932, 1938, 1944, 1950, 1956, 1962, 1968, 1974, 1980, 1986, 1992, 1998, 2004, 2010, 2016, 2022, 2028, 2034, 2040, 2046, 2052, 2058, 2064, 2070, 2076, 2082, 2088, 2094, 2100, 2106, 2112, 2118, 2124, 2130, 2136, 2142, 2148, 2154, 2160, 2166, 2172, 2178, 2184, 2190, 2196, 2202, 2208, 2214, 2220, 2226, 2232, 2238, 2244, 2250, 2256, 2262, 2268, 2274, 2280, 2286, 2292, 2298, 2304, 2310, 2316, 2322, 2328, 2334, 2340, 2346, 2352, 2358, 2364, 2370, 2376, 2382, 2388, 2394, 2400, 2406, 2412, 2418, 2424, 2430, 2436, 2442, 2448, 2454, 2460, 2466, 2472, 2478, 2484, 2490, 2496, 2502, 2508, 2514, 2520, 2526, 2532, 2538, 2544, 2550, 2556, 2562, 2568, 2574, 2580, 2586, 2592, 2598, 2604, 2610, 2616, 2622, 2628, 2634, 2640, 2646, 2652, 2658, 2664, 2670, 2676, 2682, 2688, 2694, 2700, 2706, 2712, 2718, 2724, 2730, 2736, 2742, 2748, 2754, 2760, 2766, 2772, 2778, 2784, 2790, 2796, 2802, 2808, 2814, 2820, 2826, 2832, 2838, 2844, 2850, 2856, 2862, 2868, 2874, 2880, 2886, 2892, 2898, 2904, 2910, 2916, 2922, 2928, 2934, 2940, 2946, 2952, 2958, 2964, 2970, 2976, 2982, 2988, 2994, 3000, 3006, 3012, 3018, 3024, 3030, 3036, 3042, 3048, 3054, 3060, 3066, 3072, 3078, 3084, 3090, 3096, 3102, 3108, 3114, 3120, 3126, 3132, 3138, 3144, 3150, 3156, 3162, 3168, 3174, 3180, 3186, 3192, 3198, 3204, 3210, 3216, 3222, 3228, 3234, 3240, 3246, 3252, 3258, 3264, 3270, 3276, 3282, 3288, 3294, 3300, 3306, 3312, 3318, 3324, 3330, 3336, 3342, 3348, 3354, 3360, 3366, 3372, 3378, 3384, 3390, 3396, 3402, 3408, 3414, 3420, 3426, 3432, 3438, 3444, 3450, 3456, 3462, 3468, 3474, 3480, 3486, 3492, 3498, 3504, 3510, 3516, 3522, 3528, 3534, 3540, 3546, 3552, 3558, 3564, 3570, 3576, 3582, 3588, 3594, 3600, 3606, 3612, 3618, 3624, 3630, 3636, 3642, 3648, 3654, 3660, 3666, 3672, 3678, 3684, 3690, 3696, 3702, 3708, 3714, 3720, 3726, 3732, 3738, 3744, 3750, 3756, 3762, 3768, 3774, 3780, 3786, 3792, 3798, 3804, 3810, 3816, 3822, 3828, 3834, 3840, 3846, 3852, 3858, 3864, 3870,

RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND

- USED) OR, IDEALLY, UNLESS OTHERWISE NECESSARY TO BE LEFT AS-BUILT BY THE PROJECT OWNER. THE SITE SHALL BE GRADUED TO CLOSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT. EQUIPMENT SHEET, GENERATOR, DIE, TANK, TOWER, REELS AND CURRENT BALUNES, ETC.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON PROPOSED GROUND. PROPOSED MATERIALS SHALL BE PLACED IN TRENCHES AND/OR ON EMBANKMENT.
- THE SURGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH, UNIFORM GRADE PRIOR TO THE POLISHED STONE APPLICATION. PAVING USE IS REQUIRED.
- ALL JAIL CELL ENCLOSURES SHALL BE PREPARED PRIOR TO ANY EXCAVATION OR SITE GRADING. ALL EXISTING EXTERIOR SINKERS, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCLOSED IN THE WORK SHALL BE PROTECTED AT ALL TIMES, AND WHERE EXPOSED FOR THE PROPOSED EXCAVATION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY THE ENGINEER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING AROUND OR PENETRATING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE INVOLVED CREW.
- ALL EXISTING MACHINE SINKERS, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXCAVATION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXCAVATION OF THE WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING, DRIVEWAY OR CRACKED STONE, SHALL BE GRADUED TO A UNIFORM SLOPE, FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
- SEEDING MATERIAL FOR UTILITIES LINES, CULTIVARS AND PAVING, CLEAN SAND, KENTON TP COARSE, RIB-ROUNDED MATERIAL, WINTER OR BAKED SAND, WASHED, FREE OF SALT OR CLAY, LIME, FUEL OR SOLUBLE MATERIALS, AND ORGANIC MATTER, SHALL BE ACCORDANCE WITH THE FOLLOWING GRAIN SIZE DISTRIBUTION:
- | PERCENT PASSING | |
|-----------------|-------|
| NO. 10 MESH | 100 |
| NO. 20 MESH | 80-95 |
| NO. 40 MESH | 60-85 |
| NO. 60 MESH | 40-75 |
| NO. 80 MESH | 25-60 |
| NO. 100 MESH | 10-40 |
- SAVES FOR TEMPORARY PROSECUTION/INTEGRATION CONTROL SHALL BE IMPLEMENTED PER LOCAL, CITY OR COUNTY GUIDELINES AND REFER PLANS IF APPLICABLE.

10. ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH THE MOST CURRENT VERSION OF RGS STANDARDS AND ALIGNED WITH RGS GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST PASS AN R16 AUDIT OR BE

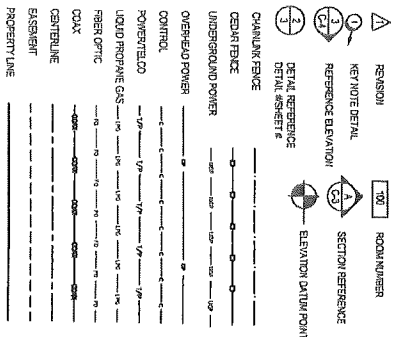
10. ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH THE MOST CURRENT VERSION OF THE STANDARD AND BE ALIGNED WITH THE GUIDELINES AS TECHNICALLY APPLICABLE. EACH SITE MUST PASS AN RS240 ADULT OR YOUTH RATING.
 11. IF ENDORSEMENT OCCURS OF WHITE, AMERICAN, INDIGENOUS, OR HUMAN REMAINS, ARE MADE DURING CONSTRUCTION, ALL WORK SHOULD CEASE AND APPROPRIATE AFFECTED TRIBES, AS WELL AS THE STATE HISTORIC PRESERVATION OFFICE, SHOULD BE NOTIFIED IMMEDIATELY.
- TOWERPOLE NOTES:**
1. ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND HOLDER OR COMMUNITY DEVELOPER.
 2. ALL HARDWARE ANTS AND BOLTS TO BE TIGHTENED AND TIGHTENED IN ACCORDANCE WITH THE TOWER MANUFACTURER'S AND STRUCTURAL ENGINEER'S SPECIFICATIONS.
 3. VERIFICATION THAT THE TOWERPOLE CAN SUPPORT THE PROPOSED ANTENNA LOADING S TO BE DONE BY OTHERS.
 4. FUNDING SUPPORT FOR THE ANTENNA POLE CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA POLE CABLES ARE TO BE SUPPORTED AND RETAINED AT THE DESIGNER'S DISCRETION TO THE ANTENNA CABLES ATTACHED TO THE TOWER.
- RS240 NOTES:**
1. ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH THE MOST CURRENT VERSION OF RS240 STANDARD AND BE ALIGNED WITH THE GUIDELINES AS TECHNICALLY APPLICABLE. SITE MUST PASS AN RS240 ADULT OR YOUTH RATING AND BE ACCEPTED.

1. ALL ANTENNAS, LINES AND RELATED INSTALLATION HARDWARE TO BE PROVIDED BY THE LAND MOBILE

1. VERIFICATION THAT THE TOWER CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY
2. ALL APPLICABLE RULING AND BOARDS BE TIERED, AND TOLERED IN ACCORDANCE WITH THE TOWER MANUFACTURER AND STRUCTURAL ENGINEERS SPECIFICATIONS.
3. VERIFICATION THAT THE TOWER CAN SUPPORT THE PROPOSED ANTENNA LOADING IS TO BE DONE BY
4. PROVIDE SUPPORTS FOR THE ANTENNA COAX CABLES TO THE ELEVATION OF ALL INITIAL AND FUTURE ANTENNAS. ANTENNA COAX CABLES ARE TO BE SUPPORTED AND RESTRAINED AT THE CENTERS SUITABLE TO THE MANUFACTURER'S REQUIREMENTS.

1. ALL SITE DESIGN AND CONSTRUCTION MUST COMPLY WITH THE MOST CURRENT VERSION OF R55 STANDARD

- AND ADJUDICATED WITH HIS GUIDELINES AS TECHNICALLY APPLICABLE SITE MUST PASS AN HES AUDIT BEFORE IT SHALL BE CONSIDERED COMPLETE AND ACCEPTED.



2 ASSOCIATED FOUNDATION ID# D-1469251

[illegible]

RESEARCH VERIFICATION AND PROTECTION OF BIRDS FROM 2010 TO THE PRESENT

[illegible]

IMPORTING WHEATSTRAW AND PETROLEUM OIL FROM CHINA

| RESEARCH THEMES AND APPROACHES OF "GREEN" ORGANIZATION | |
|---|---------------|
| RESEARCH THEMES AND APPROACHES | RESEARCH TYPE |
| 1. Evaluation of organizational strategy | Qualitative |
| 2. Strategy-structure relationship and impact on the environment | Quantitative |
| 3. Financial evaluation of environmental costs | Quantitative |
| 4. Environmental strategy is primarily for internal communication | Qualitative |
| 5. Environmental strategy is primarily for external communication | Quantitative |

[illegible]

7c13h

SPECIAL INSPECTION

| SPECIAL INSPECTIONS | | | |
|---------------------|---------------|------------|----------|
| ITEM | DESCRIPTION | CONTINUOUS | PERIODIC |
| 1 | EPOXY ANCHORS | - | X |

NOTE

THE ABOVE LIST OF SPECIAL INSPECTIONS WAS PROVIDED TO DCAE
THE CITY OF PORTLAND ON 5/25/2018. CONTRACTOR TO CONFIRM
LATEST EDITION PRIOR TO CONSTRUCTION

cushining

Don Cushing Associates, Civil Engineers
 RTT SE 228th Ave. SE, Box 1000
 Portland, OR 97204
 (503) 787-4311
 90000 228th Ave. SE Box 1000

Microwave Replacement Project

Camp Creek
Microarray Tool

SPECIAL INSPECTION:

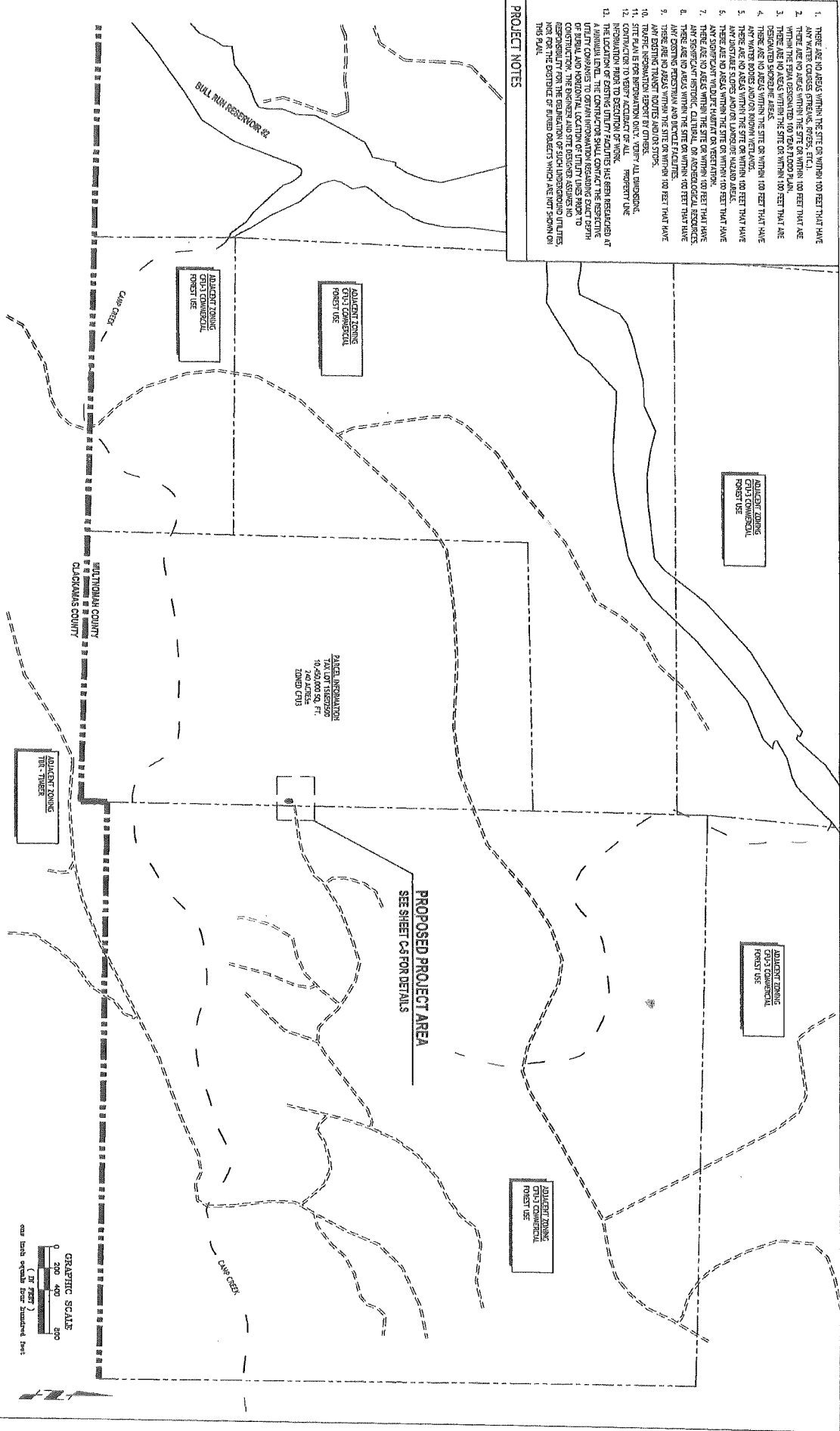
Approved For
WFO2002

156E20

37

1. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY WATER COURSES (STREAMS, POND, ETC.).
2. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT ARE DESIGNATED SPECIAL USE AREAS.
3. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY WATER BODIES (POND, LAKE, ETC.).
4. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY INSTABLE SLOPES AND/OR LANDSLIDE HAZARD AREAS.
5. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY SIGNIFICANT WILDLIFE HABITAT OR VEGETATION.
6. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY SIGNIFICANT CULTURAL OR HISTORICAL RESOURCES.
7. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY EXISTING FORESTWAY AND DRIFTLINE FACILITIES.
8. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY EXISTING TRAIL, ROUTE AND/OR STOPS.
9. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY EXISTING TRAIL, ROUTE AND/OR STOPS.
10. THERE ARE NO AREAS WITHIN THE SITE OR WITHIN 100 FEET THAT HAVE ANY EXISTING TRAIL, ROUTE AND/OR STOPS.
11. SITE PLAN IS FOR INFORMATION ONLY, VERIFY ALL DIMENSIONS, INFORMATION PRIOR TO BEGINNING OF WORK.
12. THE LOCATION OF EXISTING UTILITIES HAS BEEN RESEARCHED AT THE TIME OF THE DESIGN AND THE DESIGNER SHALL CONTACT THE RESPECTIVE UTILITY COMPANIES TO OBTAIN INFORMATION REGARDING EXACT DEPTH OF BURIAL AND HORIZONTAL LOCATION OF UTILITY LINES PRIOR TO CONSTRUCTION. THE DESIGNER AND SITE DESIGNER ASSUMES NO LIABILITY FOR THE LOCATION OF EXISTING UTILITIES WHICH ARE NOT SHOWN ON THIS PLAN.

PROJECT NOTES



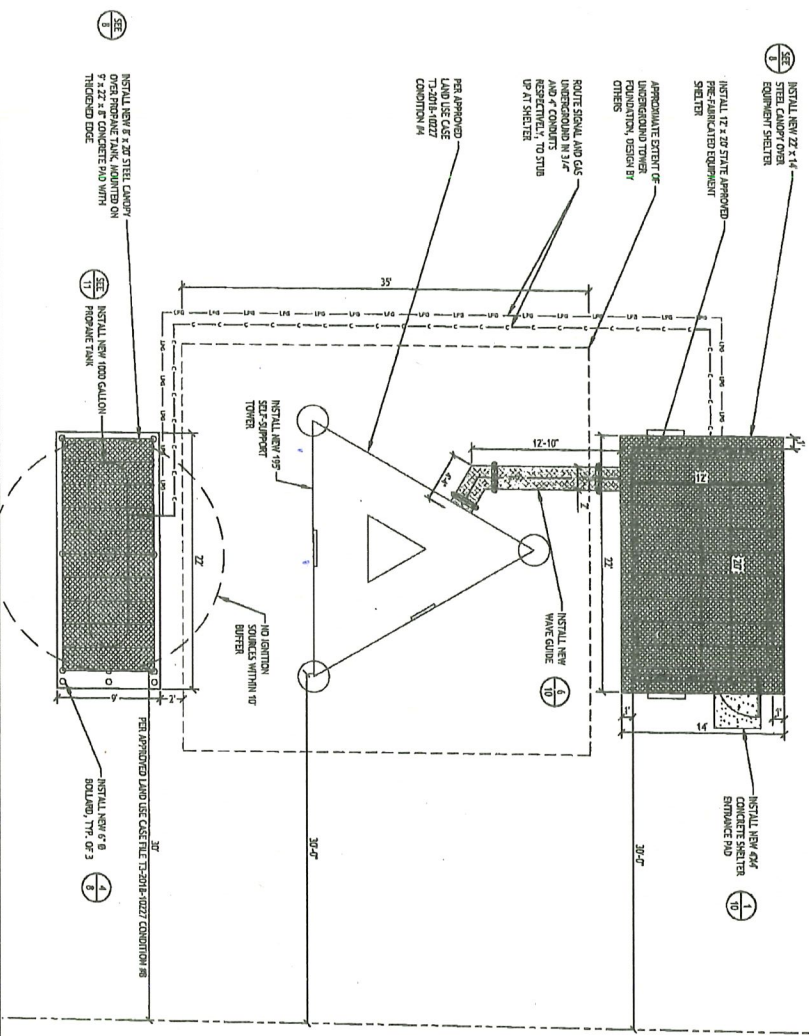
| | |
|-------------|----------|
| Prepared by | W02021 |
| Checked by | 158E2004 |
| Drawn by | 4 |
| Scale | 12 |

CUSHING
 BOB CUSHING ASSOCIATES CIVIL ENGINEERS
 407 SE Washington Street, Suite 205
 Portland, OR 97214
 (503) 597-4231
 www.cushingandco.com

PORTLAND WATER BUREAU
 FROM FOREST TO VALLEY
 Nick Fish
 Commissioner
 Michael P. Stahr
 Administrator

Microwave Replacement Project
 Camp Creek
 Microwave Tower

OVERALL SITE PLAN



MULTNOMAH COUNTY ZONING
 Use: Micro Wave Tower
 MCC/Case: T3-2018-10227
 Date: 7/11/18
 By: *Phoebe A. Blum*
APPROVAL



| | | | | | |
|-------------|-------------------------------------|-----------|-------------------------|-------------|-------------------------------------|
| Project No. | 107 SE Washington Street, Suite 202 | Submitted | Reg. Fee Exp. No. 14487 | Project No. | 107 SE Washington Street, Suite 202 |
| City | Portland | Accepted | Reg. Fee Exp. No. 11114 | City | Portland |
| County | Clatsop | Submitted | Reg. Fee Exp. No. 11114 | County | Clatsop |
| State | OR | Accepted | Reg. Fee Exp. No. 11114 | State | OR |

PORTLAND WATER BUREAU
 Nick Fish, Commissioner
 Michael P. Stuntz, Administrator

ENLARGED SITE PLAN

W02021
 156E20d4
 5 of 12

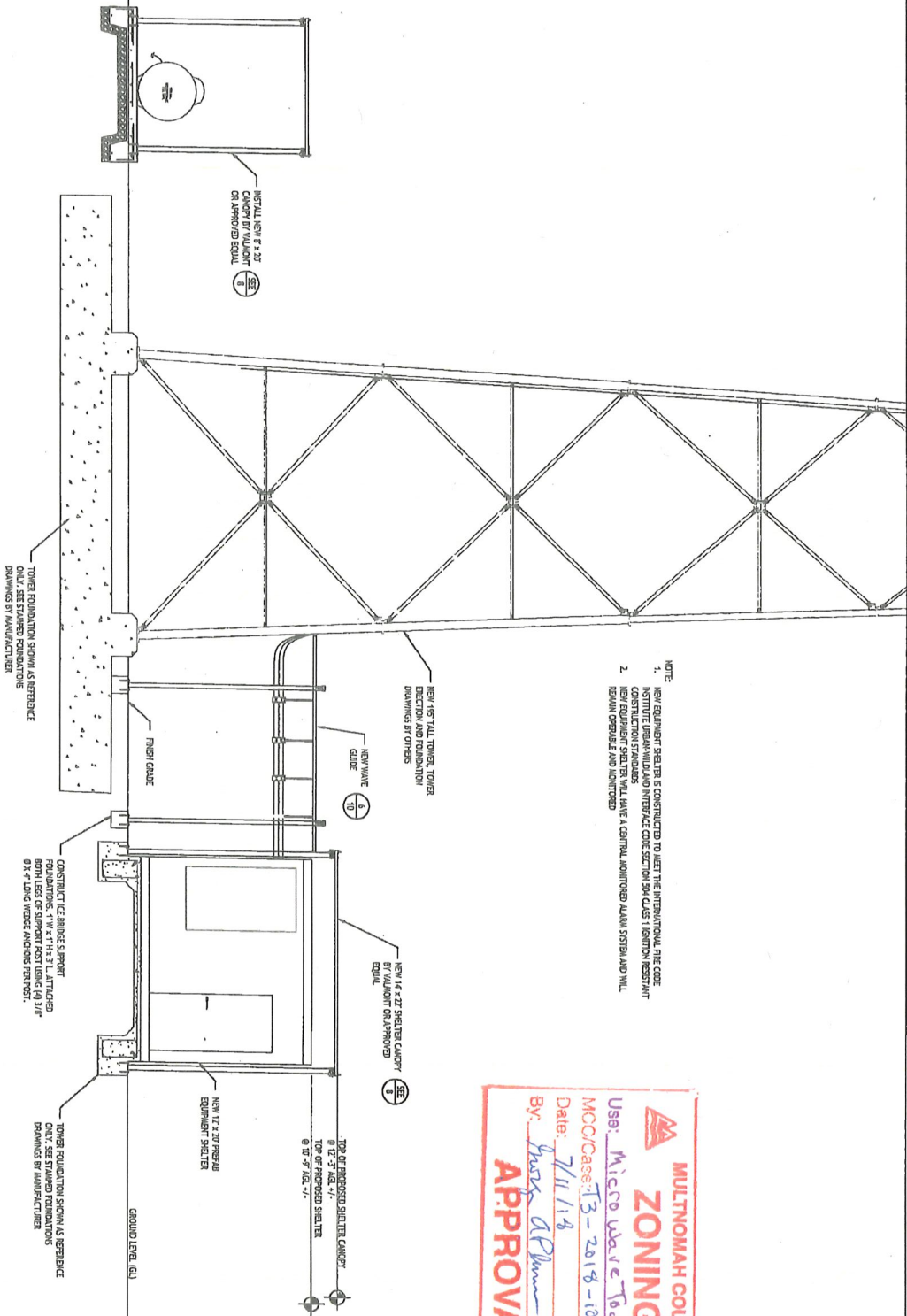
MULTNOMAH COUNTY

ZONING

Use: Microwave Tower
 MCC/CASE: T3-2018-10127
 Date: 7/11/18
 By: Mark A. Plummer

APPROVAL

- NOTE:
1. NEW EQUIPMENT SHELTER IS CONSTRUCTED TO MEET THE INTERNATIONAL FIRE CODE.
 2. NEW EQUIPMENT SHELTER WILL HAVE A CONTROL MONITORED ALARM SYSTEM AND WILL REMAIN OPERABLE AND MONITORED.



| | |
|--------------|-------------------------------|
| Project No. | W02021 |
| Revision | 1S8E2004 |
| Drawn By | Michael P. Stuntz |
| Checked By | Nick Fish |
| Approved By | Michael P. Stuntz |
| Project Name | Microwave Replacement Project |
| Location | Camp Creek |
| Scale | 6" = 12' |
| Sheet No. | 6 of 12 |

GRAPHIC SCALE
 0 10 20 30 40 50 60 70 80 90 100
 FEET

ELEVATIONS

PORTLAND WATER BUREAU
 FROM PORTIST TO FACCT

ADMINISTRATOR
 Michael P. Stuntz

COMMISSIONER
 Nick Fish

DESIGNED BY
 CUSHING
 107 SE THURMONT ST. SUITE 205
 PORTLAND, OR 97214
 (503) 287-4221
 www.cushing-arc.org.com

DESIGNED BY
 CUSHING
 107 SE THURMONT ST. SUITE 205
 PORTLAND, OR 97214
 (503) 287-4221
 www.cushing-arc.org.com

REVISIONS

DATE
 12/29/18

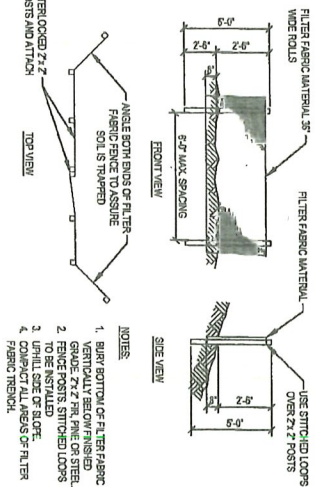
CONTRACT
 107 SE THURMONT ST. SUITE 205

DATE
 12/29/18

- EROSION CONTROL NOTES**
- OWNER OR DESIGNATED PERSON SHALL BE RESPONSIBLE FOR PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS.
 - THE INSTALLATION OF THESE EROSION CONTROL MEASURES SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
 - THE EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
 - THE EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AND REPAIRED IMMEDIATELY WHEN DAMAGED.
 - THE EROSION CONTROL MEASURES SHALL BE REMOVED IMMEDIATELY UPON COMPLETION OF CONSTRUCTION.
 - THE BOUNDARIES OF THE CLEARING LIMITS SHOWN ON THIS PLAN SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DURING THE CONSTRUCTION PERIOD, NO DISTURBANCE BEYOND THE CLEARING LIMITS SHALL BE PERMITTED. THE BOUNDARIES SHALL BE MAINTAINED BY THE APPLICANT/CONTRACTOR FOR THE DURATION OF CONSTRUCTION.
 - THE EROSION CONTROL MEASURES SHOWN ON THIS PLAN MUST BE CONSTRUCTED IN CONJUNCTION WITH ALL CLEARING AND GRADING ACTIVITIES, AND IN SUCH A MANNER AS TO INSURE THAT SEDIMENT AND SEDIMENT LOOSE WATER DOES NOT ENTER THE PAVEMENT SYSTEM, ROADWAYS, OR LOCATE APPLICABLE WATER SHADOWS.
 - THE EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN SUCH A MANNER AS TO INSURE THAT UNEXPECTED STORM EVENTS AND TO DISBURSE THAT SEDIMENT AND SEDIMENT LOOSE WATER DOES NOT LEAVE THE SITE.
 - THE EROSION CONTROL MEASURES SHALL BE INSPECTED DAILY BY THE APPLICANT/CONTRACTOR AND MAINTAINED AS NECESSARY TO ENSURE THEIR CONTINUED FUNCTIONING.
 - ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES AND REPAIRED IMMEDIATELY WHEN DAMAGED.
 - FLUSH SEDIMENT LOOSE WATER INTO THE DOWNSIDE DRAINAGE SYSTEM.
 - THE DURATION OF THE PROJECT, ADDITIONAL MEASURES MAY BE REQUIRED TO INSURE THAT ALL PAVED AREAS ARE KEPT CLEAR FOR THE DURATION OF THE PROJECT.
 - PAVEMENT SURFACES AND VEGETATION ARE TO BE PLACED AS RAPIDLY AS POSSIBLE.
 - SEEDING SHALL BE PERFORMED NO LATER THAN SEPTEMBER 1 FOR EACH PHASE OF CONSTRUCTION.
 - WHERE THE EROSION CONTROL MEASURES WILL BE IN EFFECT, SEE THE EROSION PREVENTION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, CHAPTER 9 FOR REQUIREMENTS.
 - NO EXPOSED, BARE SOILS SHALL REMAIN UNSTABILIZED FOR MORE THAN TWO DAYS DURING THE PERIOD OCTOBER 1 THROUGH APRIL 30 OR FOR MORE THAN SEVEN DAYS DURING THE PERIOD OF MAY 1 THROUGH SEPTEMBER 30.
 - ALL EXPOSED SOIL SURFACES SHALL BE STABILIZED BY A SUITABLE APPLICATION OF SEED MANAGEMENT.
 - WHERE FEASIBLE, NO MORE THAN 500 FEET OF TRAIL SHALL BE OPEN AT ONE TIME. EXCAVATED MATERIAL SHALL BE PLACED ON THE UP-SIDE OF TRAILWAYS PROVIDED IT DOES NOT CONFLICT WITH SAFETY REQUIREMENTS.
 - THE DEVELOPER SHALL REMOVE EROSION MEASURES WHEN VEGETATION IS FULLY ESTABLISHED.

EROSION CONTROL NOTES

SCALE: NTS 1



- NOTES:**
- BURY BOTTOM OF FILTER FABRIC 8\"/>

SEDIMENT FENCE DETAIL

SCALE: NTS 2

PER APPROVED LAND USE CASE FILE 13-2018-10277 CONDITION #6 - EROSION AND CONTROL PREVENT CONDITION #6

GRAPHIC SCALE

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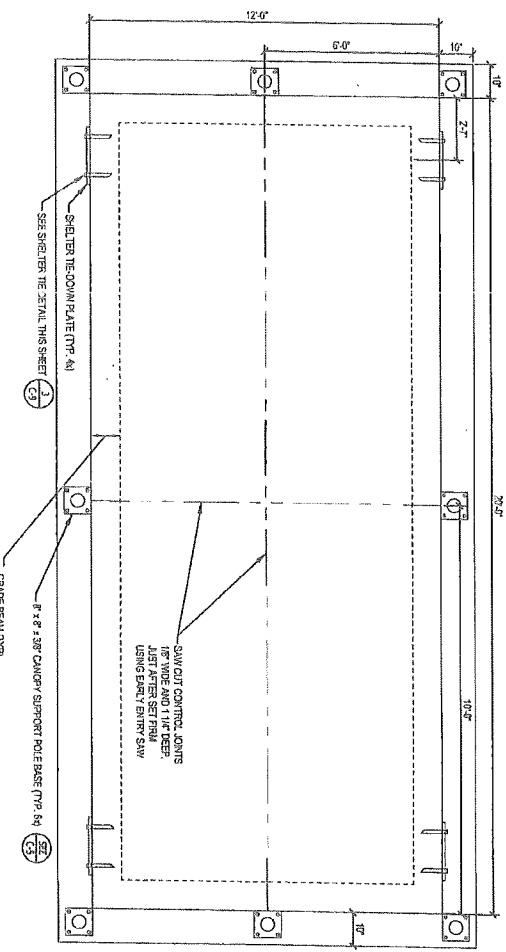
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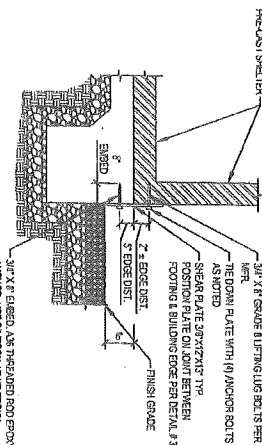
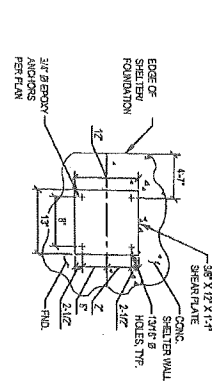
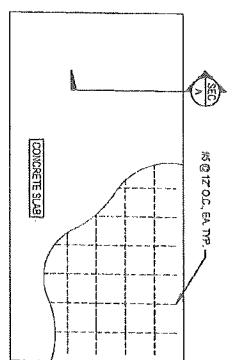
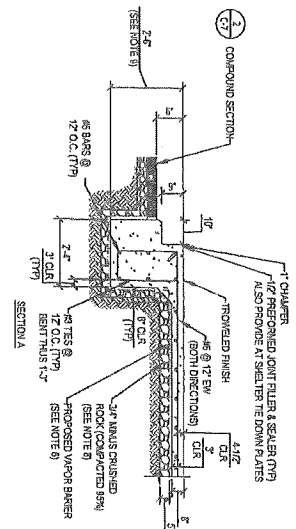
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- NOTES
1. ULTIMATE COMPRESSIVE STRENGTH OF CONCRETE AT 28 DAYS SHALL BE 1000 PSI, UNLESS OTHERWISE SPECIFIED.
 2. REINFORCING BARS SHALL BE DEFORMED BARS CONFORMING TO ASTM A618 DEFORMED AND PLAIN BILLET STEEL BARS FOR CONCRETE REINFORCEMENT, LATEST EDITION, GRADE 60.
 3. LAP LENGTH FOR BARS SHALL NOT BE LESS THAN 48 IN. UNLESS OTHERWISE SPECIFIED. WELDING OF REINFORCEMENT SHALL NOT BE REQUIRED.
 4. CONTRACTOR MAY USE EARTH BOLTS FOR UNORDERED CONCRETE WHERE SOIL IS FIRM AND STABLE. EARTH BOLTS SHALL BE TYPED, IDENTIFY AND ACCURATELY, TYPES OF FOUNDATIONS, OF ALL BARS AND LOST MATERIAL, BEFORE REPORTING TO CONCRETE.
 5. MINIMUM CONCRETE COVER FOR REINFORCEMENT SHALL BE 3 INCHES FOR CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED EARTH AND 4 1/2 INCHES FOR TOP OF SLAB ON SIDEWALK AND SHELTER FOUNDATIONS.
 6. VAPOR BARRIER SHALL BE VAPORLOCK 10, OR APPROVED EQUAL.
 7. IN INSTANCES WHERE ROCK IS ENCOUNTERED AT LESS THAN 2 FT, CONCRETE MAY BEAR ON THE ROCK.
 8. SUBGRADE PREPARATION AND STRUCTURAL FILL SHALL ADHERE TO THE REQUIREMENTS IN THE GEOTECHNICAL REPORT.
 9. DESIGNED IN ACCORDANCE WITH ESSENTIAL FACILITIES REQUIREMENTS.
 10. SHEAR PLATES ARE TO BE GALVANIZED 30 ISI STEEL.
 11. EPOXY THIN COATED ROD ANCHORS ARE TO BE GALVANIZED 30 ISI, ALL WELDING IS TO BE GALVANIZED.



SHELTER TIE-DOWN DETAIL

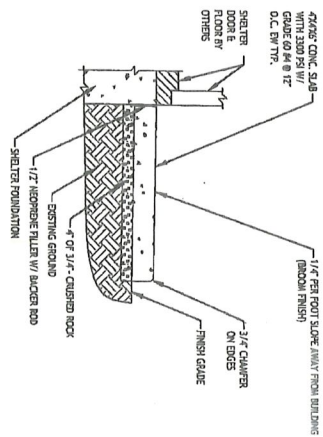
SCALE: 1/8" = 1'-0"

SHEAR PLATES

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

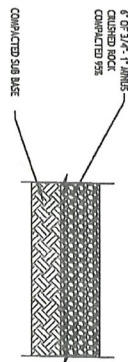
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|--|--|---|
| <p>Project Information</p> <p>Project Name: Shelter Foundation Plan</p> <p>Project Number: 156E2004</p> <p>Project Location: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Project Date: 12/20/18</p> | | <p>Submitted By:</p> <p>Submitted Date: 12/20/18</p> <p>Submitted To: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Submitted For: 107 E Washington Street, Suite 200, Portland, OR 97233</p> |
| <p>Design Information</p> <p>Design By: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Design Date: 12/20/18</p> <p>Design For: 107 E Washington Street, Suite 200, Portland, OR 97233</p> | | <p>Submitted By:</p> <p>Submitted Date: 12/20/18</p> <p>Submitted To: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Submitted For: 107 E Washington Street, Suite 200, Portland, OR 97233</p> |
| <p>Project Information</p> <p>Project Name: Shelter Foundation Plan</p> <p>Project Number: 156E2004</p> <p>Project Location: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Project Date: 12/20/18</p> | | <p>Submitted By:</p> <p>Submitted Date: 12/20/18</p> <p>Submitted To: 107 E Washington Street, Suite 200, Portland, OR 97233</p> <p>Submitted For: 107 E Washington Street, Suite 200, Portland, OR 97233</p> |





CONCRETE SHELTER ENTRANCE SECTION DETAIL

SCALE: MTS 1



COMPOUND SECTION DETAIL

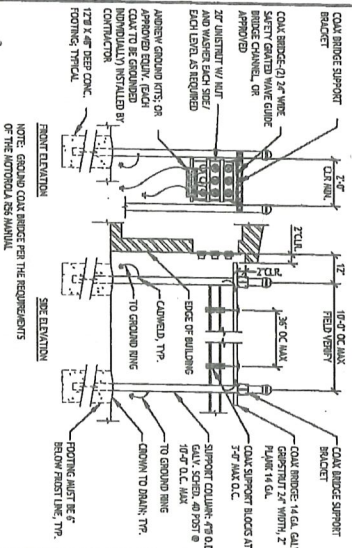
SCALE: MTS 2



| | |
|---------------------------------|-------------------------------|
| MODEL NUMBER
WPLEDATSD010WS2 | WEIGHT
28.0 lbs |
| MANUFACTURER
RAB LIGHTING | DIMENSIONS
15"x23.2"x6.25" |

NOT IN USE

SCALE: NTS 3



NOT IN USE

NOT IN USE

| | |
|------------|---|
| SCALE: MTS | 4 |
|------------|---|

SHELTER LIGHT

SCALE: NTS

WAVEGUIDE DETAIL

| | |
|------------|---|
| SCALE: NTS | 6 |
|------------|---|

[illegible]

cushing

Don Cushing Associates, Civ. Engineers
107 SE Washington Street, Suite 205
Portland, OR 97214
(503) 387-5331
www.doncushing.com

| | |
|-------------|----------------|
| Designed By | DATE |
| ACC | ACC/ACC |
| Drawn By | Program Mgr |
| ACC | |
| Checked By | Cost Mgr |
| ACC | |
| Project Mgr | Design Support |



| | |
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| | Submitted |
| <hr/> | |
| | <i>Peng Ping Cheng No 16487</i> |
| <hr/> | |
| | Accepted |
| <hr/> | |
| Full Name: | Peng Ping Cheng No. 16487 |
| | Date: |



Nick Fish
Commissioner

Michael P. Stuhm
Administrator



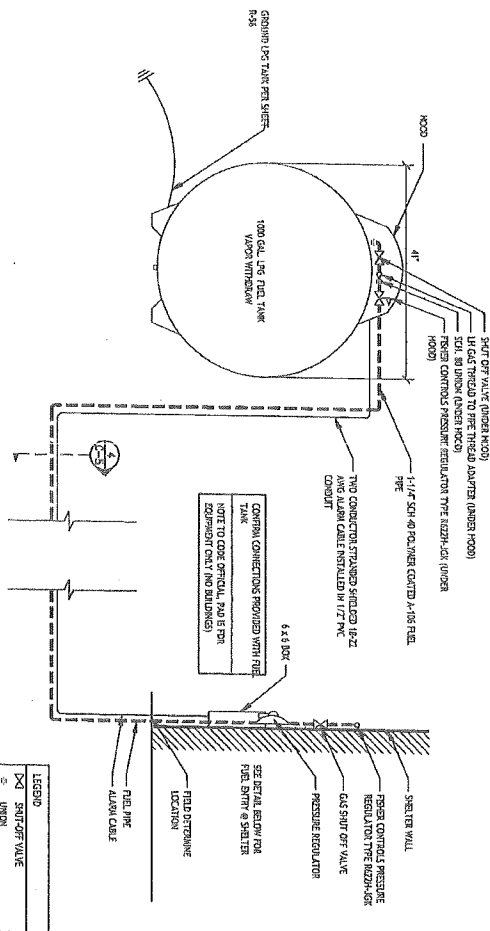
COMPOUND DETAILS

| | |
|---------------|----------|
| Project No | W02021 |
| Via Direction | 1S6E20da |
| Sheet No | 10 of 12 |

MULTNOMAH COUNTY
ZONING

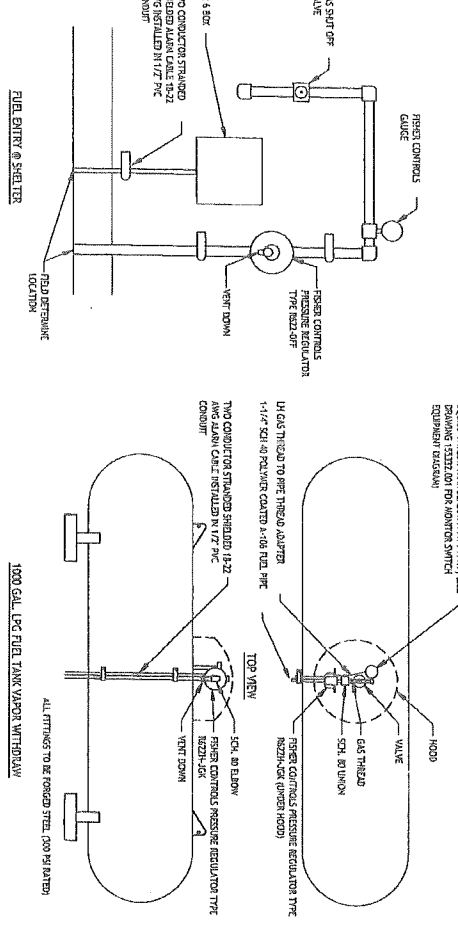
Use: Microdata Tower
MCC/Case: T3-2018-1027
Date: 7/11/18
By: Patrick Plummer

APPROVAL



LEGEND

| | |
|---|--------------------|
| ○ | SHUT OFF VALVE |
| ○ | UNION |
| ○ | PRESSURE REGULATOR |



FUEL SYSTEM ELEVATION AND DETAILS

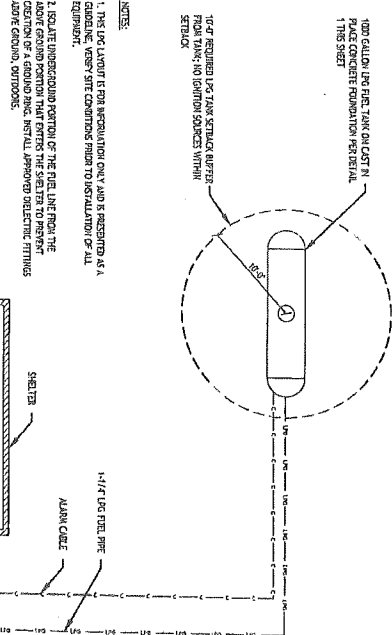
| NO. | DATE | DESCRIPTION | BY |
|-----|----------|-------------------------|--------|
| 1 | 7/2/2021 | ISSUED FOR CONSTRUCTION | W02021 |



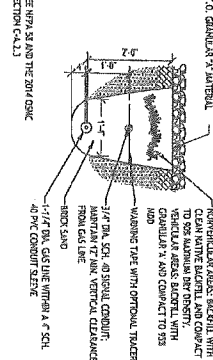
Don Cushing Associated Civil Engineers
10000 225
Portland, OR 97214
(503) 977-4231
www.doncushing.com

| Drawn By | Checked By | Reviewed By |
|----------|------------|-------------|
| W02021 | W02021 | W02021 |

| Scale | Notes |
|-------|------------|
| 1 | SCALE: NTS |



- NOTES:
1. THE LAYOUT IS FOR INFORMATION ONLY AND IS NOT TO BE USED AS A BASIS FOR CONSTRUCTION. THE LAYOUT IS FOR INFORMATION ONLY AND IS NOT TO BE USED AS A BASIS FOR CONSTRUCTION.
 2. ISOLATE UNDERGROUND PORTION OF THE FUEL LINE FROM THE LOCATION OF A GROUND RING, INITIAL APPROVED ELECTRIC FITTINGS ABOVE GROUND, OUTDOORS.



FUEL SYSTEM LAYOUT

| Scale | Notes |
|-------|------------|
| 2 | SCALE: NTS |

THENCH SECTION



Nick Fish
Commissioner
Michael P. Stuhrt
Administrator



Microwave Replacement Project
Camp Creek
Microwave Tower

| Project No. | Revision |
|-------------|----------|
| W02021 | 1SSE2004 |

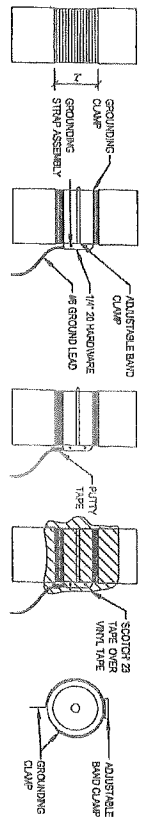
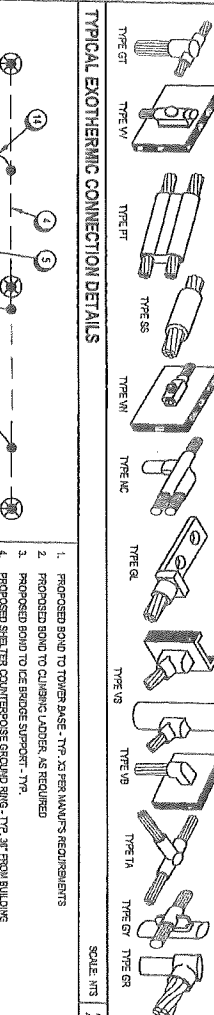
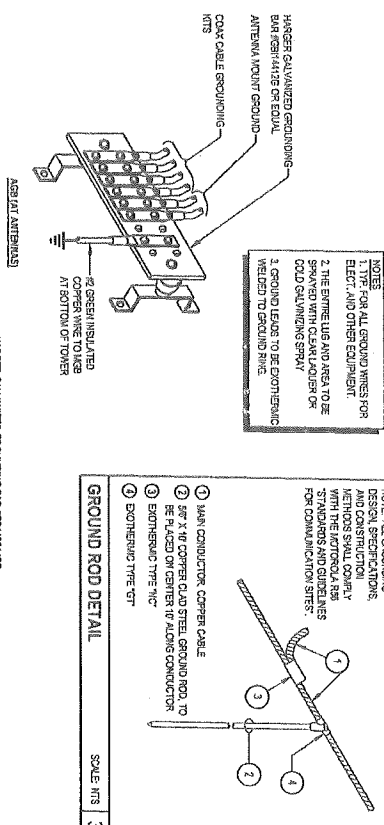


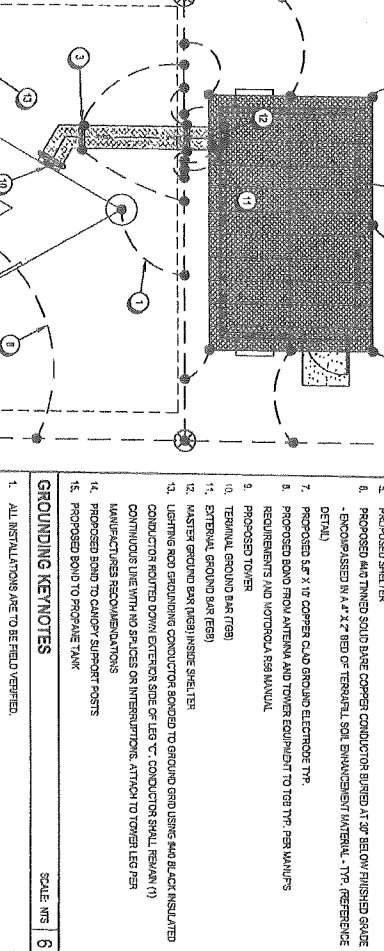
FIGURE 1
FIGURE 2
FIGURE 3
FIGURE 4
FIGURE 5



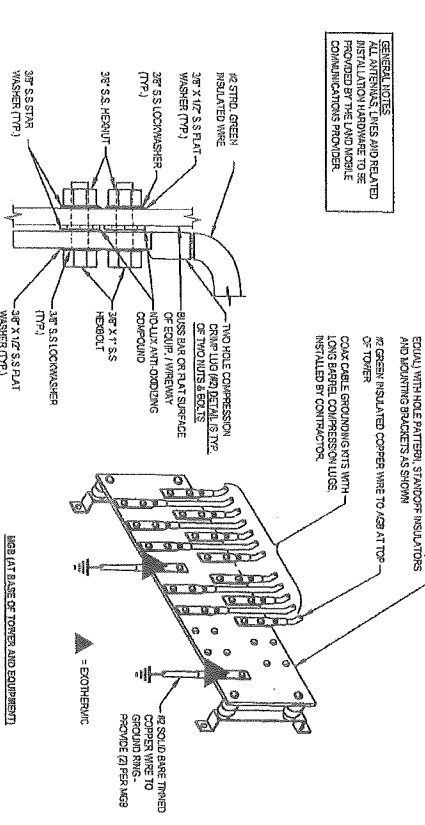
SCALE: 1/8" = 1'



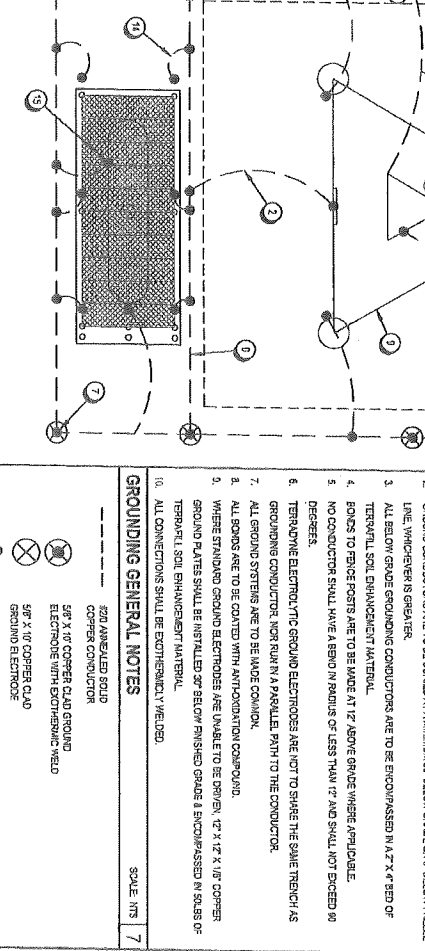
SCALE: 1/8" = 1'



SCALE: 1/8" = 1'



SCALE: 1/8" = 1'



SCALE: 1/8" = 1'

GROUND BAR DETAILS

SCALE: 1/8" = 1'

GROUNDING SITE PLAN

SCALE: 1/8" = 1'

LEGEND

- 1. ALL INSTALLATIONS ARE TO BE FIELD VERIFIED.
- 2. GROUND CONDUCTORS ARE TO BE BARED AT A MINIMUM OF 27" BELOW FINISH GRADE OR 18" BELOW FREEZE LINE, WHICHEVER IS GREATER.
- 3. ALL BELOW GRADE GROUNDING CONDUCTORS ARE TO BE ENCASED IN 1/2" X 1/2" RIGID OF THERMOPLASTIC POLYETHYLENE (RIGID PVC) OR EQUIVALENT.
- 4. BONDS TO FINISH GRADE ARE TO BE MADE AT 12" ABOVE GRADE, UNLESS OTHERWISE SPECIFIED.
- 5. NO CONDUCTOR SHALL HAVE A BEND IN RADIUS OF LESS THAN 12" AND SHALL NOT EXCEED 90 DEGREES.
- 6. THERMAL ELECTRIC GROUND ELECTRODES ARE NOT TO SHARE THE SAME TRENCH AS GROUNDING CONDUCTOR, NOR RUN IN A PARALLEL PATH TO THE CONDUCTOR.
- 7. ALL GROUND SYSTEMS ARE TO BE MADE CORROSION RESISTANT.
- 8. ALL BONDS ARE TO BE MADE WITH AN ANTI-OXIDATION COMPOUND.
- 9. WHERE STANDARD GROUND ELECTRODES ARE UNAVAILABLE, 4" X 1/2" X 1/2" CORNER GROUND PLATES SHALL BE INSTALLED 30" BELOW FINISHED GRADE & ENCASED IN 1/2" RIGID OF THERMOPLASTIC POLYETHYLENE (RIGID PVC) OR EQUIVALENT.
- 10. ALL CONNECTIONS SHALL BE EXOTHERMICALLY WELDED.

GROUNDING GENERAL NOTES

SCALE: 1/8" = 1'

GROUNDING PLAN & DETAILS

SCALE: 1/8" = 1'

Microwave Replacement Project

W02021

156E200a


12 of 12

Appx: f

APPENDIX F – New Tower Engineering Reports

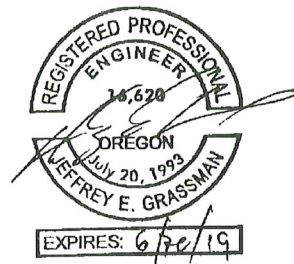


STRUCTURES

VALMONT MICROFLECT
3575 25th STREET
SALEM, OR 97302
PHONE: 1-800-547-2151
ENGINEER: Jeff Grassman (X6692)
Reviewed by: 

RECEIVED
SEP 04 2019
BY:

COMMUNICATION TOWER
DESIGN CALCULATIONS



City of Portland
VALMONT ORDER #380927
SITE NAME: Camp Creek, OR
TOWER HEIGHT: 195
MODEL: 72-S935-195



valmont

STRUCTURES

10/4/17

ENGINEERING DATA

for

City of Portland**Camp Creek, OR****VALMONT QUOTATION 380927**

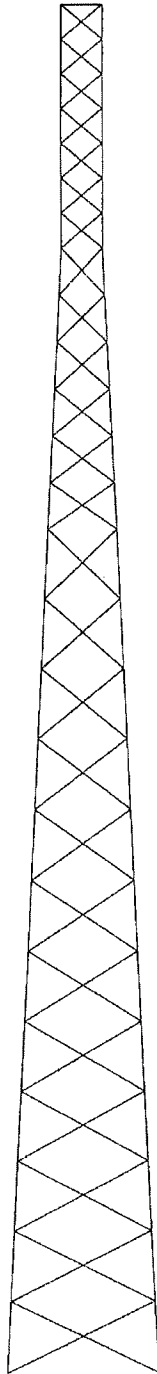
- 1) STRUCTURE DESIGN CONFORMS TO EIA/TIA-222-G INCLUDING:
85.0 MPH WIND (3 SECOND GUST, 50 YR. RETURN PERIOD)
40.0 MPH ICE WIND (50 YR. RETURN PERIOD)
DESIGN ICE THICKNESS = 1.50 INCHES
EXPOSURE CATEGORY B
STRUCTURE CLASSIFICATION III
TOPOGRAPHIC CATEGORY 3 (H = 740)
(EFFECTIVE BWS W/ TOPO EFFECT IS 108 MPH, WHICH EXCEEDS
THE 2014 OSSC EQUIVALENT ASD BWS OF 93 MPH)
- 2) TOWER BASE WIDTH (FT): 22.00
- 3) ALL MICROWAVE ASSUMED TO BE 6 GHz UNLESS OTHERWISE NOTED.
- 4) LOADING AS FOLLOWS:
195.0' TOWER
1 - Solar Panel (Assume 50 sf) @ 170.0
10 - BCD-80010 (w/PM) @ 195.0
4 - 6' HIGH PERFORMANCE (w/PM) @ 190.0
4 - 6' HIGH PERFORMANCE (w/PM) @ 180.0
3 - Cross Arm, 10' Double, No Stand-off (No PM's) @ 195.0
- 5) TOWER MODEL: 72-S935-195

STRUCTURE ANCHORAGE INFORMATION

| | |
|-----------------------|---------|
| STRUCTURE HEIGHT(FT) | 195 |
| OVERTURNING M (FT-K): | 8246.00 |
| BASE SHEAR (K): | 73.60 |
| BASE WEIGHT (K): | 434.18 |
| MAX. LEG SHEAR (K): | 40.04 |
| MAX. LEG UPLIFT (K): | 421.80 |
| MAX. LEG DOWN (K): | 446.16 |


Valmont - Structures Engineering


Form #3098(12/05)





STRUCTURES

 BY _____ DATE _____
 CHKD. BY _____ DATE _____

SHEET NO. _____

10/4/17

ENGINEERING DATA

FOR

City of Portland

Camp Creek, OR

VALMONT QUOTATION 380927

EIA/TIA-222-G

 BASIC WIND: 85.0 MPH
 WIND & ICE: 40.0 MPH
 TWIST & SWAY: 60.0 MPH
 S₅: N/A
 S₁: N/A

 DESIGN ICE THICKNESS: 1.5 IN.
 EXPOSURE CATEGORY: B
 STRUCTURE CLASS: III
 TOPOGRAPHIC CATEGORY: 3

| QTY | DESCRIPTION | HEIGHT | DATA W.O. ICE | | DATA W/ ICE | |
|-----|--|----------|---------------|------|-------------|------|
| | | | EPA | WT | EPA | WT |
| 1 | Solar Panel (Assume 50 sf) | @ 170.0' | 50.00 | 400 | 60.00 | 600 |
| 10 | BCD-80010 (w/PM) | @ 195.0' | 31.80 | 375 | 119.00 | 8203 |
| 4 | 6' HIGH PERFORMANCE (w/PM) | @ 180.0' | 136.32 | 1427 | 189.24 | 8391 |
| 4 | 6' HIGH PERFORMANCE (w/PM) | @ 180.0' | 136.32 | 1427 | 189.16 | 8382 |
| 3 | Cross Arm, 10' Double, No Stand-off (No @ 195.0' | | 10.02 | 707 | 42.39 | 6964 |

**Valmont - Structures Engineering**

Form #3098(12/05)

TOWER INITIAL DATA ENTRY

VERSION TOW-12-341

DATE 10/04/17

CURRENT FILE 380927

SUBJECT: CITY OF PORTLAND - 380927

195 FT SELF-SUPPORTING TOWER, SITE: CAMP CREEK, OR

ANALYST'S INITIALS: JEG

TOWER HEIGHT: 195

EXPOSURE: B

WIND LOAD = EIA-G

ICE THICKNESS: 1.50

BASE ELEVATION: 0.

(IN. OR mm)

FT. OR M

STRUCTURE CLASS: 3 TOPO CATEGORY: 3

CLIMBING TYPE: 1

UNITS: 0

0 = CENTER MOUNT LADDER

0 = U.S. CUSTOMARY

1 = STEP BOLT

1 = SI UNITS

2 = LEG MOUNT LADDER

+++++

TOWER LOAD CASE DATA ENTRY

| LOAD
CASE | DESCRIPTION | BASIC WIND
SPEED (MPH) | WIND
DIRECT. | ICE?
(YES
OR NO) | OVER-
LOAD
FACTOR |
|--------------|-------------|---------------------------|-----------------|------------------------|-------------------------|
| 1 | WIND | 85 | ALL | NO | 1.00 |
| 2 | ICE + WIND | 40 | ALL | YES | 1.00 |
| 3 | T+S | 60 | ALL | NO | 1.00 |

TOWER POINT LOAD DATA ENTRY

| LOAD DESCRIPTION | ATTACHMENT | | | -CENTROID- | | -WITHOUT ICE- | | --WITH ICE-- | |
|----------------------|-------------|---------------|--|-------------|-------------|----------------|--------------|----------------|--------------|
| | HT.
(FT) | LEGS
1 2 3 | | HT.
(FT) | ECC
(FT) | EPA
(FT**2) | WT.
(LBS) | EPA
(FT**2) | WT.
(LBS) |
| 1-Solar Panel (Assum | 170 | X X X | | 170 | 0.00 | 50.00 | 400 | 60.00 | 600 |
| 10-BCD-80010 | 195 | X X X | | 200 | 0.00 | 31.80 | 370 | 119.00 | 8200 |
| 4-6' HIGH PERFORMANC | 190 | X X X | | 190 | 0.00 | 136.32 | 1428 | 189.24 | 8392 |
| 4-6' HIGH PERFORMANC | 180 | X X X | | 180 | 0.00 | 136.32 | 1428 | 189.16 | 8384 |
| 3-Cross Arm, 10' Dou | 195 | X X X | | 195 | 0.00 | 10.02 | 708 | 42.39 | 6963 |

TOWER LINEAR LOAD DATA ENTRY

| LOAD DESCRIPTION | APPLIED
TO LEGS | | | HEIGHT (FT) | | -WITHOUT ICE- | | --WITH ICE-- | |
|-------------------------|--------------------|---|---|-------------|-----|-------------------|----------------|-------------------|----------------|
| | 1 | 2 | 3 | START | END | EPA/FT
(FT**2) | WT/FT
(LBS) | EPA/FT
(FT**2) | WT/FT
(LBS) |
| (1) [0-20] 900 Climbin | X | X | | 0 | 20 | 0.40 | 6.8 | 1.38 | 88.6 |
| (1) [20-40] 900 Climbi | X | X | | 20 | 40 | 0.40 | 6.8 | 1.43 | 101.7 |
| (1) [40-60] 900 Climbi | X | X | | 40 | 60 | 0.40 | 6.8 | 1.46 | 107.4 |
| (1) [60-80] 900 Climbi | X | X | | 60 | 80 | 0.40 | 6.8 | 1.47 | 110.9 |
| (1) [80-100] 900 Climbi | X | X | | 80 | 100 | 0.40 | 6.8 | 1.48 | 113.2 |
| (1) [100-120] 900 Clim | X | X | | 100 | 120 | 0.40 | 6.8 | 1.49 | 114.8 |
| (1) [120-140] 900 Clim | X | X | | 120 | 140 | 0.40 | 6.8 | 1.49 | 115.9 |
| (1) [140-160] 900 Clim | X | X | | 140 | 160 | 0.40 | 6.8 | 1.49 | 116.7 |
| (1) [160-180] 900 Clim | X | X | | 160 | 180 | 0.40 | 6.8 | 1.50 | 117.3 |
| (1) [180-195] 900 Clim | X | X | | 180 | 195 | 0.40 | 6.8 | 1.50 | 117.6 |
| (1) [0-20] Stack WG Ld | X | X | | 0 | 20 | 0.35 | 5.3 | 1.34 | 95.2 |
| (1) [20-40] Stack WG L | X | X | | 20 | 40 | 0.35 | 5.3 | 1.40 | 110.1 |
| (1) [40-60] Stack WG L | X | X | | 40 | 60 | 0.35 | 5.3 | 1.42 | 116.7 |
| (1) [60-80] Stack WG L | X | X | | 60 | 80 | 0.35 | 5.3 | 1.43 | 120.9 |
| (1) [80-100] Stack WG | X | X | | 80 | 100 | 0.35 | 5.3 | 1.44 | 123.6 |
| (1) [100-120] Stack WG | X | X | | 100 | 120 | 0.35 | 5.3 | 1.45 | 125.5 |
| (1) [120-140] Stack WG | X | X | | 120 | 140 | 0.35 | 5.3 | 1.45 | 126.8 |
| (1) [140-160] Stack WG | X | X | | 140 | 160 | 0.35 | 5.3 | 1.46 | 127.8 |
| (1) [160-180] Stack WG | X | X | | 160 | 180 | 0.35 | 5.3 | 1.46 | 128.5 |
| (1) [180-195] Stack WG | X | X | | 180 | 195 | 0.35 | 5.3 | 1.46 | 128.9 |
| (10) [0-20] 1.625" Coax | X | X | | 0 | 20 | 1.20 | 8.2 | 6.40 | 344.8 |
| (10) [20-40] 1.625" Coa | X | X | | 20 | 40 | 1.20 | 8.2 | 7.00 | 405.7 |
| (10) [40-60] 1.625" Coa | X | X | | 40 | 60 | 1.20 | 8.2 | 7.20 | 433.0 |
| (10) [60-80] 1.625" Coa | X | X | | 60 | 80 | 1.20 | 8.2 | 7.30 | 450.3 |
| (10) [80-100] 1.625" Co | X | X | | 80 | 100 | 1.20 | 8.2 | 7.40 | 461.8 |
| (10) [100-120] 1.625" C | X | X | | 100 | 120 | 1.20 | 8.2 | 7.50 | 469.7 |
| (10) [120-140] 1.625" C | X | X | | 120 | 140 | 1.20 | 8.2 | 7.50 | 475.3 |
| (10) [140-160] 1.625" C | X | X | | 140 | 160 | 1.20 | 8.2 | 7.60 | 479.3 |
| (10) [160-180] 1.625" C | X | X | | 160 | 180 | 1.20 | 8.2 | 7.60 | 482.2 |
| (10) [180-195] 1.625" C | X | X | | 180 | 195 | 1.20 | 8.2 | 7.60 | 484.0 |
| (4) [0-20] EW63 | X | X | | 0 | 20 | 0.40 | 2.0 | 2.48 | 128.2 |
| (4) [20-40] EW63 | X | X | | 20 | 40 | 0.40 | 2.0 | 2.68 | 151.7 |
| (4) [40-60] EW63 | X | X | | 40 | 60 | 0.40 | 2.0 | 2.76 | 162.2 |
| (4) [60-80] EW63 | X | X | | 60 | 80 | 0.40 | 2.0 | 2.84 | 168.9 |
| (4) [80-100] EW63 | X | X | | 80 | 100 | 0.40 | 2.0 | 2.88 | 173.4 |
| (4) [100-120] EW63 | X | X | | 100 | 120 | 0.40 | 2.0 | 2.88 | 176.4 |
| (4) [120-140] EW63 | X | X | | 120 | 140 | 0.40 | 2.0 | 2.92 | 178.6 |

TOWER LINEAR LOAD DATA ENTRY

| LOAD DESCRIPTION | APPLIED
TO LEGS | | | HEIGHT (FT) | | -WITHOUT ICE- | | --WITH ICE-- | |
|--------------------|--------------------|---|---|-------------|-------|-------------------|----------------|-------------------|----------------|
| | 1 | 2 | 3 | START | END | EPA/FT
(FT**2) | WT/FT
(LBS) | EPA/FT
(FT**2) | WT/FT
(LBS) |
| ===== | = | = | = | ===== | ===== | ===== | ===== | ===== | ===== |
| (4) [140-160] EW63 | X | X | | 140 | 160 | 0.40 | 2.0 | 2.92 | 180.1 |
| (4) [160-180] EW63 | X | X | | 160 | 180 | 0.40 | 2.0 | 2.92 | 181.2 |
| (4) [180-190] EW63 | X | X | | 180 | 190 | 0.40 | 2.0 | 2.92 | 181.9 |
| (4) [0-20] EW63 | X | X | | 0 | 20 | 0.40 | 2.0 | 2.48 | 128.2 |
| (4) [20-40] EW63 | X | X | | 20 | 40 | 0.40 | 2.0 | 2.68 | 151.7 |
| (4) [40-60] EW63 | X | X | | 40 | 60 | 0.40 | 2.0 | 2.76 | 162.2 |
| (4) [60-80] EW63 | X | X | | 60 | 80 | 0.40 | 2.0 | 2.84 | 168.9 |
| (4) [80-100] EW63 | X | X | | 80 | 100 | 0.40 | 2.0 | 2.88 | 173.4 |
| (4) [100-120] EW63 | X | X | | 100 | 120 | 0.40 | 2.0 | 2.88 | 176.4 |
| (4) [120-140] EW63 | X | X | | 120 | 140 | 0.40 | 2.0 | 2.92 | 178.6 |
| (4) [140-160] EW63 | X | X | | 140 | 160 | 0.40 | 2.0 | 2.92 | 180.1 |
| (4) [160-180] EW63 | X | X | | 160 | 180 | 0.40 | 2.0 | 2.92 | 181.2 |

TOWER INITIAL SECTION DATA ENTRY

TOP SECTION DATA

```

=====
STANDARD DESIGNATION: (N/A)          MEMBER ITYPE NUMBERS
TOP FACE WIDTH (IN) : 72.00          LEGS : 662
BRACING PATTERN : TA                DIAGONALS : 1
NUMBER OF BAYS : 3                  HORIZONTALS: 7
TAPER RATE (IN/FT) : 0.0            REDUNDANTS : 0
=====

```

TOWER MIDDLE AND BOTTOM SECTION DATA ENTRY

| SECTION
LOCATION
FROM TOP | STD.
DES. | LENGTH
(FT) | TAPER | BRACING
PATTERN
NO. | NO.
OF
BAYS | MEMBER ITYPE NUMBERS | | | |
|---------------------------------|--------------|----------------|-------|---------------------------|-------------------|----------------------|------|------|------|
| | | | | | | LEGS | DIAG | HORZ | RED. |
| 2 | | 20 | CONT. | TA | 4 | 664 | 3 | 0 | 0 |
| 3 | | 20 | 1.200 | TA | 3 | 666 | 7 | 0 | 0 |
| 4 | | 20 | CONT. | TA | 3 | 667 | 7 | 0 | 0 |
| 5 | | 20 | CONT. | TA | 2 | 668 | 12 | 0 | 0 |
| 6 | | 20 | CONT. | TA | 2 | 668 | 13 | 0 | 0 |
| 7 | | 20 | CONT. | TA | 2 | 668 | 18 | 0 | 0 |
| 8 | | 20 | CONT. | TA | 2 | 669 | 18 | 0 | 0 |
| 9 | | 20 | CONT. | TA | 2 | 669 | 18 | 0 | 0 |
| 10 | | 20 | CONT. | TA | 2 | 669 | 23 | 0 | 0 |

SUBJECT: CITY OF PORTLAND - 380927
 195 FT SELF-SUPPORTING TOWER, SITE: CAMP CREEK, OR

| +-GROUP-+ | | +---MAXIMUM FORCES-----+ | | | +---MEMBER DESCRIPTION---+ | | | +-% OF CAPACITY--+ | | |
|-----------|-------|--------------------------|--------------------|-----|----------------------------|-------------|------|--------------------|-------|--|
| NO. | DESC. | COMP. LC
(KIPS) | TENS. LC
(KIPS) | TYP | +-SIZE (IN)---+ | FY
(KSI) | KL/R | MEMB. | CONN. | |
| 1 | 1 L | -23.14 2C3 | 15.51 1B2 | TPI | 2.88 x 0.2030 | 50.0 | 63 | 41 | | |
| 2 | 1 D | -4.97 1C1 | 4.97 1C2 | A90 | 1.75 x 0.1875 | 36.0 | 123 | 55 | 64 | |
| 3 | 2 L | -101.55 W11 | 82.34 1B2 | TPI | 4.00 x 0.2260 | 50.0 | 45 | 98 | | |
| 4 | 2 D | -11.32 1C1 | 11.32 1C2 | A90 | 2.00 x 0.1875 | 36.0 | 113 | 95 | 77 | |
| 5 | 3 L | -154.01 W11 | 126.54 1B2 | TPI | 5.56 x 0.2580 | 50.0 | 43 | 91 | | |
| 6 | 3 D | -10.69 W11 | 10.28 1B2 | A90 | 2.50 x 0.1875 | 36.0 | 111 | 70 | | |
| 7 | 3 D | -8.85 1B2 | 9.34 W11 | A90 | 2.50 x 0.1875 | 36.0 | 110 | 57 | | |
| 8 | 3 D | -8.98 W11 | 8.39 1B2 | A90 | 2.50 x 0.1875 | 36.0 | 114 | 61 | 67 | |
| 9 | 4 L | -205.85 W11 | 168.46 1B2 | TPI | 6.62 x 0.2800 | 50.0 | 36 | 90 | | |
| 10 | 4 D | -8.40 1C2 | 8.50 1C1 | A90 | 2.50 x 0.1875 | 36.0 | 118 | 60 | | |
| 11 | 4 D | -8.30 1C1 | 8.18 1C2 | A90 | 2.50 x 0.1875 | 36.0 | 124 | 64 | | |
| 12 | 4 D | -8.08 1C2 | 8.16 1C1 | A90 | 2.50 x 0.1875 | 36.0 | 129 | 67 | 87 | |
| 13 | 5 L | -244.78 W11 | 199.37 1B2 | TPI | 8.62 x 0.3220 | 50.0 | 41 | 73 | | |
| 14 | 5 D | -10.26 1C1 | 10.14 1C2 | A90 | 3.00 x 0.1875 | 36.0 | 136 | 77 | | |
| 15 | 5 D | -9.85 1C2 | 9.91 1C1 | A90 | 3.00 x 0.1875 | 36.0 | 144 | 83 | 60 | |
| 16 | 6 L | -284.52 W11 | 230.45 1B2 | TPI | 8.62 x 0.3220 | 50.0 | 41 | 85 | | |
| 17 | 6 D | -10.68 1C1 | 10.58 1C2 | A90 | 3.00 x 0.2500 | 36.0 | 153 | 77 | | |
| 18 | 6 D | -10.44 1C2 | 10.49 1C1 | A90 | 3.00 x 0.2500 | 36.0 | 161 | 83 | 82 | |
| 19 | 7 L | -323.27 W11 | 260.44 1B2 | TPI | 8.62 x 0.3220 | 50.0 | 41 | 97 | | |
| 20 | 7 D | -11.35 1C1 | 11.26 1C2 | A90 | 3.50 x 0.2500 | 36.0 | 139 | 57 | | |
| 21 | 7 D | -11.23 1C2 | 11.26 1C1 | A90 | 3.50 x 0.2500 | 36.0 | 145 | 61 | 87 | |
| 22 | 8 L | -361.90 W11 | 289.76 1B2 | TPI | 10.75 x 0.3650 | 50.0 | 33 | 73 | | |
| 23 | 8 D | -12.18 1C1 | 12.09 1C2 | A90 | 3.50 x 0.2500 | 36.0 | 148 | 70 | | |
| 24 | 8 D | -12.13 1C2 | 12.14 1C1 | A90 | 3.50 x 0.2500 | 36.0 | 154 | 75 | 93 | |
| 25 | 9 L | -400.31 W11 | 318.61 1B2 | TPI | 10.75 x 0.3650 | 50.0 | 33 | 81 | | |
| 26 | 9 D | -13.03 1C1 | 12.95 1C2 | A90 | 3.50 x 0.2500 | 36.0 | 160 | 87 | | |
| 27 | 9 D | -12.95 1C2 | 12.96 1C1 | A90 | 3.50 x 0.2500 | 36.0 | 166 | 93 | 100 | |
| 28 | 10 L | -439.03 W11 | 347.44 1B2 | TPI | 10.75 x 0.3650 | 50.0 | 33 | 89 | | |
| 29 | 10 D | -14.03 1C1 | 13.96 1C2 | A90 | 4.00 x 0.2500 | 36.0 | 154 | 76 | | |
| 30 | 10 D | -14.22 1C2 | 14.22 1C1 | A90 | 4.00 x 0.2500 | 36.0 | 159 | 82 | 47 | |

ROTATION (DEGREES) OF TOP OF TOWER CAUSED BY LOAD CASE 3

MAX. TWIST = 0.15 CORRESPONDING SWAY = 0.36 WIND DIRECTION = 0 DEG.*
 MAX. SWAY = 0.36 CORRESPONDING TWIST = 0.15 WIND DIRECTION = 0 DEG.*

MAXIMUM LEG REACTIONS (KIPS) AT BASE OF TOWER

RESULTANT HORIZONTAL SHEAR FORCE = 40.04
 DOWNWARD FORCE = 446.16
 UPWARD FORCE = 421.80

MAXIMUM TOWER REACTIONS AT BASE OF TOWER

MAXIMUM OVERTURNING MOMENT = 8246 FOOT-KIPS
 MAXIMUM RESULTANT HORIZONTAL SHEAR FORCE = 73.60 KIPS
 MAXIMUM RESULTANT VERTICAL SHEAR FORCE = 434.18 KIPS
 TOWER WIDTH AT BOTTOM : 22.00 FEET
 LEG & TOWER BASE REACTIONS- 90 DEGREE WIND

| | CASE | | | |
|---|--------|--------|--------------|---------|
| | I- G 1 | I- G 2 | II- G 3 | SERVICE |
| HORIZONTAL LEG SHEAR (KIPS) | 40.04 | 39.85 | 22.88 | 11.39 |
| LEG DOWNWARD FORCE (KIPS) | 446.16 | 442.99 | 279.71 | 129.49 |
| LEG UPWARD FORCE (KIPS) | 418.11 | 421.80 | -9.74 | 105.96 |
| TOWER OVERTURNING MOM. (FT-KIPS) | 8246 | 8246 | 3237 | 2258 |
| TOWER HORIZONTAL SHEAR (KIPS) | 73.60 | 73.60 | 29.43 | 20.13 |
| TOWER VERTICAL SHEAR (KIPS) | 42.08 | 31.78 | 434.18 | 35.29 |
| TOWER HORIZONTAL SHEAR FOR THE SEISMIC CASE (KIPS): | | | 0.00 | |
| TOTAL STRUCTURE DEAD WEIGHT | | | = 26567 LBS. | |

* WIND DIRECTION IS THE DIRECTION TOWARD WHICH THE WIND IS BLOWING.
 IT IS MEASURED FROM THE +X AXIS, WHICH IS PARALLEL TO THE FACE OF THE
 STRUCTURE THAT CONTAINS LEGS 1 AND 2. LEG 3 IS ON THE Y AXIS (AT 90 DEG.).

CODE-RELATED DATA FOR
EIA - G

COEFFICIENTS AND EXPONENTS, IN ORDER, FITTING THE EQUATION
 $C2 * B^E2 + C1 * B^E1 + C0 * B^E0$
 FORCE COEFFICIENT: 3.400 -4.700 3.400 2.000 1.000 0.000
 RND. REDUC. FCTR.-SUBCRITICAL -0.140 0.860 -0.240 1.000 2.000 3.000
 THE ABOVE + CONSTANT 0.570
 RND. REDUC. FCTR.-CRITICAL 0.260 0.970 -0.063 1.000 2.000 3.000
 THE ABOVE + CONSTANT 0.360

In the above, B is Solidity Ratio.

| MAXIMUM CONNECTION CSR VALUES | | | | | |
|-------------------------------|-------------|----------|------------|------------|-----------|
| SECTION\ | MEMBER TYPE | DIAGONAL | HORIZONTAL | WIND BRACE | REDUNDANT |
| 1 | | 0.641 | 0.000 | 0.000 | 0.350 |
| 2 | | 0.770 | 0.000 | 0.000 | 0.000 |
| 3 | | 0.670 | 0.000 | 0.000 | 0.000 |
| 4 | | 0.868 | 0.000 | 0.000 | 0.000 |
| 5 | | 0.596 | 0.000 | 0.000 | 0.000 |
| 6 | | 0.819 | 0.000 | 0.000 | 0.000 |
| 7 | | 0.869 | 0.000 | 0.000 | 0.000 |
| 8 | | 0.933 | 0.000 | 0.000 | 0.000 |
| 9 | | 0.998 | 0.000 | 0.000 | 0.000 |
| 10 | | 0.471 | 0.000 | 0.000 | 0.000 |

ANCHOR BOLT CLUSTER CALCULATIONS

NUMBER OF BOLTS = 6
ECCENTRIC MOMENT ARM = 0.00
BOLT TENSILE STRESS = 75.
BOLT DIAMETER = 1.750
BOLT CIRCLE = 15.94

CALCULATED STRESS / ALLOWABLE 0.723

| SECTION | CHECK OF REDUNDANT MEMBERS | | CSR |
|---------|----------------------------|-------------------------|------|
| | REDUN. AXIAL
STRENGTH | RQD. RESISTANCE
LOAD | |
| 1 | 17.885 | 0.416 | 0.02 |

DETAILED TOWER POINT LOAD DATA

NO ICE EPA AND WEIGHT DATA:

| Description | Ka | ANTENNA/MOUNT | | PIPE MOUNT | | TOTAL
(EPA)a | ICE
Thick. | WIND
Angle |
|--------------------------|------|---------------|--------|------------|--------|-----------------|---------------|---------------|
| | | (EPA)n | (EPA)t | (EPA)n | (EPA)t | | | |
| Solar Panel (Assume 50 s | 1.00 | 50.00 | 50.00 | 0.00 | 0.00 | 50.00 | 0.00 | 0 |
| BCD-80010 | 1.00 | 2.95 | 2.95 | 0.58 | 0.58 | 3.18 | 0.00 | 2 |
| 6' HIGH PERFORMANCE | 1.00 | 32.19 | 32.19 | 1.88 | 1.88 | 34.08 | 0.00 | 0 |
| 6' HIGH PERFORMANCE | 1.00 | 32.19 | 32.19 | 1.88 | 1.88 | 34.08 | 0.00 | 0 |
| Cross Arm, 10' Double, N | 0.80 | 6.22 | 2.14 | 0.00 | 0.00 | 3.34 | 0.00 | 2 |

ICE EPA AND WEIGHT DATA:

| Description | Ka | ANTENNA/MOUNT | | PIPE MOUNT | | TOTAL
(EPA)a | ICE
Thick. | WIND
Angle |
|--------------------------|------|---------------|--------|------------|--------|-----------------|---------------|---------------|
| | | (EPA)n | (EPA)t | (EPA)n | (EPA)t | | | |
| Solar Panel (Assume 50 s | 1.00 | 60.00 | 60.00 | 0.00 | 0.00 | 60.00 | 5.31 | 0 |
| BCD-80010 | 1.00 | 10.93 | 10.93 | 2.30 | 2.30 | 11.90 | 5.33 | 50 |
| 6' HIGH PERFORMANCE | 1.00 | 42.43 | 42.43 | 4.88 | 4.88 | 47.31 | 5.33 | 0 |
| 6' HIGH PERFORMANCE | 1.00 | 42.41 | 42.41 | 4.88 | 4.88 | 47.29 | 5.32 | 0 |
| Cross Arm, 10' Double, N | 0.80 | 24.92 | 10.41 | 0.00 | 0.00 | 14.13 | 5.33 | 50 |

DETAILED TOWER LINEAR LOAD DATA

NO ICE EPA AND WEIGHT DATA:

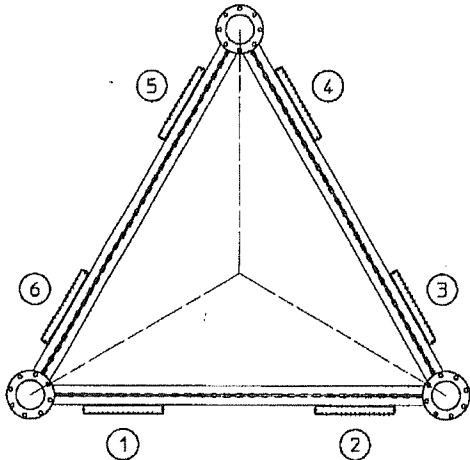
| Description | Ka | (EPA)n | (EPA)t | (EPA)a | ICE Thick. | WIND Angle |
|---|------|--------|--------|--------|------------|------------|
| [0-20] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [20-40] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [40-60] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [60-80] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [80-100] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [100-120] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [120-140] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [140-160] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [160-180] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [180-195] 900 Climbing Ladder | 0.60 | 0.18 | 0.67 | 0.40 | 0.00 | 90 |
| [0-20] Stack WG Ldr, 14-hole, Shielded | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [20-40] Stack WG Ldr, 14-hole, Shielded | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [40-60] Stack WG Ldr, 14-hole, Shielded | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [60-80] Stack WG Ldr, 14-hole, Shielded | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [80-100] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [100-120] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [120-140] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [140-160] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [160-180] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [180-195] Stack WG Ldr, 14-hole, Shield | 0.60 | 0.39 | 0.58 | 0.35 | 0.00 | 90 |
| [0-20] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [20-40] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [40-60] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [60-80] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [80-100] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [100-120] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [120-140] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [140-160] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [160-180] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 1 |
| [180-195] 1.625" Coax | 0.60 | 0.20 | 0.20 | 0.12 | 0.00 | 0 |
| [0-20] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [20-40] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [40-60] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [60-80] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [80-100] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [100-120] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [120-140] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [140-160] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [160-180] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [180-190] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [0-20] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [20-40] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [40-60] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [60-80] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [80-100] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [100-120] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [120-140] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [140-160] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |
| [160-180] EW63 | 0.60 | 0.16 | 0.16 | 0.10 | 0.00 | 0 |

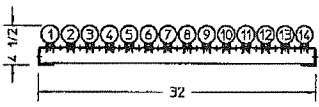
ICE EPA AND WEIGHT DATA:

| Description | Ka | (EPA)n | (EPA)t | (EPA)a | ICE Thick. | WIND Angle |
|-------------|----|--------|--------|--------|------------|------------|
|-------------|----|--------|--------|--------|------------|------------|

| ===== | ===== | ===== | ===== | ===== | ===== | ===== |
|---|-------|-------|-------|-------|-------|-------|
| [0-20] 900 Climbing Ladder | 0.60 | 2.16 | 2.30 | 1.38 | 4.35 | 90 |
| [20-40] 900 Climbing Ladder | 0.60 | 2.29 | 2.39 | 1.43 | 4.79 | 90 |
| [40-60] 900 Climbing Ladder | 0.60 | 2.34 | 2.43 | 1.46 | 4.99 | 90 |
| [60-80] 900 Climbing Ladder | 0.60 | 2.35 | 2.45 | 1.47 | 5.10 | 90 |
| [80-100] 900 Climbing Ladder | 0.60 | 2.36 | 2.47 | 1.48 | 5.18 | 90 |
| [100-120] 900 Climbing Ladder | 0.60 | 2.37 | 2.48 | 1.49 | 5.23 | 90 |
| [120-140] 900 Climbing Ladder | 0.60 | 2.38 | 2.48 | 1.49 | 5.27 | 90 |
| [140-160] 900 Climbing Ladder | 0.60 | 2.38 | 2.49 | 1.49 | 5.29 | 90 |
| [160-180] 900 Climbing Ladder | 0.60 | 2.38 | 2.49 | 1.50 | 5.31 | 90 |
| [180-195] 900 Climbing Ladder | 0.60 | 2.39 | 2.49 | 1.50 | 5.32 | 90 |
| [0-20] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.31 | 2.24 | 1.34 | 4.35 | 90 |
| [20-40] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.37 | 2.33 | 1.40 | 4.79 | 90 |
| [40-60] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.39 | 2.37 | 1.42 | 4.99 | 90 |
| [60-80] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.40 | 2.39 | 1.43 | 5.10 | 90 |
| [80-100] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.41 | 2.41 | 1.44 | 5.18 | 90 |
| [100-120] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.41 | 2.42 | 1.45 | 5.23 | 90 |
| [120-140] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.42 | 2.42 | 1.45 | 5.27 | 90 |
| [140-160] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.42 | 2.43 | 1.46 | 5.29 | 90 |
| [160-180] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.42 | 2.43 | 1.46 | 5.31 | 90 |
| [180-195] Stack WG Ldr, 14-hole, Shielded | 0.60 | 1.42 | 2.43 | 1.46 | 5.32 | 90 |
| [0-20] 1.625" Coax | 0.60 | 1.07 | 1.07 | 0.64 | 4.35 | 0 |
| [20-40] 1.625" Coax | 0.60 | 1.16 | 1.16 | 0.70 | 4.79 | 0 |
| [40-60] 1.625" Coax | 0.60 | 1.20 | 1.20 | 0.72 | 4.99 | 0 |
| [60-80] 1.625" Coax | 0.60 | 1.22 | 1.22 | 0.73 | 5.10 | 0 |
| [80-100] 1.625" Coax | 0.60 | 1.24 | 1.24 | 0.74 | 5.18 | 0 |
| [100-120] 1.625" Coax | 0.60 | 1.25 | 1.25 | 0.75 | 5.23 | 0 |
| [120-140] 1.625" Coax | 0.60 | 1.25 | 1.25 | 0.75 | 5.27 | 0 |
| [140-160] 1.625" Coax | 0.60 | 1.26 | 1.26 | 0.76 | 5.29 | 0 |
| [160-180] 1.625" Coax | 0.60 | 1.26 | 1.26 | 0.76 | 5.31 | 0 |
| [180-195] 1.625" Coax | 0.60 | 1.26 | 1.26 | 0.76 | 5.32 | 0 |
| [0-20] EW63 | 0.60 | 1.03 | 1.03 | 0.62 | 4.35 | 0 |
| [20-40] EW63 | 0.60 | 1.12 | 1.12 | 0.67 | 4.79 | 0 |
| [40-60] EW63 | 0.60 | 1.16 | 1.16 | 0.69 | 4.99 | 0 |
| [60-80] EW63 | 0.60 | 1.18 | 1.18 | 0.71 | 5.10 | 0 |
| [80-100] EW63 | 0.60 | 1.20 | 1.20 | 0.72 | 5.18 | 0 |
| [100-120] EW63 | 0.60 | 1.21 | 1.21 | 0.72 | 5.23 | 0 |
| [120-140] EW63 | 0.60 | 1.21 | 1.21 | 0.73 | 5.27 | 0 |
| [140-160] EW63 | 0.60 | 1.22 | 1.22 | 0.73 | 5.29 | 0 |
| [160-180] EW63 | 0.60 | 1.22 | 1.22 | 0.73 | 5.31 | 0 |
| [180-190] EW63 | 0.60 | 1.22 | 1.22 | 0.73 | 5.32 | 0 |
| [0-20] EW63 | 0.60 | 1.03 | 1.03 | 0.62 | 4.35 | 0 |
| [20-40] EW63 | 0.60 | 1.12 | 1.12 | 0.67 | 4.79 | 0 |
| [40-60] EW63 | 0.60 | 1.16 | 1.16 | 0.69 | 4.99 | 0 |
| [60-80] EW63 | 0.60 | 1.18 | 1.18 | 0.71 | 5.10 | 0 |
| [80-100] EW63 | 0.60 | 1.20 | 1.20 | 0.72 | 5.18 | 0 |
| [100-120] EW63 | 0.60 | 1.21 | 1.21 | 0.72 | 5.23 | 0 |
| [120-140] EW63 | 0.60 | 1.21 | 1.21 | 0.73 | 5.27 | 0 |
| [140-160] EW63 | 0.60 | 1.22 | 1.22 | 0.73 | 5.29 | 0 |
| [160-180] EW63 | 0.60 | 1.22 | 1.22 | 0.73 | 5.31 | 0 |

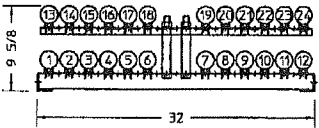
| REV | DESCRIPTION | DATE | BY |
|-----|--|---------|--------|
| A | ADDED COAX TO VACANT W/G LADDER HOLES. | 20DEC12 | PDC MF |



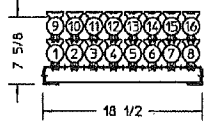


☒ 14-HOLE LADDER
AT LOCATIONS: 1

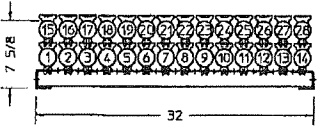
POSSIBLE COAX LADDER POSITIONS
WAVEGUIDE FROM MICROWAVE ANTENNAS MAY BE ATTACHED USING OPEN HOLES IN LADDER OR VIA LEG CLAMP BRACKETS DOWN TOWER LEGS.



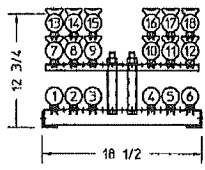
☐ 14-HOLE LADDER
W/ OPTIONAL STACK KIT
AT LOCATIONS: _____



☐ 8-HOLE LADDER
W/ SNAPSTACK HANGERS
AT LOCATIONS: _____



☐ 14-HOLE LADDER
W/ SNAPSTACK HANGERS
AT LOCATIONS: _____



☐ 8-HOLE LADDER
W/ OPTIONAL STACK KIT & SNAPSTACK HANGERS
AT LOCATIONS: _____

| | | | |
|---|---|---|------------------------------|
| valmont
STRUCTURES
1-877-467-4763 Plymouth, IN
1-800-547-2151 Salem, OR | 900 SERIES
COAX LADDER
CONFIGURATION
OPTIONS | BY PDC CK MF
DATE 20MAR07
S.O. 380927 | DWG. A-123417
SHT. 1 OF 1 |
|---|---|---|------------------------------|



Anchor Bolt Layout Drawing for 3-Leg Towers - (6) Bolts per Leg

Date: 10-Nov-17
 SO#: 380927-1
 Customer: City of Portland
 Site: Camp Creek, OR
 Twr. Ht.: 195 ft. (59.436 M)

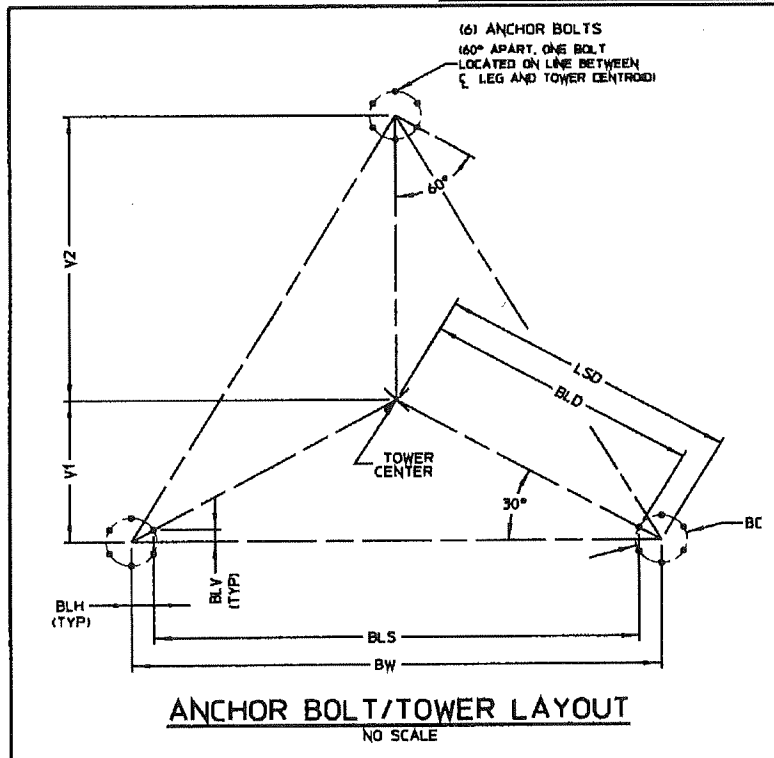
By: JG
 Check: MF

INPUT DIMENSIONS

| | |
|-------------------|-------------|
| Base Wd (BW): | 22 ft. |
| Bolt Circle (BC): | 15.9375 in. |
| AB Dia: | 1.75 in. |
| AB Length: | 60 in. |
| AB Projection: | 9.5 in. |
| AB Cluster P/N: | 31-95029 |

TOWER REACTIONS

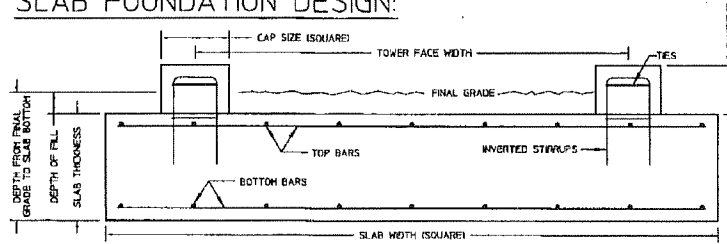
| | |
|---------------------|---------------|
| Max Uplift per Leg: | 422 kips |
| Max Dnload per Leg: | 446 kips |
| Max Shear per Leg: | 40 kips |
| Overturning moment: | 8246 ft.-kips |
| Base shear: | 73.6 kips |
| Tower weight (1.0D) | 35.3 kips |
| Tower weight w/ ice | 434 kips |



OUTPUT DIMENSIONS:

| | FT-INCH | METRIC |
|------|--------------|----------|
| BW: | 22'-0" | 6.706 M |
| BLH: | 0'-6.875" | 175.3 mm |
| BLV: | 0'-4" | 101.2 mm |
| BLS: | 20'-10.1875" | 6.355 M |
| BC: | 1'-3.9375" | 404.8 mm |

| | FT-INCH | METRIC | |
|------|-------------|---------|------------|
| LSD: | 12'-8.4375" | 3.871 M | (+/- 1/8") |
| BLD: | 12'-0.4375" | 3.669 M | (+/- 1/8") |
| V1: | 6'-4.1875" | 1.936 M | |
| V2: | 12'-8.4375" | 3.871 M | |

SLAB FOUNDATION DESIGN:**DIMENSIONS:**

Slab width = 35.0 feet
 Slab thickness = 36.0 inches
 Cap height = 12.0 inches
 Cap size = 36.0 inches
 Tower face width = 22.0 feet
 Number of tower legs = 3
 Depth of fill = 0.000 inches
 Depth from final grade = 0.000 feet to slab bottom

MATERIAL PARAMETERS:

Allowable net soil bearing pressure = 6.0 ksf
 Ultimate net soil bearing pressure = 12.0 ksf
 Concrete compressive strength = 4500 psi
 Rebar yield strength = 60000 psi
 Density of concrete = 0.150 kcf
 Density of soil = 0.100 kcf
 Density of fill = 0.000 kcf
 Allowable stress increase factor = 1.00

TOWER BASE REACTIONS:

Overturning moment = 8246 ft-kips
 Total tower shear = 73.6 kips
 Maximum leg shear = 40.0 kips
 Tower weight = 35.3 kips

NOTES:

1. If 'depth of fill' or 'depth from final grade to slab bottom' are not known, they are conservatively assumed to be zero.
2. This design methodology assumes a rigid slab (Ref. ACI 336.2 R-88).
3. The slab may be raised above the ground and the caps eliminated unless noted otherwise.

OUTPUT SUMMARY:

Stability ratio = 1.09 OK
 Net soil bearing pressure = 2.44 ksf OK
 Volume of concrete = 137.1 cu. yds.
 Slab two-way shear: OK
 Slab beam shear: OK

REINFORCEMENT REQUIREMENTS: (ASTM A615 Gr. 60)

Minimum reinforcement areas: Top bars = 13.5 sq. inches, Bottom bars = 32.4 sq. inches.
 Top bars: Use 31-#6 (each way) @ 13.80 inch spacing, length = 34.50 ft., total weight = 3213 lbs.
 Bottom bars: Use 33-#9 (each way) @ 12.94 inch spacing, length = 34.50 ft., total weight = 7742 lbs.

SHEET 1 OF 1
 DWG. NO. B-146929

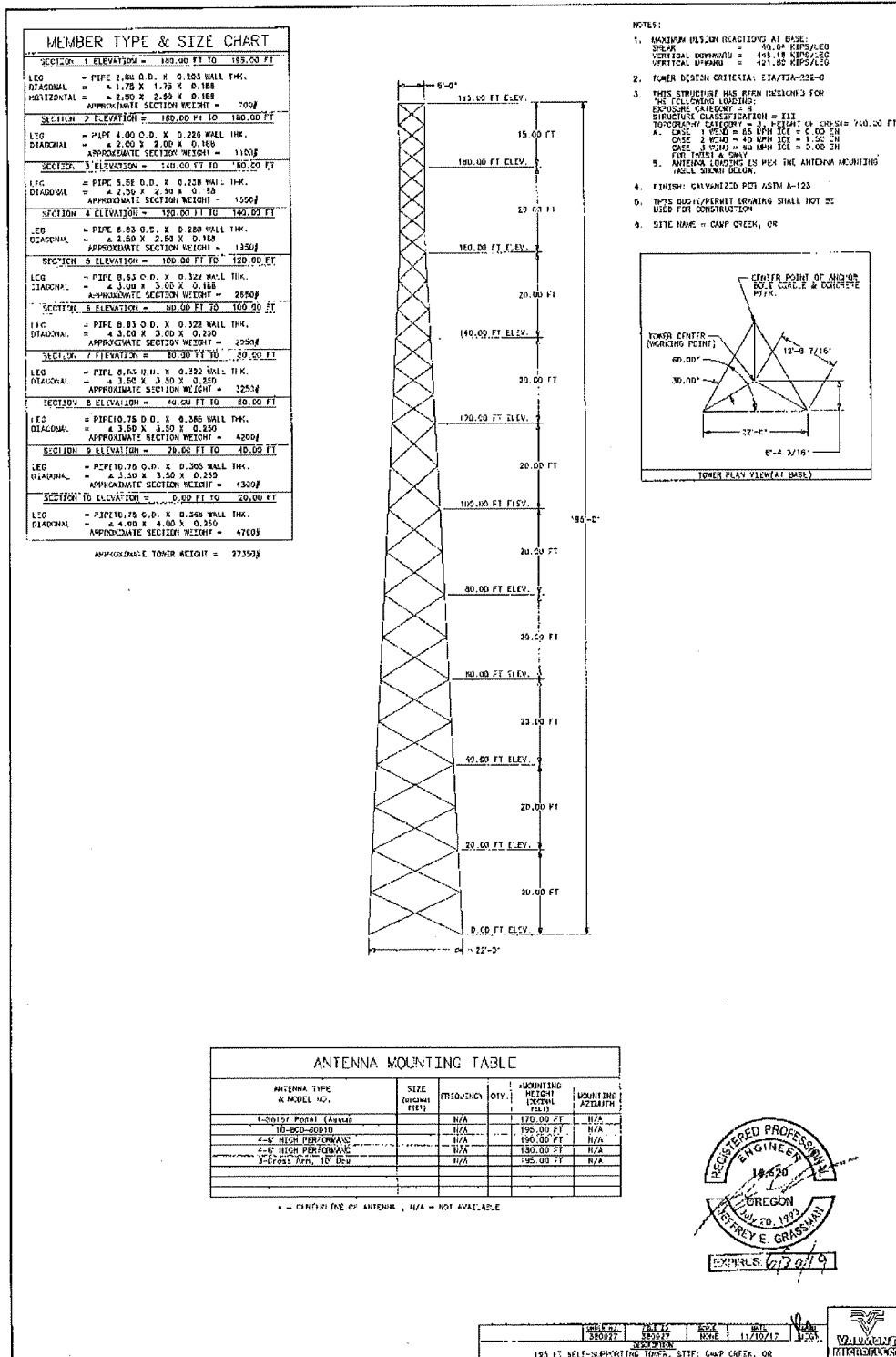
STRESS ANALYSIS
 CITY OF PORTLAND
 SITE: CAMP CREEK, OR

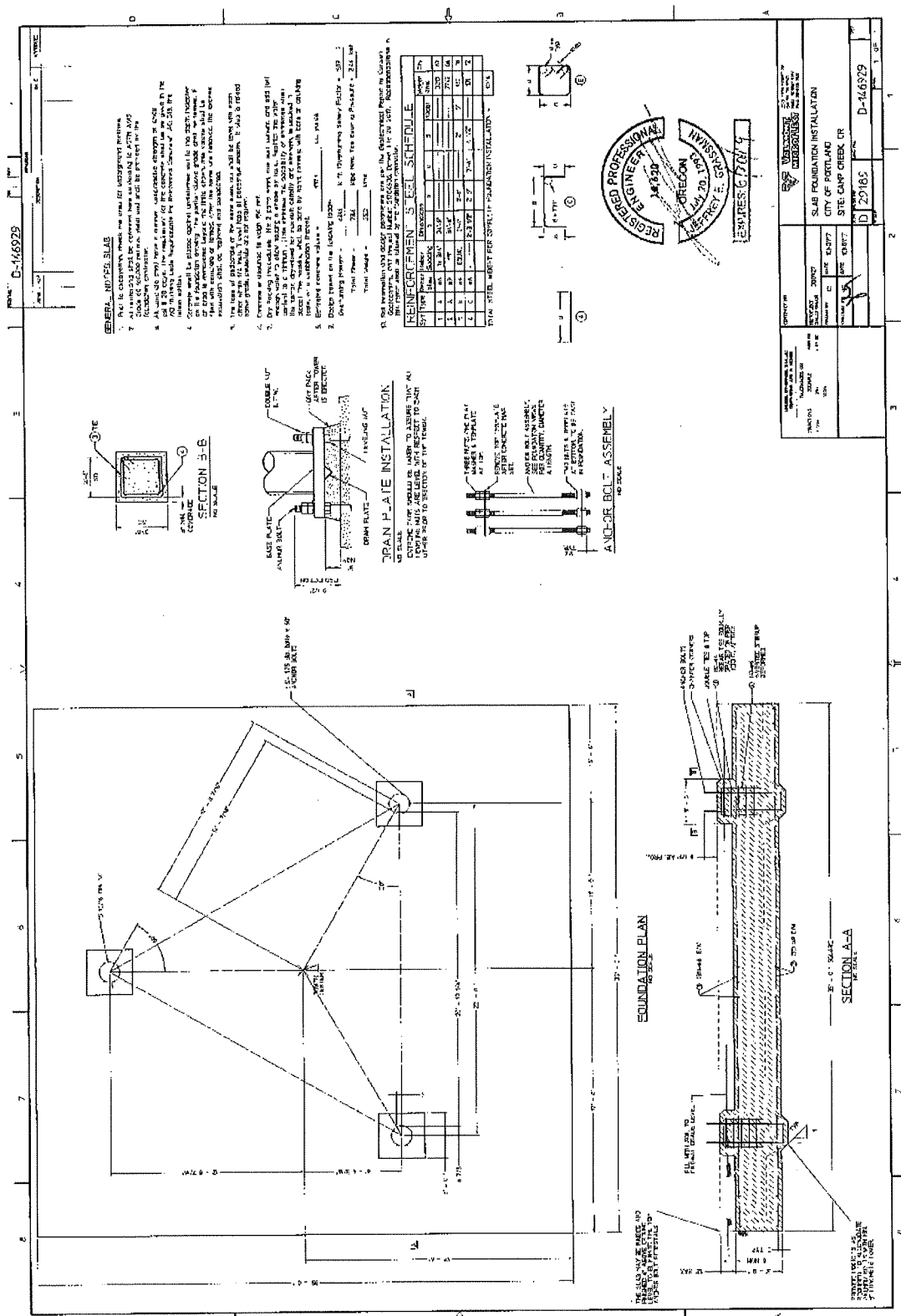
valmont
MICROFLECT

3575 25TH STREET SE, SALEM, OR 97302
 MAIN 503/363-5267 FAX 503/363-2049

BY JG
 CK JAF
 DATE 10 NOV 17
 S.O. 360927

REVISIONS
 REV. DESCRIPTION DATE BY/CK





APPENDIX G – Emissions Letter/Licensing Information/Microwave Dish Information

Emissions Letter



March 21, 2018

To: The City of Portland, Bureau of Emergency Communications

Subject: Proposed Microwave Radio Facility:
City of Portland
45 27 56.6N, 122 5 12.8 E

Dear Planner,

The proposed facility noted above will operate at the frequencies listed in *Table 1* below, as expected to be licensed by the Federal Communications Commission. The prediction for worst-case general population NIER exposure at 1.5 meters (4.92126 feet) above ground-level is well below the limits defined in the Multnomah County code MC 35.6125, and is shown in the blue section of *Table 1* below.

Table 1: Non-ionizing electromagnetic radiation (NIER) study results given operator-provided data

| Data Provided by Operator | | | | | Calculation Results From Provided Data | | |
|-----------------------------|-------------------------------|--------------------|-----------|-------------------------------|--|--|-------------------|
| Path | Transmit Frequency Band (MHz) | COR Height (ft-in) | ERP (dBm) | Total Transmit Tilt (degrees) | Expected Max. NIER ($\mu\text{W}/\text{cm}^2$) | NIER MPE ($\mu\text{W}/\text{cm}^2$) | Percentage of MPE |
| Camp Creek to Lookout Point | Microwave: 11 000 | 190'-0" | 66.9 | +4.55 (approx.) | 0.007 | 1,000 | 0.0007% |
| Camp Creek to Bear Creek | Microwave: 11 000 | 190'-0" | 66.9 | -5.05 (approx.) | 0.437 | 1,000 | 0.0437% |
| Camp Creek to Headworks | Microwave: 11 000 | 190'-0" | 66.9 | -2.41 (approx.) | 0.195 | 1,000 | 0.0195% |

Abbreviations: COR: Center of radiation; ERP: Equivalent radiated power; MPE: Maximum permissible exposure; NIER: Non-ionizing electromagnetic radiation
Notes: "Total Transmit Tilt" refers to the sum of the mechanical and electrical tilt of the transmitting antenna. Positive (+) indicates an uptilt, while negative (-) indicates a downtilt

Installation Standards: All transmitting antennas shall be installed in a manner as set forth by the manufacturer and by the Federal Communications Commission (FCC) *OET Bulletin 65* as meeting the current American National Standards Institute (ANSI) C95.1 standard and the Multnomah County MC 35.6125 standard for nonionizing electromagnetic radiation (NIER). This study is based on the transmitting antenna types mounted at the height, downtilt, and with ERP specified in *Table 1*.

I certify this information is true to the best of my knowledge.

Best regards,

E. Robin Smyth, P.E.
President

Proj: 3715



MAR 21 2018

EXPIRES

JUN 30 2018

Engineering Excellence Since 1980

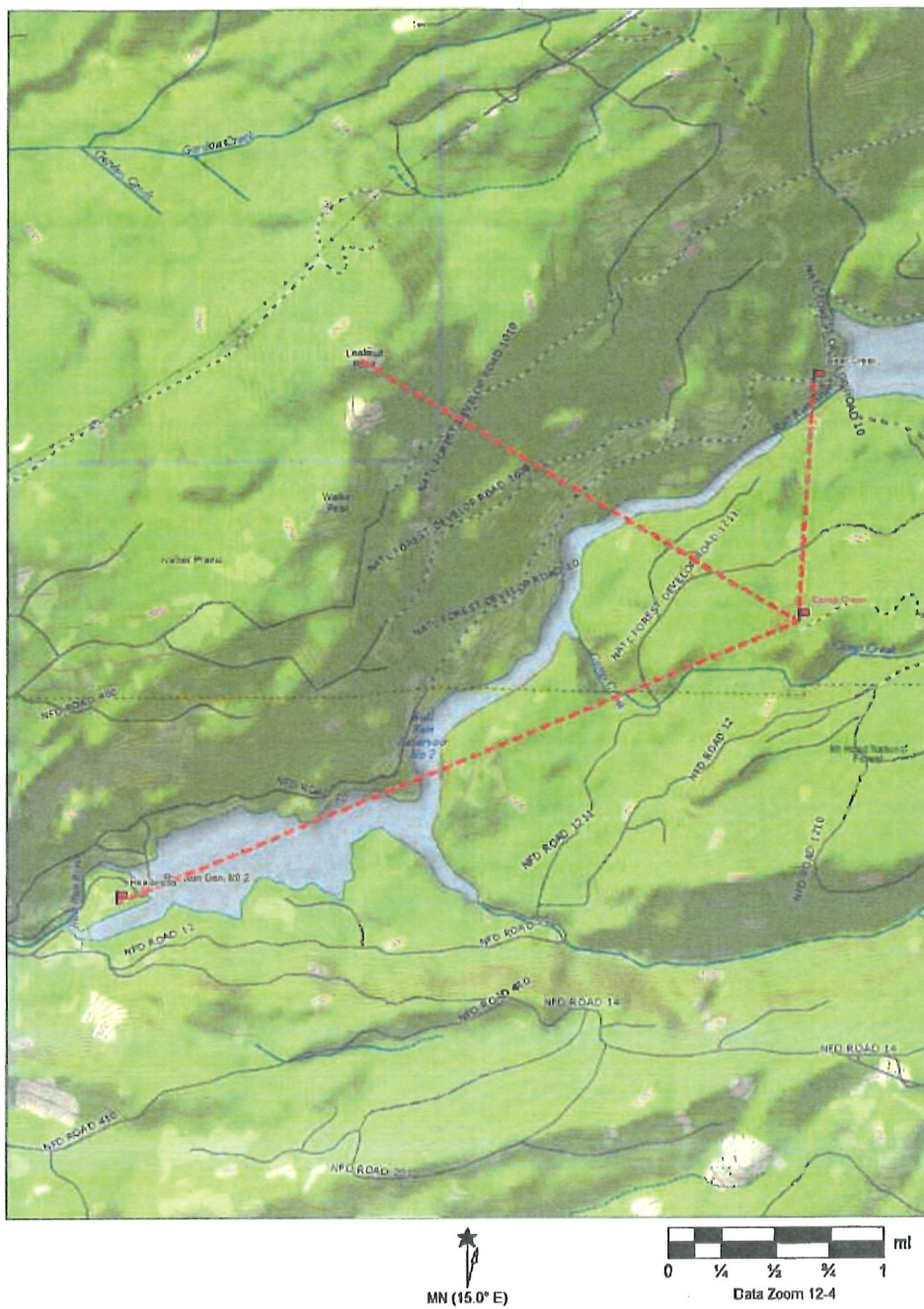
16111 S.E. 106th Ave, Suite 100, Clackamas, OR 97015-9162 · (503) 657-0424 · FAX (503) 657-0361 · On the Web at gpatelecom.com

Licensing Information

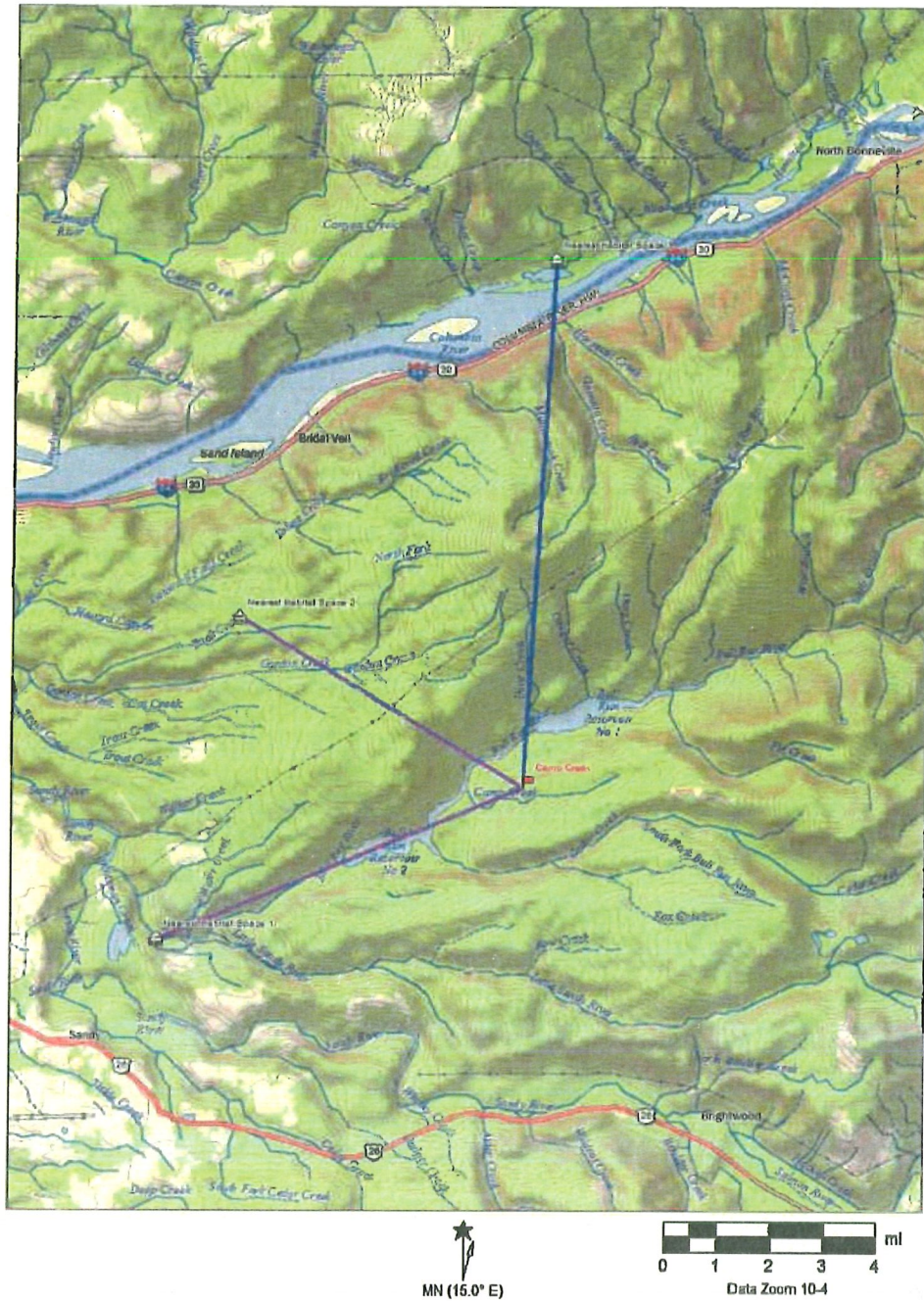
| | 35.6125(B)1-17 | Lookout to Camp Creek | Camp Creek to Headworks | Camp Creek to Bear Creek |
|----|---|---|---|--|
| 1 | Name and address of owner of transmitter and/or antenna | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 |
| 2 | Name and address of owner of property on which the transmitter and/or antenna is located | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 | Portland Water Bureau 1120
SW Fifth Ave, Suite 600
Portland, Oregon 97204 |
| 3 | Location of transmitter | Camp Creek, Portland Watershed | Camp Creek, Portland Watershed | Camp Creek, Portland Watershed |
| 4 | Location of antenna by geographic coordinates by either latitude and longitude or state plane | N45 27 56.6 W122 5 12.8
(USGS NAD 83) | N45 27 56.6 W122 5 12.8
(USGS NAD 83) | N45 27 56.6 W122 5 12.8
(USGS NAD 83) |
| 5 | Output frequency of transmitter | 11 GHz | 11 GHz | 11 GHz |
| 6 | Type of modulation and class of service | Modulation: 64QAM 16QAM CPQSK
Class of Service: MW | Modulation: 64QAM 16QAM CPQSK
Class of Service: MW | Modulation: 64QAM 16QAM CPQSK
Class of Service: MW |
| 7 | Power output of transmitter (average and peak) | Average Power: 20 dBm
Peak Power: 27 dBm | Average Power: 20 dBm
Peak Power: 27 dBm | Average Power: 20 dBm
Peak Power: 27 dBm |
| 8 | Power input to antenna | 20 dBm | 20 dBm | 20 dBm |
| 9 | Manufacturer, type, manufacturer's model number of antenna and copy of radiation pattern | Type: Parabolic Dish
CommScope-Andrew,
VHLPX6-11W
VHLP6-11W-6WH_A.PDF | Type: Parabolic Dish
CommScope-Andrew,
VHLPX6-11W
VHLP6-11W-6WH_A.PDF | Type: Parabolic Dish
CommScope-Andrew,
VHLPX6-11W
VHLP6-11W-6WH_A.PDF |
| 10 | Gain of antenna with respect to an isotropic radiator | 44.0 dBm midpoint gain | 44.0 dBm midpoint gain | 44.0 dBm midpoint gain |
| 11 | Polarization of radiation from antenna | Vertical, Horizontal | Vertical, Horizontal | Vertical, Horizontal |
| 12 | Height of antenna above ground | 190' | 190' | 190' |
| 13 | Horizontal and radial distance of antenna to nearest point on property line and to nearest habitat space regularly occupied by others than immediate family or employees of transmitter and/or antenna owner and/or operator | The Radial distance to the nearest habitat space is 6.2 miles. The horizontal distance is -404 feet. The space is shielded from the tower by surrounding hills. | The Radial distance to the nearest habitat space is 7.25 miles. The horizontal distance is -1313 feet. The space is shielded from the tower by surrounding hills. | The Radial distance to the nearest habitat space is 9.9 miles. The horizontal distance is -1625 feet. The space is shielded from the tower by surrounding hills. |
| 14 | Elevation above mean sea level of ground at the antenna location and the points specified in (B)(13). | 1613 | 1613 | 1613 |

| | | | | |
|----|--|---|---|---|
| 15 | <i>The call letters assigned to the source</i> | unknown, FCC application pending | unknown, FCC application pending | unknown, FCC application pending |
| 16 | <i>Date of installation of present transmitter, and date of installation of the associated antenna, date of installation of the structure, if any, on which the antenna is located. Any sources not so registered shall be regarded as a new source and any registered source with different essential technical characteristics than those of (B) (3) through (B) (13) above as a changed existing source.</i> | Anticipated installation in August - September 2018 | Anticipated installation in August - September 2018 | Anticipated installation in August - September 2018 |
| 17 | | | | |

Proposed Microwave Paths from Camp Creek Tower

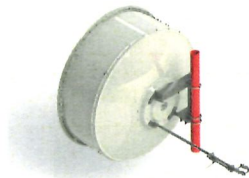


Nearest Habitable Space from the Proposed Camp Creek Tower



Microwave Dish Information

Product Specifications

COMMSCOPE®

VHL6-11W-6WH/A
1.8 m | 6 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 10.000–11.700 GHz, CPR90G, white antenna, flexible woven polymer gray radome without flash, standard pack—one-piece reflector

Product Classification

| | |
|--------------|-------------------|
| Brand | ValuLine® |
| Product Type | Microwave antenna |

General Specifications

| | |
|------------------------|---|
| Antenna Type | VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized |
| Diameter, nominal | 1.8 m 6 ft |
| Packing | Standard pack |
| Radome Color | Gray |
| Radome Material | Polymer |
| Reflector Construction | One-piece reflector |
| Antenna Input | CPR90G |
| Antenna Color | White |
| Antenna Type | VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized |
| Diameter, nominal | 1.8 m 6 ft |
| Flash Included | No |
| Polarization | Single |

see next exhibit

Electrical Specifications

| | |
|--|--|
| Operating Frequency Band | 10.000 – 11.700 GHz |
| Beamwidth, Horizontal | 1.0 ° |
| Beamwidth, Vertical | 1.0 ° |
| Cross Polarization Discrimination (XPD) | 30 dB |
| Electrical Compliance | Brazil Anatel Class 3 Canada SRSP 310.5 Canada SRSP 310.7 Part B ETSI 302 217 Class 3 US FCC Part 101A |
| Front-to-Back Ratio | 70 dB |
| Gain, Low Band | 43.2 dBi |
| Gain, Mid Band | 44.0 dBi |
| Gain, Top Band | 44.8 dBi |
| Operating Frequency Band | 10.000 – 11.700 GHz |
| Radiation Pattern Envelope Reference (RPE) | 7089B |
| Return Loss | 17.7 dB |
| VSWR | 1.30 |

Mechanical Specifications

| | |
|---------------------------|------|
| Fine Azimuth Adjustment | ±15° |
| Fine Elevation Adjustment | ±5° |

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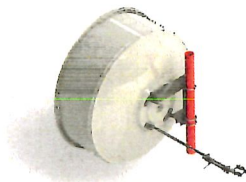
page 1 of 5
March 8, 2018

Appxi g

Microwave Dish Information

Product Specifications

COMMScope®



VHL6-11W-6WH/A

1.8 m | 6 ft ValuLine® High Performance Low Profile Antenna, single-polarized,
10.000–11.700 GHz, CPR90G, white antenna, flexible woven polymer gray radome
without flash, standard pack—one-piece reflector

RECEIVED
SEP 04 2019
BY:

Product Classification

| | |
|--------------|-------------------|
| Brand | ValuLine® |
| Product Type | Microwave antenna |

General Specifications

| | |
|------------------------|---|
| Antenna Type | VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized |
| Diameter, nominal | 1.8 m 6 ft |
| Packing | Standard pack |
| Radome Color | Gray |
| Radome Material | Polymer |
| Reflector Construction | One-piece reflector |
| Antenna Input | CPR90G |
| Antenna Color | White |
| Antenna Type | VHLP - ValuLine® High Performance Low Profile Antenna, single-polarized |
| Diameter, nominal | 1.8 m 6 ft |
| Flash Included | No |
| Polarization | Single |

Electrical Specifications

| | |
|--|--|
| Operating Frequency Band | 10.000 – 11.700 GHz |
| Beamwidth, Horizontal | 1.0 ° |
| Beamwidth, Vertical | 1.0 ° |
| Cross Polarization Discrimination (XPD) | 30 dB |
| Electrical Compliance | Brazil Anatel Class 3 Canada SRSP 310.5 Canada SRSP 310.7 Part B ETSI 302 217 Class 3 US FCC Part 101A |
| Front-to-Back Ratio | 70 dB |
| Gain, Low Band | 43.2 dBi |
| Gain, Mid Band | 44.0 dBi |
| Gain, Top Band | 44.8 dBi |
| Operating Frequency Band | 10.000 – 11.700 GHz |
| Radiation Pattern Envelope Reference (RPE) | 7089B |
| Return Loss | 17.7 dB |
| VSWR | 1.30 |

Mechanical Specifications

| | |
|---------------------------|------|
| Fine Azimuth Adjustment | ±15° |
| Fine Elevation Adjustment | ±5° |

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page 1 of 5
March 8, 2018

Product Specifications



VHLP6-11W6WH/A

| | |
|-------------------------------|-------------------------------|
| Mounting Pipe Diameter | 115 mm–120 mm 4.5 in–4.7 in |
| Net Weight | 86 kg 190 lb |
| Side Struts, Included | 1 |
| Side Struts, Optional | 1 inboard |
| Wind Velocity Operational | 180 km/h 112 mph |
| Wind Velocity Survival Rating | 250 km/h 155 mph |

Wind Forces At Wind Velocity Survival Rating

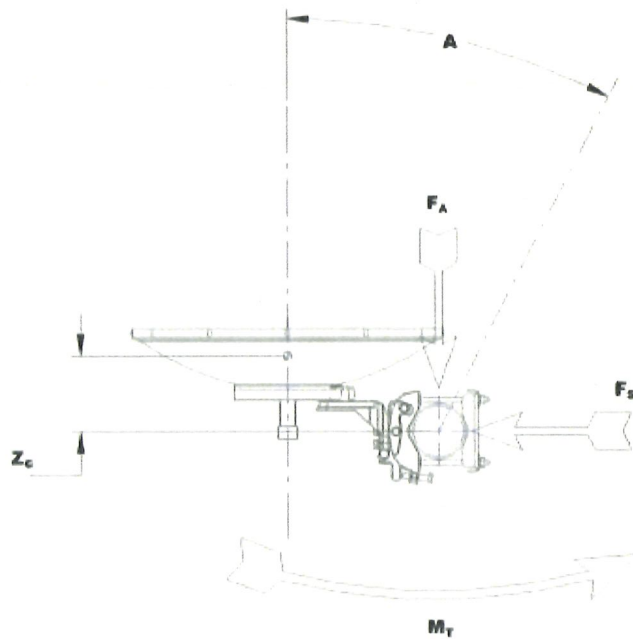
| | |
|---------------------------------------|--------------------|
| Angle α for MT Max | -120 ° |
| Axial Force (FA) | 10670 N 2399 lbf |
| Side Force (FS) | 5286 N 1188 lbf |
| Twisting Moment (MT) | 4752 N•m |
| Weight with 1/2 in (12 mm) Radial Ice | 234 kg 516 lb |
| Zcg with 1/2 in (12 mm) Radial Ice | 543 mm 21 in |
| Zcg without Ice | 363 mm 14 in |

Product Specifications

COMMScope®

VHLP6-11W6WH/A

Wind Forces At Wind Velocity Survival Rating Image



Packed Dimensions

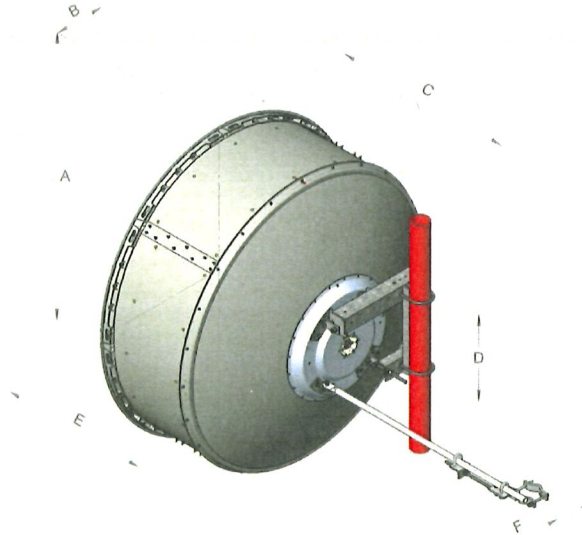
| | | | |
|------------------------------|--------------------|--|----------|
| Gross Weight, Packed Antenna | 127.0 kg | | 280.0 lb |
| Height | 211.0 cm | | 83.1 in |
| Length | 190.0 cm | | 74.8 in |
| Volume | 1.8 m ³ | | |
| Width | 45.0 cm | | 17.7 in |

Product Specifications

COMMScope®

VHIR6 11W6WH/A

Antenna Dimensions And Mounting Information



| Dimensions in inches (mm) | | | | | | |
|---------------------------|----------------|---------------|----------------|---------------|----------------|--------------|
| Antenna size, ft
(m) | A | B | C | D | E | F |
| 6
(1.8) | 74.8
(1899) | 13.4
(340) | 47.5
(1206) | 22.4
(570) | 39.4
(1001) | 6.9
(174) |

Regulatory Compliance/Certifications

| Agency | Classification |
|---------------|--|
| ISO 9001:2008 | Designed, manufactured and/or distributed under this quality management system |

* Footnotes

| | |
|---|---|
| Axial Force (FA) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Cross Polarization Discrimination (XPD) | The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam. |
| Front-to-Back Ratio | Denotes highest radiation relative to the main beam, at 180° ±40°, across |

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All specifications are subject to change without notice. See www.commscope.com for the most current information. Revised: October 25, 2017

page 4 of 5
March 8, 2018

Product Specifications

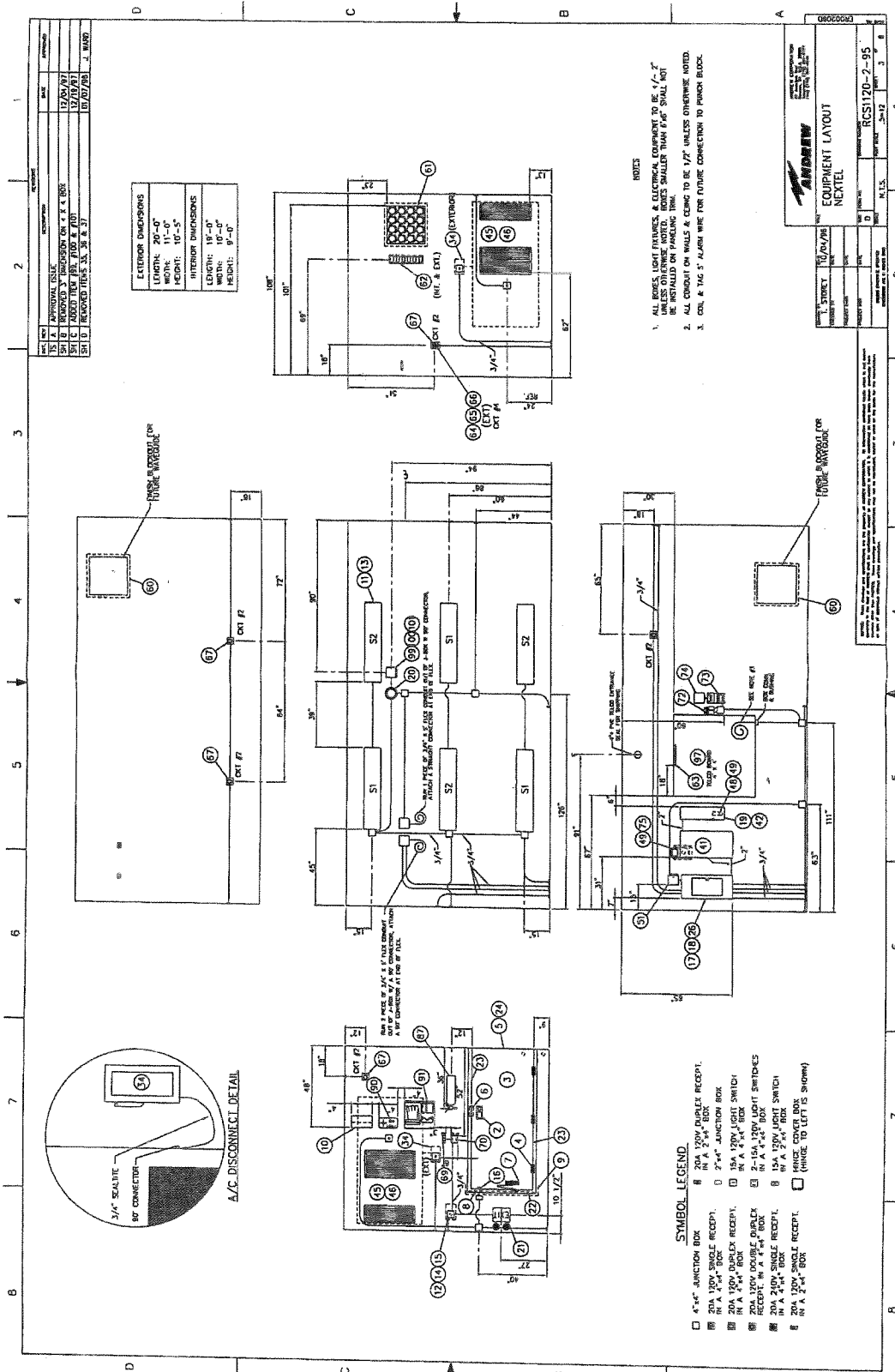
COMMScope®

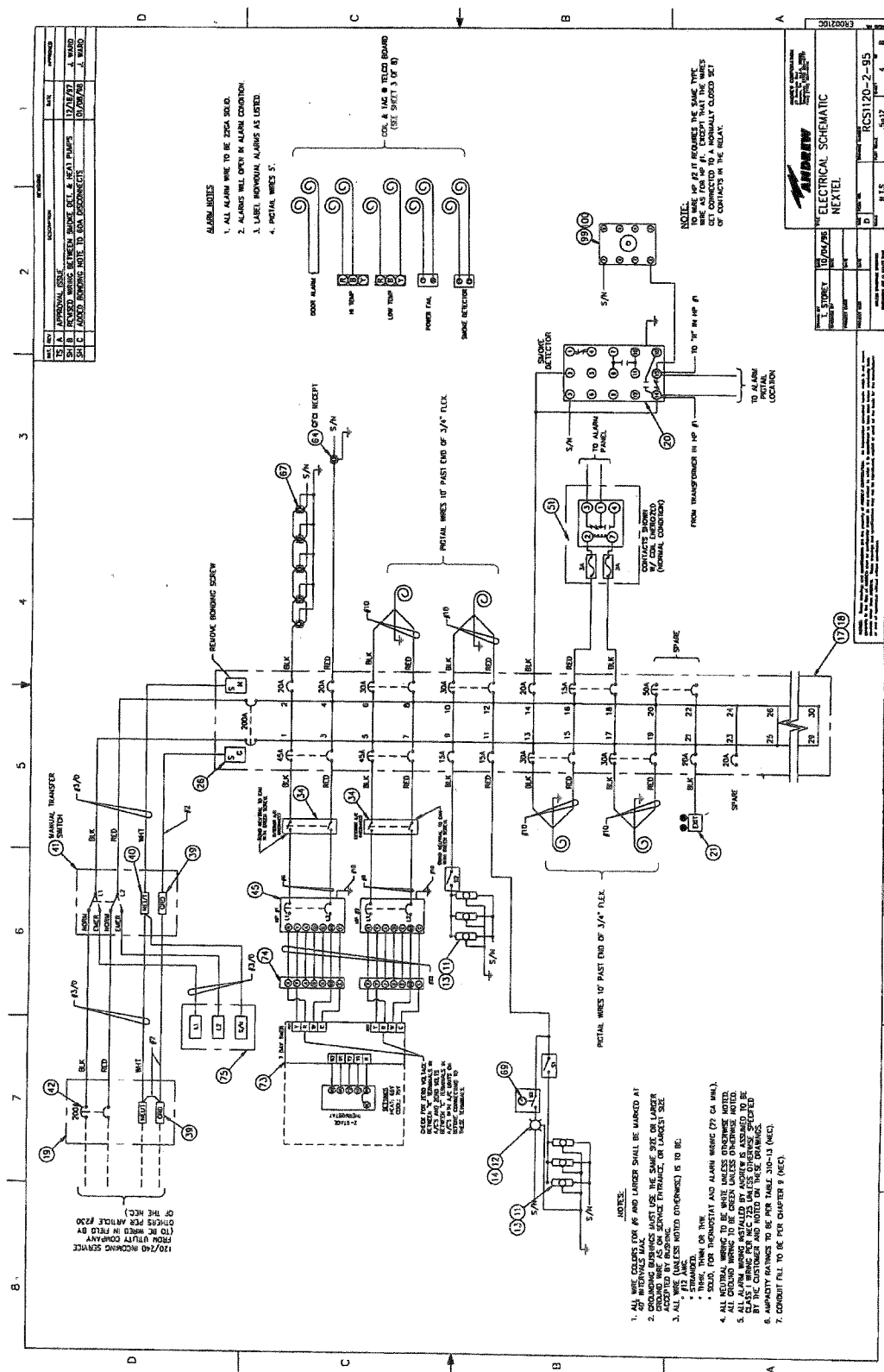
VHIP6-1TW6WH/A

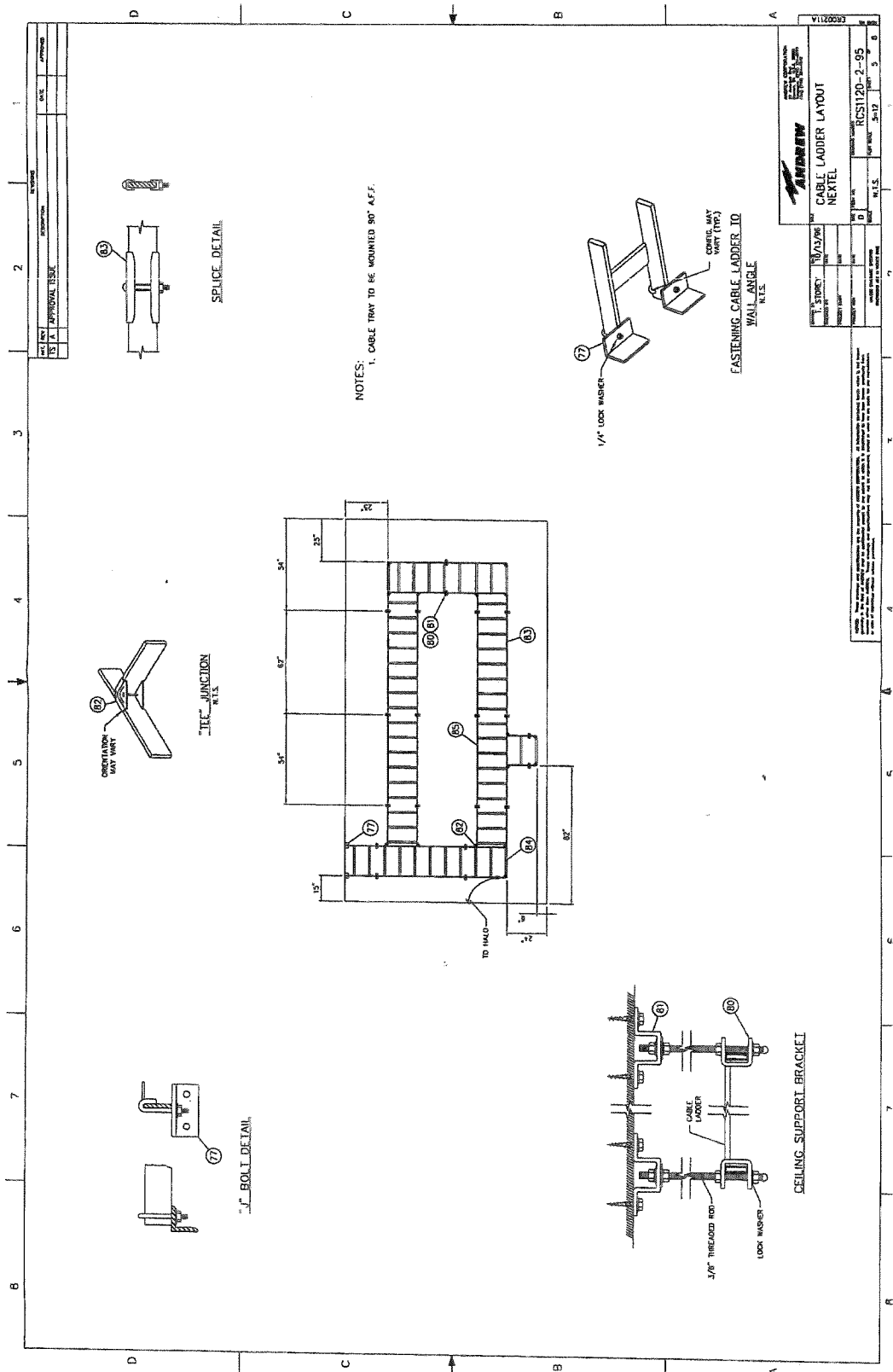
| | |
|--|---|
| | the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise. |
| Gain, Mid Band | For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns. |
| Operating Frequency Band | Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order. |
| Packing | Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options. |
| Radiation Pattern Envelope Reference (RPE) | Radiation patterns define an antenna's ability to discriminate against unwanted signals. Under still dry conditions, production antennas will not have any peak exceeding the current RPE by more than 3dB, maintaining an angular accuracy of +/-1° throughout |
| Return Loss | The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted. |
| Side Force (FS) | Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| Twisting Moment (MT) | Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe. |
| VSWR | Maximum; is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band. |
| Wind Velocity Operational | The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna. |
| Wind Velocity Survival Rating | The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice. |

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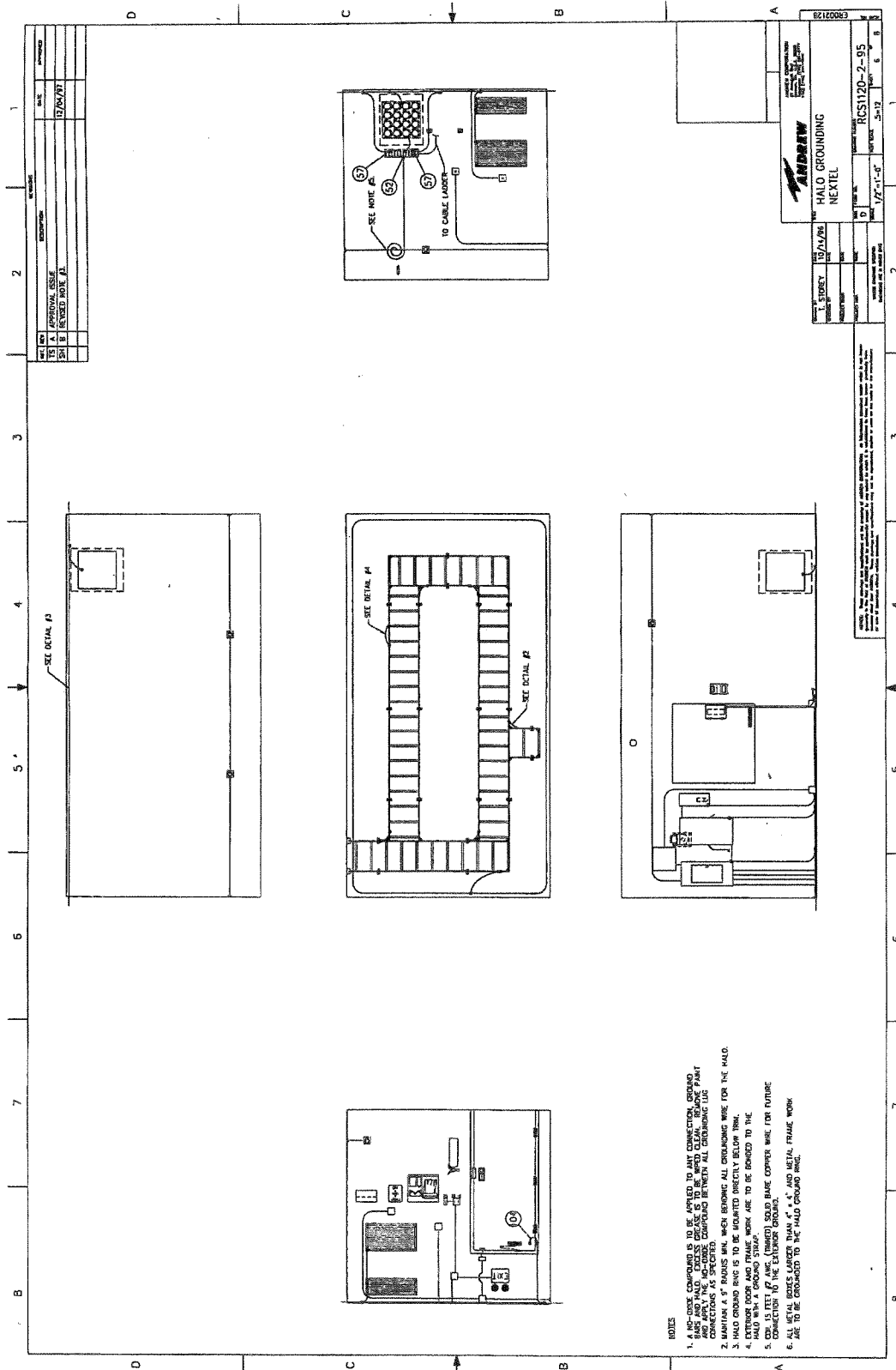
Page | 117

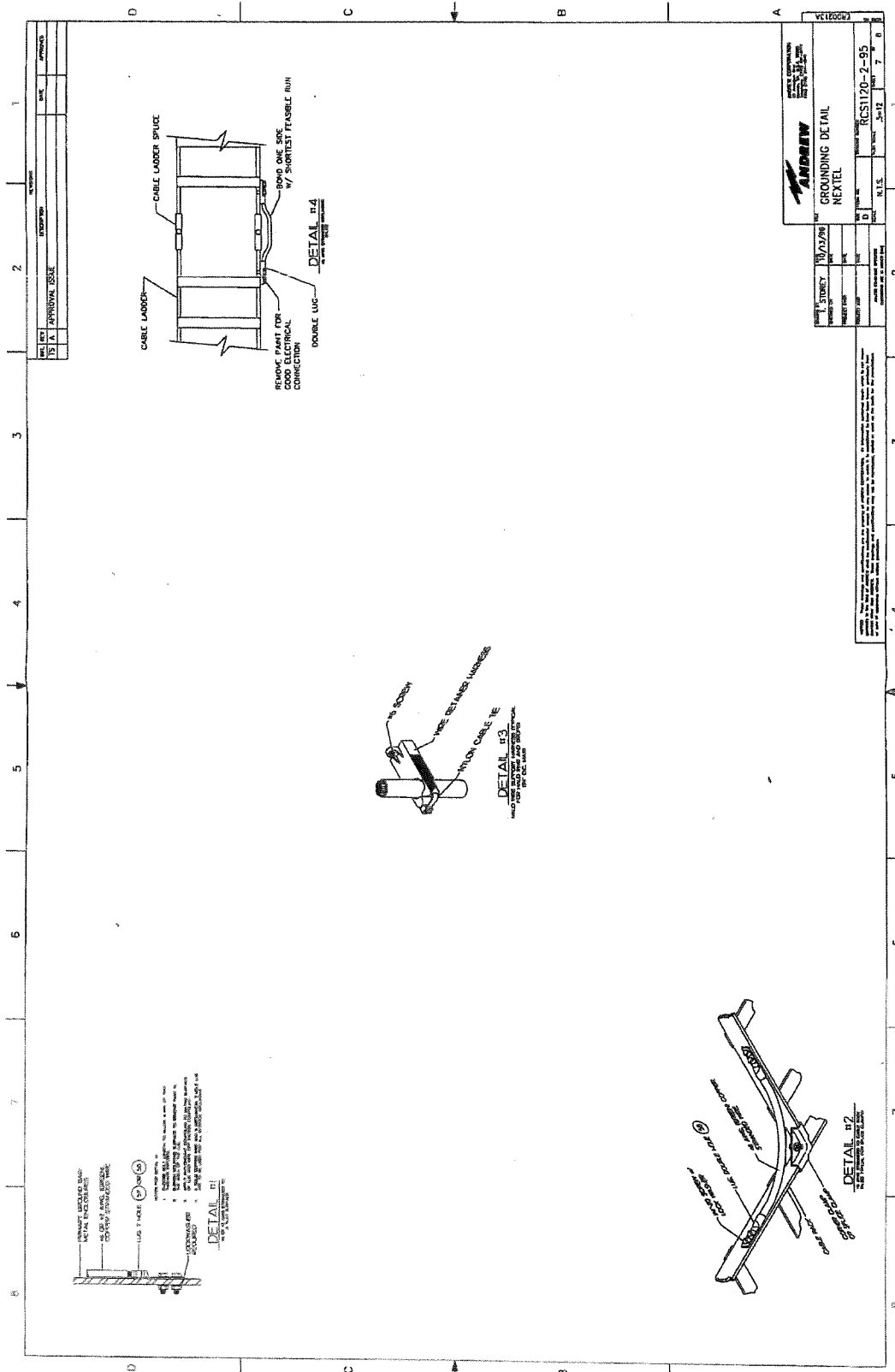




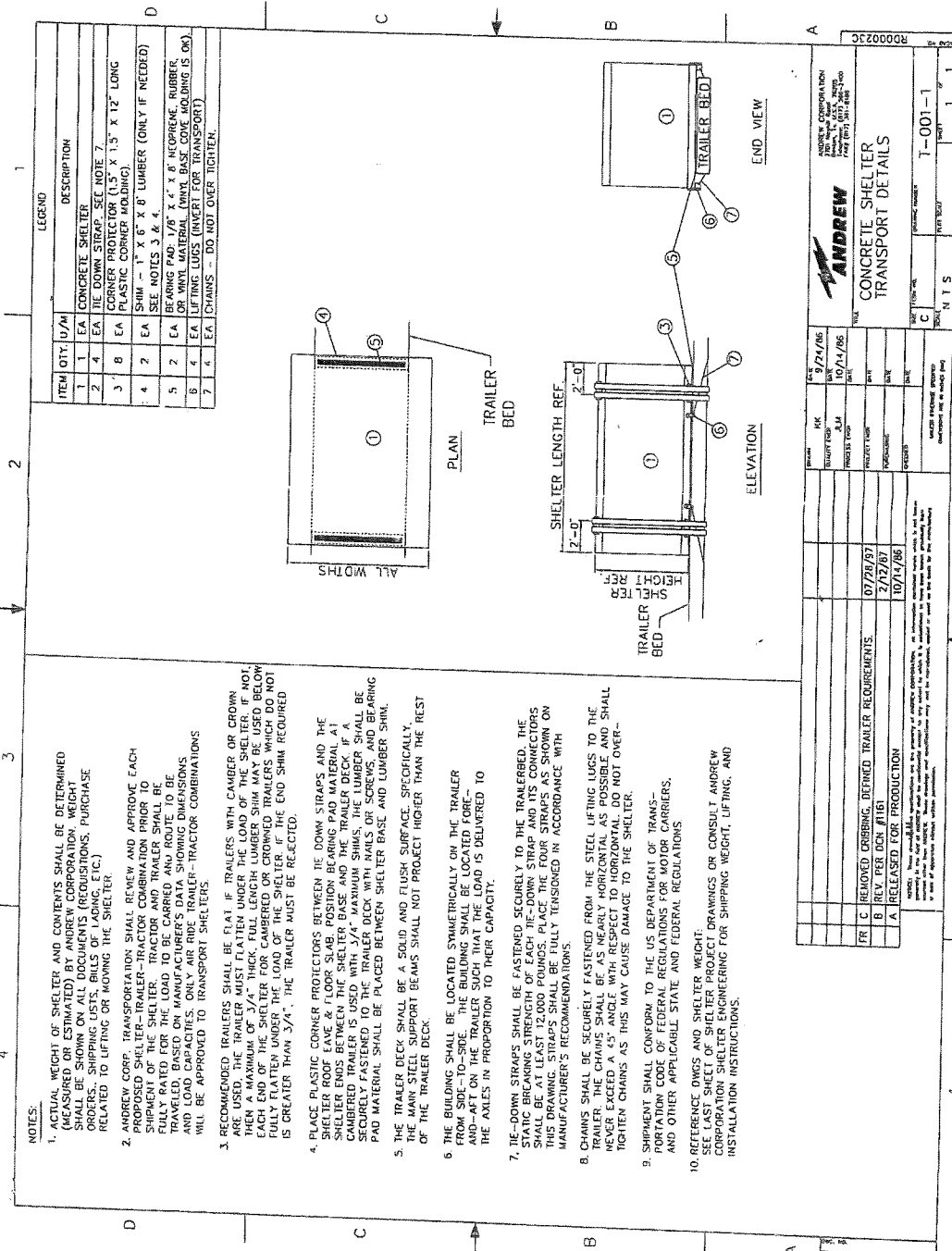


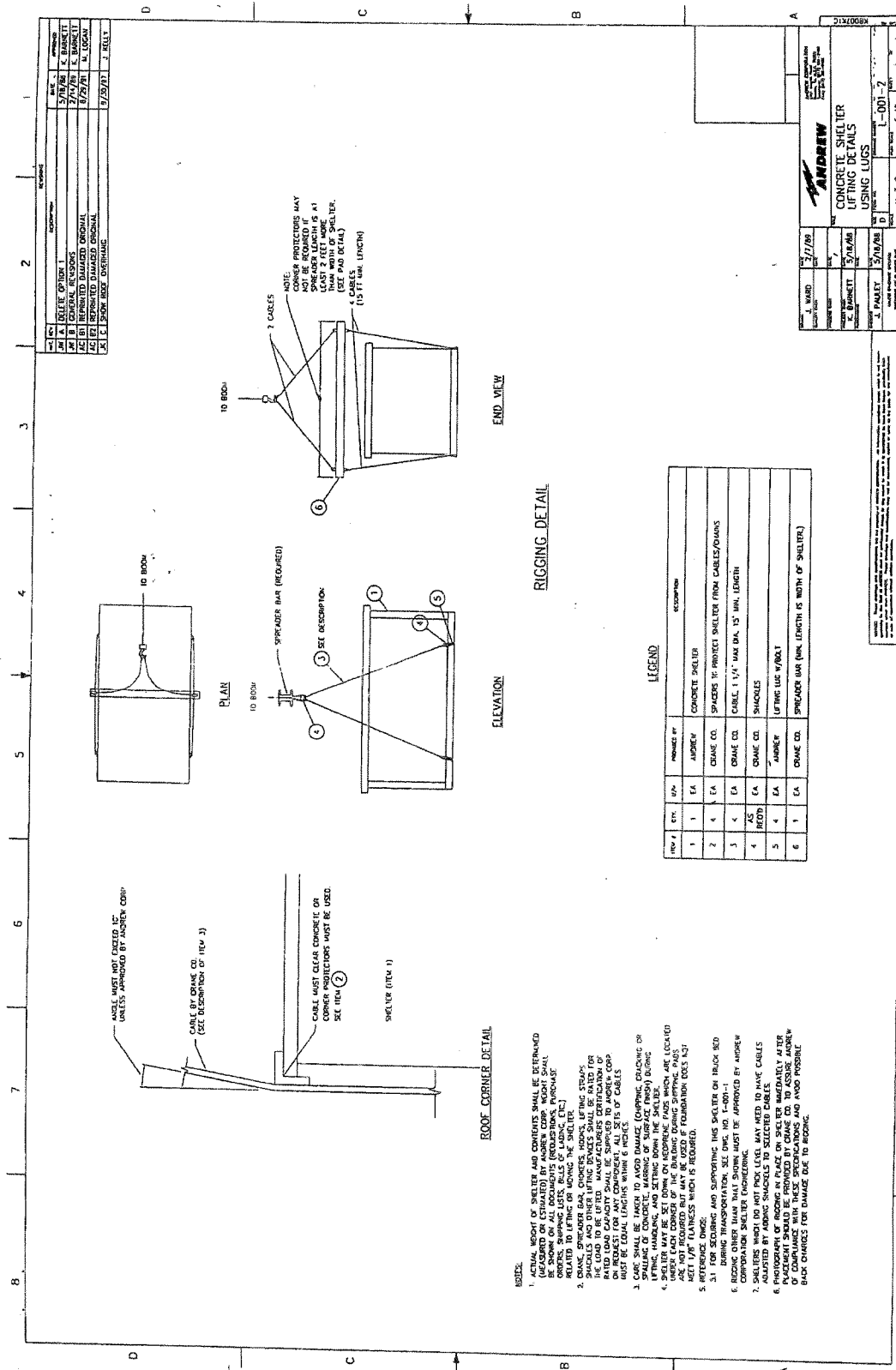
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|-------------------------------|--|
| CITY OF PORTLAND WATER BUREAU | |
| CABLE LADDER LAYOUT | |
| NEXTEL | |
| RCSI120-2-95 | |
| REV. 1.0 | |
| DATE: 5-17-95 | |
| BY: J. L. S. | |
| CHECKED: J. L. S. | |
| APPROVED: J. L. S. | |
| PROJECT: 120-2-95 | |
| SHEET: 1 OF 1 | |

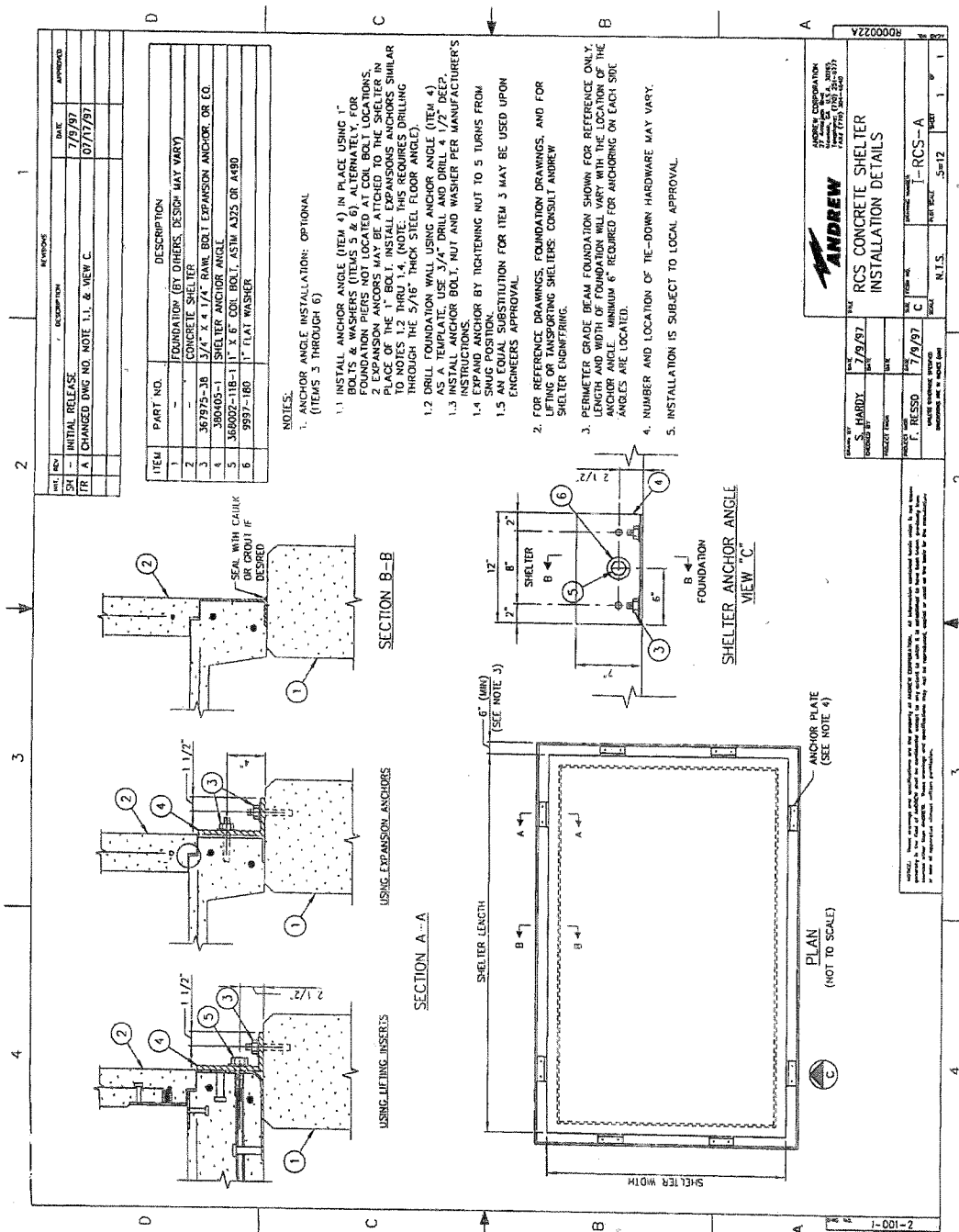




| PACK-UP INSTRUCTIONS
FOR PRE-INSTALLED ITEMS | | DRAWING LIST | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| <p>1) ITEMS BELOW APPLY TO THIS SHIPMENT.</p> <p>A) REMOVE AND PACK THE FOLLOWING LIGHTING ITEMS:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>QTY.</th> <th>DESCRIPTION</th> <th>QTY.</th> <th>ACCESSORIES</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>FLUORESCENT</td> <td>1</td> <td>WIRE GUARD</td> </tr> <tr> <td>1</td> <td>INTERIOR INCANDESCENT</td> <td>1</td> <td>WIRE GUARD</td> </tr> <tr> <td>1</td> <td>EXTERIOR LIGHT</td> <td>1</td> <td>EXTERIOR LENS</td> </tr> </tbody> </table> <p>B) REMOVE AND PACK THE FOLLOWING ITEMS WITH HARDWARE:</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>QTY.</th> <th>DESCRIPTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>2" DIRT FLUSH</td> </tr> <tr> <td>1</td> <td>4" X 8" GROUND BAR</td> </tr> <tr> <td>1</td> <td>GENERATOR (ACCEPTABLE (LEAVE BACK BOX))</td> </tr> <tr> <td>1</td> <td>DOOR CANOPY</td> </tr> <tr> <td>1</td> <td>WIRE EXTENDER</td> </tr> </tbody> </table> <p>C) SECURE 1 (QTY.) STEEL DOOR(S) WITH LOCKSET.</p> <p>D) EQUIPMENT WIRING AND OTHER PERTINENT INFORMATION IN LOGS/LOGS.</p> <p>E) INSTALL TRANSPORTATION TAG PER DRAWING M-001-1.</p> <p>F) THIRD PARTY INSPECTION PERSONNEL TO BE INSTALLED ON OUTSIDE OF DISTRIBUTION PANEL (IF REQUIRED).</p> <p>G) INSTALL SIGNAGE DATA PLATE ON OUTSIDE OF DISTRIBUTION PANEL.</p> <p>2) DRAWINGS IN DRAWING LIST MARKED WITH AN ASTERISK (*) ARE TO BE INCLUDED IN THE SHIELDER PACK-UP MATERIALS.</p> <p>3) PLACE ALL PACK-UP MATERIALS AS CLOSE TO DOOR AS POSSIBLE.</p> <p>4) SEAL ALL OPENINGS PRIOR TO SHIPMENT.</p> | | QTY. | DESCRIPTION | QTY. | ACCESSORIES | 1 | FLUORESCENT | 1 | WIRE GUARD | 1 | INTERIOR INCANDESCENT | 1 | WIRE GUARD | 1 | EXTERIOR LIGHT | 1 | EXTERIOR LENS | QTY. | DESCRIPTION | 1 | 2" DIRT FLUSH | 1 | 4" X 8" GROUND BAR | 1 | GENERATOR (ACCEPTABLE (LEAVE BACK BOX)) | 1 | DOOR CANOPY | 1 | WIRE EXTENDER | <table border="1" style="width: 100%;"> <thead> <tr> <th>SEE SHEET</th> <th>DRAWING NO.</th> <th>SHEET</th> <th>SIZE</th> <th>TITLE OF DRAWING</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1001-1</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>GENERAL LAYOUT</td> </tr> <tr> <td>2</td> <td>1001-2</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>ELECTRICAL LAYOUT</td> </tr> <tr> <td>3</td> <td>1001-3</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>ELECTRICAL SCHEMATIC</td> </tr> <tr> <td>4</td> <td>1001-4</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>5</td> <td>1001-5</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>6</td> <td>1001-6</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>7</td> <td>1001-7</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>8</td> <td>1001-8</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>9</td> <td>1001-9</td> <td>1 OF 1</td> <td>11" X 17"</td> <td>DOOR LAYOUT</td> </tr> <tr> <td>10</td> <td>1001-10</td> <td>1 OF 1</td> <td>11" X 17"</td> 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OF 1 | 11" X 17" | DOOR LAYOUT | 6 | 1001-6 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 7 | 1001-7 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 8 | 1001-8 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 9 | 1001-9 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 10 | 1001-10 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 11 | 1001-11 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 12 | 1001-12 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 13 | 1001-13 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 14 | 1001-14 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 15 | 1001-15 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 16 | 1001-16 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 17 | 1001-17 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 18 | 1001-18 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 19 | 1001-19 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 20 | 1001-20 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 21 | 1001-21 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 22 | 1001-22 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 23 | 1001-23 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 24 | 1001-24 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 25 | 1001-25 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 26 | 1001-26 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 27 | 1001-27 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 28 | 1001-28 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 29 | 1001-29 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 30 | 1001-30 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 31 | 1001-31 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 32 | 1001-32 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 33 | 1001-33 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 34 | 1001-34 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 35 | 1001-35 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 36 | 1001-36 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 37 | 1001-37 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 38 | 1001-38 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 39 | 1001-39 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 40 | 1001-40 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 41 | 1001-41 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 42 | 1001-42 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 43 | 1001-43 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 44 | 1001-44 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | 45 | 1001-45 | 1 OF 1 | 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| QTY. | DESCRIPTION | QTY. | ACCESSORIES | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | FLUORESCENT | 1 | WIRE GUARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | INTERIOR INCANDESCENT | 1 | WIRE GUARD | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | EXTERIOR LIGHT | 1 | EXTERIOR LENS | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| QTY. | DESCRIPTION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 4" X 8" GROUND BAR | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | GENERATOR (ACCEPTABLE (LEAVE BACK BOX)) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | DOOR CANOPY | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 1 | 1001-1 | 1 OF 1 | 11" X 17" | GENERAL LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 5 | 1001-5 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | 1001-6 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 7 | 1001-7 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | 1001-8 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | 1001-9 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | 1001-10 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | 1001-11 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | 1001-12 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 13 | 1001-13 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 14 | 1001-14 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 15 | 1001-15 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | 1001-16 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | 1001-17 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | 1001-18 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | 1001-19 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | 1001-20 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | 1001-21 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | 1001-22 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | 1001-23 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | 1001-24 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | 1001-25 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | 1001-26 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | 1001-27 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | 1001-28 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | 1001-29 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | 1001-30 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | 1001-31 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | 1001-32 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | 1001-33 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | 1001-34 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | 1001-35 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 36 | 1001-36 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | 1001-37 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | 1001-38 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | 1001-39 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | 1001-40 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 41 | 1001-41 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 42 | 1001-42 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 43 | 1001-43 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 44 | 1001-44 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 45 | 1001-45 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 46 | 1001-46 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 47 | 1001-47 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 48 | 1001-48 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 49 | 1001-49 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 50 | 1001-50 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 51 | 1001-51 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 52 | 1001-52 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 53 | 1001-53 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 54 | 1001-54 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 55 | 1001-55 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 56 | 1001-56 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 57 | 1001-57 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 58 | 1001-58 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 59 | 1001-59 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 60 | 1001-60 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 61 | 1001-61 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 62 | 1001-62 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 65 | 1001-65 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 89 | 1001-89 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 90 | 1001-90 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 91 | 1001-91 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 92 | 1001-92 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 93 | 1001-93 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 94 | 1001-94 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 95 | 1001-95 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 96 | 1001-96 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 97 | 1001-97 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 98 | 1001-98 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 99 | 1001-99 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 100 | 1001-100 | 1 OF 1 | 11" X 17" | DOOR LAYOUT | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |







ANDREW CORPORATION
SHELTER MODEL RCS1120-2-95
FOR THE STATE OF WASHINGTON

BUSINESS UNIT HEADQUARTERS
AND MANUFACTURING FACILITY

ANDREW - ANG
27 Amlojack Blvd
Newnan, GA U.S.A. 30265
Telephone: (770) 251-8777
FAX: (770) 304-4640

MANUFACTURING FACILITY

ANDREW - ASC
8430 Rovano Circle
Sacramento, CA U.S.A. 95828
Telephone: (916) 381-9378
FAX: (916) 381-9380

RECEIVED
SEP 04 2019
BY:

EXHIBIT

A.24

DESIGN OPTIONS

SPECIFIC PROJECT DRAWINGS SHALL SPECIFY WHICH OPTIONS APPLY TO A PARTICULAR SHELTER MODEL.
ALL UNITS OF A PARTICULAR MODEL NUMBER SHALL BE CONSTRUCTED WITH THE SAME DESIGN OPTIONS.

STRUCTURAL

FLOOR

- SLAB THICKNESS
☒ 2F 2" THICK

DESIGN LIVE LOAD

- ☒ PSF225F 225 PSF LIVE LOAD

ROOF

- OVERHANG
☐ OH0R NO OVERHANG
☒ OH3R 3" OVERHANG

DESIGN SNOW LOAD

- ☒ PSF60R 60 PSF SNOW LOAD
☐ PSF100R 100 PSF SNOW LOAD

WALLS

- WALL PANEL THICKNESS
☐ 3W 3" THICK
☒ 4W 4" THICK

INTERIOR FINISHES

FLOOR

- SUBFLOOR
☒ SF0F NO SUBFLOOR
☐ SFWF PLYWOOD, _____ THICK
☐ SFCF CEMENT BOARD, _____ THICK

FLOOR FINISH

- ☒ FFTF VINYL COMPOSITION TILE
☐ FFOF OTHER _____

CEILING

- PANELLING
☒ FRP50C 1/2" FRP
☐ FRP75C 3/4" FRP
☐ CFCF OTHER _____

WALLS

- PANELLING
☒ FRP50W 1/2" FRP
☐ FRP75W 3/4" FRP
☐ WFOF OTHER _____

INSULATION

FLOOR

- ☒ R13F NOMINAL R13 FLOOR

ROOF

- ☐ R2R NOMINAL R2 ROOF
☐ R13R NOMINAL R13 ROOF
☒ R24R NOMINAL R24 ROOF

WALLS

- ☐ R2W NOMINAL R2 WALLS
☒ R13W NOMINAL R13 WALLS
☐ R24W NOMINAL R24 WALLS

PANEL FINISH

FLOOR

- INTERIOR SURFACE
☐ FFF FLOAT FINISH
☒ FTF HARD TROWEL FINISH

ROOF

- EXTERIOR SURFACE
☒ FBR BROOM FINISH

WALLS

- EXTERIOR SURFACE
☒ FAW EXPOSED AGGREGATE
☐ FSW SMOOTH (FLOAT)
☐ FFLW FORMLINER
☐ FOW OTHER _____

DESIGN CRITERIA

FLOOR LIVE LOAD*, PSF 225

ROOF LIVE (SNOW) LOAD*, PSF 60

WIND LOAD, MPH 150
UBC, PSF WINDWARD 48.8 LEEWARD 30.5 VERTICAL 42.7

SEISMIC ZONE IV
UBC, COEFFICIENT "Z" .18

FIRE RATING OF WALLS*
4" WALL (OPT "4W") 2 HOURS

BUILDING CODE DATA

| MODEL CODE | EDITION | CONSTRUCTION TYPE | OCCUPANCY/ USE GROUP |
|------------|---------|-------------------|----------------------|
| UBC | 1994 | V-N | B |

MODEL NUMBER DESIGNATION

RCS 11 20 - 2 - 95
REINFORCED CONCRETE SHELTER SYSTEM
WIDTH: 11'
LENGTH: 20'
DETAIL NUMBER _____
DIFFERENTIATES SHELTERS OF THE SAME SIZE WITH DIFFERENT LAYOUTS
FINISHED INTERIOR HEIGHT: 9'-6"

BASIS OF DESIGN

THESE PROJECT DRAWINGS ARE INTENDED TO BE USED IN CONJUNCTION WITH THE "SYS-RCS" REINFORCED CONCRETE SHELTER SYSTEM DRAWINGS (SHEETS 1 - 15). SEE "SYS-RCS" FOR ALL TYPICAL STRUCTURAL AND ARCHITECTURAL DETAILS, AND TYPICAL CASTING LAYOUTS. WHERE TYPICAL DETAILS ARE NOT APPLICABLE, PROJECT DRAWINGS SHALL SHOW SPECIFIC DESIGN DETAILS.

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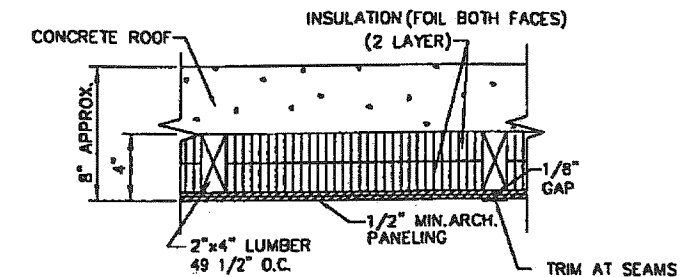
ANDREW
CORPORATION

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Telephone: (916) 381-9378
FAX: (916) 381-9380

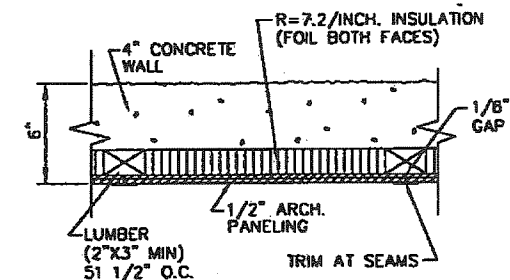
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| DESIGNED BY | DATE | TITLE |
|------------------|------------|--------------------|
| C. CURL | 3/6/97 | SYSTEM DESIGN DATA |
| CHECKED BY | DATE | |
| C. CURL | 3/6/97 | |
| PROJECT ENGINEER | DATE | |
| C. CURL | 3/6/97 | |
| PROJECT MANAGER | DATE | |
| K. COE | 3/6/97 | |
| SCALE | FIGURE NO. | DRAWING NUMBER |
| N.T.S. | B | RCS1120-2-95 |
| SCALE | FIGURE NO. | DRAWING NUMBER |
| N.T.S. | 1 | 8 |

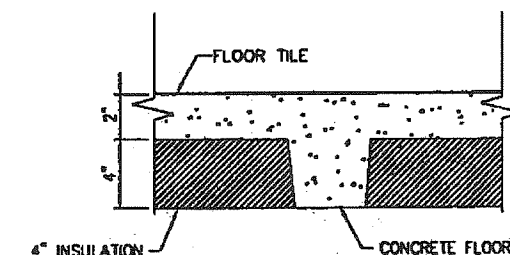
| INT. REV | DESCRIPTION | DATE | APPROVED |
|----------|------------------------------------|----------|----------|
| TS A | APPROVAL ISSUE | | |
| SH B | ADDED REVISION BLOCK | 10/22/97 | |
| MK C | CHANGES TO ITEMS 33 & 34 | 12/05/97 | |
| MK D | ADDED ITEM #99, 100 & 101 | 12/18/97 | |
| SH E | DELETED ITEMS 35, 36 & 37 FROM BOM | 01/07/98 | J. WARD |



ROOF INSULATION DETAIL



WALL INSULATION DETAIL



FLOOR DETAIL

ALL EXTERIOR FIXTURES TO BE WEATHERPROOF

NAILING SCHEDULE:

- 10d @ 12" O.C. FOR WOOD FURRING TO CONCRETE
- 8d @ 6" O.C. EDGE, 12" O.C. FIELD FOR WOOD PANELS TO FURRING AND SUBFLOOR TO SLAB (IF APPLICABLE)
- PNEUMATIC OR POWDER ACTUATED PINS MAY BE SUBSTITUTED AS AN ALTERNATE, PROVIDED PIN DIAMETER AND LENGTH ARE EQUAL TO OR GREATER THAN COMMON NAIL SPECIFIED

| ITEM | QTY | U/M | PART NO. | DESCRIPTION |
|------|-----|-----|----------------|---|
| 1 | 1 | EA | RCS1120-2-295 | CONCRETE SHELTER CASTING |
| 2 | 1 | EA | 379890-45-1 | LOCKSET, MORTISE RH/RB (BEST) W/ LEVER HANDLE |
| 3 | 1 | EA | 367981-121CE-1 | DOOR, 3'x7' NH 18GA MORTISE PREP |
| 4 | 1 | BX | 379890-10-1 | HINGES, 4 1/2" |
| 5 | 1 | EA | 367981-61 | THRESHOLD, 3'-0" TILE ONLY |
| 6 | 1 | EA | 379890-12 | LOCKGUARD, PICKPLATE |
| 7 | 1 | EA | 367991-3 | DOOR CLOSER, HYDRAULIC, NORTON 1804 |
| 8 | 1 | EA | 367966-30 | Drip CAP 40" |
| 9 | 1 | EA | 367966-35 | DOOR CANOPY |
| 10 | 1 | EA | 379902-108 | LITERATURE HOLDER |
| 11 | 6 | EA | 366175-17-1 | LIGHT, INTERIOR FLUORESCENT |
| 12 | 1 | EA | D21930 | LIGHT, EXTERIOR (WEATHERPROOF) |
| 13 | 12 | EA | - | BULB, FLUORESCENT COOL WHITE (D21550) |
| 14 | 1 | EA | - | BULB, INCANDESCENT 100W (D21570) |
| 15 | | | | |
| 16 | 1 | EA | - | DOOR ALARM (367959-1) |
| 17 | 1 | EA | 367986-7 | DISTRIBUTION PANEL 200A/1PH 30 SPACE |
| 18 | 1 | EA | 367986-6 | DISTRIBUTION PANEL COVER |
| 19 | 1 | EA | 367986-180 | ENCLOSURE, 100A-225A |
| 20 | 1 | EA | 367959-45 | SMOKE DETECTOR |
| 21 | 1 | EA | 367176-78 | EMERGENCY LIGHT W/ EXIT SIGN |
| 22 | 1 | EA | 367976-45-3 | WEATHERSTRIP, 3'-0" LONG |
| 23 | 2 | EA | 367976-45-7 | WEATHERSTRIP, 7'-0" LONG |
| 24 | 1 | EA | 367976-20-4 | WEATHERSTRIP, 3'-0" LONG |
| 25 | | | | |
| 26 | 1 | EA | - | GROUND BAR KIT, PK18GTA (D21990) |
| 27 | 2 | EA | 367986-30 | BREAKER, 50A/240V |
| 28 | 2 | EA | - | BREAKER, 15A/120V (D21410) |
| 29 | 2 | EA | 367986-139 | BREAKER, 45A/240V |
| 30 | 4 | EA | - | BREAKER, 20A/120V (D21430) |
| 31 | 4 | EA | 367986-3 | BREAKER, 30A/240V |
| 32 | 1 | EA | D21470 | BREAKER, 15A/240V |
| 33 | 4 | EA | 367963-53 | 45A/250V DUAL ELEMENT FUSE |
| 34 | 2 | EA | 366250-10 | 60A FUSIBLE A/C DISCONNECT |
| 35 | | | | |
| 36 | | | | |
| 37 | | | | |
| 38 | | | | |
| 39 | 2 | EA | - | GROUND KIT (MTS & DYST) (367964-1-1) |
| 40 | 1 | EA | - | NEUTRAL BAR KIT 200A (368010-1) |
| 41 | 1 | EA | 366250-7 | MANUAL TRANSFER SWITCH, 2P/200A |
| 42 | 1 | EA | 367986-165-1 | 200A BREAKER FOR ENCLOSURE |
| 43 | | | | |
| 44 | | | | |
| 45 | 2 | EA | 367328-54 | HEAT PUMP, MARVAIR #AVP24HPD4 2 TON |
| 46 | 2 | EA | 367316-1-4 | A/C INSTALLATION KIT |
| 47 | | | | |
| 48 | 1 | EA | - | 2" POWER ENTRY ELBOW (368016-109-1) |
| 49 | 2 | EA | - | GROUNDING BUSHING, 2" (367950-15) |
| 50 | | | | |
| 51 | 1 | EA | 368016-4-2 | POWER FAIL ALARM |
| 52 | 1 | EA | - | CADWELD METAL (379996-4) |
| 53 | 150 | FT | - | WIRE, #2 SOLID TINNED COPPER (367956-26) |
| 54 | 150 | FT | - | WIRE, #2 GREEN (367956-8) |
| 55 | 30 | EA | - | HALO GROUND STANDOFF (367959-30) |
| 56 | 24 | EA | - | CONNECTOR, DOUBLE CRIMP #2-#2 |
| 57 | 2 | EA | - | LUG, #2 HOLE CRIMP, #2 WIRE (367970-52) |
| 58 | 30 | EA | - | LUG, 2 HOLE CRIMP, #6 WIRE (208172) |
| 59 | 50 | EA | - | GROUND CLAMP FOR 1/2" TO 1" CONDUIT (367970-54) |
| 60 | 2 | EA | 367990-51 | BULKHEAD PLATE |
| 61 | 1 | EA | 368007-55 | WAVEGUIDE PLATE, 16 PORT - 4" |
| 62 | 2 | EA | 367964-14 | GROUND BAR, 1/4" x 4" x 20" |
| 63 | 1 | EA | 367954-8-1 | GROUND BAR, 1/4" x 1" x 12" (TELCO) |
| 64 | 1 | EA | - | BOX, 2" x 4" WEATHERPROOF (367973-3) |
| 65 | 1 | EA | - | RECEPTACLE, GFCI DUPLEX 20A/120V (366200-63) |
| 66 | 1 | EA | - | COVER, FOR GFCI DUPLEX RECEPTACLE (367973-109) |
| 67 | 5 | EA | - | RECEPTACLE, DUPLEX 20A/120V (D22790) |
| 68 | | | | |
| 69 | 1 | EA | 367961-38 | TIMER, 1 HOUR W/HOLD |
| 70 | 2 | EA | - | SWITCH, 15A/120V (D22990) |
| 71 | | | | |
| 72 | 2 | EA | E21590 | THERMOSTAT |
| 73 | 1 | EA | 367961-30 | 7-DAY TIMER LEAD/LAG |
| 74 | 1 | EA | 367961-42 | ADAPTER, FOR 7-DAY TIMER FOR H/P |
| 75 | 1 | EA | 367960-58 | GENERATOR RECEPTACLE, 200A, 3W/3P RS |
| 76 | | | | |

| ITEM | QTY | U/M | PART NO. | DESCRIPTION |
|------|-----|-----|-----------------|--|
| 77 | 2 | EA | 367954-107 | WALL ANGLE, 2" x 2" x 3 1/2" |
| 78 | | | | |
| 79 | | | | |
| 80 | 20 | EA | 367954-45 | CEILING HANGER BRACKET |
| 81 | 20 | EA | - | HANGER, HAT BRACKET (J21430) |
| 82 | 15 | EA | 367954-23 | CLAMP, CORNER |
| 83 | 8 | EA | 367954-26 | CLAMP, SPLICE |
| 84 | 4 | EA | 367954-179 | CABLE LADDER END BAR, 18" |
| 85 | 5 | EA | 367954-123-18 | CABLE LADDER, GOLD CHROMATE, 18" |
| 86 | | | | |
| 87 | 1 | EA | 367968-29 | FIRE EXTINGUISHER 10 LBS. |
| 88 | | | | |
| 89 | | | | |
| 90 | 1 | EA | 379902-132-1 | FIRST AID KIT |
| 91 | 1 | EA | 379902-132-2 | BATTERY ROOM SAFETY KIT |
| 92 | | | | |
| 93 | | | | |
| 94 | | | | |
| 95 | | | | |
| 96 | 1 | EA | 368013-4-103.5 | PANELING FRP 1/2" X 48" X 103.5" (TELCO BOARD) |
| 97 | 16 | FT | 367982-10 | TRIM 1/2" (EDGE TELCO BOARD) |
| 98 | | | | |
| 99 | 1 | EA | 367992-24-2 | 120V, 2-POLE RELAY |
| 100 | 1 | EA | 367992-33 | RELAY BASE |
| 101 | 1 | EA | - | BOX, 6" X 6" X 4" PULL (367973-63) |
| 102 | | | | |
| 103 | | | | |
| 104 | 1 | EA | 367970-68 | GROUND STRAP |
| 105 | 1 | EA | 368RR24-1120 | CEILING INSULATION AND FRAMING KIT |
| 106 | 1 | EA | 368WR13-1120-95 | WALL INSULATION AND FRAMING KIT |
| 107 | 1 | EA | 368P4-1120-95 | FRP KIT |
| 108 | 1 | EA | 368FT-1120 | FLOOR TILE KIT |
| 109 | 3 | EA | - | 90° CONNECTOR, 3/4" |
| 110 | 20 | FT | - | 3/4" FLEX CONDUIT |
| 111 | | | | |
| 112 | | | | |
| 113 | 3 | EA | - | STRAIGHT CONNECTOR, 3/4" |

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| SHEET | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|----------|---|---|---|---|---|---|---|---|
| REVISION | A | E | D | C | A | B | A | A |

| | |
|--------------------------|------------------|
| DESIGNED BY
T. STOREY | DATE
10/04/96 |
| CHECKED BY | DATE |
| PROJECT NO. | DATE |
| PROJECT REP. | DATE |

| | |
|---|-----------------------------|
| ANDREW CORPORATION
17000 Highway 100
Houston, TX 77058
(713) 291-0000
FAX (713) 291-0000 | |
| BILL OF MATERIAL
NEXTTEL | |
| FILE NO.
D | PROJECT NO.
RCS1120-2-95 |
| SCALE
N.T.S. | SHEET
2 OF 8 |

8

7

6

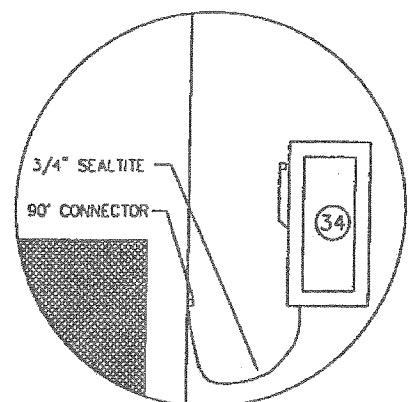
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4

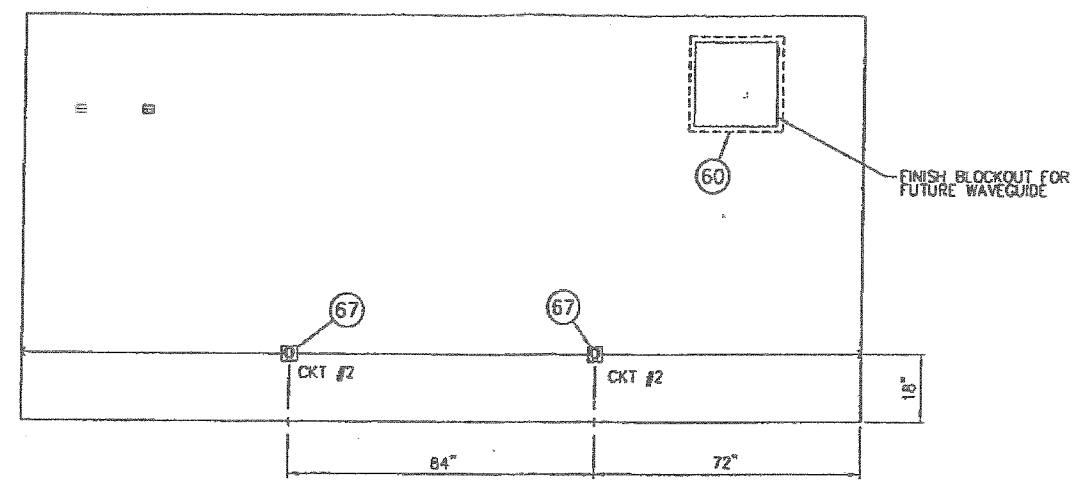
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1

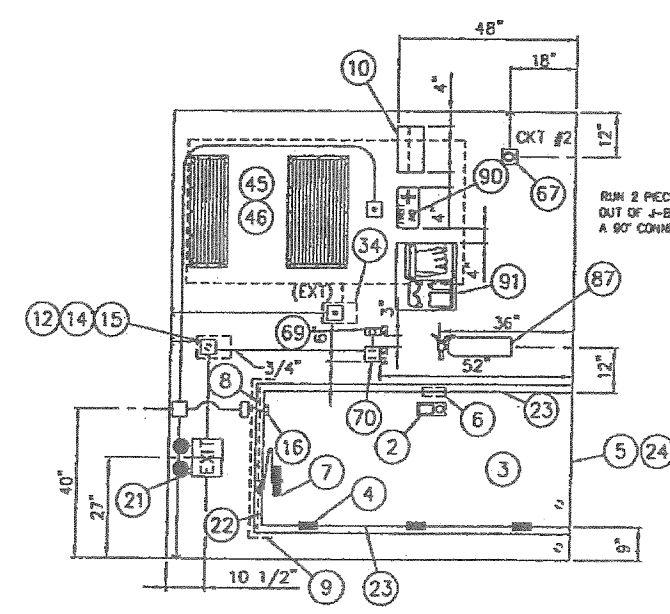


A/C DISCONNECT DETAIL

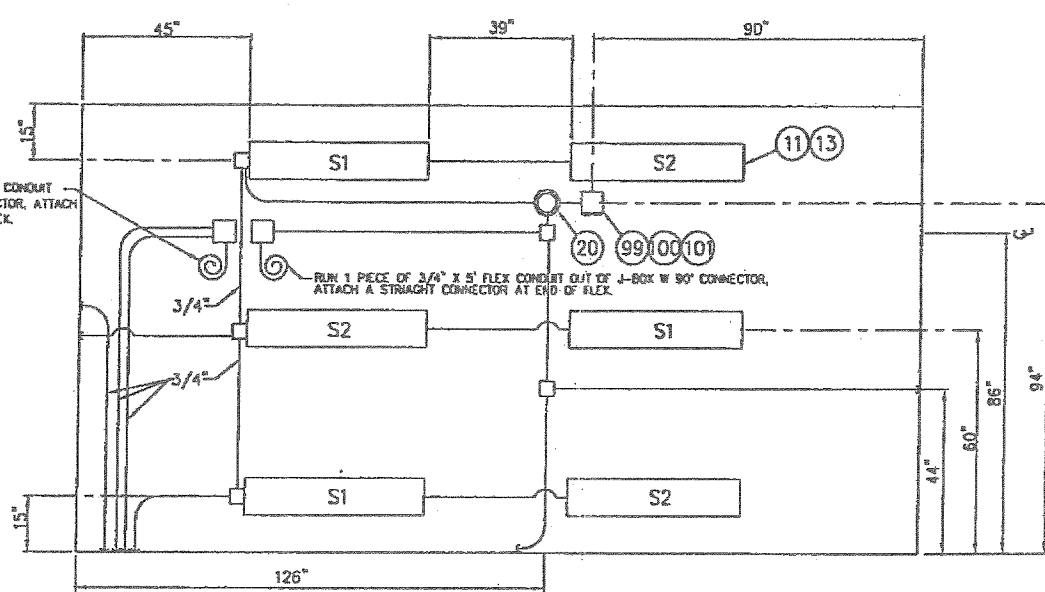


| REV. | REV. | DESCRIPTION | DATE | APPROVED |
|------|------|-----------------------------------|----------|----------|
| TS | A | APPROVAL ISSUE | | |
| SH | B | REMOVED 3" DIMENSION ON 4 X 4 BOX | 12/04/97 | |
| SH | C | ADDED ITEM #99, #100 & #101 | 12/19/97 | |
| SH | D | REMOVED ITEMS 35, 36 & 37 | 01/07/98 | J. WARD |

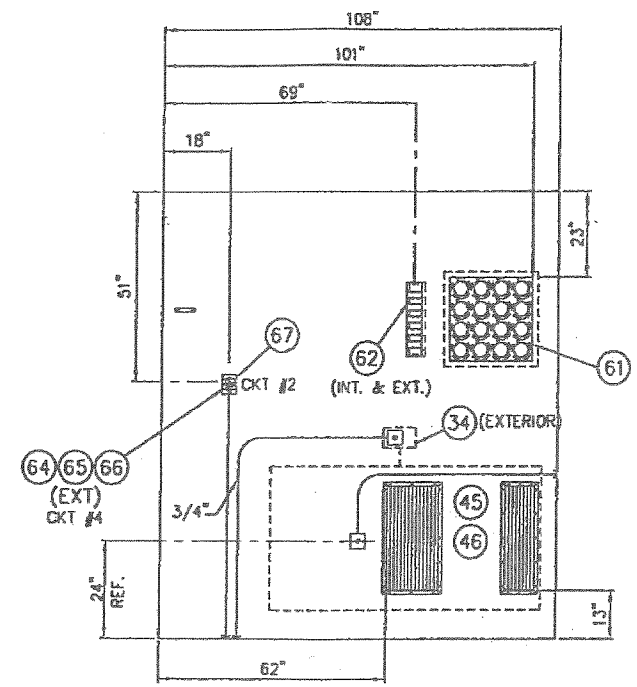
| EXTERIOR DIMENSIONS | |
|---------------------|--------|
| LENGTH: | 20'-0" |
| WIDTH: | 11'-0" |
| HEIGHT: | 10'-5" |
| INTERIOR DIMENSIONS | |
| LENGTH: | 19'-0" |
| WIDTH: | 10'-0" |
| HEIGHT: | 9'-0" |



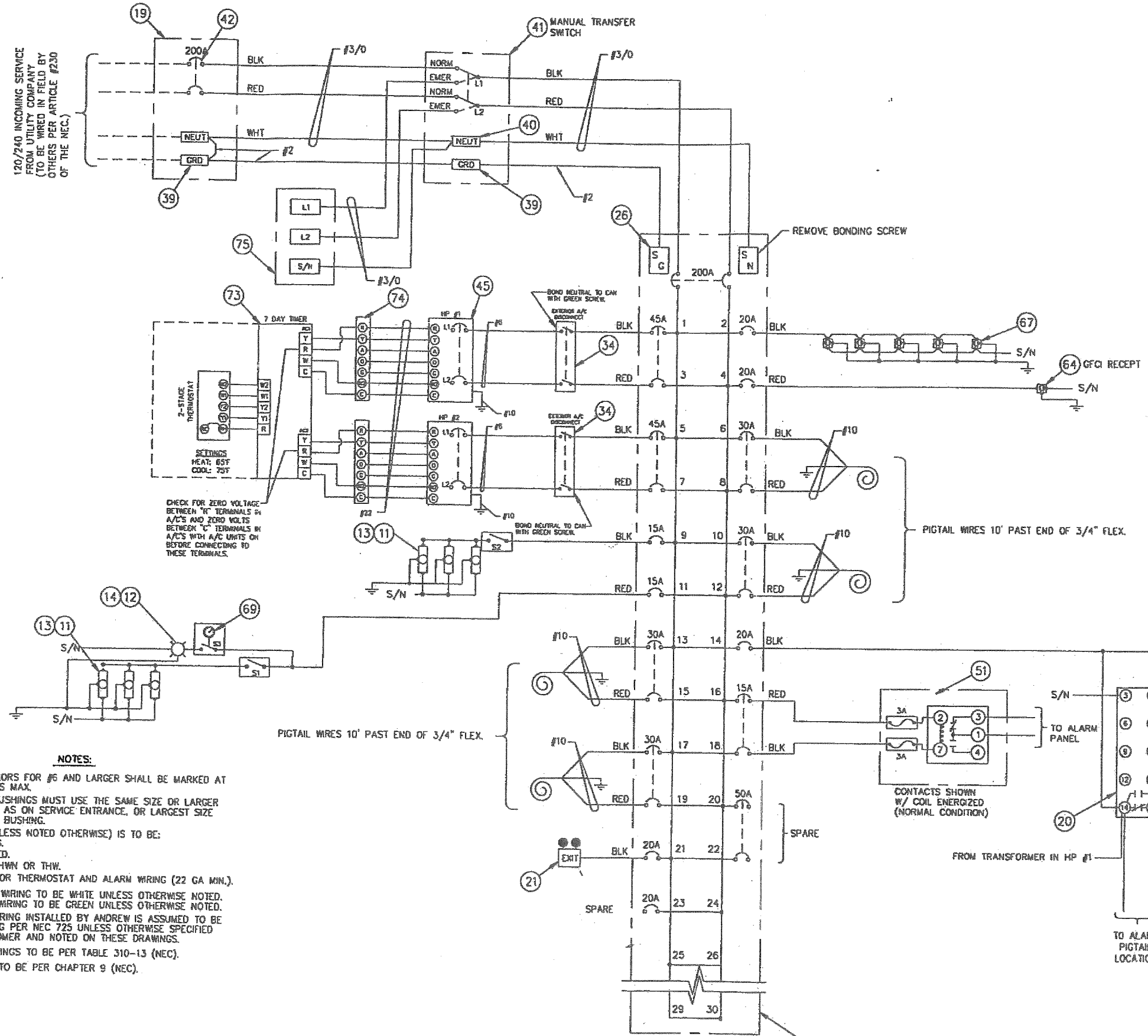
RUN 2 PIECE OF 3/4" X 5' FLEX CONDUIT OUT OF J-BOX W/ A 90° CONNECTOR, ATTACH A 90° CONNECTOR AT END OF FLEX.



RUN 1 PIECE OF 3/4" X 5' FLEX CONDUIT OUT OF J-BOX W/ 90° CONNECTOR, ATTACH A STRAIGHT CONNECTOR AT END OF FLEX.



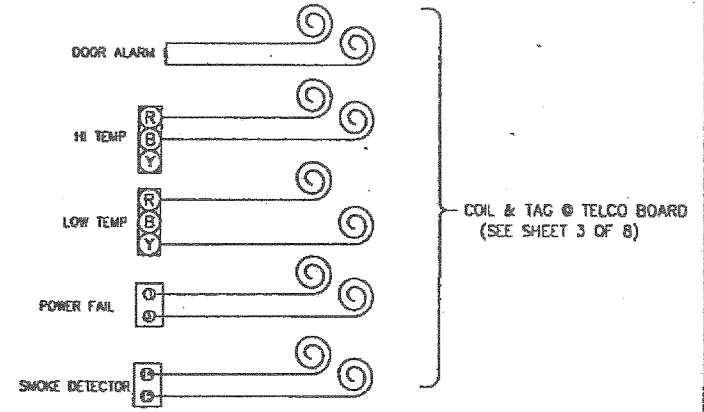
120/240 INCOMING SERVICE
FROM UTILITY COMPANY
(TO BE WIRED IN FIELD BY
OTHERS PER ARTICLE #230
OF THE NEC.)



| REVISIONS | | | |
|-----------|------|--|----------|
| INT. | REV. | DESCRIPTION | DATE |
| TS | A | APPROVAL ISSUE | |
| SH | B | REVISED WIRING BETWEEN SMOKE DET. & HEAT PUMPS | 12/18/97 |
| SH | C | ADDED BONDING NOTE TO 60A DISCONNECTS | 01/08/98 |

ALARM NOTES

1. ALL ALARM WIRE TO BE 22GA SOLID.
2. ALARMS WILL OPEN IN ALARM CONDITION.
3. LABEL INDIVIDUAL ALARMS AS LISTED.
4. PIGTAIL WIRES 5'.



NOTES:

1. ALL WIRE COLORS FOR #6 AND LARGER SHALL BE MARKED AT 40" INTERVALS MAX.
2. GROUNDING BUSHINGS MUST USE THE SAME SIZE OR LARGER GROUND WIRE AS ON SERVICE ENTRANCE, OR LARGEST SIZE ACCEPTED BY BUSHING.
3. ALL WIRE (UNLESS NOTED OTHERWISE) IS TO BE:
 - #12 AWG.
 - STRANDED.
 - THHN, THWN OR THW.
 - SOLID, FOR THERMOSTAT AND ALARM WIRING (22 GA MIN.).
4. ALL NEUTRAL WIRING TO BE WHITE UNLESS OTHERWISE NOTED. ALL GROUND WIRING TO BE GREEN UNLESS OTHERWISE NOTED.
5. ALL ALARM WIRING INSTALLED BY ANDREW IS ASSUMED TO BE CLASS 1 WIRING PER NEC 725 UNLESS OTHERWISE SPECIFIED BY THE CUSTOMER AND NOTED ON THESE DRAWINGS.
6. AMPACITY RATINGS TO BE PER TABLE 310-13 (NEC).
7. CONDUIT FILL TO BE PER CHAPTER 9 (NEC).

NOTE:

TO WIRE HP #2 IT REQUIRES THE SAME TYPE WIRE AS FOR HP #1. EXCEPT THAT THE WIRES GET CONNECTED TO A NORMALLY CLOSED SET OF CONTACTS IN THE RELAY.

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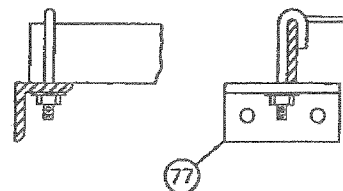
| | | | |
|--|------------------|--------------------------------|--|
| DESIGNED BY
T. STOREY | DATE
10/04/96 | PROJECT NO.
RCS1120-2-95 | |
| CHECKED BY | DATE | SCALE
N.T.S. | |
| PROJECT NO. | DATE | SHEET NO.
4 | |
| UNLESS OTHERWISE SPECIFIED
ELECTRICAL SYMBOLS ARE AS SHOWN ON SHEET 1 | | DRAWING NUMBER
RCS1120-2-95 | |

ANDREW
ANDREW CORPORATION
27 Industrial Blvd.
Beverly Hills, CA 90212
Tel: (310) 204-6777
Fax: (310) 204-6777

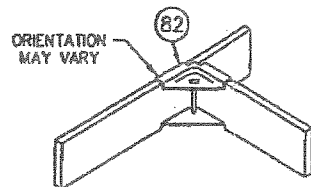
**ELECTRICAL SCHEMATIC
NEXTEL**

8 7 6 5 4 3 2 1

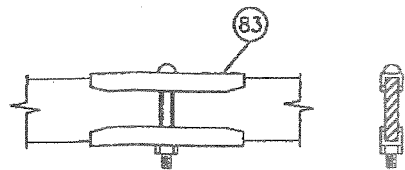
| REVISIONS | | | DATE | APPROVED |
|-----------|----|----------------|------|----------|
| REV. | BY | DESCRIPTION | | |
| TS | A | APPROVAL ISSUE | | |



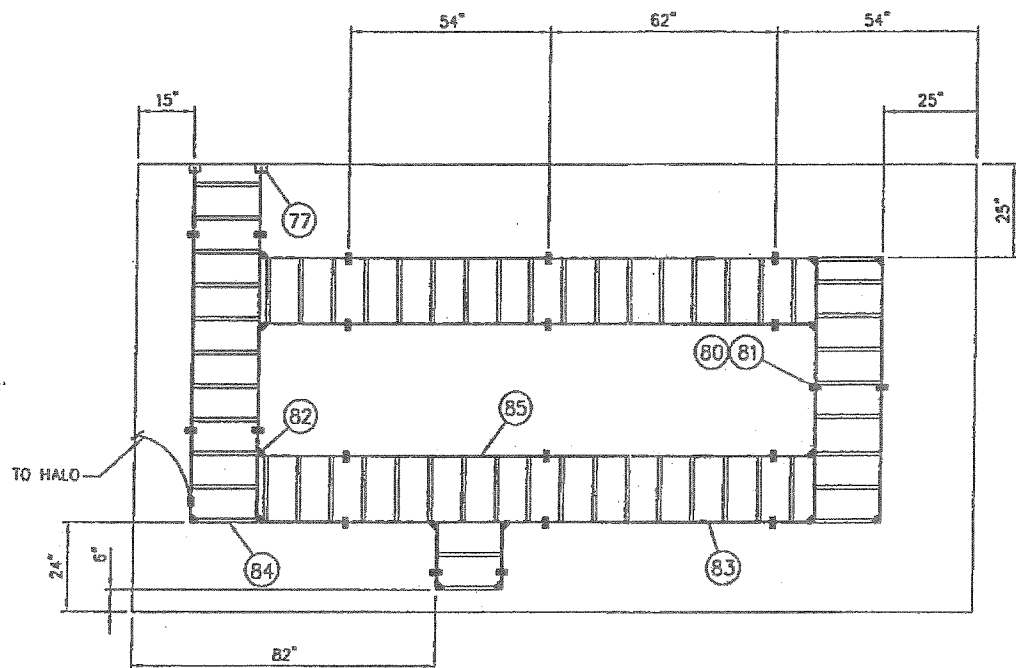
"J" BOLT DETAIL



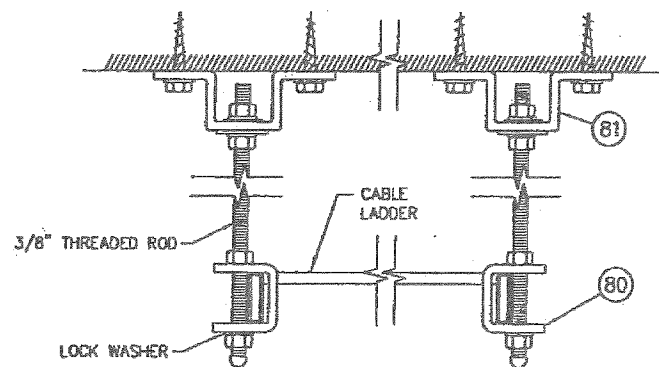
"TEE" JUNCTION
N.T.S.



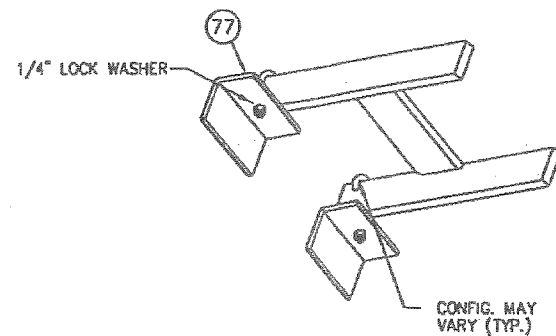
SPLICE DETAIL



- NOTES:
1. CABLE TRAY TO BE MOUNTED 90° A.F.F.



CEILING SUPPORT BRACKET



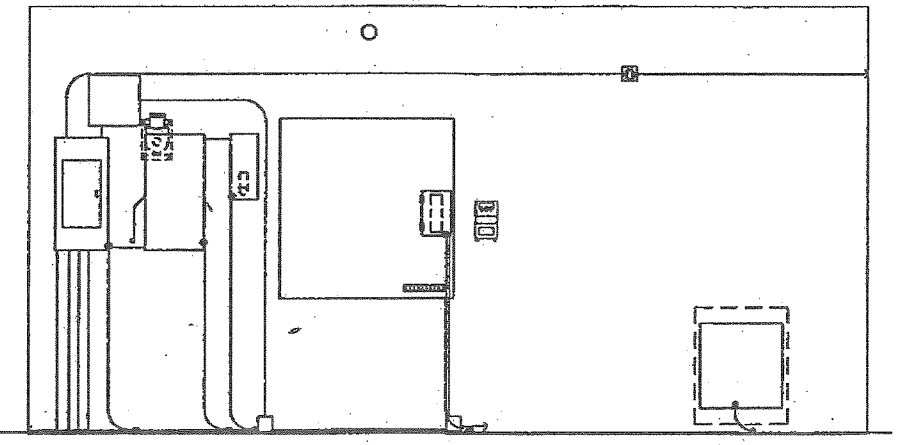
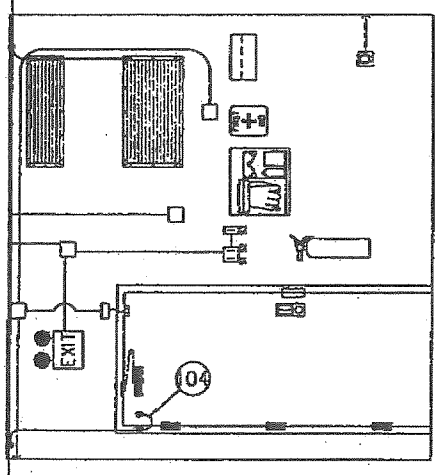
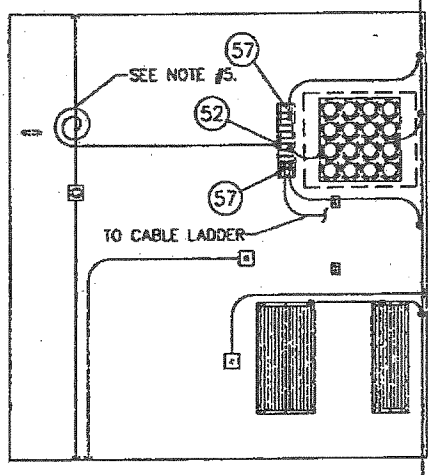
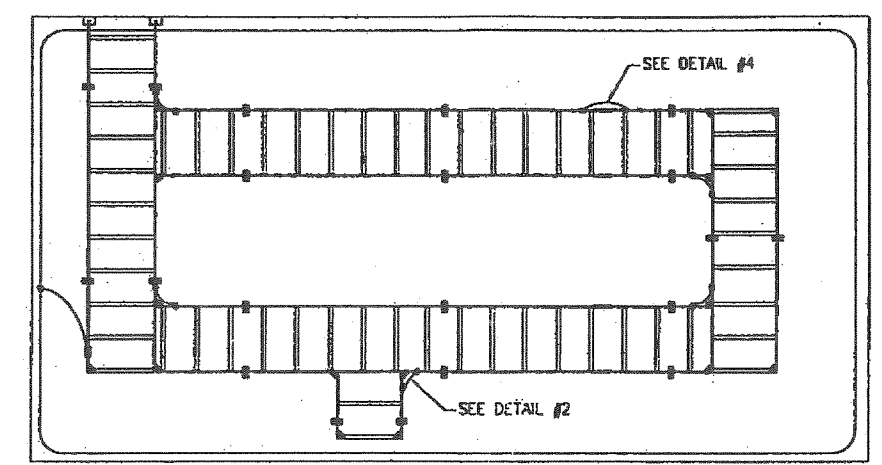
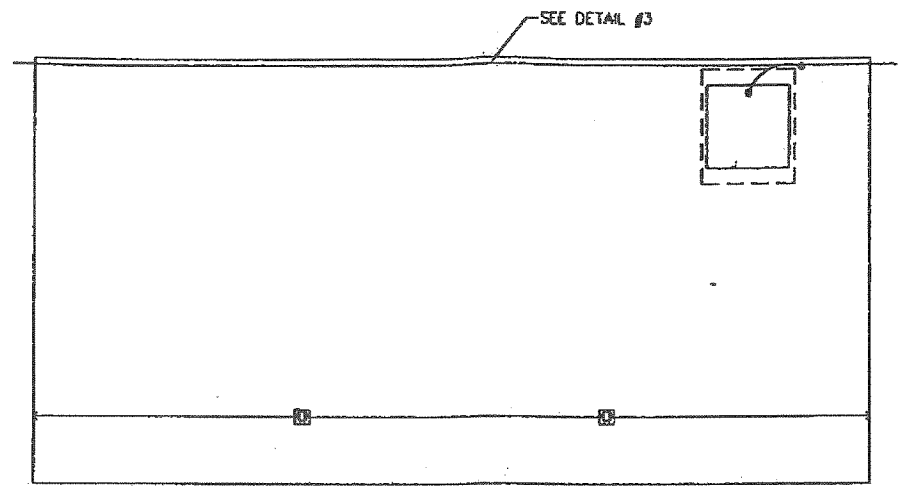
FASTENING CABLE LADDER TO
WALL ANGLE
N.T.S.

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| | | | |
|--------------------------|------------------|-----------------|---|
| DESIGNED BY
T. STOREY | DATE
10/13/95 | FILE | ANDREW CORPORATION
27 Westbrook Blvd.
Bloomington, IL 61704
Phone (312) 231-6777
Fax (312) 231-6778 |
| DRAWN BY | DATE | PROJECT NO. | PROJECT NAME
CABLE LADDER LAYOUT
NEXTEL |
| PROJECT NO. | DATE | SCALE
N.T.S. | REVISIONS
RCS1120-2-95 |
| PROJECT NO. | DATE | SCALE
N.T.S. | PLANT SCALE
.5=12 |

ER00211A

| REVISIONS | | | | |
|-----------|------|------------------|----------|----------|
| REV. | REV. | DESCRIPTION | DATE | APPROVED |
| TS | A | APPROVAL ISSUE | | |
| SH | B | REVISED NOTE #3. | 12/04/97 | |
| | | | | |
| | | | | |



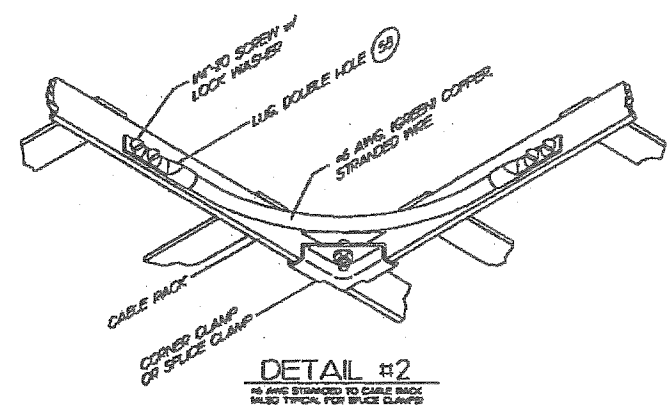
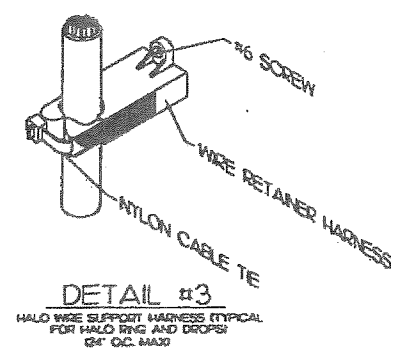
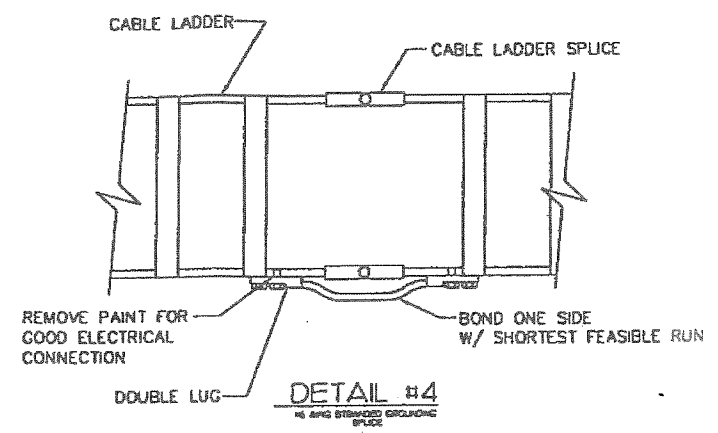
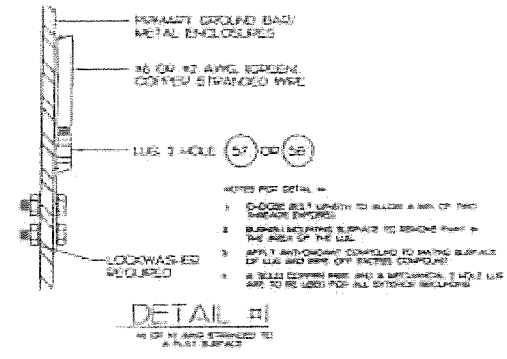
- NOTES
1. A NO-OXIDE COMPOUND IS TO BE APPLIED TO ANY CONNECTION, GROUND BARS AND HALO. EXCESS GREASE IS TO BE WIPED CLEAN. REMOVE PAINT AND APPLY THE NO-OXIDE COMPOUND BETWEEN ALL GROUNDING LUG CONNECTIONS AS SPECIFIED.
 2. MAINTAIN A 9" RADIUS MIN. WHEN BENDING ALL GROUNDING WIRE FOR THE HALO.
 3. HALO GROUND RING IS TO BE MOUNTED DIRECTLY BELOW TRIM.
 4. EXTERIOR DOOR AND FRAME WORK ARE TO BE BONDED TO THE HALO WITH A GROUND STRAP.
 5. COIL 15 FEET #2 AWG. (TINNED) SOLID BARE COPPER WIRE FOR FUTURE CONNECTION TO THE EXTERIOR GROUND.
 6. ALL METAL BOXES LARGER THAN 4" x 4" AND METAL FRAME WORK ARE TO BE GROUNDED TO THE HALO GROUND RING.

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| | | | |
|--------------------------|------------------|----------------------------------|---|
| DESIGNED BY
T. STOREY | DATE
10/14/96 | WIRE
HALO GROUNDING
NEXTEL | ANDREW CORPORATION
27 ANDREW BLVD.
BOSTON, MA 02114
(781) 326-1111
FAX (781) 326-1112 |
| CHECKED BY | DATE | SCALE
1/2"=1'-0" | PROJECT NUMBER
RCS1120-2-95 |
| PROJECT OWNER | DATE | PLANT SCALE
.5=12 | SHEET
6 OF 8 |
| PROJECT USER | DATE | | |

ER00212B

| REVISIONS | | | | DATE | APPROVED |
|-----------|-------------|----------------|--|------|----------|
| REV | DESCRIPTION | | | | |
| TS | A | APPROVAL ISSUE | | | |



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| | |
|--------------------------|------------------|
| DESIGNED BY
T. STOREY | DATE
10/13/96 |
| CHECKED BY | DATE |
| PROJECT ENGR | DATE |
| PROJECT MGR | DATE |

ANDREW CORPORATION
27 Andrew Blvd.
Riverside, CA 92504
Tel: (714) 511-1111
Fax: (714) 511-1111

GROUNDING DETAIL
NEXTTEL

RCS1120-2-95

SCALE: N.T.S.

SHEET: 7 OF 8

ER00213A

PACK-UP INSTRUCTIONS
FOR PRE-INSTALLED ITEMS

1) ITEMS BELOW APPLY TO THIS SHIPMENT.

A) REMOVE AND PACK THE FOLLOWING LIGHTING ITEMS:

| QTY. | LIGHT BULBS | QTY. | ACCESSORIES |
|------|-----------------------|------|------------------|
| — | FLUORESCENT | — | LENS, WIRE GUARD |
| — | INTERIOR INCANDESCENT | — | WIRE GUARD |
| 1 | EXTERIOR LIGHT | 1 | EXTERIOR LENS |
| — | SPECIAL | — | — |

B) REMOVE AND PACK THE FOLLOWING ITEMS WITH HARDWARE:

| QTY. | DESCRIPTION |
|------|--|
| 1 | 2" ENTRY ELBOW |
| 1 | 4" X 20" GROUND BAR |
| 1 | GENERATOR RECEPTACLE, (LEAVE BACK BOX) |
| 1 | DOOR CANOPY |
| 1 | FIRE EXTINGUISHER |

C) SECURE 1 (QTY.) STEEL DOOR(S) WITH LOCKSET.

D) EQUIPMENT WARRANTIES AND OTHER PERTINENT INFORMATION IN LITERATURE HOLDER.

E) INSTALL TRANSPORTATION TAG PER DRAWING N-009-1.

F) THIRD PARTY INSPECTION INSIGNIA TO BE INSTALLED ON OUTSIDE OF DISTRIBUTION PANEL (IF REQUIRED).

G) INSTALL ANDREW DATA PLATE ON OUTSIDE OF DISTRIBUTION PANEL.

2) DRAWINGS IN DRAWING LIST MARKED WITH AN ASTERISK (*) ARE TO BE INCLUDED IN THE SHELTER PACK-UP MATERIALS.

3) PLACE ALL PACK-UP MATERIALS AS CLOSE TO DOOR AS POSSIBLE.

4) SEAL ALL OPENINGS PRIOR TO SHIPMENT.

PACK-UP MATERIALS

(IN ADDITION TO ITEMS FROM PACK-UP INSTRUCTIONS)

| ITEM | QTY. | U/M | PART NO. | DESCRIPTION |
|------|------|-----|-------------|------------------------------|
| 1 | 1 | EA | 368024-11 | TIE DOWN KIT, FCS (4 PLATES) |
| 2 | 1 | EA | — | CLEAR SILICONE |
| 3 | 1 | EA | 367976-76-1 | VULKEM, TAN |
| 4 | 1 | EA | — | VULKEM, ALUMINUM |
| 5 | | | | |
| 6 | | | | |
| 7 | | | | |
| 8 | | | | |
| 9 | | | | |
| 10 | | | | |
| 11 | | | | |

DRAWING LIST

| SEE NOTE 2 | DRAWING NO. | SHEET | SIZE | TITLE OF DRAWING |
|------------|--------------|----------|------|-----------------------------|
| * | RCS1120-2-95 | 1 OF 8 | D | DESIGN DATA |
| * | RCS1120-2-95 | 2 OF 8 | D | BILL OF MATERIAL |
| * | RCS1120-2-95 | 3 OF 8 | D | EQUIPMENT LAYOUT |
| * | RCS1120-2-95 | 4 OF 8 | D | ELECTRICAL SCHEMATIC |
| * | RCS1120-2-95 | 5 OF 8 | D | CABLE LADDER LAYOUT |
| * | RCS1120-2-95 | 6 OF 8 | D | GROUNDING LAYOUT |
| * | RCS1120-2-95 | 7 OF 8 | D | GROUNDING DETAIL |
| * | RCS1120-2-95 | 8 OF 8 | D | SHIPPING/SETUP INSTRUCTIONS |
| | | | | |
| | | | | |
| | FCS1120-2-20 | 1 THRU 7 | C | CASTINGS |
| | | | | |
| | I-001-1 | 1 OF 1 | C | INSTALLATION DETAILS |
| | L-001-2 | 1 OF 1 | C | LIFTING DETAILS |
| | T-001-2 | 1 OF 1 | C | TRANSPORTATION DETAILS |

SHIPPING SPECIFICATIONS

BLDG. LENGTH: 22'-0" W/OVERHANGS
BLDG. WIDTH: 11'-6" W/OVERHANGS
OVERALL BLDG. HEIGHT: 10'-5"
APPROX. BLDG. WEIGHT: 42,000 LBS.

OFFLOADING REQUIREMENTS

☐ STRAP OFFLOAD: REF. DWG.# L-001-1
☒ CABLE OFFLOAD: REF. DWG.# L-001-2
FOR CRANE SUPPLIED CABLES, SHACKLES
& SPREADER BAR.

FIELD SET-UP INSTRUCTIONS

| RESPONSIBLE PARTY | | | ITEMS CHECKED MUST BE INSTALLED AFTER DELIVERY OF SHELTER.
REFER TO OWNER'S MANUALS AND/OR DRAWINGS INDICATED. | REFERENCE
ITEM OR DWG# |
|----------------------|--------|----------|---|---------------------------|
| ANDREW
FIELD CREW | DRYVR. | CUSTOMER | | |
| | X | X | TIE-DOWN SHELTER TO FOUNDATION | I-001-3 |
| | X | X | TRANSPORT SHELTER | T-001-2 |
| | X | X | OFFLOAD SHELTER | L-001-2 |
| | | | | |
| | | X | INSTALL EXTERIOR LIGHT LENS AND BULB | |
| | | X | HOOKEUP BATTERY TO EMERGENCY LIGHT | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |



ANDREW CORPORATION
27 American Road
Broomfield, CO 80020
Telephone: (303) 440-8777
Fax: (303) 440-8788

SHIPPING/SET UP INSTRUCTIONS
NEXTEL

RCS1120-2-95

SCALE

NTS

PLAT SCALE

.5=12

SHEET

8 OF 8

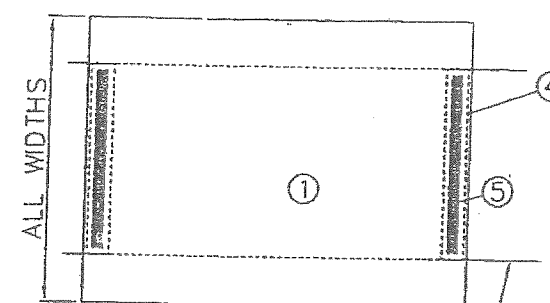
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NOTES:

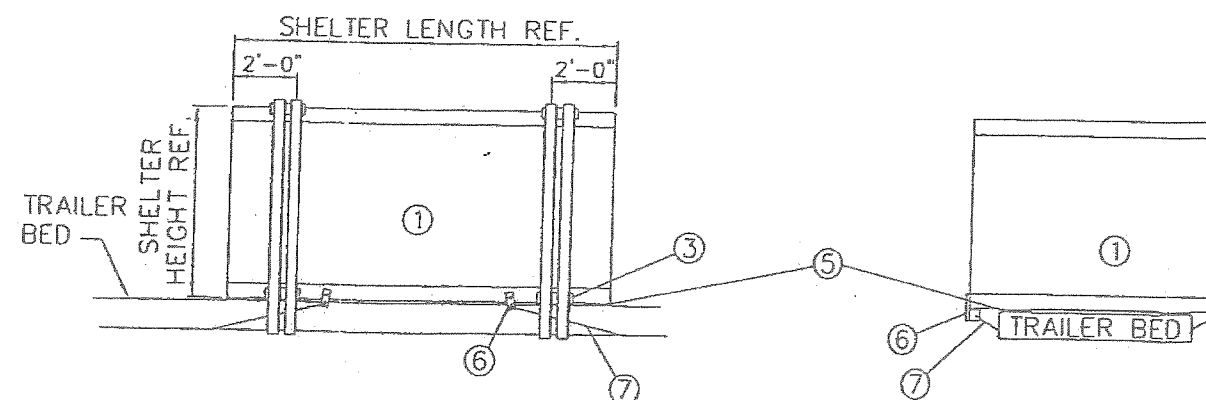
1. ACTUAL WEIGHT OF SHELTER AND CONTENTS SHALL BE DETERMINED (MEASURED OR ESTIMATED) BY ANDREW CORPORATION. WEIGHT SHALL BE SHOWN ON ALL DOCUMENTS (REQUISITIONS, PURCHASE ORDERS, SHIPPING LISTS, BILLS OF LADING, ETC.) RELATED TO LIFTING OR MOVING THE SHELTER.
2. ANDREW CORP. TRANSPORTATION SHALL REVIEW AND APPROVE EACH PROPOSED SHELTER-TRAILER-TRACTOR COMBINATION PRIOR TO SHIPMENT OF THE SHELTER. TRACTOR AND TRAILER SHALL BE FULLY RATED FOR THE LOAD TO BE CARRIED AND ROUTE TO BE TRAVELED, BASED ON MANUFACTURER'S DATA SHOWING DIMENSIONS AND LOAD CAPACITIES. ONLY AIR RIDE TRAILER-TRACTOR COMBINATIONS WILL BE APPROVED TO TRANSPORT SHELTERS.
3. RECOMMENDED TRAILERS SHALL BE FLAT. IF TRAILERS WITH CAMBER OR CROWN ARE USED, THE TRAILER MUST FLATTEN UNDER THE LOAD OF THE SHELTER. IF NOT, THEN A MAXIMUM OF 3/4" THICK, FULL LENGTH LUMBER SHIM MAY BE USED BELOW EACH END OF THE SHELTER FOR CAMBERED OR CROWNED TRAILERS WHICH DO NOT FULLY FLATTEN UNDER THE LOAD OF THE SHELTER. IF THE END SHIM REQUIRED IS GREATER THAN 3/4", THE TRAILER MUST BE REJECTED.
4. PLACE PLASTIC CORNER PROTECTORS BETWEEN TIE DOWN STRAPS AND THE SHELTER ROOF EAVE & FLOOR SLAB. POSITION BEARING PAD MATERIAL AT SHELTER ENDS BETWEEN THE SHELTER BASE AND THE TRAILER DECK. IF A CAMBERED TRAILER IS USED WITH 3/4" MAXIMUM SHIMS, THE LUMBER SHALL BE SECURELY FASTENED TO THE TRAILER DECK WITH NAILS OR SCREWS, AND BEARING PAD MATERIAL SHALL BE PLACED BETWEEN SHELTER BASE AND LUMBER SHIM.
5. THE TRAILER DECK SHALL BE A SOLID AND FLUSH SURFACE. SPECIFICALLY, THE MAIN STEEL SUPPORT BEAMS SHALL NOT PROJECT HIGHER THAN THE REST OF THE TRAILER DECK.
6. THE BUILDING SHALL BE LOCATED SYMMETRICALLY ON THE TRAILER FROM SIDE-TO-SIDE. THE BUILDING SHALL BE LOCATED FORE-AND-AFT ON THE TRAILER SUCH THAT THE LOAD IS DELIVERED TO THE AXLES IN PROPORTION TO THEIR CAPACITY.
7. TIE-DOWN STRAPS SHALL BE FASTENED SECURELY TO THE TRAILERBED. THE STATIC BREAKING STRENGTH OF EACH TIE-DOWN STRAP AND ITS CONNECTORS SHALL BE AT LEAST 12,000 POUNDS. PLACE THE FOUR STRAPS AS SHOWN ON THIS DRAWING. STRAPS SHALL BE FULLY TENSIONED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
8. CHAINS SHALL BE SECURELY FASTENED FROM THE STEEL LIFTING LUGS TO THE TRAILER. THE CHAINS SHALL BE AS NEARLY HORIZONTAL AS POSSIBLE AND SHALL NEVER EXCEED A 45° ANGLE WITH RESPECT TO HORIZONTAL. DO NOT OVERTIGHTEN CHAINS AS THIS MAY CAUSE DAMAGE TO THE SHELTER.
9. SHIPMENT SHALL CONFORM TO THE US DEPARTMENT OF TRANSPORTATION CODE OF FEDERAL REGULATIONS FOR MOTOR CARRIERS, AND OTHER APPLICABLE STATE AND FEDERAL REGULATIONS.
10. REFERENCE DWGS AND SHELTER WEIGHT:
SEE LAST SHEET OF SHELTER PROJECT DRAWINGS OR CONSULT ANDREW CORPORATION SHELTER ENGINEERING FOR SHIPPING WEIGHT, LIFTING, AND INSTALLATION INSTRUCTIONS.

LEGEND

| ITEM | QTY. | U/M | DESCRIPTION |
|------|------|-----|---|
| 1 | 1 | EA | CONCRETE SHELTER |
| 2 | 4 | EA | TIE DOWN STRAP. SEE NOTE 7. |
| 3 | 8 | EA | CORNER PROTECTOR (1.5" X 1.5" X 12" LONG PLASTIC CORNER MOLDING). |
| 4 | 2 | EA | SHIM - 1" X 6" X 8' LUMBER (ONLY IF NEEDED) SEE NOTES 3 & 4. |
| 5 | 2 | EA | BEARING PAD: 1/8" X 4" X 8' NEOPRENE, RUBBER, OR VINYL MATERIAL. (VINYL BASE COVE MOLDING IS OK). |
| 6 | 4 | EA | LIFTING LUGS (INVERT FOR TRANSPORT) |
| 7 | 4 | EA | CHAINS - DO NOT OVER TIGHTEN. |



PLAN

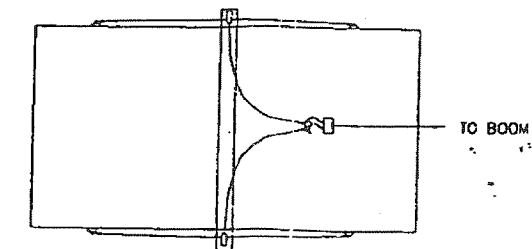
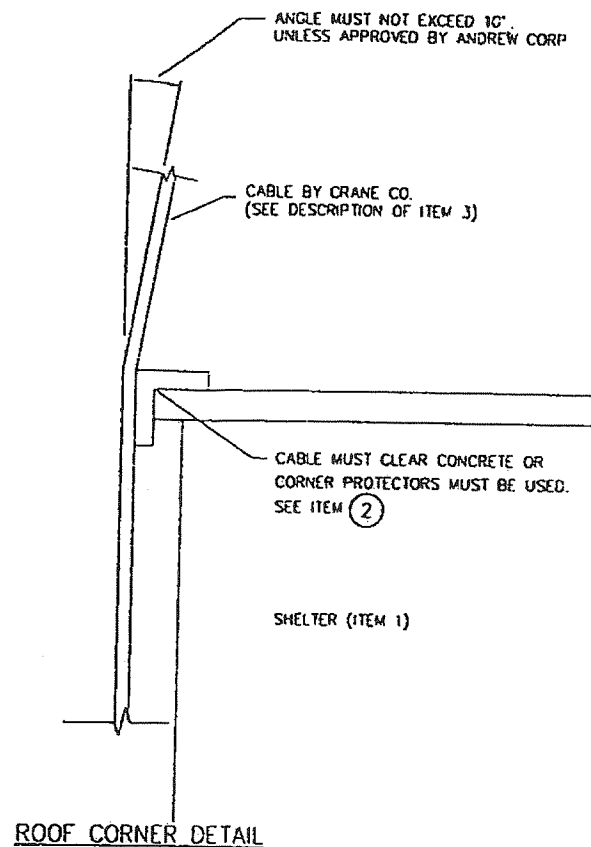


ELEVATION

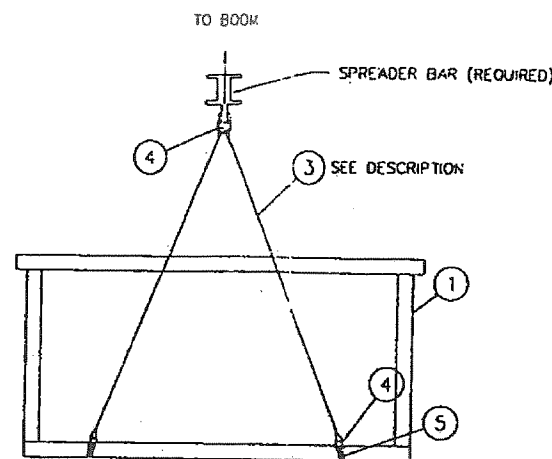
END VIEW

| | | | | | |
|--|---|---|----------|--|---|
| FR | C | REMOVED CRIBBING, DEFINED TRAILER REQUIREMENTS. | 07/28/97 | DRAWN
KK
DATE
9/24/86
QUALITY ENGR
JLM
DATE
10/14/86
PROCESS ENGR
DATE
PROJECT ENGR
DATE
PURCHASING
DATE
CHECKED
DATE | ANDREW CORPORATION
2701 Mayhill Road
Denton, Tx, U.S.A. 76205
Telephone: (817) 566-2400
FAX: (817) 381-8186 |
| B | | REV. PER DCN #1161 | 2/12/87 | TITLE
CONCRETE SHELTER
TRANSPORT DETAILS | RD00023C
ASO No. |
| A | | RELEASED FOR PRODUCTION | 10/14/86 | SIZE
C
TCSN NO.
DRAWING NUMBER
T-001-1 | |
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DIMENSIONS ARE IN INCHES (mm) | SCALE
N T S
PLOT SCALE
SHEET 1 OF 1 |

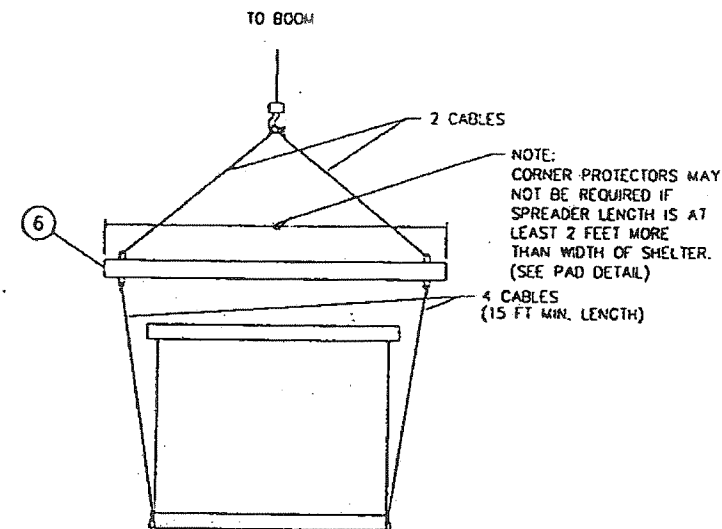
| REV. NO. | | DESCRIPTION | DATE | APPROVED |
|----------|----|----------------------------|---------|------------|
| JW | A | DELETE OPTION 1 | 5/18/88 | K. BARNETT |
| JW | B | GENERAL REVISIONS | 2/14/89 | K. BARNETT |
| AC | B1 | REPRINTED DAMAGED ORIGINAL | 8/29/91 | M. LOGAN |
| AC | B2 | REPRINTED DAMAGED ORIGINAL | | |
| JK | C | SHOW ROOF OVERHANG | 9/30/97 | J. KELLY |



PLAN



ELEVATION



END VIEW

RIGGING DETAIL

NOTES:

1. ACTUAL WEIGHT OF SHELTER AND CONTENTS SHALL BE DETERMINED (MEASURED OR ESTIMATED) BY ANDREW CORP. WEIGHT SHALL BE SHOWN ON ALL DOCUMENTS (REQUISITIONS, PURCHASE ORDERS, SHIPPING LISTS, BILLS OF LADING, ETC.) RELATED TO LIFTING OR MOVING THE SHELTER.
2. CRANE, SPREADER BAR, CHOKERS, HOOKS, LIFTING STRAPS, SHACKLES AND OTHER LIFTING DEVICES SHALL BE RATED FOR THE LOAD TO BE LIFTED. MANUFACTURERS CERTIFICATION OF RATED LOAD CAPACITY SHALL BE SUPPLIED TO ANDREW CORP. ON REQUEST FOR ANY COMPONENT. ALL SETS OF CABLES MUST BE EQUAL LENGTHS WITHIN 6 INCHES.
3. CARE SHALL BE TAKEN TO AVOID DAMAGE (CHIPPING, CRACKING OR SPALLING OF CONCRETE, MARRING OF SURFACE FINISH) DURING LIFTING, HANDLING, AND SETTING DOWN THE SHELTER.
4. SHELTER MAY BE SET DOWN ON NEOPRENE PADS WHICH ARE LOCATED UNDER EACH CORNER OF THE BUILDING DURING SHIPPING. PADS ARE NOT REQUIRED BUT MAY BE USED IF FOUNDATION DOES NOT MEET 1/8" FLATNESS WHICH IS REQUIRED.
5. REFERENCE DWGS:
 - 5.1 FOR SECURING AND SUPPORTING THIS SHELTER ON TRUCK BED DURING TRANSPORTATION, SEE DWG. NO. T-001-1
6. RIGGING OTHER THAN THAT SHOWN MUST BE APPROVED BY ANDREW CORPORATION SHELTER ENGINEERING.
7. SHELTERS WHICH DO NOT PICK LEVEL MAY NEED TO HAVE CABLES ADJUSTED BY ADDING SHACKLES TO SELECTED CABLES.
8. PHOTOGRAPH OF RIGGING IN PLACE ON SHELTER IMMEDIATELY AFTER PLACEMENT SHOULD BE PROVIDED BY CRANE CO. TO ASSURE ANDREW OF COMPLIANCE WITH THESE SPECIFICATIONS AND AVOID POSSIBLE BACK CHARGES FOR DAMAGE DUE TO RIGGING.

LEGEND

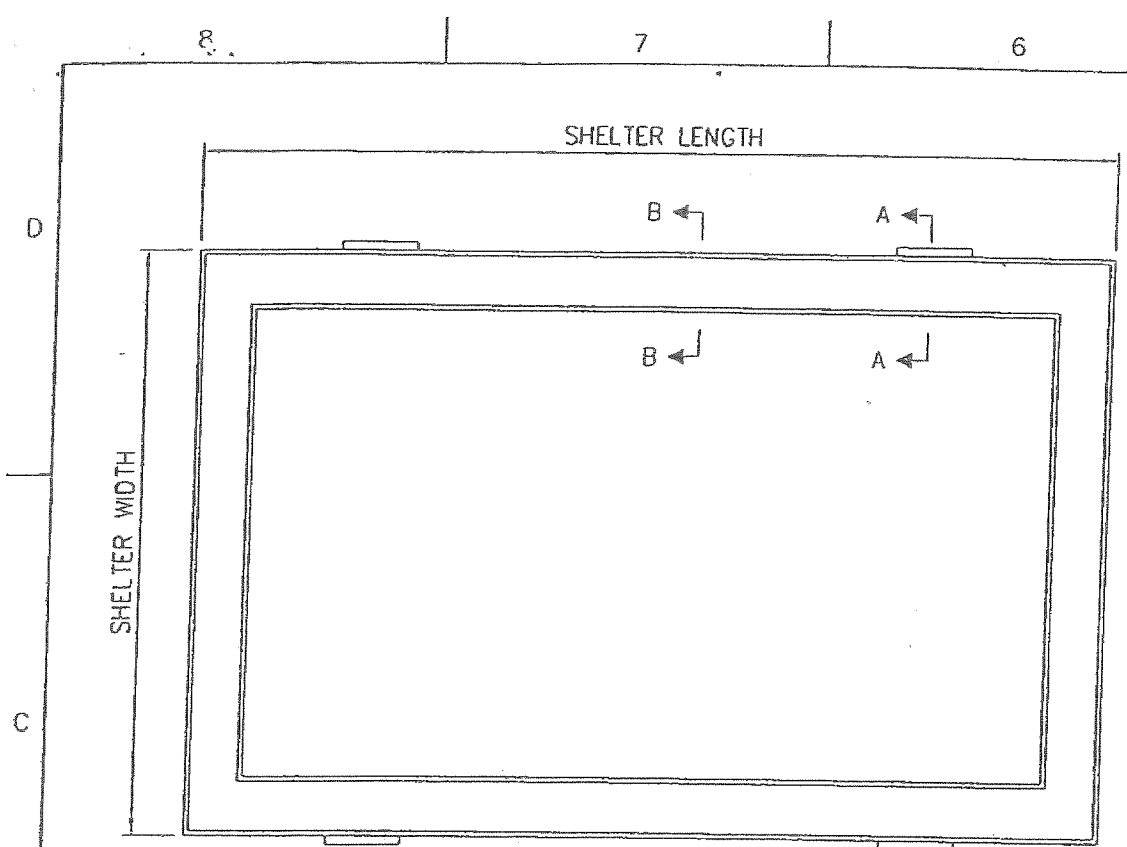
| ITEM # | QTY. | U/M | PROVIDED BY | DESCRIPTION |
|--------|----------|-----|-------------|---|
| 1 | 1 | EA | ANDREW | CONCRETE SHELTER |
| 2 | 4 | EA | CRANE CO. | SPACERS TO PROTECT SHELTER FROM CABLES/CHAINS |
| 3 | 4 | EA | CRANE CO. | CABLE, 1 1/4" MAX DIA. 15' MIN. LENGTH |
| 4 | AS REQ'D | EA | CRANE CO. | SHACKLES |
| 5 | 4 | EA | ANDREW | LIFTING LUG W/BOLT |
| 6 | 1 | EA | CRANE CO. | SPREADER BAR (MIN. LENGTH IS WIDTH OF SHELTER.) |

| | | | | | |
|--|--|--|--|--|--|
| DRAWN
J. WARD
DATE
2/7/89 | | CHECKED
K. BARNETT
DATE
5/18/88 | | PROJECT
K. BARNETT
DATE
5/18/88 | |
| PROJECT
K. BARNETT
DATE
5/18/88 | | CHECKED
J. PAULEY
DATE
5/18/88 | | PROJECT
K. BARNETT
DATE
5/18/88 | |
| PROJECT
K. BARNETT
DATE
5/18/88 | | CHECKED
J. PAULEY
DATE
5/18/88 | | PROJECT
K. BARNETT
DATE
5/18/88 | |

ANDREW CORPORATION
1700 North 1st Street
Tomball, TX 77480
(281) 291-1100

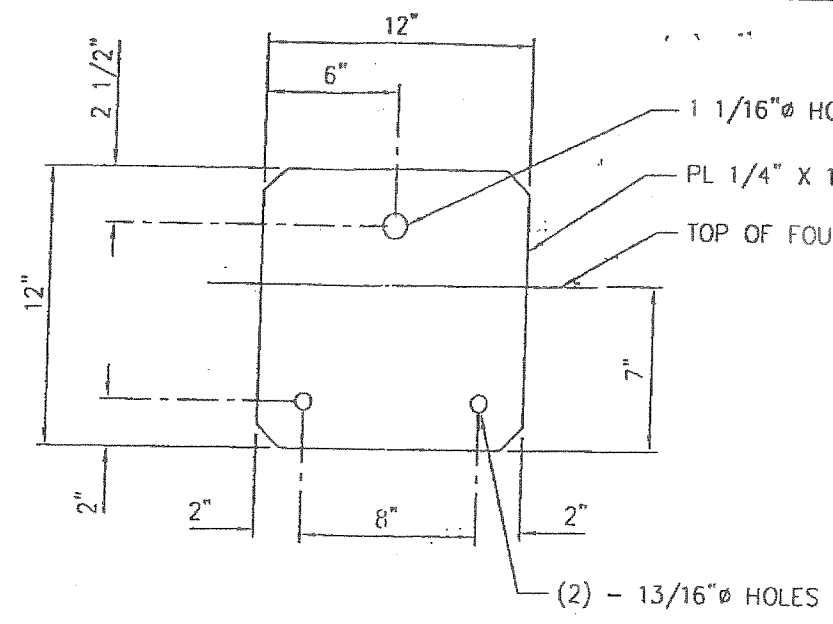
| | | | |
|---|--|---------------------------|--|
| CONCRETE SHELTER
LIFTING DETAILS
USING LUGS | | DRAWING NUMBER
L-001-2 | |
| SCALE
N T S | | SHEET
5-12 | |

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PLAN
(NOT TO SCALE)

ANCHOR PLATE
(SEE NOTE 4)



SHELTER ANCHOR PLATE
(FRONT VIEW)
(380404-5)

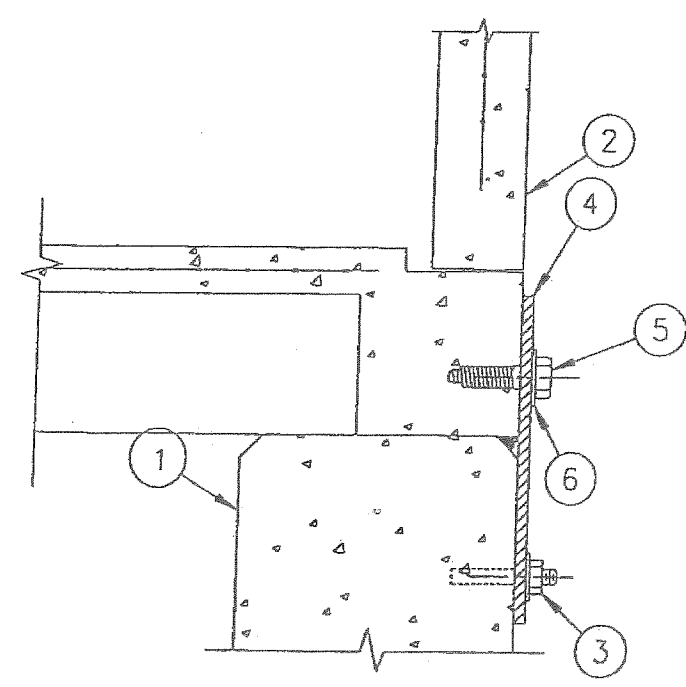
NOTE: ANCHOR PLATES MAY BE PUNCHED WITH ADDITIONAL HOLES. ONLY THE HOLES SHOWN ON THIS DRAWINGS NEED BE USED; ANY ADDITIONAL HOLES MAY BE LEFT EMPTY.

NOTES:

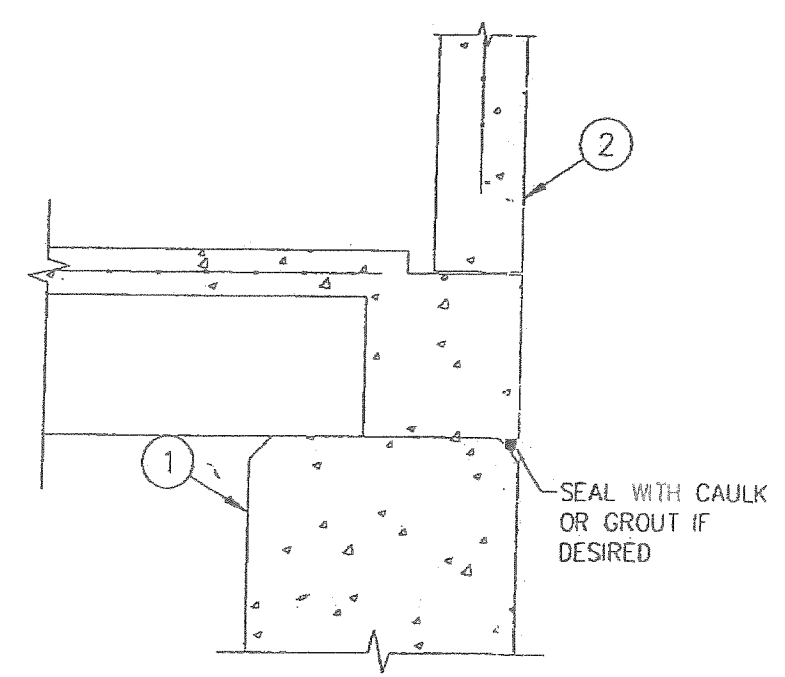
1. ANCHOR PLATE INSTALLATION:
(ITEMS 3 THROUGH 6)
 - 1.1 INSTALL ANCHOR PLATE (ITEM 4) IN PLACE USING 1" BOLTS & WASHERS (ITEMS 5 & 6).
 - 1.2 DRILL FOUNDATION WALL USING ANCHOR PLATE (ITEM 4) AS A TEMPLATE, USE 3/4" DRILL AND DRILL 4 1/2" DEEP.
 - 1.3 INSTALL ANCHOR BOLT, NUT AND WASHER PER MANUFACTURER'S INSTRUCTIONS.
 - 1.4 EXPAND ANCHOR BY TIGHTENING NUT TO 5 TURNS FROM SNUG POSITION.
 - 1.5 AN EQUAL SUBSTITUTION FOR ITEM 3 MAY BE USED UPON ENGINEERS APPROVAL.
2. FOR REFERENCE DRAWINGS, FOUNDATION DRAWINGS, AND FOR LIFTING OR TANSPORTING SHELTERS: CONSULT ANDREW SHELTER ENGINEERING.
3. PERIMETER GRADE BEAM FOUNDATION SHOWN FOR REFERENCE ONLY.
4. LOCATION OF TIE-DOWN HARDWARE SHALL COINCIDE WITH LOCATION OF SHELTER'S THREADED LIFTING INSERT (CL).

| REVISIONS | | | |
|-----------|------|--------------------|----------|
| REV. | REV. | DESCRIPTION | DATE |
| CC | - | INITIAL ISSUE | 4/18/97 |
| FR | A | CHANGED DWG NUMBER | 07/17/97 |

| ITEM | PART NO. | DESCRIPTION |
|------|--------------|--|
| 1 | - | FOUNDATION (BY OTHERS, DESIGN MAY VARY) |
| 2 | - | CONCRETE SHELTER |
| 3 | 367975-38 | 3/4" X 4 1/4" RAWL BOLT ANCHOR, CAT. NO. 6952. |
| 4 | 380404-5 | SHELTER ANCHOR PLATE |
| 5 | 368002-118-1 | 1" X 6" COIL BOLT, ASTM A325 OR A490 |
| 6 | 9997-180 | 1" FLAT WASHER |



SECTION A-A

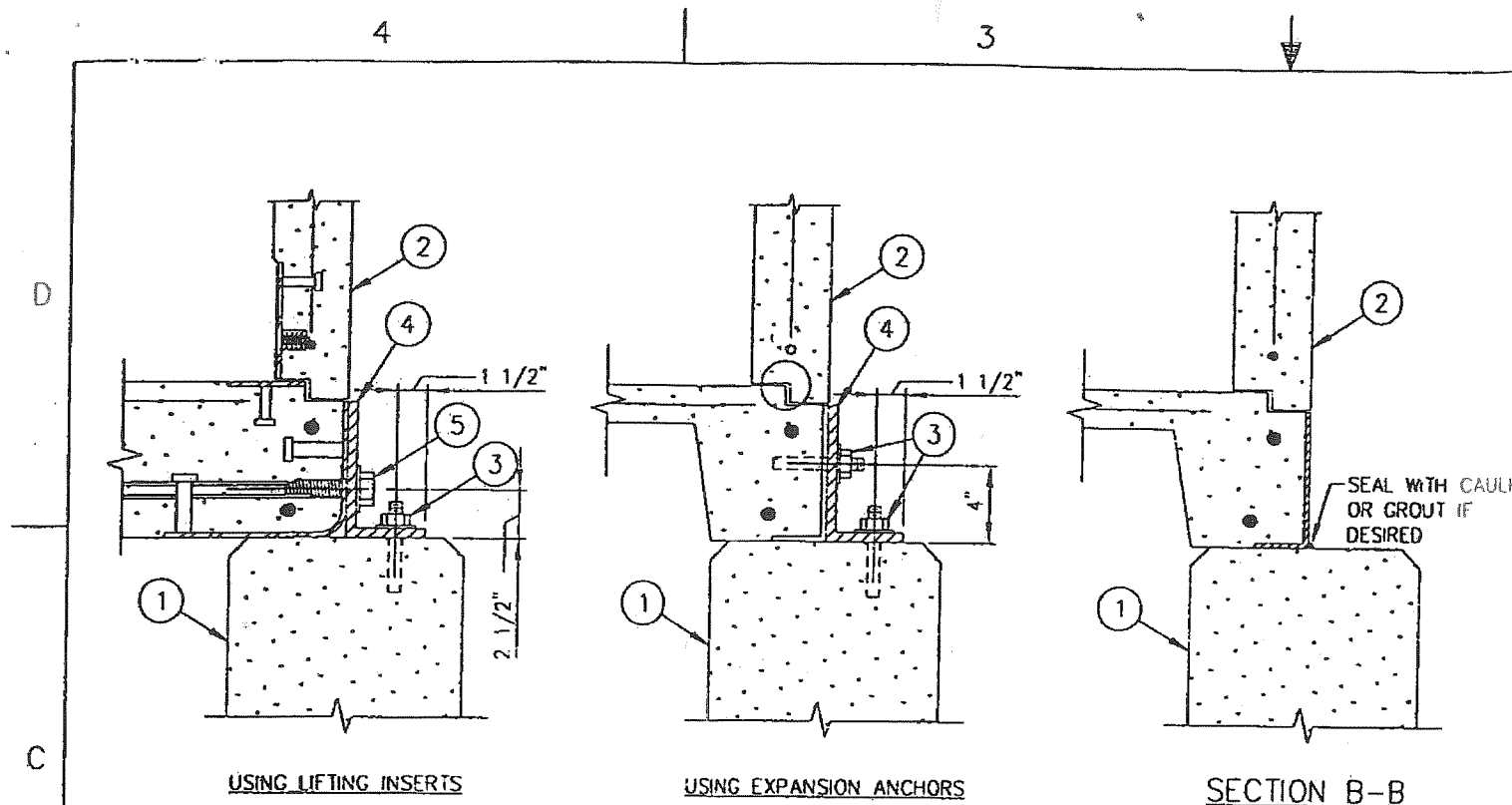


SECTION B-B

ANDREW CORPORATION
27 Antelope Blvd.
Brentwood, GA, U.S.A. 30283
Telephone: (770) 251-8777
Fax: (770) 304-9640

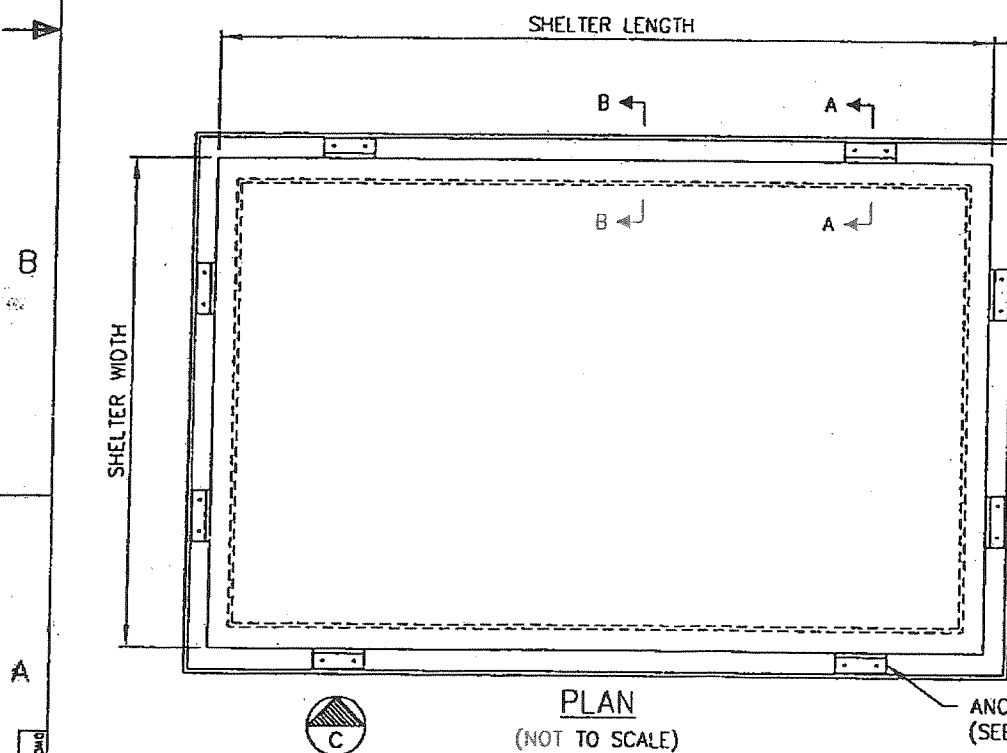
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| | | |
|--|-----------------|---|
| DESIGNED BY
C. CURL | DATE
4/18/97 | <p>TIE DOWN DETAILS
RCS SHELTER SYSTEM</p> |
| CHECKED BY
C. CURL | DATE
4/18/97 | |
| PROJECT ENGINEER
C. CURL | DATE
4/18/97 | |
| PROJECT MANAGER
K. COE | DATE
4/18/97 | |
| UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES AND DECIMALS THEREOF. | | <p>SCALE: N.T.S.</p> <p>FIG. NO. B</p> <p>DRAWING NUMBER: 1-RCS-P</p> <p>SHEET 1 OF 1</p> |

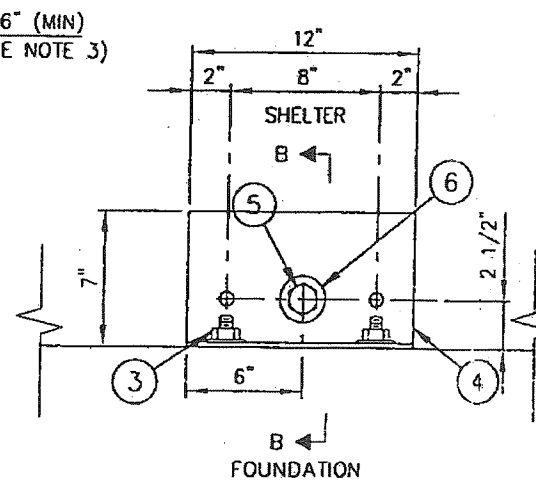


SECTION A-A

SECTION B-B



PLAN
(NOT TO SCALE)



SHELTER ANCHOR ANGLE
VIEW "C"

| REVISIONS | | | |
|-----------|-----|-------------------------------------|----------|
| INIT. | REV | DESCRIPTION | DATE |
| SH | - | INITIAL RELEASE | 7/9/97 |
| FR | A | CHANGED DWG NO. NOTE 1.1, & VIEW C. | 07/17/97 |

| ITEM | PART NO. | DESCRIPTION |
|------|--------------|--|
| 1 | - | FOUNDATION (BY OTHERS, DESIGN MAY VARY) |
| 2 | - | CONCRETE SHELTER |
| 3 | 367975-38 | 3/4" X 4 1/4" RAWL BOLT EXPANSION ANCHOR, OR EQ. |
| 4 | 380405-1 | SHELTER ANCHOR ANGLE |
| 5 | 368002-118-1 | 1" X 6" COIL BOLT, ASTM A325 OR A490 |
| 6 | 9997-180 | 1" FLAT WASHER |

NOTES:

- ANCHOR ANGLE INSTALLATION: OPTIONAL (ITEMS 3 THROUGH 6)
 - 1.1 INSTALL ANCHOR ANGLE (ITEM 4) IN PLACE USING 1" BOLTS & WASHERS (ITEMS 5 & 6). ALTERNATELY, FOR FOUNDATION PIERS NOT LOCATED AT COIL BOLT LOCATIONS, 2 EXPANSION ANCHORS MAY BE ATTACHED TO THE SHELTER IN PLACE OF THE 1" BOLT. INSTALL EXPANSION ANCHORS SIMILAR TO NOTES 1.2 THRU 1.4. (NOTE: THIS REQUIRES DRILLING THROUGH THE 5/16" THICK STEEL FLOOR ANGLE).
 - 1.2 DRILL FOUNDATION WALL USING ANCHOR ANGLE (ITEM 4) AS A TEMPLATE, USE 3/4" DRILL AND DRILL 4 1/2" DEEP.
 - 1.3 INSTALL ANCHOR BOLT, NUT AND WASHER PER MANUFACTURER'S INSTRUCTIONS.
 - 1.4 EXPAND ANCHOR BY TIGHTENING NUT TO 5 TURNS FROM SNUG POSITION.
 - 1.5 AN EQUAL SUBSTITUTION FOR ITEM 3 MAY BE USED UPON ENGINEER'S APPROVAL.
- FOR REFERENCE DRAWINGS, FOUNDATION DRAWINGS, AND FOR LIFTING OR TRANSPORTING SHELTERS: CONSULT ANDREW SHELTER ENGINEERING.
- PERIMETER GRADE BEAM FOUNDATION SHOWN FOR REFERENCE ONLY. LENGTH AND WIDTH OF FOUNDATION WILL VARY WITH THE LOCATION OF THE ANCHOR ANGLE. MINIMUM 6" REQUIRED FOR ANCHORING ON EACH SIDE ANGLES ARE LOCATED.
- NUMBER AND LOCATION OF TIE-DOWN HARDWARE MAY VARY.
- INSTALLATION IS SUBJECT TO LOCAL APPROVAL.

| | | | |
|---|-----------------------|---|----------------------------------|
| | | ANDREW CORPORATION
27 Antioch Blvd.
Newnan, GA U.S.A. 30265
Telephone: (770) 251-8777
FAX: (770) 304-4640 | |
| DRAWN BY
S. HARDY | DATE
7/9/97 | TITLE
RCS CONCRETE SHELTER
INSTALLATION DETAILS | |
| CHECKED BY
 | DATE
 | | |
| PROJECT ENGR
 | DATE
 | | |
| PROJECT MGR
F. RESSO | DATE
7/9/97 | SIZE
C | DRAWING NUMBER
I-RCS-A |
| UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES (in) | | SCALE
N.T.S. | PLOT SCALE
.5=12 |
| | | SHEET
1 | OF
1 |

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1-001-2

RD00022A

Appxi:

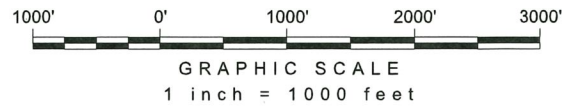
PRELIMINARY SUBDIVISION PLAT

LOCATED IN SECTION 24, T1S, R5E, AND SECTION 19 & 20, T1S, R6E,
WILLAMETTE MERIDIAN, MULTNOMAH COUNTY, OREGON

RECEIVED
SEP 04 2019
BY:

LEGEND

- FOUND MONUMENT
- ▲ CALCULATED POINT
- APPROXIMATE RESERVOIR LIMITS
- APPROXIMATE ROAD CENTERLINE
- PROPOSED PARCEL BOUNDARY
- USFS UNITED STATES FOREST SERVICE



FRANK TIMBER
RESOURCES INC.
BK.1210, PG.1339
TAX LOT 155E00700

UNPATENTED
USA
TAX LOT 155E00800

UNPATENTED
USA
TAX LOT 156E02100

UNPATENTED
USA
TAX LOT 156E01700

UNPATENTED
USA
TAX LOT 156E01600

T.1 S.

UNPATENTED
USA
TAX LOT 155E01200

TAX LOT 155E01000

24
LOT 1
704.3 ACRES

19
LOT 2
570.3 ACRES

UNPATENTED
USA
TAX LOT 156E02300

LOT 3
240.6 ACRES

LOT 4
41.9 ACRES

UNPATENTED
USA
TAX LOT 156E02600

CITY OF PORTLAND
WATER BUREAU
TAX LOT 155E01100

MULTNOMAH COUNTY
CLACKAMAS COUNTY

C.C. - TAX LOT 15E00100
UNPATENTED
USA

C.C. - TAX LOT 15E00100
UNPATENTED
USA

CITY OF PORTLAND
WATER BUREAU

C.C. - TAX LOT 16E00600

C.C. - TAX LOT 16E00100
UNPATENTED
USA

MULTNOMAH COUNTY
CLACKAMAS COUNTY

C.C. - TAX LOT 16E00100
UNPATENTED
USA

NOTES:

- 1) THE PURPOSE OF THIS PRELIMINARY PLAT IS TO DEPICT THE PROPOSED PARTITIONING OF LANDS OWNED BY THE CITY OF PORTLAND - WATER BUREAU IN ORDER TO FACILITATE A LAND EXCHANGE WITH THE UNITED STATES FOREST SERVICE.
- 2) DIMENSIONS AND SECTION LINES SHOWN HEREON ARE BASED ON A COMBINATION OF A) MONUMENTS FOUND AND MEASURED IN A PRELIMINARY SURVEY BY THE PORTLAND WATER BUREAU, B) RECORD DIMENSIONS SHOWN ON FILED SURVEYS IN BOTH MULTNOMAH AND CLACKAMAS COUNTIES, AND C) CALCULATED POINTS FOR THE BREAKDOWN OF SECTIONS PER THE BLM MANUAL. ALL PROPOSED PARCELS SHOWN HEREON ARE INTENDED TO BE SECTIONS OR ALIQUOT PARTS OF SECTIONS.
- 3) AN EXISTING AERIAL POWER LINE (NOT SHOWN GRAPHICALLY) RUNS GENERALLY PARALLEL WITH ROAD 10 ALONG THE SOUTH SIDE OF THE ROAD.
- 4) ROADS AND WATER FEATURES SHOWN HEREON ARE BASED ON AERIAL PHOTOGRAMMETRY TAKEN IN 2014. THE CONTOURS SHOWN HEREON ARE BASED ON LIDAR DATA FROM 2007, WITH A 10 FOOT CONTOUR INTERVAL.
- 5) THE BASIS OF BEARINGS FOR THIS PRELIMINARY SUBDIVISION IS GRID NORTH BASED ON OREGON STATE PLANE COORDINATES, NORTH ZONE.

REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 14, 1998
PAUL R. EJGIRD
2858

EXPIRES: 12/31/19



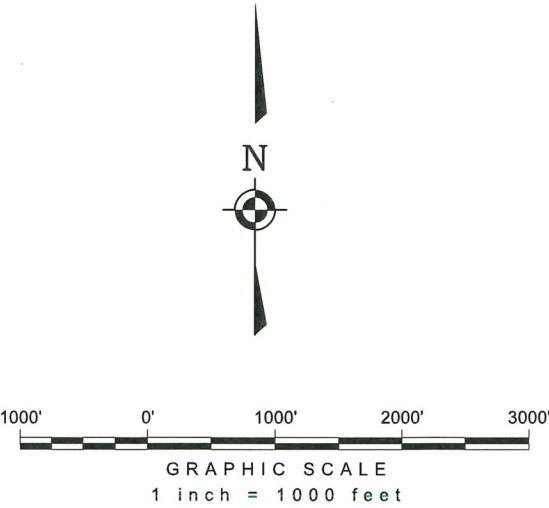
PORTLAND
WATER
BUREAU
FROM FOREST TO FAUCET
1120 S.W. 5TH AVE., ROOM 600
PORTLAND, OR 97204-1926
503-823-7404

PROJECT: W01516 BULL RUN
LAND EXCHANGE WITH USFS
DATE: 8-14-2019
DRAWN BY: PAUL R. EJGIRD
CREW: PWB SURVEY
SHEET 1 OF 2

EXHIBIT
A.25

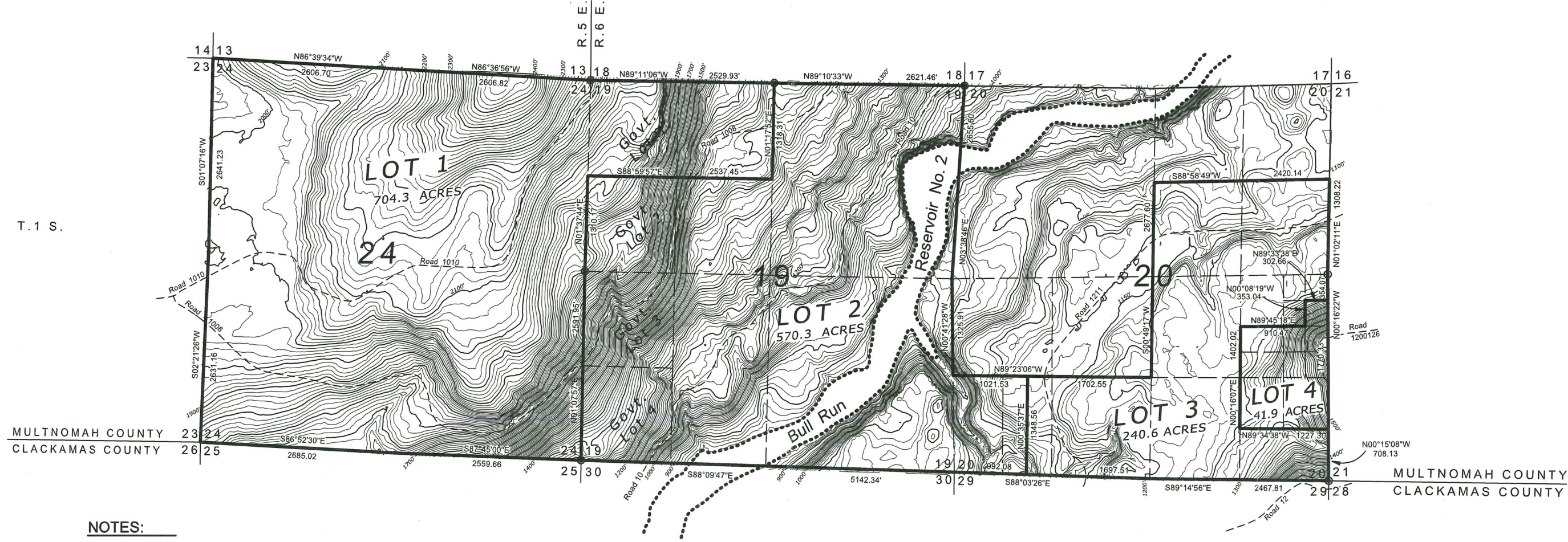
PRELIMINARY SUBDIVISION PLAT

LOCATED IN SECTION 24, T1S, R5E, AND SECTION 19 & 20, T1S, R6E,
WILLAMETTE MERIDIAN, MULTNOMAH COUNTY, OREGON



LEGEND

- FOUND MONUMENT
- ▲ CALCULATED POINT
- APPROXIMATE RESERVOIR LIMITS
- - - APPROXIMATE ROAD CENTERLINE
- PROPOSED PARCEL BOUNDARY
- USFS UNITED STATES FOREST SERVICE



NOTES:

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REGISTERED
PROFESSIONAL
LAND SURVEYOR

OREGON
JULY 14, 1998
PAUL R. EJGIRD
2858

EXPIRES: 12/31/19



PROJECT: W01516 BULL RUN
LAND EXCHANGE WITH USFS

DATE: 8-14-2019

DRAWN BY:
PAUL R. EJGIRD

CREW:
PWB SURVEY

SHEET
2 OF 2

Appx: j

Department of Community Services
Land Use Planning Division
www.multco.us/landuse



1600 SE 190th Ave, Portland OR 97233-5910 • PH. (503) 988-3043 • Fax (503) 988-3389

HEARINGS OFFICER DECISION

Community Use Conditional Use, Design Review, Forest Development Standards, Exception to Secondary Fire Safety Zone and two Variances

Case File: T3-2018-10227

Hearings Officer: Dan R. Olsen

Hearing Date, Time, & Place:

June 8, 2018 at 9:00 am Room 103 at the Land Use
Planning Division office located at 1600 SE 190th
Avenue, Portland, OR 97233

RECEIVED
SEP 04 2019
BY:

Summary: Portland Water Bureau is requesting approval of a Community Service Conditional Use, Design Review, Forest Development Standards, Variances, and Exception to Secondary Fire Safety Zone Permits for a new microwave radio tower facility on a property within the Commercial Forest Use Zone -3.

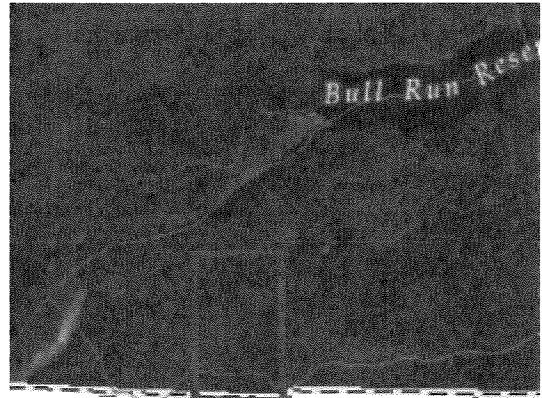
Location: No Site Address,
Tax Lot 02500, Township 1 South, Range 6 East, W.M.
Tax Account #R996200030 Tax ID # R343058

Applicant(s): Robert Goldie **Property Owner(s):** Portland Water Bureau

Base Zone: Commercial Forest Use – 3 (CFU-3)

Property Size: 240 Acres





Applicable Approval Criteria: Multnomah County Code (MCC): MCC 35.2030: CFU Conditional Use, MCC 35.2056: Forest Practices Setbacks and Fire Safety Zones, MCC 35.2061: Forest Development Standards for Dwellings and Structures, MCC 35.2075: CFU-3 Lot of Record, MCC 35.2110: Exception to Secondary Fire Safety Zone, MCC 35.6000-35.6020: Community Service Conditional Use, MCC 35.6100 – 35.6130: Radio and Television Transmission Towers, MCC 35.7000 -35.7060: Design Review, and MCC 35.4100 – 35.4210: Off-Street Parking and Loading, and MCC 35.7600 – 35.7615 Variance.

HEARING OFFICER DECISION

Hearings Officer: I provided the statutorily required notices. I indicated that I had had no ex parte contacts, had no conflicts of interest and had not conducted a site visit. I asked for but received no procedural or other objections.

George Plummer, Staff Planner, provided the staff report. He clarified that the applications are for a new tower facility that replaces an existing communication system that had no tower. He noted that the U.S Forest Service supports the applications.

Appearing for the applicant was Robert Fraley, a Senior Planner with the City of Portland. Also available for the applicant were Scott Howes and Bob Ochs. Mr. Fraley explained that this project replaces the existing passive system with a more resilient communications system serving the Water Bureau and emergency communications generally. This is the only location providing a clear line of site. He noted that the Bureau has fire management and suppression agreements with the Forest Service and the Department of Forestry. There was no objection to the recommended conditions of approval.

There was no opposition testimony.

I find that the Staff Report and materials on which it relies demonstrate that the applicant has met its burden of proof regarding compliance with the applicable standards, subject to compliance with the conditions of approval recommended by Staff. Accordingly, the Staff Report is adopted as my Findings and Conclusions and the application is **Approved with conditions** as follows:

1. Approval for this Community Service Permit is based on the submitted written narrative(s) and plan(s). No work shall occur under this permit other than that which is specified within these documents or within subsequent land use permits. It shall be the responsibility of the property owner to comply with these documents and the limitations of approval described herein.
2. This land use permit expires two years from the date the decision is final if (a) development action has not been initiated; (b) building permit has not been issued as required. The property owner may request to extend the timeframe within which this permit is valid, as provided in MCC 37.0690.

3. The property shall maintain the tower so that it continues to meet federal, state and County non-ionizing electromagnetic radiation standards. The background radiation shall be measure prior to operation of the tower to establish base line data and periodic measurement shall be made to confirm the new source meets the required standards. [MCC 35.6125 (A)]
4. The towers shall be painted green from base to tree line, with the remainder painted silver or have a galvanized finish. [MCC 35.6115(C)(1)]
5. Prior to issuance of County Land Use Planning signoff on the plans for the building permit, the applicant shall demonstrate that the project qualifies as a Minimal Impact or obtain a Grading and Erosion Control permit. The applicant shall show erosion control measures sufficient to ensure that visible or measureable erosion does not leave the site shall be maintained during development. [MCC 35.2060(I), MCC 35.4550(A)].
6. The property owner shall establish and maintain a minimum of two parking spaces for maintenance of the tower. [MCC 35.6115(D)]
7. Prior to building tower, the property owner or representative shall apply for and obtain a building permit for the tower and equipment accessory building. The equipment accessory building shall be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. The property owner shall ensure that a final inspection for its construction is completed prior to its operation. [MCC 35.2105 (B)(1)].
8. The property owner shall establish and maintain a primary fire safety zone and a secondary fire safety zone. [MCC 35.2056(D)]
 - A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. All trees within this primary fire safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.
 - A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District. [MCC 35.2056(D)]

Findings of Fact

FINDINGS: Written findings are contained herein. The Multnomah County Code (MCC) criteria and Comprehensive Plan Policies are in **bold** font. Staff analysis and comments are identified as ‘**Staff:**’ and address the applicable criteria. Staff comments may include a conclusionary statements recommendations in *italic*.

1. PROJECT DESCRIPTION

Staff: Portland Water Bureau is requesting approval of a Community Service Conditional Use, Design Review, Forest Development Standards, Variances, and Exception to Secondary Fire Safety Zone Permits for a new microwave radio tower facility on a property within the Commercial Forest Use Zone -3.

The applicant is requesting to replace and to construct with a more updated 195-foot-tall Microwave Radio and Telecommunications Tower and accessory equipment shed replacing an older microwave communication system to improve the communication network including phone, computer communication and other data transfer. The purpose of the new tower is to increase security and communication between the City of Portland’s Bureau of Water Works facilities in-town, at their Bull Run facility, and at the existing Lusted Hill Site.

Application was submitted on March 30, 2018 (Exhibit A.1). The application was deemed complete on April 30, 2018 (Exhibit C.1). Notice of Public Hearing was mailed on May 17, 2018 (Exhibit C. The Public Hearing notice is on June 8, 2018. The hearing is on Day 39 of the application.

2. PROJECT AND PROPERTY DESCRIPTION

Staff: The 240-acre Camp Creek property is located within the Bull Run Watershed (Exhibit B.3) with the proposed tower site about a mile to the southwest of the Bull Run Reservoir 1 (Exhibit A.3, pages 7 and 8). The Bull Run Watershed has been used by the City of Portland and the greater region for a drinking water supply since 1895. The entire watershed has been managed under increasing levels of protection since it was established as a Forest Reserve in 1892. In 2001, the protection was extended by federal law. The Bull Run Watershed Management Unit is approximately 102 square miles in size. The Watershed is carefully managed and maintained to sustain and supply drinking water to a quarter of Oregon’s population.

The proposed tower site is in a large densely forested area of primarily Douglas fir, western hemlock, western red cedars and dense understory vegetation (Exhibit A3, page 8)). The Bull Run Watershed access is highly related allowing access to only those who have official access approved such as Water Bureau staff, US Forest Service staff, scientists, etc. related to the forest and watershed use of the management unit.

The proposed tower location is on the top of a ridge which provides an optimal location with a clear line-of-sight to Lookout Point tower, Bear Creek House, and Headworks Treatment Facility. This site is the only location on City Property within the watershed that can meet the clear line-of-sight standard. The site is rounded top of the ridge, relatively level allowing for 30-foot Primary Fire Safety Zone surrounding the site and reducing the risk of wildfire damage (Exhibit A.2).

3. BASE ZONE CRITERIA

3.1. Conditional Uses (Community Service Uses)

MCC 35.2030: The following uses may be permitted when found by the approval authority to satisfy the applicable standards of this Chapter:

(A) The following Community Service Uses pursuant to all applicable approval criteria, including but not limited to the provisions of MCC 35.2045, 35.2050, 35.2056, 35.2061, 35.6000 through 35.6010, and 35.6100 through 35.6230:

*** * ***

(11) Radio and television transmission towers subject to the definitions, restrictions and standards in CFU-3 and CFU-4: 35.6015(A)(15) and 35.6100 through 35.6130 and wireless communications facilities when found to satisfy the requirements of MCC 35.6175 through 35.6188.

Staff: The applicant is proposing a new microwave tower. Microwave is a type of radio wave transmission. Findings for the listed code sections are in the following Section 4 of this staff report. *These standards are met.*

3.2. Use Compatibility Standards

MCC 35.2045 Specified uses of ... MCC 35.2030 (A)... may be allowed upon a finding that:

(A) The use will:

- (1) Not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding forest or agricultural lands;**
- (2) Not significantly increase fire hazard, or significantly increase fire suppression costs, or significantly increase risks to fire suppression personnel;**

Staff: There is no farming in the area. The surrounding forest, 102 square miles of the Bull Run Watershed, has been managed as a forested watershed providing drinking water to the City of Portland since 1985. The proposed tower will help in the management of the Watershed Management Unit of the forest. The tower will not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding.

The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring that fire safety zones be established and maintained. *The proposal meets these standards through implementing a recommended condition of approval.*

(B) A statement has been recorded with the Division of Records that the owner and the successors in interest acknowledge the rights of owners of nearby property to conduct forest operations consistent with the Forest Practices Act and Rules, and to conduct accepted farming practices.

Staff: This standard is met through the federal act for Bull Run Watershed Management Unit which directs management which is consistent with Forest Practices Act and Rules for the subject

property and surrounding properties all owned by the City or Federally owned. *This standard is met.*

3.2. Forest Practices Setbacks and Fire Safety Zones

- 3.2.1. MCC 35.2056: The Forest Practice Setbacks and applicability of the Fire Safety Zones is based upon existing conditions, deviations are allowed through the exception process and the nature and location of the proposed use. The following requirements apply to all structures as specified:**

| Use | Forest Practice Setbacks | | Fire Safety Zones |
|---------------------------------|---|---------------------------|-------------------------------------|
| Description of use and location | Front Property Line Adjacent to County Maintained Road (feet) | All Other Setbacks (feet) | Fire Safety Zone Requirements (FSZ) |
| Other Accessory structures | 30 | 130 | Primary & Secondary required |
| Other Structures | 30 | 130 | Primary & Secondary required |

Staff: The proposed tower location exceeds the 130-foot setback from all property line except eastern property line for which the application includes a Variance request (see Section 5 of this Staff Report). *This standard is met through the approval of a Variance.*

- 3.2.2. MCC 35.2056(A) Reductions to a Forest Practices Setback dimension shall only be allowed pursuant to approval of an adjustment or variance.**

Staff: The application includes a variance request to reduce the 130-foot Forest Practices Setback to 30 feet. See Section 5 of this Staff Report for the finding addressing the variance request.

- 3.2.3. MCC 35.2056(B) Exception to the Secondary Fire Safety Zone shall be pursuant to MCC 35.2110 only. No reduction is permitted for a required Primary Fire Safety Zone through a nonconforming, adjustment or variance process.**

Staff: The application includes a request for an Exception to the Secondary Fire Safety Zone. The findings for the exception request See Section 3.5 of this Staff Report. Staff finds in Section 3.2.4. (D)(2) that the subject property and the adjacent property while under different ownership are managed together as part of the Bull Run Watershed Management Unit which in essence acts like a tract in the same ownership. The adjacent property can be managed with a Secondary Fire Safety Zone. The Exceptions criteria and standards are included in case the Hearings Officer finds that the management unit status does meet the standards of Section 3.2.4. MCC 35.2056(D)(2) and (5) requiring a Secondary Fire Safety Zone be established and maintained.

- 3.2.4. MCC 35.2056(D) Fire Safety Zones on the Subject Tract**

(1) Primary Fire Safety Zone

- (a) A primary fire safety zone is a fire break extending a minimum of 30 feet in all directions around a dwelling or structure. Trees within this safety zone shall be spaced with greater than 15 feet between the crowns. The trees shall also be pruned to remove low branches with-in 8 feet of the ground as the maturity of the tree and accepted**

silviculture practices may allow. All other vegetation should be kept less than 2 feet in height.

(b) On lands with 10 percent or greater slope the primary fire safety zone shall be extended down the slope from a dwelling or structure as follows:

Staff: The slope is less than 10 percent for the first thirty feet surrounding the tower. Exhibit A.3, Figure 7, Page 23 shows primary fire safety zone incorrectly drawn (the 30-foot primary must be around all building and the exterior of the tower not from a center point). While the figure is incorrectly drawn it shows there is enough area to meet the 30-foot primary fire safety zone. Staff recommends an on-going condition of approval that the primary fire safety zone be met and maintained on the property. *The proposal meets these standards through implementing recommended condition of approval that the primary fire safety zone be established and maintained on the property.*

(2) Secondary Fire Safety Zone

A secondary fire safety zone is a fire break extending a minimum of 100 feet in all directions around the primary safety zone. The goal of this safety zone is to reduce fuels so that the overall intensity of any wildfire is lessened. Vegetation should be pruned and spaced so that fire will not spread between crowns of trees. Small trees and brush growing underneath larger trees should be removed to prevent the spread of fire up into the crowns of the larger trees. Assistance with planning forestry practices which meet these objectives may be obtained from the State of Oregon Department of Forestry or the local Rural Fire Protection District. The secondary fire safety zone required for any dwelling or structure may be reduced under the provisions of 35.2110.

Staff: Exhibit 1.3, Figure 7, Page 23 also shows a secondary fire safety zone incorrectly drawn. The secondary fire safety zone is located 100 feet in all direction out from the outer edge of the 30-foot primary fire safety zone. The tower is located a sufficient distance from all property lines except the eastern property line, for a full secondary fire safety zone to be maintained on the property for the tower except for in the eastern, south-eastern and north-eastern directions. A secondary fire safety zone must be maintained on the subject property or subject ownership or an Exception to the Secondary Fire Safety Zone approval must be obtained.

While the applicant has requested an Exception to the Secondary Fire Safety Zone (findings in Section 3.5 of this staff report), staff finds that while the City owns the subject property and the US Forest Service (USFS) owns the adjacent (east) property, they are within the same management unit (Bull Run Watershed Management Unit) managed together. Given they are in the same management, it is staff's understanding that a secondary fire safety zone could be met and maintained just as if the property was in the same ownership. Staff recommends an on-going condition of approval that the secondary fire safety zone be established and maintained. *The proposal meets these standards through implementing recommended condition of approval that the secondary fire safety zone be established and maintained on the property.*

* * *

(5) Required Primary and Secondary Fire Safety Zones shall be maintained by the property owner in compliance with the above criteria listed under (1) and (2).

Staff: The primary and secondary fire safety zones are required to be maintain (see previous finding). Staff recommends an on-going condition of approval that the primary and secondary fire safety zones zone be maintained according to MCC 35.2056D) (1) and D (2) standards. The proposal meets these standards through implementing the recommended condition of approval. *The proposal meets these standards through implementing recommended condition of approval that the primary and secondary fire safety zones be established and maintained on the property.*

3.3. Development Standards for Structures

3.3.1. MCC 35.2061: ... structures shall comply with the approval criteria in (B) through (D) below except as provided in (A). All exterior lighting shall comply with MCC 35.0570:

Staff: The proposal does not meet (A) thus must comply with the approval criteria in (B) through (D) below.

3.3.2. (B) ...accessory buildings (or similar structures) greater than 100-feet from the existing dwelling shall meet the following standards in (1) and (3) or (2) and (3):

Staff: There is no dwelling associated with the subject property, thus the proposed structure and buildings must meet following standards in (1) and (3) or (2) and (3).

3.3.2.1. (1) The structure shall satisfy the following requirements:

- (a) To meet the Forest Practices Setback, the structure shall be located a minimum of 30-feet from a front property line adjacent to a county maintained road and 130-feet from all other property lines;**
- (b) The structure shall be located in a cleared area of at least 10,000 square feet that meets the tree spacing standards of a primary fire safety zone;**
- (c) The entirety of the development site is less than 30,000 square feet in total cleared area, not including the driveway;**
- (d) The structure is sited within 300-feet of frontage on a public road and the driveway from the public road to the structure is a maximum of 500-feet in length;**
- (e) The local Fire Protection District verifies that their fire apparatus are able to reach the structure using the proposed driveway; or**

Staff: There is no County maintained road as required in subsection (a), there is a 130-foot minimum front yard setback for which a variance is requested. Thus, the development must meet standards in (2) and (3).

3.3.2.2. (2) The structure shall satisfy the following requirements:

- (a) It has the least impact on nearby or adjoining forest or agricultural lands and satisfies the standards in MCC 35.2056;**
- (b) Adverse impacts on forest operations and accepted farming practices on the tract will be minimized;**
- (c) The amount of forest land used to site the dwelling or other structure, access road, and service corridor is minimized;**
- (d) Any access road or service corridor in excess of 500 feet in length is demonstrated by the applicant to be necessary due to physical limitations unique to the property and is the minimum length required; and**

Staff: There is no farming in the area. All adjoining lands are owned by the US Department of Agriculture (USFS) or the Portland Water Bureau and are managed by the Bull Run Watershed Management Unit as a 102 square mile watershed which has provided drinking water to the City of Portland and surrounding area since 1985. The proposed tower is a tool used in the management of the Watershed Management Unit of the forest and the management of the drinking water deliverance facilities. The tower will not force a significant change in, or significantly increase the cost of, accepted forestry or farming practices on surrounding lands.

The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring the maintaining the fire safety zones. The impacts have been minimized. *The proposal meets these standards through implementing recommended condition of approval.*

The amount of forest land used to site the structure, access road, parking and primary fire safety zone is minimized to about half an acre. The access for the site is taken from a Bull Run Watershed Management Unit existing management road that dead-ends at the east property. The access road to the site is about 30 long, is less than 500 feet in length. *The proposal meets these standards.*

- 3.3.2.3. (3) The risks associated with wildfire are minimized. Provisions for reducing such risk shall include:**
- (a) Access roadways shall be approved, developed and maintained in accordance with the requirements of the structural fire service provider that serves the property. Where no structural fire service provider provides fire protection service, the access roadway shall meet the Oregon Fire Code requirements for fire apparatus access**
 - (b) Access for a pumping fire truck to within 15 feet of any perennial water source of 4,000 gallons or more within 100 feet of the driveway or road on the lot. The access shall meet the fire apparatus access standards of the Oregon Fire Code with permanent signs posted along the access route to indicate the location of the emergency water source;**

Staff: The access for the site is taken from a Bull Run Watershed Management Unit existing management road which is used an access road for USFS fire crews. The subject site is relatively level allow for a 30-foot Primary Fire Safety Zone surrounding the tower site. The Secondary Fire Safety Zone can be maintained on site and on the adjacent property located in the Watershed Management Unit. Staff is recommending a condition of approval requiring the maintaining the fire safety zones. There is no perennial water source of 4,000 gallons or more within 100 feet of the driveway or road on the lot, thus this standard is not applicable. The impacts have been minimized. *The proposal meets these applicable standards through implementing recommended condition of approval.*

3.3.3. (C) The structure shall:

- (1) Comply with the standards of the applicable building code ...**

Staff: A condition of approval can require a building permit to be obtained. Staff recommends a condition of approval that a building permit to be obtained. *The proposal meets these standards through implementing the recommended condition of approval.*

3.4. Lot of Record

MCC 35.2075 (A) In addition to the Lot of Record definition standards in MCC 35.0005, for the purposes of this district a Lot of Record is either:

- (1)** A parcel or lot which was not contiguous to any other parcel or lot under the same ownership on February 20, 1990, or
- (2)** A group of contiguous parcels or lots:
 - (a)** Which were held under the same ownership on February 20, 1990; and
 - (b)** Which, individually or when considered in combination, shall be aggregated to comply with a minimum lot size of 19 acres, without creating any new lot line.

Staff: *This standard is met.*

3.5. Exception to Secondary Fire Safety Zone

Staff: See finding under Section 3.2.3. of this Staff Report, MCC 35.2056(B).

3.5.1. MCC 35.2110(A) The secondary fire safety zone for dwellings and structures may be reduced pursuant to the provisions of 35.2110 (B) when:

- (1)** The tract on which the dwelling or structure is proposed has an average lot width or depth of 330 feet or less, or
- (2)** The dwelling or structure is proposed to be located within 130 feet of the centerline of a public or private road serving two or more properties; or
- (3)** The proposed dwelling or structure is proposed to be clustered with a legally existing dwelling or structure.

MCC 35.0005: Definitions

Lot – A unit of land created by a subdivision of land, see definition in MCC 35.7705.

Depending upon the context in which the term appears in this Chapter, a Lot may also mean a lot, parcel (result of partitioning), unit of land (lawfully created by deed or land sale contract) or area of land owned by or under the lawful control and in the lawful possession of one distinct ownership.

Private Road – A private accessway built on a separate lot from the lots it serves, connecting more than one property to the local public road system and each lot using the private road for access has an undivided interest in the private road.

Public Road– A road over which the public has a right of use that is a matter of public record. County roads, city streets, state highways, federal roads and local access roads are all public roads.

Staff: The applicant proposes measuring the development site (Exhibit A.3, page 123) using the “330-foot width or depth of 330 feet or less” versus “average lot width or depth.” The code is clear that it is lot width or depth not the development site. The applicant also presents a case for the within 130 of a public road standard (Exhibit A.10)

The road accessing the property is a federal road, thus a public owned road by definition a public road. The Bull Run Watershed is closed to the general public, without permission it cannot be entered. The road can be used by the public whom have business or other authorization to enter the Bull Run Watershed. The proposed tower and accessory structures are to be located about 30 feet from the centerline of the access road. Staff finds that the road threshold criterion is met, thus an Exception is allowed.

3.5.2. MCC 35.2110 (B) Exceptions to secondary fire safety zones shall only be granted upon satisfaction of the following standards:

- (1) If the proposed secondary fire safety zone is between 50 and 100 feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban– Wildland Interface Code Section 505 Class 2 Ignition Resistant Construction as adopted August, 1996, or as later amended, or**
- (2) If the proposed secondary fire safety zone is less than fifty feet, the dwelling or structure shall be constructed in accordance with the International Fire Code Institute Urban– Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, and**

Staff: The proposed tower and accessory structures will a secondary fire safety zone will be less than 50 feet (if one on the adjacent property is not included, under Section 3.2.3. of this Staff Report). The applicant states, “the proposed accessory equipment building will be constructed in accordance with the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction.” The tower and all other structures and building need to meet the Fire Code Section 504 Class 1 Ignition Resistant Construction as well. A condition of approval can require all structures and building meet the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction. *The standard is met through implementing a recommended condition of approval.*

- (3) There shall be no combustible fences within 12 feet of the exterior surface of the dwelling or structure; and**

Staff: The applicant states that, “no combustible fences are proposed on the property.” *This standard is met*

* * *

- (6) All accessory structures within the fire safety zone setbacks required by MCC 35.2056, and all accessory structures within 50 feet of a dwelling, shall have a central monitored alarm system.**

Staff: There is no dwelling. The proposed accessory equipment building within the fire safety zone setbacks required by MCC 35.2056, is proposed to be equipped with a central monitored alarm system. *This standard is met*

- (7) All accessory structures within 50 feet of a building shall have exterior walls constructed with materials approved for a minimum of one-hour-rated fire-resistive construction, heavy timber, log wall construction or constructed with noncombustible materials on the exterior side.**

Staff: The applicant states, “The proposed lattice tower is considered the primary use and structure onsite and will not burn.” Staff concurs that the tower will be the primary use and structure. The applicant states the equipment building, “has concrete sides and roof and meets the International Fire Code Institute Urban-Wildland Interface Code Section 504 Class 1 Ignition Resistant Construction standards. *This standard is met*

(8) When a detached accessory structure is proposed to be located so that the structure or any portion thereof projects over a descending slope surface greater than 10 percent, the area below the structure shall have all underfloor areas enclosed to within 6 inches of the ground, with exterior wall construction in accordance with Section 504.5 of the International Fire Code Institute Urban– Wildland Interface Code Class 1 Ignition Resistant Construction as adopted August, 1996, or as later amended, or underfloor protection in accordance with Section 504.6 of that same publication.

Staff: None of the proposed structures will be located over descending slope surface greater than 10 percent. *This criterion is not applicable.*

4. COMMUNITY SERVICE CONDITIONAL USE

4.1. Radio Transmission Tower Community Service Use

MCC 35.2030(B)(11): Radio and television transmission towers subject to the definitions, restrictions and standards in MCC 35.6010, 35.6015 (A) (8) and 35.6100 through 35.6130 and wireless communications facilities when found to satisfy the requirements of MCC 35.6175 through 35.6188.

Staff: The applicant is proposing a new microwave tower. Microwave is a type of radio wave transmission. It will be used for Portland Water Bureau communication and data transfer related to the management of the Water Bureau Bull Run facilities and for the management of the Bull Run Watershed Management Unit. The Findings for MCC 35.6010, 35.6015 (A)(8) and 35.6100 through 35.6130 follow in this Section 4 of the staff report. Wireless communications facilities sections are related to cellular towers, not microwave radio towers, thus MCC 35.6175 through 35.6188 do not need to be addressed. *The applicable standards are met.*

4.2. Community Service Approval Criteria

MCC 35.6010 In approving a Community Service use, the approval authority shall find that the proposal meets the following approval criteria, except for transmission towers, which shall meet the approval criteria of MCC 35.6100 through 35.6125.

Staff: Findings for MCC 35.6100 through 35.6125 follow. *These standards are met*

4.3. Community Service Uses

MCC 35.6015 (A) Except as otherwise limited in the EFU, CFU and OR districts, the following Community Service Uses and those of a similar nature, may be permitted in any district when approved at a public hearing by the approval authority. Allowed Community Service Uses in the EFU, CFU and OR districts are limited to those uses listed in each respective district.

(8) Radio and television transmission towers.

- (a) VHF and UHF television towers, FM radio towers, two-way radio, common carrier, and cellular telephone towers, and fixed point microwave towers are permitted in any district,**

Staff: The property is in the CFU District thus it must meet the standards listed under Subsection 4.1 (above) of this staff report. *This standard is met.*

4.4. Application Requirements

MCC 35.6110 An application for approval of a Community Service designation for a radio or television transmission tower shall contain at least the following information before it is complete:

- 4.4.1. (A) Site plan or plans to scale specifying the location of towers(s), guy anchors (if any), transmission building and/or other accessory uses, access, parking, fences, landscaped areas, and adjacent land uses. Such plan shall also demonstrate compliance with MCC 35.6115 (I) and 35.6115 (J).**

Staff: The submitted plans show the necessary items Exhibit A.2 through Exhibit A.10. The plan demonstrates compliance with MCC 35.6115(I) and 35.6115(J) [see Subsection 4.5 of this staff report]. *These standards are met.*

- 4.4.2. (B) Landscape plan to the scale indicating size, spacing and type of plantings required in 35.6115 (B).**

Staff: The site is surrounded by forested land which screens the tower area from the public view. *No landscape plan is needed.*

- 4.4.3. (C) Report from a professional engineer licensed in the State of Oregon, documenting the following:**

- (1) Tower height and design, including technical, engineering, economic, and other pertinent factors governing selection of the proposed design. A cross-section of the tower structure shall be included.**
- (2) Total anticipated capacity of the structure, including number and types of antennas which can be accommodated.**
- (3) Evidence of structural integrity of the tower structure as required by the Building Official.**
- (4) Failure characteristics of the tower and demonstration that site and setbacks are of adequate size to contain debris.**
- (5) Ice hazards and mitigation measures which have been employed, including increased setbacks and/or deicing equipment.**

Staff: The application includes a set of engineered plans and a report by a professional engineer licensed in the State of Oregon, Jeffery E Garassman, PE. The application addresses these items in Exhibit A.2, Exhibit A.3 p34, Exhibit A.3 Appendix F p87-106 and Exhibit A.3 Appendix G p107-116.

A condition of approval can require that building permit is obtained and inspection completed to meet the standard that evidence of structural integrity of the tower structure as required by the Building Official. The thirty-foot setback should be sufficient to contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS (adjacent property owner is USFS), signed the submitted "Property Owner Consent of Variance Request" form for a variance to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *The proposal meets these standards through implementing the recommended condition of approval.*

4.4.4. (D) Statements from the F.A.A, O.S.A.D., and F.C.C., that the standards of MCC 35.6115 (G) are met or the required good faith, timely effort it achieve such responses.

Staff: These statements are included as Exhibit A.3 Appendix D p.76, Exhibit A.5 and Exhibit A.6. *This standard is met.*

4.4.5. (E) Written authorization from adjoining property owners, if needed, under MCC 35.6115 (J).

Staff: The tower is not a guy wired tower as covered in MCC 35.6115(J). *Standard not applicable.*

4.4.6. (F) Responses to the applicable Comprehensive Plan Policies.

Staff: The applicable Comprehensive Plan Policies require a Septic Review Certification to determine there is no impacts as stated on Exhibit A.12. Comprehensive Plan Policies also requires a Fire District Review of the proposed development (Exhibit A3 Appendix D p.79,). *These standards are met.*

4.5. Approval Criteria for New Transmission Towers

MCC 35.6115 New transmission towers in rural districts permitted under MCC 35.6015 (A) (8) (a) or (b) may be allowed, based on findings by the approval authority that the following criteria are met.

4.5.1. (A) The site is of a size and shape sufficient to provide the following setbacks:

- (1) For a tower located on a lot abutting an urban residential district or a public property or street, except a building-mounted tower, the site size standards of MCC 35.6115 (I) and 35.6115 (J) are met as to those portions of the property abutting the residential or public uses.**
- (2) For all other towers, the site shall be of sufficient size to provide the setback required in the underlying district between the base of the tower, accessory structures and uses, and guy anchors, if any, to all abutting property lines.**

Staff: The proposed tower is on a parcel that abuts public property (USFS) and a USFS road. See finding MCC 35.6115 (I) below, MCC 35.6115 (J) is not applicable because there are no guy-wires. *These standards are addressed later as noted or are not applicable.*

4.5.2. (B) The required setbacks shall be improved to meet the following landscaping standards to the extent possible within the area provided:

- (1) Landscaping at the perimeter of the property which abuts streets, residences, public parks or areas with access to the general public other than the owner of such adjoining property. Such landscaping plan shall demonstrate the following:
- (a) For towers 200 feet tall or less, a buffer area no less than 25 feet wide shall commence at the property line. At least one row of evergreen shrubs shall be spaced not more than five feet apart. Materials should be of a variety which can be expected to grow to form a continuous hedge at least five feet in height within two years of planting. At least one row of evergreen trees or shrubs, not less than four feet height at the time of planting, and spaced not more than 15 feet apart, also shall be provided. Trees and shrubs in the vicinity of guy wires shall be of a kind that would not exceed 20 feet in height or would not affect the stability of the guys, should they be uprooted, and shall not obscure visibility of the anchor from the transmission building or security facilities and staff.
- * * *
- (c) In lieu of these standards, the approval authority may allow use of an alternate detailed plan and specifications for landscape and screening, including plantings, fences, walls and other features designed to screen and buffer towers and accessory uses. The plan shall accomplish the same degree of screening achieved in (a) and (b) above, except as lesser requirements are desirable for adequate visibility for security purposes and for continued operation of existing bona fide agricultural or forest uses, including but not limited to produce farms, nurseries, and tree farms.

Staff: The application requests a Variance to the forest practices setbacks and an Exception to the secondary fire safety zones. The 30-foot setback is also the Primary Fire Safety Zone which limits vegetation. The subject property and the adjacent property are both in the Bull Run Watershed Management Unit and are managed together with miles of other properties. The adjacent property provides acreage of dense screening vegetation. *The proposal meets these standards through the Bull Run Watershed Management Unit.*

- 4.5.3. (C) The applicant shall demonstrate that the tower can be expected to have the least visual impact on the environment, taking into consideration technical, engineering, economic and other pertinent factors. Towers clustered at the same site shall be of similar height and design, whenever possible. Towers shall be painted and lighted as follows:
- (1) Towers 200 feet or less in height shall have a galvanized finish or be painted silver. If there is heavy vegetation in the immediate area, such towers shall be painted green from base to treeline, with the remainder painted silver or given a galvanized finish.
- (2) Towers more than 200 feet in height shall be painted in accordance with regulations of the Oregon State Aeronautics Division.
- (3) Towers shall be illuminated as required by the Oregon State Aeronautics Division. However, no lighting shall be incorporated if not required by the Aeronautics Division or other responsible agency.
- (4) Towers shall be the minimum height necessary to provide parity with existing similar tower supported antenna, and shall be freestanding where the negative visual effect is less than would be created by use of a guyed tower.

Staff: The proposed tower is 195 feet in height. The tower is designed to be the minimum needed height. A condition of approval can require the following:

- (1) The proposed tower is less than 200 feet in height. There is heavy vegetation in the area, thus must be painted green to top of tree line.
- (2) Does not apply 195 feet tall less than 200.
- (3) The tower shall be illuminated if required by the Oregon State Aeronautics Division, however the letter from the Aeronautics Division (Exhibit A.6) does not require lighting. No lighting shall be incorporated if not required by the Aeronautics Division or other responsible agency.
- (4) The 195 feet is minimum necessary for the microwave dish to be above the tree line and to have line-of-sight to the other towers it will receive and send communication to and from.

The proposal meets these standards through implementing recommended condition of approval.

- 4.5.4. (D) A minimum of two parking spaces shall be provided on each site; an additional parking space for each two employees shall be provided at facilities which require on-site personnel, provided additional parking may be required in accordance with MCC 35.4100 to 35.4220 if the site serves multiple purposes.**

Staff: The site has two proposed parking spaces. *This standard is met.*

- 4.5.5. (E) The applicable policies of the Comprehensive Plan are met.**

Staff: Findings for the applicable policies of the Comprehensive Plan are made previously in Sub-section 4.4 (F) of this staff report. *This standard is met.*

- 4.5.6. (F) The NIER standards of MCC 35.6125 are met.**

Staff: Findings for the NIER standards of MCC 35.6125 are made in Section 4.7 (below) of this staff report. *This standard is met.*

- 4.5.7. (G) The following agency coordination standards are met:**

- (1) A written statement provided by the applicant from the appropriate official in the Federal Aviation Administration that the application has not been found to be a hazard to air navigation under Part 77, Federal Aviation Regulations, or a statement that no compliance with Part 77 is required;
- (2) A written statement provided by the applicant from the appropriate official in the Oregon State Aeronautics Division that the application has been found to comply with the applicable regulations of the Division, or a statement that no such compliance is required; and,
- (3) A written statement provided by the applicant from the appropriate official in the Federal Communications Commission that the application complies with the regulations of the Commission or a statement that no such compliance is necessary.
- (4) The statements in (1) through (3) may be waived when the applicant demonstrates that a good faith, timely effort was made to obtain such responses but that no such response was forthcoming, provided the applicant conveys any response received; and further provided any subsequent response that is received is conveyed to the approval authority as soon as possible.

Staff: The applicant has submitted the required statements which are included as Exhibits A.5 and A.6 *This standard is met.*

4.5.8. (H) For a proposed tower in the EFU, CFU and MUA-20 districts, the following restrictions on accessory uses shall be met:

- (1) Accessory uses shall include only such buildings and facilities necessary for transmission function and satellite ground stations associated with them, but shall not include broadcast studios, offices, vehicle storage areas, nor other similar uses not necessary for the transmission function.**
- (2) Accessory uses may include studio facilities for emergency broadcast purposes or for other special, limited purposes found by the approval authority not to create significant additional impacts nor to require construction of additional buildings or facilities exceeding 25 percent of the floor area of other permitted buildings.**

Staff: The proposed tower is located in the CFU district. Equipment necessary for tower operation will be placed in a building adjacent to the tower. No other building is proposed. Broadcast studios, offices, vehicle storage areas, nor are other similar uses proposed. *This standard is met.*

4.5.9. (I) Site size and tower setbacks:

- (1) The site shall be of a size and shape sufficient to provide an adequate setback from the base of the tower to any property line abutting an urban residential district, public property, or public street. Such setback shall be sufficient to:**
 - (a) Provide for an adequate vegetative, topographic or other buffer, as provided in MCC 35.6115 (C) and 35.6115 (B),**
 - (b) Preserve the privacy of adjoining residential property,**
 - (c) Protect adjoining property from the potential impact of tower failure and ice falling from the tower by being large enough to accommodate such failure and ice on the site, based on the engineer's analysis required in MCC 35.6110 (C) (4) and (5), and**
 - (d) Protect the public from NIER in excess of the standard of MCC 35.6125 (A).**
- (2) A site is presumed to be of sufficient size when it:**
 - (a) Meets the requirements of (1) (c) and (d) above,**
 - (b) Provides a setback equal to 20 percent of the height of the tower to any property line abutting an urban residential district, public property, or public street, and**
 - (c) Provides a setback equal to or exceeding the rear yard setback required for the adjoining property where the adjoining property is not in an urban residential district nor a public property or a public street.**
- (3) Placement of more than one tower on a lot shall be permitted, provided all setback, design and landscape requirements are met as to each tower. Structures may be located as close to each other as technically feasible, provided tower failure characteristics of the towers on the site described in MCC 35.6110 (C) (4) will not lead to multiple failures in the event that one fails.**
- (4) Structures and uses associated with the transmission use other than the transmission tower shall be located to meet the setbacks required in MCC 35.6020.**

Staff: The adjacent property is owned by the US Forest Service and is managed along with the subject property by the Bull Run Watershed Management Unit as forestlands. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted "Property Owner Consent of Variance Request" form for a variance request to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *These standards are met.*

5.5.10 (J) Guy setbacks:

- (1) For a guyed structure, the site shall be of a size and shape sufficient to provide an adequate setback from a guy anchor to any property line abutting an urban residential district, public property or public street in addition to the size required to comply with 35.6115 (I). Such setback shall be adequate to provide a vegetative, topographic or other buffer sufficient to obscure view to the anchor from such adjoining properties.
- (2) A site is presumed to be of sufficient size when it provides:
 - (a) A setback of at least 25 feet between a guy anchor and any property line abutting an urban residential district or public property or street, and
 - (b) A setback equal to or exceeding the rear yard setback required for the adjoining property where the adjoining property is not a public property or street nor in an urban residential district.
- (3) A guy anchor may be located on an adjoining property when:
 - (a) The owner of the adjoining property on which it is to be placed authorizes it in writing, and
 - (b) The guy anchor meets the requirements of (1) or (2) above as to all other adjoining property lines.
- (4) Guy anchors may be located within required landscape areas.
- (5) A guy from a tower which was previously approved under any ordinance may be extended to an adjacent site if the guy anchor will comply with MCC 35.6115 (J) (3) as determined by the Planning Director.

Staff: No guy wire are proposed. *This standard is not applicable.*

4.6. Design Review

MCC 35.6120 The use shall comply with the design review provisions of MCC 35.7000 to 35.7060. This may be implemented as a condition of approval.

Staff: Findings for design review provisions of MCC 35.7000 to 35.7060 are in Sections 5 and 6 of this staff report. *This standard is met.*

4.7. Radiation Standards

Non-ionizing electromagnetic radiation standards.

Staff: The applicant addresses the non-ionizing electromagnetic radiation in Exhibit A.3 (Appendix G pages 107 to 116).

4.7.1 MCC 35.6125 (A) No source of non-ionizing electromagnetic radiation shall hereinafter be operating, which causes the general population to be exposed to radiation levels exceeding the mean squared electric (E²) or mean squared magnetic (H²) field strengths, or their equivalent plan wave free space power density, as specified in Table 1.

- (1) For near field exposures, measurements of the mean squared electric and magnetic field strengths are especially important to determine compliance with the standards in columns 2 and 3 of Table 1. For convenience, mean squared electric or magnetic field strengths may be specified as the equivalent plane-wave power density. At higher frequencies (e.g., above 30-300 MHz), measurement of mean-squared

magnetic field strength may not be necessary if it can be reliably inferred from measurements of either mean squared electric field strength or equivalent plane-wave power density.

- (2) In the event the federal government promulgates mandatory or advisory standards more stringent than those described herein, the more stringent standards shall apply.
- (3) These standards are adapted from the American National Standards Institute's American National Standard C95.1-1982, Safety Levels with Respect to Human Exposure to Electromagnetic Fields (300 kHz to 100 GHz). This ANSI standard's documentation should be consulted to help resolve any future questions about the basis or interpretation of the standards in this section.
- (4) Similarly, the latest revision of ANSI's American National Standards Institute's American National Standard C95.3, Techniques and Instrumentation for the Measurement of Potentially Hazardous Electro-magnetic Radiation at Microwave Frequencies, is incorporated here by reference as one source of acceptable methods for measuring non-ionizing radiation levels in determining compliance with this standard.
 - (a) For all measurements made to ensure compliance with this section, evidence shall be submitted showing that the instrument or instruments used were calibrated within the manufacturer's suggested periodic calibration interval; that the calibration is by methods traceable to the National Bureau of Standards; a statement that the measurements were made in accordance with good engineering practice; and a statement or statements as to the accuracy of the results of the measurements.
- (5) The standards adopted herein shall be periodically reviewed by the Multnomah County Health Officer, in light of any new scientific knowledge as to the effects on the general population of non-ionizing electro-magnetic radiation; and these standards may hereafter be raised, lowered or otherwise changed as the County shall require by amendment of this section. The first such reports shall be delivered on or before January 1, 1984.
- (6) For average times less than 0.5 hour, the allowed power density P in $\mu\text{W}/\text{cm}^2$ as a function of averaging time (in hours is given by $P = k/()$ where in turn K is equal to $1/2$ times the allowed power density for averaging times of 0.5 hour and greater.

Staff: The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G in which Smyth states, "The prediction for worst-case general population NIER exposure at 1.5 meters (4.92126 feet) above ground-level is well below the limits defined in the Multnomah County Code MCC35.6125 and is shown in the blue section of Table 1" referring to the Table in Exhibit A.3, Appendix G, Page 107. Smyth further addresses installation standards, "All Transmitting antennas shall be installed in a manner as set forth by the manufacturer and by Federal Communications Commission (FCC) OET Bulletin 65 as meeting the current American National Institute (ANSI) C95.1 standard and Multnomah County MCC 35.6125 standard for nonionizing electromagnetic radiation (NIER)." A condition can require that the tower be maintained to meet the standards in this code for NIER. *Staff recommends a condition of approval that the facility be maintained in a manner that continues to meet the standards in this code for NIER.*

- 4.7.2. (B) All existing sources of non-ionizing electro-magnetic radiation in the frequency spectrum, 100 kHz to 300 GHz, except those exempted be-low, are within 120 days of the enactment of this section, hereby required to register with the County and provide the

following information for each individual source on forms provided by the Planning Director.

- (1) Name and address of owner of transmitter and/or antenna.
- (2) Name and address of owner of property on which the transmitter and/or antenna is located.
- (3) Location of transmitter.
- (4) Location of antenna by geographic coordinates by either latitude and longitude or state plane coordinates.
- (5) Output frequency of transmitter.
- (6) Type of modulation and class of service.
- (7) Power output of transmitter (average and peak).
- (8) Power input to antenna.
- (9) Manufacturer, type, manufacturer's model number of antenna and a copy of the antenna radiation patterns.
- (10) Gain of antenna with respect to an isotropic radiator.
- (11) Polarization of radiation from antenna.
- (12) Height of antenna above ground.
- (13) Horizontal and radial distance of antenna to nearest point on property line and to nearest habitable space regularly occupied by others than immediate family or employees of transmitter and/or antenna owner and/or operator.
- (14) Elevation above mean sea level of ground at the antenna location and the points specified in (B)(13).
- (15) The call letters assigned to the source.
- (16) Date of installation of present transmitter, and date of installation of the associated antenna, date of installation of the structure, if any, on which the antenna is located.
- (17) Any sources not so registered shall be regarded as a new source and any registered source with different essential technical characteristics than those of (B) (3) through (B) (13) above as a changed existing source.

Staff: This standard is not applicable. It was required for existing sources of non-ionizing electromagnetic source to registered with the County with 120 days. The information is also required for new proposed sources per Subsection D below (Section 4.7.3 of this staff report). The information has been provided in the submittal.

- 4.7.2. MCC 35.6125 (C) After August 19, 1982, no installation of a new source of non-ionizing electromagnetic radiation or changes in an existing source which in any way causes increases in the NIER or radiation pattern of the NIER source shall occur without first obtaining a Community Service use designation or modification thereof, unless otherwise provided herein.**

Staff: This request is a Community Service Use. *This standard is met.*

- 4.7.3. MCC 35.6125 (D) The application for the use shall be on forms provided by the Planning Director, and shall show:**

- (1) The information required under (1) through (16) of subpart (B) above.**

Staff: The application form is included as Exhibit A.1. The application submittal includes the required information under (1) through (16) of subpart (B) above in the application submittal. *This standard is met.*

- (2) The measured existing nonionizing radiation levels at the nearest point on the property lines of the predicted maximum radiation from the source, and the nearest point regularly occupied by other than the immediate family and/or employees of the transmitter owner and/or operator.
- (a) These measurements shall be made at a height of 1.5 meters above the ground or at the greater height if habitation occurs at a greater height with lesser radial distance to the source.
 - (b) If the measured level is equal to or less than 1/5 of the limits, the measurement shall be made for the continuous period 6 a.m., to 6 p.m., on a regular business day.
 - (c) If the measured level is greater than 1/5 of the limits, the measurement shall be made for a continuous period of 168 hours.
 - (d) If there exists an operational situation which would cause higher levels to occur at some other time than the intervals of (b) or (c) above, the measurement shall be made during that time.
 - (e) These measurements may be made by whatever means the registered professional engineer under whose direction and supervision they are made deems appropriate. The effects of contributing sources of frequency below the lower frequency limit of broadband instruments may be appropriate separate single instant measurements of the contribution due to these sources. Further, levels below 20 microwatts/cm² or the minimum sensitivity of the instruments used, whichever is lesser, shall be deemed zero for further computational purposes.

Staff: See finding in Section 4.7.1 above and Exhibit A.3, Appendix G. There is no existing transmitter at the site. *This standard is met.*

- (3) The calculated average levels at the three points specified in (D) (2) after installation of the new source, including both the background and the new source.
- (4) The calculated levels at the boundaries of other sources at which the new source may cause a detectable increase in level.
- (5) The calculated level at the predicted point of maximum radiation off of the property on which the new source is located caused by the new source along with the measured background NIER at this point. This measurement shall meet the requirements of (D) (2).
- (6) The geographic coordinates (latitude and longitude or state plane coordinates) of each point of measurement and/or calculation shall be furnished.

Staff: An Oregon State Registered Engineer will need to confirm that these code subsections are met, that background levels have been documented. The Engineer will need to take a background reading before the proposed facility is operated and then readings afterward. A condition of approval can require the tower to continue to meet the standards. *This standard can be met through a condition of approval.*

- 4.7.4. MCC 35.6125 (E) A Community Service use designation or modification thereof may be granted if the levels calculated in MCC 35.6125 (D), including the existing measured background, do not exceed the limits set forth in MCC 35.6125 (A), and if a new tower is required, the siting standards of this section are met. However, if the calculated levels, including existing measured background at any point specified in MCC 35.6125 (D) exceed

one-third of the maximum levels of MCC 35.6125 (A), then, the approval shall be conditional upon measurements made after the new source is installed showing that the maximum levels of MCC 35.6125 (A) are not exceeded. If the calculated levels exceed the maximum level of MCC 35.6125 (A), the application shall be denied.

Staff: The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G which confirms that this code subsection is met. A condition of approval can require the applicant to submit a statement from a register engineer that this subsection is met. *This standard is met.*

MCC 35.6125 (F) All commercial intermittent sole source emitters of less than 1 KW average output are exempt from the measurement requirements of MCC 35.6125 (D) if they comply with the separation requirement of MCC 35.6125 (F) and all other requirements of this section. Prior to issuance of a building permit for a tower to support an antenna associated with one of these uses, the Planning Director shall determine that the antenna meets the following requirements:

- (1) For an effective radiated power (ERP) of less than 100 watts the highest current point of the antenna is located at least ten feet and all portions of the antenna three feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.
- (2) For an ERP greater than 100 watts, but less than 1,000 watts, the highest current point of the antenna is at least 15 feet and all portions of the antenna at least six feet from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.
- (3) For an ERP equal to or greater than 1,000 watts, but less than 10 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.

| Frequency | Minimum Distance from Highest Current Portion | Minimum Distance from Any Portion |
|--------------------------------------|---|-----------------------------------|
| <7 MHz | 11 feet | 5 feet |
| 7 - 30 MHz | $f/0.67$ feet | $f/1.5$ feet |
| 30 - 300 MHz | 45 feet | 20 feet |
| 300 -1500 MHz | $780 / \sqrt{f}$ feet | $364 / \sqrt{f}$ feet |
| >1500 MHz | 20 feet | 10 feet |
| Where f is frequency in megahertz. | | |

- (4) For an ERP equal to or greater than 10 kW, but less than 30 kW, the antenna meets the following separation criteria from the external surface of any habitable structure not located on the property containing the source, and from habitable space on the same property normally occupied on a regular basis by others than the immediate family and/or employees of the owner and/or operator of the source.

| Frequency | Minimum Distance from Highest Current Portion | Minimum Distance from Any Portion |
|---------------|---|-----------------------------------|
| <7 MHz | 17.5 feet | 8 feet |
| 7 - 30 MHz | $f/0.4$ feet | $f/0.91$ feet |
| 30 - 300 MHz | 75 feet | 33 feet |
| 300 -1500 MHz | $1300 / \sqrt{f}$ feet | $572 / \sqrt{f}$ feet |
| >1500 MHz | 34 feet | 15 feet |

Staff: The applicant states the new microwave dish is not exempt. The application submittal includes an analysis by E. Robin Smyth, Oregon State Register Profession Engineer included Exhibit A.3, Appendix G in which Smyth has provided this information and included a statement that the code is met. These standards are met.

5. VARIANCE APPROVAL CRITERIA

5.1. Purpose

- 5.1.1. MCC 35.7601 (A) The regulations of this Zoning Code Chapter are designed to implement the Policies of the Comprehensive Framework Plan and each Rural Area Plan. However, it is also recognized that because of the diversity of lands and properties found in the county there should be a zoning provision that permits justifiable departures from certain Zoning Code dimensional standards where literal application of the regulation would result in excessive difficulties or unnecessary hardship on the property owner.

MCC 35.7601 (B) To address those situations, modification of the dimensional standards given in MCC 35.7606 may be permitted if the approval authority finds that the applicant has satisfactorily addressed and met the respective approval criteria in MCC 35.7611, Adjustments, or 35.7616, Variances. If an Adjustment or Variance request is approved, the approval authority may attach conditions to the decision to mitigate adverse impacts which might result from the approval.

Staff: The application request includes two Variances requests. The first Variance request is to reduce forest practices setback of 130 feet to 30 feet along the east property line. Forest setbacks are measured to the property line even if the adjacent property is owned or managed by the same party (on the other hand fire safety zones are measured to the same ownership tract).

The second Variance request is for a tower siting standard under MCC 35.6115 (I)(2)(b) to reduce the required setback from the east property line from 20 percent of the proposed tower height or 39 feet to 30 feet.

- 5.1.2. MCC 35.7601 (D) The Variance review process differs from the Adjustment review by providing a mechanism by which a greater variation from the standard than 40 percent may be approved for certain zoning dimensional requirements. The Variance approval criteria are based upon the traditional variance concepts that are directed towards consideration of circumstances or conditions on a subject property that do not apply generally to other properties in the same vicinity.**

Staff: The applicant is requesting a reduction of the forest practices setback reduction of greater than 40 percent which is a Variance review.

5.2. Scope

MCC 35.7606 (A) Dimensional standards that may be modified under an Adjustment review (modified no more than 40 percent) are yards, setbacks, forest practices setbacks, buffers, minimum front lot line length, flag lot pole width, cul-de-sac length, cul-de-sac turnaround radius, and dimensions of a private street, except the following:

*** * ***

- (3) Reduction of yards/setback/buffer/resource protection setback requirements within the Large Fills, Mineral Extraction, and Radio and Television Transmission Towers Code Sections and any increase to the maximum building height shall only be reviewed as Variances;**

Staff: The applicant's second Variance request is for a tower siting standard under MCC 35.6115 (I)(2)(b) to reduce the required setback from the east property line from 20 percent of the proposed tower height or 39 feet to 30 feet. Under MCC 35.7606(A)(3) reductions of setbacks required by the radio tower code sections are reviewed as a Variance not an Adjustment.

MCC 35.7606 (B) Dimensional standards that may be modified under a Variance review are yards, setbacks, forest practices setbacks, buffers, minimum front lot line length, building height, sign height, flag lot pole width, cul-de-sac length, cul-de-sac turnaround radius, and dimensions of a private street, except the following:

- (1) Reduction of resource protection setback requirements within the Significant Environmental Concern (SEC) and Willamette River Greenway (WRG) overlay districts; and**
(2) Modification of fire safety zone standards given in Commercial Forest Use districts; and

Staff: The applicant is requesting a reduction of the forest practices setback reduction of greater than 40 percent which is a Variance review. The secondary fire safety zone modification cannot be modified under Adjustment or Variance review (see Sections 3.2.4 and 3.5.1 of this staff report for findings regarding the reduction of the secondary fire safety zone through an Exception).

5.3. Variance Approval Criteria

The Approval Authority may permit and authorize a variance from the dimensional standards given in MCC 35.7606 upon finding that all the following standards in (A) through (F) are met:

5.3.1. MCC 35.7616 (A) A circumstance or condition applies to the property or to the intended use that does not apply generally to other property in the same vicinity or zoning district. The circumstance or condition may relate to:

- (1) The size, shape, natural features and topography of the property, or**
- (2) The location or size of existing physical improvements on the site, or**
- (3) The nature of the use compared to surrounding uses, or**
- (4) The zoning requirement would substantially restrict the use of the subject property to a greater degree than it restricts other properties in the vicinity or district, or**
- (5) A circumstance or condition that was not anticipated at the time the Code requirement was adopted.**
- (6) The list of examples in (1) through (5) above shall not limit the consideration of other circumstances or conditions in the application of these approval criteria.**

Staff: The proposed site is at the top of a rounded ridge with a shallow slope (see applicant's description in Exhibit A.3, Pages 49 - 51). Due to the topographic elevation of the site it is a unique site for placement of the proposed tower. The site's elevation allows the 195-foot tower height to provide a line-of-site for communication with the other towers. The proposed site is ideal due to its height and being a relatively flat in the area for building the tower. The shallow slope surrounding the site allows for at least area 30 feet surrounding the site, providing a good primary fire safety zone. To the north, west and south, the topography drops off significantly just beyond the 30-foot primary fire safety zone. To meet the eastern setbacks, the variances are requested for, would push the tower site out over the steep slopes reducing the height of the tower and resulting in a difficult possible unfeasible building site. Such an area would result in a substantially increase area in the required primary fire safety zone which would increase impacts to a large forested area and still increasing the risk of wildfire damage. The proposed site reduces impact on the forest. An additional benefit of the proposed site is that it is located in an area easily accessed via a USFS road and the ground height ideal for the proposed 195-foot tower to provide line-of-site to existing communication facilities. *This criterion is met.*

5.3.2. MCC 35.7616 (B) The circumstance or condition in (A) above that is found to satisfy the approval criteria is not of the applicant's or present property owner's making and does not result solely from personal circumstances of the applicant or property owner. Personal circumstances include, but are not limited to, financial circumstances.

Staff: The circumstances that make this site uniquely ideal are not of the applicant's or present property owner's making. The site provides all the necessary siting standards for the proposed tower. The site is unique in that it provides clear line-of-sight to all the other towers needed for the communication perimeters. There is no other site that can provide the siting perimeters needed. Other sites would be at a lower elevation, require addition road development, tree clearing and would significantly reduce signal transmission in and out of the watershed as well as additional expense. The physical features of the site are existing and are not a self-imposed hardship. *This criterion is met.*

5.3.3. MCC 35.7616 (C) There is practical difficulty or unnecessary hardship to the property owner in the application of the dimensional standard.

Staff: The practical difficulty or unnecessary hardship to the property owner in the application of the dimensional standard would result pushing the tower site onto the steep slope which is not feasible. The practical difficulty or unnecessary hardship of other sites include being at a lower elevation with less efficient communications, require addition road development, tree removal and would significantly reduce signal transmission in and out of the watershed as well as additional expense. There are no other sites in the watershed that meet the needs for the communications necessary to safely manage the Water Bureau facilities or the Bull Run Watershed. Any other location results in a practical difficulty or unnecessary hardship to the property owner. *This criterion is met.*

5.3.4. MCC 35.7616 (D) The authorization of the variance will not be materially detrimental to the public welfare or injurious to property in the vicinity or zoning district in which the property is located, or adversely affects the appropriate development of adjoining properties.

Staff: Authorization of the variance will not be materially detrimental to the public welfare. The site is located in a remote forest location in the Bull Run Watershed. The construction phase will be managed to protect the watershed. The variance will not be injurious to property in the vicinity because these properties are managed together as the Bull Run Watershed Management Unit. The Adjacent property is owned by the USFS. The thirty-foot setback should be sufficient for contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted "Property Owner Consent of Variance Request" form for a variance to the setback. The adjacent area is a forested area. Due to limited access to the watershed, no people should be present to be harmed by a tower collapse. *This criterion is met.*

5.3.5. MCC 35.7616 (E) The Variance requested is the minimum necessary variation from the Code requirement which would alleviate the difficulty.

Staff: The limited amount, the narrowness of shallow sloped area at the top of the ridge on the property forces the proposed tower site to have a setback reduced to 30 feet as the minimum necessary variation from the Code requirement which would alleviate the difficulty. *This criterion is met.*

5.3.6. MCC 35.7616 (F) Any impacts resulting from the variance are mitigated to the extent practical. That mitigation may include, but is not limited to, such considerations as provision for adequate light and privacy to adjoining properties, adequate access, and a design that addresses the site topography, significant vegetation, and drainage.

Staff: The properties are managed together as the Bull Run Watershed Management Unit. The Adjacent property is owned by the USFS. The thirty-foot setback should be sufficient for contain debris falling from the tower except for a collapse of the tower. Jim DeMaagd, Forest Supervisor, USFS, adjacent property owner is USFS, signed the submitted "Property Owner Consent of Variance Request" form for a variance to the setback. The adjacent area is a forested area thus privacy is not a concern. The 30-foot area around tower will provide adequate light. Adequate access is provided by USFS network of roads. The tower is designed for the topography of the proposed site. The proposed site will minimize the number of trees to be removed for the fire safety zone. The amount of proposed impervious surface is minimal, below the amount the code

require to be engineered. Given the vast forest surrounding there should be no issue with storm water drainage. *This criterion is met.*

6. DESIGN REVIEW CRITERIA

MCC 35.7050 (A) Approval of a final design review plan shall be based on the following criteria:

(1) Relation of Design Review Plan Elements to Environment.

- (a) The elements of the design review plan shall relate harmoniously to the natural environment and existing buildings and structures having a visual relationship with the site.**
- (b) The elements of the design review plan should promote energy conservation and provide protection from adverse climatic conditions, noise, and air pollution.**
- (c) Each element of the design review plan shall effectively, efficiently, and attractively serve its function. The elements shall be on a human scale, interrelated, and shall provide spatial variety and order.**

Staff: The applicant addresses this code section in Exhibit A.3 Pages 44-46. The property is forested in all directions from the proposed tower location except to the east. The property is part of the Bull Run Watershed Management Unit with miles on all sides of the property within the management area. The forest acts as a buffer from all the property lines. Entrance to the watershed is by authorization only, public access is limited. The proposed tower relates harmoniously to the natural environment given the size related to the vastness of the forest.

The tower is an improved design over older towers and other communication facilities being decommissioned which should save energy. The design requires little maintenance, it is designed to operate remotely, and reducing the number of vehicle trips older towers required. The proposed tower is a stronger design to better withstand natural forces. The only noise will be from a propane fueled generator which will be buffered because it is located in the accessory equipment building which will buffer the sounds from the site. There is no power to the site thus propane is needed to power the site which is a relatively clean burning alternative to power the tower.

With the vast forested buffer, site effectively, efficiently, and attractively serve its function. The elements of the site are on a human scale, interrelate and provide spatial variety and order. The site is functional and well screened from public view. *These standards are met.*

(2) Safety and Privacy - The design review plan shall be designed to provide a safe environment, while offering appropriate opportunities for privacy and transitions from public to private spaces.

Staff: The site will have a security fence. The site is quite private due to the being in the Bull Run Watershed with vast forested buffers. *These standards are met.*

(3) Special Needs of Handicapped - Where appropriate, the design review plan shall provide for the special needs of handicapped persons, such as ramps for wheel-chairs and braille signs.

Staff: Accessibility relates to the rest of the development on the site as an employer. Towers are required to have two parking spots with no handicap requirement with enough space to accommodate a handicap employee. *This standard is met.*

- (4) Preservation of Natural Landscape - The landscape and existing grade shall be preserved to the maximum practical degree, considering development constraints and suitability of the landscape or grade to serve their functions. Preserved trees and shrubs shall be protected during construction.**

Staff: The subject property currently is heavily vegetated with a number of large trees along Cottrell and Lusted Roads. The site is an existing cleared area. Given the vast forested buffer of the watershed management area, no addition landscape planting is needed. The existing lack of vegetation is in the first 30 feet surrounding the tower, providing a primary fire safety zone, is a good safety measure to prevent damage should there be a wildfire on-site in the future. The watershed is managed to maintain the forest.

- (5) Pedestrian and Vehicular circulation and Parking - The location and number of points of access to the site, the interior circulation patterns, the separations between pedestrians and moving and parked vehicles, and the arrangement of parking areas in relation to buildings and structures, shall be de-signed to maximize safety and convenience and shall be harmonious with proposed and neighboring buildings and structures.**

Staff: The site provides for safe circulation and parking, given there will just be two vehicles maximum on site at one time. *This standard is met.*

- (6) Drainage - Surface drainage and storm-water systems shall be designed so as not to adversely affect neighboring properties or streets. Systems that insure that surface run-off volume after development is no greater than before development shall be provided on the lot.**

Staff: There will be no stormwater drainage resulting from the tower. Stormwater impervious roof surface from the small equipment shed will need to meet the standard of no increased flow off-site for up to a 10 year/24-hour storm. The applicant will need to submit a Storm Water Certification form completed that an Oregon Registered Professional Engineer, prior to issuing building permit sign-off. *This standard is met.*

- (7) Buffering and Screening - Areas, structures and facilities for storage, machinery and equipment, services (mail, refuse, utility wires, and the like), loading and parking, and similar accessory areas and structures shall be designed, located, buffered or screened to minimize adverse impacts on the site and neighboring properties.**

Staff: The property is forested in all directions from the proposed tower location except to the east. The property is part of the Bull Run Watershed Management Unit with miles on all sides of the property within the management area. The forest acts as a buffer from all the property lines. Entranced to the watershed is by authorization only, public access is limited. The property is forested in all directions from the proposed tower location. The closest point that the general public (without permission) has access is miles away. *This standard is met.*

- (8) Utilities - All utility installations above ground shall be located so as to minimize adverse impacts on the site and neighboring properties.**

Staff: There are no utilities proposed. *This standard has been met.*

- (9) Signs and Graphics - The location, texture, lighting, movement, and materials of all exterior signs, graphics or other informational or directional features shall be compatible with the other elements of the design review plan and surrounding properties.**

Staff: No signage or graphics are proposed. *This standard is not applicable.*

7. DARK SKY LIGHTING STANDARDS

MCC 35.0570(C): The following standards apply to all new exterior lighting supporting a new, modified, altered, expanded, or replaced use approved through a development permit and to all existing exterior lighting on property that is the subject of a development permit approval for enlargement of a building by more than 400 square feet of ground coverage.

- (1) The light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. "Fully shielded" means no light is emitted above the horizontal plane located at the lowest point of the fixture's shielding. Shielding must be permanently attached.**
- (2) The lighting must be contained within the boundaries of the Lot of Record on which it is located. To satisfy this standard, shielding in addition to the shielding required in paragraph (C)(1) of this section may be required.**

Staff: A condition of approval can require any lighting related to the tower the light source (bulbs, lamps, etc.) must be fully shielded with opaque materials and directed downwards. These requirements are exempted for lighting required by a federal, state, or local law or rule, when such lighting cannot comply with both the law or rule and these standards in paragraph (C) of this section. Lighting required by the FAA is exempt from these standards. *This standard will be met through the building permit zoning review plans signoff.*

Based on the above-adopted findings, the application is approved with conditions.

Dan R. Olsen

Dan. R. Olsen
Hearings Officer
Date: June 12, 2018

This decision may be appealed to the Land Use Board of Appeals within 21 days of the date of mailing as provided in MCC 37.0540 and the Oregon Revised Statutes.

- ‘A’ Applicant’s Exhibits
- ‘B’ Staff Exhibits
- ‘C’ Procedural Exhibits

| Exhibit # | # of Pages | Description of Exhibit | Date Received/ Submitted |
|-----------|------------|--|--------------------------|
| A.1 | 1 | Application Form | 3/30/18 |
| A.2 | 2 | Site Maps | 3/30/18 |
| A.3 | 128 | Narrative Addressing Code and Appendix | 3/30/18 |
| A.4 | 3 | Tower Details and Elevation Drawings | 3/30/18 |
| A.5 | 3 | Federal Aviation Administration (FAA) letter of Determination of No Hazard to Air Navigation dated 4/19/2018 | 4/19/18 |
| A.6 | 1 | Oregon Department of Aviation addressing the tower dated March 27, 2018 | 4/19/18 |
| A.7 | 8 | Revised Narrative | 4/20/18 |
| A.8 | 1 | Email from Portland Water Bureau staff | 4/23/18 |
| A.9 | 1 | Property Owners Consent of Variance Request signed by Jim DeMaagd, Forest Supervisor, Mt. Hood National Forest | 4/23/18 |
| A.10 | 2 | Addendum to Narrative addressing Exception to Secondary Fire Safety Zone requirements | 4/23/18 |
| | | | |
| ‘B’ | # | Staff Exhibits | Date |
| B.1 | 1 | County Assessment Property Information | NA |
| B.2 | 1 | County Assessment Tax Map with Property Highlighted | NA |
| B.3 | 1 | Map of the Bull Run Watershed | NA |
| | | | |
| ‘C’ | # | Administration & Procedures | Date |
| C.1 | 1 | Complete Letter (Day 1) | 4/30/18 |
| C.2 | 4 | Notice of Hearing | 5/17/18 |
| | | | |
| ‘D’ | # | Comments Received (if needed) | Date |
| | | No Comments Received | |
| ‘H’ | # | Hearing Exhibits | Date |
| H.1 | 1 | Hearing Sign-in sheet | 6/8/18 |
| | | | |
| | | | |

PRELIMINARY SUBDIVISION PLAT

LOCATED IN SECTION 24, T1S, R5E, AND SECTION 19 & 20, T1S, R6E,
WILLAMETTE MERIDIAN, MULTNOMAH COUNTY, OREGON

RECEIVED
SEP 04 2019
BY:

LEGEND

- FOUND MONUMENT
- ▲ CALCULATED POINT
- APPROXIMATE RESERVOIR LIMITS
- - - - - APPROXIMATE ROAD CENTERLINE
- PROPOSED PARCEL BOUNDARY
- USFS UNITED STATES FOREST SERVICE

1000' 0' 1000' 2000' 3000'
GRAPHIC SCALE
1 inch = 1000 feet

FRANK TIMBER
RESOURCES INC.
BK.1210, PG.1339
TAX LOT 155E00700

UNPATENTED
USA
TAX LOT 155E00800

UNPATENTED
USA
TAX LOT 156E02100

UNPATENTED
USA
TAX LOT 156E01700

UNPATENTED
USA
TAX LOT 156E01600

T.1 S.

UNPATENTED
USA
TAX LOT 155E01200

TAX LOT 155E01000

24
LOT 1
704.3 ACRES

19
LOT 2
570.3 ACRES

20

LOT 3
240.6 ACRES

LOT 4
41.9 ACRES

UNPATENTED
USA
TAX LOT 156E02600

CITY OF PORTLAND
WATER BUREAU
TAX LOT 155E01100

MULTNOMAH COUNTY
CLACKAMAS COUNTY

C.C. - TAX LOT 15E00100

UNPATENTED
USA

C.C. - TAX LOT 15E00100

UNPATENTED
USA

C.C. - TAX LOT 16E00600

CITY OF PORTLAND
WATER BUREAU

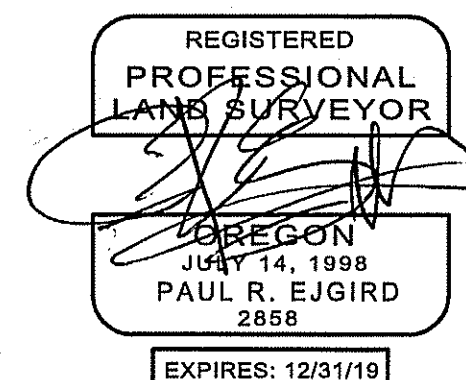
C.C. - TAX LOT 16E00100
UNPATENTED
USA

MULTNOMAH COUNTY
CLACKAMAS COUNTY

C.C. - TAX LOT 16E00100
UNPATENTED
USA

NOTES:

- 1) THE PURPOSE OF THIS PRELIMINARY PLAT IS TO DEPICT THE PROPOSED PARTITIONING OF LANDS OWNED BY THE CITY OF PORTLAND - WATER BUREAU IN ORDER TO FACILITATE A LAND EXCHANGE WITH THE UNITED STATES FOREST SERVICE.
- 2) DIMENSIONS AND SECTION LINES SHOWN HEREON ARE BASED ON A COMBINATION OF A) MONUMENTS FOUND AND MEASURED IN A PRELIMINARY SURVEY BY THE PORTLAND WATER BUREAU, B) RECORD DIMENSIONS SHOWN ON FILED SURVEYS IN BOTH MULTNOMAH AND CLACKAMAS COUNTIES, AND C) CALCULATED POINTS FOR THE BREAKDOWN OF SECTIONS PER THE BLM MANUAL. ALL PROPOSED PARCELS SHOWN HEREON ARE INTENDED TO BE SECTIONS OR ALIQUOT PARTS OF SECTIONS.
- 3) AN EXISTING AERIAL POWER LINE (NOT SHOWN GRAPHICALLY) RUNS GENERALLY PARALLEL WITH ROAD 10 ALONG THE SOUTH SIDE OF THE ROAD.
- 4) ROADS AND WATER FEATURES SHOWN HEREON ARE BASED ON AERIAL PHOTOGRAMMETRY TAKEN IN 2014. THE CONTOURS SHOWN HEREON ARE BASED ON LIDAR DATA FROM 2007, WITH A 10 FOOT CONTOUR INTERVAL.
- 5) THE BASIS OF BEARINGS FOR THIS PRELIMINARY SUBDIVISION IS GRID NORTH BASED ON OREGON STATE PLANE COORDINATES, NORTH ZONE.



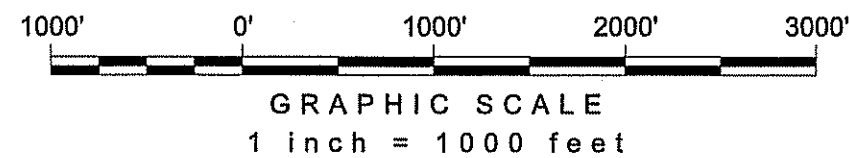
PROJECT: W01516 BULL RUN
LAND EXCHANGE WITH USFS
DATE: 8-14-2019
DRAWN BY: PAUL R. EJGIRD
CREW: PWB SURVEY
SHEET 1 OF 2

EXHIBIT

A.27

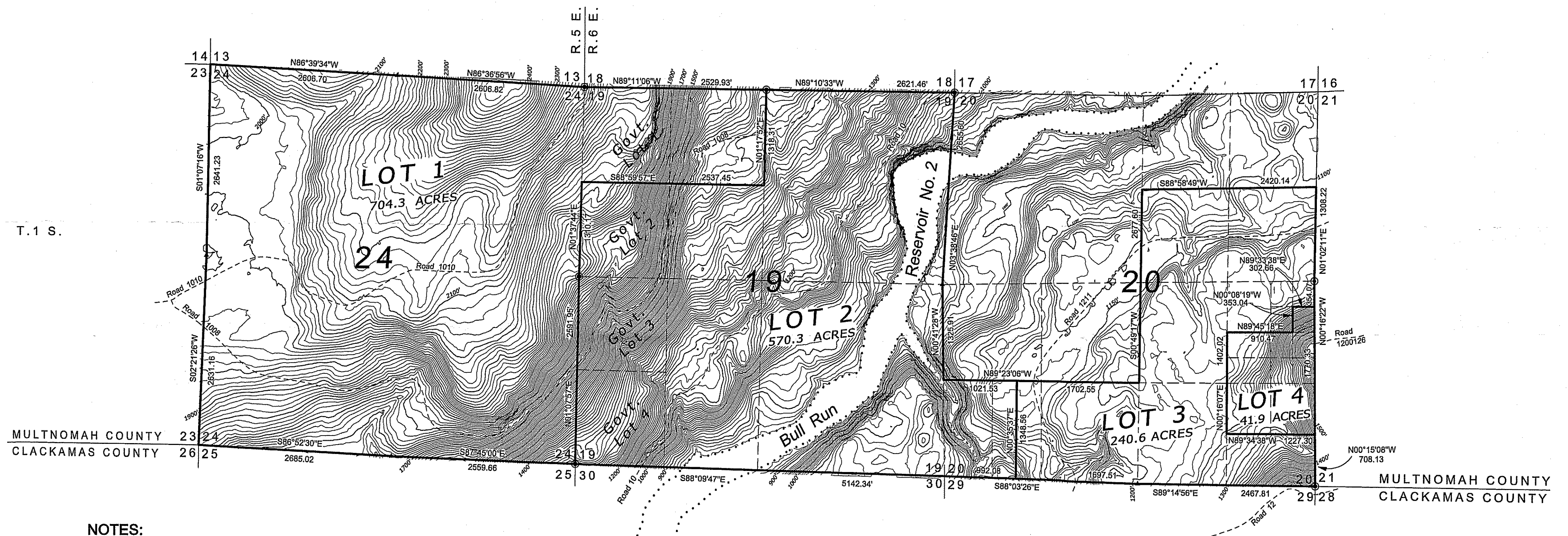
PRELIMINARY SUBDIVISION PLAT

LOCATED IN SECTION 24, T1S, R5E, AND SECTION 19 & 20, T1S, R6E,
WILLAMETTE MERIDIAN, MULTNOMAH COUNTY, OREGON



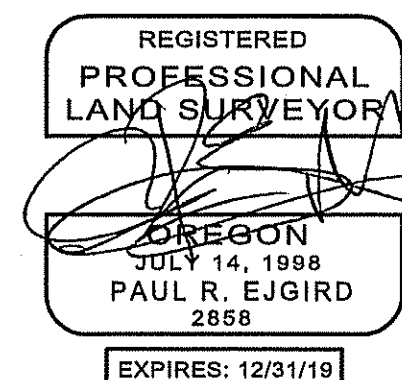
LEGEND

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|---|
| PROJECT: W01516 BULL RUN
LAND EXCHANGE WITH USFS |
| DATE: 8-14-2019 |
| DRAWN BY: PAUL R. EJGIRD |
| CREW: PWB SURVEY |
| SHEET 2 OF 2 |