



Home of the Tualatin River National Wildlife Refuge

RESOLUTION 2011-066

A RESOLUTION AUTHORIZING A TEMPORARY UTILITY EASEMENT FOR AT&T MOBILITY

WHEREAS, the City of Sherwood has entered into an agreement with AT&T Mobility to provide service at the Snyder Park cell tower; and

WHEREAS, AT&T Mobility needs a utility easement to bring telecommunication services to the site; and

WHEREAS, the City has negotiated an agreement with AT&T Mobility for this Utility Easement; and

WHEREAS, the easement on City owned property, tax lot 2S132DB00700; and

WHEREAS, AT&T Mobility will pay the City \$2,000.00 for this Utility Easement.

NOW, THEREFORE, THE CITY OF SHERWOOD RESOLVES AS FOLLOWS:

Section 1. The City agrees to grant a Utility Easement over property commonly known as tax lot 2S132DB00700 and as identified on Exhibit A, Legal Description, attached and incorporated by reference, and graphically depicted in Exhibit B, Plan View, attached and incorporated by reference (the "Property"); and

Section 2. The City Manager is authorized to sign the AT&T Mobility Utility Easement for telecommunication services at the Snyder Park cell tower.

Section 3. This Resolution shall be effective upon its approval and adoption.

Duly passed by the City Council this 2nd day of August 2011.


Keith S. Mays, Mayor

Attest:


Sylvia Murphy, CMC, City Recorder

After recording, return to:

City of Sherwood
Engineering Department
22560 SW Pine Street
Sherwood, OR 97140

NO CHANGE IN TAX STATEMENTS

UTILITY EASEMENT

KNOW ALL MEN BY THESES PRESENTS, that the City of Sherwood, an Oregon municipal corporation, ("Grantor"), for the consideration hereinafter stated, does grant unto **AT&T Mobility Corporation**, ("Grantee"), the following temporary and nonexclusive easement in that certain real property situated in the City of Sherwood and described as follows:

See Attached Exhibit "A" (Legal Description on Page 1 and Utility Easement Sketch on Page 2), which is incorporated herein by this reference.

The true consideration for this conveyance is \$2,000.00 However, the actual consideration consists of other value given, which value constitutes the whole consideration.

This grant is intended to establish a temporary utility easement on the property described, not to convey fee title or any interest in the underlying property except as expressly stated herein. The easement granted does not prevent Grantor from the use of said property provided, however, that such use shall not interfere with the Grantee's use of the easement for the purposes described herein. Grantor shall not endanger the lateral support of any facilities constructed within the easement granted herein.

With a One Hundred Twenty (120) day notice, Grantor reserves the right to require relocation of the telecommunication facilities to an area to be determined by the Grantor. . All reasonable relocation expenses shall be the responsibility of the Grantee.

This temporary utility easement will terminate when the Additional Ground Space Lease Agreement executed by both parties on July 26, 2011, attached as Exhibit "B" and incorporated by reference herein, terminates.

The purpose of this easement is to provide Grantee, its successors and assigns, access to the property for the purpose of installing, constructing, operating, maintaining, repairing, and replacing Grantee's telecommunication facilities as Grantee may deem necessary over, across, through, in and under the property described in Exhibit "A". If Grantee, its successors and assigns, causes any damage to the property, Grantee shall restore the property to the same or better condition than existed prior to the damage. Further Grantee will indemnify and hold harmless Grantor its successors and or assigns from claims of injury to person or property as a result of Grantee's installation, construction, operation, maintenance, repair, or replacement of Grantee's telecommunication facilities through said utility easement, except for that which is attributable to the negligence or willful misconduct of Grantor, its employees, agents, or contractors.

SIGNATURES ON FOLLING PAGE

IN WITNESS WHEREOF, the above named Grantor has caused this instrument to be acknowledged as of the date indicated below.

Grantor

City of Sherwood, an Oregon municipal corporation

By: _____

Print Name: James Patterson

Its: City Manager

Date: _____

Grantee

AT&T Mobility Corporation

By: _____

Print Name: Geri Roper

Its: Manager

Date: _____

ACKNOWLEDGEMENTS ON FOLLOWING PAGE

GRANTOR ACKNOWLEDGMENT

STATE OF OREGON)
) ss
County of WASHINGTON)

On this ____ day of _____, 2011, before me personally appeared **James Patterson**, personally known to me to be the person whose name is subscribed to this instrument, and acknowledged that he executed the same.

NOTARY PUBLIC FOR OREGON

My Commission Expires: _____

GRANTEE ACKNOWLEDGMENT

STATE OF OREGON)
) ss:
COUNTY OF CLACKAMAS)

On the ____ day of February 2011 before me personally appeared **Geri Roper**, and acknowledged under oath that she is the **Manager of AT&T Mobility Corporation**, the Grantee named in the attached instrument, and as such was authorized to execute this instrument.

Notary Public

Signature of Notary Public

My Commission Expires: _____

EXHIBIT A Page 1

**PL52 Sherwood South
Utility Easement**

This easement is for the purpose of providing utilities to a lease area for AT&T Wireless on, over, under and through a portion of the property described as:

Beginning at a point which is 20 feet south and 40 rods east of the center of Section 32, Township 2 South, Range 1 West of the Willamette Meridian, Washington County, Oregon, said Point of Beginning being the Northeast corner of that tract of land conveyed to Gordon H. Snyder in book 186, page 275, of deed records of Washington County, Oregon; thence running South along the east line of said Snyder tract 260 feet; thence West parallel with the north line of said Snyder tract, 220 feet; thence North parallel with the east line of said Snyder tract 260 feet to the north line of the Snyder tract, said north line also being the south line of East Division Street; thence East 220 feet along said North line of the Snyder tract to the Point of Beginning.

Said utility easement is a 5 foot wide easement lying 2.5 feet on each side of the centerline MORE PARTICULARLY described as follows:

Commencing at the Northeast corner of the above described property;
thence SOUTH 01°57'35" WEST 115.84 feet along the east line of said property;
thence NORTH 88°02'25" WEST 47.16 feet to the Point of Beginning, which is on the east line of said lease area;
thence from said Point of Beginning NORTH 89°24'54" EAST 8.50 feet;
thence NORTH 00°35'06" WEST 55.48 feet;
thence NORTH 89°27'15" WEST 75.21 feet to point "A";
thence NORTH 89°27'15" WEST 69.24 feet;
thence NORTH 00°11'56" EAST 42.76 feet to a point 2.5 feet north of Telco pedestal #31723 and the end of this portion of the easement.
thence beginning from said point "A" NORTH 00°32'45" EAST 15.62 feet to the center of Transformer #31420-75

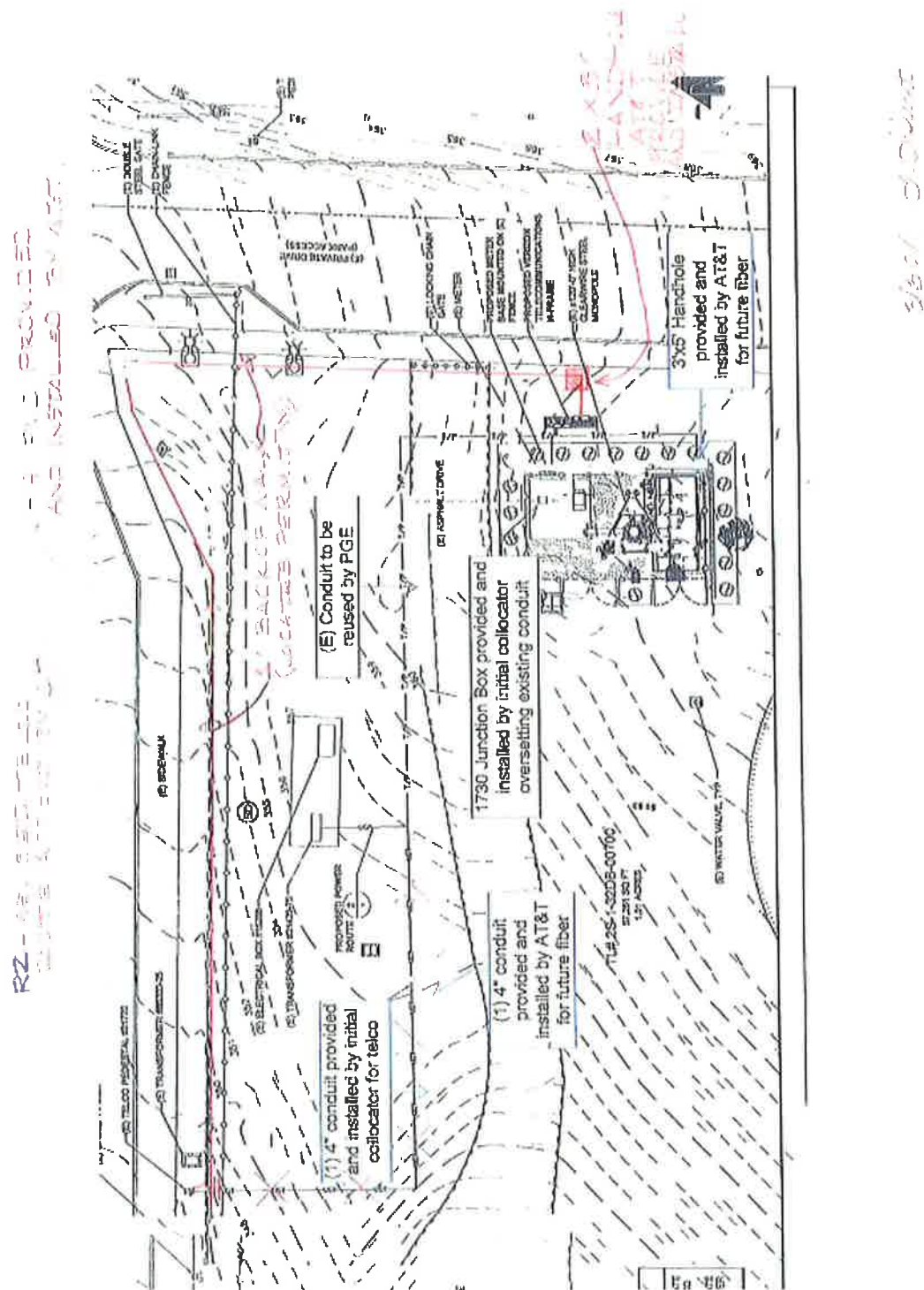


Exhibit B

Market: Oregon
Cell Site Number: PL52
Cell Site Name: Sherwood South
Fixed Asset Number: 10118909

ADDITIONAL GROUND SPACE LEASE AGREEMENT

THIS ADDITIONAL GROUND SPACE LEASE AGREEMENT ("**Agreement**" or "**Lease**"), dated as of the latter of the signature dates below (the "**Effective Date**"), is entered into by the City of Sherwood Oregon, an Oregon municipal corporation, having a mailing address of 22560 SW Pine Street, Sherwood OR 97140 (hereinafter referred to as "**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company doing business as AT&T Mobility, having a mailing address of 6100 Atlantic Boulevard, Norcross, Georgia 30071 (hereinafter referred to as "**Tenant**").

BACKGROUND

Landlord owns that certain plot, parcel or tract of land, together with all rights and privileges arising in connection therewith, located at 15288 SW Division St. Sherwood OR 97140, in the County of Washington, State of Oregon (collectively, the "**Property**"). Tenant, in connection with its federally licensed communications business, desires to lease ground space only for the installation of equipment and associated communications fixtures installed or to be installed on an antenna structure owned by a third party ("**Antenna Landlord**"), which antenna structure is located on the Property. Landlord desires to grant to Tenant the right to use a portion of the Property in accordance with this Agreement.

The parties agree as follows:

- 1. LEASE OF PREMISES.** Landlord leases to Tenant only a portion of space on the Property, the 200 square foot area located in such portion of the property, all as described on attached **Exhibit 1** (the "**Premises**") which is attached and incorporated by reference herein. Tenant intends to locate its equipment facilities as described on **Exhibit 2** which is attached and incorporated by reference herein, consistent with Site Plan Permit No. CBLD 5343. This Lease is not a franchise. Any such franchise must be obtained separately from Landlord.
- 2. PERMITTED USE.** Tenant may use the Premises for the transmission and reception of communications signals and the installation, construction, maintenance, operation, repair, replacement and upgrade of its communications fixtures and related equipment, cables, accessories and improvements as set forth in **Exhibit 2**, which may include a suitable support structure, equipment shelters or cabinets and fencing and any other items necessary (collectively, the "**Communication Facility**") to the successful and secure use of the Premises. Tenant shall at its expense, comply with all present and future federal, state and local laws, ordinances, rules and regulations (including laws and ordinances relating to health, radio frequency emissions, industrial hygiene, environmental, and other radiation and safety requirements) in connection with Tenant's use, operation, maintenance, construction and/or installation of its Communication Facility. Tenant at its expense shall obtain all licenses, permits, and land use approvals required for Tenant's use of the Premises. Notwithstanding the foregoing, Tenant will not be required to modify the Communication Facility in response to future changes in land use laws or building codes until Tenant is otherwise required to do so under applicable law. Tenant may, prior to or after the Commencement Date, obtain a title report, perform surveys, soil tests and other engineering procedures on, under and over the Property necessary to determine that Tenant's use of the Premises will be compatible with Tenant's engineering specifications, system design, operations and any federal, state, and local government approvals (collectively, the "**Permitted Use**"). Tenant may not add additional equipment other than that shown on **Exhibit 2** without the prior written approval of the Landlord which approval shall not be unreasonably withheld, delayed or conditioned. For a period of ninety (90) days following the start of construction, Landlord grants Tenant, its subtenants, licensees and sublicensees, the

right to use such portions of Landlord's contiguous, adjoining or surrounding property as described on **Exhibit 1** hereto (the "**Surrounding Property**"), as may reasonably be required during construction and installation of the Communications Facility. Tenant has the right to install and operate transmission cables from the equipment shelter or cabinet to the antenna structure which is located on the Property or adjacent property, electric lines from the main feed to the equipment shelter or cabinet and communication lines from the main entry point to the equipment shelter or cabinet, and to make Property improvements, alterations, upgrades or additions appropriate for Tenant's use as described in **Exhibit 2**. Tenant changes include the right to construct a fence around the Premises and undertake any other appropriate means to secure the Premises at Tenant's expense. Tenant agrees to comply with all applicable governmental laws, rules, statutes and regulations, relating to its use of the Communication Facility on the Property.

3. TERM.

(a) The initial lease term will be five (5) years ("**Initial Term**"), commencing on the Effective Date. The Initial Term will terminate on the fifth (5th) annual anniversary of the Effective Date.

(b) This Agreement will automatically renew for four (4) additional five (5) year term(s) (each five (5) year term shall be defined as the "**Extension Term**"), upon the same terms and conditions unless the Tenant notifies the Landlord in writing of Tenant's intention not to renew this Agreement at least sixty (60) days prior to the expiration of the existing Term.

(c) Any renewal shall be on the same terms and conditions as are set forth in this Lease, unless otherwise agreed by both parties in writing. Landlord may deny renewal of this Lease by written notification of its intention not to renew the Lease at any time after the expiration of the first Extension Term upon 12 months prior notice.

(d) If, at least sixty (60) days prior to the end of the fourth (4th) extended term, either Landlord or Tenant has not given the other written notice of its desire that the term of this Agreement end at the expiration of the fourth (4th) extended term, then upon the expiration of the fourth (4th) extended term this Agreement shall continue in force upon the same covenants, terms and conditions from month to month. Either the Landlord or the Tenant may terminate month-to-month lease by providing thirty (30) days prior written notice to the other. If Tenant remains in possession of the Premises after the termination of this Agreement then Tenant will be deemed to be occupying the Premises on a month to month basis (the "**Holdover Term**"), subject to the terms and conditions of this Agreement.

(e) The Initial Term, the Extension Term and the Holdover Term are collectively referred to as the Term ("**Term**").

4. RENT.

(a) Commencing on the first day of the month following the date that Tenant commences construction (the "**Rent Commencement Date**"), Tenant will pay the Landlord a monthly rental payment of Nine-Hundred-and No/100 Dollars (\$900.00) ("**Rent**"), at the address set forth above, on or before the fifth (5th) day of each calendar month in advance. In partial months occurring after the Rent Commencement Date, Rent will be prorated. The initial Rent payment will be forwarded by Tenant to Landlord within thirty (30) days after the Rent Commencement Date.

(b) In year two (2) of the Initial Term, and each year thereafter, including throughout the any Extension Terms exercised, the Rent will increase by four percent (4%) over the Rent paid the previous year.

(c) Tenant also agrees to reimburse Landlord for its reasonable legal costs in preparing this Lease not to exceed one thousand dollars \$1,000.00 payable on the Commencement Date.

(d) All charges payable under this Agreement such as utilities and taxes shall be billed by Landlord within one (1) year from the end of the calendar year in which the charges were incurred; any charges beyond such period shall not be billed by Landlord, and shall not be payable by Tenant. The foregoing shall not apply to monthly rent which is due and payable without a requirement that it be billed by Landlord. The provisions of the foregoing sentence shall survive the termination or expiration of this Agreement.

5. INSTALLATION OF EQUIPMENT.

(a) Tenant shall have the right, at its sole cost and expense, to install, operate and maintain on the Premises, in accordance with good engineering practices and with all applicable FCC rules and regulations, its Communication Facility as described on **Exhibit 2**. No additional facilities are permitted unless approved as required herein.

(b) Any damage to Landlord's Premises or property occurring during installation or maintenance of Tenant's equipment shall be Tenant's sole responsibility and shall be addressed as required in Section 17 hereof.

6. EQUIPMENT UPGRADE. Tenant may update or replace Communication Facility equipment from time to time with the prior written approval of Landlord, which approval shall not be unreasonably withheld, delayed or conditioned, provided that the replacement facilities are not greater in number or size than the existing facilities. Tenant shall submit to Landlord a detailed proposal for any such replacement facilities and any supplemental materials as may be requested, for Landlord's evaluation and approval. This paragraph is not intended to eliminate or in any way alter the obligation of Tenant to obtain any and all needed land use approvals and permits.

7. CONSTRUCTION STANDARDS. The Communication Facility shall be installed on Premises in a good and workmanlike manner without the attachment of any construction liens and in accordance with all applicable federal, state and local codes, rules and regulations including the National Electrical Code and the National Electrical Safety Code. All work that does not comply with applicable construction standards shall be removed at the sole expense of the Tenant.

8. APPROVALS.

(a) Landlord agrees that Tenant's ability to use the Premises is contingent upon the suitability of the Premises for Tenant's Permitted Use, Tenant's ability to secure a lease with Antenna Landlord for space on Antenna Landlord's antenna structure and such lease remaining in full force and effect during the Term hereof, and Tenant's ability to obtain and maintain all governmental licenses, permits, approvals or other relief required of or deemed necessary or appropriate by Tenant for its use of the Premises, including without limitation applications for zoning variances, zoning ordinances, amendments, special use permits, and construction permits (collectively, the "**Government Approvals**"). Landlord authorizes Tenant to prepare, execute and file all required applications to obtain Government Approvals for Tenant's Permitted Use under this Agreement and agrees to reasonably assist Tenant with such applications and with obtaining and maintaining the Government Approvals. In addition, Tenant shall have the right to initiate the ordering and/or scheduling of necessary utilities.

(b) Tenant has the right to obtain a title report or commitment for a leasehold title policy from a title insurance company of its choice and to have the Property surveyed by a surveyor of Tenant's choice. In the event Tenant determines in its sole discretion, due to the title report results or survey results that the condition of the Premises is unsatisfactory for Tenant's proposed use of the Premises, Tenant will have the right to terminate this Agreement upon notice to Landlord.

9. TERMINATION. This Agreement may be terminated, without penalty or further liability, as follows:

(a) by either party on thirty (30) days prior written notice if the other party defaults under any covenant or term hereof which fault is not cured within sixty (60) days of receipt of written notice of default except that this Agreement shall not be terminated if the default cannot reasonably be cured within such sixty (60) day period and the defaulting party has commenced to cure the default within such sixty (60) day period and diligently pursues the cure to completion;

(b) by Tenant upon written notice to Landlord, if Tenant is unable to obtain, or maintain, any required approval(s) or the issuance of a license or permit by any agency, board, court or other governmental authority necessary for the construction or operation of the Communication Facility as now or hereafter intended by Tenant; or if Tenant determines in its sole discretion that the cost of obtaining or retaining the same is commercially unreasonable;

(c) by Tenant upon written notice to Landlord, if Tenant is unable to obtain a lease, license or similar agreement with Antenna Landlord for space on Antenna Landlord's antenna structure, if Tenant determines in its sole discretion that the cost of obtaining a lease, license or similar agreement with Antenna Landlord for space on Antenna Landlord's antenna structure is commercially unreasonable, or if the lease, license or similar agreement between Tenant and Antenna Landlord for space on Antenna Landlord's antenna structure expires or is terminated for any reason;

(d) by Tenant upon written notice to Landlord for any reason, at any time prior to commencement of construction by Tenant; or

(e) by Tenant upon sixty (60) days prior written notice to Landlord for any reason or no reason, so long as Tenant pays Landlord a termination fee equal to three (3) months' Rent, at the then current rate, provided, however, that no such termination fee will be payable on account of the termination of this Agreement by Tenant under any one or more of Paragraphs 5(b), 6, 8, 9(a) for defaults by Landlord, 9(b), 9(c), 9(d), 9(f), 9(g), 12(b) for deposits by Landlord, 13, 22, 23 or 26(j) of this Agreement; or

(f) by Landlord immediately upon written notice in the event that the Federal Communications Commission (or any governmental agency which has jurisdiction over the health impact of radio frequencies) issues a final, unappealable order which finds that electromagnetic fields emitted by equipment similar to Tenant's Communication Facility presents an unacceptable risk to public health which the parties agree, after consultation in good faith, cannot be remediated through modifications to the Communication Facility on the Premises or on the parcel of land where Tenant subleases space on the Clearwire tower; or

(g) by Landlord if Landlord reasonably determines that continued use of the Agreement violates applicable law or ordinances, except that Landlord will not have the right to terminate the Agreement if the violation of law or ordinance arises from newly adopted building, land use or zoning laws until such time that Tenant could otherwise be required by applicable non-conforming use law to comply with the newly adopted local building, land use or zoning laws.

(h) Upon termination of this Agreement for any of the reason, Tenant shall remove its equipment, personal property, Communication Facility and leasehold improvements from the Premises on or before the date of termination and shall repair any damage to the Premises caused by such equipment, normal wear and tear and casualty loss excepted. Any such property or facilities except for hazardous materials that are not removed by the end of the Term or at termination shall become the property of Landlord. It is the responsibility of the Tenant to restore the Premises to its original condition as near as practicable and to remove any hazardous materials, if any, from the site. All costs under this Section to be borne exclusively by the Tenant. In the event Tenant fails to remove the Communication Facility or any hazardous waste from the site or fails to restore the site as provided in this section, Tenant shall reimburse the Landlord for any and all costs, attorney fees and otherwise, incurred by the Landlord to perform the same.

10. INSURANCE. Tenant will carry during the Term, at its own cost and expense, the following insurance: (i) "All Risk" property insurance for its property's replacement cost; (ii) commercial general liability insurance with a minimum limit of liability of Two Million Five Hundred Thousand Dollars \$2,500,000 combined single limit for bodily injury or death/property damage arising out of any one occurrence; and (iii) Workers' Compensation Insurance as required by law. The coverage afforded by Tenant's commercial general liability insurance shall apply to Landlord as an additional insured, but only

with respect to Landlord's liability arising out of its interest in the Property. Prior to Commencement Date, Tenant shall provide Landlord with reasonable evidence of Tenant's required insurance.

11. WAIVER OF SUBROGATION. The Landlord and Tenant agree that each waives any right of action that it may later acquire against the other party to this Agreement for loss or damage to that party's property, or to property in which that party may have an interest, to the extent that such loss is covered by any insurance policy or policies and to the extent that proceeds (which proceeds are free and clear of any interest of third parties) are received by the party claiming the loss or damage. This waiver of subrogation shall not extend to any applicable deductibles under such policy or policies.

12. ACCEPTANCE OF THE PREMISES.

(a) Tenant accepts the Premises in the condition existing as of the Commencement Date. Landlord makes no representation or warranty with respect to the condition of the Premises and Landlord shall not be liable for any latent or patent defect in the Premises except as provided in 12(b).

(b) Landlord represents that to the best of its knowledge without conducting independent investigation that the Premises have not been used for the generation, storage, treatment or disposal of hazardous materials. In addition, Landlord represents that to the best of its knowledge without conducting independent investigation that there are no hazardous materials or underground storage tanks located on the Premises. During the Term, the parties to this Agreement shall handle, store and dispose of all hazardous materials each brings onto the Premises in accordance with all federal, state and local laws and regulations. If hazardous materials are deposited as a result of any act or omission of Landlord or Tenant, the non-depositing party shall have the right to terminate this Agreement, and the depositing party shall indemnify and hold the other harmless from any and all claims arising out of such hazardous materials. For purposes of these provisions, "hazardous materials" means any chemical, pollutant or waste that is presently identified as hazardous, toxic or dangerous under any applicable federal, state or local law or regulations.

13. INTERFERENCE.

(a) Where there are existing radio frequency user(s) on the Property, the Landlord will provide Tenant with a list of all existing radio frequency user(s) on the Property to allow Tenant to evaluate the potential for interference.

(b) Landlord will not grant, after the date of this Agreement, a lease, license, permits or any other right to any third party for use of the Property, if such use may in any way adversely affect or interfere with Tenant's access to the Communication Facility, or the operations of Tenant's radio frequencies and Communication Facility, or the rights of Tenant under this Agreement. Landlord will notify Tenant in writing prior to granting any third party the right to install and operate communications equipment on the Property.

(c) Both parties will not use, nor will either party permit its employees, tenants, licensees, invitees or agents to use, any portion of the Property in any way which interferes with either party's existing use or operation of radio frequencies on the Property. Any interfering party will commence work within twenty-four (24) hours after receipt of written notice of interference to cause such interference to cease within 72 hours. If the interference cannot be cured within 72 hours, the party causing interference will not operate its equipment (except for intermittent periods for testing) until the cause of such interference has been remedied.

14. INDEMNIFICATION.

(a) Tenant agrees to indemnify, defend and hold Landlord harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising directly from the actions or omissions of the Tenant its principals, employees, agents or independent contractors in performing this Agreement or

Tenant's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Landlord, its employees, agents or independent contractors.

(b) Landlord, subject to the Oregon Constitution and Oregon Tort Claims Acts, agrees to indemnify, defend and hold Tenant harmless from and against any and all injury, loss, damage or liability (or any claims in respect of the foregoing), costs or expenses (including reasonable attorneys' fees and court costs) arising directly from the actions of Landlord its principals, employees, or agents, or Landlord's breach of any provision of this Agreement, except to the extent attributable to the negligent or intentional act or omission of Tenant, its employees, agents or independent contractors.

(c) Notwithstanding anything to the contrary in this Agreement, Tenant and Landlord each waives any claims that each may have against the other with respect to consequential, incidental or special damages.

15. WARRANTIES.

(a) Tenant and Landlord each acknowledge and represent that it is duly organized, validly existing and in good standing and has the right, power and authority to enter into this Agreement and bind itself hereto through the party set forth as signatory for the party below.

(b) Landlord represents and warrants that: (i) Landlord solely owns the Property as a legal lot in fee simple, or controls the Property by lease or license; (ii) the Property is not encumbered by any liens, restrictions, mortgages, covenants, conditions, easements, leases, or any other agreements of record or not of record, which would adversely affect Tenant's Permitted Use and enjoyment of the Premises under this Agreement; (iii) as long as Tenant is not in default then Landlord grants to Tenant sole, actual, quiet and peaceful use, enjoyment and possession of the Premises; (iv) Landlord's execution and performance of this Agreement will not violate any laws, ordinances, covenants or the provisions of any mortgage, lease or other agreement binding on the Landlord; and (v) if the Property is or becomes encumbered by a deed to secure a debt, mortgage or other security interest, Landlord will provide promptly to Tenant a mutually agreeable Subordination, Non-Disturbance and Attornment Agreement.

16. ACCESS. At all times throughout the Term of this Agreement, and at no additional charge to Tenant, Tenant and its employees, agents, and subcontractors, will have the reasonable right of pedestrian and vehicular access to the Premises to reach the Communication Facility twenty-four (24) hours per day, seven (7) days per week. Landlord shall have access to the Premises at reasonable times upon 24 hours prior notice to Tenant to visually examine and visually inspect the Communication Facility for safety reasons or to ensure Tenant is meeting its covenants and to ensure that Tenant shall have access twenty-four (24) hours per day, seven (7) days per week to inspect and maintain its Communication Facility on the Property.

17. REMOVAL/RESTORATION/REPAIR. In the event the Landlord redevelops the Property, Landlord may request relocation of the Communication Facility or the utilities to the facilities, within Landlord's Property at Tenant's sole cost and expense. Landlord agrees to coordinate such redevelopment with Tenant to prevent interference with Tenant's transmission and reception from the Premises. Said request for relocation shall be made with a minimum of twelve (12) months prior written notice. Landlord agrees to provide Tenant with a mutually acceptable location to relocate its Communication Facility or utilities on the Property. Upon relocation of the Communication Facility, the access and utility easement(s) will be relocated as required. Upon termination or expiration of this Lease, or in the event of damage to Landlord's property during installation of Equipment by Tenant, Tenant shall restore Landlord's Premises and property to their condition prior to such damage or installation within sixty (60) days of termination or damage. Upon termination or expiration of this Lease, Tenant shall remove its Communication Facility and return the Premises to their condition prior to the installation of Tenant's Communication Facility, including removal of any underground materials to a depth of sixty (60) inches below grade. Tenant shall be obligated to pay rent at the rate specified herein until such removal and restoration is complete. Tenant shall provide proof of payment of all equipment suppliers

and laborers and shall remove and hold Landlord harmless from any liens against the lease premises as a result of such removal or restoration.

18. MAINTENANCE/UTILITIES.

(a) Tenant will keep and maintain the Premises in safe condition, in good repair and in a manner suitable to Landlord so as not to conflict with the use of or other leasing of the Property. Tenant shall not interfere with the use of the remaining portion of the Property or any other facilities located on the Property or other equipment of other tenants. Tenant shall have sole responsibility for the maintenance, repair, and security of all its equipment, personal property, and leasehold improvements, and shall keep the same in good repair and condition during the Term. Landlord shall similarly maintain its Communication Facility if they are placed on the Premises. Tenant shall keep the Premises free of debris and anything of a dangerous, noxious or offensive nature or which would create a hazard or interference with other uses of the Premises or the Property.

(b) Tenant will be responsible for paying on a monthly or quarterly basis all utilities charges for electricity, telephone service or any other utility used or consumed by Tenant on the Premises. In the event Tenant cannot secure its own metered electrical supply, Tenant will have the right, at its own cost and expense, to submeter from the Landlord. When submetering is required under this Agreement, Landlord will read the meter and provide Tenant with an invoice and usage data on a monthly basis. Landlord further agrees to provide the usage data and invoice on forms provided by Tenant and to send such forms to such address and/or agent designated by Tenant. Tenant will remit payment within thirty days of receipt of the usage data and required forms. Failure by Landlord to perform this function will limit utility fee recovery by Landlord to a 12-month period. If Tenant submeters electricity from Landlord, Landlord agrees to give Tenant at least 24 hours advanced notice of any planned interruptions of said electricity. Landlord acknowledges that Tenant provides a communication service which requires electrical power to operate and must operate twenty-four (24) hour per day, seven (7) day per week. If the interruption is for an extended period of time, in Tenant's reasonable determination, the Landlord agrees to allow Tenant the right to bring in a temporary source of power for the duration of the interruption. Landlord will fully cooperate with any utility company requesting an easement over, under and across the Property in order for the utility company to provide service to the Tenant. Landlord will not be responsible for interference with, interruption of or failure, beyond the reasonable control of Landlord, of such services to be furnished or supplied by Landlord.

19. DEFAULT AND RIGHT TO CURE.

(a) The following will be deemed a default by Tenant and a breach of this Agreement: (i) non-payment of Rent if such Rent remains unpaid for more than thirty (30) days after receipt of written notice from Landlord of such failure to pay; or (ii) Tenant's failure to perform any other term or condition under this Agreement within forty-five (45) days after receipt of written notice from Landlord specifying the failure. No such failure, however, will be deemed to exist if Tenant has commenced to cure such default within such period and provided that such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Tenant. In the event of a default, Landlord shall have the right, at its option, in addition to and not exclusive of any other remedy Landlord may have by operation of law, without any further demand or notice, to re-enter the Premises as allowed by law and eject all persons therefrom, and either:

(1) declare this Lease at an end, in which event Tenant shall immediately pay Landlord a sum of money equal to the total of:

- A. the amount of the unpaid rent accrued through the date of termination;
- B. the amount by which the unpaid rent reserved for the balance of the term exceeds the amount of such rental loss that the Tenant proves could be reasonably avoided (net of the costs of such reletting); and

- C. any other amount necessary to compensate Landlord for all detriment proximately caused by Tenant's failure to perform its obligations under the Lease, or

(2) without terminating this Lease, relet the Lease Site, or any part thereof, for the account of Tenant upon such terms and conditions as Landlord may deem advisable, and any monies received from such reletting shall be applied first to the expenses of such reletting and collection, including reasonable attorney fees, any real estate commissions paid, and thereafter toward payment of all sums due or to become due Landlord hereunder and, if a sufficient sum shall not be thus realized to pay such sums and other charges, Tenant shall pay Landlord any deficiency monthly, notwithstanding that Landlord may have received rental in excess of the rental stipulated in this Lease in previous or subsequent months, and Landlord may bring an action therefore as such monthly deficiency shall arise.

If Tenant remains in default beyond any applicable cure period, in addition to the options listed above, Landlord will have the right to exercise any and all rights available to it under law and equity.

(b) The following will be deemed a default by Landlord and a breach of this Agreement. (i) failure to provide access to the Premises or to cure an interference problem within twenty-four (24) hours after receipt of written notice of such default; or (ii) Landlord's failure to perform any term, condition or breach of any warranty or covenant under this Agreement within forty-five (45) days after receipt of written notice from Tenant specifying the failure. No such failure, however, will be deemed to exist if Landlord has commenced to cure the default within such period and provided such efforts are prosecuted to completion with reasonable diligence. Delay in curing a default will be excused if due to causes beyond the reasonable control of Landlord. If Landlord remains in default beyond any applicable cure period, Tenant will have the right to exercise any and all rights available to it under law and equity.

20. ASSIGNMENT/SUBLEASE. Tenant may not assign this Lease or sublet the Premises without the prior written consent of the Landlord, unless such assignment is to a parent, subsidiary or affiliate of Tenant. Tenant shall provide Landlord written notice of such assignment or subletting thirty (30) days prior to such assignment or subletting. Such notice shall contain information regarding the name of the parent, subsidiary or affiliate to which Tenant is assigning or subletting. Prior written consent of Landlord for subletting should not be unreasonably withheld, delayed, or conditioned. Nothing in this Lease shall preclude Landlord from leasing space on Property other than the Premises for communications equipment to any person or entity which may be in competition with Tenant or any other party, consistent with the terms of this Agreement.

21. NOTICES. All notices, requests, demands and communications hereunder will be given by first class certified or registered mail, return receipt requested, or by a nationally recognized overnight courier, postage prepaid, to be effective when properly sent and received, refused or returned undelivered. Notices will be addressed to the parties as follows:

If to Tenant:

New Cingular Wireless PCS, LLC
Attn: Network Real Estate Administration
Re: Cell Site #: PL52; Cell Site Name: Sherwood South
Fixed Asset No: 10118909
12555 Cingular Way, Suite 1300
Alpharetta, GA 30004

With a required copy of such notice sent to AT&T Legal at:

If sent via certified or registered mail:

New Cingular Wireless PCS, LLC
Attn: AT&T Legal Department
Re: Cell Site #: PL52; Cell Site Name: Sherwood South
Fixed Asset No: 10118909
PO Box 97061
Redmond, WA 98073-9761

Or

If sent via nationally recognized overnight courier:

New Cingular Wireless PCS, LLC
Attn: AT&T Legal Department
Re: Cell Site #: PL52; Cell Site Name: Sherwood South
Fixed Asset No: 10118909
16331 NE 72nd Way
Redmond, WA 98052-7827
New Cingular Wireless PCS, LLC

If to Landlord: City Manager's Office
City of Sherwood Oregon
22560 SW Pine Street
Sherwood OR 97140

Either party hereto may change the place for the giving of notice to it by thirty (30) days prior written notice to the other as provided herein.

22. CONDEMNATION. In the event Landlord receives notification of any condemnation proceedings affecting the Property, Landlord will provide notice of the proceeding to Tenant within forty-eight (48) hours. If a condemning authority takes all of the Property, or a portion sufficient, in Tenant's sole determination, to render the Premises unsuitable for Tenant, this Agreement will terminate as of the date the title vests in the condemning authority. The parties will each be entitled to pursue their own separate awards in the condemnation proceeds, which for Tenant will include, where applicable, the value of its Communication Facility, moving expenses, prepaid Rent, and business dislocation expenses, provided that any award to Tenant will not diminish Landlord's recovery. Tenant will be entitled to reimbursement for any prepaid Rent on a prorata basis.

23. CASUALTY. Landlord will provide notice to Tenant of any casualty affecting the Property within forty-eight (48) hours of the casualty. If any part of the Communication Facility or Property is damaged by fire or other casualty, not caused by the Tenant, which renders the Premises unsuitable, then Tenant may terminate this Agreement by providing written notice to the Landlord, which termination will be effective as of the date of such damage or destruction. Upon such termination, Tenant will be entitled to collect all insurance proceeds payable to Tenant on account thereof and to be reimbursed for any prepaid Rent on a prorata basis. If notice of termination is given, or if Landlord or Tenant undertake to rebuild the Communications Facility, Landlord agrees to use its reasonable efforts to permit Tenant to place temporary transmission and reception facilities on the Property at no additional Rent until such time

as Tenant is able to activate a replacement transmission facility at another location or the reconstruction of the Communication Facility is completed.

24. WAIVER OF LANDLORD'S LIENS. Landlord waives any and all lien rights it may have, statutory or otherwise, concerning the Communication Facility or any portion thereof. The Communication Facility shall be deemed personal property for purposes of this Agreement, regardless of whether any portion is deemed real or personal property under applicable law, and Landlord consents to Tenant's right to remove all or any portion of the Communication Facility from time to time in Tenant's sole discretion and without Landlord's consent.

25. TAXES. Tenant shall pay, as they become due and payable, all fees, charges, taxes and expenses required for licenses and/or permits required for or occasioned by Tenant's use of the Lease Site. Tenant shall pay any increase in real estate taxes caused by the improvements constructed thereon by Tenant and/or the activities of Tenant. In the event the real estate tax assessment on Landlord's property reflects Tenant's improvements and/or activities, Landlord agrees to provide Tenant in a timely manner a copy of the assessment.

26. MISCELLANEOUS.

(a) **Amendment/Waiver.** This Agreement cannot be amended, modified or revised unless done in writing and signed by an authorized agent of the Landlord and an authorized agent of the Tenant. No provision may be waived except in a writing signed by both parties.

(b) **Memorandum/Short Form Lease.** Either party will, at any time upon fifteen (15) business days prior written notice from the other, execute, acknowledge and deliver to the other a recordable Memorandum or Short Form of Lease. Either party may record this Memorandum or Short Form of Lease at any time, in its absolute discretion.

(c) **Bind and Benefit.** The terms and conditions contained in this Agreement will run with the Property and bind and inure to the benefit of the parties, their respective heirs, executors, administrators, successors and assigns.

(d) **Entire Agreement.** This Agreement and the exhibits attached hereto, all being a part hereof, constitute the entire agreement of the parties hereto and will supersede all prior offers, negotiations and agreements with respect to the subject matter of this Agreement.

(e) **Governing Law.** This Agreement will be governed by the laws of the state in which the Premises are located, without regard to conflicts of law.

(f) **Interpretation.** Unless otherwise specified, the following rules of construction and interpretation apply: (i) captions are for convenience and reference only and in no way define or limit the construction of the terms and conditions hereof; (ii) use of the term "including" will be interpreted to mean "including but not limited to"; (iii) whenever a party's consent is required under this Agreement, except as otherwise stated in the Agreement or as same may be duplicative, such consent will not be unreasonably withheld, conditioned or delayed; (iv) exhibits are an integral part of the Agreement and are incorporated by reference into this Agreement; (v) use of the terms "termination" or "expiration" are interchangeable; and (vi) reference to a default will take into consideration any applicable notice, grace and cure periods; and (vii) to the extent there is any issue with respect to any alleged, perceived or actual ambiguity in this Agreement, the ambiguity shall not be resolved on the basis of who drafted the Agreement.

(g) **Estoppel.** Either party will, at any time upon twenty (20) business days prior written notice from the other, execute, acknowledge and deliver to the other a statement in writing (i) certifying that this Agreement is unmodified and in full force and effect (or, if modified, stating the nature of such modification and certifying this Agreement, as so modified, is in full force and effect) and the date to which the Rent and other charges are paid in advance, if any, and (ii) acknowledging that there are not, to such party's knowledge, any uncured defaults on the part of the other party hereunder, or specifying such

defaults if any are claimed. Any such statement may be conclusively relied upon by any prospective purchaser or encumbrance of the Premises. The requested party's failure to deliver such a statement within such time will be conclusively relied upon by the requesting party that (i) this Agreement is in full force and effect, without modification except as may be properly represented by the requesting party, (ii) there are no uncured defaults in either party's performance, and (iii) no more than one month's Rent has been paid in advance.

(h) **W-9.** Landlord agrees to provide Tenant with a completed IRS Form W-9, or its equivalent, upon execution of this Agreement and at such other times as may be reasonably requested by Tenant.

(i) **No Electronic Signature/No Option.** The submission of this Agreement to any party for examination or consideration does not constitute an offer, reservation of or option for the Premises based on the terms set forth herein. This Agreement will become effective as a binding Agreement only upon the handwritten legal execution, acknowledgment and delivery hereof by Landlord and Tenant.

(j) **Severability.** If any term or condition of this Agreement is found unenforceable, the remaining terms and conditions will remain binding upon the parties as though said unenforceable provision were not contained herein. However, if the invalid, illegal or unenforceable provision materially affects this Agreement then the Agreement may be terminated by either party on ten (10) business days prior written notice to the other party hereto.

(k) **Counterparts.** This Agreement may be executed in two (2) or more counterparts, all of which shall be considered on and the same agreement and shall become effective when one or more counterparts have been signed by each of the parties. It being understood that all parties need not sign the same counterpart.

IN WITNESS WHEREOF, the parties have caused this Agreement to be effective as of the last date written below.

"LANDLORD"

The City of Sherwood Oregon,
An Oregon municipal corporation

By: _____



Print Name: James A. Patterson
City Manager

Its: Sherwood, Oregon 97140

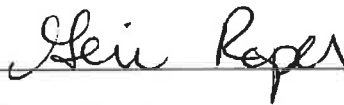
Date: 7-26-2011

"TENANT"

New Cingular Wireless PCS, LLC,
a Delaware limited liability company

By: AT&T Mobility Corporation
Its: Manager

By: _____



Print Name: Geri Roper

Its: Area Manager, Const & Engr

Date: 7/13/11

TENANT ACKNOWLEDGMENT

STATE OF Oregon)
COUNTY OF Washington) ss:

On the 13th day of July 2011 before me personally appeared Geri Roper,

and acknowledged under oath that she is the ADMINISTRATOR of AT&T Mobility Corporation, the Manager of Tenant named in the attached instrument, and as such was authorized to execute this instrument on behalf of New Cingular Wireless PCS, LLC.

Charlotte Clarke
Notary Public

Charlotte Clarke
Signature of Notary Public

My Commission Expires: 7/11/14



LANDLORD ACKNOWLEDGMENT

STATE OF OREGON)
COUNTY OF WASHINGTON) ss:

I CERTIFY that on July 26th, 2011 ~~February 26th, 2010~~ James Patterson personally came before me and acknowledged under oath that he:

- (a) is the City Manager of the City of Sherwood Oregon, the Municipal corporation named in the attached instrument,
- (b) was authorized to execute this instrument on behalf of the City of Sherwood and
- (c) executed the instrument as the act of the City of Sherwood.

Kristina Ouellette
Notary Public

Kristina Ouellette
Signature of Notary Public

My Commission Expires: May 15th 2015



EXHIBIT 1

DESCRIPTION OF PREMISES

Page 1 of 1

to the Agreement dated July 26, 2011, by and between the City of Sherwood Oregon, an Oregon Municipal corporation, as Landlord, and New Cingular Wireless PCS, LLC, a Delaware limited liability company, as Tenant.

The Premises are described and/or depicted as follows:

Map & Lot 2S132DB00700, Assessor's Parcel #R557551:

Beginning at a point which is 20 feet South and 40 rods East of the center of Section 32, Township 2 South, Range 1 West of the Willamette Meridian, Washington County, Oregon, said point of beginning being the Northeast corner of that tract of land conveyed to Gordon H. Snyder in Book 186, page 275, of Deed Records of Washington County, Oregon; thence running South along the East line of said Snyder Tract 260 feet; thence West parallel with the North line of said Snyder Tract, 220 feet; thence North parallel with the East line of said Snyder Tract 260 feet to the North line of the Snyder Tract, said North line also being the South line of East Division Street; thence East 220 feet along said North line of the Snyder Tract to the point of beginning.

AND

Map & Lot 2S132DB00600, Assessor's Parcel #R557515:

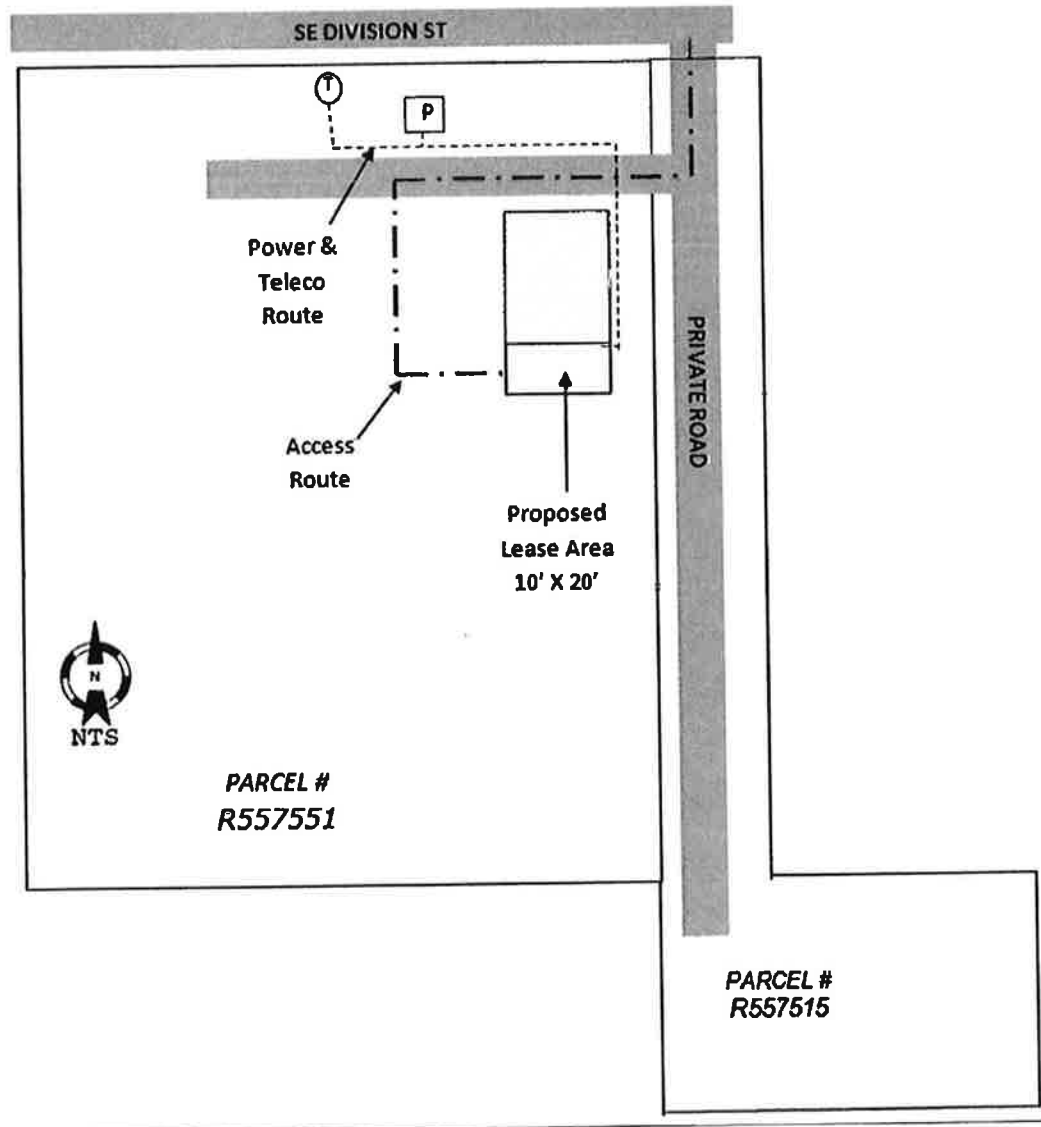
Beginning at the center of Section 21, Township 2 South, Range 1 West of the Willamette Meridian, thence North 88 degrees 21 minutes East 680.2 feet, South 0 degrees 36 minutes to the true point of beginning, thence continuing South 0 degrees 36 minutes East 205.63 feet, thence West 10 feet, North 205.63 feet to the South line of Division Street, thence East along the South line of Division Street to the point of beginning.

EXHIBIT 2
DESCRIPTION OF PREMISES

Page 1 of 4 *26*

This Cell site will be build as per the CD's that have been approved by the city of Sherwood and the build permit granted by the city. In addition, the antennae mounting design will be changed from the 78 inch arms to the 36 inch arms as per the cut in sheets inserted in the CD's and approved by the city.

The utility route will be executed as per the utility easement, granted by the city of Sherwood.



MEMORANDUM OF LEASE

Prepared by:

Goodman Networks, Inc.
7360 SW Hunziker St. Suite 206
Portland, Oregon 97223

Return to:

New Cingular Wireless PCS, LLC
Network Real Estate Administration
Site #PLS2 "Sherwood South"
Washington County Oregon
Fixed Asset #: 10118909
6100 Atlantic Boulevard
Norcross, Georgia 30071

MEMORANDUM OF LEASE

This Memorandum of Lease is entered into on this 26 day of July, 2011 by and between the City of Sherwood Oregon, an Oregon Municipal corporation having a mailing address of 22560 SW Pine Street, Sherwood Oregon 97140 (hereinafter referred to as "**Landlord**") and New Cingular Wireless PCS, LLC, a Delaware limited liability company, having a mailing address of 6100 Atlantic Boulevard, Norcross, GA 30071 (hereinafter referred to as "**Tenant**").

1. Landlord and Tenant entered into a certain Additional Ground Space Lease Agreement ("**Agreement**") on the 26 day of July 2011 for the purpose of installing, operating and maintaining a communications facility and other improvements. All of the foregoing are set forth in the Agreement.
2. The initial lease term will be five (5) years ("**Initial Term**") commencing on the Effective Date of the Agreement, with four (4) successive five (5) year options to renew subject to the provisions of Section 3 of the Agreement.
3. The portion of the land being leased to Tenant (the "**Premises**") is described in **Exhibit 1** attached and incorporated by reference hereto.
4. This Memorandum of Lease is not intended to amend or modify, and shall not be deemed or construed as amending or modifying, any of the terms, conditions or provisions of the Agreement, all of which are hereby ratified and affirmed. In the event of a conflict between the provisions of this Memorandum of Lease and the provisions of the Agreement, the provisions of the Agreement shall control. The Agreement shall be binding upon and inure to the benefit of the parties and their respective heirs, successors, and assigns, subject to the provisions of the Agreement.

IN WITNESS WHEREOF, the parties have executed this Memorandum of Lease as of the day and year first above written.

"LANDLORD" The City of Sherwood Oregon,
An Oregon municipal corporation

By: 

Print Name: James Patterson

Its: City Manager

Date: 7-26-2011

"TENANT"
New Cingular Wireless PCS, LLC,
a Delaware limited liability company

By: AT&T Mobility Corporation
Its: Manager

By: 

Print Name: Geri Roper

Its: Area Manager, Construction & Engineering

Date: 7/13/11

TENANT ACKNOWLEDGMENT

STATE OF Oregon
COUNTY OF Washington) ss:

On the 13th day of July 2011 before me personally appeared Ger. Roper
and acknowledged under oath that he is the AREA MANAGER of AT&T Mobility Corporation, the
manager of the Tenant named in the attached instrument, and as such was authorized to execute this instrument
on behalf of the New Cingular Wireless PCS, LLC.

Charlotte Clarke
Notary Public

Charlotte Clarke
Signature of Notary Public

My Commission Expires: 7/11/14



LANDLORD ACKNOWLEDGMENT

STATE OF OREGON
COUNTY OF WASHINGTON) ss:

I CERTIFY that on July 26th 2011 James Patterson personally came before me and acknowledged under
oath that he:

- (a) is the City Manager of the City of Sherwood Oregon, the Municipal corporation named in the
attached instrument,
- (b) was authorized to execute this instrument on behalf of the City of Sherwood and
- (c) executed the instrument as the act of the City of Sherwood.

Kristina Dueltte
Notary Public

Kristina Dueltte
Signature of Notary Public

My Commission Expires: May 15th 2015

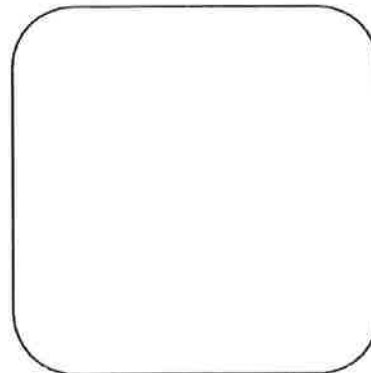


EXHIBIT 1

DESCRIPTION OF PREMISES

Page 1 of 1

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The Premises are described and/or depicted as follows:

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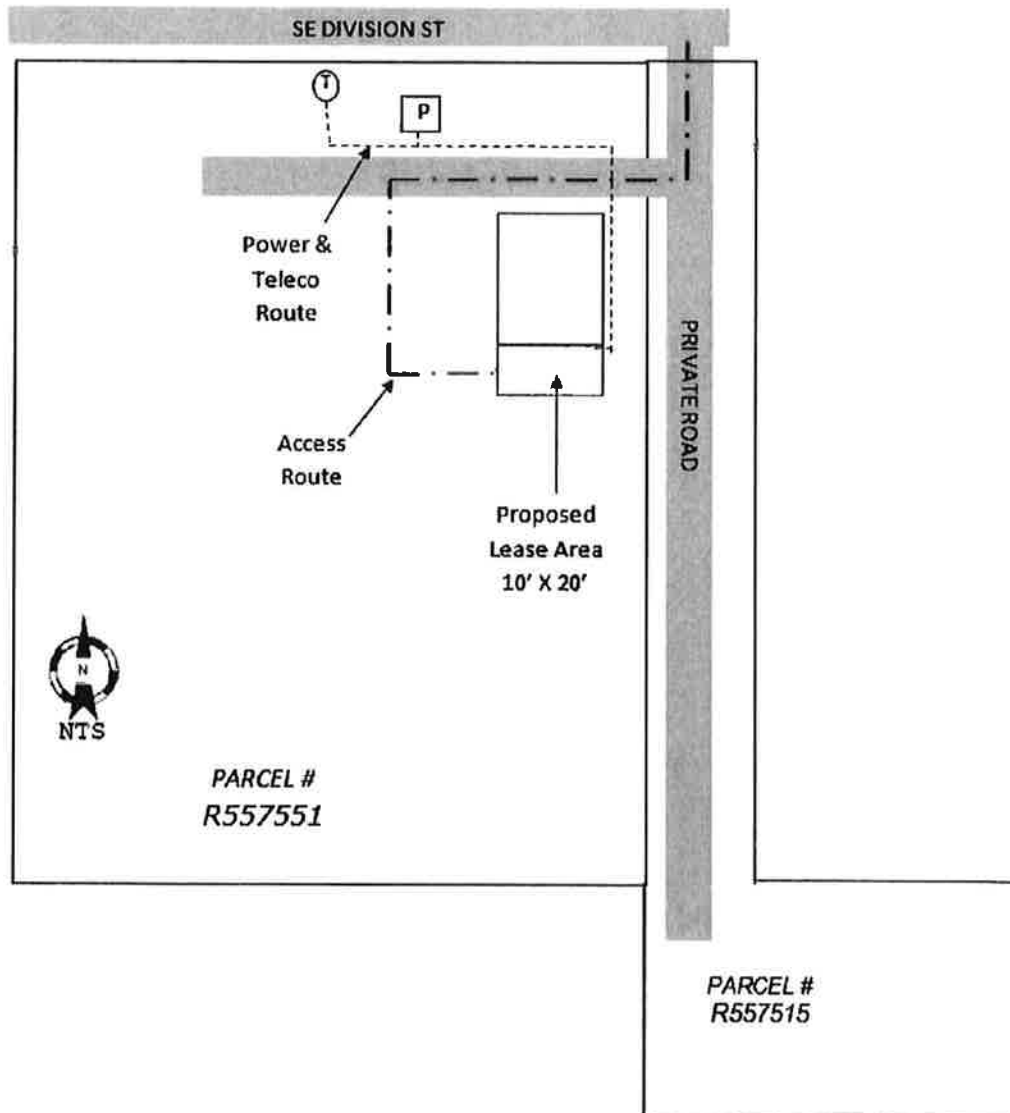
Beginning at a point which is 20 feet South and 40 rods East of the center of Section 32, Township 2 South, Range 1 West of the Willamette Meridian, Washington County, Oregon, said point of beginning being the Northeast corner of that tract of land conveyed to Gordon H. Snyder in Book 186, page 275, of Deed Records of Washington County, Oregon; thence running South along the East line of said Snyder Tract 260 feet; thence West parallel with the North line of said Snyder Tract, 220 feet; thence North parallel with the East line of said Snyder Tract 260 feet to the North line of the Snyder Tract, said North line also being the South line of East Division Street; thence East 220 feet along said North line of the Snyder Tract to the point of beginning.



AND

Map & Lot 2S132DB00600, Assessor's Parcel #R557515:

Beginning at the center of Section 21, Township 2 South, Range 1 West of the Willamette Meridian, thence North 88 degrees 21 minutes East 680.2 feet, South 0 degrees 36 minutes to the true point of beginning, thence continuing South 0 degrees 36 minutes East 205.63 feet, thence West 10 feet, North 205.63 feet to the South line of Division Street, thence East along the South line of Division Street to the point of beginning.

EXHIBIT 2
DESCRIPTION OF PREMISES
Page 1 of 1



[Website](#)

[eCatalog](#)

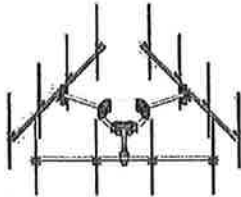
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Search Catalog
Search Criteria:
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☒ Co-Location Mounts only

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MC-K12S-9-96



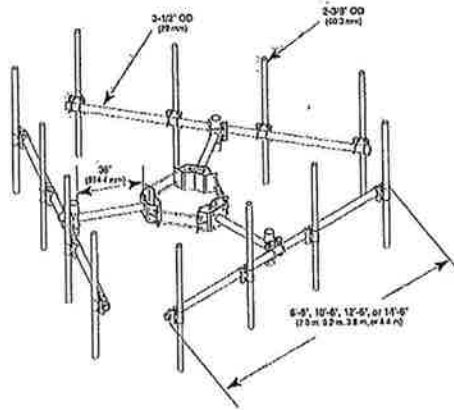
[Download Specifications](#)
☐ with Included Products
[Email](#)

[Photo Gallery](#)
 Monopole Co-location T-Frame Kit, 10 in to 30 in OD, 12 ft face, Includes pipe

Specifications	Related Products	Documents/Tools
Dimensions		
Face Width	3.8 m 12.5 ft	
Mounting Diameter, maximum	762.0 mm 30 in	
Mounting Diameter, minimum	254.0 mm 10 in	
Outer Diameter	60.3 mm 2 3/8 in	
Height	2438.4 mm 96.0 in	
Length	914.4 mm 36.0 in	
Weight	511.3 kg 1127.1 lb	
Width	3810.0 mm 150.0 in	
Environmental Specifications		
EPA with 1/2 in (12 mm) radial ice	1.3 m ² 14.5 ft ²	
EPA without ice	1.1 m ² 11.4 ft ²	
Man Rating	250 lb vertical man load at 15 mph (BWS)	
Wind Rating	120 mph (BWS) at 150 ft AGL 140 mph (3-second gust) at 150 ft AGL using Exposure D per FBC	
Wind Rating Criteria	Four 72 in x 8 in panel antennas per sector	
Wind Rating Test Method	TIA/EIA-222-G	
General Specifications		
Product Type	Co-location t-frame kits	
Pipe Length	2438.4 mm 96.0 in	
Pipe, quantity	9	
Includes	Cellular pipe frames Pipe mounts Ring mount Stand-off arms	
Material Type	Hot dip galvanized steel	
Mounting	Monopole, 254-762 mm (10-30 in) OD	
Package Quantity	1	
Sectors, quantity	3	
Stand-off Distance	914.4 mm 36.0 in	
Outline Drawing		

[Select Language](#) | ▼

Click on image below to enlarge.



Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

Included Products

	MT-651-05 Plain End Pipe, 2-3/8 in OD x 96 in
	MT-219-11 Pipe Mount Hardware Kit
	MC-K12S-B Monopole Co-location T-Frame Kit, 10 in to 30 in OD, 12 ft face

[Also](#) | [Contact Us](#) | [Careers](#) | [My CommScope](#) | [Support](#) | [Terms of Service](#)



APPROVED
CITY OF SHERWOOD
BUILDING DEPT.

*ELECT PERMIT FROM
WA. CO. REQ.

PERMIT # CBUD5343 DATE 8-2-10
ADDRESS 15288 SW DIVISION ST
PROJECT ANTENNA ADD. NEW APPR BY: [Signature]
Sunset Park

APPROVED PLANS
TO BE ON SITE
DURING INSPECTIONS

SHERWOOD SOUTH

15288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY
PL52



Goodman Networks
Network Knowledge... Delivered

*X-SPECIAL Inspections
REQ. SEE P.6-1*

Received
CBUD 5343

JUL 2 72010

By: Building Dept. *[Signature]*

APPROVED
Planning
CITY OF SHERWOOD
DATE: 8-2-10

PROPRIETARY INFORMATION

THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO AT&T WIRELESS, LLC. SERVICES IS STRICTLY PROHIBITED.

DRAWING INDEX

DWG. NO.	DESCRIPTION
T-1	TITLE SHEET
G-1	GENERAL NOTES
C-1	CIVIL SURVEY SITE DETAIL
A-1	SITE PLAN
A-1.1	ENLARGED SITE & ANTENNA PLAN
A-2	SOUTH ELEVATION
A-3	EQUIPMENT ELEVATION & DETAILS
A-3.1	EQUIPMENT SPECS
A-3.2	ANTENNA & MHA DETAILS
A-4	CONSTRUCTION DETAILS
A-4.1	CONSTRUCTION DETAILS
A-4.2	CONSTRUCTION DETAILS
A-4.3	ANTENNA PLATFORM DETAILS
A-4.4	CONSTRUCTION DETAILS
A-5.0	CONSTRUCTION DETAILS
RF-1	ANTENNA SWEEP TEST
RF-2	ANTENNA SECTOR LAYOUT & COAX COLOR CODING
E-1	UTILITY PLAN & DETAILS
E-2	ELECTRICAL/TELECO DETAILS
E-3.1	POWER CIRC-LINE DIAGRAM
E-3	SCHEMATIC GROUNDING PLAN
E-3.1	GROUNDING DETAILS
E-3.2	GROUNDING DETAILS & NOTES

LEGAL DESCRIPTION

SEE C-1 FOR LEGAL DESCRIPTION

UTILITIES

POWER COMPANY:
PGE
PH: (800) 542-8818

TELECO COMPANY:
FRONTIER TELEPHONE
PH: (800) 643-1601

PROJECT INFORMATION

APPLICANT:
AT&T MOBILITY CORPORATION
18001 SW 72ND AVE.
TUALATIN, OR 97062
CONTACT: GENE ROFFER
PH: 503-487-5019

PROJECT ENGINEER:
CORNERSTONE ENGINEERING, INC.
16928 WOODHILL RD. REDMOND RD N.E. SUITE 210
WOODBRIDGE, WA 98072
MARK W OLSON, P.E.
PH: (425) 487-1732
FAX: (425) 487-1734

CODE INFORMATION:
ZONING CLASSIFICATION: INDUSTRIAL & PUBLIC (IP)
BUILDING CODE: IBC 2009
CONSTRUCTION TYPE: TELECOMMUNICATIONS

OCCUPANCY: UNOCCUPIED
JURISDICTION: CITY OF SHERWOOD
PROPOSED BUILDING USE: TELECOMM
SITE LOCATION: (BASED ON HAD 33)
LATITUDE: 46° 21' 10.88" N (45.3590)
LONGITUDE: 122° 10' 02.25" W (122.8336)
TOP OF STRUCTURE: 120'-6" AGL
BASE OF STRUCTURE: 367'-0" AGL

PROJECT AREA:
200 SQ. FT.

GENERAL INFORMATION:
1. PARKING REQUIREMENTS ARE UNCHANGED. (NON ASSIGNED TECH PARKING)
2. TRAFFIC IS UNAFFECTED.
3. SIGNAGE IS PROPOSED.

PROJECT DESCRIPTION:
AT&T MOBILITY SEeks TO ADD ANTENNAS TO AN EXISTING 120'-0" MONOPOLE EQUIPMENT SHALL BE LOCATED WITHIN A 10'-0" x 20'-0" FENCED LEASE AREA SURROUNDED BY A 5'-0" LANDSCAPING BUFFER.

PROPERTY OWNER:
CITY OF SHERWOOD
22500 SW PINE STREET
SHERWOOD, OR 97140
(503) 626-5722

TOWER OWNER:
CLEARWIRE, LLC
(425) 216-7894

PROJECT CONSULTANTS:
GOODMAN NETWORKS
7360 SW HUNZAKER RD, SUITE 209
PORTLAND, OR 97223

PROJECT MANAGER:
SARAH GRANT
(214) 471-3831
sgrant@goodmannetworks.com

SITE ACQUISITION:
STEPHEN BERNOT
(503) 200-2227
sbn@gvnet.net

ZONING AGENT:
STEPHEN BERNOT
(503) 200-2227
sbn@gvnet.net

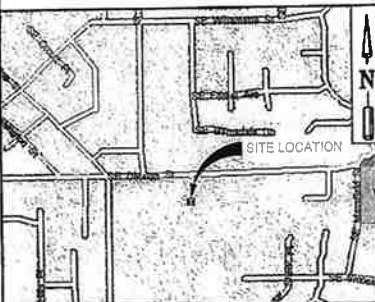
CONSTRUCTION COORDINATOR:
SCOTT HEFT
(871) 832-1133
sheft@goodmannetworks.com

PARCEL NUMBER:
281320800700

AREA OF PARCEL:
87,281 SQ. FT.
(1.31 ACRES)

NEW IMPERVIOUS AREA:
200 SQ. FT.

VICINITY MAP



GENERAL LOCATION MAP



DRIVING DIRECTIONS

START AT 18001 SW 72ND AVE. TUALATIN GOING TOWARD SW SAGERT ST - GO 0.1 MI. TURN RIGHT ON SW SAGERT ST - GO 0.4 MI. TURN RIGHT ON SW MARTINAZZI AVE. TURN LEFT ON SW MOHAWK ST - GO 0.2 MI. TURN RIGHT ON SW BOONES FERRY RD - GO 0.3 MI. TURN LEFT ON SW TUALATIN-SHERWOOD RD - GO 2.8 MI. TURN LEFT ON SW OREGON ST - GO 0.7 MI. TURN LEFT ON SW WOODCOCK RD - GO 0.8 MI. TURN RIGHT ON SW UPPER ROY ST - GO 0.1 MI. TURN LEFT ON SW MANFIELD ST. TURN RIGHT ON SW DIVISION ST - GO 0.2 MI. ARRIVE AT 15288 SW DIVISION ST, SHERWOOD, ON THE LEFT.

APPROVAL / SIGN OFF OF DRAWINGS

CONSULTANT GROUP SIGN OFF	DATE	SIGNATURE	AT&T SIGN OFF	DATE	SIGNATURE
CONSTRUCTION COORDINATOR			RF ENGINEER		
LANDLORD'S REPRESENTATIVE			INTERCONNECT		
PROJECT MANAGER			OPERATIONS		
SITE ACQUISITION			COMPLIANCE		
ZONING			CONSTRUCTION MANAGER		
			PROJECT MANAGER		

REVIEWERS SHALL CLEARLY PLACE INITIALS ADJACENT TO EACH REDLINE NOTE AS DRAWINGS ARE BEING REVIEWED



PROJECT CONSULTANTS

Goodman Networks

PLANS PREPARED BY:

CORNERSTONE ENGINEERING, INC.

16928 WOODHILL RD. REDMOND RD N.E. SUITE 210
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PROJECT INFO:

PL52
SHERWOOD SOUTH

15288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE: DESCRIPTION: BY: CR:

07-26-10 ISSUED FOR 90% PCD'S BMH MWO

08-04-10 CO'S FOR CLIENT REVIEW AJB MWO

DRAWN BY: CHK: APV:

AJB MWO MWO

CURRENT: ISSUE DATE:

07-26-10

LICENSURE:

07-26-10

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1. DRAWINGS ARE NOT TO BE SCALED, UNLESS OTHERWISE TAILED PRECEDENCE. THIS STATEMENT OF INTENT IS INTENDED TO BE USED FOR DIAGNOSTIC PURPOSES ONLY. UNLESS NOTED OTHERWISE, THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL BE LIMITED TO THE CONSTRUCTION OF THE STRUCTURE AND ANY OTHER ELEMENTS DEEMED NECESSARY TO COMPLETE PROJECT. AS DESCRIBED IN THE DRAWINGS AND OWNER'S PROJECT MANUAL.

2. PRIOR TO THE SUBMISSION OF BIDS, THE SUBMITTALS INVOLVED SHALL VISIT THE JOB SITE AND CONDUCT VISUAL INSPECTION OF THE CONSTRUCTION AFFECTING THE PROPOSED PROJECT. CONTRACTORS SHALL VISIT THE CONSTRUCTION SITE WITH THE CONSTRUCTION CONTRACT DOCUMENTS TO VERIFY FIELD CONDITIONS AND TO CONFIRM THE PROJECT WITH THE PROJECT MANUAL. THE SUBMITTALS SHALL BE IN ACCORDANCE WITH CONSTRUCTION ANY ERRORS, OMISSIONS, OR OMISSIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER VERBALLY AND IN WRITING.

THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BEGINNING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE SURE CONTRACTORS FROM OBTAINING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.

4. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHOD, TECHNIQUE, SEQUENCE, AND PROCEDURES FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

9. ALL WORK PERFORMED ON THE PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWS, ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES REGARDING THE PERFORMANCE OF THE WORK.

GENERAL CONTRACTOR SHALL PROVIDE, AT THE PROJECT SITE, A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND ADDENDUM OR CLARIFICATIONS FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. THIS SET IS A VALID CONTRACT DOCUMENT ONLY IF THE TITLE SHEET IS STAMPED "FOR CONSTRUCTION" AND EACH SUCCESSION SHEET BEARS THE ARCHITECT'S SIGNED WRT STAMP.

THE STRUCTURAL COMPONENTS OF ADJACENT CONSTRUCTION OR FACILITIES ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.

REAL ALL PERTINENT THROUGHS OPEN FIRE-RATED AREAS WITH ALL LISTED ON FIRE MARSHALL APPROVED MAT. RULES IF APPLICABLE TO THIS FACILITY AND ON PROJECT.

10 CONTRACTOR TO PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT
LESS THAN 2-A, OR 5-A-10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF
PROJECT AREA DURING CONSTRUCTION

11 CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING
IMPROVEMENTS, EASEMENTS, PAVING, CURBS, ETC. DURING CONSTRUCTION
UNTIL COMPLETION OF WORK. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY

12. CONTRACTOR SHALL KEEP GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, AND RUBBISH. CONTRACTOR SHALL MAINTAIN EGRESS ROUTES NOT SPECIFIED AS REMAINING ON THE PROPERTY OR PREMISES. SITE SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DIRT, OR SALADGE OF ANY NATURE.

13. THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS OR CONTRACT DOCUMENTS.

14. THE CONTRACTOR SHALL PERFORM WORK DURING OWNER'S PREFERRED HOURS TO AVOID DISTURBING NORMAL BUSINESS

15. THE CONTRACTOR SHALL PROVIDE AT&T WIRELESS, LLC PROPER INSURANCE CERTIFICATES NAMING AT&T WIRELESS, LLC AS ADDITIONAL INJURED AND AT&T WIRELESS, LLC, PROOF OF LICENSE(S) AND PC & PO INSURANCE.

18. CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING ALL INSPECTIONS.
17. CAUTION: CALL BEFORE YOU DIG: BURIED UTILITIES EXIST IN THE AREA AND UTILITY INFORMATION SHOWN MAY NOT BE COMPLETE. CONTACT THE ONE-CALL UTILITY LOCATE SERVICE A MINIMUM OF 48 HOURS PRIOR TO CONSTRUCTION. DIAL 811.
18. CONTRACTOR TO DOCUMENT ALL WORK PERFORMED WITH PHOTOGRAPHS AND BURIED TO A FATHOM DEPTH. THE ALIGN WITH BROWLDER CONSTRUCTION SET

20 FOR COLLOCATION SITES, CONTACT TOWER OWNER REPRESENTATIVE FOR PARTICIPATION IN BID WALK

21 GENERAL CONTRACTOR IS TO COORDINATE ALL POWER INSTALLATION WITH POWER
COMPANY AS REQUIRED. CONTRACTOR TO REPORT POWER INSTALLATION
COORDINATION SOLUTIONS TO NETWORK CARRIER REPRESENTATIVE, PROJECT
CONSTRUCTION MANAGER AND ARCHITECT

22 ANY SUBSTITUTIONS OF MATERIALS AND/OR EQUIPMENT, MUST BE APPROVED BY

23. IN THE CASE OF ROOF TOP SOLUTIONS FOR EQUIPMENT AND/OR ANTENNA FRAMES WHERE INSTALLATION OF EXISTING ROOFING MATERIALS OCCUR, THE GENERAL CONTRACTOR SHALL COORDINATE WITH BUILDING OWNER AND BUILDING ROOFING CONTRACTOR OF RECORD FOR INSTALLATION, PATCH, REPAIR OR ANY AUGMENTATION TO THE ROOF, AND HAVE THE WORK QUANTIFIED UNDER THE BUILDING CONTRACTORS WARRANTY FOR MOISTURE PENETRATION OR AND OTHER FUTURE BREACH OF ROOFING INTEGRITY

24 IN THE CASE OF ROOFTOP MOUNTING WITH THE INSTALLATION OF ANTENNAS WITHIN
GALVANIZED (HEAVY-GAUGE) SUPPORT FRAMES OR TRUSSES, THE GENERAL
CONTRACTOR SHALL COORDINATE WITH THE FRP DESIGNER/FABRICATOR TO ENSURE
THAT THE FINAL FRP SHEATH IS EMULATING AN APPROPRIATE DESIGNATED COATING
EXTENDING BUILDING FACADE MATERIALS, TEXTURES, AND COLORS. THE
CONTRACTOR SHALL FURTHERMORE ENSURE THE USE OF COUNTERSINK
FASTENERS IN ALL FRP CONSTRUCTION. WHEN PHOTO SIMULATIONS ARE PROVIDED,
THE CONTRACTOR SHALL ENSURE THAT FINAL CONSTRUCTION REPRESENTS WHAT IS
INDICATED IN PHOTO SIMULATIONS. SHOP DRAWINGS SHALL BE PROVIDED TO THE
GENERAL CONTRACTOR, CONSTRUCTION COORDINATOR, AND ARCHITECT PRIOR TO

FABRICATION AND CONSTRUCTION

29. IN THE CASE OF ROOFTOP SOLAR PANELS FOR EQUIPMENT AND/OR ANTENNA FRAMES, FRAMES HAVING ANCHORING TO A CONCRETE ROOF SLAB IS REQUIRED. CONTRACTORS SHALL COORDINATE (PRIOR TO ERECTING) WITH THE DESIGN CONSULTING CONTRACTOR COORDINATION AND ARCHITECT THE DESIGN OF THE TRUSSING AND BRACING SYSTEMS. CONTRACTORS SHALL BE RESPONSIBLE FOR UNDISCLOSED DESIGN CHANGES IN THE EXISTING BUILDING AS-BUILT DRAWING SET. JMWAD INDICATED AN ADDED DESIGN SOLUTION OF PERFORATED CONCRETE IN EXISTING STEEL BEAMS TO ALLOW FOR THE TRUSSING GLASS BRACING SYSTEM. CONTRACTORS SHALL VERIFY THE PROVISIONS FOR X-RAY PROCEDURES INCLUDED IN BID FOR ALL PENETRATION AREAS WHERE ANCHORS OCCUR.

30. GENERAL & SUB CONTRACTORS SHALL USE STAINLESS STEEL METAL LOCKING TIE BARS FOR ALL CANYING TIES. THE CORING AND ALL OTHER GENERAL TIE COVERING SHALL BE PERMITTED TO BE PLACED IN THE CANYING TIES. CONTRACTORS SHALL PROVIDE THE FOLLOWING: RECON KNIFE-DRIVEN MANIPULATOR, SHAPABLE, PARTIAL CURT, METAL LOCKING TIE WAGEL, NO. MLETS-CP UNDER SERIES-34-01.

1. THE STRUCTURAL DESIGN OF THIS PROJECT IS IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE 2006 WITH ILLINOIS STATE BUILDING CODE AMENDMENTS (2006 IBC)

2. DESIGN LOADS
DESIGN DATA FOR WASHINGTON COUNTY, OR:

-ROOF SNOW LOAD _____ IN (NOT A ROOFTOP SOLUTION)

-BASIC WIND SPEED _____ (41.8 MPH) (3 SEC DUST)

-WIND EXPOSURE _____ III

1. SHOP DRAWINGS FOR STRUCTURAL STEEL SHALL BE SUBMITTED TO THE CONSULTANT FOR REVIEW PRIOR TO FABRICATION
2. STRUCTURAL STEEL DESIGN, FABRICATION AND ERECTION (INCLUDES FIELD WELDING, END PLATE WELDING, BOLTING, THE UPBRIDGE BOLTS, AND WELDING UPON ANCHORS) SHALL BE BASED ON THE AISC "SPECIFICATION FOR THE DESIGN, FABRICATION, AND ERECTION OF STRUCTURAL STEEL" WITH THE LATEST EDITION. SUPERVISION SHALL BE IN ACCORDANCE WITH SDGRI CHAPTER 29. IF A QUALIFIED TESTING AGENCY IS DESIGNATED BY THE CONSULTANT, THE CONSULTANT SHALL BE FURNISHED WITH A COPY OF ALL INSPECTION REPORTS AND TEST RESULTS.
3. STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
 - A. WELDER CLASS: CMW
 - B. OTHER BARS, PLATES AND ROD
 - C. PIPE: CARBON
 - D. STRUCTURAL TUBING
 - E. ANCHOR BOLTS
 - F. CONNECTION BOLTS

ALL WELDING SHALL BE IN CONFORMANCE WITH AISC AND AISC STANDARD AND SHALL BE PERFORMED BY TIA AND CERTIFIED WELDERS USING 2500 ELECTRODES ONLY. PREQUALIFIED SHALL BE DEFINED BY AISC 360, BE LISTED. WELDING OF GRADE 40 REINFORCING BARS OF REINFORCEMENT SHALL BE PERFORMED USING LOW HYDROGEN ELECTRODES. WELDING OF GRADE 40 REINFORCING BARS (IF REQUIRED) SHALL BE PERFORMED USING 2500 ELECTRODES. WELDING WITHIN 4" OF COLOMBS IN REINFORCING BARS IS NOT PERMITTED. SEE REINFORCEMENT NOTE FOR DETAILS.

8 COLD-FORMED STEEL FRAMING MEMBERS SHALL BE OF THE SHAPE, SIZE, AND GAGE SHOWN ON THE PLANS. PROVIDE MINIMUM SECTION PROPERTIES INDICATED. ALL COLD-FORMED STEEL FRAMING SHALL CONFORM TO THE AISC "SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS".

10. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE DESIGN & CONSTRUCTION SPECIFICATION AND IN ACCORDANCE WITH ASTM A50 UNLESS NOTED OTHERWISE.

11. TOUCH UP ALL FIELD DRILLING AND WELDING WITH 2 COATS OF GALVANNE (ZINC RICH PAINT) OR APPROVED EQUAL.

TOWER/POLE NOTES:

1. VERIFICATION THAT THE PROPOSED TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA

2. 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.

AT&T CONDITIONS OF APPROVAL:

1. COMPLIANCE WITH THE CONDITIONS OF APPROVAL IS THE RESPONSIBILITY OF THE DEVELOPER
2. THE LAND USE APPROVAL SHALL SUBSTANTIALLY COMPLY WITH THE SUBMITTED PRELIMINARY SITE PLANS DATED FEBRUARY 2, 2010* AND PREPARED BY EXCEPT AS MODIFIED IN THE

4. UNLESS SPECIFICALLY EXEMPTED IN WRITING BY THE FINAL DECISION, THE DEVELOPMENT SHALL COMPLY WITH ALL APPLICABLE CITY OF BIRMINGHAM AND OTHER APPLICABLE AGENCY CODES AND STANDARDS EXCEPT AS MODIFIED HEREIN.

5. ADDITIONAL DEVELOPMENT ON CHANGE OF USE WILL REQUIRE A NEW DEVELOPMENT APPLICATION AND APPROVAL.

6. THE CITY/LOCAL FACILITY APPROVED BY THIS APPLICATION SHALL BE OPERATED SO THAT IT DOES NOT IMPED, HARM, OR NEGATIVELY IMPACT THE COMMUNICATION ABILITIES OF ANY PUBLIC SAFETY OR EMERGENCY RESPONSE ORGANIZATION SERVING THE PUBLIC WITHIN THE CITY'S JURISDICTIONAL LIMITS.

7. IF ANY TESTS ARE TO BE RECEIVED, SUBMIT AN ARCHITECT'S REPORT AND ITERATION PLAN TO THE PLANNING DEPARTMENT FOR REVIEW AND APPROVAL. ITERATION IS REQUIRED ON A 1:1 CALIBER RATIO.

ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 308			
2. CONCRETE SHALL BE SUBMITTED, PROVED, AND PLACED IN ACCORDANCE WITH CHAPTER 16 OF THE SDG. STRENGTHS AT 28 DAYS AND MIX CRITERIA SHALL BE AS FOLLOWS:			
TYPE OF CONSTRUCTION	28 DAY STRENGTHS (f' _c)	W/C RATIO	MINIMUM COMP. PER CUBIC YD
A. SLABS ON GRADE TOPPING SLABS CONCRETE BEAMS	2,800 PSI	≤ .48	
B. ALL STRUCTURAL CONCRETE EXCEPT WALLS	4,000 PSI	≤ .48	≥ 120 SA
C. CONCRETE WALLS	4,500 PSI	≤ .48	≥ 120 SA

CEMENT SHALL BE ASTM C150, PORTLAND CEMENT TYPE I/II. 11.02.A

3 THE GENERAL CONTRACTOR SHALL SUPERVISE AND BE RESPONSIBLE FOR THE METHODS AND PROCEDURES OF CONCRETE PLACEMENT

4 ALL CONCRETE WITH SURFACES EXPOSED TO STANDING WATER SHALL BE AIR-ENTRAINED WITH AN AIR-ENTRAINED AGENT CONFORMING TO ASTM C265, C494, C618, C685 AND C1017. TOTAL AIR CONTENT SHALL BE IN ACCORDANCE WITH TABLE 1004.2.1 OF THE 2000 RMC

REINFORCING STEEL SHALL CONFORM TO ASTM A61 (INCLUDING SUPPLEMENT 1), GRADE 60, $f_y = 60,000$ PSI. EXCEPTION: ANY BARS SPECIFICALLY NOT NOTED ON THE DRAWINGS SHALL BE GRADE 40, $f_y = 40,000$ PSI. GRADE 60 REINFORCING BARS INDICATED ON DRAWINGS TO BE GRADED SHALL CONFORM TO ASTM A61. REINFORCING BARS NOTED ON DRAWINGS TO BE GRADED SHALL CONFORM TO ASTM A61. ALL MATERIAL PROPERTY REQUIREMENTS INDICATING CONFORMANCE WITH WELDOING PROCEDURE & SPECIFIED IN A.W.A. 614 ARE SUBMITTED.

REINFORCING STEEL SHALL BE DETAILED (INCLUDING HOOKS AND BENDS) IN ACCORDANCE WITH A.C.I. 318 AND 318.1 LAP ALL CONTINUOUS REINFORCEMENT AT LEAST 36 BAR DIAMETER OR A MINIMUM OF 2'-0". PROVIDE CORNER BARS AT ALL WALL AND

FOOTING INTERSECTIONS LAP CORNER BARS AT LEAST 30 BAR DIAMETERS OR A MINIMUM OF 2'-0" LAP ADJACENT MATS OF WELDED WIRE FABRIC A MINIMUM OF 8" AT SIDES AND ENDS.

3 WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-65.

4 SPIRAL REINFORCEMENT SHALL BE PLAIN WIRE CONFORMING TO ASTM A95, GRADE 60, 1/2" Ø OR 3/8" Ø.

5 NO BARS PARTIALLY EMBEDDED IN HARDENED CONCRETE SHALL BE FIELD BENT UNLESS SPECIFICALLY SO DETAIL OR APPROVED BY THE CONSULTANT

10 CONCRETE PROTECTION (COVER) FOR REINFORCING STEEL SHALL BE AS FOLLOWS		
• FOOTINGS AND OTHER UNFORMED SURFACES, EARTH FACE		3"
• FORMED SURFACES EXPOSED TO EARTH OR WEATHER	(#6 BARS OR LARGER) (#3 BARS OR #3 SMALLER)	2" 1 1/2"
• SLABS AND WALLS (INTERIOR FACE)		3/4"

11. BARS SHALL BE SUPPORTED ON CHAIRS OR DOUBT BRICKS
12. ANCHOR BOLTS TO CONFORM TO ASTM A193
13. NON-SHRINK GROUT SHALL BE FURNISHED BY AN APPROVED MANUFACTURER AND SHALL BE MIXED AND PLACED IN STRICT ACCORDANCE WITH THE MANUFACTURERS PUBLISHED RECOMMENDATIONS. GROUT STRENGTH SHALL BE AT LEAST EQUAL TO THE MATERIAL ON WHICH IT IS PLACED (2000 PSI MINIMUM)
14. ALL EXPANSION ANCHORS TO BE MULTI BRAND. ADHESIVE ANCHORS REQUIRE TESTING

TO CONFIRM CAPACITY UNLESS WAIVED BY ENGINEER.
ABBREVIATED ROOF TOP SAFETY PROCEDURE
(WHEN APPLICABLE):
 (AS PER "ACCIDENT PREVENTION PROGRAM" BY PERMISSION OF WHEN CONSTRUCTION
 (NO. - 090056)
 FALL PROTECTION METHODS AND EQUIPMENT
 ROOF TOP INSTALLATION.

THE CONSTRUCTION SUPERVISOR SHALL DESIGNATE A TRAINED SAFETY MONITOR TO OBSERVE THE MOVEMENTS AND ACTIVITIES OF THE CONSTRUCTION WORKMAN.

SAFETY MONITOR SHALL WARN CONSTRUCTION WORKERS OF HAZARDS (I.E., BACKING UP TOWARD A ROOF EDGE, ETC.) OR UNSAFE ACTIVITIES. THE SAFETY MONITOR MUST BE ON THE SAME ROOF AND WITHIN VISUAL AND VERBAL DISTANCE OF THE CONSTRUCTION WORKERS.

3. CONSTRUCTION INVOLVING WORKERS TO APPROACH WITHIN OR LESS OF AN UNPROTECTED WORK EDGE REQUIRES WORKERS TO USE SAFETY LINE
4. SAFETY LINE SHALL BE MINIMUM 1/2 INCH DIAMETER NYLON, WITH A NOMINAL TENSILE STRENGTH OF 6490 LBS
5. SAFETY LINE SHALL BE ATTACHED TO A SUBSTANTIAL MEMBER OF THE STRUCTURE
6. SAFETY LINE LENGTH SHALL BE SET ALLOWING CONSTRUCTION WORKER TO REACH EDGE OF WORK, BUT NOT BEYOND.

7. SAFETY BELTS SHALL BE WORN BY ALL CONSTRUCTION WORKERS

8. MONTHLY SAFETY INSPECTION AND MAINTENANCE OF THE FALL PROTECTION EQUIPMENT SHALL OCCUR BY THE SAFETY COMMITTEE REPRESENTATIVES INCLUDING:

INSPECTION OF CONSTRUCTION AREA FOR HAZARDS
USE OF AN INSPECTION CHECKLIST
INTERVIEWING CONCERNED REGARDING SAFETY CONCERNS
INTERVIEWING AND DOCUMENTING ANY HAZARDS

REPORTING HAZARDS TO THE SAFETY COMMITTEE FOR CONSIDERATION
POSTING RESULTS OF INSPECTION AND ANY ACTION TAKEN
RECEIVING AN UNBIASED REVIEW OF ONE'S OWN WORK AREA BY ANOTHER
COWORKER/SAFETY REPRESENTATIVE

REFER TO ROOFTOP WORK AREA SAFETY PROTOCOL
NATIONAL ASSOCIATION OF TOWER ENGINEERS 2000 PUBLICATION

REFERENCED OSHA REGULATIONS/STANDARDS SHALL BE REVIEWED BY TOWER/ERECTOR
EQUIPMENT INSTALLERS, AND TOWER/ROOFTOP CONTRACTORS/CONTRACTORS

29 CFR 1926.802 - WORK PRACTICES AND USE OF TOOLS
29 CFR 1926.803 - DUTY TO HAVE FALL PROTECTION
29 CFR 1926.804 - FALL PROTECTION SYSTEMS CRITERIA AND PRACTICES

[illegible]

SPECIAL INSPECTIONS IN ACCORDANCE WITH IRC 2008 SECTION 1704.

SOILS/GEOTECHNICAL:

- ☐ SHORING INSTALLATION AND MONITORING
- ☐ OBSERVE AND MONITOR EXCAVATION
- ☐ VERIFY SOIL BEARING p# BEARING
- ☐ SUBSURFACE DRAINAGE PLACEMENT
- ☐ VERIFY FILL MATERIAL AND COMP ACTION
- ☐ VERIFY CONDITIONS AS ANTICIPATED
- ☐ PILE PLACEMENT (AUGER CAST/DRIVEN PILE)
- ☐ OTHER

REINFORCED CONCRETE:

- ☒ REINFORCING STEEL AND CONCRETE PLACEMENT
- ☐ PRESTRESSED/PRECAST CONCRETE FABRICATION AND ERECTION
- ☐ BATCH PLANT INSPECTION
- ☐ SHOTCRETE
- ☐ GROUTING
- ☐ OTHER

STRUCTURAL STEEL:
☐ FABRICATION AND SHOP WELDS
☒ ERECTION AND FIELD WELDS AND BOLTING
☐ OTHER _____

STRUCTURAL ALUMINUM:
☐ FABRICATION AND SHOP WELDS
☐ ERECTION AND FIELD WELDS AND BOLTING

OUTER _____

STRUCTURAL MASONRY:






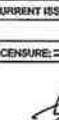
☐ CONTINUOUS

☐ PERIODIC

☐ _____

ANCHORING TO CONCRETE:

- BOLTS INSTALLED IN CONCRETE
- POST-INSTALLATION ADHESIVE ANCHORS
- POST-INSTALLATION MECHANICAL ANCHORS

 <div style="display: inline-block; vertical-align: middle;"> at&t Your World. Delivered. </div>																					
PROJECT CONSULTANTS:																					
 Goodman Networks <small>— 1997 — 2004 —</small>																					
PLANS PREPARED BY:																					
 CORPUS CHRISTI ENGINEERING, LTD. 1900 WOODVILLE ROAD/BOX 103, SUITE 210 WOODVILLE, TX 76062 PHONE: 409 437 1702 FAX: 409 437 1704 EMAIL: cce@corpustech.com or cce@texas.net WWW.CORPUSCHITONLINE.ENGOR.COM																					
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GENERAL NOTES																					
DRAWING NUMBER:																					
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CEI JOB NUMBER: _____ 10-090297																					

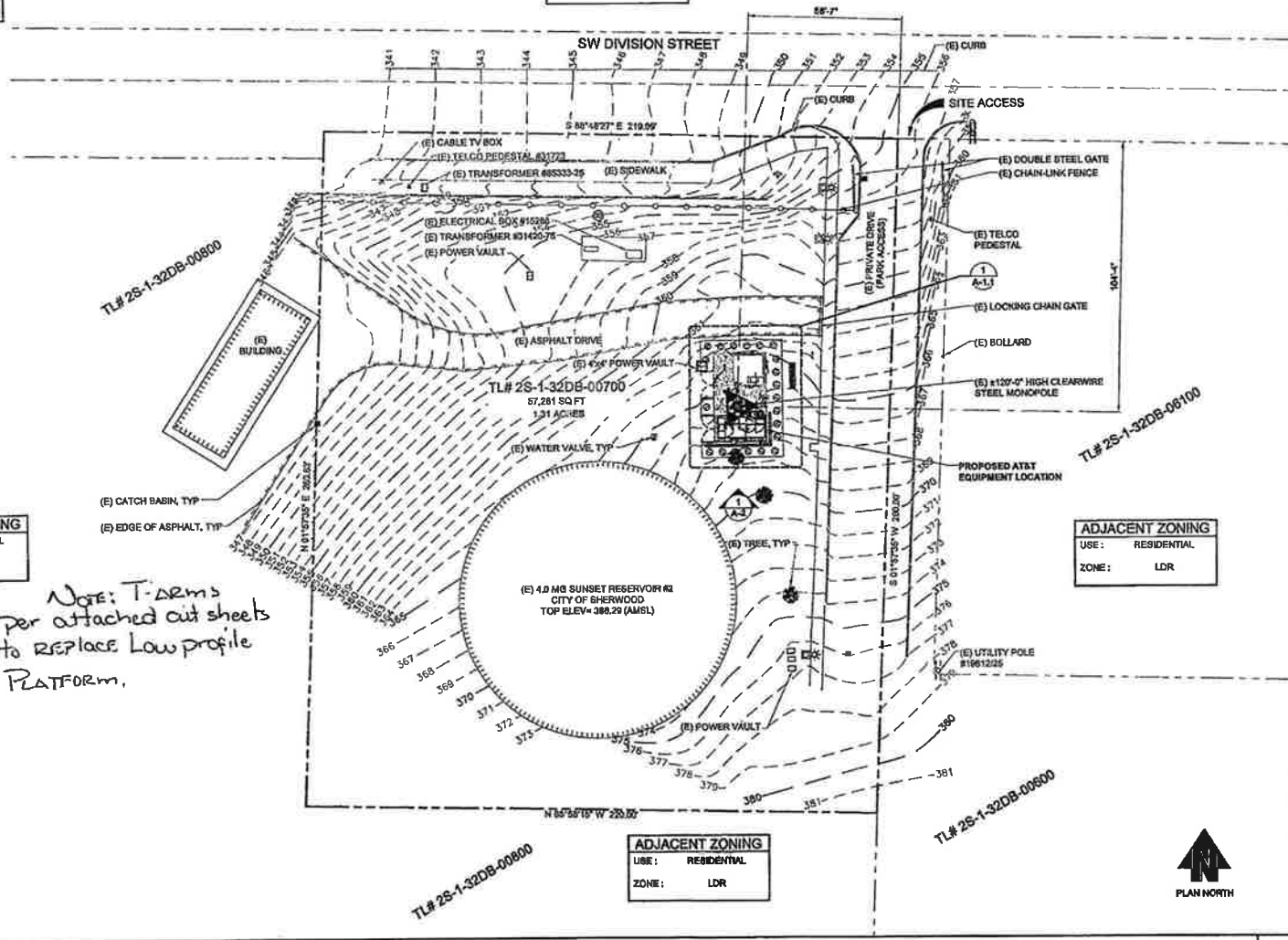
CALL TWO WORKING DAYS
BEFORE YOU DIG
811
NATIONAL UTILITIES UNDERGROUND LOCATE
prior to any excavation or construction work to locate and
mark all underground utilities. Call 811 or visit
www.811.org. Marking is required for all excavations.

ADJACENT ZONING
USE: RESIDENTIAL
ZONE: MDRL

ADJACENT ZONING
USE: RESIDENTIAL
ZONE: LDR

ADJACENT ZONING
USE: RESIDENTIAL
ZONE: LDR

Note: T-arms
per attached cut sheets
to replace Low profile
Platform.



PROJECT CONSULTANTS:
Goodman Networks
www.goodmannetworks.com

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16025 WOODVILLE-REDMOND RD. SUITE 210
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PROJECT INFO:
PL62
SHERWOOD SOUTH
16288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:
90% PCD'S

REV#	DATE	DESCRIPTION	BY	CHK
0	07-26-10	ISSUED FOR 90% PCD'S	BMH	MWO
1	05-04-10	CD'S FOR CLIENT REVIEW	AJB	MWO

DRAWN BY: CHK: APV:
AJB MWO MWO

CURRENT ISSUE DATE:
07-26-10

LICENSURE:

CORNINGSTON ENGINEERING, INC.
121510
7/26/10

DRAWING INFORMATION:
DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADJUST CONSULTANTS OF ANY ERRORS AND OMISSIONS. ALL PREVIOUS EDITIONS OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROVIDED ONLY BY WAY OF INFORMATION. ANY USE OR CONSTRUCTION OTHER THAN WHICH IS RELATED TO NAMED CLIENT IS STRICTLY PROHIBITED.

DRAWING TITLE:
SITE PLAN

DRAWING NUMBER:

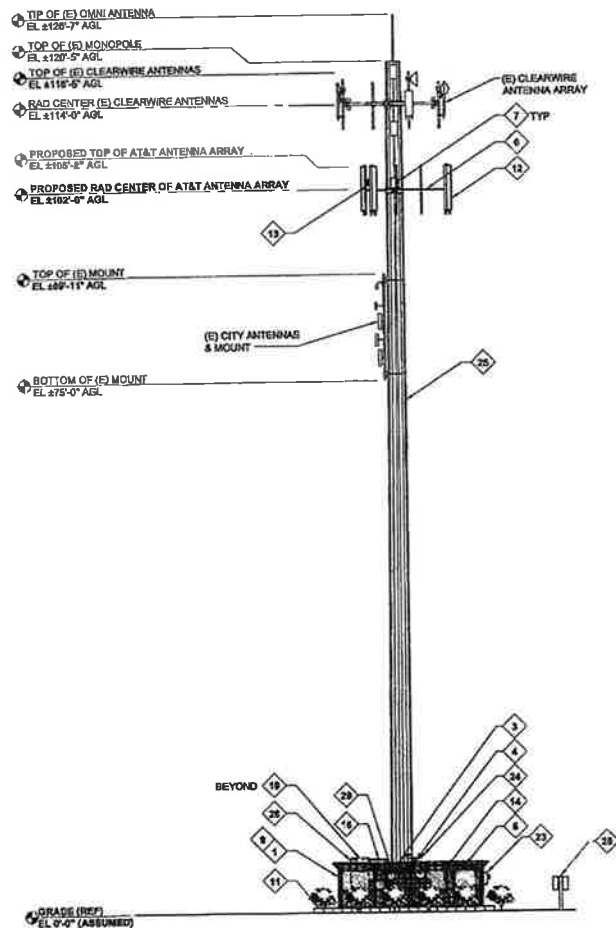
A-1 0

CEI JOB NUMBER: 10-00007

SITE PLAN

25x34 SCALE: 1" = 20'-0"

11x17 SCALE: 1" = 48'-0"



SOUTH ELEVATION

22x34 SCALE: 1/8" = 1'-0" 11x17 SCALE: 1/16" = 1'-0"

CONSTRUCTION PLAN KEYED NOTES

- ATITLEAVE AREA.
- NOVA ULTRASITE CABINET NO. 1 (PRIMARY - PROVIDED BY AT&T) SEE DETAIL, SHEET A-1.
- NOVA ULTRASITE CABINET NO. 2 (EXPANSION - PROVIDED BY AT&T).
- LUCENT UNITS CABINET (PROVIDED BY AT&T) SEE DETAIL, SHEET A-1.
- PROPOSED ANTENNA MOUNT (PROVIDED BY CONTRACTOR) SEE DETAIL, UA-42.
- (E) COAX PORT VENTY LOCATION W FIELD.
- PROPOSED 2"x4" HIGH CHAINLINE FENCE WITH 12 STRAND BARR WIRE FOR A TOTAL OVERALL HEIGHT OF 7'-0". SEE DETAIL, UA-41.
- PROPOSED RETAINING BLOCK WALL, 2'-0" HIGH MAX. (PROVIDED BY CONTRACTOR) SEE DETAIL, UA-42.
- PROPOSED ANTENNAS (PROVIDED BY CONTRACTOR) SEE SHEETS UA-1, UA-2 & DETAILS UA-1, UA-2.
- PROPOSED WASTEWATER PUMP (MIA - PROVIDED BY CONTRACTOR) (IN RIGHT PER SECTOR, SEE DETAILS 4, 6 & 8 UA-3).
- LUCENT UNITS CABINET (EXPANSION - PROVIDED BY AT&T).
- PROPOSED ARGUS POWER CABINET. SEE DETAIL, UA-1.
- PROPOSED ARGUS BATTERY CABINET (APPROVED BY AT&T) SEE DETAIL, UA-1.
- PROPOSED AT&T ELECTRICAL METER. SEE DETAIL, SHEET B-1.
- PROPOSED REDUNDANT DOUBLE SHAW HALOGEN LIGHT NO 1 HR TIMER SWITCH / ON DUPLICATION. SEE DETAIL, UA-1.
- EXISTING 120'-0" HIGH STEEL MONOPOLE.
- PROPOSED ARGUS BATTERY CABINET (EXPANSION - APPROVED BY AT&T).
- PROPOSED VIDEOTEL TELECOMMUNICATION H-FRAME (PROVIDED BY VERIZON TELECOMMUNICATIONS) SEE SHEET A-1.
- UTILITY H-FRAME. SEE DETAIL, UA-1.

SITE NOTES

1. VERIFY ANTENNA RAD CENTER & AZIMUTHS WITH LOCKDOWN SET RF SITE BUILD FORM.

COAX LENGTH SCHEDULE

COAX LENGTHS ARE CALCULATED FROM THIS DRAWING SET. ANY DEVIATION FROM THE PROPOSED DESIGN MAY REQUIRE ALTERATION OF COAX LENGTHS. CONTRACTOR SHALL ENSURE THAT FINAL DESIGN AND COAX LENGTHS ARE COORDINATED.

SECTOR	LENGTH	# COAX	DIAMETER
SECTOR "X"	3120'	8	7/8"
SECTOR "Y"	3120'	8	7/8"
SECTOR "Z"	3120'	8	7/8"



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH
16288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE DESCRIPTION BY CHK.

07-26-10	ISSUED FOR 90% PCD'S	BMH	MWO
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DRAWN BY: CHK. APV. :
AJB MWO MWO

CURRENT ISSUE DATE:

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LICENSURE:



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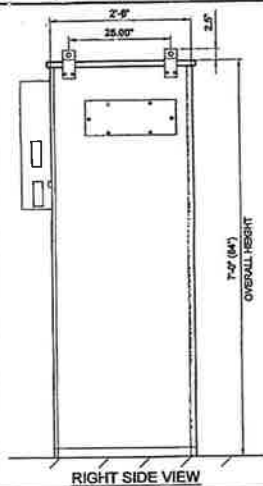
DRAWING TITLE:

SOUTH ELEVATION

DRAWING NUMBER:

A-2 0

ICE JOB NUMBER: 10-60007

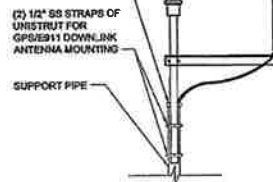


BATTERY CABINET DIMENSIONS	
MANUFACTURER:	ARGUS TE-40
HEIGHT:	84.0"
DEPTH:	30.0"
WIDTH:	30.0"
MAXIMUM CABINET WEIGHT (WITH UNITS):	3200 lbs



MOUNTING HOLE LOCATION

H.D.S. STEEL PIPE CAP
(TYP OF 2)



CONSTRUCTION PLAN KEYED NOTES

- ◆ 6" THICK 6'4"X10'-0" CONCRETE SLAB ON GRADE (PROVIDED BY CONTRACTOR). SEE DETAILS 1 & 2A-4.
- ◆ NOKIA ULTRA-MATE CABINET NO. 1 (PRIMARY - PROVIDED BY AT&T). SEE DETAIL 2B&T A-2.1.
- ◆ NOKIA ULTRA-MATE CABINET NO. 2 (EXPANSION - PROVIDED BY AT&T).
- ◆ LUCENT UNITS CABINET (PROVIDED BY AT&T). SEE DETAIL 2B&T A-3.1.

- ◆ LUCENT UNITS CABINET EXPANSION - PROVIDED BY AT&T.
- ◆ PROPOSED 2'-0" HIGH CONCRETE FIRM MOUNTED ICE BRIDGE (PROVIDED BY CONTRACTOR) ROUTE TO (B) MONOPOL. ICE BRIDGE IS TO BE NO MORE THAN 8'-0" HIGH (BELOW FENCE HEIGHT) SEE DETAIL 10A-1.1 & 10A-1.2.

- ◆ PROPOSED ARGUS POWER CABINET. SEE DETAIL 2B&T A-3.1.
- ◆ PROPOSED ARGUS BATTERY CABINET (APPROVED BY AT&T). SEE DETAIL 2B&T A-3.1.

- ◆ PROPOSED ARGUS BATTERY CABINET (EXPANSION - APPROVED BY AT&T).

SITE NOTES

1. VERIFY ANTENNA RAD CENTER & AZIMUTHS WITH LOCKDOWN SET RF SITE BUILD FORM.



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH
15000 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE: DESCRIPTION: BY: CHK:

REV.	DATE	DESCRIPTION	BY	CHK
1	07-26-10	ISSUED FOR 90% PCD'S	BMH	MWO
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AJB MWO MWO

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DRAWING TITLE:

EQUIPMENT ELEVATION & DETAILS

DRAWING NUMBER:

A-3 0

CEI JOB NUMBER: 10-49007

ARGUS TE-40 BATTERY CABINET (24 V)

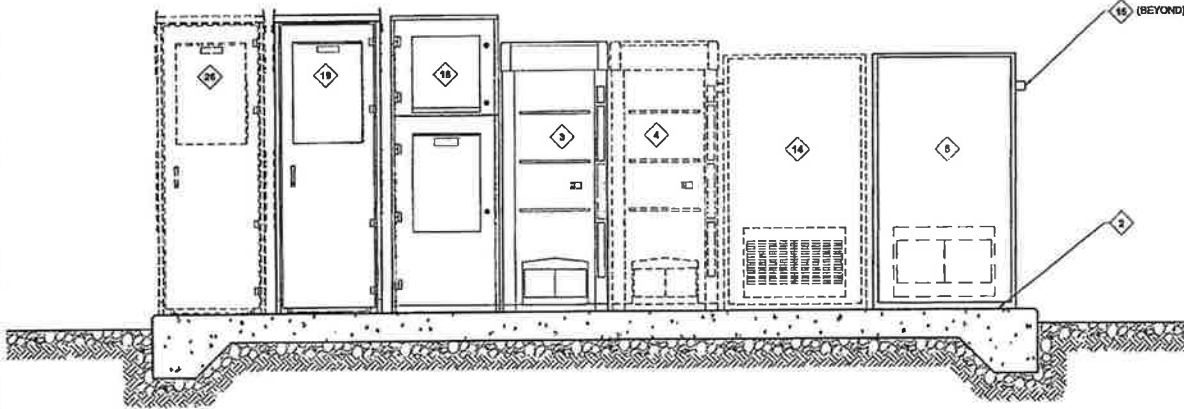
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

5

GPS ANTENNA DETAIL

22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

4



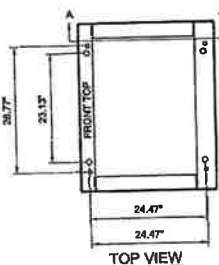
EQUIPMENT ELEVATION VIEW

22x34 SCALE: 3/4" = 1'-0" 11x17 SCALE: 3/8" = 1'-0"

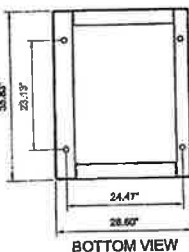
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NOTE:
FINISH IS HOT DIP GALVANIZED
PER ASTM A-123.

SECTION A-A



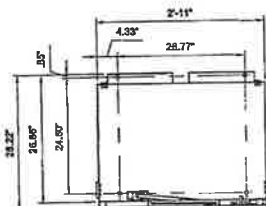
3D VIEW



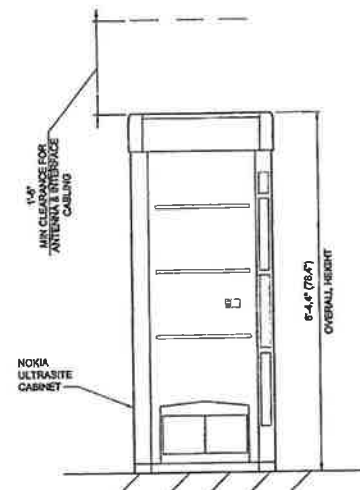
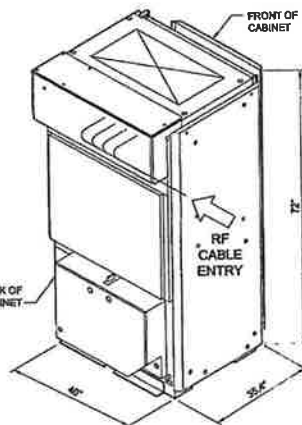
BOTTOM VIEW

UMTS OUTDOOR DIMENSIONS

MANUFACTURER: LUCENT
HEIGHT: 72"
DEPTH: 40"
WIDTH: 35.4"
CLEARANCE: CABINET REAR 35"
CLEARANCE: CABINET EACH SIDE 35.4"
CLEARANCE: CABINET FRONT 29.5"
MAXIMUM CABINET WEIGHT: 790 lbs (269 KG)



UMTS CABINET
ANCHOR FOOTPRINT



UMTS MOUNTING BASE

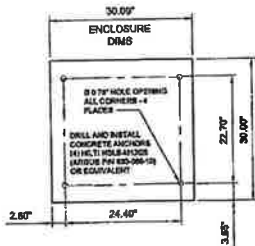
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

UMTS EQUIPMENT SPECIFICATIONS

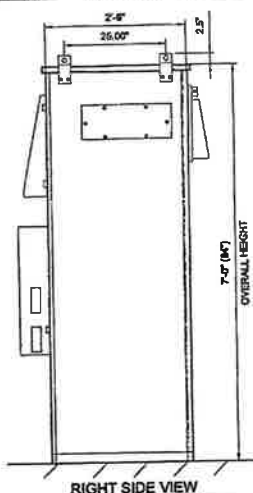
22x34 SCALE: NTS 11x17 SCALE: NTS

POWER CABINET DIMENSIONS

MANUFACTURER: ARGUS TE-41
HEIGHT: 64.0"
DEPTH: 30.0"
WIDTH: 30.0"
MAXIMUM CABINET WEIGHT (WITH UNITS): 2800 lbs



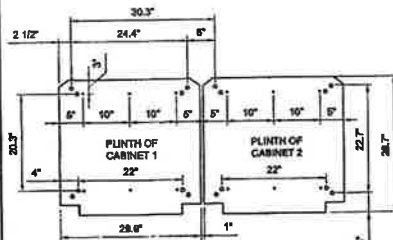
MOUNTING HOLE
LOCATION



RIGHT SIDE VIEW

ARGUS TE41 EQUIPMENT SPECIFICATIONS (24 V)

22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"



ULTRASITE MOUNTING PLINTH

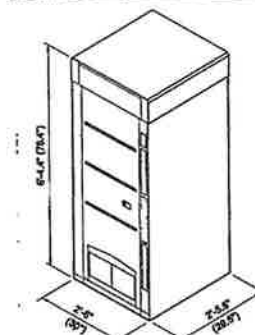
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

ULTRASITE FRONT ELEVATION

22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

NOKIA OUTDOOR BTS DIMENSIONS

MANUFACTURER: NOKIA
HEIGHT: 78.4"
DEPTH: 29.5"
WIDTH: 30.0"
MAXIMUM CABINET WEIGHT (WITH UNITS): 645 lbs



ULTRASITE EQUIPMENT ISOMETRIC

22x34 SCALE: NTS 11x17 SCALE: NTS



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH
16286 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

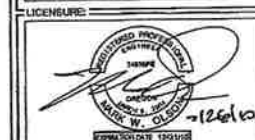
REV: DATE: DESCRIPTION: BY: CK:

07-28-10	ISSUED FOR 90% PCD'S	BMH MWO
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DRAWN BY: CHK: APV: MWO MWO

CURRENT ISSUE DATE: 07-26-10

LICENSE: 126410



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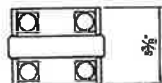
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EQUIPMENT SPEC'S

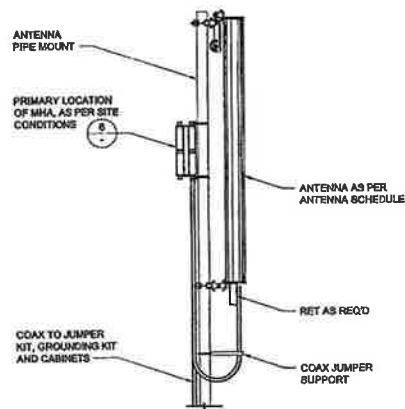
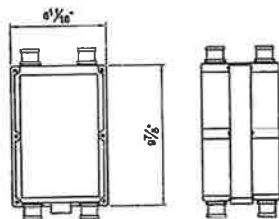
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A-3.1 0

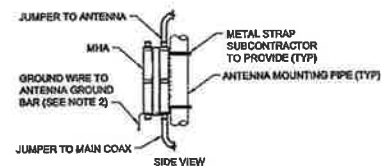
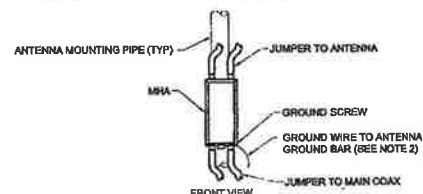
CEI JOB NUMBER: 10-60007



MAKE: POWERWAVE
MODEL: TT19-088P111-001
HEIGHT: 9.5"
WIDTH: 6.3"
DEPTH: 5.4"



NOTES:
MHA IS A WEATHERPROOFED ENCLOSURE RATED TO IP65.
BOND MHA GROUND STUD TO GROUND BAR WITH 6 AWG GROUND WIRE.
PROVIDE SUFFICIENT LENGTH OF JUMPER TO ALLOW FOR PROPER
APPLICATION OF WEATHER PROOFING AT ANTENNA AND MHA CONNECTIONS.
IF POSSIBLE, MHA SHALL BE MOUNTED BEHIND ANTENNA TO MINIMIZE WIND
LOADING ON STRUCTURE.
MHA SHALL BE MOUNTED VERTICALLY.



MHA DETAIL

22x34 SCALE: 3/4" = 1'-0"

11x17 SCALE: 1 1/2" = 1'-0"

6

MHA ATTACHMENT DETAIL

22x34 SCALE: 3/4" = 1'-0"

11x17 SCALE: 3/8" = 1'-0"

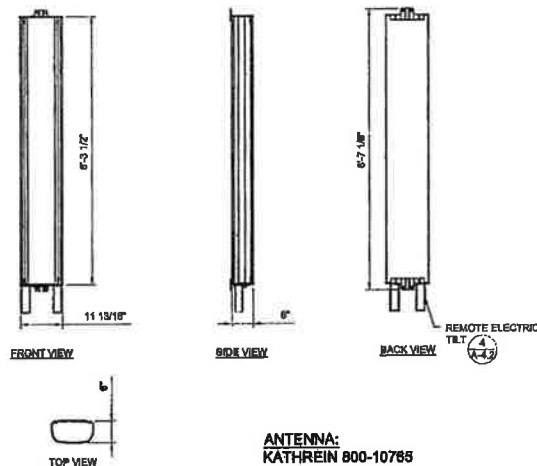
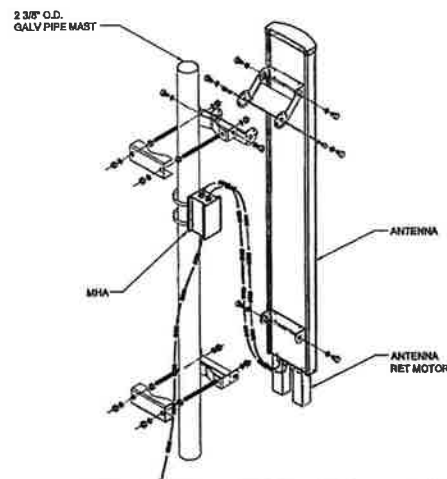
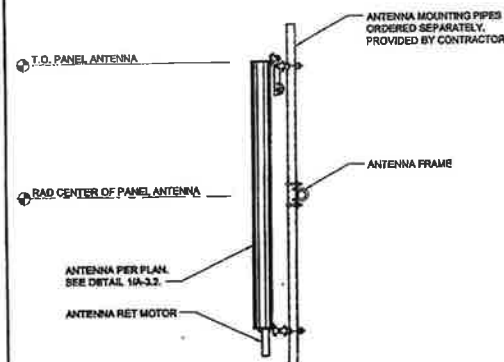
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MHA DETAIL

22x34 SCALE: NTS

11x17 SCALE: NTS

4



ANTENNA MOUNTING ELEVATION

22x34 SCALE: 3/4" = 1'-0"

11x17 SCALE: 3/8" = 1'-0"

3

ANTENNA MOUNTING DETAIL

22x34 SCALE: NTS

11x17 SCALE: NTS

2

ANTENNA DETAIL

22x34 SCALE: 3/4" = 1'-0"

11x17 SCALE: 3/8" = 1'-0"

1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH
15200 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

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80% PCD'S

REV. DATE DESCRIPTION BY CHK

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DRAWN BY: CHK: APV:

AJB MWO MWO

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DRAWING TITLE:

ANTENNA AND MHA DETAILS

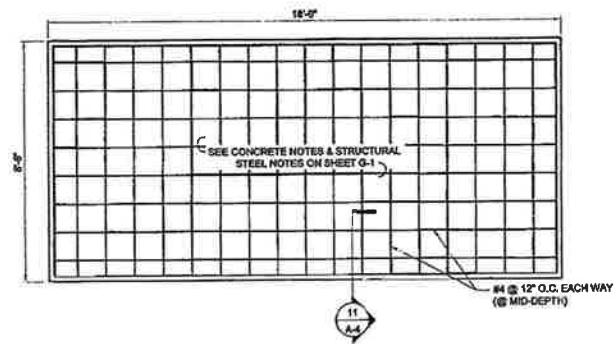
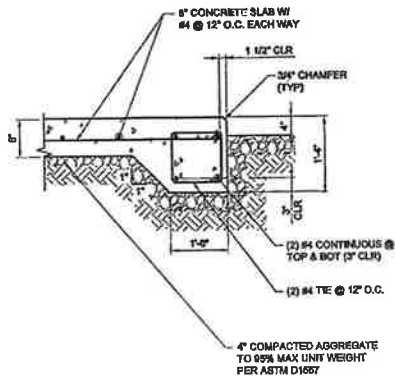
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A-3.2

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CRJ JOB NUMBER:

10-550007

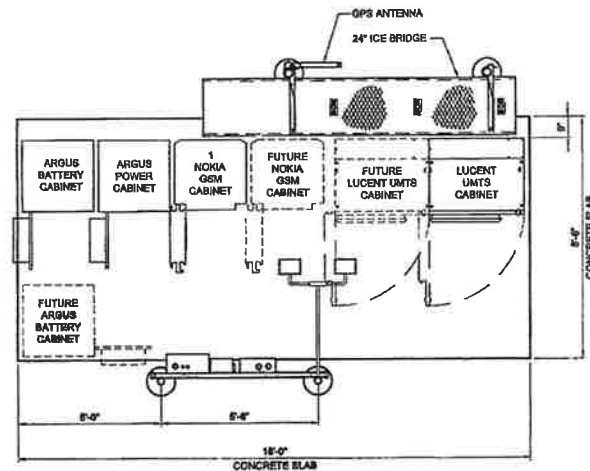
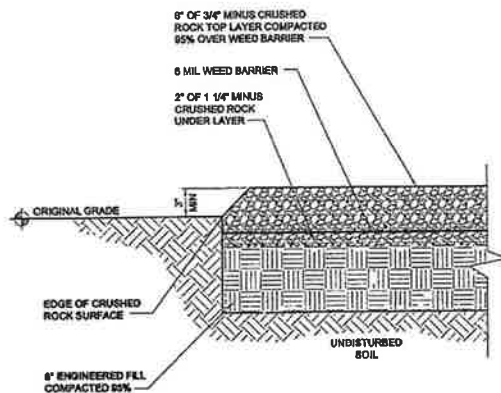


EQUIPMENT SLAB SECTION

22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

11 SLAB STEEL LAYOUT

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"



CRUSHED ROCK SURFACE DETAIL

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"

4 EQUIPMENT SLAB LAYOUT

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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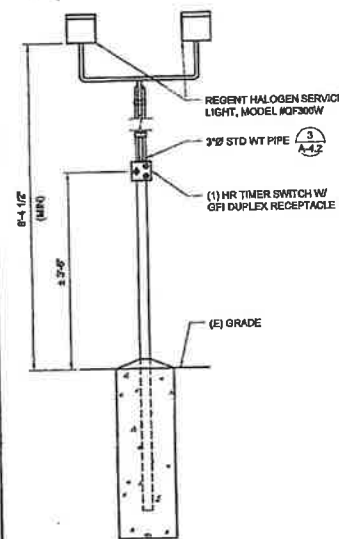
CONSTRUCTION DETAILS

DRAWING NUMBER:

A-4 0

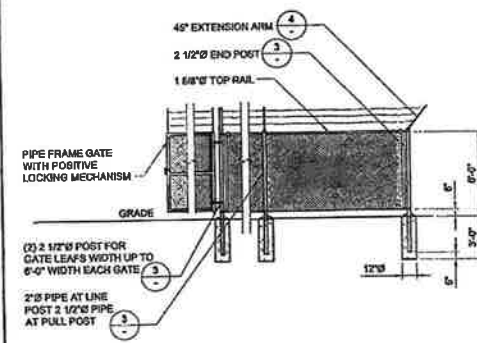
CES JOB NUMBER:

10-82007



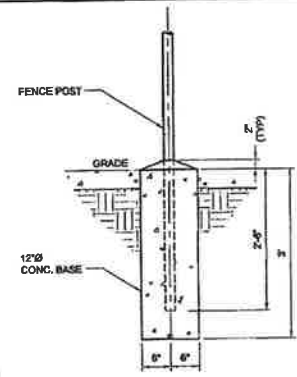
UTILITY LIGHT
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

NOTE:
PROVIDE DIAGONAL ADJUSTABLE
RIDE AND TURNBUCKLE
ASSEMBLY AT ALL CORNERS

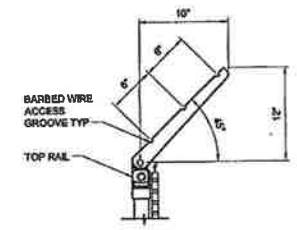


CHAINLINK FENCE & GATE DETAIL
22x34 SCALE: 1/4" = 1'-0" 11x17 SCALE: 1/8" = 1'-0"

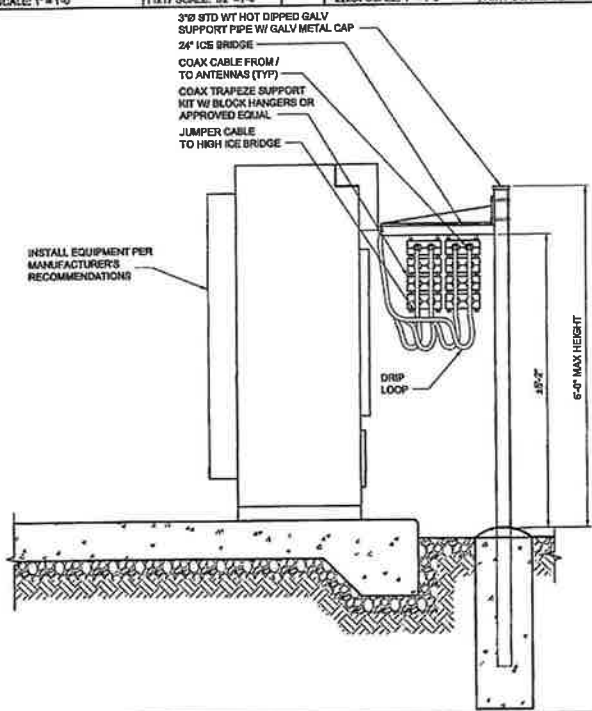
NOT USED
22x34 SCALE: NTS 11x17 SCALE: NTS



CONCRETE PIER
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"



BARBED WIRE CONNECTION
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"



ICE BRIDGE ELEVATION
22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"



PROJECT CONSULTANTS



PLANS PREPARED BY:



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PROJECT INFO:

**PL62
SHERWOOD SOUTH**

15285 GW DIVISION STREET
SHERWOOD, OR 97146
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE DESCRIPTION BY CHK

07-28-10 ISSUED FOR 90% PCD'S BMH MWO

08-04-10 CDS FOR CLIENT REVIEW AJD MWO

DRAWN BY: CHK: APV:

AJD MWO MWO

CURRENT ISSUE DATE:

07-28-10

LICENSE:



DRAWING INFORMATION

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DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NUMBER:

A-4.1 0

CEI JOB NUMBER: 10-00007



PROJECT CONSULTANTS:
GoodmanNetworks
 800.441.4732 FAX: 435.461.1734
 WWW.GOODMANNETWORKS.COM

PLANS PREPARED BY:
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 1888 WOODVILLE-REDSBURG RD NE, SUITE 210
 WOODVILLE, WA 99057
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 WWW.CONCRETEENGINEERING.COM

PROJECT INFO:
**PL52
 SHERWOOD SOUTH**
 16385 SW DIVISION STREET
 SHERWOOD, OR 97140
 WASHINGTON COUNTY

ISSUED FOR:
90% PCD'S

REV: DATE DESCRIPTION BY: CK

07-26-10	ISSUED FOR 90% PCD'S	BMH MWO
08-04-10	CD'S FOR CLIENT REVIEW	AJB MWO
	DRAWN BY: CHK: APV:	
	AJB MWO MWO	

CURRENT ISSUE DATE:
07-26-10

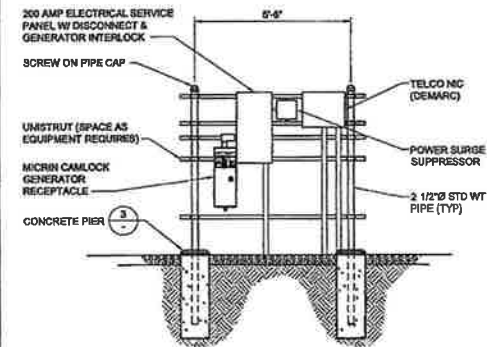
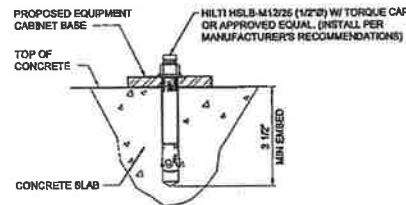
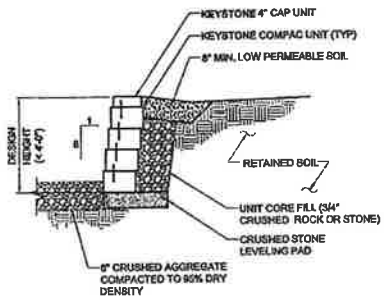


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DRAWING TITLE:
CONSTRUCTION DETAILS

DRAWING NUMBER:

A-4.2 0
 CEL JOB NUMBER: 10-49007



RETAINING WALL DETAIL

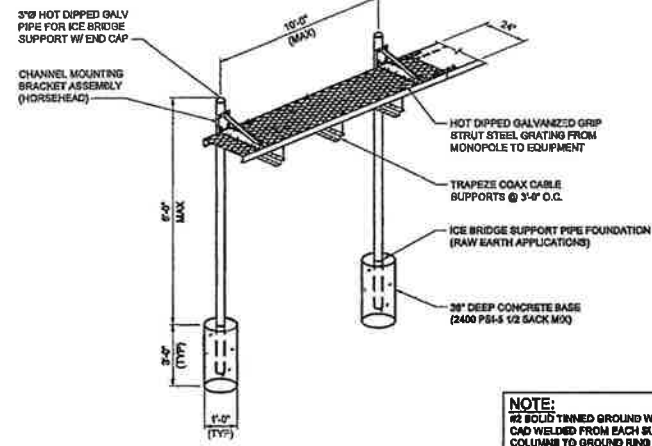
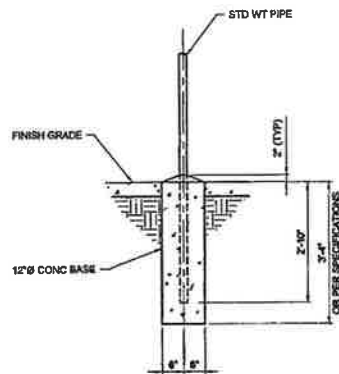
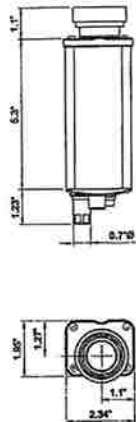
22x34 SCALE: 3/4" = 1'-0" 11x17 SCALE: 3/8" = 1'-0"

EXPANSION ANCHOR

22x34 SCALE: 6" = 1'-0" 11x17 SCALE: 3" = 1'-0"

UTILITY RACK ELEVATION DETAIL

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"



NOTE:
 #2 SOLID TINNED GROUND WIRE TO BE CAD WELDED FROM EACH SUPPORT COLUMN TO GROUND RING

RET DETAIL

22x34 SCALE: NTS 11x17 SCALE: NTS

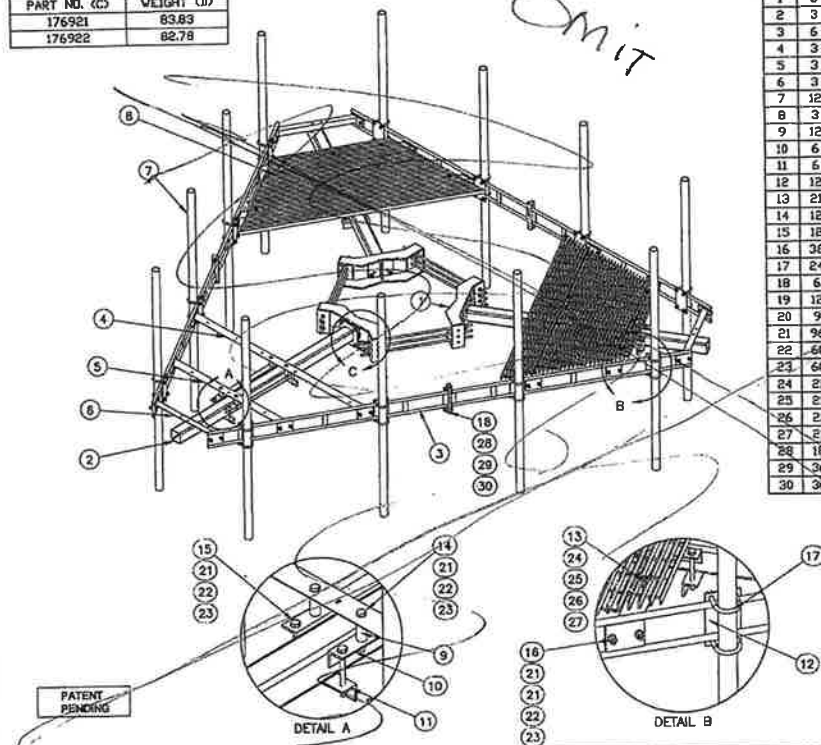
CONCRETE PIER DETAIL

22x34 SCALE: 3/4" = 1'-0" 11x17 SCALE: 3/8" = 1'-0"

ICE BRIDGE DETAIL

22x34 SCALE: NTS 11x17 SCALE: NTS

PART NO. (C)	WEIGHT (D)
176921	83.83
176922	82.78



ITEM	QTY	PART NO.	DESCRIPTION	LENGTH	WEIGHT
1	3	150712	UNIVERSAL MONOPOLE CLAMP		55.20
2	3	SEE CHART (A)	MAIN SUPPORT ARM	78" (REF)	SEE CHART (B)
3	6	193592	TRUSS ARM		40.07
4	3	193589	INSIDE CONNECTION ANGLE		27.02
5	3	193587	MIDDLE CONNECTION ANGLE		19.14
6	3	193585	OUTSIDE CONNECTION ANGLE		10.10
7	12	111436	ANTENNA PIPE	84" (REF)	26.80
8	3	SEE CHART (C)	BAR GRATING		SEE CHART (D)
9	12	193613	BUSHING		0.5K
10	6	193582	TOP CLAMP ANGLE		7.96
11	6	193581	BOTTOM CLAMP ANGLE		2.85
12	12	193611	MOUNTING PLATE		2.62
13	21	140488	SADDLE CLAMP		0.06
14	12	141070	1/2" x 4-1/2" BOLT (A05)	4-1/2" (REF)	0.28
15	12	141074	1/2" x 6-1/2" BOLT (G5)	6-1/2" (REF)	0.36
16	26	141063	1/2" x 3-3/4" BOLT (G5)	1-3/4" (REF)	0.13
17	24	155401	1/2" U-BOLT ASSEMBLY		0.76
18	6	311126	5/8" x 2-1/4" BOLT (A325)	2-1/4" (REF)	0.26
19	12	311127	5/8" x 2-1/2" BOLT (A325)	2-1/2" (REF)	0.27
20	9	283168	5/8" THREADED ROD	36" (REF)	3.30
21	96	312062	1/2" FLAT WASHER		0.01
22	60	312063	1/2" LOCK WASHER		0.01
23	60	312500	1/2" HEX. NUT		0.05
24	21	193636	1/4" x 2" BOLT (J429)	2" (REF)	0.01
25	21	141299	1/4" FLAT WASHER		0.01
26	21	311999	1/4" LOCK WASHER		0.01
27	21	176926	1/4" HEX NUT		0.01
28	18	312122	5/8" FLAT WASHER		0.03
29	36	312123	5/8" LOCK WASHER		0.02
30	36	312501	5/8" PLAIN NUT		0.12

TOTAL WEIGHT: 1613.25

PART NO. (A)	WEIGHT (B)
193826	95.31
193601	104.86

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

TOLERANCE NOTE:
TOLERANCES ON DIMENSIONS UNLESS OTHERWISE NOTED ARE:
(PLUS OR MINUS) MACHINING 0.030" AND STRUCTURAL 0.060"
BENDS ARE (+ OR -) 1/2 DEGREE

DESCRIPTION
P7
13' PLATFORM

valmont
STRUCTURES
1-877-467-4763 Plymouth, MA
1-888-806-9191 Salem, OR

DR BY: BMC 6/3/2005
CPI NO: 3771
DRAWING USAGE: CUST
CHK APPROVAL: CHECKED BY: DWG NO: 193637

Substitute T-Arms per attached cut sheets
for low profile antenna.
Platform.

VALMONT-MICROFLECT 13' ANTENNA PLATFORM DETAILS

22x34 SCALE: NTS 11x17 SCALE: NTS

1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



1888 WOODHULLS-REEDWOOD RD NE, SUITE 210
WOODBRIDGE, VA 22191
PHONE: 404-447-1700 FAX: 404-447-1704
EMAIL: info@cornerstone-eng.com
WWW.CORNERSTONE-ENG.COM

PROJECT INFO:

PL52
SHERWOOD SOUTH
18228 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV: DATE: DESCRIPTION: BY: CK:

07-28-10	ISSUED FOR 90% PCD'S	BMH	MWO
08-04-10	CD'S FOR CLIENT REVIEW	AJB	MWO
DRAWN BY:	CHK:	APV:	
AJB	MWO	MWO	

CURRENT ISSUE DATE:

07-28-10

LICENSURE:



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DRAWING TITLE:

ANTENNA PLATFORM DETAIL B

DRAWING NUMBER:

A-4.3 0

CET JOB NUMBER: 10-89907

1. SIGNS & PLACEMENT

A. LOW LEVEL (BLUE) WARNING SIGNS - PLACE AT SITE ENTRY/ACCESS POINTS ONLY:

ROOF TOPS: PLACE SIGNS ON THE INSIDE OF ROOF HATCH. PLACE ON ACCESS DOOR UNLESS DOOR IS USED BY GENERAL PUBLIC OR BUILDING TENANTS REGULARLY FOR ACCESS. IN THESE CASES CONSULT CONSTRUCTION MANAGER OR GC SUPERVISOR

WATER TANKS: PLACE SIGNS ON COMPOUND GATE

AT&T-OWNED SITES: PLACE ONE SIGN ON SITE GATE

ALL SIGNS WILL BE SECURED WITH EITHER STAINLESS STEEL ZIP TIES OR STAINLESS TECH SCREWS

2. CC PARTICIPATION IN SIGN LOCATION

CM WILL MEET WITH ALL CC'S TO OUTLINE CRITERIA FOR SIGN PLACEMENT; EMPHASIS WILL BE ON 'GRAY AREA' SITES, WHERE SIGN PLACEMENT IS PARTICULARLY CHALLENGING - WE WILL GIVE CC'S AS MUCH GUIDANCE ON SPECIFIC SITUATIONS AS WE CAN FORESEE, BUT CC'S WILL BE ENCOURAGED TO PARTNER CM OR GC IN DECIDING PLACEMENT OF DIFFICULT SITES. A JOINT SITE VISIT MAY BE REQUIRED TO FULFILL REQUIREMENTS

CC WILL CALL OUT SIGN LOCATION(S) AT THE A&E WALK FOR EACH SITE AS THOSE OCCUR

ON SITES WITH EXISTING A&E BUT NOT YET CONSTRUCTED, CC WILL BE ASKED TO PROVIDE (WITHIN A REASONABLE TIME FRAME TBD) A DETAIL FOR SIGN PLACEMENT THAT WILL BE SLIP-SHEETED INTO EXISTING SETS

3. SIGN DISBURSEMENT FROM WAREHOUSE

SIGNS WILL BE IN STOCK AT KENT WAREHOUSE TO BE DISBURSED AS PART OF THE GC BOM AS CALLED OUT IN A&E DRAWINGS FOR EACH SITE

NOTICE



Beyond this point you are entering an area where RF Emissions may exceed the FCC General Population Exposure Limits

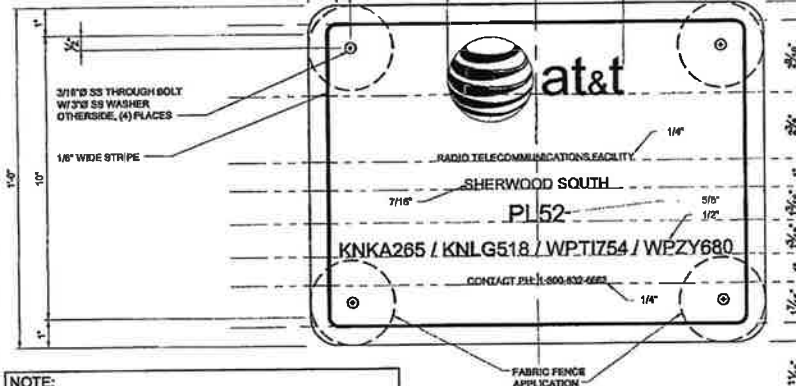
Follow all posted signs and site guidelines for working in an RF environment
Ref: FCC 47CFR 1.1327a3
AT&T Wireless

NOTE:

1. FOR AT&T LOGO SEE AT&T LOGO DESIGN SPECIFICATIONS (PROVIDED BY AT&T)

2. ALL TEXT FONT IS ARIAL, U.K.O.

3. CONTRACTOR TO PROCURE FCC NO. FROM COMPLIANCE COORDINATOR
PH: (425) 560-8860



NOTE:

1. TEXT FOR SIGNAGE SHALL INDICATE CORRECT SITE NAME AND NUMBER AS PER AT&T CONSTRUCTION MANAGER RECOMMENDATIONS

2. CABINET MOUNTING APPLICATION REQUIRES ADHERING PLATE TO FACE OF CABINET WITH WATERPROOF POLYURETHANE ADHESIVE

RF WARNING SIGNAGE

22x34 SCALE: NTS 11x17 SCALE: NTS

NOTE:
PLACE SIGNAGE ON CHAINLINK FENCE (MIN OF 1 ON GATE)



NO TRESPASSING SIGN

22x34 SCALE: NTS 11x17 SCALE: NTS

4

AT&T SIGNAGE DETAIL

22x34 SCALE: NTS 11x17 SCALE: NTS

3



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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EMAIL: info@cornerstone-eng.com
WWW.CORNERSTONE-ENG.COM

PROJECT INFO:

PL52
SHERWOOD SOUTH
15228 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE DESCRIPTION BY CK

REV.	DATE	DESCRIPTION	BY	CK
07-25-10	ISSUED FOR 90% PCD'S	BMH	MWO	
08-04-10	CD'S FOR CLIENT REVIEW	AJB	MWO	

DRAWN BY: CHK. BY: APV.:

AJB MWO MWO

CURRENT ISSUE DATE:

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DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NUMBER:

A-4.4 0

CEI JOB NUMBER:

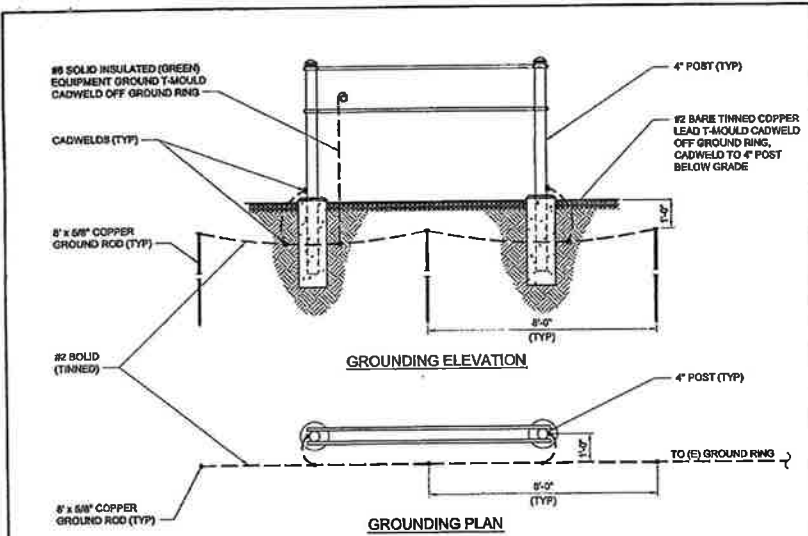
10-69007

2

NOT USED

22x34 SCALE: NTS 11x17 SCALE: NTS

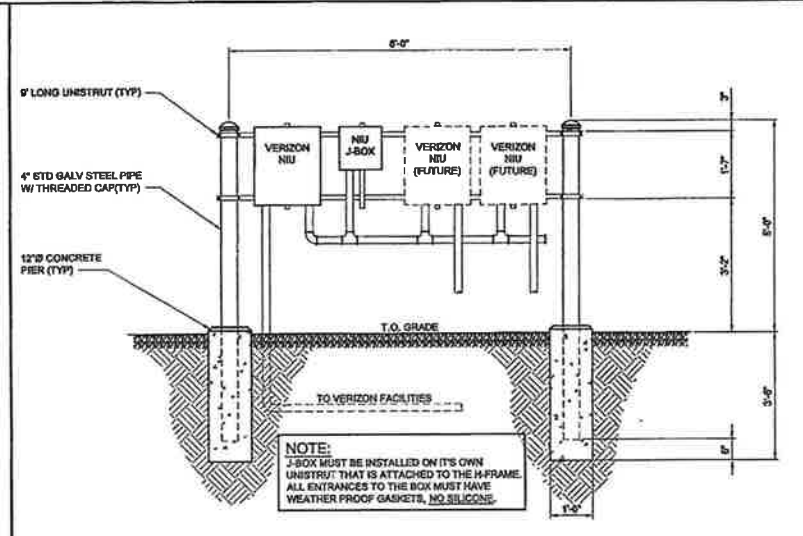
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VERIZON H-FRAME GROUNDING DETAIL

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"

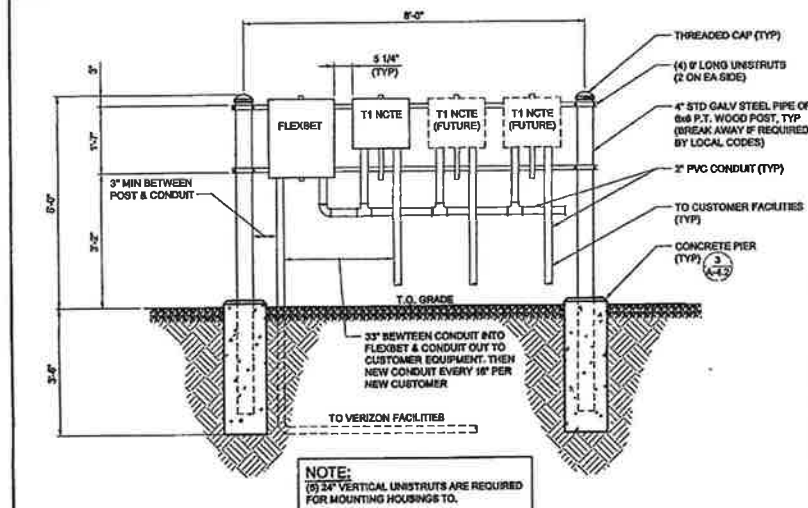
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VERIZON H-FRAME BACK ELEVATION

22x34 SCALE: 3/4" = 1'-0" 11x17 SCALE: 3/8" = 1'-0"

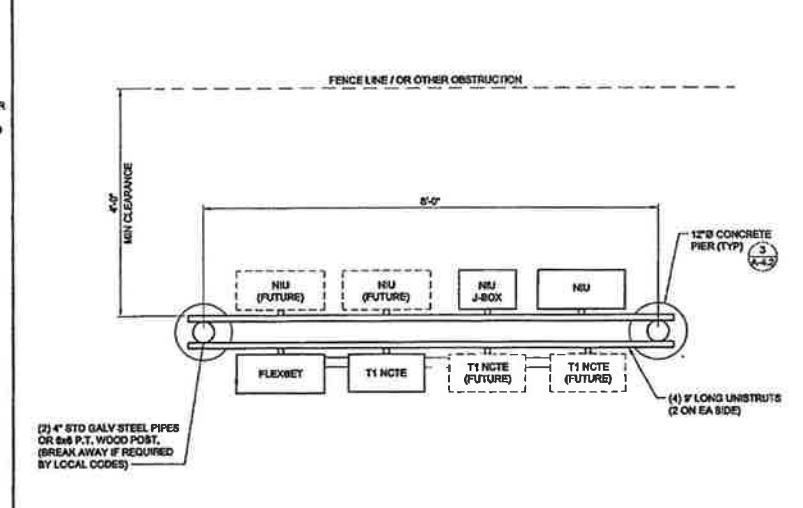
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VERIZON H-FRAME FRONT ELEVATION

22x34 SCALE: 3/4" = 1'-0" 11x17 SCALE: 3/8" = 1'-0"

2



VERIZON H-FRAME PLAN

22x34 SCALE: 1" = 1'-0" 11x17 SCALE: 1/2" = 1'-0"

1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



PROJECT INFO:

PL52
SHERWOOD SOUTH
15288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV: DATE: DESCRIPTION: BY: CK:

07-26-10	ISSUED FOR 90% PCD'S	BMH MWO
06-04-10	CD'S FOR CLIENT REVIEW	A.B. MWO

DRAWN BY: CHK: APV:

A.B. MWO MWO

CURRENT ISSUE DATE:

07-26-10

LICENSURE:



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DRAWING TITLE:

CONSTRUCTION DETAILS

DRAWING NUMBER:

A-5 0

CEI JOB NUMBER: 10-89007

SWEEP TEST REQUIREMENTS:

AT&T WIRELESS
SEATTLE, WA
ANTENNA AND TRANSMISSION LINE TEST REQUIREMENTS

REQUIRED EQUIPMENT

- (1) WILTRONIANRITSU SITE MASTER S331A/B/C OR EQUIVALENT
- (1) OPEN, SHORT, LOAD
- (1) DIN FEMALE TO N TYPE MALE ADAPTER (LOW LOSS)
- (1) DIN MALE TO N TYPE MALE ADAPTER (LOW LOSS)
- (2) DIN FEMALE TO DIN FEMALE ADAPTER (LOW LOSS)
- (1) PHASE STABLE CABLE
- (1) TRUE-RMS MULTI-METER

FREQUENCIES TO BE USED

PCS FREQUENCY BAND 1850MHz-1900MHz

TRANSMIT FREQUENCY 1930MHz-1940MHz

RECEIVE FREQUENCY 1850MHz-1900MHz

TRANSMISSION LINE AND ANTENNA SYSTEM TEST

- (1) INSERTION LOSS/CABLE LOSS
- (2) ANTENNA/TRANSMISSION LINE DISTANCE TO FAULT (RL)
- (3) ANTENNA SYSTEM RETURN LOSS
- (4) ANTENNA SYSTEM WITH DUPLEXER/TMA/ANTENNA RETURN LOSS
- (5) TRANSMISSION LINE CONTINUITY TEST

INSERTION LOSS

THIS TEST WILL MEASURE THE CABLE LOSS OF THE TRANSMISSION LINE AND JUMPERS BETWEEN THE CABINET AND ANTENNA. TEST FREQUENCIES: F1=1850 F2=1900

1. ENTER THE FREQUENCIES TO BE USED IN F1 AND F2.
2. RE-CALIBRATE TEST EQUIPMENT.
3. CONNECT THE TWO JUMPERS GOING TO THE ANTENNA (BYPASS TMA) AND THE CABINET (BYPASS DUPLEXER) USING THE DIN (F) TO DIN (F) CONNECTORS.
4. CONNECT A SHORT AT THE END OF THE LAST JUMPER BEFORE THE ANTENNA, OF THE LINE UNDER TEST.
5. CONNECT TEST EQUIPMENT TO THE LAST TX JUMPER (YELLOW/RED) BEFORE THE CABINET, OF THE LINE UNDER TEST.
6. PERFORM MEASUREMENT, THEN DUE STEPS 10 THROUGH 12.
7. DISCONNECT TX JUMPER, THEN CONNECT THE RX JUMPER (YELLOW/GREEN) TO DIN (F) ADAPTER.
8. CONNECT TEST EQUIPMENT TO THE LAST RX JUMPER (YELLOW/GREEN) BEFORE THE CABINET, OF THE LINE UNDER TEST.
9. PERFORM MEASUREMENT, THEN DUE STEP 10 THROUGH 13.
10. ADD THE MAXIMUM PEAK TO THE MINIMUM VALLEY THEN DIVIDE BY TWO. THIS IS THE CABLE INSERTION LOSS. THIS VALUE SHOULD NOT BE GREATER THEN -40dB.
11. PEAK MAX (M1) + VALLEY MIN (M2) = CABLE INSERTION LOSS.
12. RECORD CALCULATED MEASURED VALUE ON SWEEP DATA SHEET, THEN SAVE SWEEP TO A MEMORY LOCATION.
13. REPEAT STEPS 1 THROUGH 12 FOR THE REST OF THE TRANSMISSION LINES.

ANTENNA/TRANSMISSION LINE DISTANCE TO FAULT (RL)

THIS TEST IS A PERFORMANCE VERIFICATION AND FAILURE ANALYSIS TOOL FOR THE ANTENNA, TRANSMISSION LINES AND CONNECTORS. TEST FREQUENCIES: F1=1850 F2=1900

1. ENTER THE FREQUENCIES TO BE USED IN F1 AND F2.
2. RE-CALIBRATE TEST EQUIPMENT.
3. CONNECT THE TWO JUMPERS GOING TO THE ANTENNA (BYPASS TMA) AND THE CABINET (BYPASS DUPLEXER) USING THE DIN (F) TO DIN (F) CONNECTORS.
4. CONNECT THE ANTENNA TO THE LINE UNDER TEST.
5. CONNECT TEST EQUIPMENT TO THE LAST TX JUMPER (YELLOW/RED) BEFORE THE CABINET, OF THE LINE UNDER TEST.
6. PERFORM MEASUREMENT, VERIFY RESULTS WITH STEPS 10 THROUGH 13.
7. DISCONNECT TX JUMPER, THEN CONNECT THE RX JUMPER (YELLOW/GREEN) TO DIN (F) ADAPTER.
8. CONNECT TEST EQUIPMENT TO THE LAST RX JUMPER (YELLOW/GREEN) BEFORE THE CABINET, OF THE LINE UNDER TEST.
9. PERFORM MEASUREMENT, VERIFY RESULTS WITH STEPS 10 THROUGH 13.
10. VERIFY EACH DIN CONNECTOR HAS A RL LESS THEN -30DB, N TYPE -20DB.
11. VERIFY THE TRANSMISSION LINE HAS A RL LESS THEN -40DB.
12. VERIFY THE ANTENNA HAS A RL LESS THEN -17DB.
13. RECORD PASS/FAIL ON SWEEP DATA SHEET, THEN SAVE SWEEP TO A MEMORY LOCATION.
14. REPEAT STEPS 1 THROUGH 13 FOR THE REST OF THE ANTENNAS AND TRANSMISSION LINES.

ANTENNA SYSTEM RETURN LOSS:

THIS TEST MEASURES THE RL OF THE TRANSMISSION LINE TERMINATING INTO THE ANTENNA WITHOUT THE TMA AND DUPLEXER. TEST FREQUENCIES: F1=1850 F2=1900

1. ENTER THE FREQUENCIES TO BE USED IN F1 AND F2.
2. RE-CALIBRATE TEST EQUIPMENT.
3. CONNECT THE TWO JUMPERS GOING TO THE ANTENNA (BYPASS TMA) AND THE CABINET (BYPASS DUPLEXER) USING THE DIN (F) TO DIN (F) CONNECTORS.
4. CONNECT THE ANTENNA TO THE LINE UNDER TEST.
5. CONNECT TEST EQUIPMENT TO THE LAST TX JUMPER (YELLOW/RED) BEFORE THE CABINET, OF THE LINE UNDER TEST.
6. PERFORM MEASUREMENT, VERIFY RESULTS WITH STEPS 10 THROUGH 13.
7. DISCONNECT TX JUMPER, THEN CONNECT THE RX JUMPER (YELLOW/GREEN) TO DIN (F) ADAPTER.
8. CONNECT TEST EQUIPMENT TO THE LAST RX JUMPER (YELLOW/GREEN) BEFORE THE CABINET, OF THE LINE UNDER TEST.
9. PERFORM MEASUREMENT, VERIFY RESULTS WITH STEPS 10 THROUGH 13.
10. VERIFY ANTENNA SYSTEM USING 1/8" WAVE-GUIDE HAS A RL LESS THEN -17DB, 200FT MAX.
11. VERIFY ANTENNA SYSTEM USING 7/8" WAVE-GUIDE HAS A RL LESS THEN -10DB, 200FT MAX.
12. FOR SYSTEMS ABOVE 200FT 1/8" RL -15.0DB, 7/8" RL -14DB.
13. RECORD TEST RESULTS ON SWEEP DATA SHEET, THEN SAVE SWEEP TO A MEMORY LOCATION.
14. REPEAT STEPS 1 THROUGH 13 FOR THE REST OF THE ANTENNA SYSTEMS.

ANTENNA SYSTEM WITH DUPLEXER AND TMA RETURN LOSS:

THIS TEST MEASURES THE RL OF THE COMPLETE ANTENNA NETWORK ON THE TX PATH. TX TEST FREQUENCIES: F1=1850 F2=1900

1. ENTER THE FREQUENCIES TO BE USED IN F1 AND F2.
2. RE-CALIBRATE TEST EQUIPMENT.
3. REMOVE DIN (F) TO DIN (F) FROM BOTH TOP AND BOTTOM JUMPERS.
4. CONNECT TOP JUMPERS TO TMA AND CONNECT BOTTOM JUMPER TO DUPLEXER.
5. CONNECT TEST EQUIPMENT TO TX 1 (YELLOW/RED).
6. PERFORM MEASUREMENT.
7. VERIFY ANTENNA NETWORK USING 1/8" WAVE-GUIDE HAS A RL LESS THEN -15.0DB, 200FT MAX.
8. VERIFY ANTENNA NETWORK USING 7/8" WAVE-GUIDE HAS A RL LESS THEN -14.0DB, 200FT MAX.
9. FOR ANTENNA NETWORK ABOVE 200FT 1/8" RL -14DB, 7/8" RL -12.0DB.
10. RECORD TEST RESULTS ON SWEEP DATA SHEET, THEN SAVE SWEEP TO A MEMORY LOCATION.
11. REPEAT STEPS 1 THROUGH 10 FOR THE REST OF THE TX ANTENNA NETWORKS.

ANTENNA SYSTEM WITH DUPLEXER AND TMA RETURN LOSS:

THIS TEST MEASURES THE RL OF THE COMPLETE ANTENNA NETWORK ON THE RX PATH. REMINDER THE TEST EQUIPMENT WILL TERMINATE INTO THE TMA ON THE RX PATH. RX TEST FREQUENCIES: F1=1850 F2=1900

1. ENTER THE FREQUENCIES TO BE USED IN F1 AND F2.
2. RE-CALIBRATE TEST EQUIPMENT.
3. REMOVE DIN (F) TO DIN (F) FROM BOTH TOP AND BOTTOM JUMPERS.
4. CONNECT TOP JUMPERS TO TMA AND CONNECT BOTTOM JUMPER TO DUPLEXER.
5. CONNECT TEST EQUIPMENT TO RX 1 (YELLOW/GREEN).
6. PERFORM MEASUREMENT.
7. VERIFY ANTENNA NETWORK USING 1/8" WAVE-GUIDE HAS A RL LESS THEN -15.0DB, 200FT MAX.
8. VERIFY ANTENNA NETWORK USING 7/8" WAVE-GUIDE HAS A RL LESS THEN -14.0DB, 200FT MAX.
9. FOR ANTENNA NETWORK ABOVE 200FT 1/8" RL -14DB, 7/8" RL -12.0DB.
10. RECORD TEST RESULTS ON SWEEP DATA SHEET, THEN SAVE SWEEP TO A MEMORY LOCATION.
11. REPEAT STEPS 1 THROUGH 10 FOR THE REST OF THE RX ANTENNA NETWORKS.

TRANSMISSION LINE CONTINUITY TEST:

THIS TEST WILL VERIFY THE CONTINUITY OF THE RX PATH BETWEEN THE BTS AND THE TMA FOR THE 10 VDC NETWORK.

1. CONNECT A SHORT AT THE END OF THE LAST JUMPER BEFORE THE TMA, OF THE LINE UNDER TEST.
2. CONNECT MULTI-METER TO LAST JUMPER BEFORE THE BTS, RX 1 (YELLOW/GREEN). PLACE THE BLACK LEAD ON THE OUTER PART OF THE CONNECTOR AND THE RED LEAD ON THE CENTER PIN OF THE CONNECTOR.
3. VERIFY THE METER READS A SHORT.
4. REMOVE SHORT AND VERIFY METER READS OPEN.
5. RECORD PASS/FAIL ON SWEEP DATA SHEET.
6. RECONNECT JUMPERS TO TMA AND BTS.
7. REPEAT STEPS 1 THROUGH 6 FOR THE REMAINING RECEIVE PATHS.

NOTE: EDIT AND SAVE ALL SWEEPS TO A 3.5" DISKETTE AND E-MAIL SWEEPS TO JAMES.FUGATE@AT&T.COM PROVIDE A COPY OF ANTENNA SYSTEM TEST RESULTS WITH DISKETTE ON FINAL SITE WALK.

QUESTIONS CONTACT:

JAMES FUGATE: (206) 240-0006

RF CABLE INSTALLATION:

1. FOR 1/2-INCH COAX, THE MINIMUM LENGTH OF STRAIGHT COAX BETWEEN THE END OF A CONNECTOR AND THE BEGINNING OF A BEND IS 8 INCHES. FOR COAX LARGER THAN 1/2-INCH, THE MINIMUM LENGTH OF STRAIGHT COAX BETWEEN THE END OF A CONNECTOR AND THE BEGINNING OF A BEND IS 12 INCHES.
2. THE MINIMUM REQUIRED BEND RADIUS FOR 1/2-INCH COAX IS 9 INCHES. FOR COAX LARGER THAN 1/2-INCH, THE MINIMUM REQUIRED BEND RADIUS LISTED IN THE TABLES IN AT&T'S NETWORK GUIDE NO-0004. RF CABLE GUIDELINES (LATEST VERSION) WILL BE USED. USE THE BEND RADIUS VALUES IN THE COLUMN LABELED "MIN SINGLE BENDING RADIUS (IN)" OR EQUIVALENT ARE NOT TO BE USED.
3. IF THE RF CABLE BEING INSTALLED IS NOT LISTED IN AT&T'S NETWORK GUIDE NO-0004, MANUFACTURER'S RECOMMENDATIONS FOR MINIMUM ALLOWABLE BEND RADIUS WILL BE FOLLOWED. BEND RADIUS VALUES LISTED AS "MIN SINGLE BENDING RADIUS (IN)" OR EQUIVALENT ARE NOT TO BE USED.
4. EQUIPMENT AND RF COMPONENTS SHOULD BE LOCATED TO ALLOW THESE BEND RADIUS TO BE INSTALLED. IF SPACE RESTRICTIONS DO NOT ALLOW THE RECOMMENDED COAX BEND RADIUS, USE OF A SHORTER BEND RADIUS IS ALLOWED PROVIDED THAT THE MAXIMUM ATTAINABLE BEND RADIUS IS USED.



PROJECT CONSULTANTS:



PLANS PREPARED BY:



PROJECT INFO:

PL52
SHERWOOD SOUTH
16388 6W DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE DESCRIPTION BY CR

07-28-10	ISSUED FOR 90% PCD'S	BMH	MWO
06-04-10	CD'S FOR CLIENT REVIEW	AJB	MWO

DRAWN BY: CHK: APV:
AJB MWO MWO

CURRENT ISSUE DATE:

07-28-10

LICENSE:



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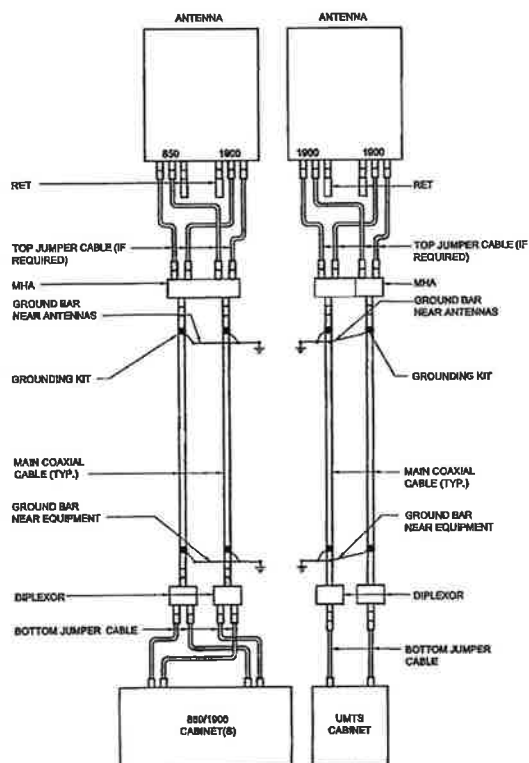
DRAWING TITLE:

ANTENNA SWEEP TEST

DRAWING NUMBER:

RF-1 0

CDI JOB NUMBER: 10-09007



CABLE MARKING TAGS

TO PROVIDE ADDITIONAL IDENTIFICATION EACH RF CABLE SHALL BE IDENTIFIED WITH A METAL TAG MADE OF STAINLESS STEEL OR BRASS AND STAMPED AS SHOWN. THE IDENTIFICATION LOCATIONS SHOULD BE AS PER "CABLE MARKING LOCATIONS TABLE". THE TAG SHOULD BE ATTACHED WITH CORROSION PROOF WIRE AROUND THE CABLE.

THE FOLLOWING ARE 3 DIFFERENT FORMATS TO BE USED FOR THE BRASS TAGS.

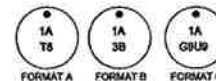


DIAGRAM OF BRASS TAG FORMATS

FORMAT A IS USED WHEN THERE IS ONLY ONE TECHNOLOGY BEING CARRIED ON A CABLE. FORMAT B IS USED WHEN TWO TECHNOLOGIES HAVE BEEN DIXELED ONTO ONE CABLE AND WILL BE BROKEN OUT THROUGH A DIPLEXOR AT THE TOP OF THE TOWER. FORMAT C IS USED WHEN TWO TECHNOLOGIES HAVE BEEN QUADRAPEXED ONTO ONE CABLE FOR ANTENNA PORT SHARING AT THE TOP OF THE TOWER.

THE FIRST NUMBER DESIGNATES THE ANTENNA POSITION, THE SECOND CHARACTER DESIGNATES THE PORT ON THE ANTENNA, THE THIRD CHARACTER DESIGNATES THE TECHNOLOGY TYPE, AND THE LAST NUMBER DESIGNATES THE FREQUENCY BAND OF THE TECHNOLOGY.



ALL RF CABLE SHALL BE MARKED AS PER CABLE MARKING LOCATIONS TABLE BELOW:

CABLE MARKING LOCATIONS		
NO.	TAG	LOCATIONS
1.	X	END OF THE MAIN COAX RUN WHERE THE COAXIAL CABLE AND JUMPER TO THE ANTENNA ARE CONNECTED.
2.	X	CABLE ENTRY POINT ON THE INTERIOR OF THE SHELTER (AS APPLICABLE).
3.	X	END OF JUMPER AT BTS CABINET

CABLE COLOR MARKING

IN ADDITION TO THE IMPLEMENTATION OF BRASS TAGS, CONTRACTORS SHALL USE ONE BAND OF COLOR TAPE PER CABLE FOR SECTOR DESIGNATION LABELING.

THE COLORS SHALL BE AS FOLLOWS:

SECTOR A: RED
SECTOR B: BLUE
SECTOR C: GREEN

THE SECTOR DESIGNATIONS SHALL BE MARKED AS DESCRIBED ON THE CURRENT RF DATA SHEET (RFS) AT TIME OF INSTALLATION. RF DATA SHEET IS TO REMAIN POSTED AT EVERY SITE.

COAX BOOT SPECIFICATION

ENTRY BOOTS TO SEAL COAX WITHIN 6" CONDUITS SHALL BE: ROKT-ED H SEAL
HS-1603X/25-44/25 SEE COAX CONDUIT EXIT SEAL DETAIL (WHEN APPLICABLE)

CONTRACTOR SHALL USE THE ABOVE PRODUCTS OR APPROVED EQUAL.



PROJECT CONSULTANTS



PLANS PREPARED BY:



PROJECT INFO:

PL52
SHERWOOD SOUTH
15203 SW DIVISION STREET
OVERLAND, OR 97040
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REVISION DATE DESCRIPTION BY CR

07-26-10	ISSUED FOR 90%	BMH	MWO
08-04-10	CD'S FOR CLIENT REVIEW	AJB	MWO

DRAWN BY: ALE CHK: MWO

CURRENT ISSUE DATE: 07-26-10

SCALE: 1"=100'

DATE: 07-26-10

BY: [Signature]

FOR: [Signature]

DATE: 07-26-10

BY: [Signature]

FOR: [Signature]

DATE: 07-26-10

BY: [Signature]

FOR: [Signature]

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BY: [Signature]

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DATE: 07-26-10

BY: [Signature]

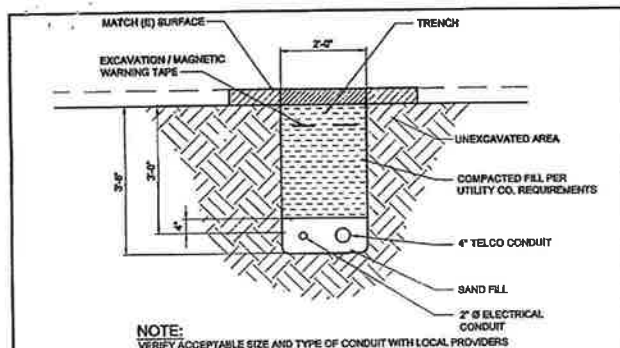
FOR: [Signature]

DATE: 07-26-10

BY: [Signature]

FOR: [Signature]

DATE: 07-26-10



2

UTILITY COMPANY'S

POWER
PGE
PH: (800) 542-6918

TELEPHONE
FRONTIER TELEPHONE
PH: (800) 843-1001



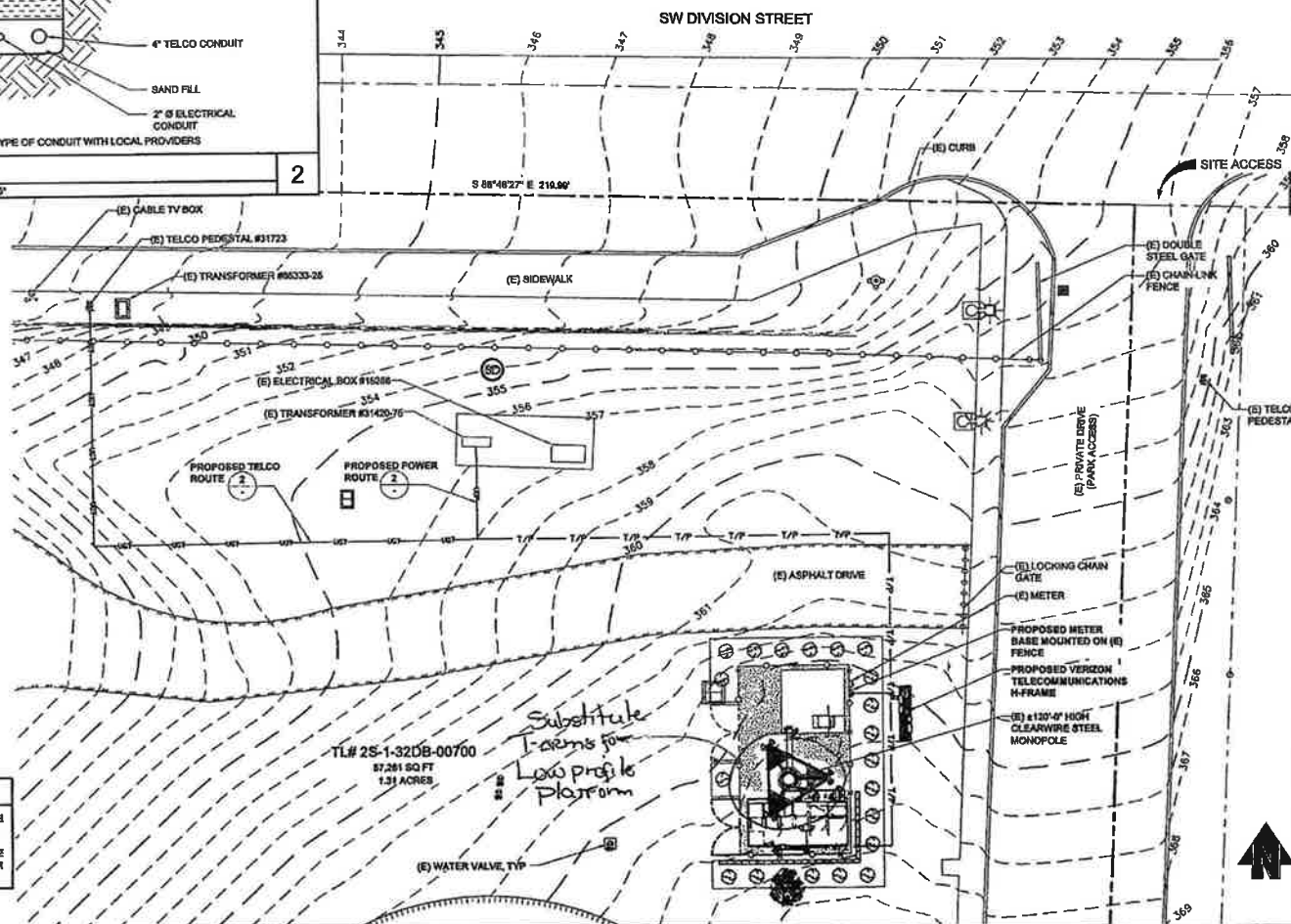
PROPOSED UTILITY RUNS

POWER: ± 30'-0" TRENCHED SEPARATE
± 100'-0" TRENCHED W/ TELCO

TELCO: ± 120'-0" TRENCHED SEPARATE
± 180'-0" TRENCHED W/ POWER

UTILITY PLAN

22x34 SCALE: 1"=25'-0" 11x17 SCALE: 1"=45'-0"



1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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16288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

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07-26-10	ISSUED FOR 90% PCD'S	BMH	MWO
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AJB MWO MWO

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DRAWING TITLE:

UTILITY PLAN AND DETAILS

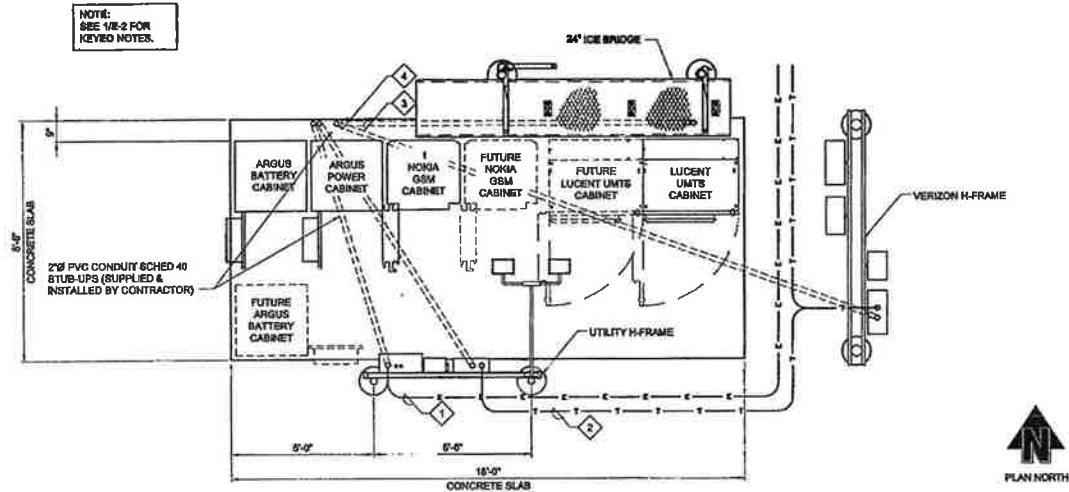
DRAWING NUMBER:

E-1 0

CEI JOB NUMBER: 10-49007

ELECTRICAL SPECIFICATION:

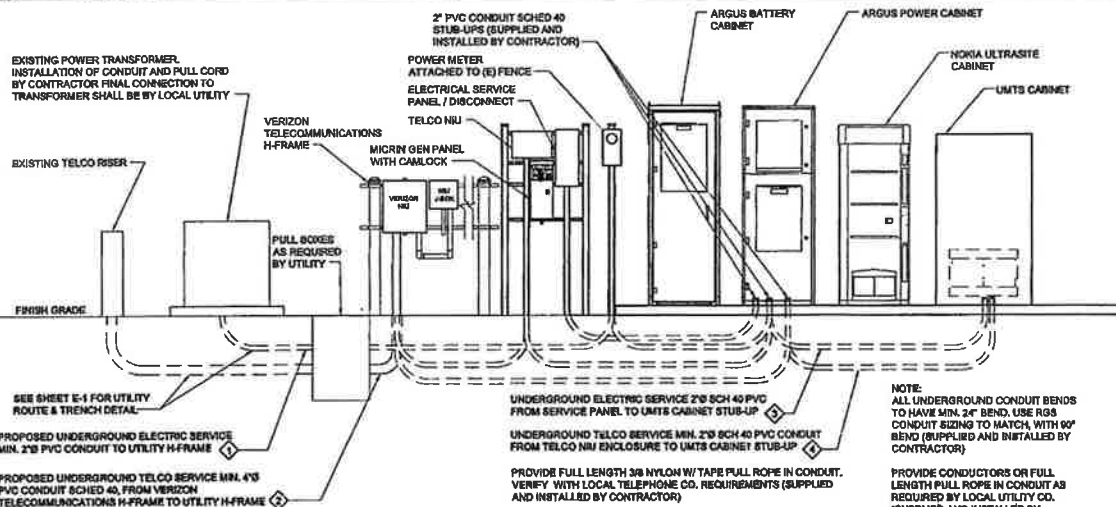
1. COMPLY WITH THE LATEST EDITION OF THE INTERNATIONAL BUILDING CODE, THE REQUIREMENTS OF ALL APPLICABLE MUNICIPAL AND STATE CODES AND REGULATIONS, AND UTILITY GUIDELINES.
2. PERFORM ALL VERIFICATION, OBSERVATIONS, TESTING AND EXAMINATION OF WORK PRIOR TO THE ORDERING OF ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE CONSTRUCTION MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. UNDERGROUND CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE CONDUIT, SCHEDULE 40 CONFORMING TO UL ARTICLE 891; WESTERN PLASTICS OR CARBON MANUFACTURER. COUPLINGS SHALL BE SLIP-ON SOLVENT SEALED T-PIE; SOLVENT, WESTERN TYPE COMPATIBLE WITH PVC DUCT, ALL BENDS SHALL BE 30° MINIMUM RADIUS.
4. NEUTRAL SHALL BE COLOR CODED, INSULATION SHALL BE CROSS-LINKED POLYETHYLENE.
5. CONTRACTOR TO CONTACT ALL UTILITIES FOR LOCATION OF UNDERGROUND SERVICES. SERVICE LOCATIONS TO BE CONFIRMED PRIOR TO CONSTRUCTION.
6. THE CONTRACTOR IS RESPONSIBLE FOR ALL PERMITTING, FILING, AND FEES IN CONJUNCTION WITH THE PROJECT.
7. THE CONTRACTOR SHALL SCHEDULE ALL NECESSARY INSPECTIONS WITH THE PROPER AUTHORITIES AND INFORM AT&T 24 HOURS IN ADVANCE. ALL TICKETS AND INSPECTION VERIFICATIONS WILL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE WITHIN 24 HOURS AFTER THE INSPECTION HAS TAKEN PLACE.
8. ALL EQUIPMENT, WIRING, AND MATERIALS MUST HAVE A UL LABEL.
9. ALL WORK SHALL BE DONE BY QUALIFIED AND EXPERIENCED JOURNEYMEN AND PERFORMED IN A WORKMANLIKE MANNER AND SHALL PROCEED IN AN ORDERLY MANNER SO AS NOT TO HOLD UP THE PROGRESS OF THE PROJECT.
10. THOROUGHLY TEST ALL LINES, FEEDERS, EQUIPMENT, AND DEVICES WITH MAXIMUM LOADS TO ASSURE PROPER OPERATION.
11. CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES.
12. PROVIDE PULL BOXES WHERE SHOWN AND/OR WHERE REQUIRED BY CODES AND/OR UTILITY COMPANIES.
13. ALL CONDUIT ROUGH IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS, CONTRACTOR SHALL VERIFY ALL LOCATIONS.
14. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES, AND CABINETS WITH APPROVED PLASTIC TAGS.
15. ALL BREAKERS IN PANEL BOXES SHALL BE IDENTIFIED WITH TYPE WRITTEN LABELS NEATLY PLACED ALONG SIDE OF THE BREAKER.
16. ALL FIRE RATED WALL AND FLOOR PENETRATIONS ARE TO BE CAULKED AND SEALED WITH A FIRE RESISTANT CAULKING TO MAINTAIN THE INTEGRITY OF THE FIRE SEPARATION.
17. UTILIZE SONNEBORN TYPE NP-1 CAULKING FOR SEALING ALL EXTERIOR WALL PENETRATIONS.



ELECTRICAL/TELCO SCHEMATIC

22x34 SCALE: NTS 11x17 SCALE: NTS

9



ELECTRICAL SPECIFICATIONS

22x34 SCALE: NTS 11x17 SCALE: NTS

POWER RISER DIAGRAM

22x34 SCALE: NTS 11x17 SCALE: NTS

1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH
15288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV. DATE DESCRIPTION BY CK

REV.	DATE	DESCRIPTION	BY	CK
07-26-10	ISSUED FOR 90% PCD'S		BMH	MWO
08-04-10	CD'S FOR CLIENT REVIEW		AJB	MWO

DRAWN BY: CHK: APV:

AJB MWO MWO

CURRENT ISSUE DATE:

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LICENSURE:



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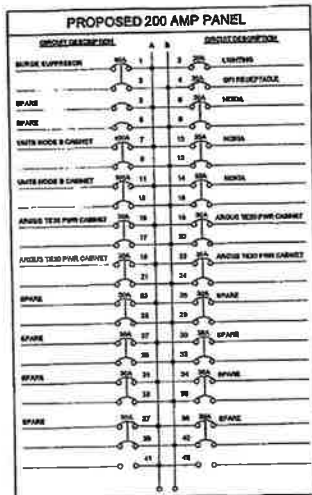
ELECTRICAL / TELCO DETAILS

DRAWING NUMBER:

E-2

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CE JOB NUMBER: 10-89057



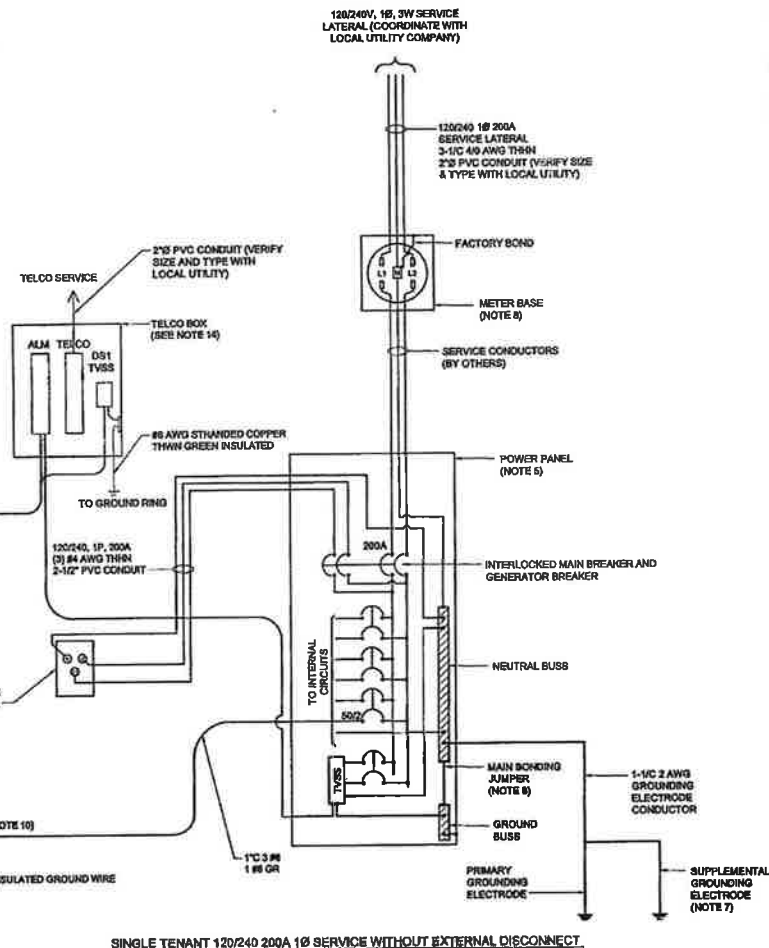
PANEL SCHEDULE

22x34 SCALE: NTS 11x17 SCALE: NTS

3

NOTES:

- THIS DESIGN MAY BE ADJUSTED TO COMPLY WITH SPECIFIC NEC, FEDERAL, STATE, LOCAL CODES AND ORDINANCES.
- UNLESS SPECIFICALLY INDICATED, CONDUIT TYPE SHALL BE SELECTED IN ACCORDANCE WITH CODE REQUIREMENTS.
- GAUGE OF ELECTRICAL CONDUCTORS AND CONDUIT DIAMETERS MAY REQUIRE ADJUSTMENT TO COMPENSATE FOR CHANGES IN LENGTH.
- UTILITY TRANSFORMER AND ASSOCIATED GROUND PROVIDED BY THE UTILITY COMPANY.
- INTERNAL WIRING OF POWER PANEL IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY AND MAY VARY ACCORDING TO MANUFACTURER.
- SUBCONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER IS INSTALLED PROPERLY.
- SUPPLEMENTAL GROUNDING ELECTRODE SHALL BE PROVIDED PER NEC CODE REQUIREMENTS.
- METER TO BE MOUNTED ON EXISTING FENCE.
- INSTALL ONE 4\"/>



SINGLE TENANT 120/240 200A 1Ø SERVICE WITHOUT EXTERNAL DISCONNECT.

NOT USED

22x34 SCALE: NTS 11x17 SCALE: NTS

2

ELECTRICAL ONE-LINE DIAGRAM

22x34 SCALE: NTS 11x17 SCALE: NTS

1



PROJECT CONSULTANTS:



PLANS PREPARED BY:



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PROJECT INFO:

PL52
SHERWOOD SOUTH

15308 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

90% PCD'S

REV: DATE DESCRIPTION BY: CK

07-26-10	ISSUED FOR 90% PCD'S	BMH	MWO
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DRAWN BY: CHK: APV:

AJB MWO MWO

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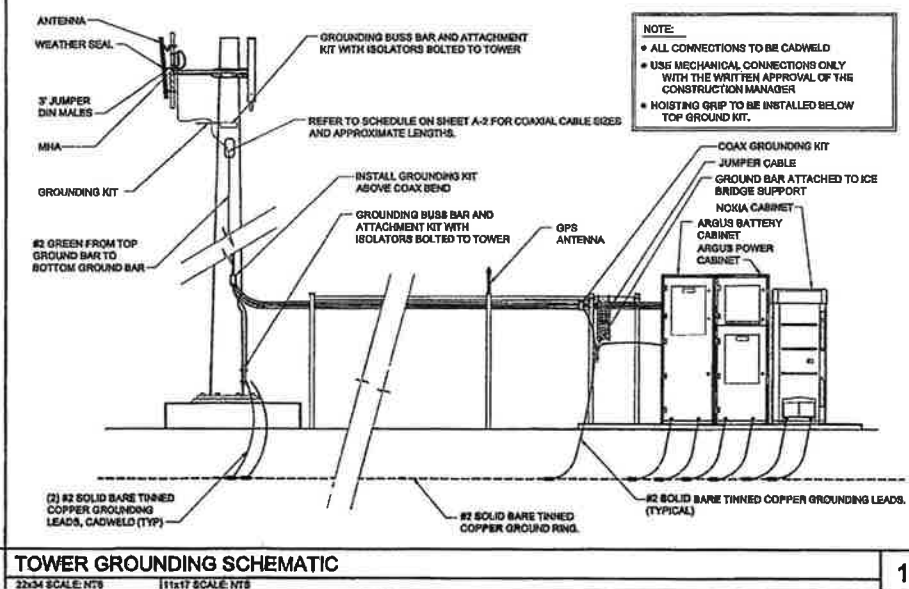
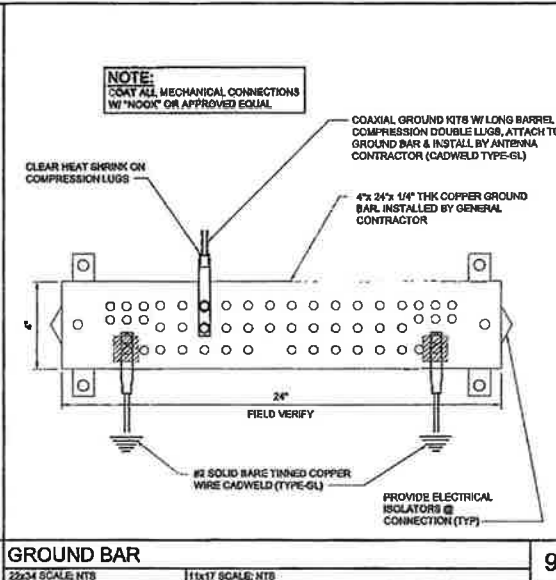
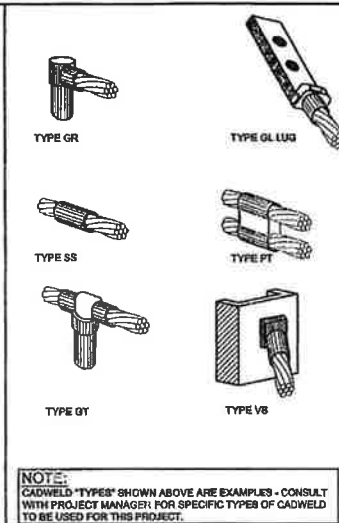
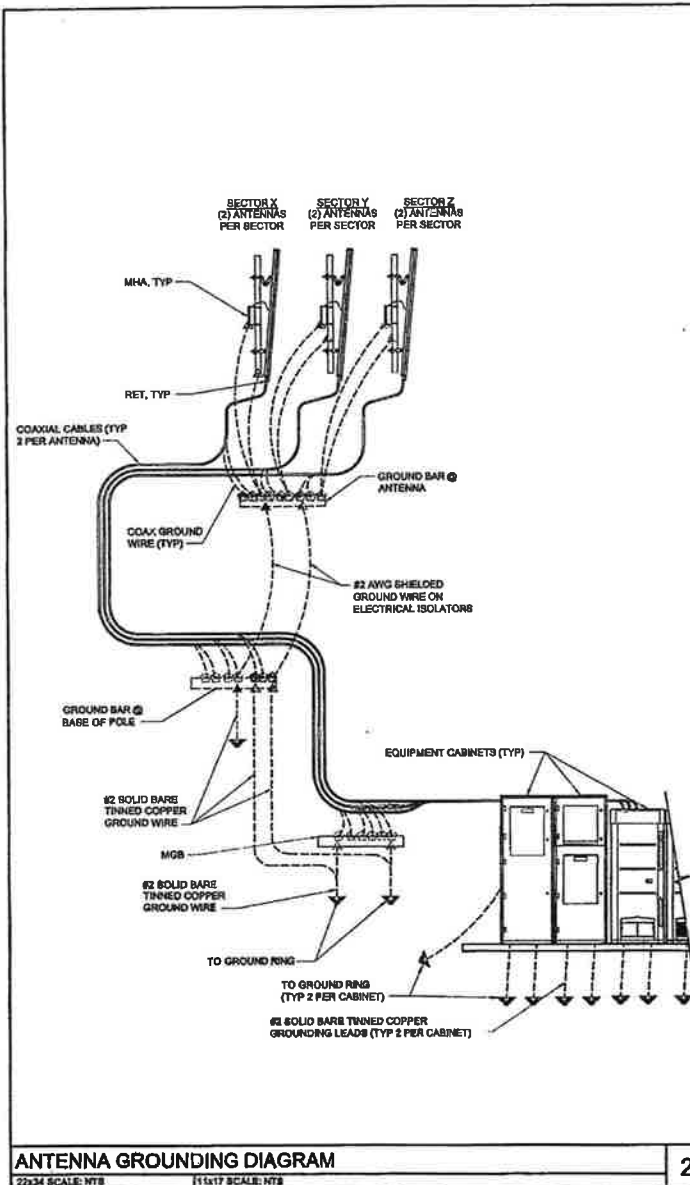
POWER ONE-LINE DIAGRAM

DRAWING NUMBER:

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CEI JOB NUMBER:

19-59007



at&t
Your world. Delivered.

PROJECT CONSULTANTS:
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PROJECT INFO:
PL52
SHERWOOD SOUTH
15189 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:
90% PCD'S

REV	DATE	DESCRIPTION	BY	CHK
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DRAWN BY: **CHK:** **APPV:**
AJB MWO MWO

CURRENT ISSUE DATE:
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GROUNDING DETAILS

DRAWING NUMBER:
E-3.1 0

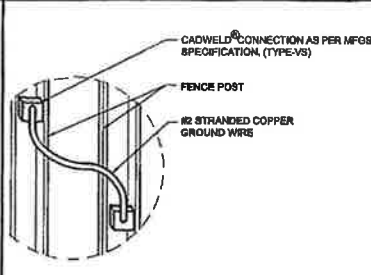
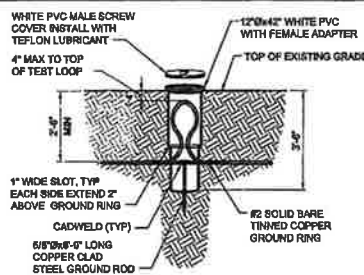
CEI JOB NUMBER:
10-55007

GROUNDING SYSTEM NOTES

- ① TOWER RADIAL GROUND - #2 SOLID TINNED WIRE CADWELD (OR FASTENER APPROVED BY PROJECT MANAGER) TO TOWER BASE. EXTEND WIRE 30' MINIMUM IN SWEEPING CONFIGURATION AS SHOWN (BEYOND LEASE LINE IF POSSIBLE, IF NOT AS SHOWN ON PRINT) AT A MINIMUM DEPTH OF 24". ALL GROUND RODS TO BE #6 COPPER OR COPPER CLAD. FIRST GROUND RODS FROM TOWER ARE TO BE PLACED 10' EQUAL DISTANCE (BETWEEN ROD CENTERS) AND A MINIMUM OF EVERY 10' ALONG TOTAL LENGTH. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ② TOWER EQUIPMENT RING GROUND INTERCONNECT - ONLY ONE (1) CONNECTION OF THIS TYPE FOR EACH TOWER! SAME CONSTRUCTION AS NOTE A ABOVE EXCEPT THE TERMINATION AT THE GROUNDING RING MUST BE THREE WAY CONNECTED. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ③ EQUIPMENT RING GROUND - ALWAYS OBSERVE THE TURN DIRECTIONS SHOWN WHEN PLACING BENDS OR CONNECTIONS! USE #2 SOLID TINNED WIRE PLACED WITHIN 3" (48") FROM EDGE OF BUILDING CONCRETE FOUNDATION AT A MINIMUM DEPTH OF 24". ALL CONNECTIONS TO GROUND RING ARE TO BE CADWELD. ALL GROUND RODS TO BE 10' COPPER OR COPPER CLAD AND PLACED 10' EQUAL DISTANCE (BETWEEN ROD CENTERS) AND A MINIMUM OF EVERY 10' ALONG TOTAL LENGTH. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ④ SINGLE POINT GROUND BAR (COAX BULKHEAD) - ALWAYS OBSERVE THE DIRECTIONS SHOWN WHEN PLACING BENDS OR CONNECTIONS TO GROUND RING! USE TWO (2) #2 SOLID TINNED WIRE OR TWO (2) 3" COPPER RIBBONS ATTACHED ON OPPOSITE ENDS OF BAR OR BULKHEAD EXTENDING DIRECTLY TO GROUND RING AS SHOWN. ALL WIRE CONNECTIONS TO GROUND RING ARE TO BE CADWELD. RIBBONS MAY BE ATTACHED TO GROUND RING WITH A "LISTED" PRESSURE CONNECTION WITH APPROVAL OF CONSTRUCTION MANAGER. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ⑤ EQUIPMENT INNER BONDING RING - #2 SOLID TINNED WIRE CADWELD (TO INNER BONDING RING) AT A LOCATION EITHER ABOVE THE SOIL LINE OR JUST INSIDE INTERIOR OF BUILDING. ALWAYS USE PVC (NONMETALLIC) SLEEVES WHEN ENTERING THE STRUCTURE! THIS TYPE OF BOND IS REQUIRED AT EACH OUTSIDE CORNER AND AT DISTANCES NOT TO EXCEED 60' ALONG ANY STRAIGHT WALL. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ⑥ FENCE EQUALIZATION BOND - #2 SOLID TINNED WIRE CADWELD TO BUILDING RING GROUND AND ATTACHED TO EACH INSIDE OR OUTSIDE CORNER FENCE POST WITH A "LISTED" WIRE CLAMP. PLACE AT A MINIMUM 12" DEPTH (SEE NOTE 11 BELOW FOR CROSSING CLEARANCES). IF METALLIC POST NOT SET IN CEMENT PLACE AN ADDITIONAL 8" GROUND ROD AT POST LOCATION.
- ⑦ GATE EQUALIZATION BOND - #2 STRANDED COPPER WIRE CADWELD TO FENCE EQUALIZATION WIRE AND ATTACHED TO EACH GATE POST WITH A "LISTED" WIRE CLAMP. IF METALLIC POST IS NOT SET IN CEMENT PLACE AN ADDITIONAL 10' GROUND ROD AT EACH POST LOCATION.
- ⑧ POWER / TELEPHONE TRENCH - UTILITIES CAN EITHER BE PLACED IN SAME TRENCH (NEGO RANDOM SEPARATION) OR IN SEPARATE TRENCHES AT A 36" DEPTH. ALWAYS PLACE THESE FACILITIES BELOW WHILE MAINTAINING A 36" HORIZONTAL SEPARATION AND A 12" VERTICAL SEPARATION FROM ANY RADIAL OR RING GROUND SYSTEMS IN, ON, OR ADJACENT TO THE RADIO SITE.
- ⑨ POWER / TELEPHONE ENTRANCE - THE BUILDING RING GROUND MEETS OR EXCEEDS THE NEC ARTICLE 250 UTILITY PROTECTION GROUND. THEREFORE, INFORM LOCAL INSPECTOR THAT ADDITIONAL GROUND RODS ARE NOT REQUIRED. ALL UTILITY GROUNDS MAY BE ATTACHED TO THE #2 SOLID TINNED BOND WIRE DETAILED IN NOTE J BELOW. IF LOCAL POWER COMPANY CODES REQUIRE AN ADDITIONAL GROUND ROD, BOND THE TWO FACILITIES TOGETHER AT THIS LOCATION.
- ⑩ UTILITY GROUNDING ELECTRODE BOND - USE #2 SOLID TINNED WIRE PLACED WITHIN 3' OF UTILITY ENTRANCE FACILITY. ALL CONNECTIONS TO GROUND RING ARE TO BE CADWELD. CONNECTION TO ENTRANCE FACILITY TO BE WITH A "LISTED" CONNECTION. ALL BENDS MUST MAINTAIN A MINIMUM 12" RADIUS.
- ⑪ RADIAL GROUND / FENCE BOND CROSSINGS - WHEREVER PRACTICAL, TO REDUCE MAGNETIC COUPLING, THESE FACILITIES MUST CROSS AT A 90° ANGLE WHILE MAINTAINING A MINIMUM 12" VERTICAL SEPARATION.
- ⑫ COAX GROUNDING KITS - USE INDIVIDUAL "LISTED" GROUNDING KITS FOR EACH COAX CABLE. BOND TO TOWER BONDING BUS BAR WITH #2 STRANDED INSULATED WIRE WITH 2 HOLE CRIMPED CONNECTIONS.
- ⑬ GROUNDING BUS BAR KIT - THE GROUNDING BUS BAR AND ATTACHMENT KIT MUST BE DIRECTLY BOLTED TO THE TOWER STRUCTURE WITHOUT ELECTRICAL INSULATORS.
- ⑭ ICE BRIDGE BONDING - THE ICE BRIDGE SHOULD NOT BE BONDED TO THE TOWER STRUCTURE! IT SHOULD ONLY BE BONDED AT EACH SUPPORT LEG TO GROUND RING AND AT ONE END TO THE ENTRANCE BULKHEAD. USE #2 STRANDED INSULATED WIRE WITH 2 HOLE CRIMPED CONNECTIONS.
- ⑮ RADIO BAY TO COAX BULKHEAD BOND - THIS IS THE ONLY CABINET TO GROUND BOND WIRE ATTACHED TO THE RADIO BAY! USE #2 STRANDED INSULATED WIRE WITH 2 HOLE CRIMPED CONNECTIONS OR A 3" COPPER STRAP.
- ⑯ RADIO BAY ISOLATION KIT - CONTACT RADIO EQUIPMENT SUPPLIER FOR SPECIFICATION AND INSTALLATION PROCEDURES.

GROUNDING SYSTEM NOTES

22x34 SCALE: NTS 11x17 SCALE: NTS



NOT USED

22x34 SCALE: NTS 11x17 SCALE: NTS

4 GROUND INSPECTION WELL

22x34 SCALE: 1/2" = 1'-0" 11x17 SCALE: 1/4" = 1'-0"

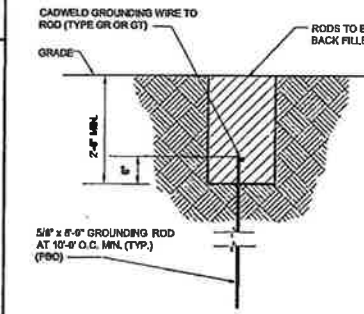
3 FENCE GROUNDING

22x34 SCALE: NTS 11x17 SCALE: NTS

FENCE GROUNDING

22x34 SCALE: NTS 11x17 SCALE: NTS

NOTE: ELECTRICAL CONTRACTOR SHALL ORDER INDEPENDENT LAB TEST TO DETERMINE GROUND RESISTANCE AND REPORT TO AT&T REPRESENTATIVE. NOTIFY AT&T IMMEDIATELY IF RESISTANCE EXCEEDS 5 OHMS. ELSE, CONTRACTOR SHALL DETERMINE FROM TEST NUMBER OF RODS REQUIRED, COVER AND WELL ON DWG. 1 IS TYPICAL OF (1) ROD. ALL OTHER RODS REQUIRED ARE TO BE BACK FILLED.



2 GROUND ROD (TYP)

22x34 SCALE: NTS 11x17 SCALE: NTS



PROJECT CONSULTANTS:



PLANS PREPARED BY:



PROJECT INFO:

PL52
SHERWOOD SOUTH
15288 SW DIVISION STREET
SHERWOOD, OR 97140
WASHINGTON COUNTY

ISSUED FOR:

80% PCD'S

REV: DATE: DESCRIPTION: BY: CK:

07-28-10	ISSUED FOR 80% PCD'S	BMH MWO
05-04-10	CD'S FOR CLIENT REVIEW	AJB MWO

DRAWN BY: CHK: APV:

AJB MWO MWO

CURRENT ISSUE DATE:

07-28-10

LICENSURE:



DRAWING INFORMATION:

DO NOT SCALE DRAWINGS. CONTRACTOR MUST VERIFY ALL DIMENSIONS AND ADVISE CONSULTANTS OF ANY ERRORS AND OMISSIONS. ALL PREVIOUS EDITIONS OF THIS DRAWING ARE SUPERSEDED BY THE LATEST REVISION. THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN WHICH IS RELATED TO THE PROJECT IS STRICTLY PROHIBITED.

DRAWING TITLE:

GROUNDING DETAILS AND NOTES

DRAWING NUMBER:

E-3.2

0

CELL JOB NUMBER: 10-66007