

MONTGOMERY COUNTY PLANNING COMMISSION

April 13, 2011 @ 7:00 P.M.

Board Room, Government Center

A G E N D A

CALL TO ORDER:

DETERMINATION OF A QUORUM:

APPROVAL OF AGENDA:

PUBLIC ADDRESS:

PUBLIC HEARINGS:

1. A request by **Chad and Lisa Vaught (Agent: Rich Rosenfeld)** for a Special Use Permit on approximately 17.193 acre parcel in an Agriculture A-1 zoning district to allow a 100 ft. telecommunications tower. The property is located at 3153 Pandapas Pond Road, known as the Fountain Mobile Home Park, approximately 2300 feet west of the intersection of Pandapas Pond Rd. (Route 460) and Brush Mountain Rd. (Route 777), and is identified as Tax Parcel No. 29-A-49 (Acct #020041) in the Prices Fork Magisterial District (District F). The property currently lies in an area designated as Residential Transition in the 2025 Comprehensive Plan.
 - A. Staff Presentation (Jamie MacLean)
 - B. Applicant Presentation
 - C. Public Comment
 - D. Discussion/Action

2. An ordinance amending Chapter 10, entitled Zoning, Section 10-52 (3) (b) of the Code of the County of Montgomery, Virginia, by deleting the requirement that a person applying to the Board of Supervisors, Planning Commission or Board of Zoning Appeals on a planning or zoning matter shall post a placard notice notifying the public of the place and time of a public hearing regarding the property.
 - A. Staff Presentation (Dari Jenkins)
 - B. Public Comment
 - C. Discussion/Action

OLD BUSINESS:

- A request by Huckleberry Ridge, LLC (Agent: Bluestone Land, LLC) for rezoning of approximately 48 acres from Agriculture (A1) to Residential Multi-family (RM-1) to allow 388 multi-family residential dwellings and approximately 15 acres from Agriculture (A1) to Residential (R3), with possible proffered conditions, to allow 40 lots for single/two-family residential dwelling units. The property is located south east of the intersection of Merrimac Road (Rte.657) and Hightop Road (Rte. 808) and is identified as Tax Parcel Nos. 66-A-91, 92, 67-A-229, & 067-A-42 (Acct # 010584, 010585, 035616, & 010583) in the Prices Fork Magisterial District (District E). The property currently lies in an area designated as Urban Expansion in the Comprehensive Plan with a gross density of four (4) dwelling units per acre.
 - A. Staff Presentation (Steven Sandy)
 - B. Applicant Presentation
 - C. Discussion/Action

NEW BUSINESS:

WORKSESSION:

- Sign Ordinance Amendments (Brea Hopkins)
- Prices Fork Elementary Safe Route To Schools Radford University Project (Brea Hopkins)

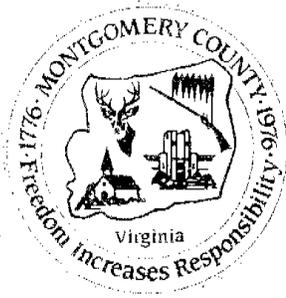
ADDITIONAL ITEMS:

- NRV PDC Training April 27th 6:00-9:00 pm

MEETING ADJOURNED:

UPCOMING MEETINGS:

- | | |
|----------------|---|
| April 20, 2011 | Planning Commission Site Visits (To be determined)
Planning Commission Regular Meeting |
| April 27, 2011 | Planning Commission Annual Training Event
NRV Planning District Commission, Fairlawn (6:00-9:00pm) |
| May 11, 2011 | Planning Commission Public Hearing (7:00 pm) |
| May 18, 2011 | Planning Commission Site Visits (To be determined)
Planning Commission Regular Meeting |



MONTGOMERY COUNTY PLANNING & GIS SERVICES

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

TO: Planning Commission

FROM: Planning Staff *JLM*

DATE: April 6, 2011

RE: **Staff Analysis (SU-2011-08656)**

A request by **Chad Lyn and Lisa Lynn Vaught (Agent: Rich Rosenfeld)** for a Special Use Permit on approximately 17.193 acres in an Agriculture A-1 zoning district to allow a 100 ft. telecommunications tower. The property is located at 3153 Pandapas Pond Road, known as the Fountain Mobile Home Park, approximately 2300 feet west of the intersection of Pandapas Pond Rd. (Route 460) and Brush Mountain Rd. (Route 777), and is identified as Tax Parcel No. 27-A-49 (Acct #020041) in the Prices Fork Magisterial District (District F). The property currently lies in an area designated as Residential Transition in the 2025 Comprehensive Plan.

I. Nature of Request

Chad Lyn and Lisa Lynn Vaught (Agent: Rich Rosenfeld) are requesting a special use permit to allow a 100 ft. telecommunication tower in an Agricultural (A-1) zoning district. This request is made on behalf of AT&T to improve coverage and call carrying capacity along this portion of Route 460. More detailed information on proposed coverage area is depicted in maps submitted by the applicant on February 28, 2011.

II. Location

The property is located at 3153 Pandapas Pond Road, known as the Fountain Mobile Home Park, approximately 2300 feet west of the intersection of Pandapas Pond Rd. (Route 460) and Brush Mountain Rd. (Route 777), and is identified as Tax Parcel No. 27-A-49 (Acct #020041) in the Prices Fork Magisterial District (District F). The property currently lies in an area designated as Residential Transition in the 2025 Comprehensive Plan.

The parcel is bordered on the north by Pandapas Pond Rd. (Route 460) and Brush Mountain Estates Subdivision Phase I. The subject parcel is bordered to the south by Brush Mountain Road (Route 777) and to the east by a Residential (R-2) zoned parcel, and to the west by a parcel zoned Rural Residential (RR). (see attached zoning map).

III. Impacts

The impacts associated with this request for approval of a 100 ft. telecommunications tower and lightning rod, are discussed below.

Traffic

Traffic for the site is expected to be limited to one trip per month, except in the case of an emergency, after construction of the tower is completed. AT&T plans to access the tower site via an existing private entrance from Pandapas Pond Rd. (Route 460). VDOT has stated that no entrance upgrades will be required, as long as the existing entrance is utilized. If traffic becomes more intense or another entrance is requested at a later date, VDOT will need to review and approve any proposed changes.

FAA Report

The FAA report has been received by staff and the tower at the proposed height of 100 ft. was determined to pose no hazard to air navigation. Virginia Tech Airport officials stated on March 13, 2011 that the airport is satisfied with the FAA's determination. While the subject property is not within the Airport Notification Area; the Virginia Tech Airport has received notification of this application.

NEPA Report

The FCC NEPA Environmental Report has been received by staff. The report concluded that no evidence was found that indicated adverse environmental impacts or effects, as defined in the FCC Rules in 47 CFR Sections 1.1301 through 1.1319, may result from the proposed tower construction.

Historical Structures

The applicant has submitted information from the Environmental Corporation of America which states that there are no historic properties in area that will be detrimentally affected by the proposed tower. Additionally within 4,000 ft. of the proposed tower site staff has identified, through IGIS data, no known properties with structures of historical significance.

Noise

According to the applicant's agent, the level of noise generated by this use will be limited to noise associated with a generator and air cooling units.

Visual Impacts

There will be no lighting mounted on the tower unless required by FAA. The tower is proposed to be a monopole structure with flush-mounted antennas for the tower. The applicant has stated that collocation opportunities will exist for Montgomery County Emergency

Services as well as additional cellular providers. It is unclear how many additional cellular providers could collocate on the proposed tower.

While the applicant has proposed rubberized coated fencing and tree plantings, it may be prudent to consider additional landscaping and a wooden privacy fence to further mitigate the view of the base of the tower for the park residents, due to the close proximity of the tower to dwelling units in the park. The applicant has expressed willingness to provide additional landscaping and a wooden privacy fence if required as a condition of this application's approval.

The applicant has proposed to paint the tower in a "neutral color" to help it to blend with the color of the surrounding trees. The parcel where the proposed tower will be located is approximately 17.193 acres, in an area with a moderate vegetative buffer. The applicant's agent has indicated that some thinning of the existing vegetative buffer will be necessary to construct the tower; therefore the applicant is proposing a nine foot (9) high chain link privacy fence with rubberized coating and heavy landscaping to screen the base of the tower and ground equipment. In the submitted plans on page L-1, the applicant proposes nineteen (19) white pines, spaced eight (8) feet apart at the time of planting. The proposed lease area is approximately 20' x 50' for a total of 1000 sq. feet. AT&T intends to fence 20' x 50' (1000 sq. ft.) of the proposed lease area.

Tower Height

A view shed analysis of the proposed tower location has been performed using the County's LIDAR data and digital imagery. This information will be shown electronically at both public hearings. A view shed analysis of the proposed tower at eighty (80') feet and one hundred (100') feet is enclosed for review.

Exploration of Collocation Possibilities

The applicant has stated that AT&T has searched extensively in this portion of the county to find suitable collocation facilities; however none were found that provided the coverage needed. A nearby 45' water tank was evaluated, but failed the radiofrequency test because it was too low. Existing power poles in the vicinity were also evaluated; however members of the Coal Bank Ridge Subdivision objected and the poles were located within the subdivision's conservation easement area.

Staff also asked the applicant why the clearing on the western side of the park, farther away from the homes, was not a feasible location for the tower. The applicant stated that they started at the location on the western side, but after performing a drive test the data showed that the tower needed to be moved closer to Pandapas Pond Rd (Route 460). The applicant stated that the reason the proposed location was changed was because the natural topography did not allow the antennas to meet the coverage objective.

IV. Comprehensive Plan

The specific location of the proposed tower is in the northwest portion of a moderately wooded portion of the Fountain Mobile Home Park owned by Chad and Lisa Vaught, zoned A-1 and designated as Residential Transition in the Comprehensive Plan. The proposed tower will be a "new build" rather than a co-location. The Comprehensive Plan encourages co-location on existing communications, tall buildings, water tanks, etc. UTL 2.2.1 provides further guidance on the topic of co-location.

UTL 2.2.1 Co-location: Support the siting of new antennae, microwave dishes, etc. on existing structures such as existing communication towers, tall buildings, water tanks, electric transmission towers, signs, etc. This allows for the "highest and best" use of existing structures and sites that could eliminate the need for construction of a new tower structure in an inappropriate area.

In 2001, Montgomery County, along with neighboring jurisdictions, adopted the Regional Approach to Telecommunications Towers. In October 2004, Montgomery County adopted a more detailed approach which applied the 2001 hierarchical framework to the new future land use categories as specified in UTL 2.2.2 Uniform Approach to Siting of New Towers.

UTL 2.2.2: Siting of new communication towers in a jurisdiction should be reviewed for their potential effects on surrounding jurisdictions as well as the jurisdiction in which the structure is to be located. Newly constructed towers should be built in locations that will provide the least negative impact to the citizens of each jurisdiction. Montgomery County encourages the use of monopole and/or "stealth towers" for new sites that require new construction or "new builds". The following locations are listed from most to least preferable when considering the siting of communication towers:

- A. Industrial parks (Urban Expansion, Village Expansion, and Villages);
- B. Industrial zoned lands (Urban Expansion, Village Expansion, and Villages);
- C. Commercially zoned lands (Urban Expansion, Village Expansion, and Villages);
- D. High density residential lands (Urban Expansion, Village Expansion, and Villages);
- E. Non-ridge, wooded lands (Rural/Resource Stewardship);
- F. Non-ridge, open lands (Rural/Resource Stewardship);
- G. Medium density residential lands (Village Expansion and Villages);
- H. Medium density residential lands (Residential Transition);**

- I. Medium density residential lands (Rural and Rural Communities);
- J. Low density residential lands (Resource Stewardship);
- K. Ridgeline Lands (Resource Stewardship)
- L. Historic Lands/Districts (Villages)

Based on a preliminary review of the application materials, the proposed tower location would be characterized as a "Location H" since the parcel is designated Residential Transition in the Comprehensive Plan.

V. Analysis

According to Montgomery County Code Section 10-28(4)(u), a freestanding telecommunications tower may be permitted by the Board of Supervisors as a special use, subject to the requirements of Chapter 10-28 and all other applicable regulations.

This request presents a need to balance the aesthetic desires of citizens with the need for adequate cellular telephone coverage in the County. If the need for a new tower in this area is determined, the Planning Commission and Board of Supervisors must try to mitigate negative impacts for the newly constructed tower to comply with the County's policy on communications towers.

There are several ways in which to mitigate the visual impacts of the structure. The ordinance currently requires the structure be non-reflective or painted with a neutral paint to be less visible. The antennae can be mounted inside the tower or "flush mounted" on the tower. Conditions must be placed on the Special Use Permit (SUP) to ensure the least visual impact is achieved. AT&T proposes to construct a monopole tower and paint the tower a "neutral color" to decrease the visibility of the structure. AT&T has also proposed flush mounted antennas.

Careful consideration should be given to the proposed height of the structure as height will affect visibility. A balloon test was not conducted as part of this application. These tests help demonstrate the location and provide a visual indication of the proposed structure at the proposed height of 100 feet. Photo simulations were provided by the applicant to provide a visual representation of the possible affect of the tower.

Also, it appears the proposed lease area and tower will be less than 100 feet from the nearest dwelling unit on the property. If possible, it may be advantageous for the tower to be engineered to have a fall radius ("fall zone") not to exceed 45 feet, and have the proposed fall zone shown on the final site plan. The applicant has stated that when the tower is ordered it can be engineered to have a fall radius that does not exceed 45 feet.

The Emergency Services Coordinator has reviewed the application and requested that space be made available on the tower for police, fire and rescue services equipment if needed. The Emergency Services Coordinator has also requested that EMS equipment be permitted to be stored inside the fenced area, in an existing building.

Staff received written correspondence from The Town of Blacksburg Planning Commission on April 6, 2011 relaying concerns about the effect of the proposed tower on the ridgeline and view sheds in the area. A copy of the letter sent by the Town of Blacksburg Planning Commission is attached.

At the time this report was issued, the Planning and GIS Services had not received any inquiries from adjoining property owners or other interested parties. All adjoining property owners were notified in compliance with the Code of Virginia and Section 10-52(3) of the Montgomery County Code. Adjacent property owners and/or other interested parties may also be present at the public hearing to present their views on this request.

VI. Staff Recommendations

Planning staff preliminarily recommends approval of this request as submitted by the Chad and Lisa Vaught (Agent: Richard Rosenfeld-AT&T). Planning staff has drafted conditions consistent with previous telecommunication site approvals in an attempt to balance the need for wireless service in the area with the policies of the Comprehensive Plan and view sheds in the area.

1. Tower shall not exceed a total overall height of 100 feet inclusive of the proposed lightening rod. Tower shall not have lighting unless required by the FAA.
2. Site development shall be in substantial conformance with the plans entitled, "Site Name: US 460 and SR778, Site No: R0500G" prepared by BC Architects & Engineers revised March 3, 2011. Additionally, the tower shall be setback to comply with section 10-22(6)(b) of the Montgomery County Code, which requires a minimum setback of 100 feet from all property lines. The landscaping at the base of the tower shall comply with page L-1 of the concept plans and shall comply with section 10-43 of the Montgomery County Code, and be completed within 60 days of the issuance of the zoning permit.
3. AT&T shall access the site using the existing entrance off of Pandapas Pond Rd (Route 460) through the existing mobile home park. Any change in access to the site shall require further review by VDOT.
4. Tower shall be of a "monopole stealth design" and all antennae shall be flush mounted (distance between face of tower and outer face of antennas not to exceed 12 inches) on the structure. Tower, antennas, and all associated ground equipment shall be painted brown (Umbra). All wiring and cables shall be located inside the tower structure.
5. Existing site vegetation shall not be cleared beyond the proposed lease area, except for that necessary for construction of an entrance road and utilities.
6. Engineering plans signed and sealed by a licensed engineer in the State of Virginia shall be submitted to and approved by the Building Official prior to issuance of a building permit.

7. No platforms or dishes shall be permitted on the structure above the tree line.
8. Tower shall meet all regulations found in Section 10-48(6) of the Montgomery County Zoning Ordinance.
9. Backup generator, if applicable, shall not be fueled by any liquid fuel source.
10. Owner/agent shall provide police, fire and rescue services antennae space on the proposed tower for the agreed upon rental rate of \$1 per year subject to the structural capacity of the tower and provided that emergency service antennae do not provide radio frequency interference to other antennae located upon the tower. Emergency service providers shall provide equipment. Tower owner/agent shall install the antennae at market rate.
11. The second highest space on the tower shall be made available to the County. In the event that Montgomery County has not used this space and another cellular carrier wishes to co-locate on the same tower, the tower owner shall give the Montgomery County Administrator fourteen (14) days notice by Certified Mail of their intent to occupy this location.
12. The proposed 20' x 50' (1000 sq. ft.) lease area shall be surrounded with a nine foot (9) high wooden stockade privacy fence and landscaping, as shown on page L-1 of the concept plans to screen the base of the tower and ground equipment.
13. The Tower shall be engineered to have a fall radius ("fall zone") not to exceed 45 feet. The fall zone shall be shown on the final site plan. Prior to the Board of Supervisors making their decision, the applicant shall provide to Planning Staff a letter from the applicant's engineer stating the Tower will be engineered to have a fall radius ("fall zone") not to exceed 45 feet.

Enclosures: Current Zoning Map
Aerial Photo Map
Application materials
Photo Simulations
LIDAR Data and Digital Imagery
Town of Blacksburg Correspondence, dated April 1, 2011



**AT & T/Hicks/Vaught
Request
For
Special Use Permit**

Parcel ID(s): 020041

Legend

- State Roads
- Interstate Highway
- Private Roads (Mined)
- Planned Highway
- Railroad
- Hydrology
- Tax Parcels
- Subject Property (AT/Hicks/Vaught)



Montgomery County, Virginia
 Planning & GIS Services
 10000 Old Dominion Blvd., Suite 100
 Fairfax, VA 22031
 (703) 261-1000
 www.montgomerycountypa.com

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Prepared by Montgomery County, Va
 Planning & GIS Services, 3/8/2011





Application to Planning Commission and Board of Supervisors

Application For: (check appropriate boxes)	
<input type="checkbox"/> Rezoning	<input type="checkbox"/> Rezoning & Special Use Permit
<input checked="" type="checkbox"/> Special Use Permit	<input type="checkbox"/> Comprehensive Plan Amendment
Applicant Information:	
Property Owner: <u>Chad Vaught</u>	Agent: <u>Richard Rosenfeld</u>
Address: <u>P.O. Box 662</u> <u>Christiansburg VA 24068</u>	Address: <u>501 Bishop's Ridge Pkwy</u> <u>Blowing Rock NC 28605</u>
Phone 1: <u>540-381-6452</u>	Phone 1: <u>704-905-4585</u>
Phone 2: _____	Phone 2: _____
Email: <u>LLVCLV@Yahoo.com</u>	Email: <u>rrosenfeld@wirelessllc.com</u>
Location of Property: <u>3151 Pandapas Pond Rd.</u>	
Legal Record of Property: Total Area: <u>17</u> Acres Magisterial District _____	
Account ID: <u>020091</u>	Tax Parcel Number(s): <u>027-A49</u>
Rezoning Details: Current Zoning District: _____ Requested Zoning District: _____	
Desired Use(s): <u>NA</u>	
Special Use Permit: Current Zoning District <u>A2</u> Total Area: <u>17</u> Acres	
Desired Use(s): <u>New Telecommunications Tower and wireless facilities related equipment.</u>	
Comprehensive Plan Amendment(Description): _____	
<p><i>I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.</i></p>	
<u>Lisa Vaught</u> Property Owner's Signature	<u>Richard Rosenfeld</u> Agent's Signature
_____ Date	<u>2-23-11</u> Date

FOR OFFICE USE ONLY

Application Number: _____

Date Received: _____ Fee Paid: _____ Reviewed by: _____

GENTRY LOCKE
RAKES & MOORE^{LLP}
Attorneys

G. Michael Pace, Jr.
(540) 983-9312
mike_pace@gentrylocke.com

Facsimile 540-983-9400
Post Office Box 40013
Roanoke, Virginia 24022-0013

March 1, 2011

Steven M. Sandy, AICP, CZA
Director
Montgomery County Department of Planning
& GIS Services
755 Roanoke Street, Suite 2A
Christiansburg, Virginia 24073-3177

Re: AT&T Mobility ("AT&T")
Application for Special Use Permit
3153 Pandapas Pond Road, Blacksburg, Va. 24060
Chad and Lisa Vaught
Tax Map Parcel No. 27-A 49 – 17.1 Acres
Prices Fork Magisterial District

Dear Steve:

Enclosed is the application for Special Use Permit and Justification together with supporting information, filed by AT&T for a new 100 foot wireless telecommunications facility on the Vaught property in the Prices Fork Magisterial District on Pandapas Pond Road (Route 460) near Brush Mountain Road.

AT&T proposes to construct and operate a wireless telecommunications facility in an existing wooded area of the A-1(Agricultural) zoned property. The proposed wireless telecommunications facility will consist of the one hundred foot monopole, which will be painted "umbra," along with associated ground equipment cabinets. The monopole will have flush mounted antennas, also painted "umbra," and would not (a) have a demand on public services or utilities, (b) change the character of the zoning district, or (c) adversely affect the similarly zoned adjacent properties. There will be no advertising of any kind on the tower, and no lighting unless required by the FAA. AT&T agrees to permit future collocation, to promptly remove the tower upon abandonment and to comply with all FAA requirements.

In addition to meeting all applicable standards for telecommunications towers, AT&T's proposed facility satisfies the requirements of the Montgomery County Zoning Ordinance, and is consistent with the policies of the County's Comprehensive Plan as noted in the Justification.

GENTRY LOCKE
RAKES & MOORE^{LLP}

February 22, 2011
Page 2

This site is located in a "Residential Transition" land use planning area, which is included in Category "H" – (Medium Density Residential Lands-Residential Transition) under UTL 2.2.2 of the County's Comprehensive Plan.

The enclosed propagation maps demonstrate the need for coverage in this area. AT&T looked extensively in this part of the county for suitable structures on which to collocate its antennas and found none which would provide the coverage needed. AT&T evaluated a nearby private 45' water tank on which to collocate its antennas, however this site failed the radiofrequency drive test because it is too low. Existing power poles in the area were also evaluated, but members of the Coal Bank Ridge Subdivision objected and the poles were located within a conservation easement area.

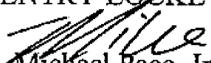
The proposed site provides a solution to improve wireless communications network coverage and capacity needs for AT&T's customers with minimal impact on the view shed or surrounding properties. Improving AT&T's documented lack of coverage in this area will also improve the welfare, safety and convenience of the County's residents, visitors, and travellers along this portion of Route 460.

Approval of AT&T's request is vital to AT&T providing state-of-the-art wireless communications coverage and capacity to handle call volume in this area. We therefore ask that you favorably evaluate this application, that the Planning Commission recommend approval to the Board of Supervisors, and that the Board of Supervisors grant a Special Use Permit for the proposed 100' monopole to allow AT&T to improve its service in this part of Montgomery County.

If we can provide you with any additional information or if you have any questions, please let me know.

Very truly yours,

GENTRY LOCKE RAKES & MOORE, LLP


G. Michael Pace, Jr.

GMP:jpd
Enclosures
Cc: Rich Rosenfeld
Dari Jenkins
Jamie McLean

**AT&T MOBILITY
(AT&T)
SPECIAL USE PERMIT JUSTIFICATION
RO500G – PANDAPAS POND
3153 PANDAPAS POND ROAD
BLACKSBURG, VIRGINIA 24060
TAX MAP NO. 027-A-49
PARCEL IDENTIFICATION NO. 020041**

In accordance with the provisions of Section 10-28(4)(s) of the Montgomery County Zoning Ordinance, AT&T requests a Special Use Permit to construct a 100' monopole telecommunications facility, including the installation of antennas and an equipment shelter within a 20'x 50' leased/fenced area located on the subject property which is zoned A-1 (Agricultural).

The proposed site is located in an existing wooded area with a natural vegetative buffer. The compound will be surrounded by a 9' security fence to further shield the bottom portion of the tower and the ground equipment cabinets from view. The monopole and antennas will be painted "umbra", a neutral color which will further decrease their visibility. AT&T will remove as little of the existing tree cover and vegetative buffer as possible during construction. The proposed site has been designed to meet all lot size and setback requirements. (front-40'; rear-40'; side-15').

The proposed 100' monopole will allow for the possible collocation of one other carrier and Montgomery County Emergency Services.

AT&T will comply with all regulations concerning telecommunications towers required by Section 10-48(6)(a-f) of the Montgomery County Zoning Ordinance. In addition to these conditions, AT&T will not place advertising on the tower, agrees to promptly remove the monopole upon abandonment, and agrees to comply with the applicable FAA regulations pertaining to the Virginia Tech Airport.

AT&T evaluated several existing structures and other locations, and this site is the only one that will meet AT&T's desired coverage objectives for its customers. The following were evaluated and were determined by AT&T's radiofrequency engineers not to satisfy the coverage objectives, or were unavailable for lease:

- **AT&T researched the possibility of collocating on a private water tank near Brushy Mountain subdivision area, but found it to be too low.**
- **AT&T attempted to collocate on existing power poles near the Coal Bank Ridge Subdivision, but members of the subdivision objected, and the poles were located within a conservation easement area.**

Site plans and construction drawings have been prepared and are attached as part of this submittal package. Additionally, propagation maps, photo simulations, NEPA, SHPO, and FAA reports are attached.

COMPREHENSIVE PLAN JUSTIFICATION:

The property is designated "Residential Transition" in the County's Comprehensive Plan. These are generally stable, low density residential neighborhoods in close proximity to Municipalities and Urban Expansion or areas of higher density residential development outside of Villages, Village Expansion Areas and Rural Communities. The areas include undeveloped land that has been previously zoned for residential development, with limited public sewer and/or water service to these areas (PLU 1.5).

Significantly, the County encourages the enhancement and, where appropriate, the expansion of existing community facilities that serve a regional need in "Residential Transition" areas (PLU 1.5.3).

The proposed use is entirely consistent with properties in a Residential Transition area. Facilities like the one proposed by AT&T support existing and future residential development by providing continuous, uninterrupted wireless telecommunications for residents, tourists, motorists, businesses and economic development as a matter of public convenience, safety and necessity.

UTL 2.2.2 contains the policy for a regional and uniform approach to siting of new telecommunication towers. It sets out a list of locations from most to least preferable (A-L) when considering appropriate placement of these facilities. The property proposed by AT&T for its monopole facility is considered by the County to be in category "H" (Medium Density Residential Lands-Residential Transition).

This proposed use is also consistent with the A-1 Agricultural zoning designation. This district is comprised of portions of the County where agriculture, forest and open space uses predominate, as well as low density residential development. The subject property is surrounded by similarly zoned parcels.

Wireless telecommunications service is institutional in nature, similar to other services provided to the citizens. It is not an intensive use, is compatible in scale with this rural residential part of the County. The proposed use poses no meaningful threat of any type to public health, safety or welfare. In fact, it promotes and is supportive of the public's interest by providing a reliable means of communication for the citizens in the area, outdoor enthusiasts, and anyone living and working in the area, particularly in the event of an accident or emergency. Wireless telecommunications facilities are quiet, peaceable and very helpful neighbors and they provide a significant and often overlooked public safety benefit to residents, tourists, sportsmen and promotes economic development.

RO500 Additional Special Use Permit Requirements

1. Whether the proposed Special Use Permit is consistent with the Comprehensive Plan (Addressed under "3. Comprehensive Plan Justification").

Refer to cover letter

2. Whether the proposed Special Use Permit will adequately provide for safety from fire hazards and have effective measures of fire control.

AT&T will provide for adequate and effective measures of fire control on site, including participation in the County's E911 system. All AT&T telecommunication towers are constructed with fire proof fire retardant materials.

3. The level and impact of any noise emanating from the site, including that generated by the proposed use, in relation to the uses in the immediate area.

The site will include a generator and air cooler units that emit noise no louder than a standard air condition unit for a residential dwelling. This noise will be virtually non-detectible from any adjacent properties.

4. The glare or light that may be generated by the proposed use in relation to uses in the immediate area.

The monopole will not be lit unless required by the FAA. The ground equipment will have either a security motion light, or if preferred by the County, a manual "on/off" switch.

5. The proposed location, lighting and type of signs in relation to the proposed use, uses in the area, and the sign requirements of this Ordinance.

No signs will be placed on the tower or the equipment, other than the hazard sign required by the FCC. The tower will not be lit unless required by the FAA.

6. The compatibility of the proposed use with other existing or proposed uses in the neighborhood, and adjacent parcels.

The proposed use will be compatible with other existing uses on adjacent land, because it supports existing residents and future residential developments by providing the necessary telecommunications services as a matter of public safety, convenience and necessity. Surrounding properties are zoned residential, with very few homes located on them.

7. The location and area footprint with dimensions (all drawn to scale), nature and height of existing or proposed buildings, structures, walls, and fences on the site and in the neighborhood.

The site plan and construction drawings submitted with the application indicates satisfaction of these requirements.

8. The nature and extent of existing or proposed landscaping, screening and buffering on the site and in the neighborhood.

AT&T will screen the ground equipment cabinets with a 9' high privacy fence, and paint the monopole and antennas a neutral color. The tower will be placed within an existing wooded area with natural buffering and screening. If required by the County, additional screening or landscaping may be included.

9. The timing and phasing of the proposed development and the duration of the proposed use.

Once the site has all approvals to move forward with construction, the construction will last only 3 to 4 months. The parcel has been leased for 30 years.

10. Whether the proposed Special Use Permit will result in the preservation or destruction, loss or damage of any topographic or physical, natural, scenic, archaeological or historic feature of significant importance.

The proposed location is not believed to be located in a high impact area. However, to assure this, AT&T has requested a NEPA report and a Phase 1 Environmental Site Assessment from the National Environmental Protection Agency.

11. Whether the proposed Special Use Permit at the specified location will contribute to or promote the welfare or convenience of the public.

The proposed special use will contribute to and promote the welfare and convenience of the public by improving telecommunication service to current and future County residents in the service area and by providing continuous, uninterrupted wireless communications to both residents and others travelling along State [HWY 250] in this part of the County. The proposed use will also provide enhancement for the County's E-911 services.

12. The traffic expected to be generated by the proposed use, the adequacy of access roads and the vehicular and pedestrian circulation elements (on and off-site) of the proposed use, all in relation to the public's interest in pedestrian and vehicular safety and efficient traffic movement.

Construction traffic will be limited in duration to 3-4 months, which will be controlled by posted signs and any VDOT requirements. Thereafter, the traffic will be very minimal, with one vehicular trip per month by a site technician.

13. Whether, in the case of existing structures proposed to be converted to uses requiring a Special Use Permit, the structures meet all code requirements of Montgomery County.

Not applicable

14. Whether the proposed Special Use Permit will be served adequately by essential public facilities and services.

The proposed use will only require telephone and electrical services. It will require no other essential public facilities or services.

15. The effect of the proposed Special Use Permit on groundwater supply.

The proposed special use will not affect ground water supply.

16. The effect of the proposed Special Use Permit on the structural capacity of the soils.

AT&T will have geotechnical soil evaluations done prior to construction and installation of the proposed monopole. No adverse effect on the structural capacity of soils is expected.

17. Whether the proposed use will facilitate orderly and safe road development and transportation.

There is an existing VDOT access road entrance to the mobile home park, VDOT only requires an application for documentation proposes

18. The effect of the proposed Special Use Permit on environmentally sensitive land or natural features, wildlife habitat and vegetation, water quality and air quality.

AT&T will provide a NEPA study, which is expected to show the proposed location is not located in a high impact area.

19. Whether the proposed Special Use Permit use will provide desirable employment and enlarge the tax base by encouraging economic development activities consistent with the Comprehensive Plan.

Expansion of AT&T's network will have a positive and direct effect on employment and economic development opportunities in the County as a result of an expanded customer base and rising demand. Employers and their employees depend on reliable wireless coverage to reach their business objectives. In addition, the County will benefit from taxes on the sale of mobile phones and on rents from land leases for AT&T's wireless facilities located in the County.

20. Whether the proposed Special Use Permit considers the needs of agriculture, industry, and businesses in future growth.

Future residential and business growth in the county will require and be dependent upon wireless communications coverage, which is the purpose of the proposed use.

21. The effect of the proposed Special Use Permit use in enhancing affordable shelter opportunities for residents of the County.

The proposed facility will have no effect on affordable shelter opportunities for residents of the County.

22. The location, character, and size of any outdoor storage.

An outbuilding within the compound will house the electrical equipment that services the tower. There will be no storage.

23. The proposed use of open space.

Because the proposed use is so limited, there will be little, if any, ground area disturbed.

24. The location of any major floodplain and steep slopes.

There are no major flood plains or steep slopes near this facility.

25. The location and use of any existing non-conforming uses and structures.

There are no known existing non-conforming uses or structures.

26. The location and type of any fuel and fuel storage.

AT&T proposes a propane fuel tank placed inside or next to the fenced area, but within the leased area. The facility may require a back up generator.

27. The location and use of any anticipated accessory uses and structures.

The only accessory uses or structures related to this application will be ground equipment cabinets, generator and propane storage tank, and/or any equipment cabinets or shelters of any future collectors or Montgomery County Emergency Services.

28. The area of each use; if appropriate.

The entire facility will be dedicated to communication equipment.

29. The proposed days/hours of operation.

24 Hours Seven Days a Week

30. The location and screening of parking and loading spaces and/or areas.

There will be a turn around spot next to the facility.

31. The location and nature of any proposed security features and provisions:

To provide security, the site will be screened by a 9' high privacy fence. The 12' gate will be locked at all times.

32. The number of employees.

The facility is unmanned, so there will be no employees on site, other than a site technician who will periodically perform preventive maintenance approximately once a month.

33. The location of any existing and/or proposed adequate on and off-site infrastructure.

No on or off-site infrastructure is required for the proposed use.

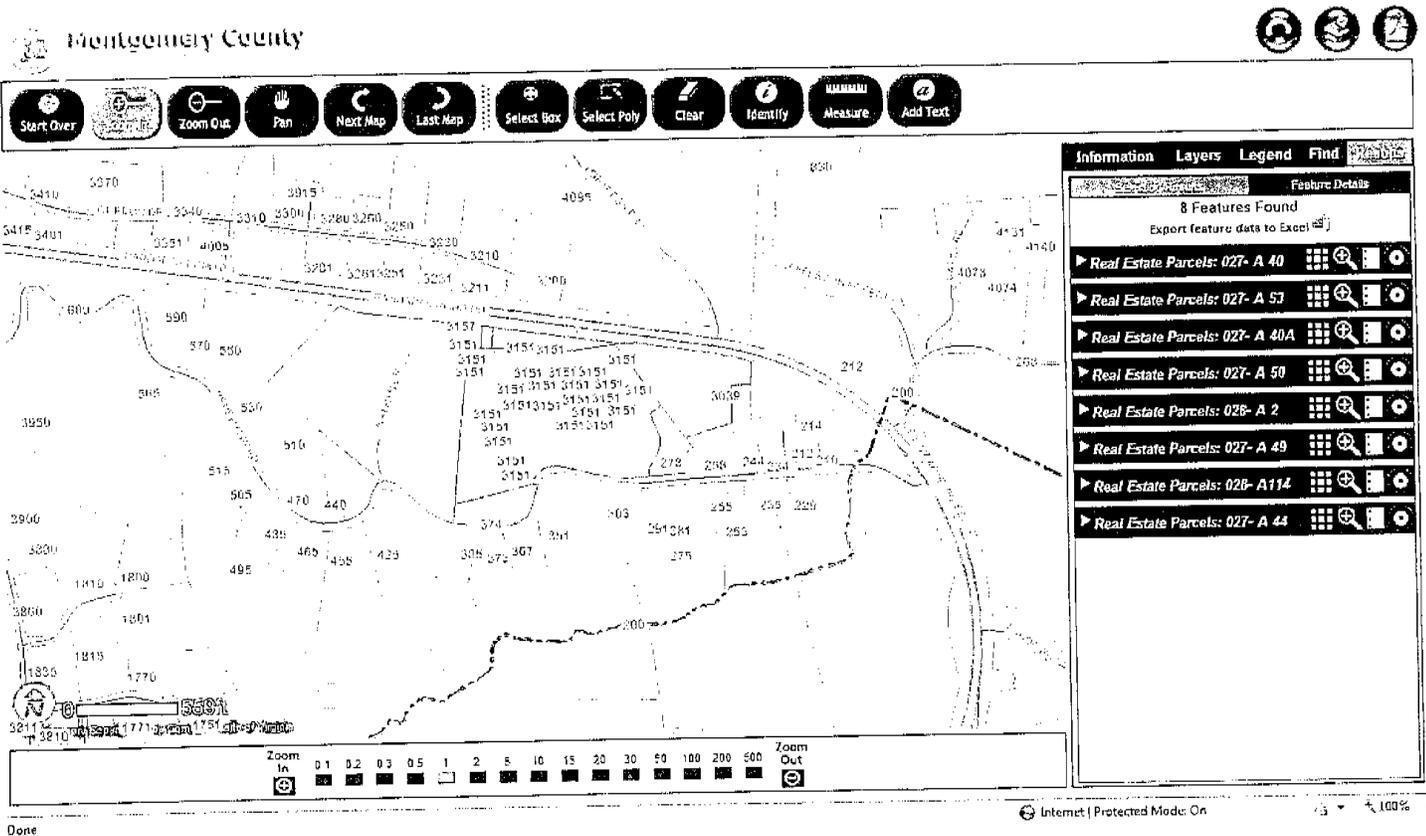
34. Any anticipated odors, which may be generated by the uses on site.

No odors will be generated by uses on site.

35. Whether the proposed Special Use Permit uses have sufficient measures to mitigate the impact of construction traffic on existing neighborhoods and school areas.

There are no existing schools or neighborhoods in the immediate area.

For all of the foregoing reasons, AT&T respectfully requests approval for and the issuance of a Special Use Permit for the proposed [100] monopole at this location.



8 Features Found

Export feature data to Excel

Real Estate Parcels: 027- A 40

Parcel ID	016095
Tax Map ID	027- A 40
Owner 1	BRUSH MOUNTAIN ESTATES LLC
Owner 2	
Site Address	
Community	BLACKSBURG



Federal Aviation Administration
 Air Traffic Airspace Branch, ASW-520
 2601 Meacham Blvd.
 Fort Worth, TX 76137-0520

Aeronautical Study No.
 2010-AEA-4986-OE
 Prior Study No.
 1991-AEA-1696-OE

Issued Date: 01/03/2011

Sherry Provost
 US Cellular Corporation
 288 Route 101, 2nd Floor
 Bedford, NH 03110

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower 789309 Spruce Run
 Location: Newport, VA
 Latitude: 37-17-37.94N NAD 83
 Longitude: 80-31-18.86W
 Heights: 165 feet above ground level (AGL)
 3309 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route.

This determination expires on 07/03/2012 unless:

- (a) extended, revised or terminated by the issuing office.
- (b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates , heights, frequency(ies) and power . Any changes in coordinates , heights, and frequencies or use of greater power will void this determination. Any future construction or alteration , including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact our office at (817) 838-1999. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2010-AEA-4986-OE.

Signature Control No: 134123089-134997690

(DNE)

Debbie Cardenas
Technician

Attachment(s)
Frequency Data

cc: FCC

Frequency Data for ASN 2010-AEA-4986-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
698	806	MHz	1000	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

USHER, DAVID T (ATTCINW)

From: towernotifyinfo@fcc.gov
Sent: Wednesday, September 01, 2010 2:30 PM
To: dtusher@att.com
Subject: Section 106 Notification of SHPO/THPO Concurrence- Email ID #77323

This is to notify you that the Lead SHPO/THPO has concurred with the following filing:

Date of Action: 09/01/2010

Direct Effect: No Historic Properties in Area of Potential Effects (APE)

Visual Effect: No Historic Properties in Area of Potential Effects (APE)

Comment Text: None

File Number: 0004350158

Purpose: New Tower Submission Packet

Notification Date: 7AM EST 08/12/2010

Applicant: AT&T Mobility, LLC

Consultant: Environmental Corporation of America

Site Name: AT&T Site RO500-G (US460 & SR778)

Site Address: 3151 Pandapas Pond Rd

Site Coordinates: 37-16-37.7 N, 80-25-38.9 W

City: Blacksburg

County: MONTGOMERY

State: VA

Lead SHPO/THPO: Virginia Department of Historic Resources

NOTICE OF FRAUDULENT USE OF SYSTEM, ABUSE OF PASSWORD AND RELATED MISUSE
Use of the Section 106 system is intended to facilitate consultation under Section 106 of the National Historic Preservation Act and may contain information that is confidential, privileged or otherwise protected from disclosure under applicable laws. Any person having access to Section 106 information shall use it only for its intended purpose. Appropriate action will be taken with respect to any misuse of the system.

Elisha Seager

From: Tribal Notify [tribal.notify@eca-usa.com]
Sent: Friday, July 09, 2010 5:20 PM
To: Amy Williams; Ben Salter; Dave McGlothlin; Dina Bazzill; Eric Johnson; Grant Burnham; Jaime Destefano; Kim Morley; Landon Abernethy; Mary Seagrave; Matthew Beazley; Michelle Taylor; Steve Bernstein
Subject: FW: Proposed Tower Structure Info - Email ID #2532161

-----Original Message-----

From: towernotifyinfo@fcc.gov [mailto:towernotifyinfo@fcc.gov]
Sent: Friday, July 09, 2010 4:53 PM
To: tribal notify
Subject: Proposed Tower Structure Info - Email ID #2532161

Dear Dina M Bazzill,

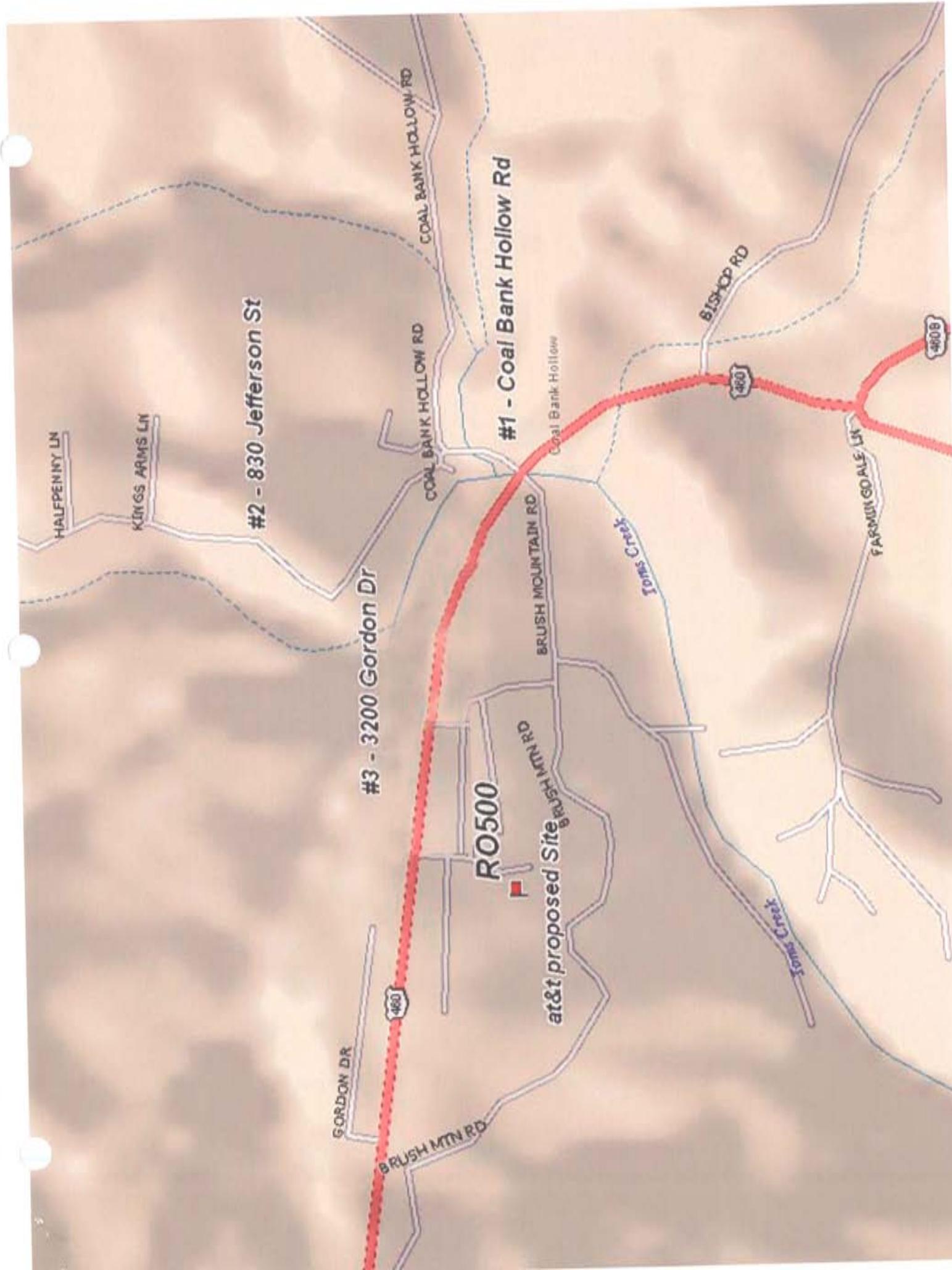
Thank you for submitting a notification regarding your proposed construction via the Tower Construction Notification System. Note that the system has assigned a unique Notification ID number for this proposed construction. You will need to reference this Notification ID number when you update your project's Status with us.

Below are the details you provided for the construction you have proposed:

Notification Received: 07/09/2010

Notification ID: 65582
Tower Owner Individual or Entity Name: AT&T Mobility LLC
Consultant Name: Dina M Bazzill
Street Address: ECA - 1375 Union Hill Industrial Court
Suite A
City: Alpharetta
State: GEORGIA
Zip Code: 30004
Phone: 770-667-2040
Email: tribal.notify@eca-usa.com

Structure Type: POLE - Any type of Pole
Latitude: 37 deg 16 min 37.7 sec N
Longitude: 80 deg 25 min 38.9 sec W
Location Description: 3151 Pandapas Pond Rd
City: Blacksburg
State: VIRGINIA
County: MONTGOMERY
Ground Elevation: 675.7 meters
Support Structure: 30.5 meters above ground level
Overall Structure: 30.5 meters above ground level
Overall Height AMSL: 706.2 meters above mean sea level



HALFPENNY LN

KINGS ARMS LN

#2 - 830 Jefferson St

#3 - 3200 Gordon Dr

GORDON DR

BRUSH MTN RD

RO500

at&t proposed Site

BRUSH MTN RD

BRUSH MOUNTAIN RD

#1 - Coal Bank Hollow Rd

COAL BANK HOLLOW RD

COAL BANK HOLLOW RD

BISHOP RD

460

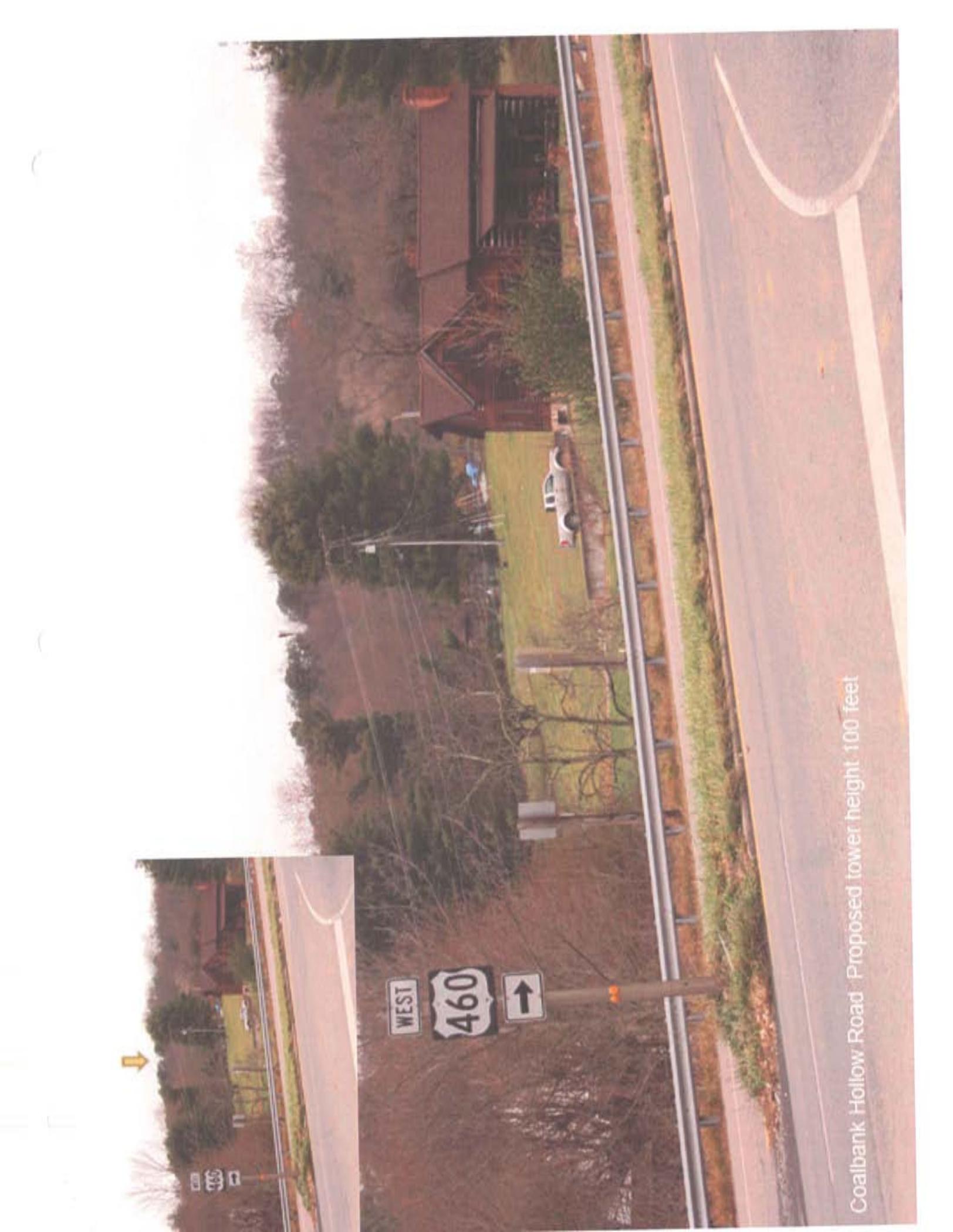
460B

FARMINGTONALE LN

Jones Creek

Jones Creek

Coal Bank Hollow



Coalbank Hollow Road Proposed tower height: 100 feet

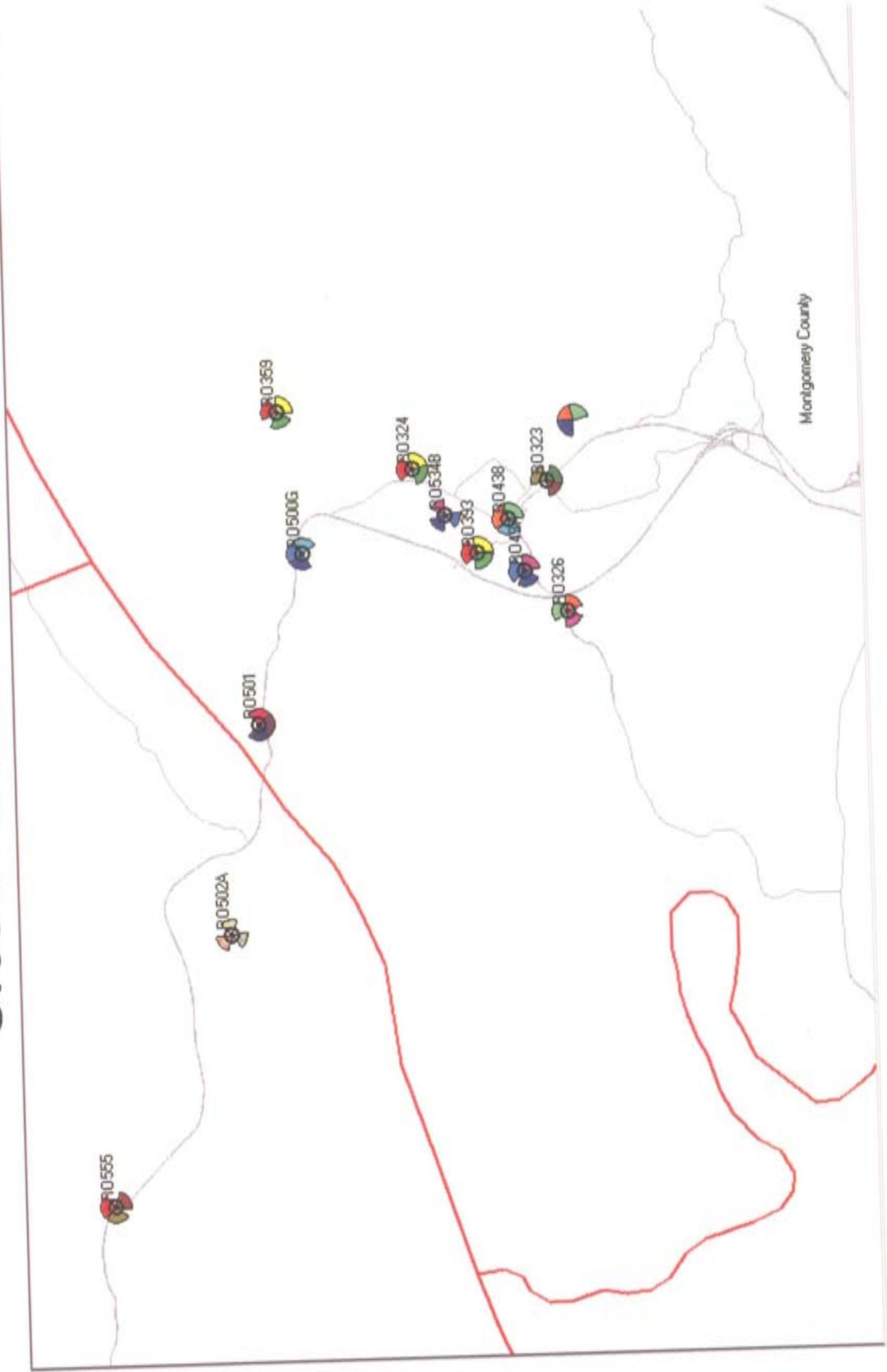


830 Jefferson Street Proposed tower height 100 feet

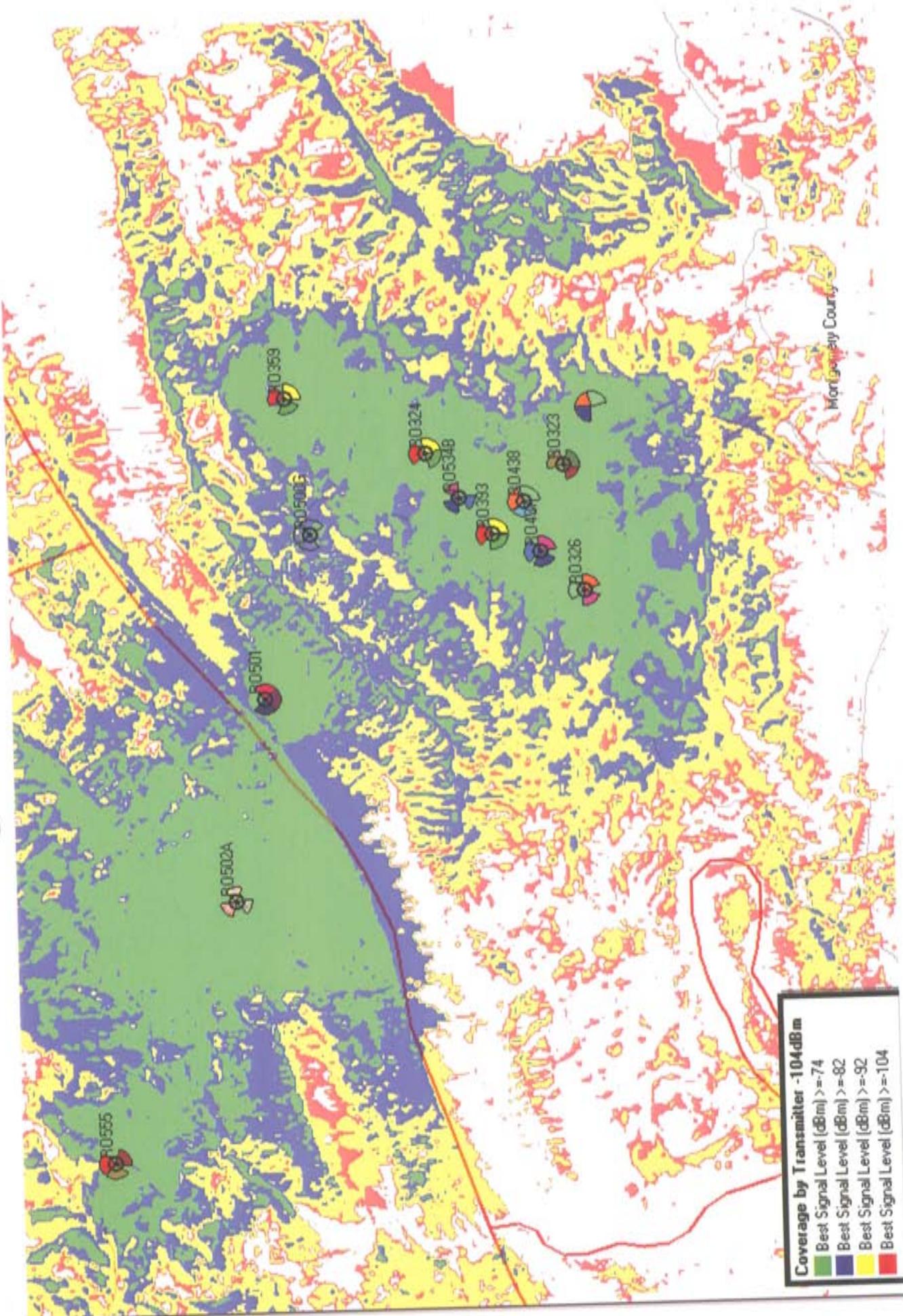


200 Gordon Drive Proposed tower height 100 feet

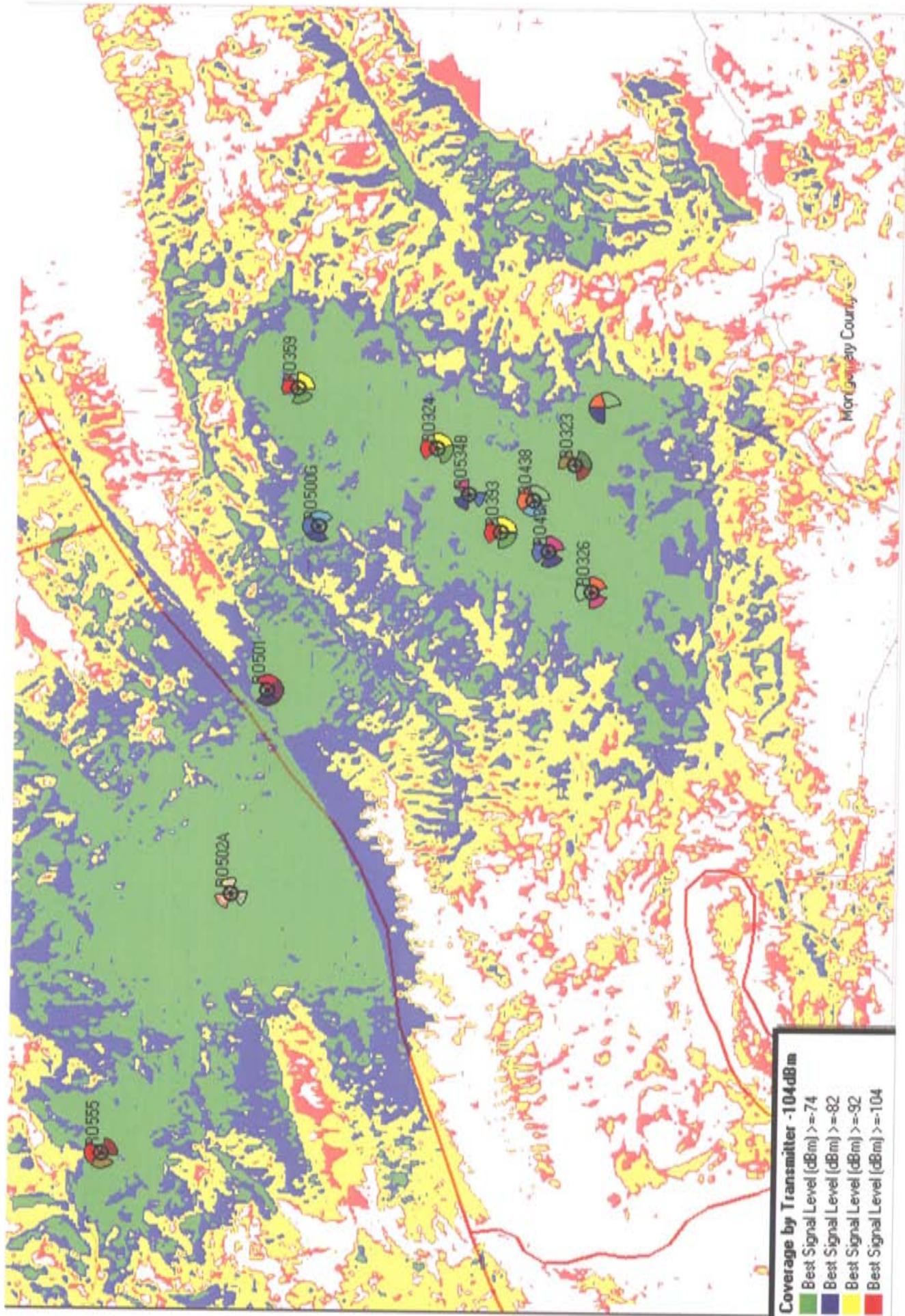
Sites Around RO500



Coverage With RO500 OFF



Coverage With RO500 ON



PROJECT INFORMATION

SCOPE OF WORK: PROPOSED (6) SECTOR ANTENNAS MOUNTED ON A PROPOSED TOWER. EQUIPMENT WILL BE LOCATED AT THE BASE OF THE TOWER ON A SLAB. SITE IS AN UNMANNED TELECOMMUNICATIONS FACILITY.

SITE ADDRESS: 3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

LATITUDE: 37° 16' 37.6508" N
LONGITUDE: 80° 25' 38.9169" W
GROUND ELEVATION: 2217'

JURISDICTION: MONTGOMERY COUNTY

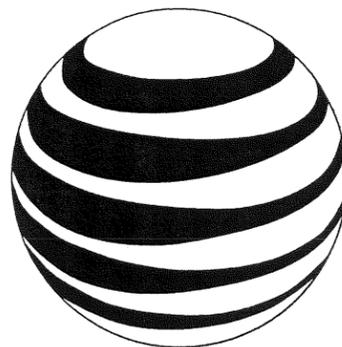
PROPOSED USE: TELECOMMUNICATIONS FACILITY

TOWER OWNER: NEW CINGULAR WIRELESS PCS, LLC

SITE NAME: US460 AND SR778

SITE #: R0500G

NAME OF APPLICANT: NEW CINGULAR WIRELESS PCS, LLC



at&t

SITE NUMBER: R0500G
SITE NAME: US460 AND SR778

UTILITY INFORMATION

POWER: AEP (877) 373-4858
TELCO: VERIZON (800) 483-5000

DRAWING INDEX

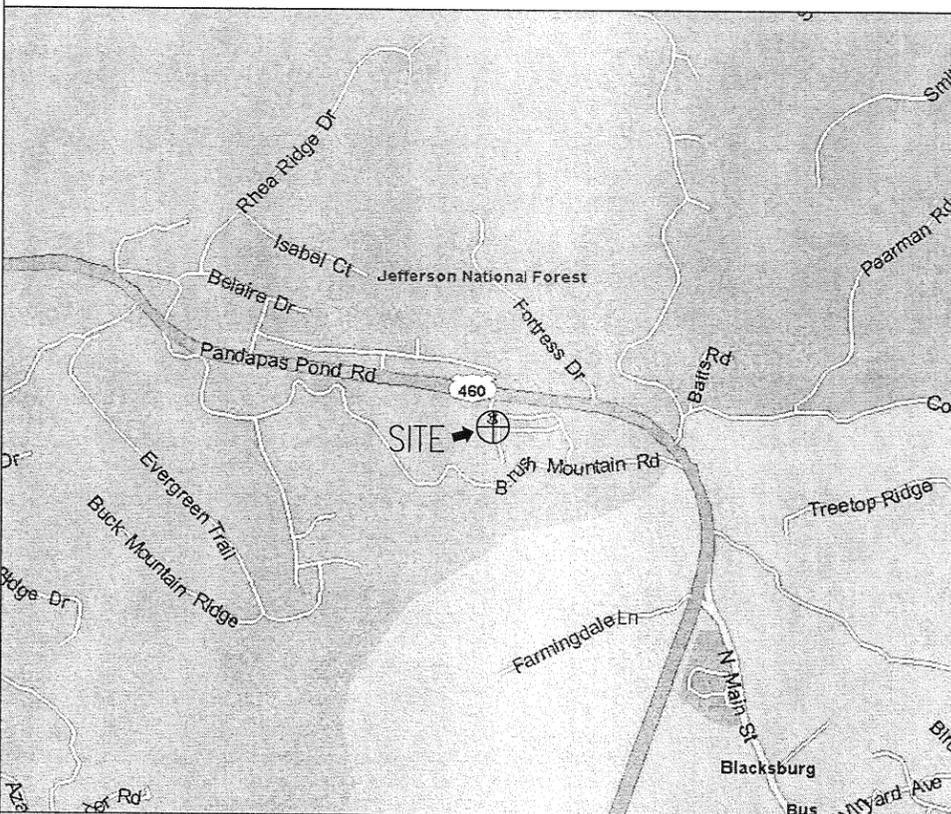
REV

T-1	TITLE SHEET	1
C-1	SURVEY	1
A-0	SITE PLAN	1
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A-2	SHELTER LAYOUT & ELEVATIONS	2
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A-4	ICEBRIDGE DETAILS	1
A-5	ANTENNA DETAILS	2
A-6	DETAILS	1
A-7	RF INFORMATION & NOTES	1
A-8	FENCE DETAILS	1
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E-3	ELECTRICAL DETAILS	1
E-4	ELECTRICAL SCHEMATIC	1
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SP-1	SPECIFICATIONS	1
SP-2	SPECIFICATIONS	1
SP-3	SPECIFICATIONS	1

DIRECTION:

DEPART 4801 COX RD, GLEN ALLEN, VA 23060 ON COX RD (WEST) 0.5 MI. TURN LEFT (WEST) ONTO NUCKOLS RD 0.7 MI. TAKE RAMP (RIGHT) ONTO I-295 1.8 MI. AT EXIT 53A, TAKE RAMP (RIGHT) ONTO I-64 90.2 MI. AT EXIT 87, TAKE RAMP (LEFT) ONTO I-64 [I-81] 30.7 MI. KEEP LEFT ONTO I-81 72.4 MI. AT EXIT 118C-B-A, TURN RIGHT ONTO RAMP 0.6 MI. AT EXIT 118C, KEEP RIGHT TO STAY ON RAMP 0.3 MI. TAKE RAMP (RIGHT) ONTO US-11 [US-460] 0.9 MI. TAKE RAMP (RIGHT) ONTO US-460 12.6 MI. TURN LEFT (SOUTH) ONTO COAL BANK HOLLOW RD, THEN IMMEDIATELY BEAR LEFT (SOUTH-EAST) ONTO US-460 [PANDAPAS POND RD] 109 YDS. TURN RIGHT (WEST) ONTO BRUSH MOUNTAIN RD 0.3 MI. TURN RIGHT (NORTH) ONTO LOCAL ROAD(S) 0.3 MI. TURN LEFT (SOUTH) ONTO LOCAL ROAD(S) 43 YDS. ARRIVE AT SITE.

VICINITY MAP



SCALE: 1"=2000'

APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC 2006)

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC 2008)

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

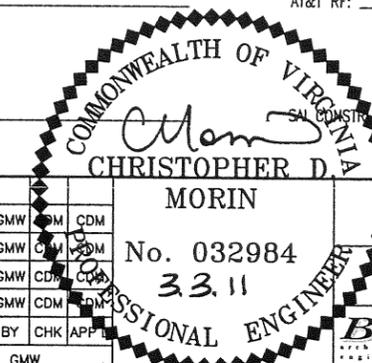
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

NOTES

NOTE: MAGNETIC DECLINATION - 8° 4'W CHANGING BY 0° 2'W PER YEAR AS OF 05/05/10

AT&T CONSTRUCTION: _____ AT&T RF: _____

AT&T COMPLIANCE: _____



5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. R0500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

3					
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
1	02-21-11	ADDED L-1	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		

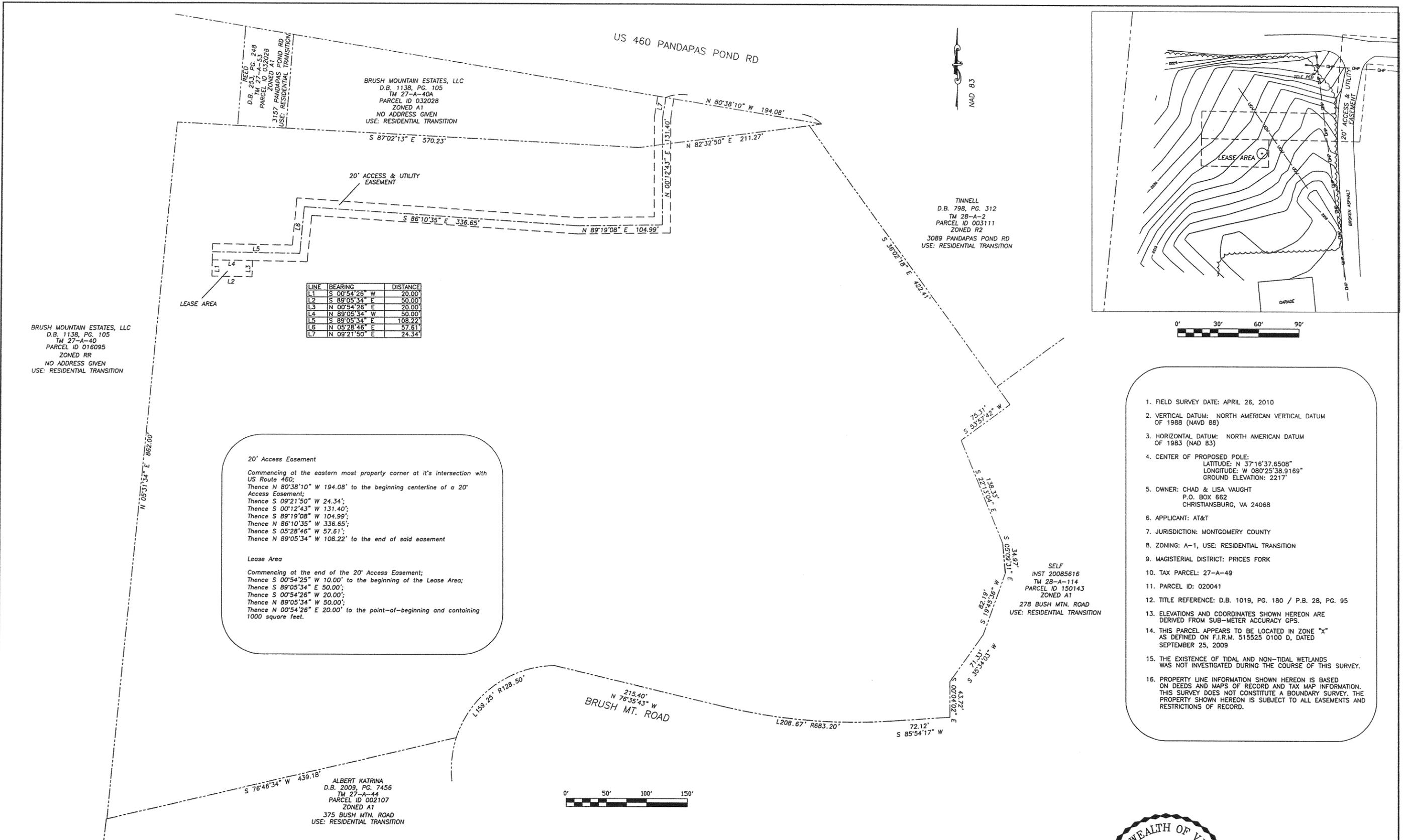
MORIN
No. 032984
3.3.11

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

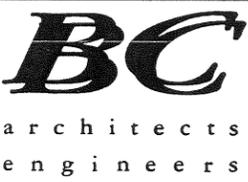
TITLE SHEET

DRAWING NUMBER	REV
T-1	2

03-03-11 JAMAL ELEBUTE 13:42:22 Y:\Drawings - 2010\AT&T - Rawlands\R0500G\CD's\T1.dwg



1. FIELD SURVEY DATE: APRIL 26, 2010
2. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
3. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD 83)
4. CENTER OF PROPOSED POLE:
LATITUDE: N 37°16'37.6508"
LONGITUDE: W 080°25'38.9169"
GROUND ELEVATION: 2217'
5. OWNER: CHAD & LISA VAUGHT
P.O. BOX 662
CHRISTIANSBURG, VA 24068
6. APPLICANT: AT&T
7. JURISDICTION: MONTGOMERY COUNTY
8. ZONING: A-1, USE: RESIDENTIAL TRANSITION
9. MAGISTERIAL DISTRICT: PRICES FORK
10. TAX PARCEL: 27-A-49
11. PARCEL ID: 020041
12. TITLE REFERENCE: D.B. 1019, PG. 180 / P.B. 28, PG. 95
13. ELEVATIONS AND COORDINATES SHOWN HEREON ARE DERIVED FROM SUB-METER ACCURACY GPS.
14. THIS PARCEL APPEARS TO BE LOCATED IN ZONE "X" AS DEFINED ON F.I.R.M. 515525 0100 D, DATED SEPTEMBER 25, 2009
15. THE EXISTENCE OF TIDAL AND NON-TIDAL WETLANDS WAS NOT INVESTIGATED DURING THE COURSE OF THIS SURVEY.
16. PROPERTY LINE INFORMATION SHOWN HEREON IS BASED ON DEEDS AND MAPS OF RECORD AND TAX MAP INFORMATION. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THE PROPERTY SHOWN HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.

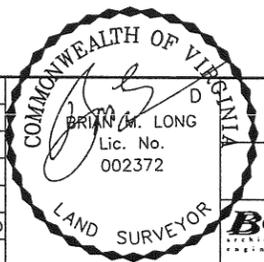


5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US 460 & RTE 778
SITE NO. R0500 G
3153 PANDAPAS POND RD
BLACKSBURG, VA



3					
2					
1	03-03-11	REVISED SURVEY	BML	BML	BML
0	11-17-10	FINAL SURVEY	BML	BML	BML
A					
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN			DESIGNED	BML	
			DRAWN	BML	

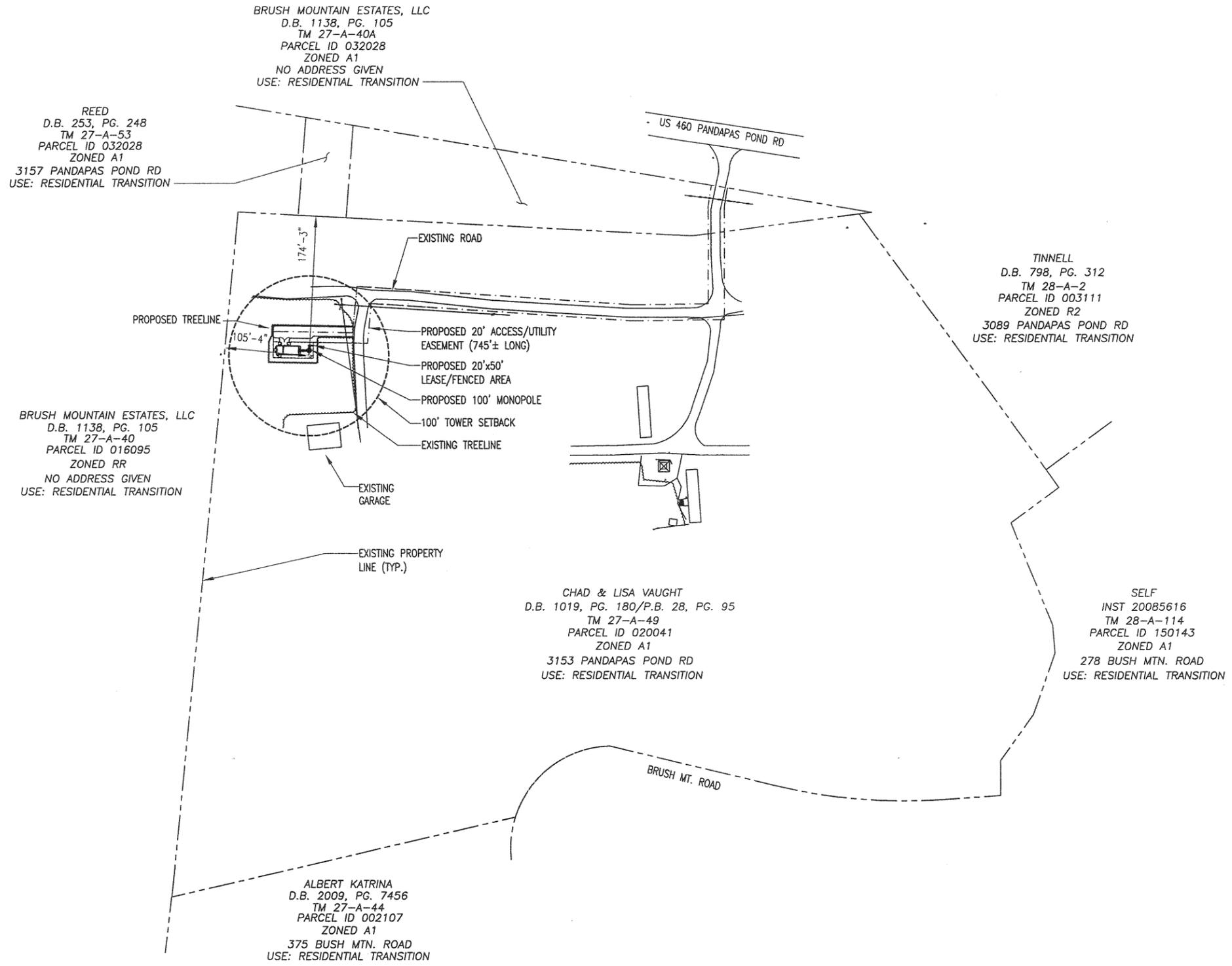


BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA
LONG SURVEYING, LLC
POWHATAN, VA

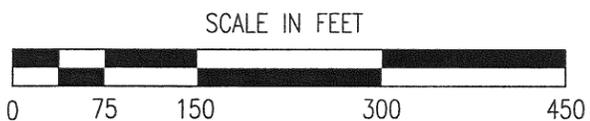
DRAWING NUMBER
C-1
REV
0

LEGEND

NEW FENCE	—●—●—●—●—●—●—
EXIST. FENCE	—X—X—X—X—
SETBACK	— — — — —
EASEMENT	— — — — —
LEASE	— — — — —
PROPERTY LINE	— — — — —
EXIST. CONTOUR	— — — — —
NEW CONTOUR	— — — — —
TYP. BUILDING	
TYP. ROAD	



Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A0.dwg 03-03-11 JAMAL ELEBUJE 16:31:43



SITE PLAN
SCALE: 1"=150' 11x17
SCALE: 1"=75' 24x36



BC
architects
engineers

5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

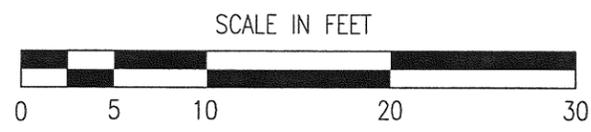
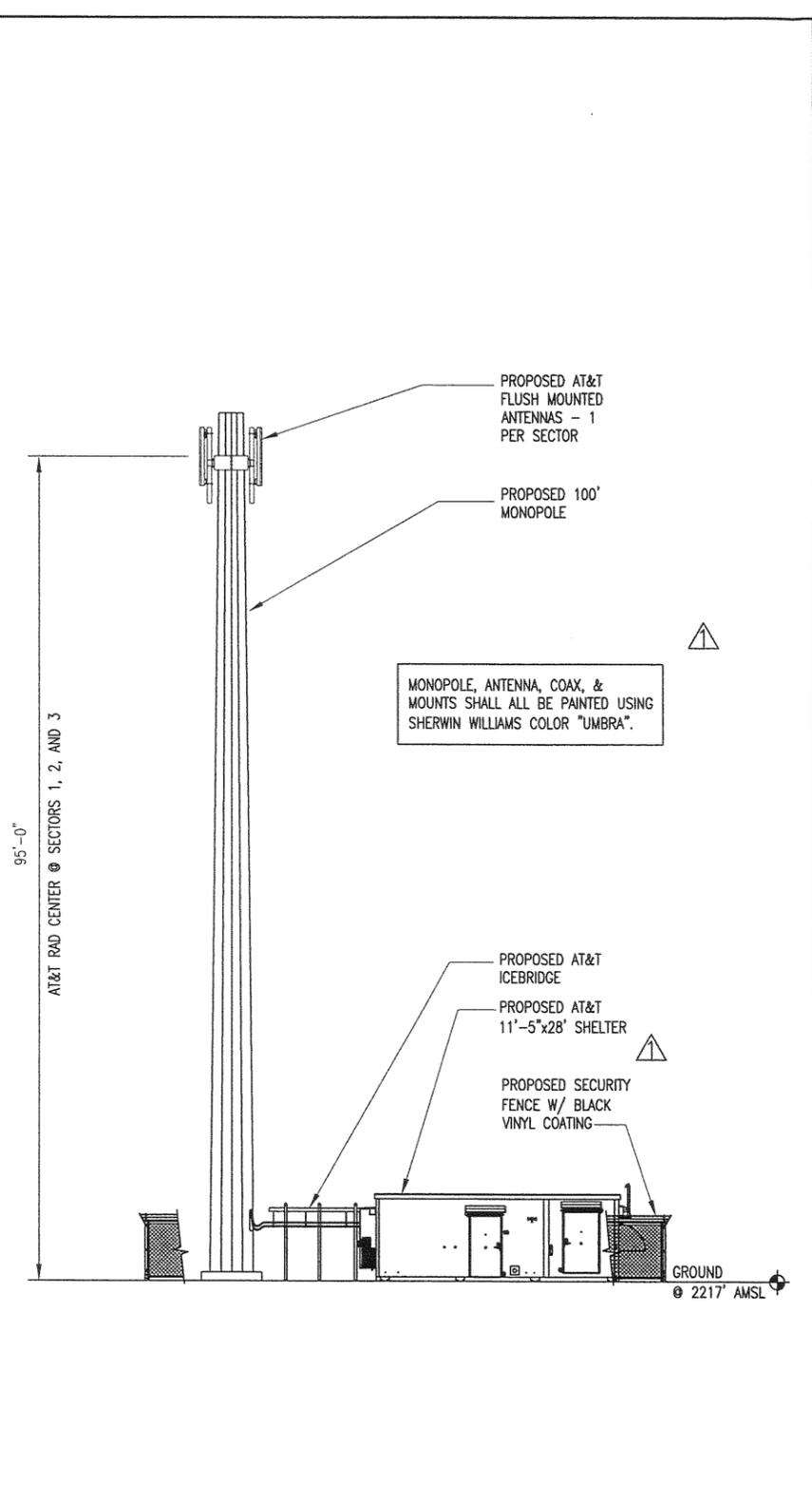
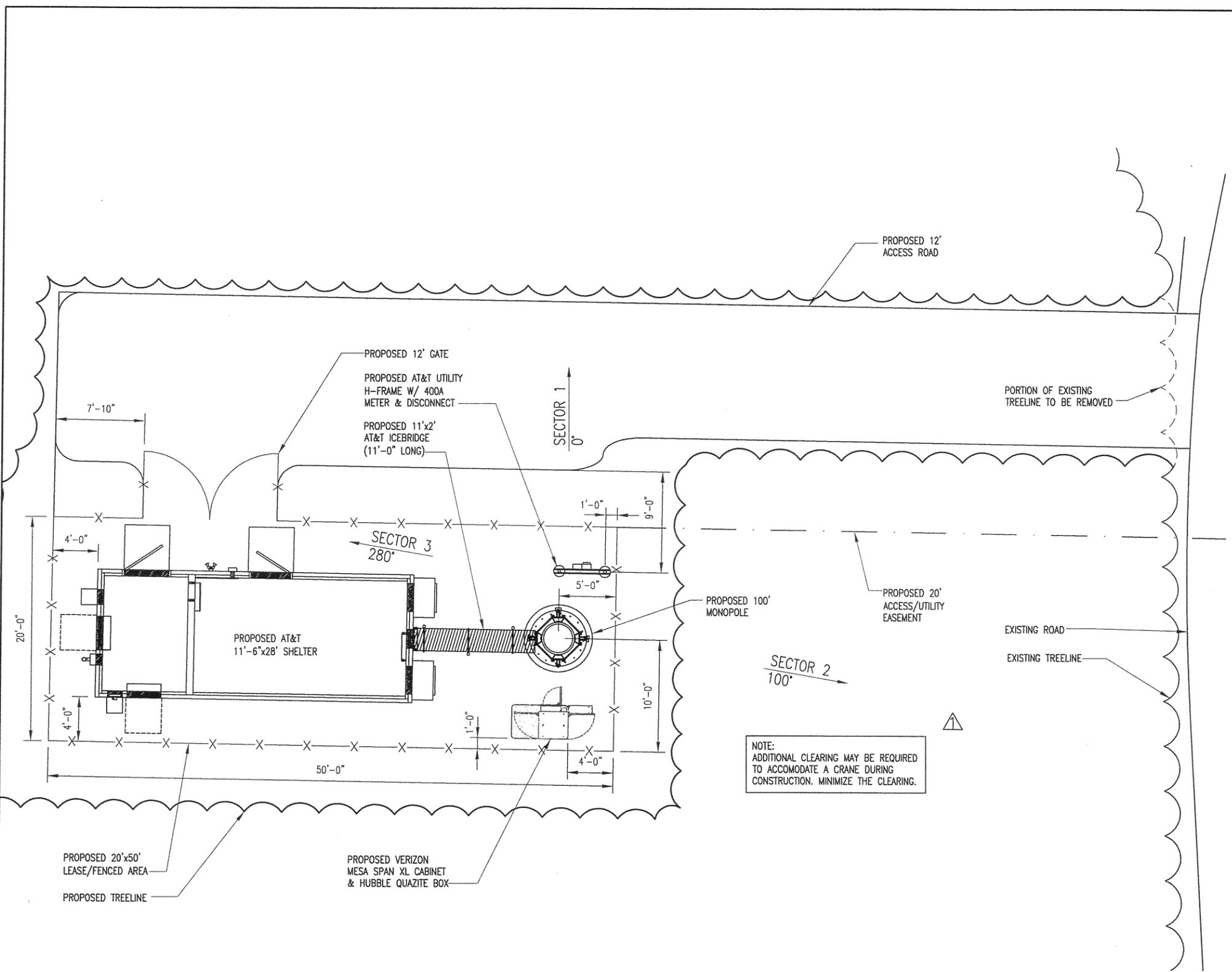
LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

NO.	DATE	REVISIONS	BY	CHK	APP
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2					
1					
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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

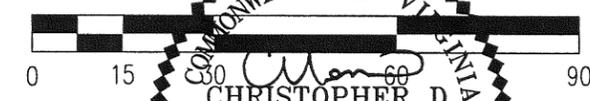
COMMONWEALTH OF VIRGINIA
Christopher D. Morin
CHRISTOPHER D. MORIN
No. 032984
3.3.11
PROFESSIONAL ENGINEER

BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
SITE PLAN	
DRAWING NUMBER	REV
A-0	1

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COMPOUND PLAN 1
SCALE: 1"=10' A-1

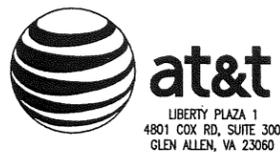


ELEVATION 2
SCALE: 1"=30' A-1

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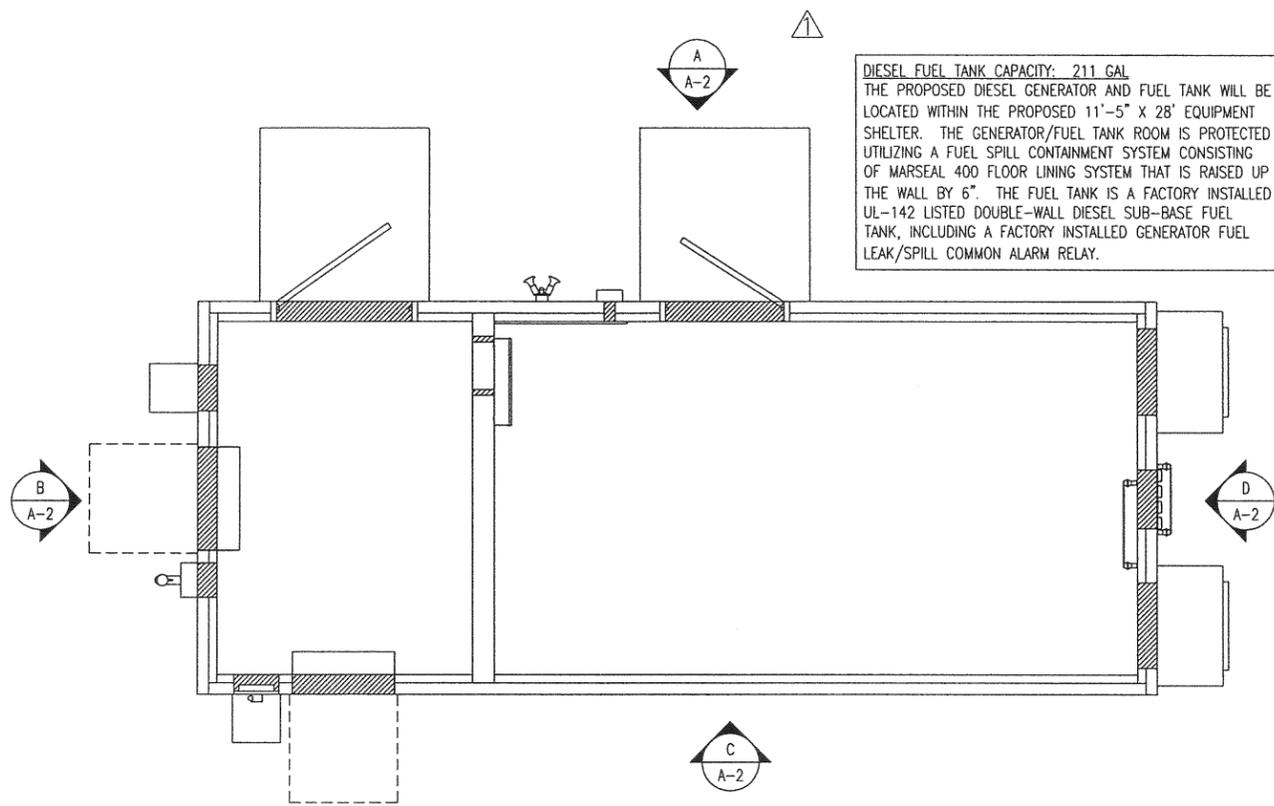


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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	

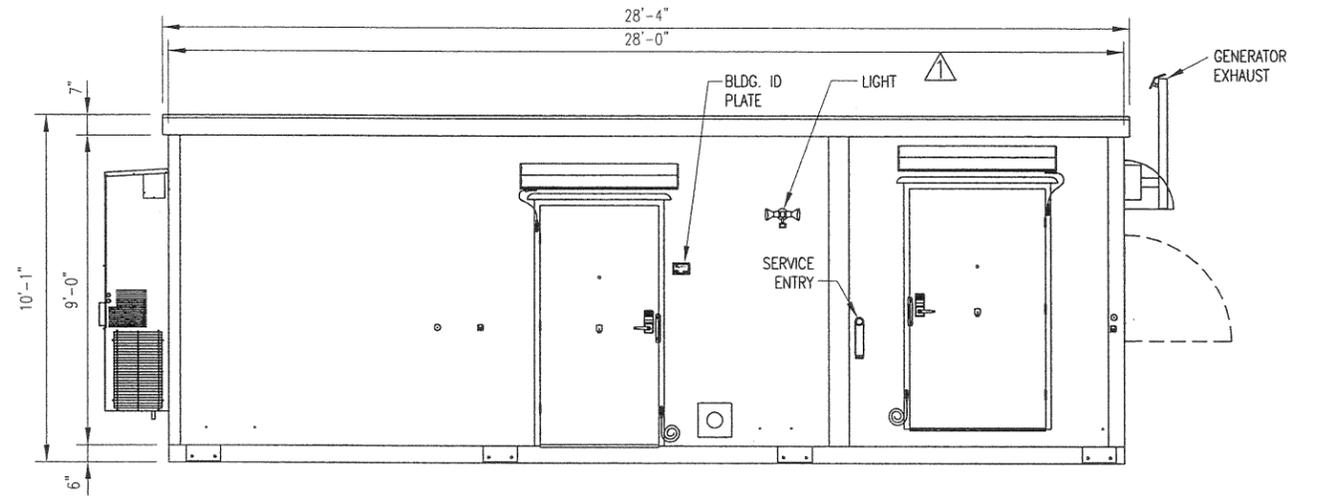
STATE OF VIRGINIA
COMMONWEALTH OF
CHRISTOPHER D. MORIN
No. 032984
3.3.11
PROFESSIONAL ENGINEER

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA
COMPOUND PLAN & ELEVATION
DRAWING NUMBER A-1
REV 2

DIESEL FUEL TANK CAPACITY: 211 GAL
 THE PROPOSED DIESEL GENERATOR AND FUEL TANK WILL BE LOCATED WITHIN THE PROPOSED 11'-5" X 28' EQUIPMENT SHELTER. THE GENERATOR/FUEL TANK ROOM IS PROTECTED UTILIZING A FUEL SPILL CONTAINMENT SYSTEM CONSISTING OF MARSEAL 400 FLOOR LINING SYSTEM THAT IS RAISED UP THE WALL BY 6". THE FUEL TANK IS A FACTORY INSTALLED UL-142 LISTED DOUBLE-WALL DIESEL SUB-BASE FUEL TANK, INCLUDING A FACTORY INSTALLED GENERATOR FUEL LEAK/SPILL COMMON ALARM RELAY.

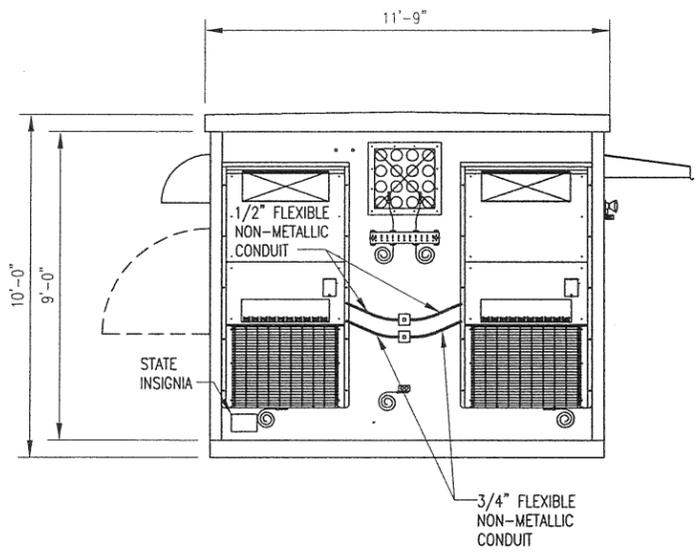


AT&T EQUIPMENT SHELTER 11'-5" X 28' (FIBREBOND #D8320, PORT B)
 SCALE: N.T.S.

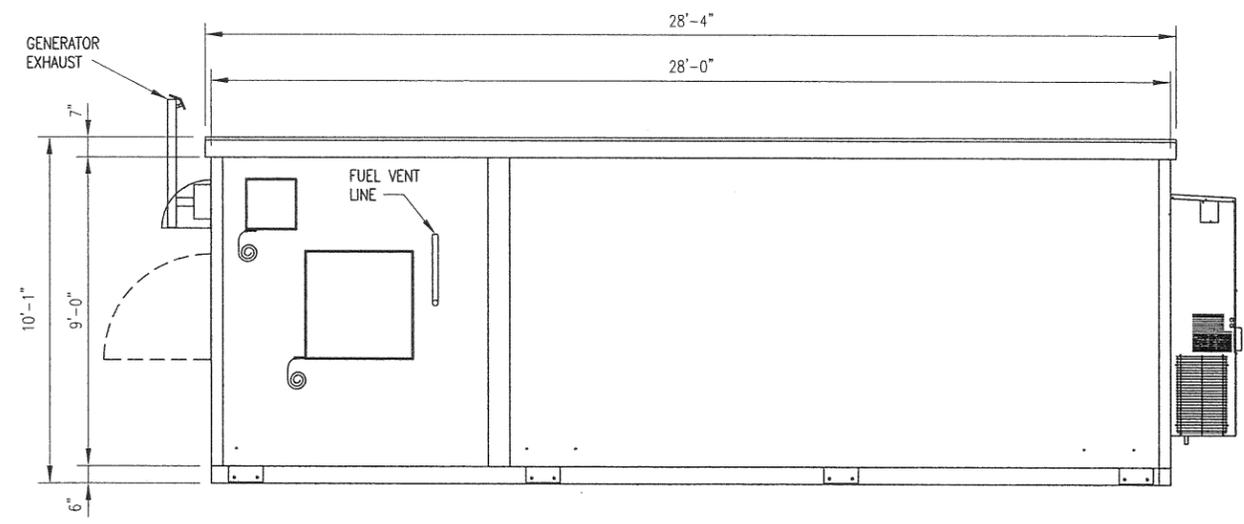


NOTE: A HOOD OVER THE FLOOD LIGHT IS REQUIRED SO THAT NO LIGHT CAN SHINE UPWARDS NOR BEYOND THE PROPERTY LINE - PER SECTION 10-46 (9)

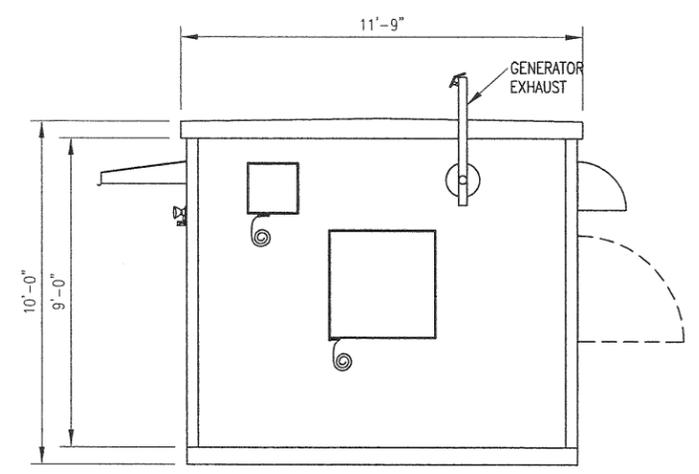
ELEVATION A
 SCALE: N.T.S.



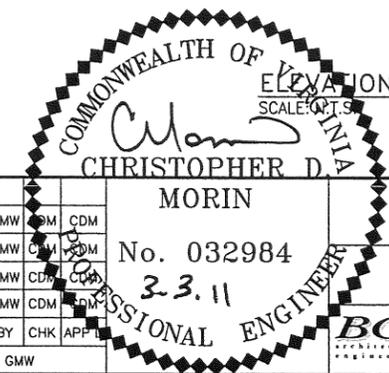
ELEVATION B
 SCALE: N.T.S.



ELEVATION C
 SCALE: N.T.S.



ELEVATION D
 SCALE: N.T.S.



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 FALLS CHURCH, VA 22041-2868
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 FAX: (703) 671-6300

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 SITE NO. R0500G

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NO.	DATE	REVISIONS	BY	CHK	APP
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1	02-21-11	ADDED NOTES	GMW	CDM	CDM
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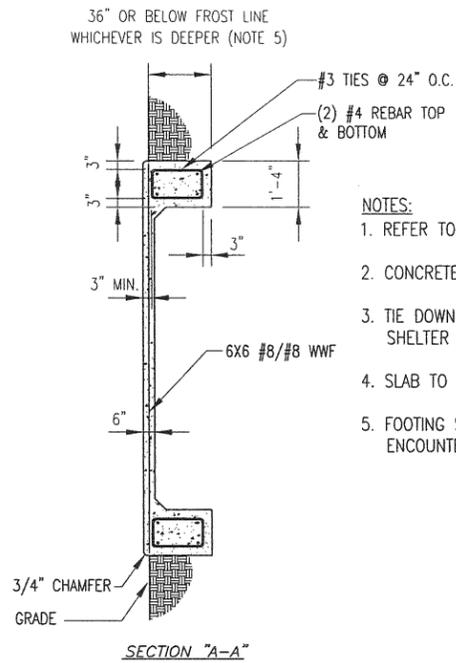
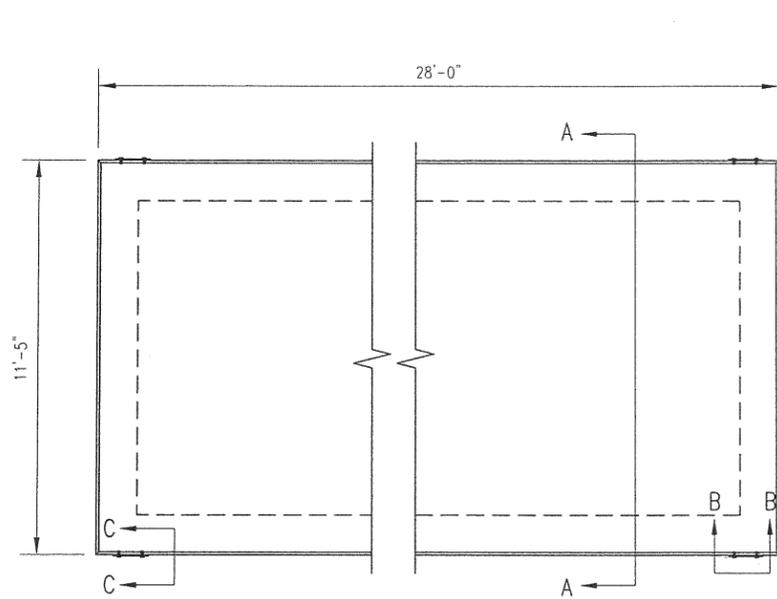
SCALE: AS SHOWN DESIGNED: C. MORIN DRAWN: GMW

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SHELTER DETAILS

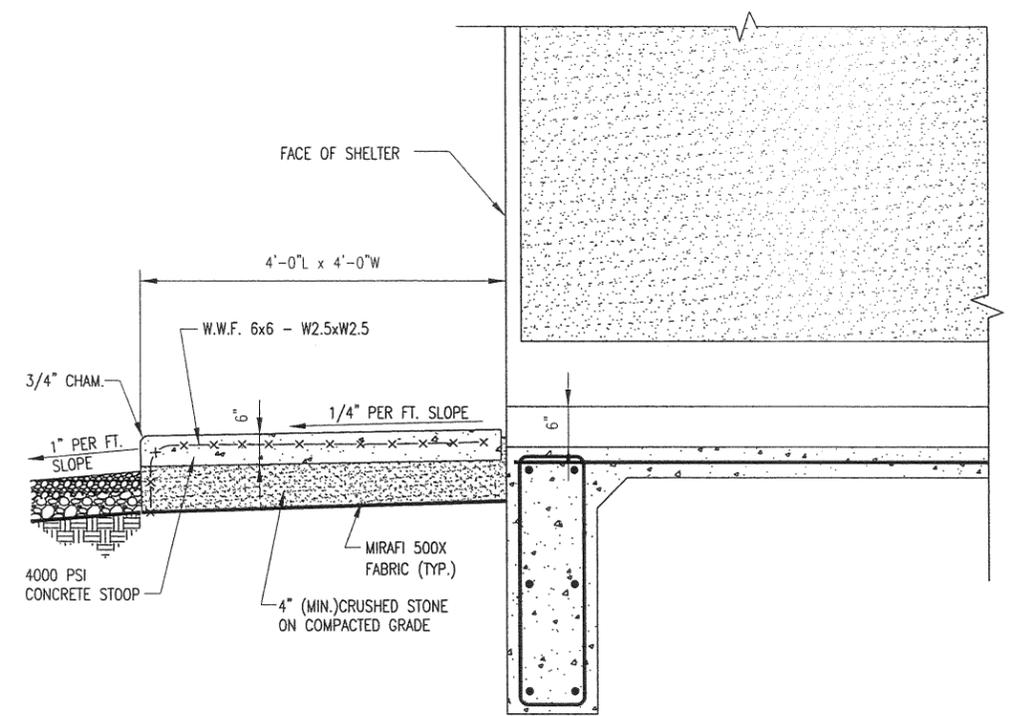
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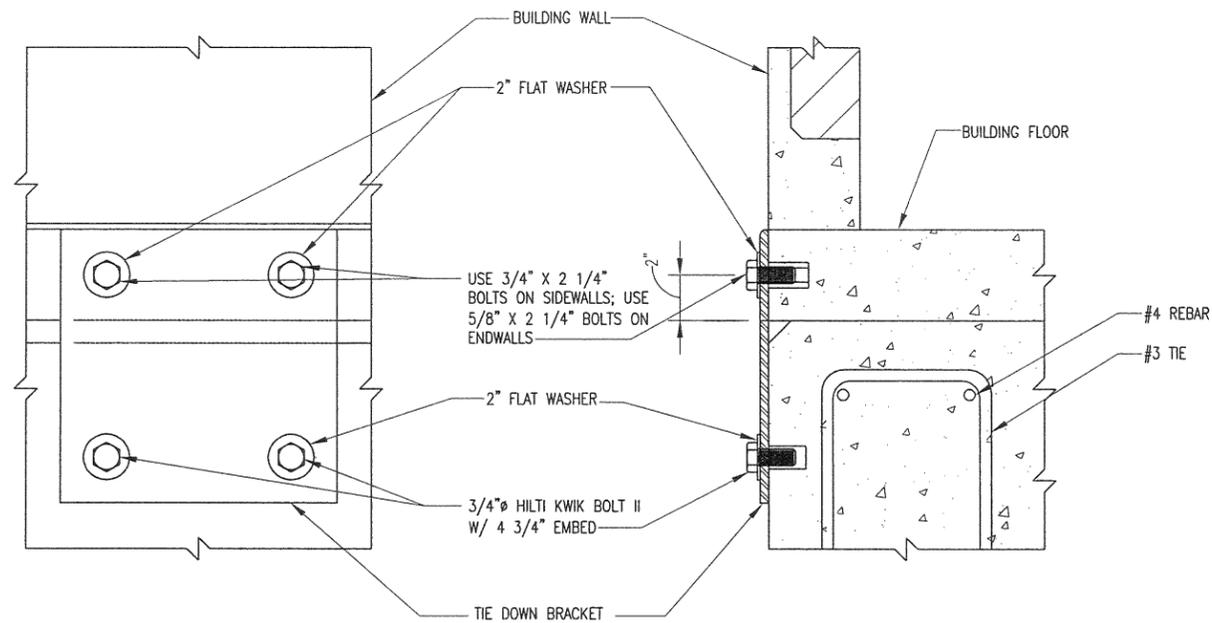


- NOTES:
1. REFER TO MANUFACTURERS SPECIFICATION'S FOR SITE SPECIFIC CRITERIA.
 2. CONCRETE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.
 3. TIE DOWN PLATES, ANCHORS, AND HARDWARE TO BE PROVIDED BY THE SHELTER MANUFACTURER.
 4. SLAB TO BE LEVEL AND FLAT.
 5. FOOTING SHALL EXTEND TO DEPTH SHOWN OR BEAR ON SOLID ROCK IF ENCOUNTERED DURING EXCAVATION.

SHELTER FOUNDATION DETAILS 1
SCALE: N.T.S. A-3



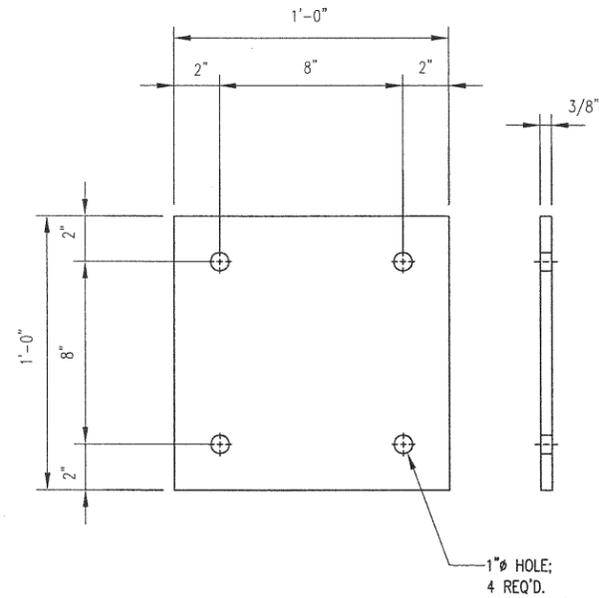
STOOP DETAIL 2
SCALE: N.T.S. A-3



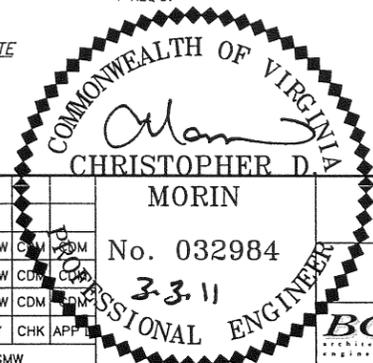
SECTION "B-B"
N.T.S.

SECTION "C-C"
N.T.S.

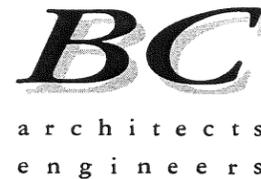
SHELTER CONNECTION DETAILS 3
SCALE: N.T.S. A-3



TIE DOWN PLATE
N.T.S.



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SITE NO. RO500G

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BLACKSBURG, VA 24060



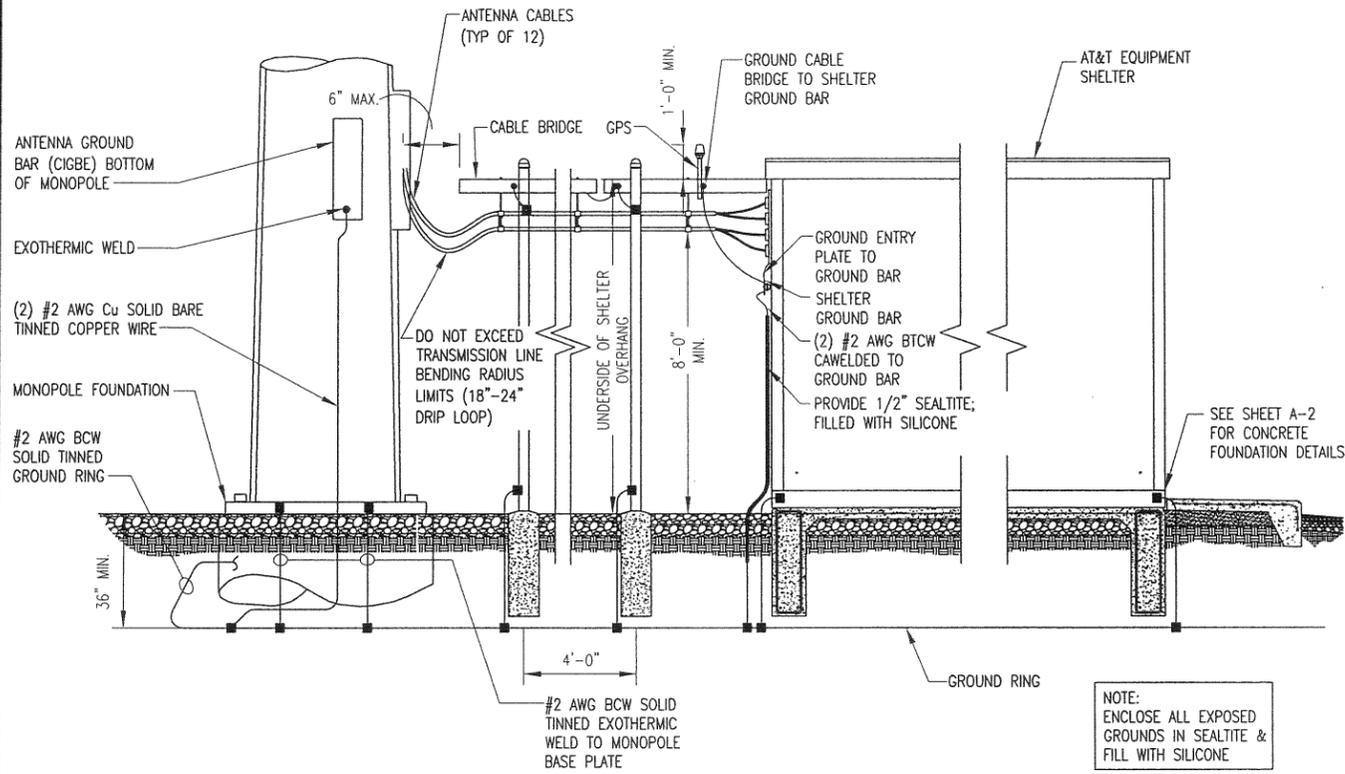
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0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

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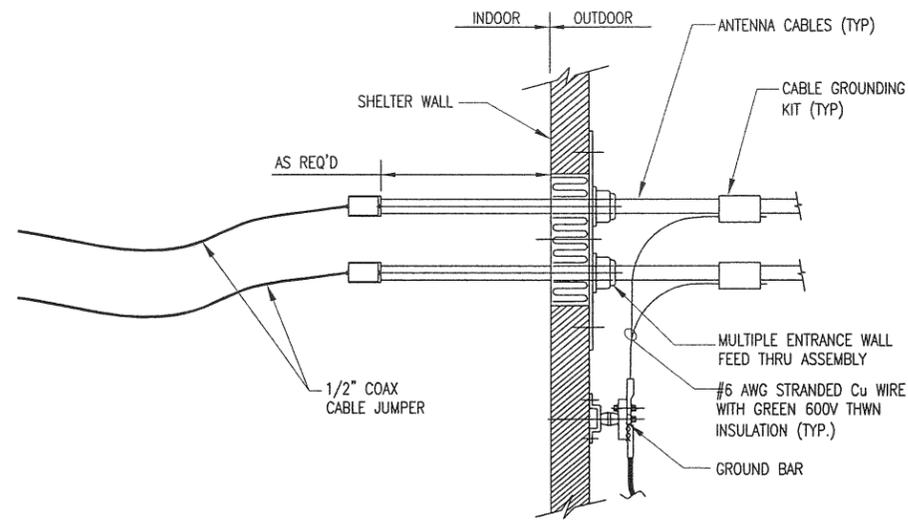
SHELTER DETAILS

DRAWING NUMBER
A-3
REV
1

03-03-11 JAMAL ELEBUTE 14:02:22 Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A4.dwg



EQUIPMENT ELEVATION W/ GROUNDING 1
SCALE: N.T.S. A-4

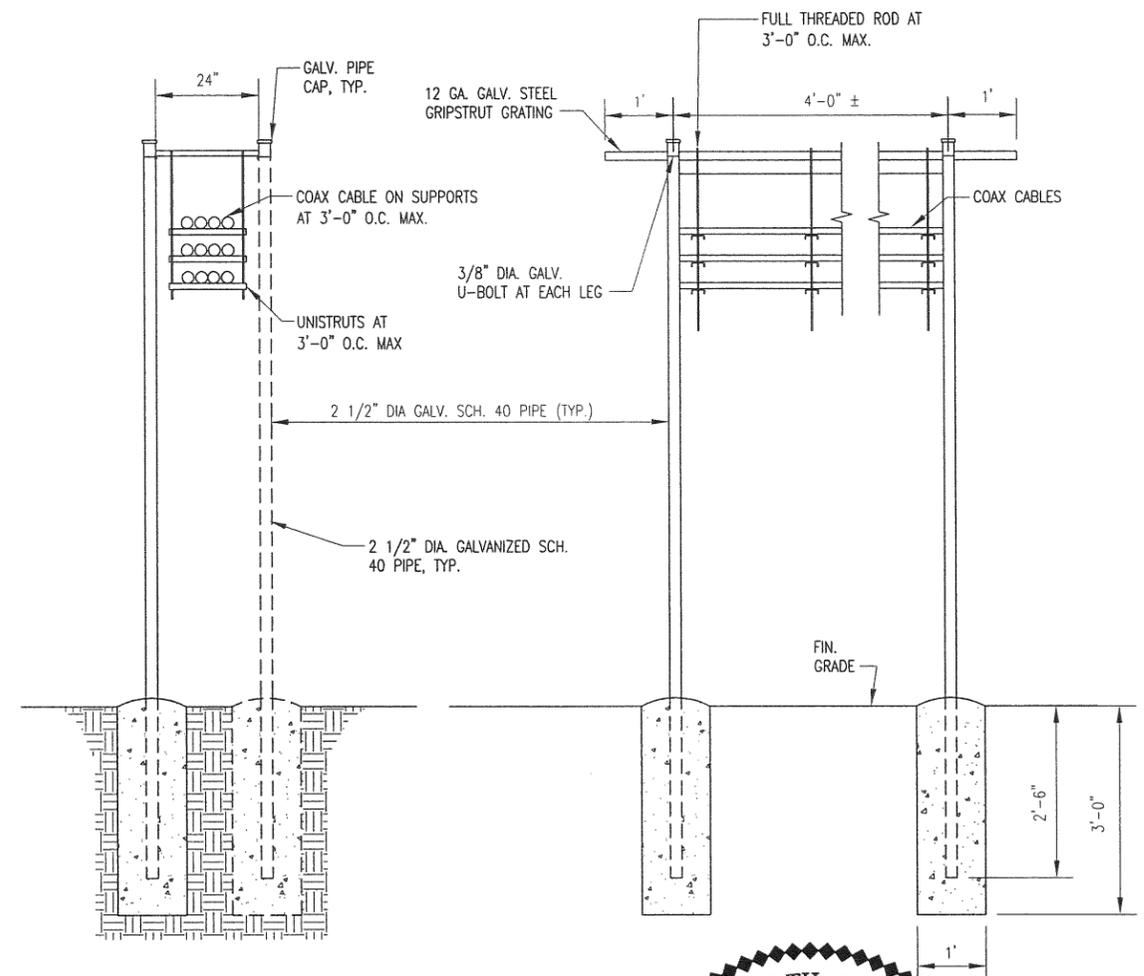


EXTERIOR ANTENNA CABLE GROUNDING
AT SHELTER COAX ENTRY PORT

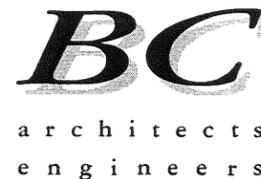
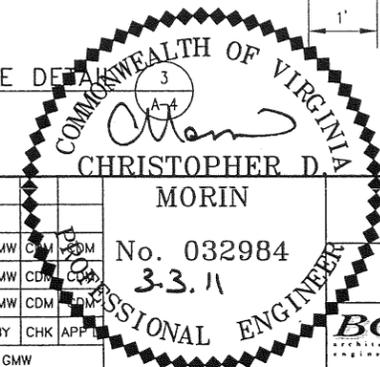
DETAIL 2
SCALE: N.T.S. A-4

NOTES:

1. DESIGN REQUIREMENTS ARE PER LOCAL BUILDING CODE/1994 ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES AND ALL APPLICABLE STATE AND LOCAL CODES. THE BASIC GROUND WIND SPEED UTILIZED FOR DESIGN IS 100 MPH.
2. REFER TO THE SITE PLAN PREPARED BY OTHERS FOR BOUNDARY SURVEY AND SITE TOPOGRAPHY.
3. CONCRETE EQUIPMENT PAD SHALL BE PLACED OVER UNDISTURBED OR WELL COMPACTED SOIL. SEE NOTE 4.
4. EXISTING VEGETATION AND ORGANIC MATERIALS SHALL BE REMOVED FROM THE CONCRETE EQUIPMENT PAD AREAS. FILL SITE TO ORIGINAL ELEVATION WITH CLEAN SANDY SOIL. COMPACT TO OBTAIN 2500 PSF BEARING CAPACITY.
5. STRUCTURAL STEEL SHALL CONFORM TO LATEST EDITION OF THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS—ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE CODE OF STANDARD PRACTICE.
6. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36 MIN. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
7. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1-92 STRUCTURAL WELDING CODE—STEEL WELD ELECTRODES SHALL BE E70XX.
8. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MINIMUM DIAMETER BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS OR EQUIVALENT UNLESS OTHERWISE NOTED.
9. TRANSMITTER EQUIPMENT SHALL BE FURNISHED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER PROVIDED HARDWARE IS ATTACHED TO BID DOCUMENTS (SEE ATTACHMENT E) ALL OTHER HARDWARE TO BE FURNISHED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
10. NORTH ARROW SHOWN ON PLANS REFER TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.



ICEBRIDGE DESIGN
SCALE: N.T.S.



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FALLS CHURCH, VA 22041-2868
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SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



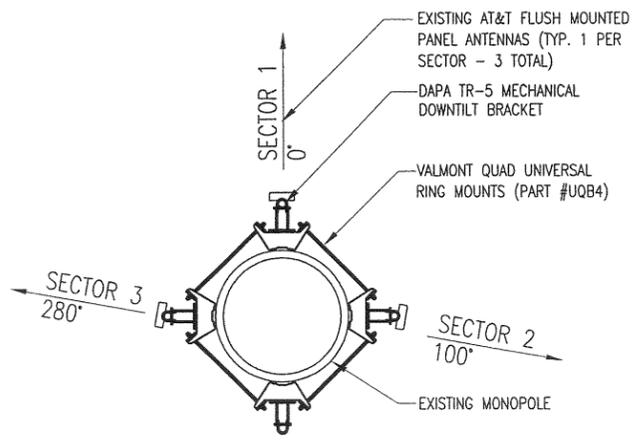
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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

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SHELTER DETAILS

DRAWING NUMBER
A-4
REV
1

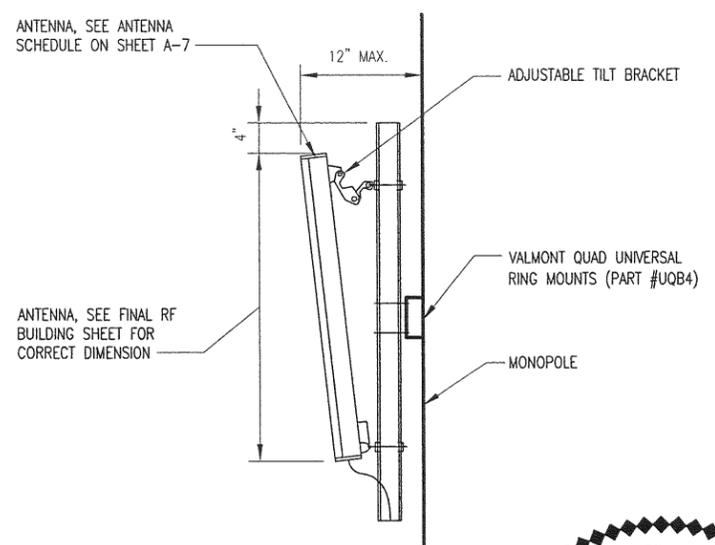
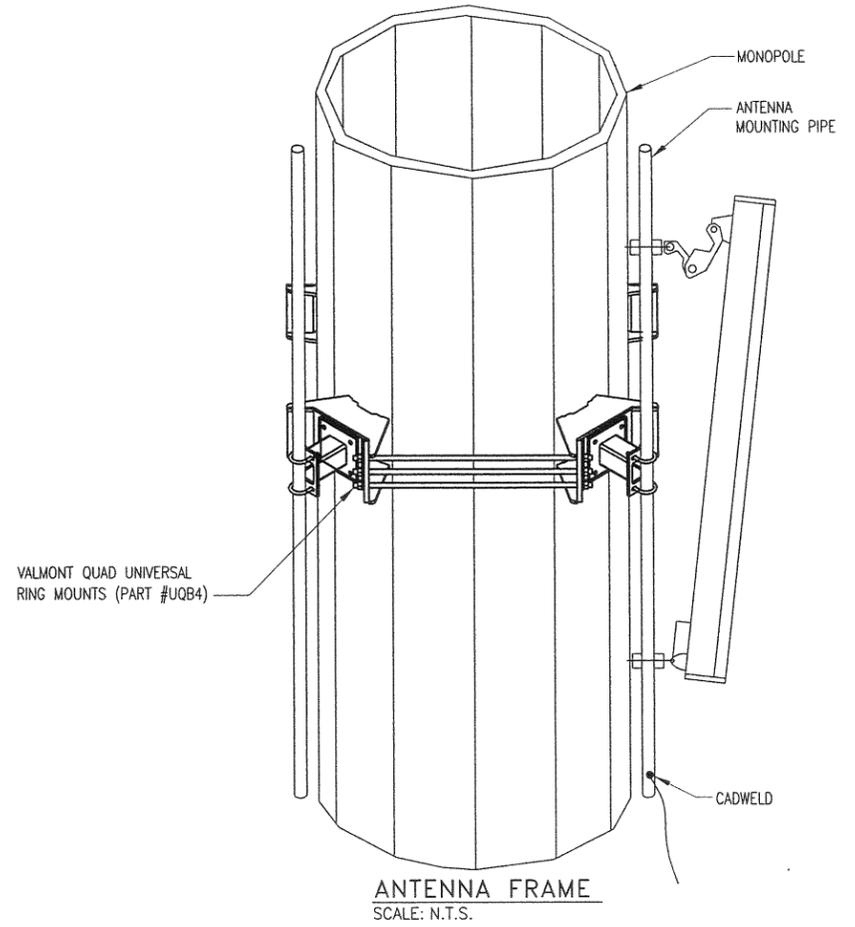
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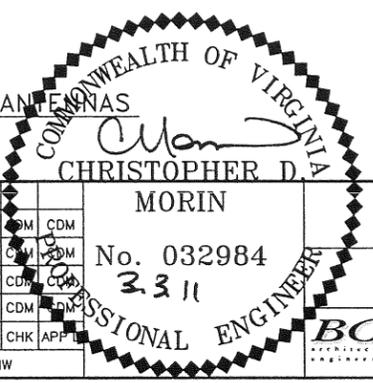
NOTES:
 1. CONTRACTOR SHALL VERIFY SIZE OF BRACKET REQUIRED PRIOR TO CONSTRUCTION
 2. PANEL ANTENNAS TO BE FLUSH MOUNTED TO MONOPOLE

NOTE: MAGNETIC DECLINATION - 8° 4' W CHANGING BY 0° 2' W/YEAR AS OF 05/05/10
 SEE SHEET A-8 FOR ANTENNA & COAX CONFIGURATION

ANTENNA PLAN VIEW
 SCALE: N.T.S.

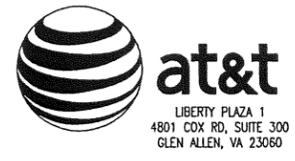


ELEVATION OF ANTENNAS
 SCALE: N.T.S.



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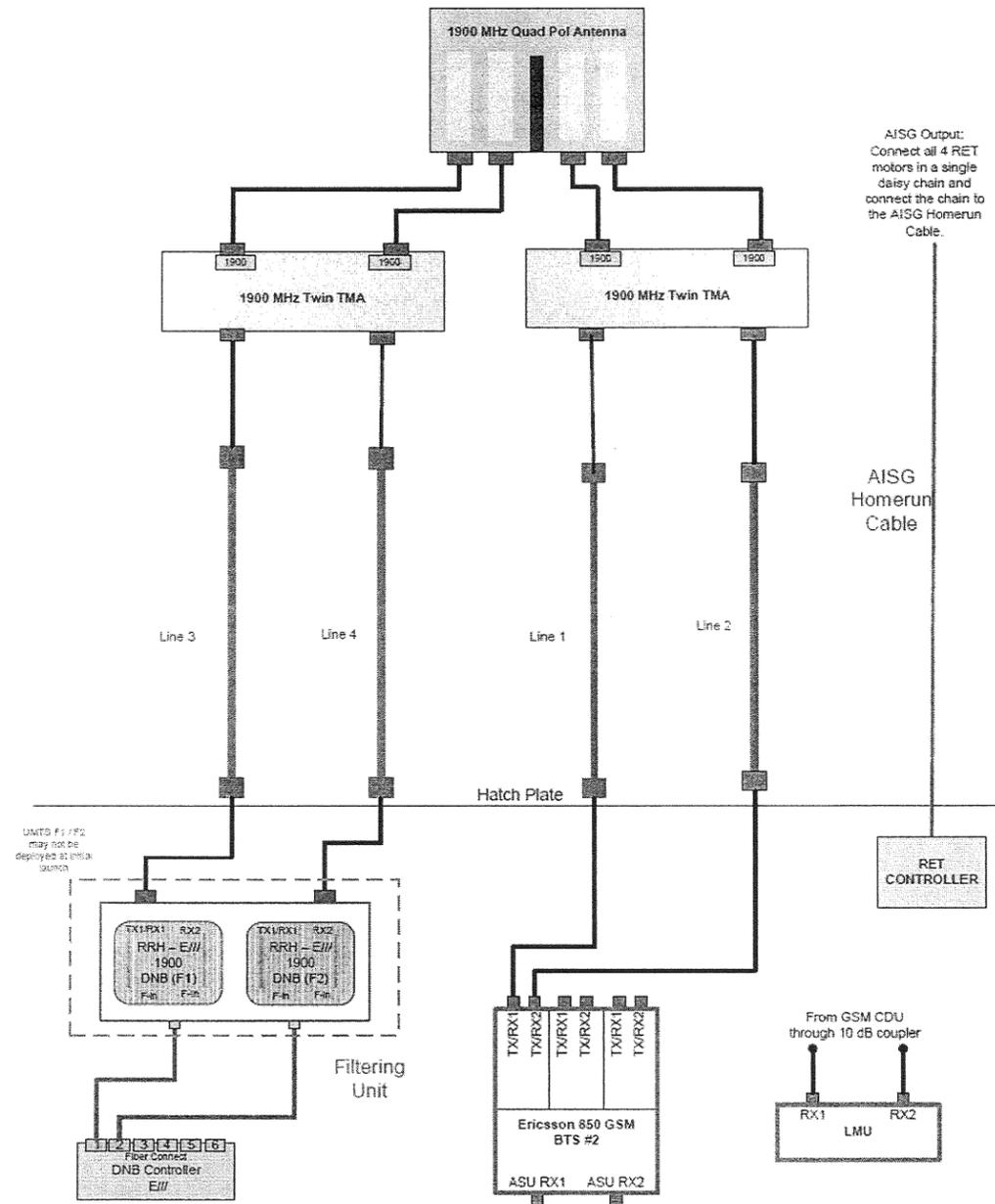
SITE NAME: US460 AND SR778
 SITE NO. R0500G
 3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060



3					
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1	02-21-11	CHANGED ANTENNA MOUNT	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

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 FALLS CHURCH, VA
 ANTENNA DETAILS
 DRAWING NUMBER: A-5
 REV: 2

AT&T Mobility
 Virginias Market NSB Sector Plumbing Diagram
 Single Band (1900 MHz) - F2 - 4 Lines - 1 Antennas Per Sector



AISG Output:
 Connect all 4 RET
 motors in a single
 daisy chain and
 connect the chain to
 the AISG Homerun
 Cable.

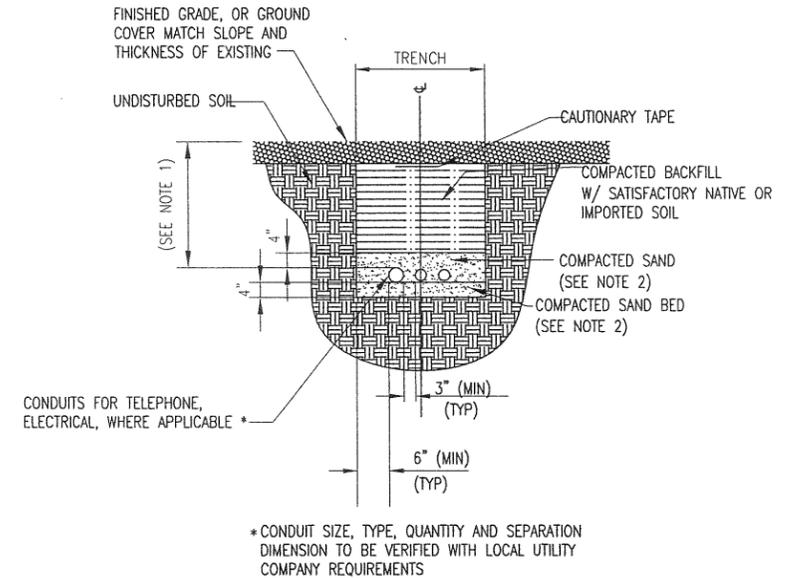
AISG
 Homerun
 Cable

ITEM NO.	ITEM DESCRIPTION	GSM SIZE/PART NO. (ANDREW)
1	ANTENNA (SEE NOTE 2 & 3) AS-BUILT SERIAL #	RA11.7762
	MECHANICAL DOWNTILT	0', 0', 0'
	ELECTRICAL DOWNTILT	2', 2', 2'
2	ANTENNA JUMPER (LENGTH)	1/2" LDF4P (6 FEET)
2A	ATTACHED MALE DIN CONNECTOR	INCLUDED W/ITEM #2
3	MAIN COAX	1 5/8" Ø AVA7-50
4	UNATTACHED FEMALE DIN CONNECTOR	L5PDF-RPC
4A	EQUIPMENT JUMPER (LENGTH)	1/2" SF (6 FEET)

NOTES:

- ALL MATERIALS ON THE ABOVE TABLE SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
- SUBCONTRACTOR SHALL AS-BUILT CABLE LENGTHS AND PROVIDE ANTENNA SERIAL NUMBERS ON RED-LINED DRAWINGS.
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWNTILT BRACKETS AND HEAVY DUTY CLAMPS SUPPLIED BY ANTENNA MANUFACTURER.
- FOLLOW DETAIL 636 FOR CIRCULAR COAX COLOR CODING.
- COAX GROUND KITS, COAX WEATHER PROOFING, SNAP-IN HANGER CLAMPS AND HOISTING GRIPS SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
- ALL LINES NOT TERMINATED TO RADIO EQUIPMENT SHALL HAVE A 50 OHM TERMINATION LOAD

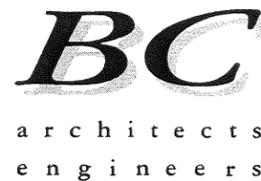
- NOTES: 1. DEPTH "D" WILL BE MINIMUM OF 36" FROM FINISH STONE GRADE OR DEEPER BASED UPON NATIONAL ELECTRICAL CODE, UTILITY REQUIREMENTS OR STATE AND LOCAL CODES.
 2. PEA STONE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND.



DIRECT BURIED CONDUIT 2
 SCALE: N.T.S. A-6

1 - ANTENNA PER SECTOR CONFIGURATION 1
 SCALE: N.T.S. A-6

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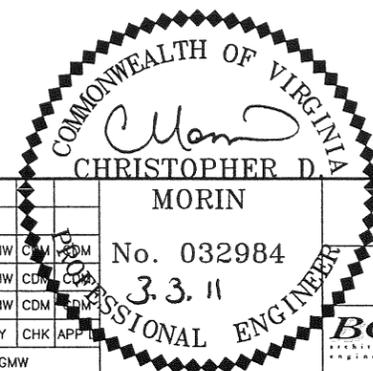
SITE NAME: US460 AND SR778
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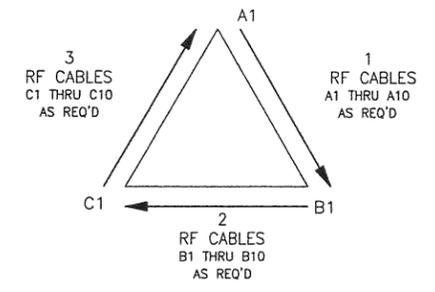
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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		



BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
ANTENNA DETAILS	
DRAWING NUMBER	REV
A-6	1

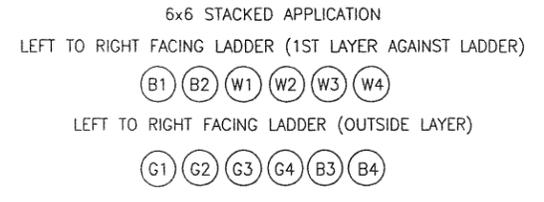
- NOTES:**
- SECTOR ORIENTATION/AZIMUTH WILL VARY FROM REGION TO REGION AND IS SITE SPECIFIC. REFER TO SEPARATE RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR FACE.
 - THE STANDARD IS BASED ON EIGHT COLORED TAPES—RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND SLATE(GREY). THESE TAPES SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
 - USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
 - COLOR CODE TAPE SHALL BE 3" WIDE AT TOP AND MIDDLE OF TOWER AND 2" WIDE AT THE BOTTOM. ALL JUMPERS SHALL BE INCLUDED.
 - ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
 - ALL COLOR BANDS INSTALLED AT OR NEAR THE GROUND SHALL BE A MINIMUM OF 3/4" WIDE.
 - ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.

CABLE MARKING COLOR TABLE				
SECTOR	CABLE A1	CABLE A2	CABLE A3	CABLE A4
SECTOR ALPHA, A, X	1 GREEN	2 GREEN	3 GREEN	4 GREEN
SECTOR BETA, B, Y	1 BLUE	2 BLUE	3 BLUE	4 BLUE
SECTOR GAMMA, C, Z	1 WHITE	2 WHITE	3 WHITE	4 WHITE

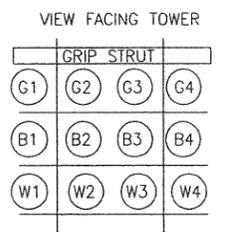


ANTENNA SECTOR AND CABLE DEFINITION

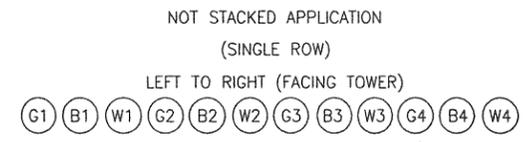
COAXIAL LADDER ASSIGNMENT



COAX ORIENTATION ON TRAPEZE

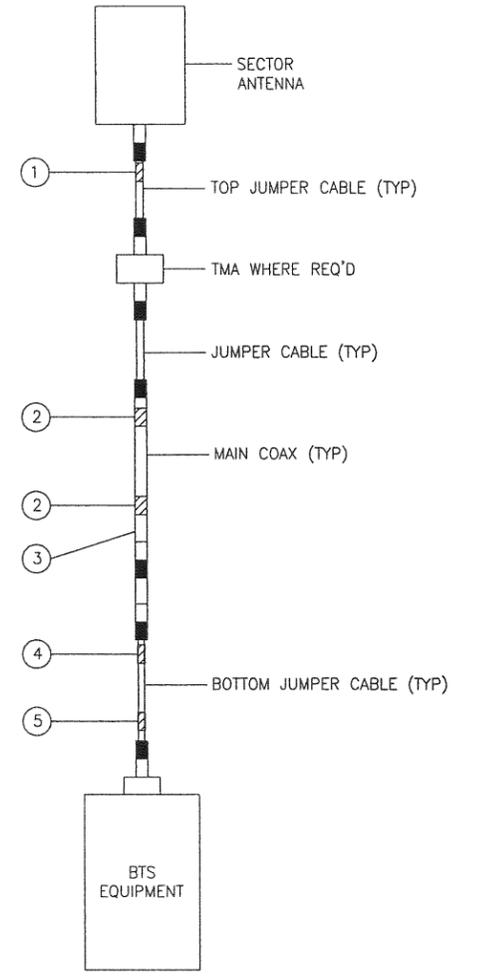


COAXIAL LADDER ASSIGNMENT



RF NOTES:

- ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTORS.
- THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
- RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
- ALL SPECIFIED MATERIAL FOR EACH LOCATIONS (E.G., OUTDOORS, INDOORS—OCCUPIED, INDOORS—UNOCCUPIED, OLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
- FOLLOW THE TECHNICAL GUIDELINE FOR OUTSIDE ANTENNA JUMPER SUPPORT (24782-3DJ-GEX-00001). HARDLINE CABLE SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER BUT AT A MINIMUM OF EVERY THREE (3) FEET, EXCEPT INSIDE MONOPOLES OR LATTICE TOWERS WHERE CABLE AND CONNECTOR MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDED CABLE SUPPORT ACCESSORIES SHALL BE USED.
- THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
- DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
- DELETED
- 7/16 DIN CONNECTORS REQUIRE NO WEATHER PROOFING IN INDOOR APPLICATIONS. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED: APPLY A 'COURTESY' WRAP OF ONE LAYER OF 7MIL THICK VINYL ELECTRICAL TAPE EXTENDING APPROXIMATELY TWO (2) INCH ON EACH SIDE OF THE COAX CABLE/ CONNECTOR JUNCTURE. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR, START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNIT; THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. ADD THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE. COLD SHRINK IS STRICTLY PROHIBITED.
- DELETED
- ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS, SURFACE PREPARATION AND PAINTING REQUIREMENTS.
- CABLE SHIELDS, AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER, WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF TOWERS THAT ARE BETWEEN 100 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 100 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.
- APPROVED GROUNDING KITS, WHICH INCLUDE GROUNDING STRAPS, AND CONDUITS. THE GROUND CONDUCTORS FOR THE KITS AT THE TOP OF THE TOWER, AND IN THE MIDDLE SECTION OF THE TOWER, ARE BONDED DIRECTLY TO TOWER STEEL USING EXOTHERMIC, BOLTED, OR APPROVED CLAMP CONNECTIONS.
- ALL RADIO SIGNAL CABLE SHALL BE LABELED PER MARKET REQUIREMENTS.
- DELETED
- DELETED
- MHA/TMA'S TO BE INSTALLED AT TOWER TOP, SHALL BE SUPPLIED TO THE SUBCONTRACTOR (WHERE REQUIRED) AND INSTALLED BY THE SUBCONTRACTOR. THE GROUND CONDUCTORS OF THE TMA MAY BE BONDED DIRECTLY TO THE TOWER STEEL USING EXOTHERMIC, BOLTED, OR APPROVED CLAMP CONNECTIONS. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
- ANTENNA FEED LINE SYSTEM SWEEP TESTING SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF AT&T-GSM SERVICES PROJECT DOCUMENT NO. 24782-000-3PS-EFY0-00001. CONTRACTOR WILL NOT ACCEPT A RADIO SIGNAL CABLE INSTALLATION WITH UNSATISFACTORY SWEEP RESULTS.



CABLE MARKING LOCATIONS DIAGRAM

ANTENNA AND COAX CABLE SCHEDULE										
SECTOR	ANTENNA TAGS	ANTENNA	AZIMUTH TRUE NORTH (SEE T-1)	RAD CENTER	REMOTE ELEC. TILT	MECHANICAL DOWNTILT	TMA TYPE	ESTIMATED COAXIAL CABLE LENGTH	COAXIAL CABLE DIAMETER	TAPE COLOR
1	A1	RA11.7762	0°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	GREEN
								115'	1-5/8"	GREEN
								115'	1-5/8"	GREEN
2	B1	RA11.7762	100°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	BLUE
								115'	1-5/8"	BLUE
								115'	1-5/8"	BLUE
3	C1	RA11.7762	280°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	WHITE
								115'	1-5/8"	WHITE
								115'	1-5/8"	WHITE

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

CABLE MARKING LOCATIONS TABLE			
NO.	TAPE	TAG	LOCATIONS
1.	X		EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2.	X		EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3.		X	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER. (IF SHELTER IS USED)
4.	X		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5.	*		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

ANTENNA/COAX DETAILS & NOTES
SCALE: N.T.S.

03-03-11 JAMAL ELEBUTE 14:06:03 Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A7.dwg

5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

3				
2				
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	

COMMONWEALTH OF VIRGINIA
CHRISTOPHER D. MORIN
No. 032984
3-3-11
PROFESSIONAL ENGINEER

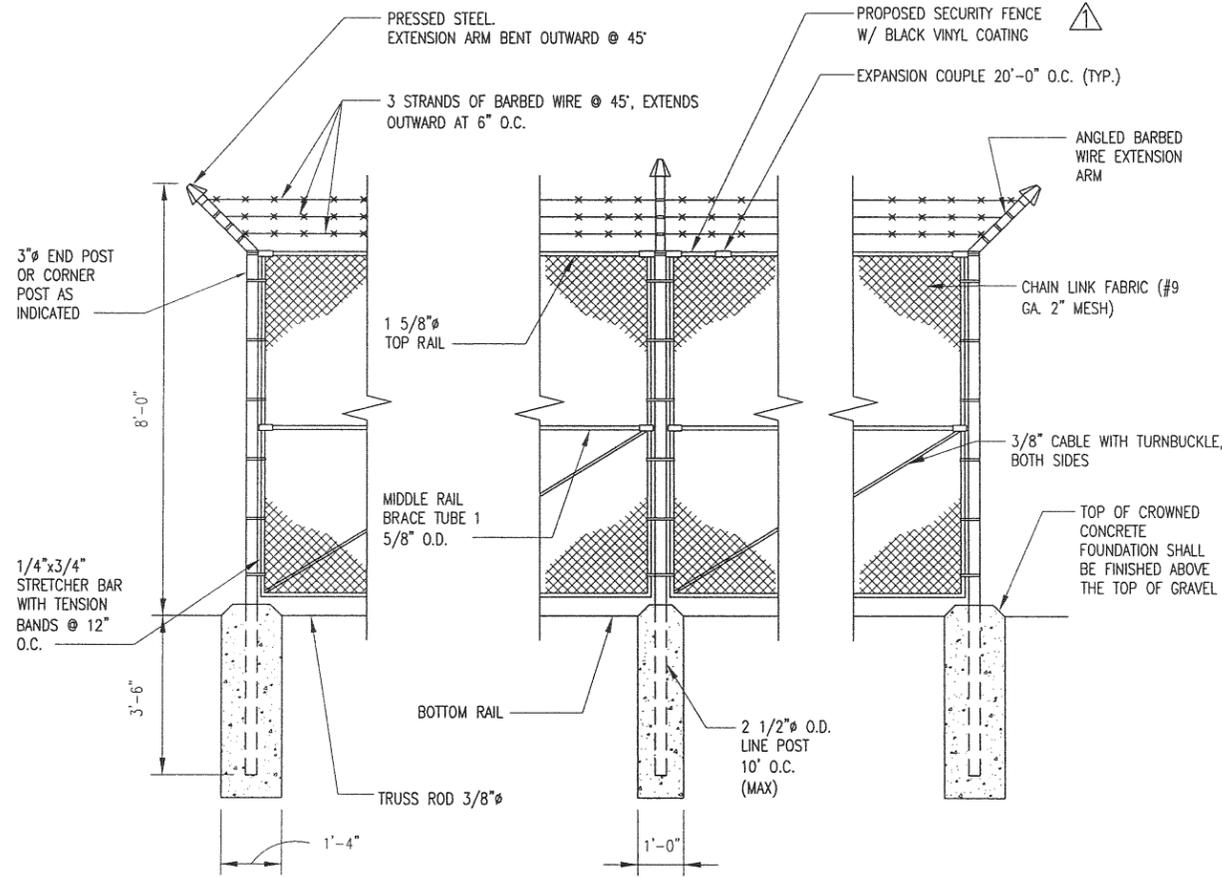
BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

RF INFORMATION & NOTES

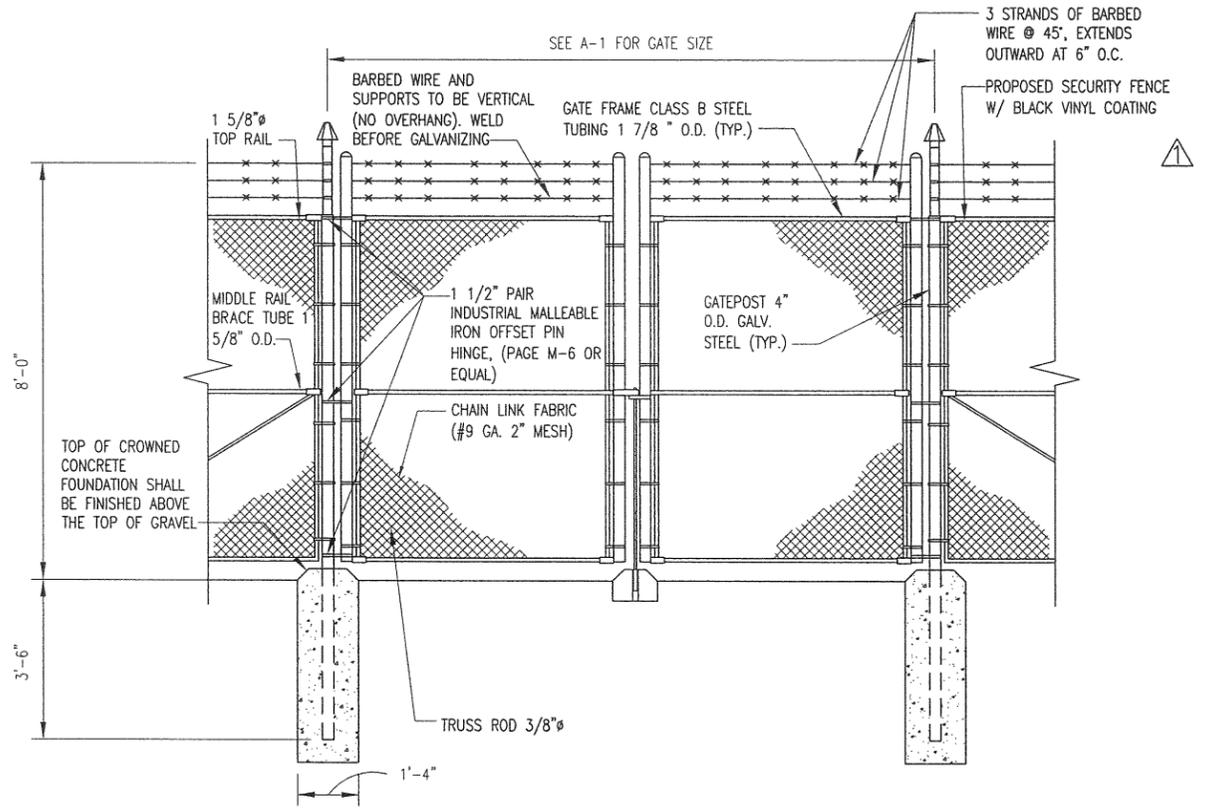
DRAWING NUMBER	REV
A-7	1

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NOTE: ALL PARTS OF THE FENCE SHALL BE PAINTED BLACK EXCEPT FOR THE FABRIC WHICH SHOULD BE COATED W/ BLACK VINYL



FENCE SECTION DETAIL 1
SCALE: 3/16"=1'-0" A-8



GATE ELEVATION 2
SCALE: 3/16"=1'-0" A-8



5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

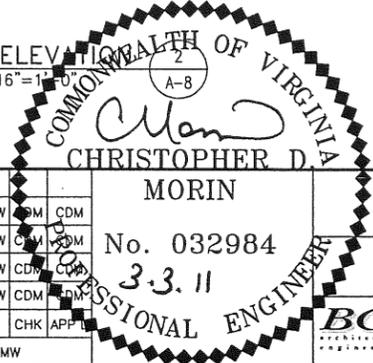
SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

3				
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM
1	02-21-11	ADDED VINYL COATING NOTES	GMW	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	



BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

FENCE AND GATE DETAILS

DRAWING NUMBER
A-8
REV
2

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4") CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.
6. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. THE ANCHOR BOLT DOWEL AND ROD SHALL BE STAINLESS STEEL WITH STAINLESS STEEL WASHERS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER2 IN.
 #5 AND SMALLER & WWF.....1 1/2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL3/4 IN.
 BEAMS AND COLUMNS1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. CONCRETE/EXPANSION ANCHORS SHALL BE STAINLESS STEEL. INSTALLATION, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SAI
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T
 OEM - ORIGINAL EQUIPMENT MANUFACTURE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

 ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 24782-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T GSM SITES."

NOTES:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100 % PASSING 1" SLEEVE.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING COMPACTOR.

SOIL COMPACTION NOTES FOR SLAB ON GRADE

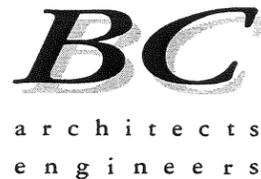
ABBREVIATIONS

- AGL ABOVE GRADE LEVEL
- BTS BASE TRANSCEIVER STATION
- (E) EXISTING
- MIN MINIMUM
- N.T.S. NOT TO SCALE
- REF REFERENCE
- RF RADIO FREQUENCY
- T.B.D. TO BE DETERMINED
- T.B.R. TO BE RESOLVED
- TYP TYPICAL
- REQ REQUIRED
- EGR EQUIPMENT GROUND RING
- AWG AMERICAN WIRE GAUGE
- MGB MASTER GROUND BUS
- EG EQUIPMENT GROUND
- BCW BARE COPPER WIRE
- SIAD SMART INTEGRATED ACCESS DEVICE
- GEN GENERATOR
- IGR INTERIOR GROUND RING (HALO)
- RBS RADIO BASE STATION

SYMBOLS

- SOLID GROUND BUS BAR
- SOLID NEUTRAL BUS BAR
- SUPPLEMENTAL GROUND CONDUCTOR
- 2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- CHEMICAL GROUND ROD
- GROUND ROD
- GROUND ROD W/ INSPECTION WELL
- DISCONNECT SWITCH
- METER
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE

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5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
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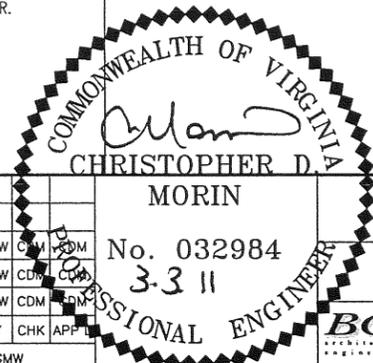
**SITE NAME: US460 AND SR778
 SITE NO. RO500G**

3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060



LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

3				
2				
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE:		AS SHOWN	DESIGNED C. MORIN	DRAWN GMW



BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
NOTES	
DRAWING NUMBER	REV
A-9	1

PROJECT INFORMATION

SCOPE OF WORK: PROPOSED (6) SECTOR ANTENNAS MOUNTED ON A PROPOSED TOWER. EQUIPMENT WILL BE LOCATED AT THE BASE OF THE TOWER ON A SLAB. SITE IS AN UNMANNED TELECOMMUNICATIONS FACILITY.

SITE ADDRESS: 3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

LATITUDE: 37° 16' 37.6508" N
LONGITUDE: 80° 25' 38.9169" W
GROUND ELEVATION: 2217'

JURISDICTION: MONTGOMERY COUNTY

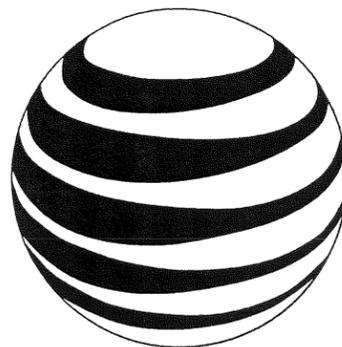
PROPOSED USE: TELECOMMUNICATIONS FACILITY

TOWER OWNER: NEW CINGULAR WIRELESS PCS, LLC

SITE NAME: US460 AND SR778

SITE #: R0500G

NAME OF APPLICANT: NEW CINGULAR WIRELESS PCS, LLC



at&t

SITE NUMBER: R0500G
SITE NAME: US460 AND SR778

UTILITY INFORMATION

POWER: AEP (877) 373-4858
TELCO: VERIZON (800) 483-5000

DRAWING INDEX

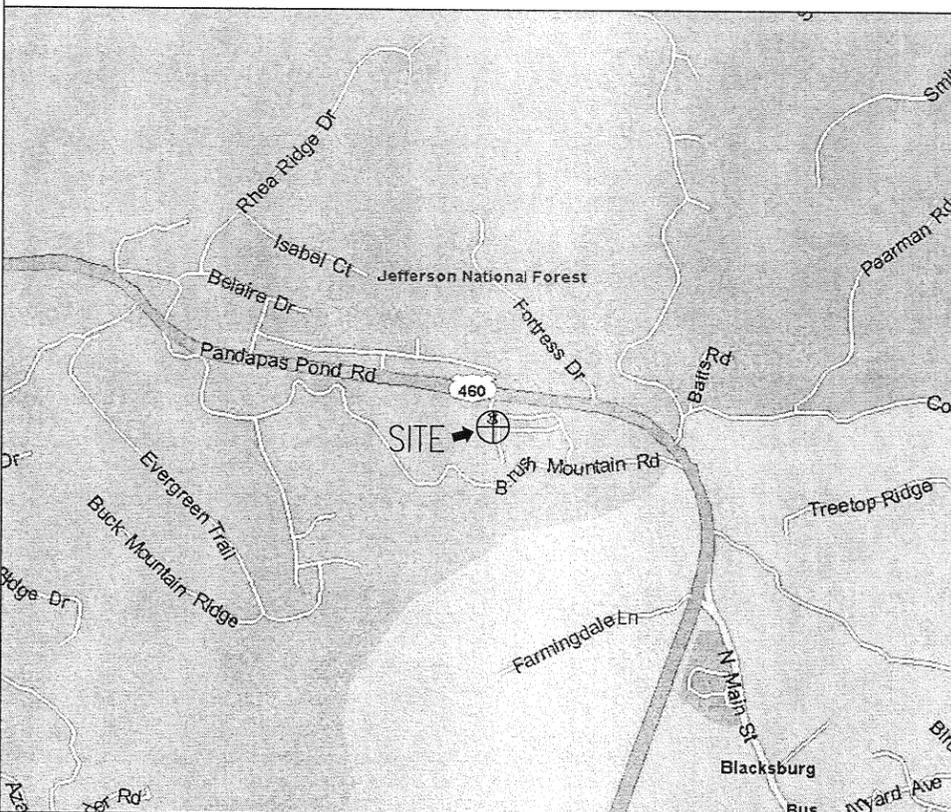
REV

T-1	TITLE SHEET	1
C-1	SURVEY	1
A-0	SITE PLAN	1
A-1	COMPOUND PLAN & ELEVATION	2
A-2	SHELTER LAYOUT & ELEVATIONS	2
A-3	SHELTER DETAILS	1
A-4	ICEBRIDGE DETAILS	1
A-5	ANTENNA DETAILS	2
A-6	DETAILS	1
A-7	RF INFORMATION & NOTES	1
A-8	FENCE DETAILS	1
A-9	NOTES	1
L-1	LANDSCAPE PLAN	2
E-1	GROUNDING PLAN	2
E-2	ELECTRICAL DETAILS	1
E-3	ELECTRICAL DETAILS	1
E-4	ELECTRICAL SCHEMATIC	1
E-5	ELECTRICAL DETAILS & NOTES	1
E-6	ELECTRICAL NOTES	2
SP-1	SPECIFICATIONS	1
SP-2	SPECIFICATIONS	1
SP-3	SPECIFICATIONS	1

DIRECTION:

DEPART 4801 COX RD, GLEN ALLEN, VA 23060 ON COX RD (WEST) 0.5 MI. TURN LEFT (WEST) ONTO NUCKOLS RD 0.7 MI. TAKE RAMP (RIGHT) ONTO I-295 1.8 MI. AT EXIT 53A, TAKE RAMP (RIGHT) ONTO I-64 90.2 MI. AT EXIT 87, TAKE RAMP (LEFT) ONTO I-64 [I-81] 30.7 MI. KEEP LEFT ONTO I-81 72.4 MI. AT EXIT 118C-B-A, TURN RIGHT ONTO RAMP 0.6 MI. AT EXIT 118C, KEEP RIGHT TO STAY ON RAMP 0.3 MI. TAKE RAMP (RIGHT) ONTO US-11 [US-460] 0.9 MI. TAKE RAMP (RIGHT) ONTO US-460 12.6 MI. TURN LEFT (SOUTH) ONTO COAL BANK HOLLOW RD, THEN IMMEDIATELY BEAR LEFT (SOUTH-EAST) ONTO US-460 [PANDAPAS POND RD] 109 YDS. TURN RIGHT (WEST) ONTO BRUSH MOUNTAIN RD 0.3 MI. TURN RIGHT (NORTH) ONTO LOCAL ROAD(S) 0.3 MI. TURN LEFT (SOUTH) ONTO LOCAL ROAD(S) 43 YDS. ARRIVE AT SITE.

VICINITY MAP



SCALE: 1"=2000'

APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE (IBC 2006)

ELECTRICAL CODE:
NATIONAL ELECTRICAL CODE (NEC 2008)

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL CONSTRUCTION, ASD, NINTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

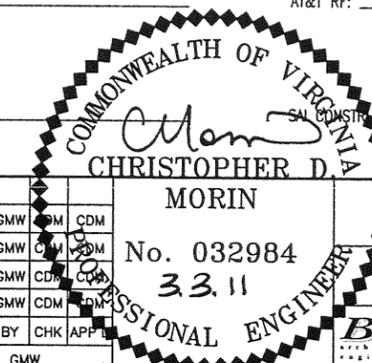
FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

NOTES

NOTE: MAGNETIC DECLINATION - 8° 4'W CHANGING BY 0° 2'W PER YEAR AS OF 05/05/10

AT&T CONSTRUCTION: _____ AT&T RF: _____

AT&T COMPLIANCE: _____



5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. R0500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



3					
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
1	02-21-11	ADDED L-1	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		

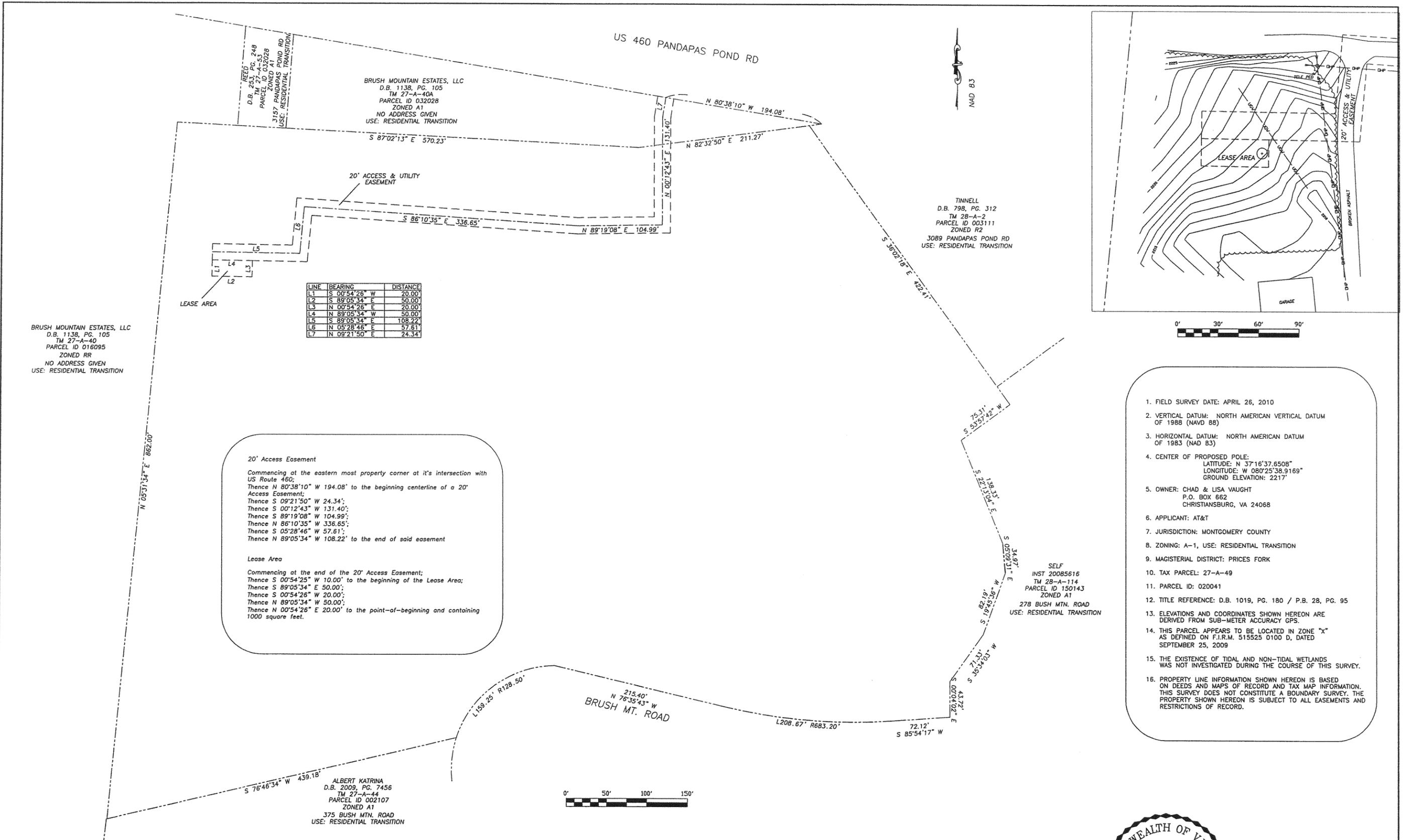
MORIN
No. 032984
3.3.11

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

TITLE SHEET

DRAWING NUMBER	REV
T-1	2

03-03-11 JAMAL ELEBUTE 13:42:22 Y:\Drawings - 2010\AT&T - Rawlands\R0500G\CD's\T1.dwg



LINE	BEARING	DISTANCE
L1	S 00°54'26" W	20.00'
L2	S 89°05'34" E	50.00'
L3	N 00°54'26" E	20.00'
L4	N 89°05'34" W	50.00'
L5	S 89°05'34" E	108.22'
L6	N 05°28'46" E	57.61'
L7	N 09°21'50" E	24.34'

20' Access Easement
 Commencing at the eastern most property corner at it's intersection with US Route 460;
 Thence N 80°38'10" W 194.08' to the beginning centerline of a 20' Access Easement;
 Thence S 09°21'50" W 24.34';
 Thence S 00°12'43" W 131.40';
 Thence S 89°19'08" W 104.99';
 Thence N 86°10'35" W 336.65';
 Thence S 05°28'46" W 57.61';
 Thence N 89°05'34" W 108.22' to the end of said easement

Lease Area
 Commencing at the end of the 20' Access Easement;
 Thence S 00°54'26" W 10.00' to the beginning of the Lease Area;
 Thence S 89°05'34" E 50.00';
 Thence S 00°54'26" W 20.00';
 Thence N 89°05'34" W 50.00';
 Thence N 00°54'26" E 20.00' to the point-of-beginning and containing 1000 square feet.

- FIELD SURVEY DATE: APRIL 26, 2010
- VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88)
- HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD 83)
- CENTER OF PROPOSED POLE:
 LATITUDE: N 37°16'37.6508"
 LONGITUDE: W 080°25'38.9169"
 GROUND ELEVATION: 2217'
- OWNER: CHAD & LISA VAUGHT
 P.O. BOX 662
 CHRISTIANSBURG, VA 24068
- APPLICANT: AT&T
- JURISDICTION: MONTGOMERY COUNTY
- ZONING: A-1, USE: RESIDENTIAL TRANSITION
- MAGISTERIAL DISTRICT: PRICES FORK
- TAX PARCEL: 27-A-49
- PARCEL ID: 020041
- TITLE REFERENCE: D.B. 1019, PG. 180 / P.B. 28, PG. 95
- ELEVATIONS AND COORDINATES SHOWN HEREON ARE DERIVED FROM SUB-METER ACCURACY GPS.
- THIS PARCEL APPEARS TO BE LOCATED IN ZONE "X" AS DEFINED ON F.I.R.M. 515525 0100 D, DATED SEPTEMBER 25, 2009
- THE EXISTENCE OF TIDAL AND NON-TIDAL WETLANDS WAS NOT INVESTIGATED DURING THE COURSE OF THIS SURVEY.
- PROPERTY LINE INFORMATION SHOWN HEREON IS BASED ON DEEDS AND MAPS OF RECORD AND TAX MAP INFORMATION. THIS SURVEY DOES NOT CONSTITUTE A BOUNDARY SURVEY. THE PROPERTY SHOWN HEREON IS SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD.

BRUSH MOUNTAIN ESTATES, LLC
 D.B. 1138, PG. 105
 TM 27-A-40
 PARCEL ID 016095
 ZONED RR
 NO ADDRESS GIVEN
 USE: RESIDENTIAL TRANSITION

BRUSH MOUNTAIN ESTATES, LLC
 D.B. 1138, PG. 105
 TM 27-A-40A
 PARCEL ID 032028
 ZONED A1
 NO ADDRESS GIVEN
 USE: RESIDENTIAL TRANSITION

TINNELL
 D.B. 798, PG. 312
 TM 28-A-2
 PARCEL ID 003111
 ZONED R2
 3089 PANDAPAS POND RD
 USE: RESIDENTIAL TRANSITION

SELF
 INST 20085616
 TM 28-A-114
 PARCEL ID 150143
 ZONED A1
 278 BUSH MTN. ROAD
 USE: RESIDENTIAL TRANSITION

ALBERT KATRINA
 D.B. 2009, PG. 7456
 TM 27-A-44
 PARCEL ID 002107
 ZONED A1
 375 BUSH MTN. ROAD
 USE: RESIDENTIAL TRANSITION

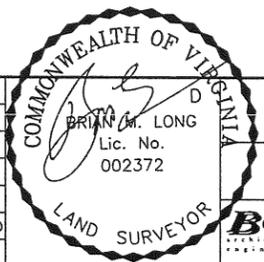


5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000
 FAX: (703) 671-6300

SITE NAME: US 460 & RTE 778
SITE NO. R0500 G
 3153 PANDAPAS POND RD
 BLACKSBURG, VA



NO.	DATE	REVISIONS	BY	CHK	APP'D
3					
2					
1	03-03-11	REVISED SURVEY		BML	BML BML
0	11-17-10	FINAL SURVEY		BML	BML BML
A					
NO.	DATE	REVISIONS	BY	CHK	APP'D
SCALE: AS SHOWN		DESIGNED BML	DRAWN BML		

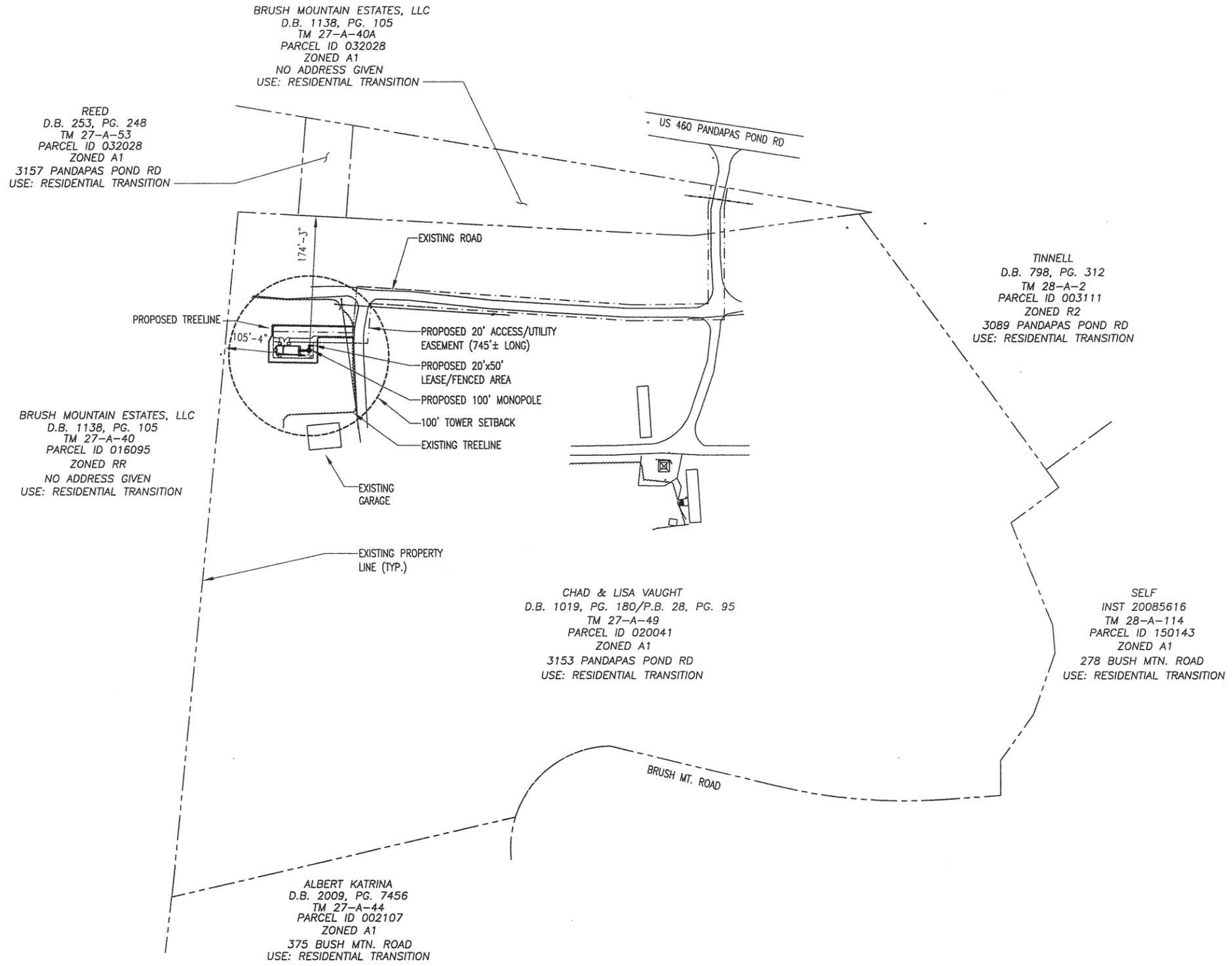


BC ARCHITECTS ENGINEERS
 FALLS CHURCH, VA
 LONG SURVEYING, LLC
 POWHATAN, VA

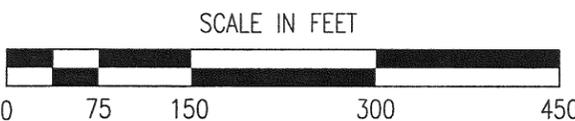
DRAWING NUMBER: C-1
 REV: 0

LEGEND

NEW FENCE	—●—●—●—●—●—●—
EXIST. FENCE	—X—X—X—X—
SETBACK	— — — — —
EASEMENT	— — — — —
LEASE	— — — — —
PROPERTY LINE	— — — — —
EXIST. CONTOUR	— — — — —
NEW CONTOUR	— — — — —
TYP. BUILDING	
TYP. ROAD	— — — — —



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SITE PLAN
 SCALE: 1"=150' 11x17
 SCALE: 1"=75' 24x36



BC
 architects
 engineers

5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000
 FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060

LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

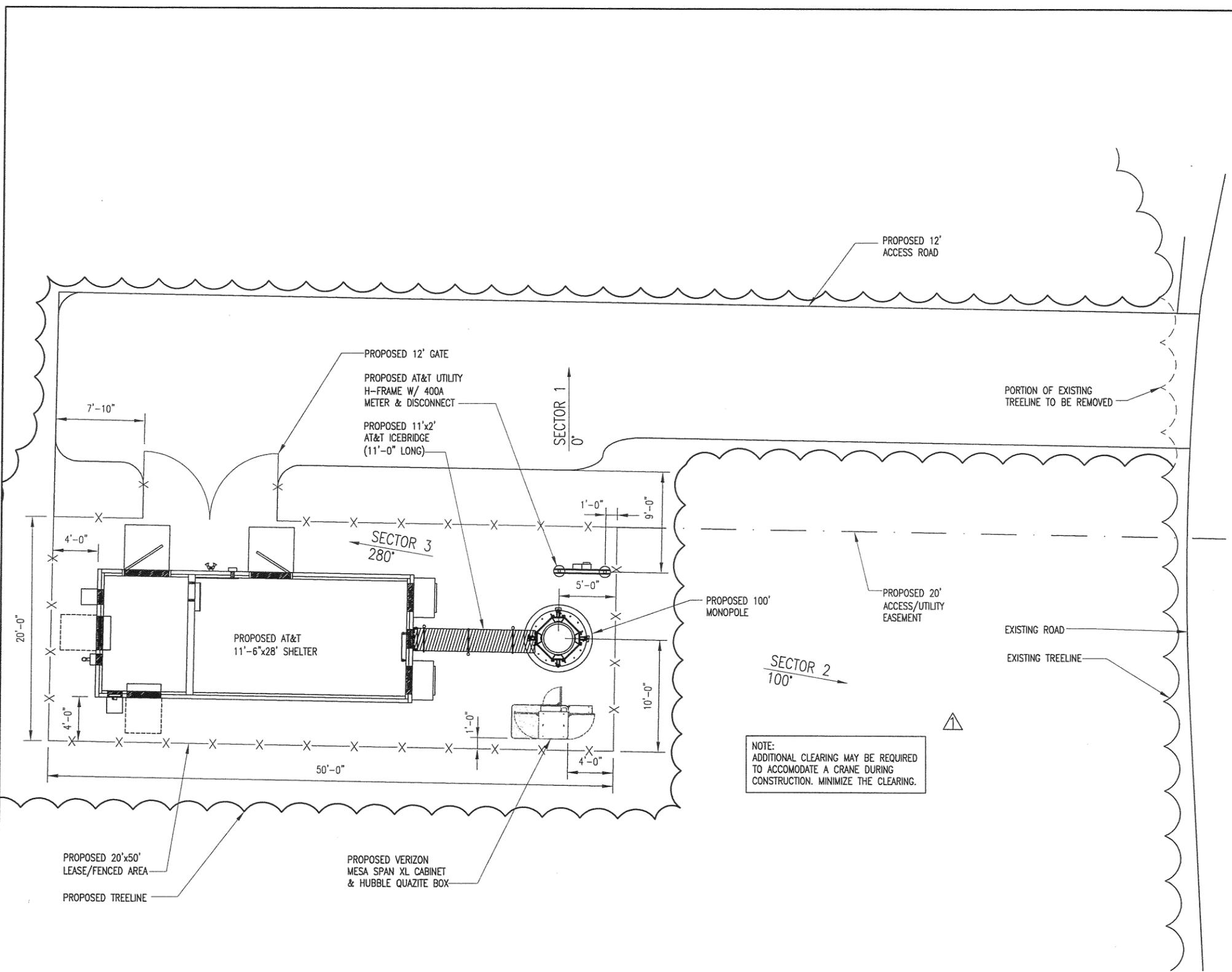
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2					
1					
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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
SCALE: AS SHOWN DESIGNED C. MORIN DRAWN GMW					

COMMONWEALTH OF VIRGINIA
 Christopher D. Morin
 PROFESSIONAL ENGINEER

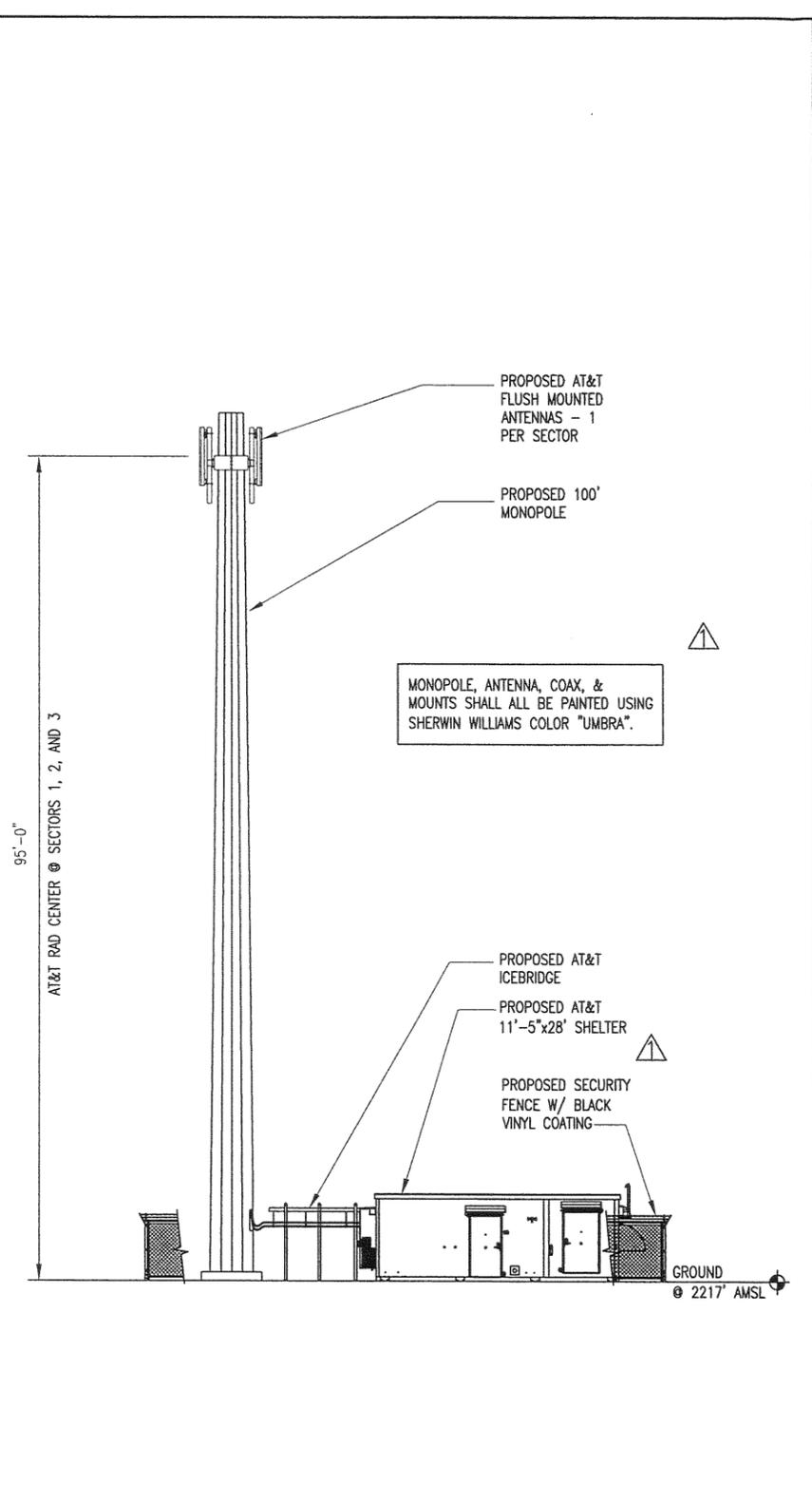
MORIN
 No. 032984
 3.3.11

BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
SITE PLAN	
DRAWING NUMBER	REV
A-0	1

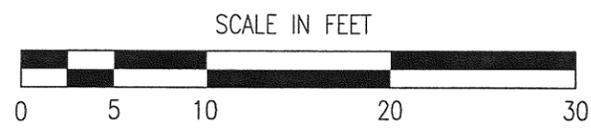
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NOTE:
ADDITIONAL CLEARING MAY BE REQUIRED
TO ACCOMMODATE A CRANE DURING
CONSTRUCTION. MINIMIZE THE CLEARING.



MONOPOLE, ANTENNA, COAX, &
MOUNTS SHALL ALL BE PAINTED USING
SHERWIN WILLIAMS COLOR "UMBRA".



TRUE NORTH

COMPOUND PLAN 1
SCALE: 1"=10' A-1



ELEVATION 2
SCALE: 1"=30' A-1

BC
architects
engineers

5659 COLUMBIA PIKE, SUITE 101
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SITE NAME: US460 AND SR778
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3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

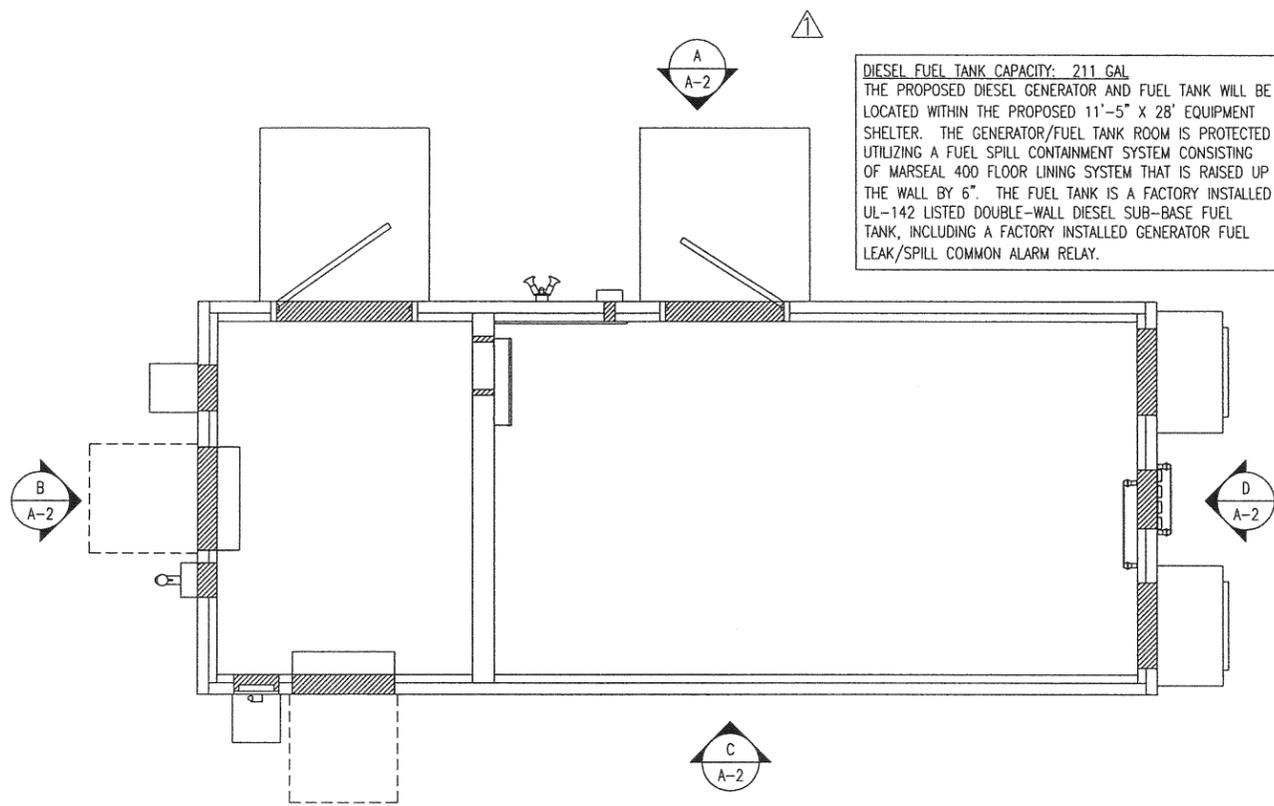


3				
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM
1	02-21-11	NOTES	GMW	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	

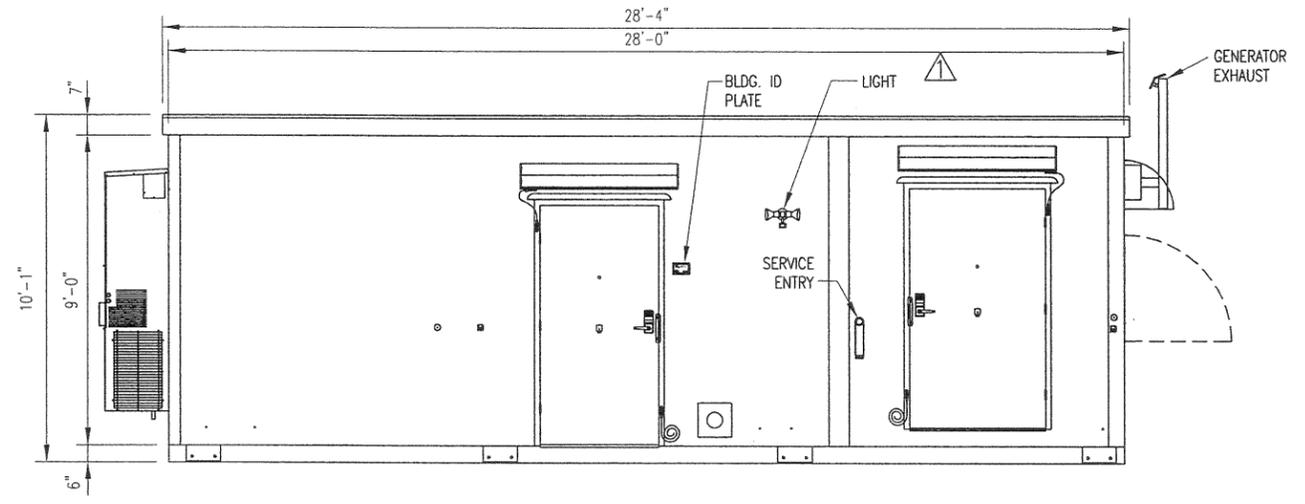
SCHEMATIC SEAL
COMMONWEALTH OF VIRGINIA
No. 032984
3.3.11
PROFESSIONAL ENGINEER
MORIN

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA
COMPOUND PLAN & ELEVATION
DRAWING NUMBER A-1
REV 2

DIESEL FUEL TANK CAPACITY: 211 GAL
 THE PROPOSED DIESEL GENERATOR AND FUEL TANK WILL BE LOCATED WITHIN THE PROPOSED 11'-5" X 28' EQUIPMENT SHELTER. THE GENERATOR/FUEL TANK ROOM IS PROTECTED UTILIZING A FUEL SPILL CONTAINMENT SYSTEM CONSISTING OF MARSEAL 400 FLOOR LINING SYSTEM THAT IS RAISED UP THE WALL BY 6". THE FUEL TANK IS A FACTORY INSTALLED UL-142 LISTED DOUBLE-WALL DIESEL SUB-BASE FUEL TANK, INCLUDING A FACTORY INSTALLED GENERATOR FUEL LEAK/SPILL COMMON ALARM RELAY.

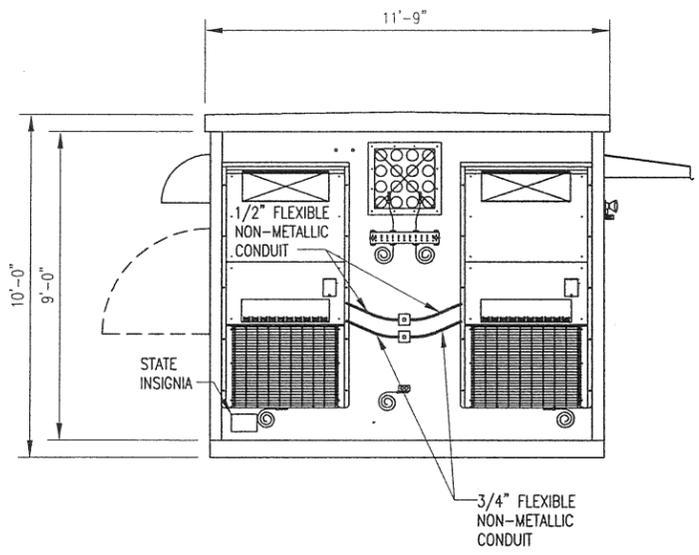


AT&T EQUIPMENT SHELTER 11'-5" X 28' (FIBREBOND #D8320, PORT B)
 SCALE: N.T.S.

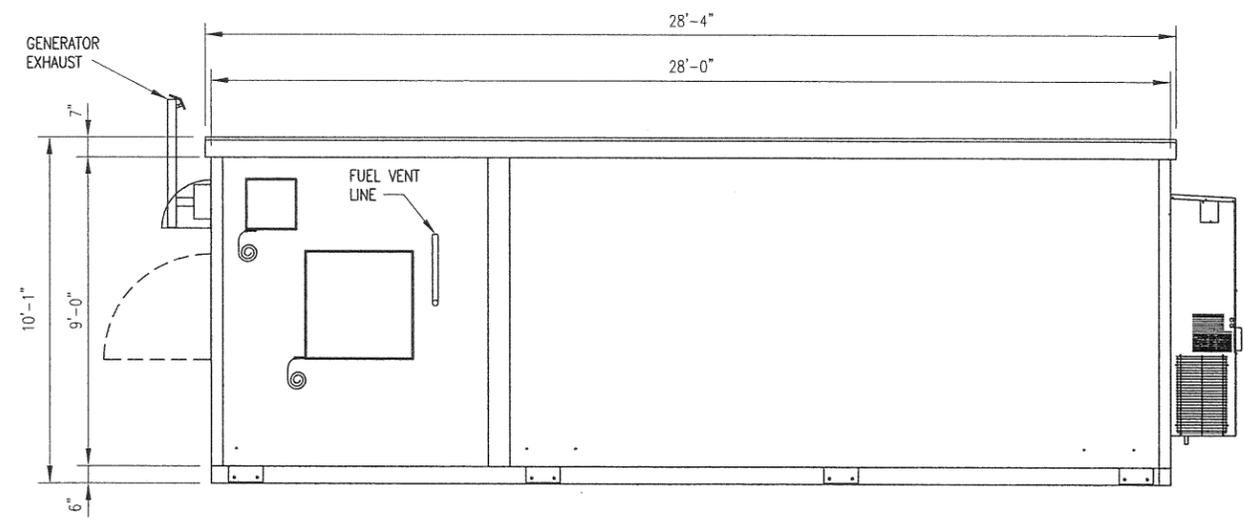


NOTE: A HOOD OVER THE FLOOD LIGHT IS REQUIRED SO THAT NO LIGHT CAN SHINE UPWARDS NOR BEYOND THE PROPERTY LINE - PER SECTION 10-46 (9)

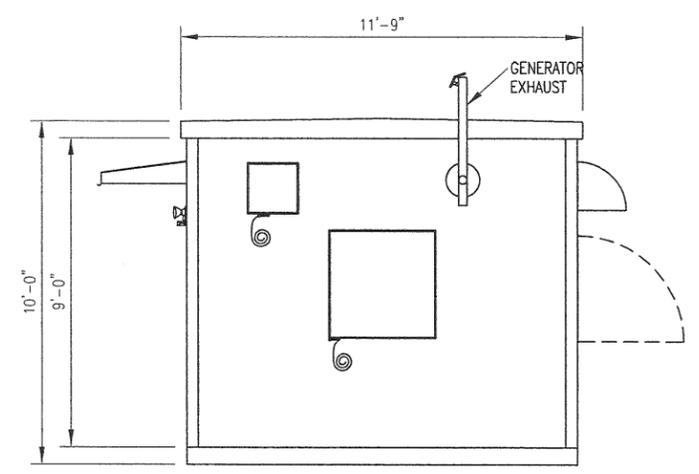
ELEVATION A
 SCALE: N.T.S.



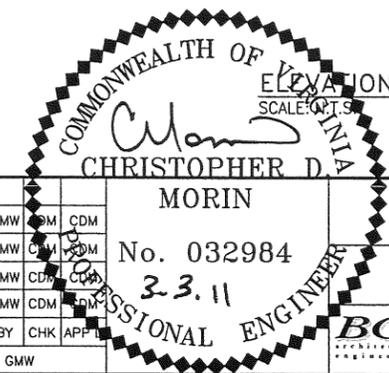
ELEVATION B
 SCALE: N.T.S.



ELEVATION C
 SCALE: N.T.S.



ELEVATION D
 SCALE: N.T.S.



BC
 architects
 engineers

5659 COLUMBIA PIKE, SUITE 101
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SITE NAME: US460 AND SR778
 SITE NO. R0500G

3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060

LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

NO.	DATE	REVISIONS	BY	CHK	APP
3					
2	03-03-11	REVISED SITE ADDRESS	GMW	DM	CDM
1	02-21-11	ADDED NOTES	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM

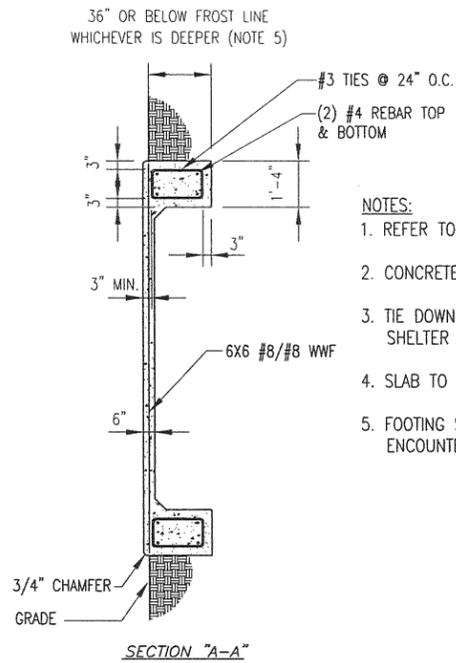
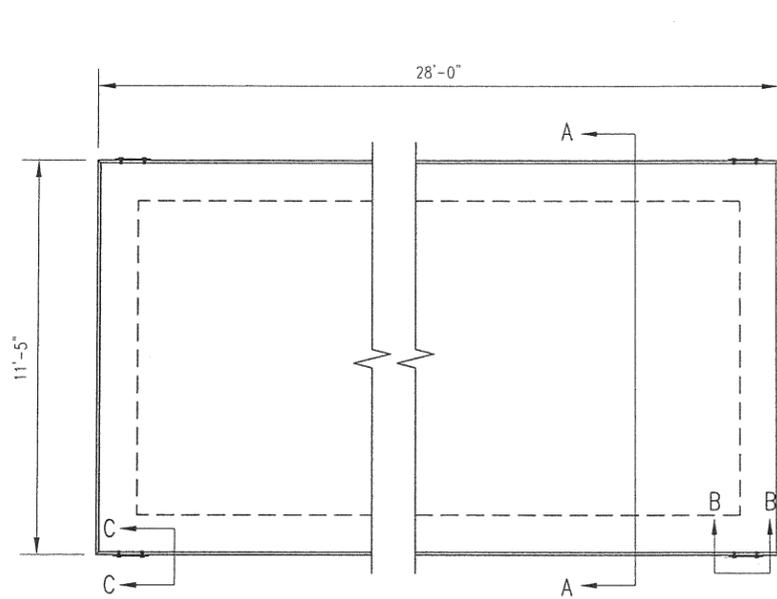
SCALE: AS SHOWN DESIGNED: C. MORIN DRAWN: GMW

BC ARCHITECTS ENGINEERS
 FALLS CHURCH, VA

SHELTER DETAILS

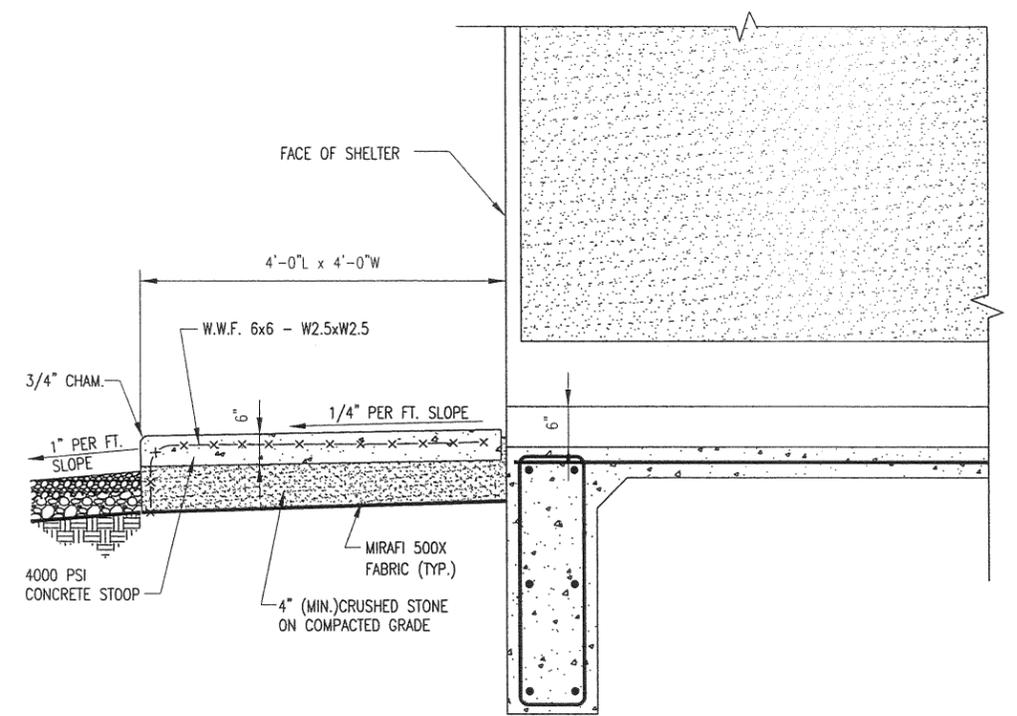
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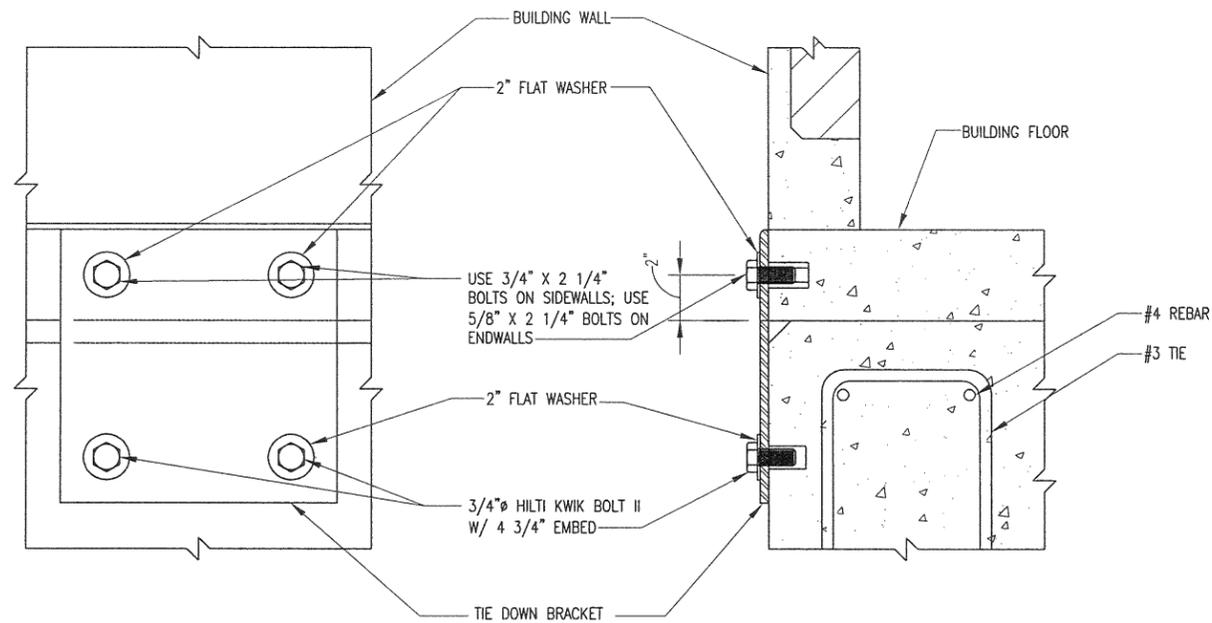


- NOTES:
1. REFER TO MANUFACTURERS SPECIFICATION'S FOR SITE SPECIFIC CRITERIA.
 2. CONCRETE STRENGTH SHALL BE A MINIMUM OF 4000 PSI.
 3. TIE DOWN PLATES, ANCHORS, AND HARDWARE TO BE PROVIDED BY THE SHELTER MANUFACTURER.
 4. SLAB TO BE LEVEL AND FLAT.
 5. FOOTING SHALL EXTEND TO DEPTH SHOWN OR BEAR ON SOLID ROCK IF ENCOUNTERED DURING EXCAVATION.

SHELTER FOUNDATION DETAILS 1
SCALE: N.T.S. A-3



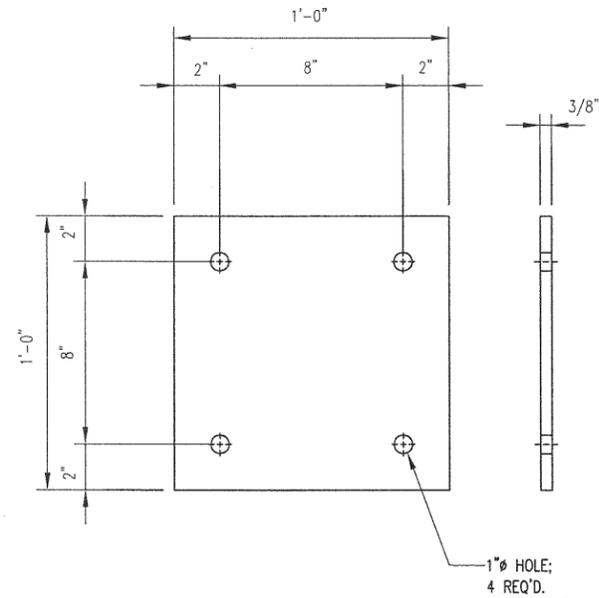
STOOP DETAIL 2
SCALE: N.T.S. A-3



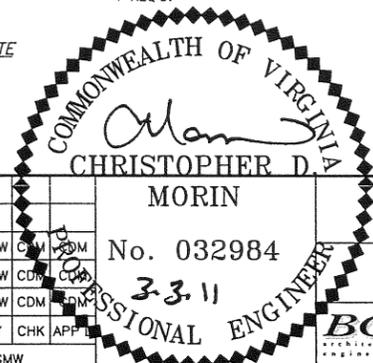
SECTION "B-B"
N.T.S.

SECTION "C-C"
N.T.S.

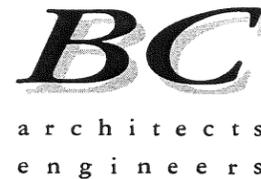
SHELTER CONNECTION DETAILS 3
SCALE: N.T.S. A-3



TIE DOWN PLATE
N.T.S.



03-03-11 JAMAL ELEBUTE 14:01:17 Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A3.dwg



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TEL: (703) 671-6000
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SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



3					
2					
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM	
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

SHELTER DETAILS

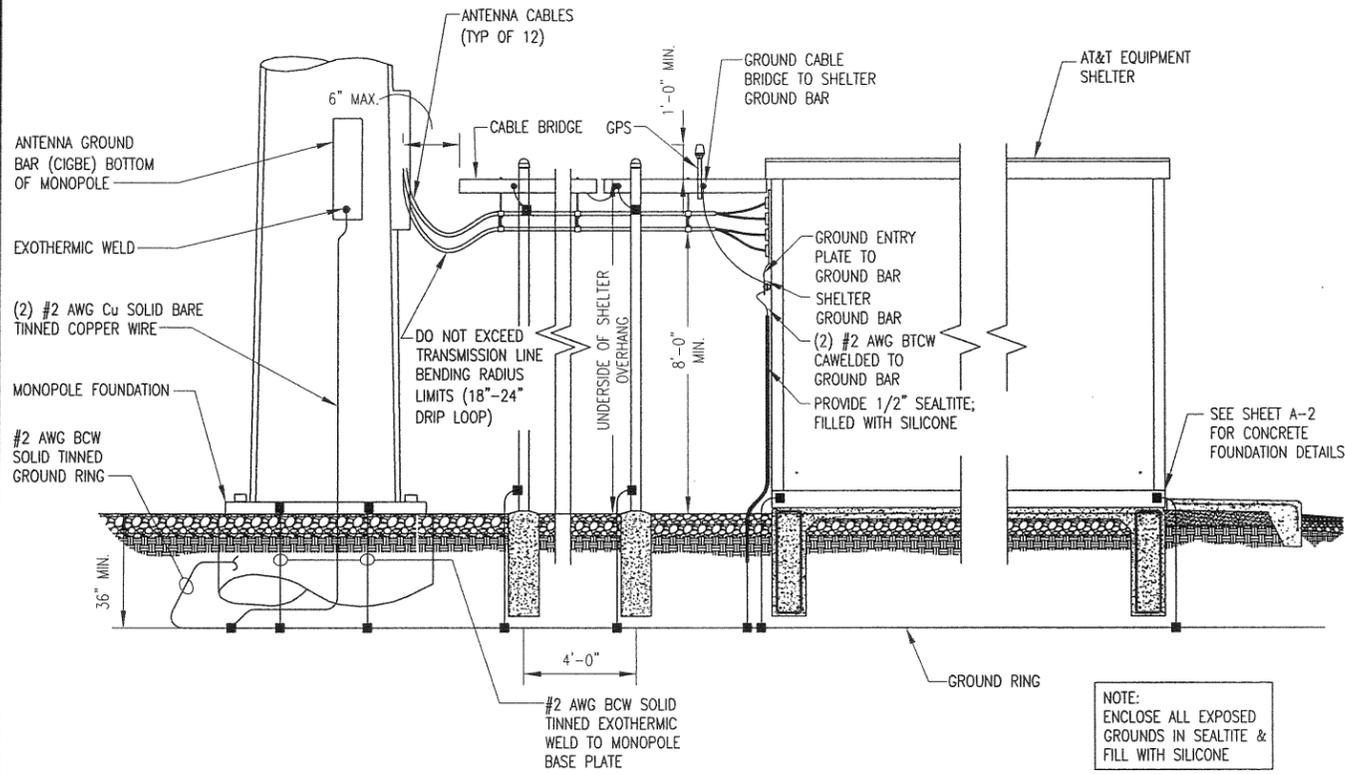
DRAWING NUMBER

A-3

REV

1

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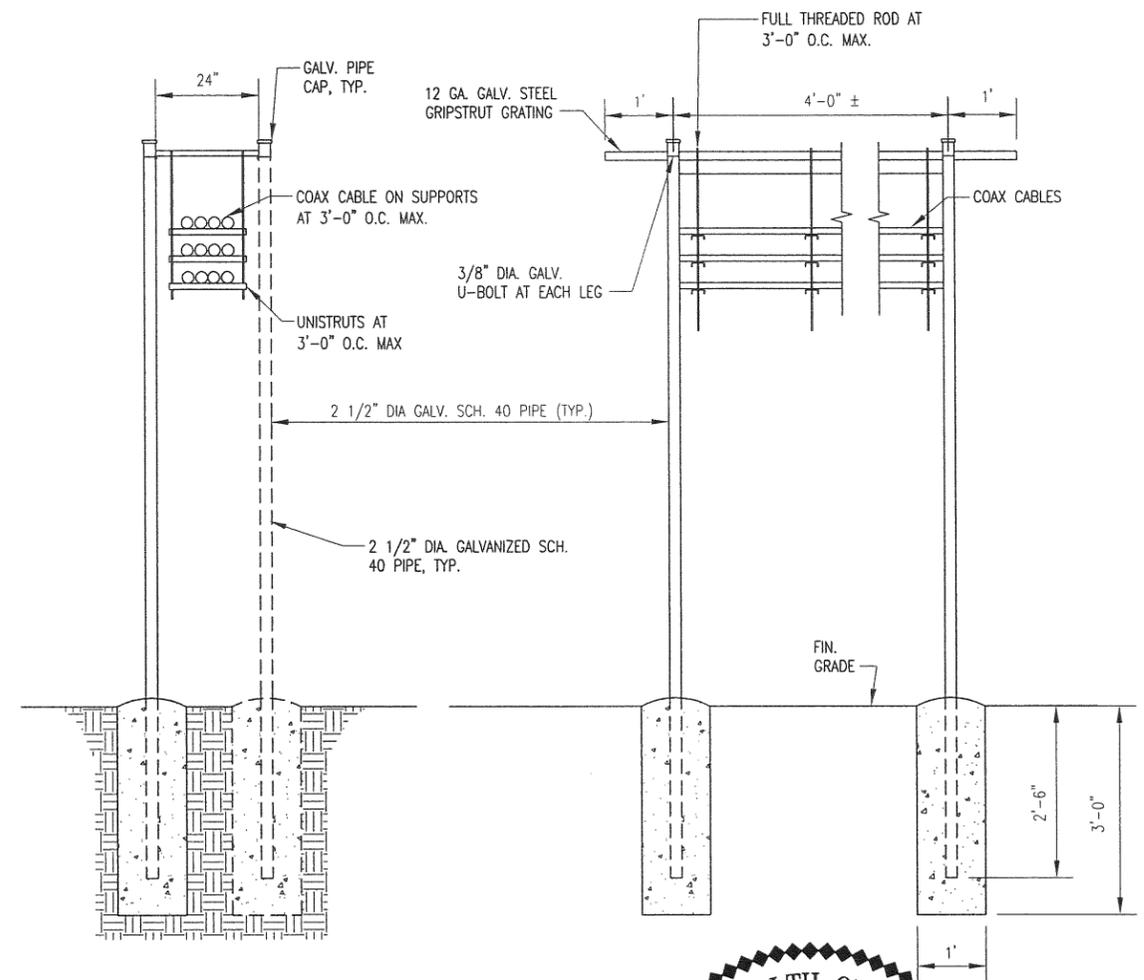


EQUIPMENT ELEVATION W/ GROUNDING 1
SCALE: N.T.S. A-4

NOTE:
ENCLOSE ALL EXPOSED
GROUNDS IN SEALTITE &
FILL WITH SILICONE

NOTES:

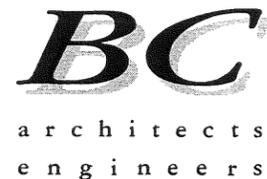
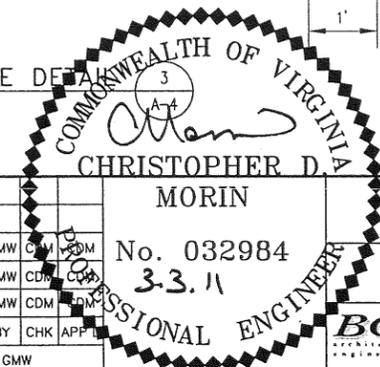
1. DESIGN REQUIREMENTS ARE PER LOCAL BUILDING CODE/1994 ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES AND ALL APPLICABLE STATE AND LOCAL CODES. THE BASIC GROUND WIND SPEED UTILIZED FOR DESIGN IS 100 MPH.
2. REFER TO THE SITE PLAN PREPARED BY OTHERS FOR BOUNDARY SURVEY AND SITE TOPOGRAPHY.
3. CONCRETE EQUIPMENT PAD SHALL BE PLACED OVER UNDISTURBED OR WELL COMPACTED SOIL. SEE NOTE 4.
4. EXISTING VEGETATION AND ORGANIC MATERIALS SHALL BE REMOVED FROM THE CONCRETE EQUIPMENT PAD AREAS. FILL SITE TO ORIGINAL ELEVATION WITH CLEAN SANDY SOIL. COMPACT TO OBTAIN 2500 PSF BEARING CAPACITY.
5. STRUCTURAL STEEL SHALL CONFORM TO LATEST EDITION OF THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS—ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE CODE OF STANDARD PRACTICE.
6. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36 MIN. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION.
7. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1-92 STRUCTURAL WELDING CODE—STEEL WELD ELECTRODES SHALL BE E70XX.
8. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8" MINIMUM DIAMETER BEARING TYPE CONNECTIONS WITH THREADS INCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS OR EQUIVALENT UNLESS OTHERWISE NOTED.
9. TRANSMITTER EQUIPMENT SHALL BE FURNISHED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER PROVIDED HARDWARE IS ATTACHED TO BID DOCUMENTS (SEE ATTACHMENT E) ALL OTHER HARDWARE TO BE FURNISHED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
10. NORTH ARROW SHOWN ON PLANS REFER TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.



EXTERIOR ANTENNA CABLE GROUNDING
AT SHELTER COAX ENTRY PORT

DETAIL 2
SCALE: N.T.S. A-4

ICEBRIDGE DESIGN
SCALE: N.T.S.



5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



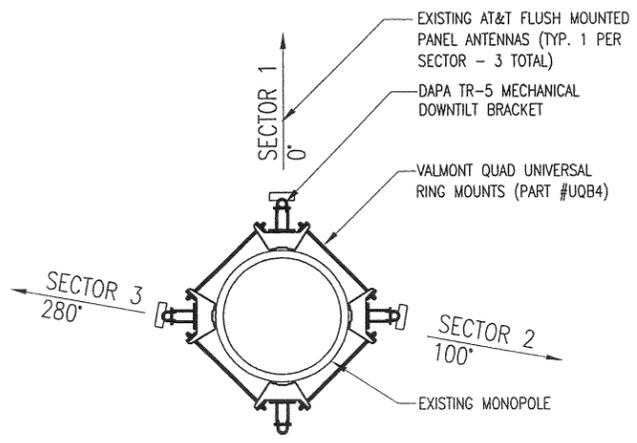
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2				
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0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

SHELTER DETAILS

DRAWING NUMBER
A-4
REV
1

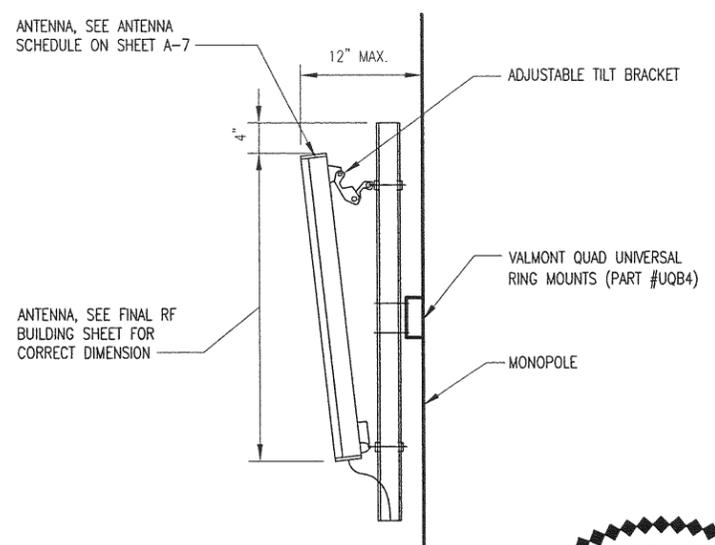
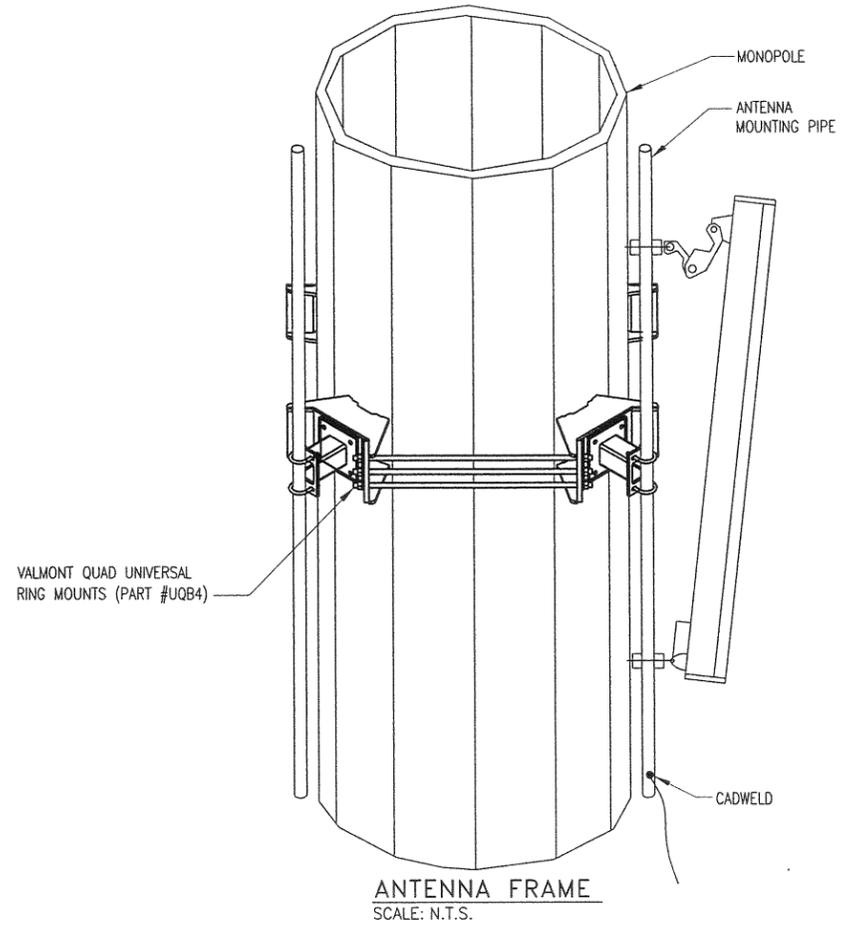
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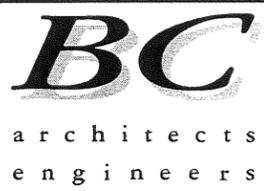
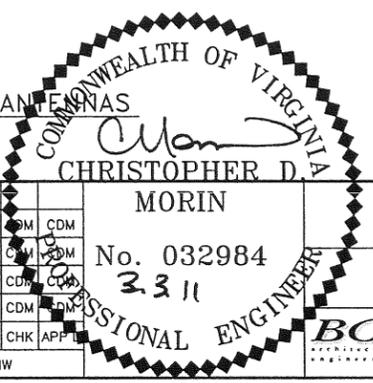
NOTES:
 1. CONTRACTOR SHALL VERIFY SIZE OF BRACKET REQUIRED PRIOR TO CONSTRUCTION
 2. PANEL ANTENNAS TO BE FLUSH MOUNTED TO MONOPOLE

NOTE: MAGNETIC DECLINATION - 8° 4' W CHANGING BY 0° 2' W/YEAR AS OF 05/05/10
 SEE SHEET A-8 FOR ANTENNA & COAX CONFIGURATION

ANTENNA PLAN VIEW
 SCALE: N.T.S.

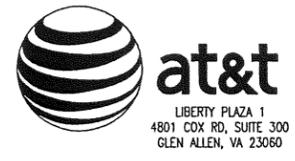


ELEVATION OF ANTENNAS
 SCALE: N.T.S.



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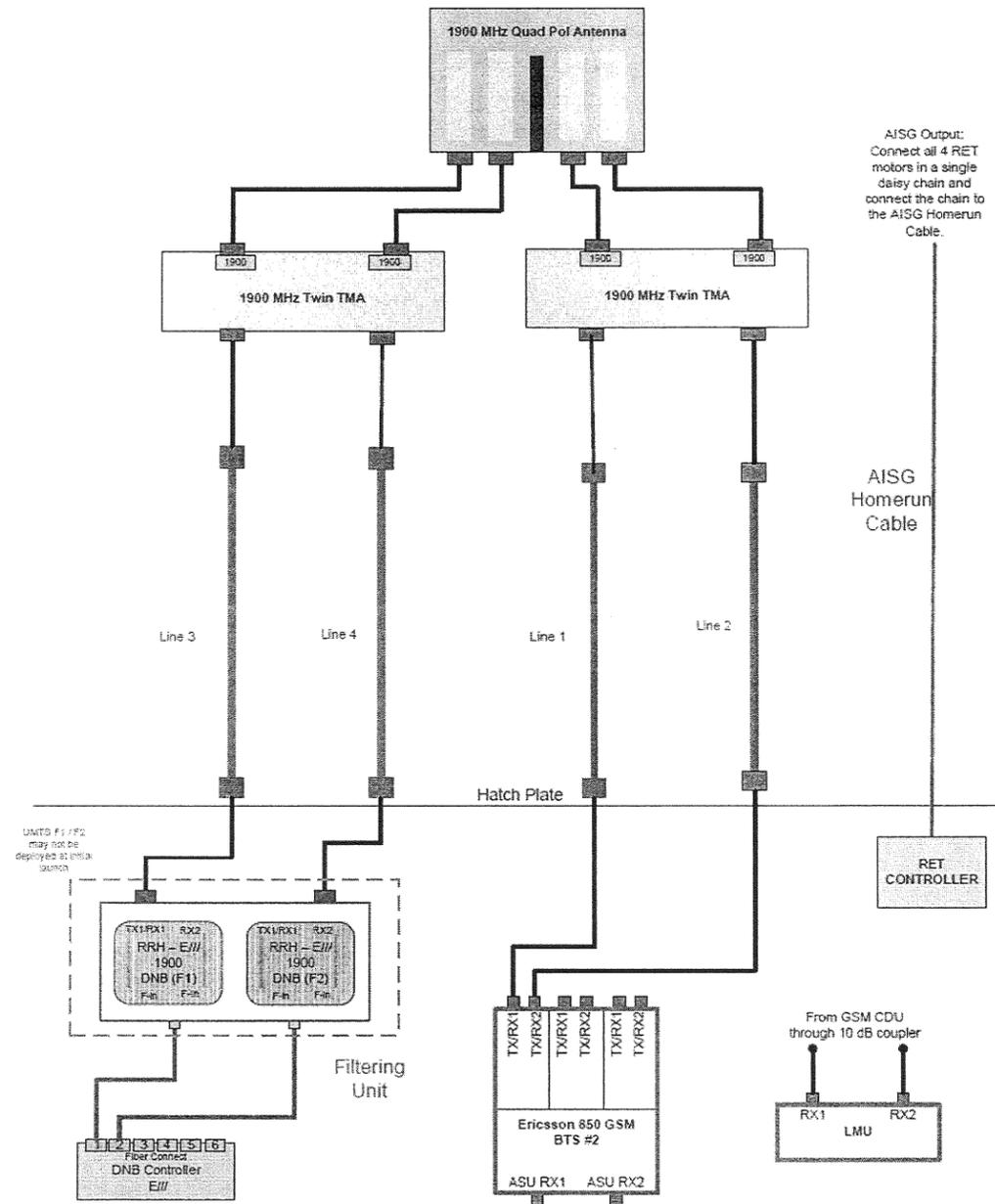
SITE NAME: US460 AND SR778
SITE NO. RO500G
 3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060



3					
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
1	02-21-11	CHANGED ANTENNA MOUNT	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

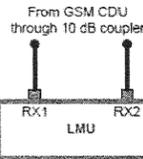
BC ARCHITECTS ENGINEERS
 FALLS CHURCH, VA
 ANTENNA DETAILS
 DRAWING NUMBER: A-5
 REV: 2

AT&T Mobility
 Virginias Market NSB Sector Plumbing Diagram
 Single Band (1900 MHz) - F2 - 4 Lines - 1 Antennas Per Sector



AISG Output:
 Connect all 4 RET
 motors in a single
 daisy chain and
 connect the chain to
 the AISG Homerun
 Cable.

AISG
 Homerun
 Cable

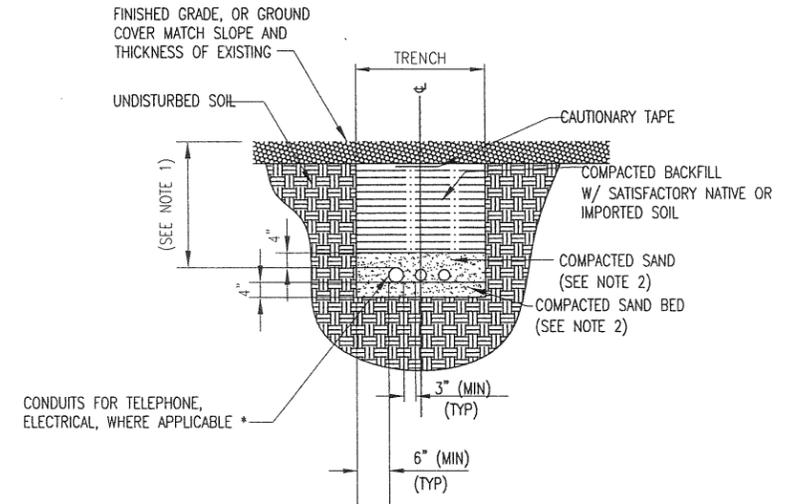


ITEM NO.	ITEM DESCRIPTION	GSM SIZE/PART NO. (ANDREW)
1	ANTENNA (SEE NOTE 2 & 3) AS-BUILT SERIAL #	RA11.7762
	MECHANICAL DOWNTILT	0', 0', 0'
	ELECTRICAL DOWNTILT	2', 2', 2'
2	ANTENNA JUMPER (LENGTH)	1/2" LDF4P (6 FEET)
2A	ATTACHED MALE DIN CONNECTOR	INCLUDED W/ITEM #2
3	MAIN COAX	1 5/8" Ø AVA7-50
4	UNATTACHED FEMALE DIN CONNECTOR	L5PDF-RPC
4A	EQUIPMENT JUMPER (LENGTH)	1/2" SF (6 FEET)

NOTES:

- ALL MATERIALS ON THE ABOVE TABLE SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
- SUBCONTRACTOR SHALL AS-BUILT CABLE LENGTHS AND PROVIDE ANTENNA SERIAL NUMBERS ON RED-LINED DRAWINGS.
- ANTENNAS SHALL BE PROCURED AND INSTALLED WITH DOWNTILT BRACKETS AND HEAVY DUTY CLAMPS SUPPLIED BY ANTENNA MANUFACTURER.
- FOLLOW DETAIL 636 FOR CIRCULAR COAX COLOR CODING.
- COAX GROUND KITS, COAX WEATHER PROOFING, SNAP-IN HANGER CLAMPS AND HOISTING GRIPS SHALL BE PROVIDED BY THE CONTRACTOR TO THE SUBCONTRACTOR FOR INSTALLATION.
- ALL LINES NOT TERMINATED TO RADIO EQUIPMENT SHALL HAVE A 50 OHM TERMINATION LOAD

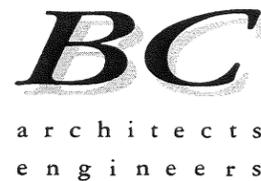
- NOTES: 1. DEPTH "D" WILL BE MINIMUM OF 36" FROM FINISH STONE GRADE OR DEEPER BASED UPON NATIONAL ELECTRICAL CODE, UTILITY REQUIREMENTS OR STATE AND LOCAL CODES.
 2. PEA STONE, RED-COLORED TOP, MAY BE USED IN PLACE OF COMPACTED SAND.



DIRECT BURIED CONDUIT 2
 SCALE: N.T.S. A-6

1 - ANTENNA PER SECTOR CONFIGURATION 1
 SCALE: N.T.S. A-6

03-03-11 JAMAL ELEBUTE 14:05:11 Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A6.dwg



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 FAX: (703) 671-6300

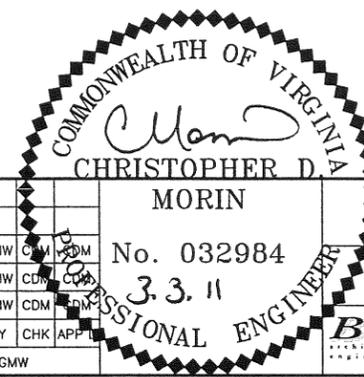
SITE NAME: US460 AND SR778
 SITE NO. RO500G

3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060



LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

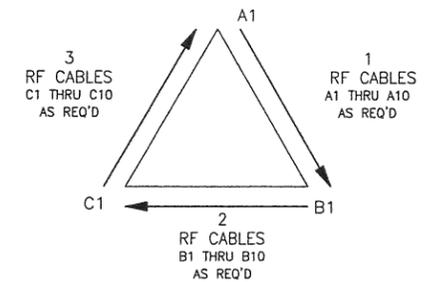
3					
2					
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM	
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		



BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
ANTENNA DETAILS	
DRAWING NUMBER	REV
A-6	1

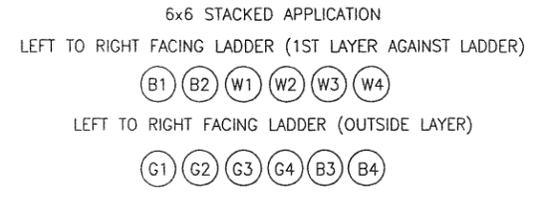
- NOTES:**
- SECTOR ORIENTATION/AZIMUTH WILL VARY FROM REGION TO REGION AND IS SITE SPECIFIC. REFER TO SEPARATE RF REPORT FOR EACH SITE TO DETERMINE THE ANTENNA LOCATION AND FUNCTION OF EACH TOWER SECTOR FACE.
 - THE STANDARD IS BASED ON EIGHT COLORED TAPES—RED, BLUE, GREEN, YELLOW, ORANGE, BROWN, WHITE, AND SLATE(GREY). THESE TAPES SHOULD BE READILY AVAILABLE TO THE ELECTRICIAN OR CONTRACTOR ON SITE.
 - USING COLOR BANDS ON THE CABLES, MARK ALL RF CABLE BY SECTOR AND CABLE NUMBER AS SHOWN ON "CABLE MARKING COLOR CONVENTION TABLE".
 - COLOR CODE TAPE SHALL BE 3" WIDE AT TOP AND MIDDLE OF TOWER AND 2" WIDE AT THE BOTTOM. ALL JUMPERS SHALL BE INCLUDED.
 - ALL COLOR CODE TAPE SHALL BE 3M-35 AND SHALL BE INSTALLED USING A MINIMUM OF (3) WRAPS OF TAPE AND SHALL BE NEATLY TRIMMED AND SMOOTHED OUT SO AS TO AVOID UNRAVELING.
 - ALL COLOR BANDS INSTALLED AT OR NEAR THE GROUND SHALL BE A MINIMUM OF 3/4" WIDE.
 - ALL COLOR CODES SHALL BE INSTALLED SO AS TO ALIGN NEATLY WITH ONE ANOTHER FROM SIDE-TO-SIDE.

CABLE MARKING COLOR TABLE				
SECTOR	CABLE A1	CABLE A2	CABLE A3	CABLE A4
SECTOR ALPHA, A, X	1 GREEN	2 GREEN	3 GREEN	4 GREEN
SECTOR BETA, B, Y	1 BLUE	2 BLUE	3 BLUE	4 BLUE
SECTOR GAMMA, C, Z	1 WHITE	2 WHITE	3 WHITE	4 WHITE

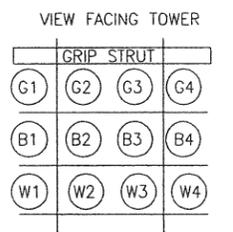


ANTENNA SECTOR AND CABLE DEFINITION

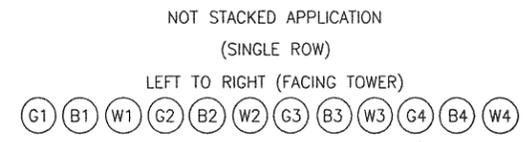
COAXIAL LADDER ASSIGNMENT



COAX ORIENTATION ON TRAPEZE

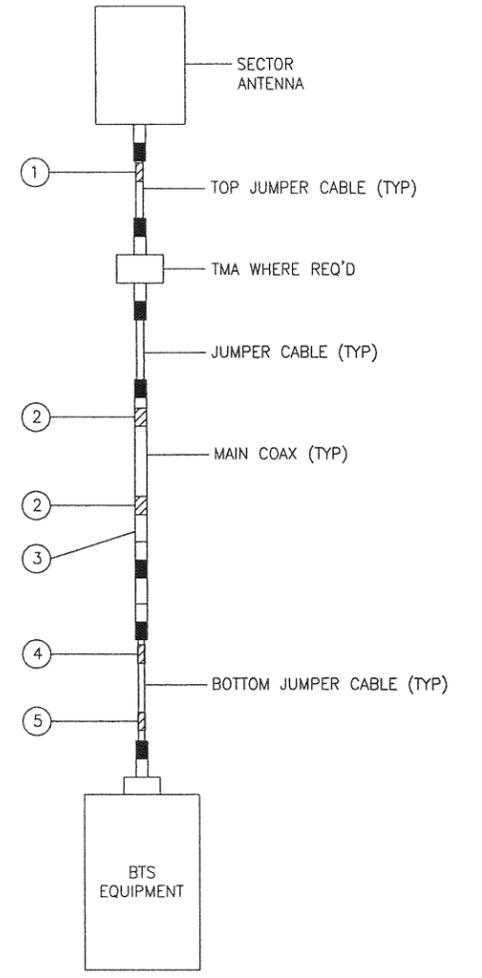


COAXIAL LADDER ASSIGNMENT



RF NOTES:

- ACTUAL LENGTHS SHALL BE DETERMINED PER SITE CONDITION BY SUBCONTRACTORS.
- THE DESIGN IS BASED ON RF DATA SHEETS, SIGNED AND APPROVED.
- RADIO SIGNAL CABLE AND RACEWAY SHALL COMPLY WITH THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC, NFPA 70), CHAPTER 8.
- ALL SPECIFIED MATERIAL FOR EACH LOCATIONS (E.G., OUTDOORS, INDOORS—OCCUPIED, INDOORS—UNOCCUPIED, OLENUMS, RISER SHAFTS, ETC.) SHALL BE APPROVED, LISTED, OR LABELED AS REQUIRED BY THE NEC.
- FOLLOW THE TECHNICAL GUIDELINE FOR OUTSIDE ANTENNA JUMPER SUPPORT (24782-3DJ-GEX-00001). HARDLINE CABLE SHALL BE SUPPORTED AS REQUIRED BY THE MANUFACTURER BUT AT A MINIMUM OF EVERY THREE (3) FEET, EXCEPT INSIDE MONOPOLES OR LATTICE TOWERS WHERE CABLE AND CONNECTOR MANUFACTURER'S RECOMMENDATIONS SHALL BE FOLLOWED. MANUFACTURER RECOMMENDED CABLE SUPPORT ACCESSORIES SHALL BE USED.
- THE OUTDOOR CABLE SUPPORT SYSTEM SHALL BE PROVIDED WITH AN ICE SHIELD TO SUPPORT AND PROTECT ANTENNA CABLE RUNS.
- DRIP LOOPS SHALL BE REQUIRED ON ALL OUTSIDE CABLES. CABLES SHALL BE SLOPED AWAY FROM THE BUILDING OR OUTDOOR BTS CABINETS TO PREVENT WATER FROM ENTERING THROUGH THE COAXIAL CABLE PORT.
- DELETED
- 7/16 DIN CONNECTORS REQUIRE NO WEATHER PROOFING IN INDOOR APPLICATIONS. IN OUTDOOR APPLICATIONS WEATHER PROOFING IS REQUIRED AND THE FOLLOWING PROCEDURE SHOULD BE FOLLOWED: APPLY A 'COURTESY' WRAP OF ONE LAYER OF 7MIL THICK VINYL ELECTRICAL TAPE EXTENDING APPROXIMATELY TWO (2) INCH ON EACH SIDE OF THE COAX CABLE/ CONNECTOR JUNCTURE. USING WEATHERPROOFING KIT APPROVED BY CABLE MANUFACTURER AND CONTRACTOR, START TAPE APPROXIMATELY 5 INCHES FROM THE CONNECTOR AND WRAP 2 INCHES TOWARD THE CONNECTOR, THEN REVERSE THE TAPE SO THAT THE STICKY SIDE IS UP. TAPE OVER THE CONNECTOR OR SURGE ARRESTOR UNIT; THREE (3) TO FOUR (4) INCHES BEYOND THE CONNECTOR AND REVERSE AGAIN WITH THE STICKY SIDE DOWN FOR ANOTHER INCH OR TWO. ADD THE BUTYL RUBBER AND FINISH WITH A FINAL LAYER OF TAPE. COLD SHRINK IS STRICTLY PROHIBITED.
- DELETED
- ANTENNAS SHALL BE PAINTED, WHEN REQUIRED, BY THE LANDLORD OR AUTHORITY HAVING JURISDICTION IN ACCORDANCE WITH ANTENNA MANUFACTURERS, SURFACE PREPARATION AND PAINTING REQUIREMENTS.
- CABLE SHIELDS, AND TOWER CONDUITS SHALL BE GROUNDED AT THE TOP OF THE TOWER, WITHIN 10 FEET OF THEIR CONNECTORS, AND AT THE BOTTOM OF THE TOWER ABOUT 6 INCHES BEFORE THEY TURN TOWARD THE FACILITY. THEY SHALL BE GROUNDED AT THE MIDPOINT OF TOWERS THAT ARE BETWEEN 100 FEET AND 200 FEET HIGH, AND AT INTERVALS OF 100 FEET OR LESS ON TOWERS THAT ARE HIGHER THAN 200 FEET.
- APPROVED GROUNDING KITS, WHICH INCLUDE GROUNDING STRAPS, AND CONDUITS. THE GROUND CONDUCTORS FOR THE KITS AT THE TOP OF THE TOWER, AND IN THE MIDDLE SECTION OF THE TOWER, ARE BONDED DIRECTLY TO TOWER STEEL USING EXOTHERMIC, BOLTED, OR APPROVED CLAMP CONNECTIONS.
- ALL RADIO SIGNAL CABLE SHALL BE LABELED PER MARKET REQUIREMENTS.
- DELETED
- DELETED
- MHA/TMA'S TO BE INSTALLED AT TOWER TOP, SHALL BE SUPPLIED TO THE SUBCONTRACTOR (WHERE REQUIRED) AND INSTALLED BY THE SUBCONTRACTOR. THE GROUND CONDUCTORS OF THE TMA MAY BE BONDED DIRECTLY TO THE TOWER STEEL USING EXOTHERMIC, BOLTED, OR APPROVED CLAMP CONNECTIONS. EXOTHERMIC WELDS SHALL BE PERMITTED ON TOWERS ONLY WITH THE EXPRESS APPROVAL OF THE TOWER MANUFACTURER OR THE CONTRACTORS STRUCTURAL ENGINEER.
- ANTENNA FEED LINE SYSTEM SWEEP TESTING SHALL BE PERFORMED AND REPORTED IN ACCORDANCE WITH THE REQUIREMENTS OF AT&T-GSM SERVICES PROJECT DOCUMENT NO. 24782-000-3PS-EFY0-00001. CONTRACTOR WILL NOT ACCEPT A RADIO SIGNAL CABLE INSTALLATION WITH UNSATISFACTORY SWEEP RESULTS.



CABLE MARKING LOCATIONS DIAGRAM

ANTENNA AND COAX CABLE SCHEDULE										
SECTOR	ANTENNA TAGS	ANTENNA	AZIMUTH TRUE NORTH (SEE T-1)	RAD CENTER	REMOTE ELEC. TILT	MECHANICAL DOWNTILT	TMA TYPE	ESTIMATED COAXIAL CABLE LENGTH	COAXIAL CABLE DIAMETER	TAPE COLOR
1	A1	RA11.7762	0°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	GREEN
								115'	1-5/8"	GREEN
								115'	1-5/8"	GREEN
2	B1	RA11.7762	100°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	BLUE
								115'	1-5/8"	BLUE
								115'	1-5/8"	BLUE
3	C1	RA11.7762	280°	95°-0"	2'	0°	(2) ETW190VS12UB	115'	1-5/8"	WHITE
								115'	1-5/8"	WHITE
								115'	1-5/8"	WHITE

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

CABLE MARKING LOCATIONS TABLE			
NO.	TAPE	TAG	LOCATIONS
1.	X		EACH TOP-JUMPER SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS.
2.	X		EACH MAIN COAX SHALL BE COLOR CODED WITH (1) SET OF 3" WIDE BANDS NEAR THE TOP-JUMPER CONNECTION AND WITH (1) SET OF 3/4" WIDE COLOR BANDS JUST PRIOR TO ENTERING THE BTS OR TRANSMITTER BUILDING.
3.		X	CABLE ENTRY PORT ON THE INTERIOR OF THE SHELTER. (IF SHELTER IS USED)
4.	X		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.
5.	*		ALL BOTTOM JUMPERS SHALL BE COLOR CODED WITH (1) SET OF 3/4" WIDE BANDS ON EACH END OF THE BOTTOM JUMPER.

ANTENNA/COAX DETAILS & NOTES
SCALE: N.T.S.

03-03-11 JAMAL ELEBUTE 14:06:03 Y:/Drawings - 2010/AT&T/_Rawlands/RO500G/CD's/A7.dwg

BC
architects
engineers

5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. RO500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060

LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

3				
2				
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	

COMMONWEALTH OF VIRGINIA
CHRISTOPHER D. MORIN
No. 032984
3-3-11
PROFESSIONAL ENGINEER

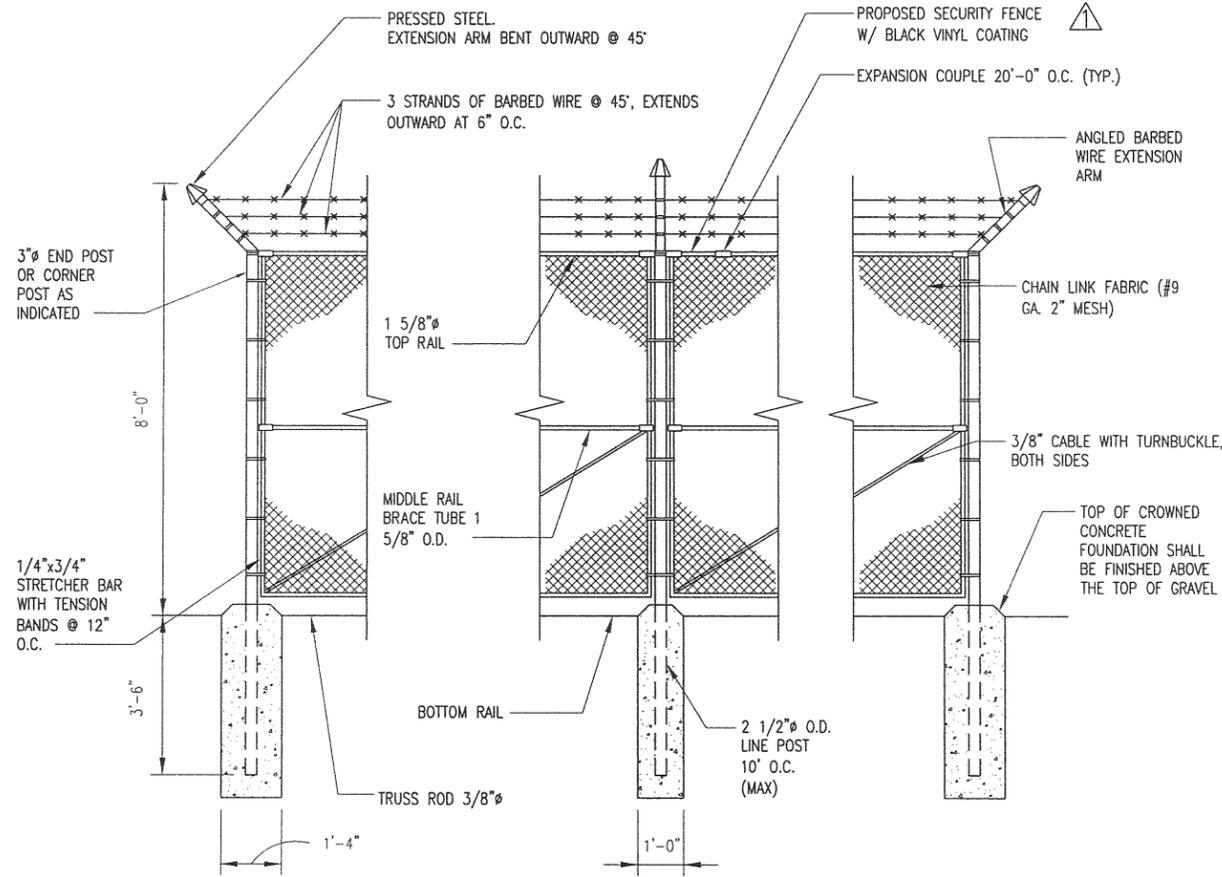
BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

RF INFORMATION & NOTES

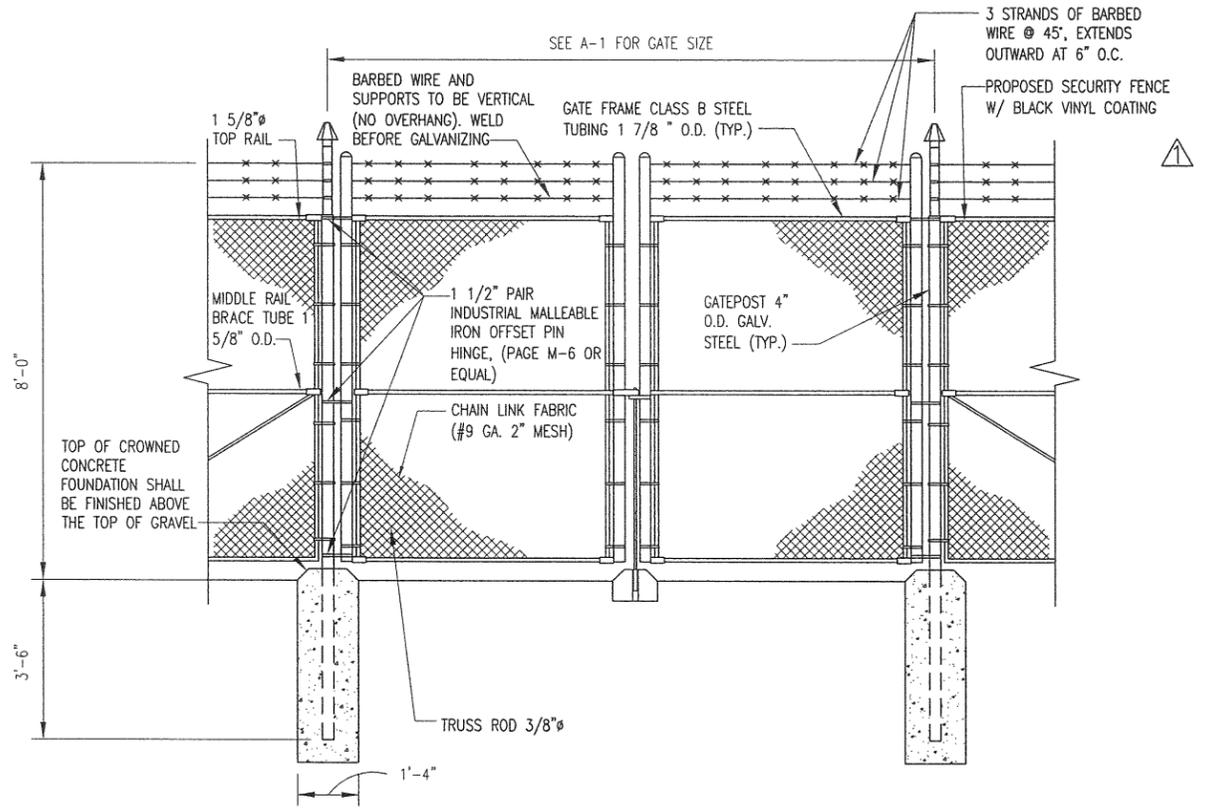
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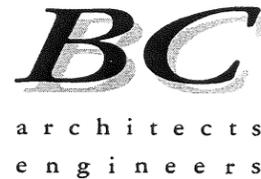
NOTE: ALL PARTS OF THE FENCE SHALL BE PAINTED BLACK EXCEPT FOR THE FABRIC WHICH SHOULD BE COATED W/ BLACK VINYL



FENCE SECTION DETAIL 1
SCALE: 3/16"=1'-0" A-8



GATE ELEVATION 2
SCALE: 3/16"=1'-0" A-8



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SITE NAME: US460 AND SR778
SITE NO. RO500G

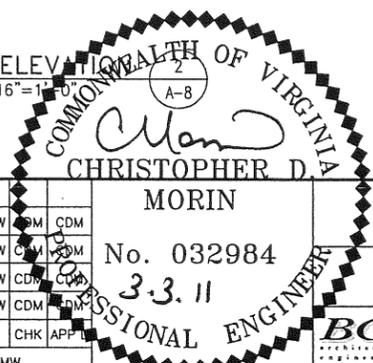
3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

NO.	DATE	REVISIONS	BY	CHK	APP
3					
2	03-03-11	REVISED SITE ADDRESS	GMW	DM	CDM
1	02-21-11	ADDED VINYL COATING NOTES	GMW	DM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM

SCALE: AS SHOWN DESIGNED C. MORIN DRAWN GMW



BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

FENCE AND GATE DETAILS

DRAWING NUMBER
A-8 REV
2

SITE WORK GENERAL NOTES:

1. THE SUBCONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
2. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES, AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE SUBCONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. SUBCONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING & EXCAVATION.
3. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
4. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, OWNER AND/OR LOCAL UTILITIES.
6. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION.
7. THE SUBCONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE AT&T SPECIFICATION FOR SITE SIGNAGE.
8. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
9. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.
10. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
11. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION.
12. SUBCONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL JURISDICTION'S GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

STRUCTURAL STEEL NOTES:

1. ALL STEEL WORK SHALL BE PAINTED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS AND IN ACCORDANCE WITH ASTM A36 UNLESS OTHERWISE NOTED.
2. ALL WELDING SHALL BE PERFORMED USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". PAINTED SURFACES SHALL BE TOUCHED UP.
3. BOLTED CONNECTIONS SHALL BE ASTM A325 BEARING TYPE (3/4") CONNECTIONS AND SHALL HAVE MINIMUM OF TWO BOLTS UNLESS NOTED OTHERWISE.
4. NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIA. ASTM A 307 BOLTS UNLESS NOTED OTHERWISE.
5. INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR CONTRACTOR APPROVAL WHEN DRILLING HOLES IN CONCRETE. SPECIAL INSPECTIONS, REQUIRED BY GOVERNING CODES, SHALL BE PERFORMED IN ORDER TO MAINTAIN MANUFACTURER'S MAXIMUM ALLOWABLE LOADS.
6. ALL EXPANSION/WEDGE ANCHORS SHALL BE STAINLESS STEEL OR HOT DIPPED GALVANIZED. THE ANCHOR BOLT DOWEL AND ROD SHALL BE STAINLESS STEEL WITH STAINLESS STEEL WASHERS.

CONCRETE AND REINFORCING STEEL NOTES:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE.
3. REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED STEEL WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES SHALL BE CLASS "B" AND ALL HOOKS SHALL BE STANDARD, UNO.
4. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
 CONCRETE CAST AGAINST EARTH.....3 IN.
 CONCRETE EXPOSED TO EARTH OR WEATHER:
 #6 AND LARGER2 IN.
 #5 AND SMALLER & WWF.....1 1/2 IN.
 CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
 SLAB AND WALL3/4 IN.
 BEAMS AND COLUMNS1 1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
6. CONCRETE/EXPANSION ANCHORS SHALL BE STAINLESS STEEL. INSTALLATION, SHALL BE PER MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURE. THE ANCHOR BOLT, DOWEL OR ROD SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. NO REBAR SHALL BE CUT WITHOUT PRIOR ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE. EXPANSION BOLTS SHALL BE PROVIDED BY RAMSET/REDHEAD OR APPROVED EQUAL.

GENERAL NOTES

1. FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:
 CONTRACTOR - SAI
 SUBCONTRACTOR - GENERAL CONTRACTOR (CONSTRUCTION)
 OWNER - AT&T
 OEM - ORIGINAL EQUIPMENT MANUFACTURE
2. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CONTRACTOR.
3. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. SUBCONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS, AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK.

 ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
4. DRAWINGS PROVIDED HERE ARE NOT TO SCALE AND ARE INTENDED TO SHOW OUTLINE ONLY.
5. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES, AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
6. THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
7. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CONTRACTOR.
8. SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES, GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWING.
9. THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
10. SUBCONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
11. SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
12. CONSTRUCTION SHALL COMPLY WITH SPECIFICATION 24782-000-3APS-A00Z-00002, "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF AT&T GSM SITES."

NOTES:

1. EXCAVATE AS REQUIRED TO REMOVE VEGETATION & TOPSOIL EXPOSE UNDISTURBED NATURAL SUBGRADE AND PLACE CRUSHED STONE AS REQUIRED.
2. COMPACTION CERTIFICATION: AN INSPECTION AND WRITTEN CERTIFICATION BY A QUALIFIED GEOTECHNICAL TECHNICIAN OR ENGINEER IS ACCEPTABLE.
3. AS AN ALTERNATIVE TO INSPECTION AND WRITTEN CERTIFICATION, THE "UNDISTURBED SOIL" BASE SHALL BE COMPACTED WITH "COMPACTION EQUIPMENT", LISTED BELOW, TO AT LEAST 90% MODIFIED PROCTOR MAXIMUM DENSITY PER ASTM D 1557 METHOD C.
4. COMPACTED SUBBASE SHALL BE UNIFORM & LEVELED. PROVIDE 6" MINIMUM CRUSHED STONE OR GRAVEL COMPACTED IN 3" LIFTS ABOVE COMPACTED SOIL. GRAVEL SHALL BE NATURAL OR CRUSHED WITH 100 % PASSING 1" SLEEVE.

COMPACTION EQUIPMENT:

HAND OPERATED DOUBLE DRUM, VIBRATORY ROLLER, VIBRATORY PLATE COMPACTOR OR JUMPING COMPACTOR.

SOIL COMPACTION NOTES FOR SLAB ON GRADE

ABBREVIATIONS

- AGL ABOVE GRADE LEVEL
- BTS BASE TRANSCEIVER STATION
- (E) EXISTING
- MIN MINIMUM
- N.T.S. NOT TO SCALE
- REF REFERENCE
- RF RADIO FREQUENCY
- T.B.D. TO BE DETERMINED
- T.B.R. TO BE RESOLVED
- TYP TYPICAL
- REQ REQUIRED
- EGR EQUIPMENT GROUND RING
- AWG AMERICAN WIRE GAUGE
- MGB MASTER GROUND BUS
- EG EQUIPMENT GROUND
- BCW BARE COPPER WIRE
- SIAD SMART INTEGRATED ACCESS DEVICE
- GEN GENERATOR
- IGR INTERIOR GROUND RING (HALO)
- RBS RADIO BASE STATION

SYMBOLS

- SOLID GROUND BUS BAR
- SOLID NEUTRAL BUS BAR
- SUPPLEMENTAL GROUND CONDUCTOR
- 2-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- SINGLE-POLE THERMAL-MAGNETIC CIRCUIT BREAKER
- CHEMICAL GROUND ROD
- GROUND ROD
- GROUND ROD W/ INSPECTION WELL
- DISCONNECT SWITCH
- METER
- CADWELD TYPE CONNECTION
- COMPRESSION TYPE CONNECTION
- GROUNDING WIRE

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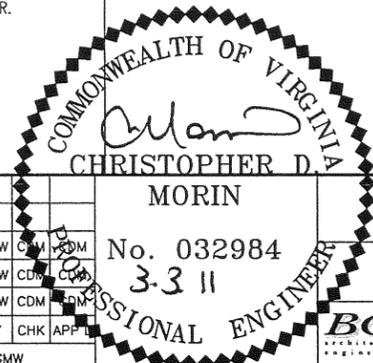
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 SITE NO. RO500G**

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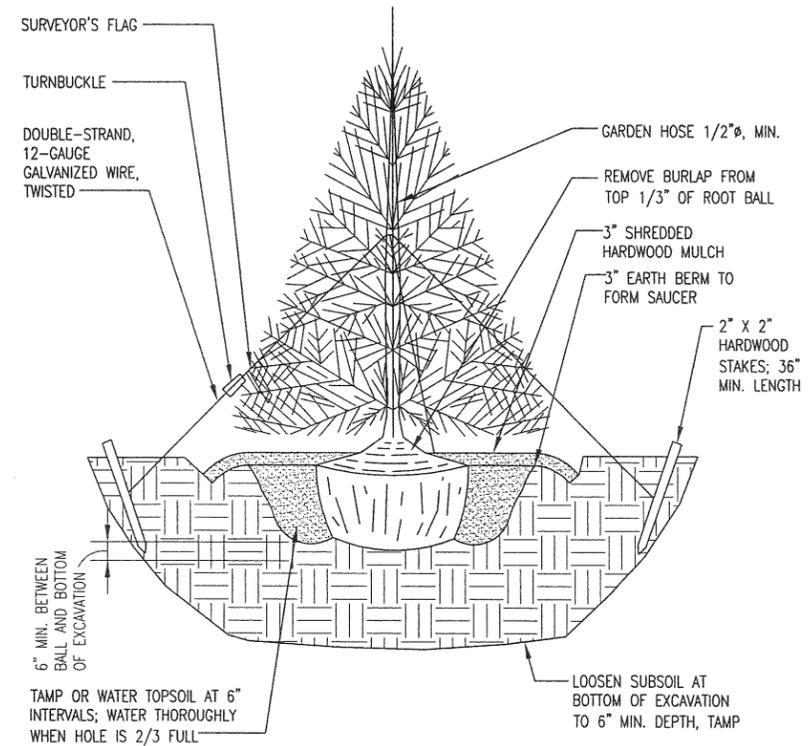
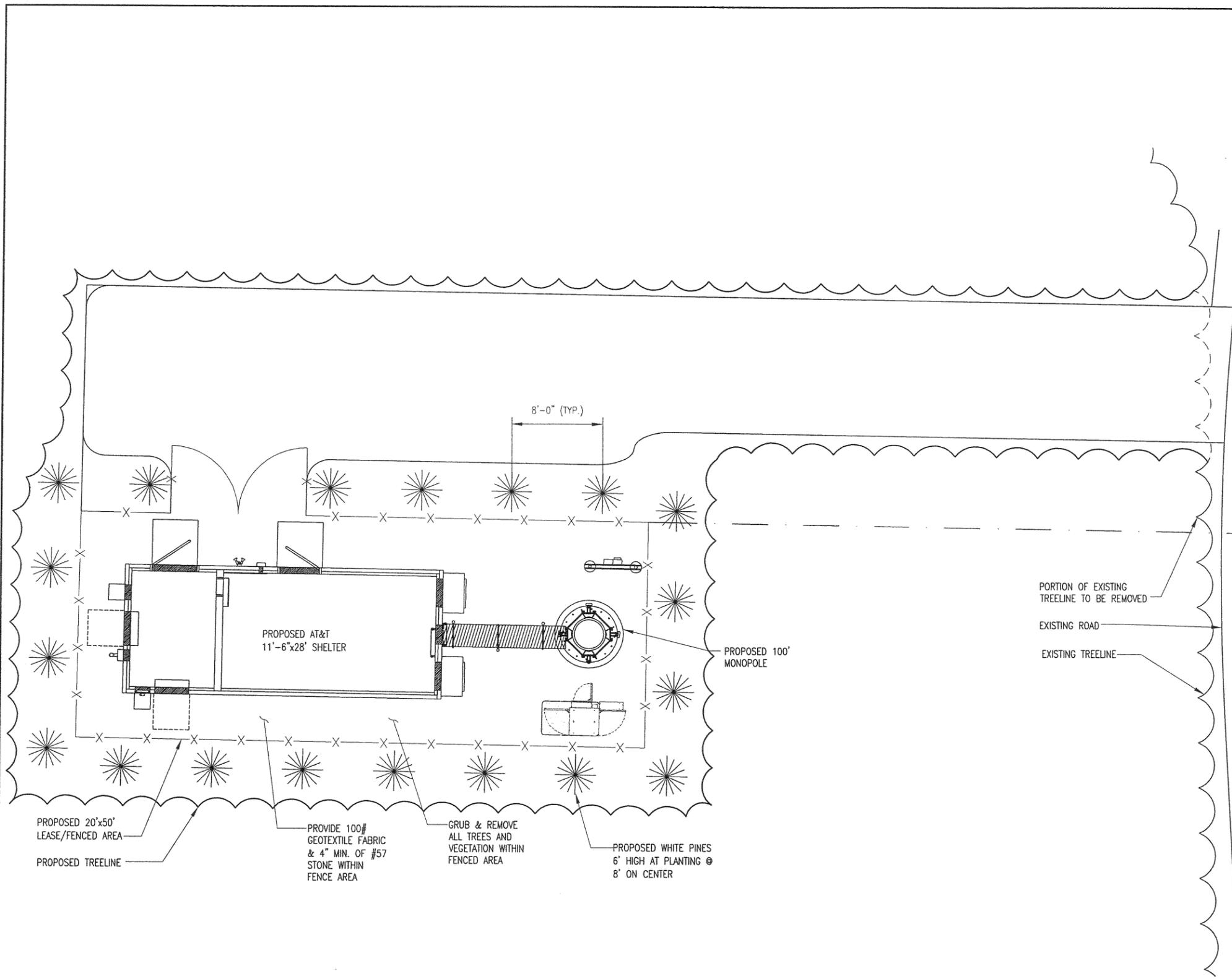
LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM
NO.	DATE	REVISIONS	BY	CHK APP
SCALE:		AS SHOWN	DESIGNED C. MORIN	DRAWN GMW



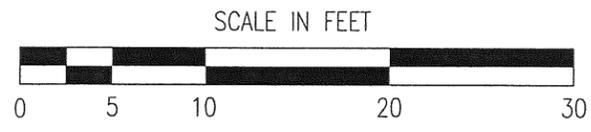
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A-9	1

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- NOTE(S):
- EVERGREEN TREE SHALL BE MIN. 6' IN HEIGHT PLANTED @ 8'-0" ON CENTER ON 5' WIDE PLANTING STRIP.
 - SPECIES OF TREE SHALL BE WHITE PINES.

TREE DETAIL 2
SCALE: N.T.S. A-1



LANDSCAPE PLAN 1
SCALE: 1"=10' A-1

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architects
engineers

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FALLS CHURCH, VA 22041-2888
TEL: (703) 671-6000
FAX: (703) 671-6300

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SITE NO. R0500G

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BLACKSBURG, VA 24060

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GLEN ALLEN, VA 23060

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NO.	DATE	REVISIONS	BY	CHK	APP
SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		

COMMONWEALTH OF VIRGINIA

 MORIN
 No. 032984
 3.3.11
 PROFESSIONAL ENGINEER

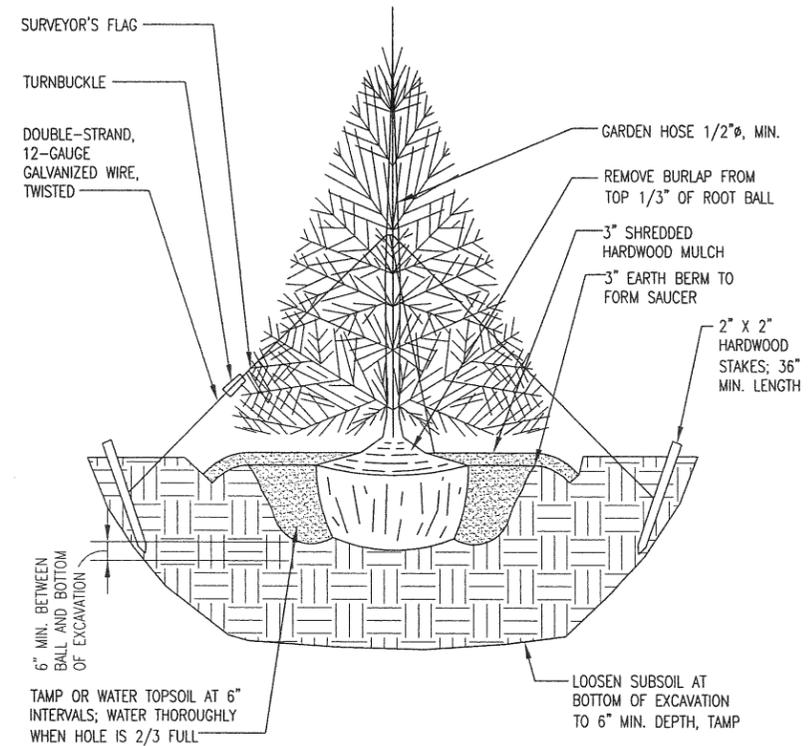
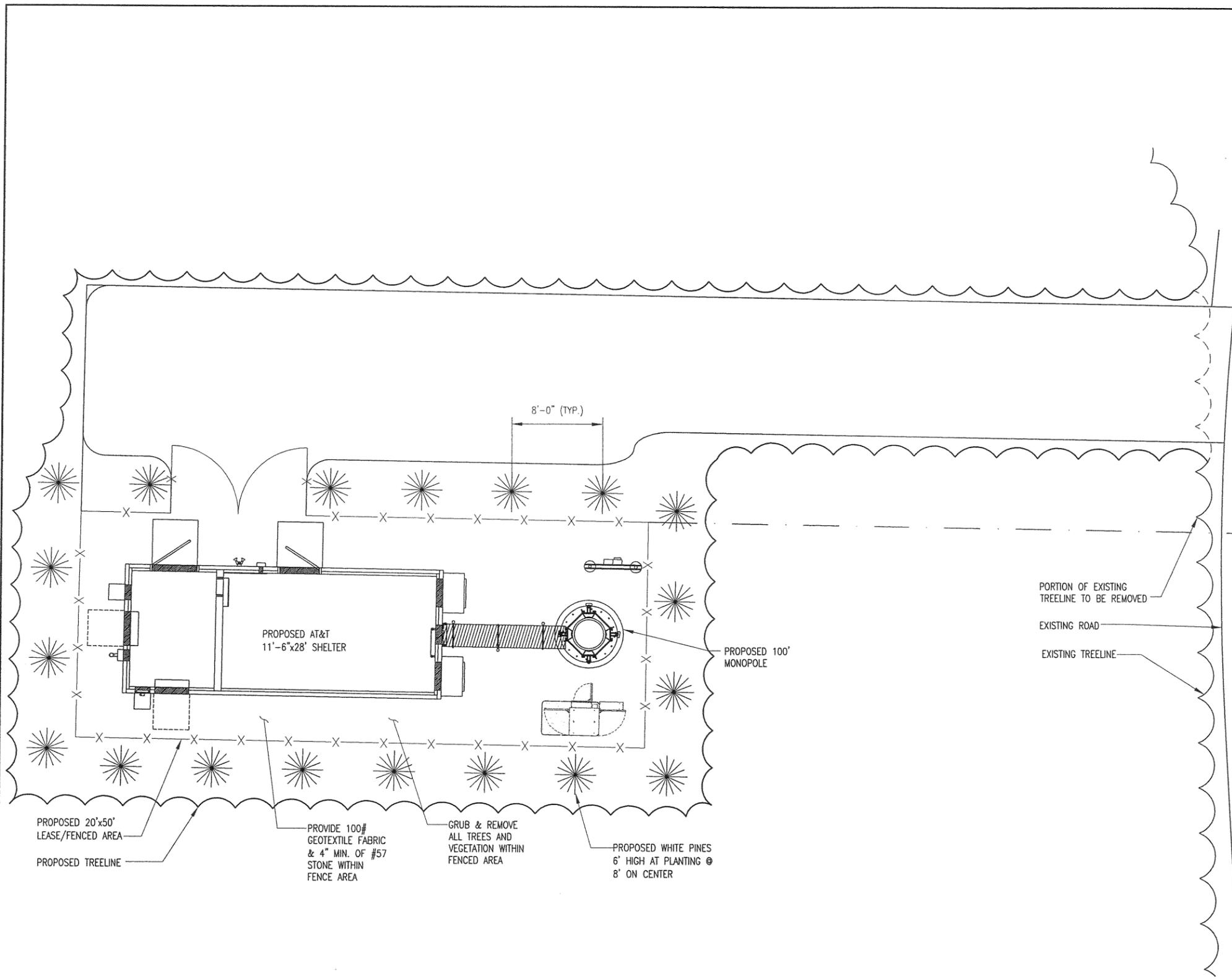
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LANDSCAPE PLAN

DRAWING NUMBER
L-1

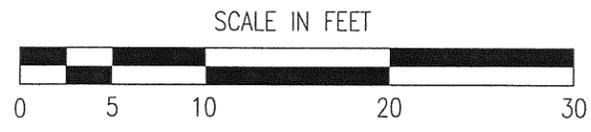
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2

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- NOTE(S):
- EVERGREEN TREE SHALL BE MIN. 6' IN HEIGHT PLANTED @ 8'-0" ON CENTER ON 5' WIDE PLANTING STRIP.
 - SPECIES OF TREE SHALL BE WHITE PINES.

TREE DETAIL 2
SCALE: N.T.S. A-1



LANDSCAPE PLAN 1
SCALE: 1"=10' A-1

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SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		

COMMONWEALTH OF VIRGINIA

 MORIN
 No. 032984
 3.3.11
 PROFESSIONAL ENGINEER

BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

LANDSCAPE PLAN

DRAWING NUMBER L-1 REV 2

ALL EXPOSED GROUND LEADS TO BE ENCLOSED IN 1/2" SEALTITE AND FILLED WITH SILICONE

GROUNDING NOTES

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION, AND AC POWER GES'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OFF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE SUBCONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDING AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 AWG COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BTS; 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING, SHALL BE #2 AWG SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IS PROHIBITED. MAXIMUM BENDING IN THE PROTECTION GROUNDING CONDUCTORS IS 45°.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (I.E., CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 FT OF MAIN GROUND WIRES WITH 1-#2 AWG TIN-PLATED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED IN THE FACILITY GROUND AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC PLASTIC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (E.G., NON-METALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.

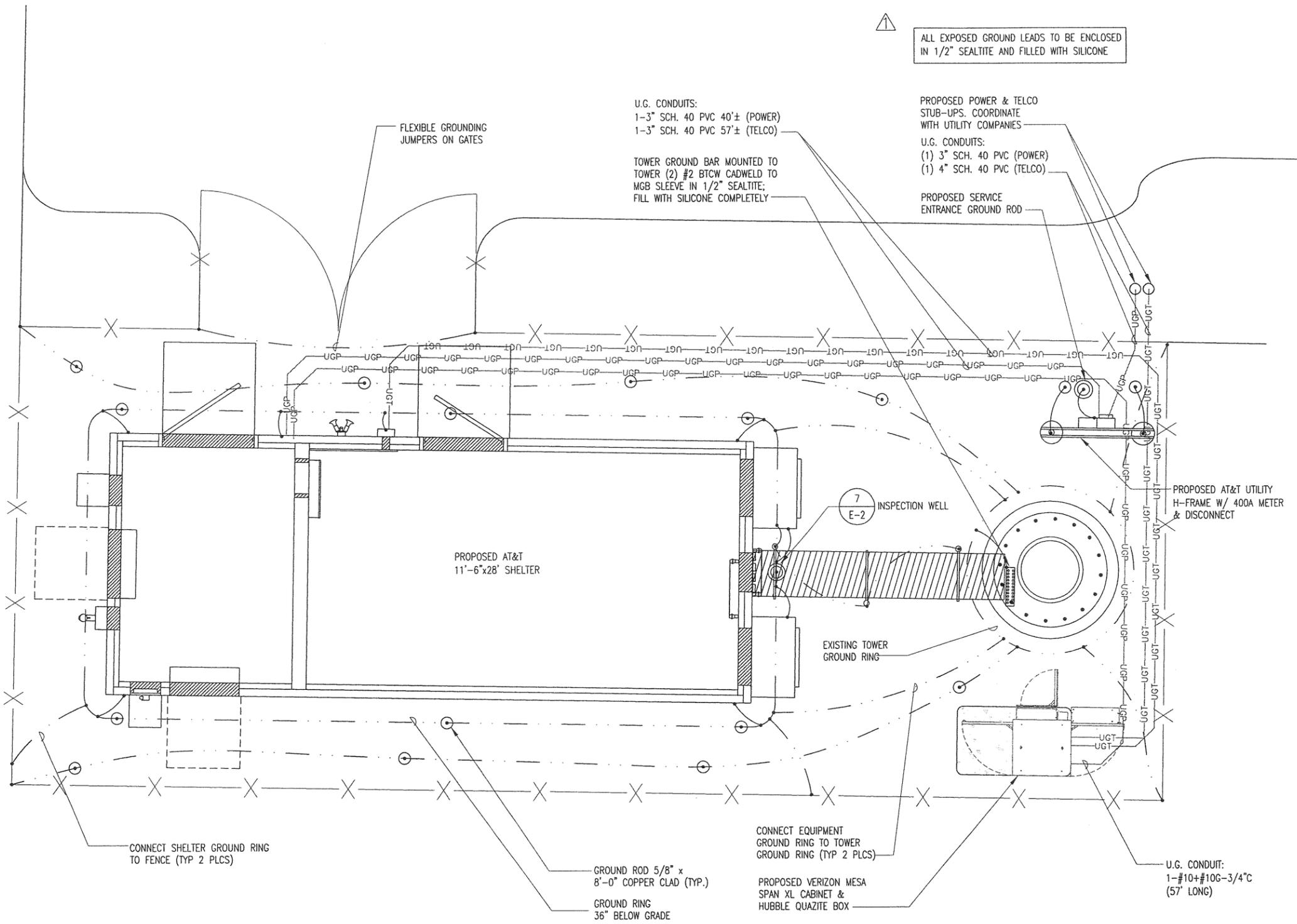
U.G. CONDUITS:
1-3" SCH. 40 PVC 40'± (POWER)
1-3" SCH. 40 PVC 57'± (TELCO)

TOWER GROUND BAR MOUNTED TO TOWER (2) #2 BTCW CADWELD TO MGB SLEEVE IN 1/2" SEALTITE; FILL WITH SILICONE COMPLETELY

PROPOSED POWER & TELCO STUB-UPS. COORDINATE WITH UTILITY COMPANIES

U.G. CONDUITS:
(1) 3" SCH. 40 PVC (POWER)
(1) 4" SCH. 40 PVC (TELCO)

PROPOSED SERVICE ENTRANCE GROUND ROD



PROPOSED AT&T UTILITY H-FRAME W/ 400A METER & DISCONNECT

7 E-2 INSPECTION WELL

PROPOSED AT&T 11'-6"x28' SHELTER

EXISTING TOWER GROUND RING

CONNECT EQUIPMENT GROUND RING TO TOWER GROUND RING (TYP 2 PLCS)

PROPOSED VERIZON MESA SPAN XL CABINET & HUBBLE QUAZITE BOX

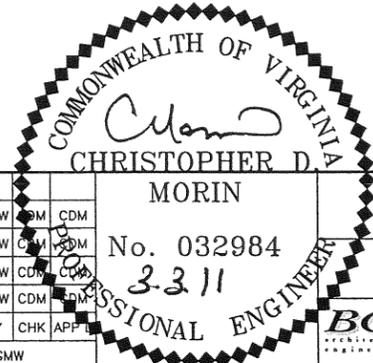
U.G. CONDUIT: 1-#10+1#10G-3/4" (57' LONG)

GROUND ROD 5/8" x 8'-0" COPPER CLAD (TYP.)
GROUND RING 36" BELOW GRADE

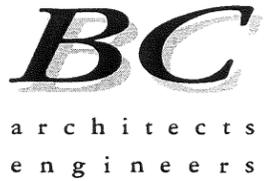
SCALE IN FEET



GROUNDING PLAN 1 A-1
SCALE: 1"=5'

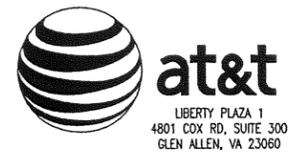


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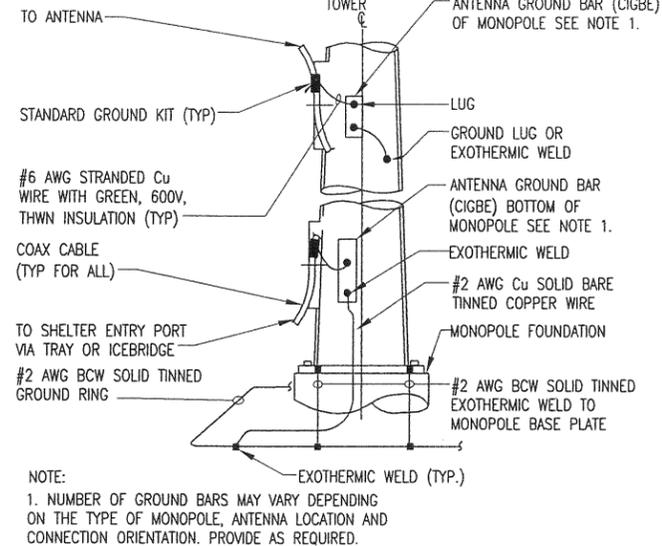
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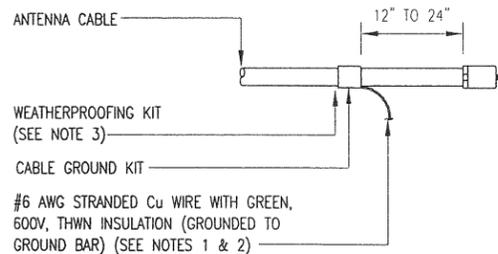
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1	02-21-11	ADDED EXPOSED GROUND LEAD NOTE	GMW	CDM	
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

BC ARCHITECTS ENGINEERS FALLS CHURCH, VA	
GROUNDING PLAN	
DRAWING NUMBER	REV
E-1	2



ANTENNA CABLE GROUNDING - MONOPOLE

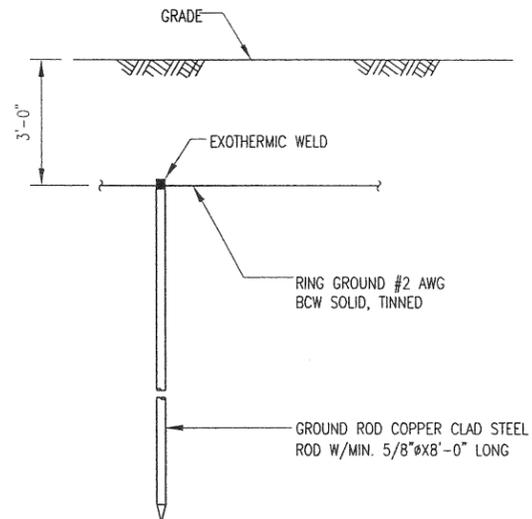
DETAIL 1
SCALE: N.T.S. E-2



CONNECTION OF CABLE GROUND KIT TO ANTENNA CABLE

- NOTES:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - GROUNDING KIT SHALL BE TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.
 - WEATHER PROOFING SHALL BE (TYPE AND PART NUMBER AS SUPPLIED OR RECOMMENDED BY CABLE MANUFACTURER.)

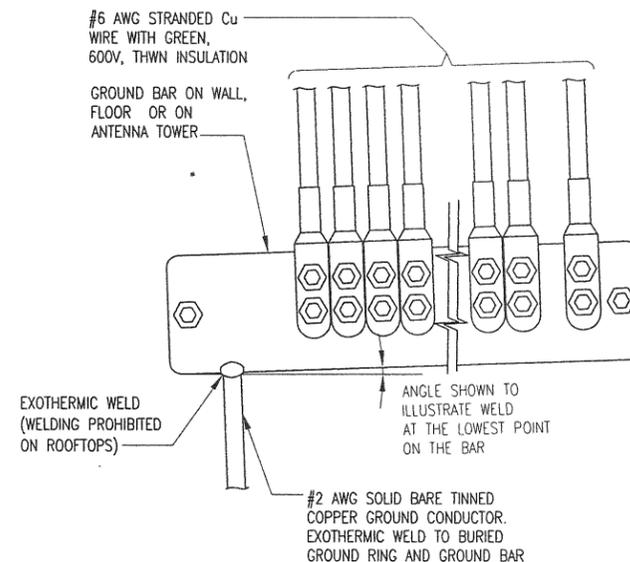
DETAIL 2
SCALE: N.T.S. E-2



- GROUND ROD SHALL BE DRIVEN VERTICALLY, NOT TO EXCEED 45 DEGREES FROM THE VERTICAL.

GROUND ROD 3
SCALE: N.T.S. E-2

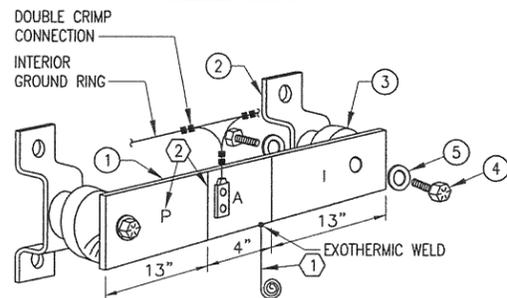
FLAT WASHERS ON ALL LUGS; NO OVERLAPPING PERMITTED



INSTALLATION OF GROUND WIRE TO COAX CABLE GROUND BAR

DETAIL 4
SCALE: N.T.S. E-2

NEWTON INSTRUMENT COMPANY, INC. BUTNER, N.C.			
NO.	REQ.	PART NO.	DESCRIPTION
1	1	1/4"x4"x30"	PRE DRILLED GND. BAR
2	2	A-6056	WALL MTG. BRKT.
3	2	3061-4	INSULATORS
4	4	3012-1	5/8"-11x1" H.H.C.S.
5	4	3015-8	5/8 LOCKWASHER



(RGB) REFERENCE GROUND BAR - DETAIL 5
SCALE: N.T.S. E-2

EACH GROUND CONDUCTOR TERMINATING ON ANY GROUND BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION.

SECTION "P" - SURGE PROTECTORS

- CABLE ENTRY PORTS (HATCH PLATES) (#2)
- GENERATOR FRAMEWORK (IF AVAILABLE) (#2)
- TELCO GROUND BAR (#2)
- COMMERCIAL POWER COMMON NEUTRAL/GROUND BOND (#2)
- +24V POWER SUPPLY RETURN BAR (#2)
- 48V POWER SUPPLY RETURN BAR (#2)
- RECTIFIER FRAMES.
- COAX SUPPRESSION

SECTION "A" - SURGE ABSORBERS

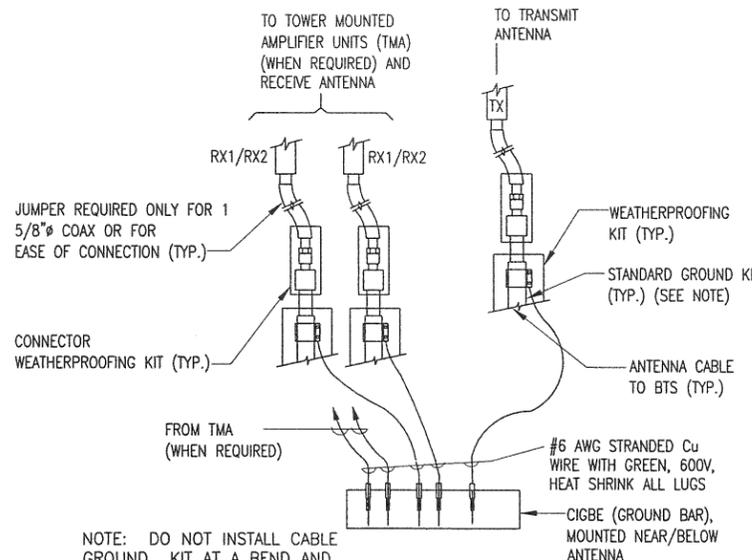
- INTERIOR GROUND RING (#2)
- EXTERNAL EARTH GROUND FIELD (BURIED GROUND RING) (#2)
- METALLIC COLD WATER PIPE (IF AVAILABLE) (#2)
- BUILDING STEEL (IF AVAILABLE) (#2)

SECTION "I" - ISOLATED GROUND ZONE

- ALL COMMUNICATIONS EQUIPMENT FRAMES.
- ISOLATED GROUND BAR - IGB (#2)

DETAIL NOTES:

- EXOTHERMICALLY WELD #2 AWG BARE TINNED SOLID COPPER CONDUCTOR TO GROUND BAR. ROUTE CONDUCTOR TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
- USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "I") WITH 1" HIGH LETTERS.

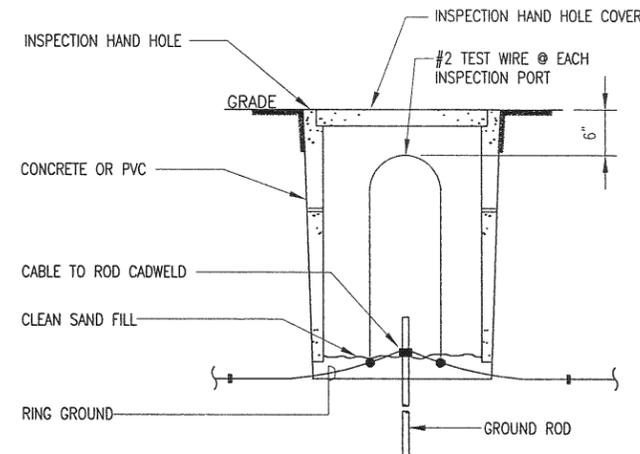


NOTE: DO NOT INSTALL CABLE GROUND KIT AT A BEND AND ALWAYS DIRECT GROUND WIRE DOWN TO CIGBE.

- GROUND BAR PER SECTOR.

CONNECTION OF GROUND WIRE TO GROUNDING BAR (CIGBE) TOWER/MONOPOLE/ROOFTOP

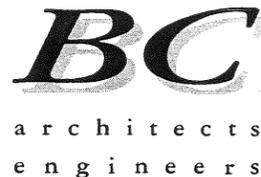
DETAIL 6
SCALE: N.T.S. E-2



- NOTES:
- INSPECTION HAND HOLE MAY BE CONCRETE OR PVC AND SHALL BE A MINIMUM OF 6" IN WIDTH/DIAMETER.
 - USE COVER TYPE WHICH DOES NOT REQUIRE TOOLS TO REMOVE.

COMMONWEALTH OF VIRGINIA
PROFESSIONAL ENGINEER
CHRISTOPHER D. MORIN
No. 032984
3-3-11

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5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
SITE NO. R0500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



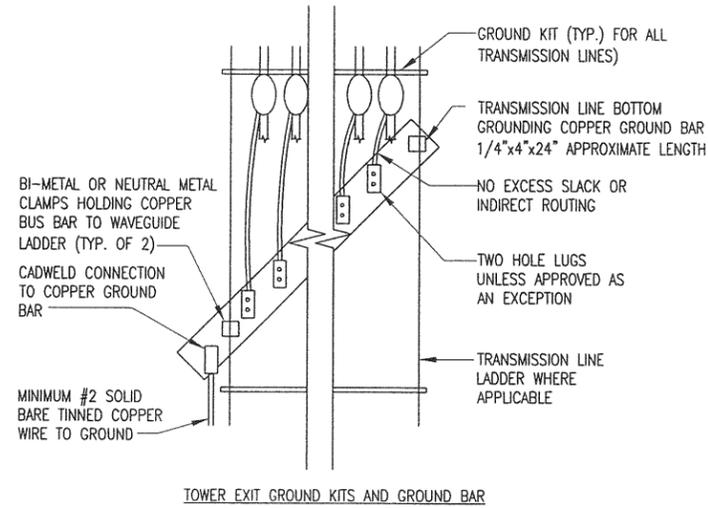
LIBERTY PLAZA 1
4801 COX RD, SUITE 300
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NO.	DATE	REVISIONS	BY	CHK	APP
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0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	

SCALE: AS SHOWN DESIGNED C. MORIN DRAWN GMW

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FALLS CHURCH, VA
ELECTRICAL DETAILS
DRAWING NUMBER E-2

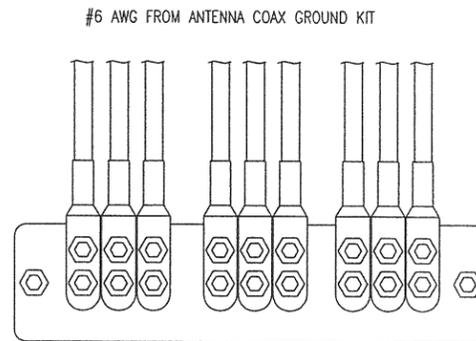
FLAT WASHERS ON ALL LUGS; NO OVERLAPPING PERMITTED



TOWER EXIT GROUND KITS AND GROUND BAR

TOWER EXIT GROUND KITS AND GROUND BAR 1
SCALE: N.T.S. E-3

FLAT WASHERS ON ALL LUGS; NO OVERLAPPING PERMITTED

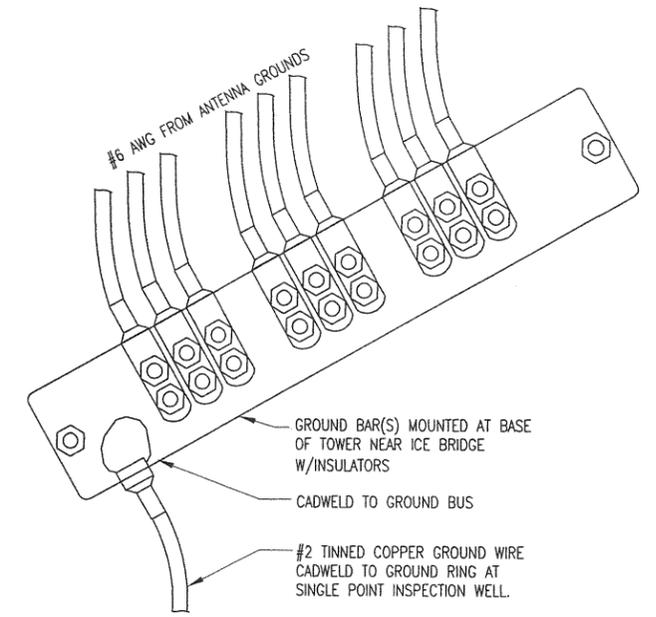


TOWER GROUND BARS (TOP OF TOWER)
(MIDDLE OF TOWER-IF REQUIRED)

SCALE: N.T.S.

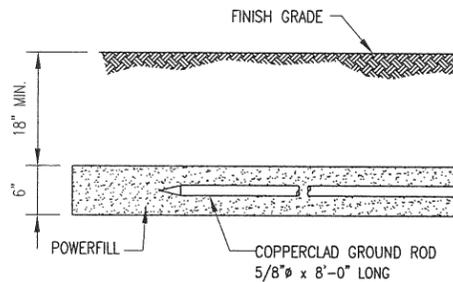
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E-3

FLAT WASHERS ON ALL LUGS; NO OVERLAPPING PERMITTED



TOWER GROUND BARS (AT BASE OF TOWER)

DETAIL 3
SCALE: N.T.S. E-3



NOTE:

1. GROUND ROD TO BE CAD WELDED PARALLEL TO #2 SOLID RING
2. HORIZONTAL GROUND RODS ARE USED WHEN SOLID CONDITIONS ARE NOTE FAVORABLE FOR VERTICAL GROUND RODS. IF IN DOUBT OF SOIL CONDITIONS, HORIZONTAL GROUND MAY BE ADDED TO VERTICAL.

GROUND ROD HORIZONTAL INSTALLATION 3
SCALE: N.T.S. E-3

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FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

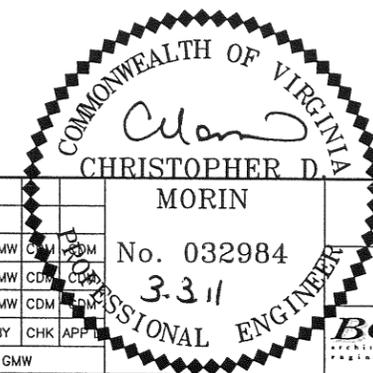
SITE NAME: US460 AND SR778
SITE NO. R0500G

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3									
2									
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM					
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM					
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM					
NO.	DATE	REVISIONS	BY	CHK	APP				
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW						



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ELECTRICAL DETAILS

DRAWING NUMBER
E-3

REV
1

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SEE SHEET E-5

PANEL CIRCUIT AND LOAD SCHEDULE

LOAD		LOAD PER PHASE (VA)			LOADS CONTINUOUS	LOADS NON-CONTINUOUS	TRIP	POLES	WIRE SIZE	A.I.C.	WIRE TYPE	
DESCRIPTION	QTY.	UNIT V.A.	PHASE									
			A	B	C							
1	RECTIFIER #1	1	1000	1000		X		40	2	8	10,000	THHN
3		1	1000		1000		X		40	2	8	10,000
5	RECTIFIER #2	1	1000	1000		X		40	2	8	10,000	THHN
7		1	1000		1000		X		40	2	8	10,000
9	RECTIFIER #3	1	1000	1000		X		40	2	8	10,000	THHN
11		1	1000		1000		X		40	2	8	10,000
13	RECTIFIER #4	1	1000	1000		X		40	2	8	10,000	THHN
15		1	1000		1000		X		40	2	8	10,000
17	RECTIFIER #5	1	1000	1000		X		40	2	8	10,000	THHN
19		1	1000		1000		X		40	2	8	10,000
21	RECTIFIER #6	1	1000	1000		X		40	2	8	10,000	THHN
23		1	1000		1000		X		40	2	8	10,000
25	RECTIFIER #7	1	1000	1000		X		40	2	8	10,000	THHN
27		1	1000		1000		X		40	2	8	10,000
29	RECTIFIER #8	1	1000	1000		X		40	2	8	10,000	THHN
31		1	1000		1000		X		40	2	8	10,000
33	RECTIFIER #9	1	1000	1000		X		40	2	8	10,000	THHN
35		1	1000		1000		X		40	2	8	10,000
37	RECTIFIER #10 (OPTIONAL)							40	2		10,000	THHN
39									40	2		10,000
41	EXTERIOR RECEPTACLE	2	180	360		X		20	1	12	10,000	THHN
SUBTOTAL CONTINUOUS			9360	9000								
SUBTOTAL NON-CONTINUOUS			-	-								
VOLTAGE:	120/240	CYCLE:	60	PHASE:	1	WIRES:	3					
NEUTRAL:	200 AMPS											
MAIN BREAKER:	200 AMP FRAME	A.I.C.:	10,000	TRIP:	200 AMPS							
MAIN LUGS:	AMPS	MAIN COPPER BUS:	400 AMPS									
MAINS:	TOP <input checked="" type="checkbox"/>	BOTTOM	<input type="checkbox"/>									

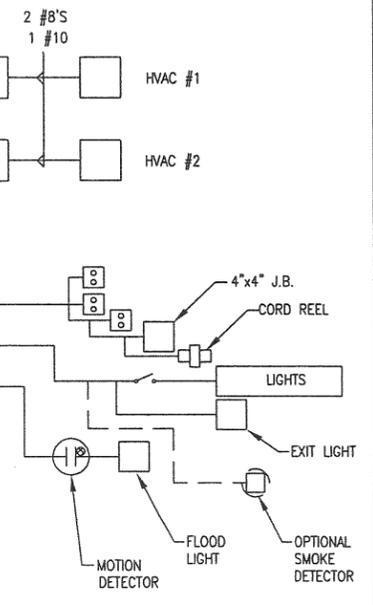
SERVICE: 120/240 VAC
 DESIGNATION: N/A
 LOCATION: N/A

WIRE TYPE	A.I.C.	WIRE SIZE	POLES	TRIP	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	LOAD PER PHASE (VA)			LOAD				
							A	B	C	UNIT V.A.	QTY.	DESCRIPTION		
THHN	10,000	8	2	50	X		3340			3340	1	HVAC #1		
THHN	10,000	8	2	50	X			3340		3340	1	HVAC #2		
THHN	10,000	8	2	50	X		3340			3340	1	SPACE		
THHN	10,000											SPACE		
THHN	10,000	12	1	20		X	1080			180	6	INTERIOR RECEPTACLES		
THHN	10,000	12	1	15		X		271		64/15	4/1	INTERIOR LIGHTS		
THHN	10,000	12	1	15		X	150			150	1	EXTERIOR LIGHTS		
THHN	10,000											RECTIFIER #11 (OPTIONAL)		
THHN	10,000											RECTIFIER #12 (OPTIONAL)		
THHN	10,000											RECTIFIER #13 (OPTIONAL)		
THHN	10,000											RECTIFIER #14 (OPTIONAL)		
THHN	10,000											RECTIFIER #15 (OPTIONAL)		
THHN	10,000											RECTIFIER #16 (OPTIONAL)		
SUBTOTAL CONTINUOUS							330	331		SUBTOTAL CONTINUOUS			TOTAL KVA CONTINUOUS X 1.25	23.78
SUBTOTAL NON-CONTINUOUS							6680	6680		SUBTOTAL NON-CONTINUOUS			TOTAL KVA NON-CONTINUOUS	13.36
													TOTAL KVA	37.14
													TOTAL AMPS	154.75

200A PANEL WITH AUTOMATIC TRANSFER SWITCH & SURGE PROTECTION
 SCALE: N.T.S.

1
E-4

- NOTES:
- ALL WIRE TO BE #12 THHN/THWN UNLESS NOTED OTHERWISE. COLOR CODE:
 Aφ = BLACK
 Bφ = RED
 NEUTRAL = WHITE
 GROUND = GREEN
 - ALL WORK TO CONFORM TO 2008 N.E.C.
 - LABEL SERVICE DISCONNECT WITH A RED TAG.
 - SWITCH LEG CONDUCTORS SHALL BE THE SAME COLOR AS CIRCUIT CONDUCTORS.
 - PULL WIRES TO END OF FLEXIBLE NONMETALLIC CONDUIT. COIL 3'-0" AT END OF FLEXIBLE NONMETALLIC CONDUIT & TAG.
 - PULL SEPARATE GROUND CONDUCTOR FOR EACH CIRCUIT.
 - WIRE SMOKE DETECTOR (ITEM 13) AS SHOWN ONLY IF 120 VOLT OPTION IS USED.



BC
architects
engineers

5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SITE NAME: US460 AND SR778
 SITE NO. R0500G
 3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060

at&t
 LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

3					
2					
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
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A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW		

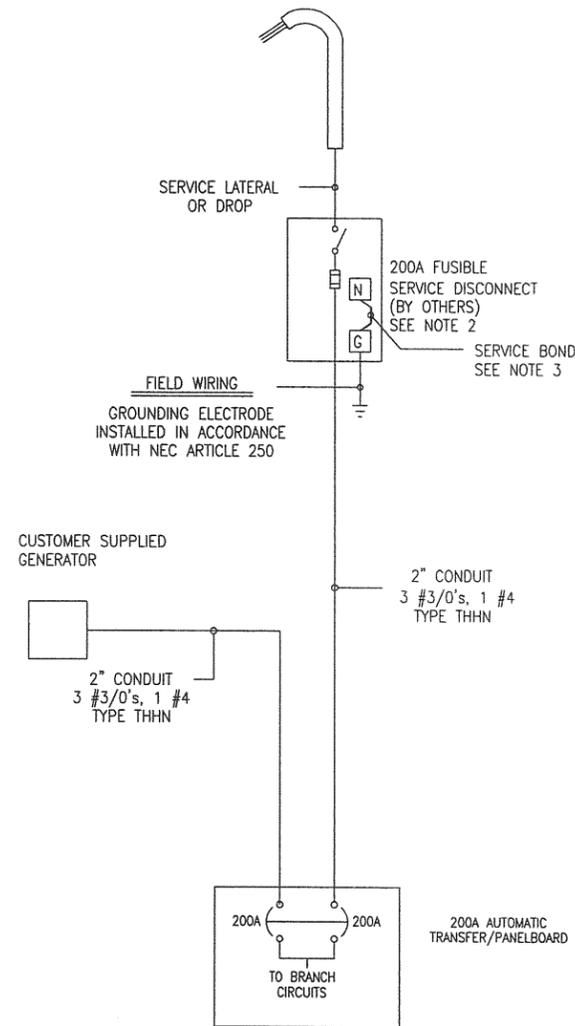
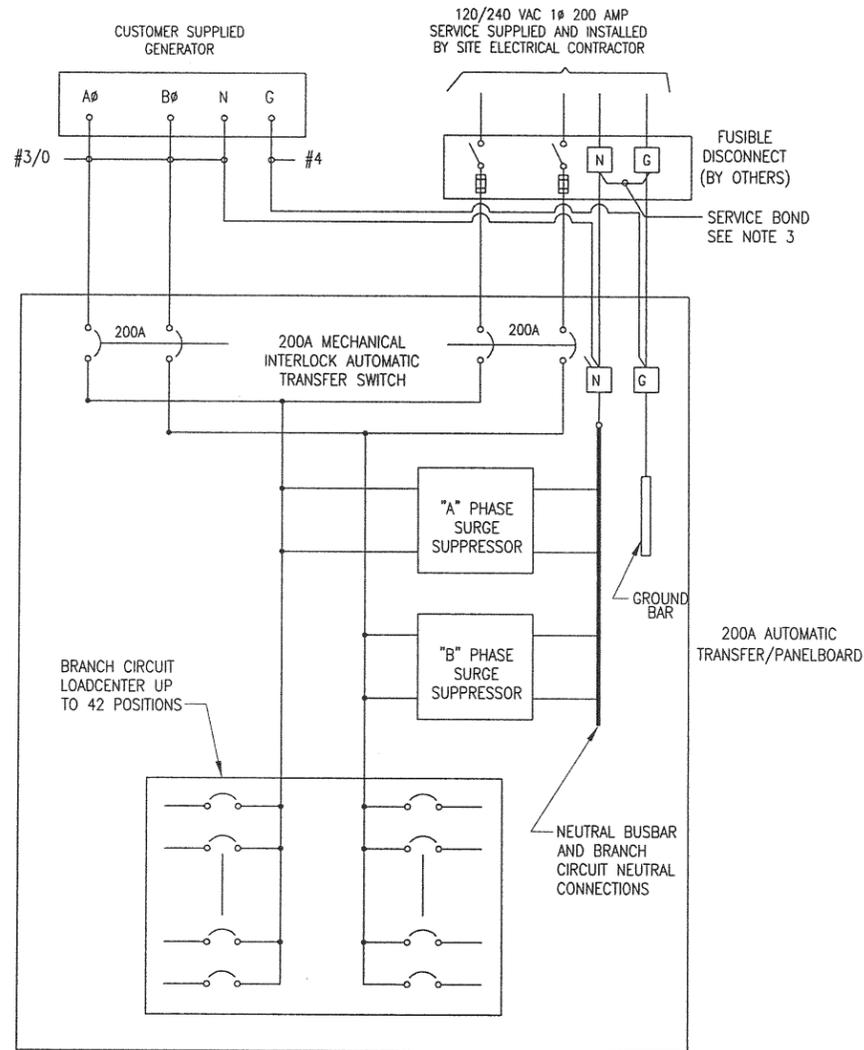
COMMONWEALTH OF VIRGINIA
 Christopher D. MORIN
 No. 032984
 3.3.11
 PROFESSIONAL ENGINEER

BC ARCHITECTS ENGINEERS
 FALLS CHURCH, VA

ELECTRICAL SCHEMATIC

DRAWING NUMBER: E-4
 REV: 1

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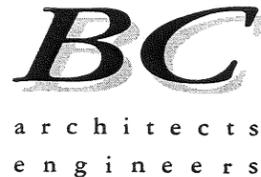


NOTES:

1. ALL CIRCUIT BREAKERS ARE 10,000 A.I.C. TYPICALLY. A.I.C. RATING MAY CHANGE AS ELECTRICAL SUPPLY DEMAND CHANGES.
2. SERVICE BOND IS TO BE MADE BY DEVICES (STRAPS, SCREWS, ETC) SUPPLIED BY EQUIP. MANUFACTURER. IF NO SUCH DEVICE IS SUPPLIED, BOND IS TO BE MADE WITH #4 AWG GREEN FOR 200 AMP. SERVICE AND #1/0 AWG GREEN FOR 400 AMP SERVICE.
3. WHEN SERVICE OVERCURRENT DISCONNECT IS FIELD INSTALLED, A TEMPORARY SERVICE BOND WILL BE INSTALLED FOR SAFETY PURPOSE
4. INSTALL SERVICE BOND JUMPER AT SERVICE DISCONNECT.
5. ALL CONDUCTORS SHALL BE TERMINATED WITH PROPERLY SIZED SOLDERLESS LUGS RATED FOR COPPER CABLE.
6. NOT MORE THAN TWO LUGS SHALL BE TERMINATED ON A TERMINAL.
7. USE TOP SWITCH ONLY.
8. ALL CONDUIT SHALL BE EMT UNLESS OTHERWISE NOTED.
9. ALL CONDUIT THROUGH WALL SHALL BE RIGID UNLESS OTHERWISE NOTED.

ELECTRICAL ONE LINE DIAGRAM 200AMP SERVICE
SCALE: N.T.S.

1
E-5



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FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

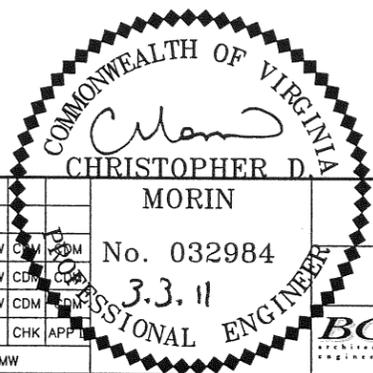
SITE NAME: US460 AND SR778
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SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW	



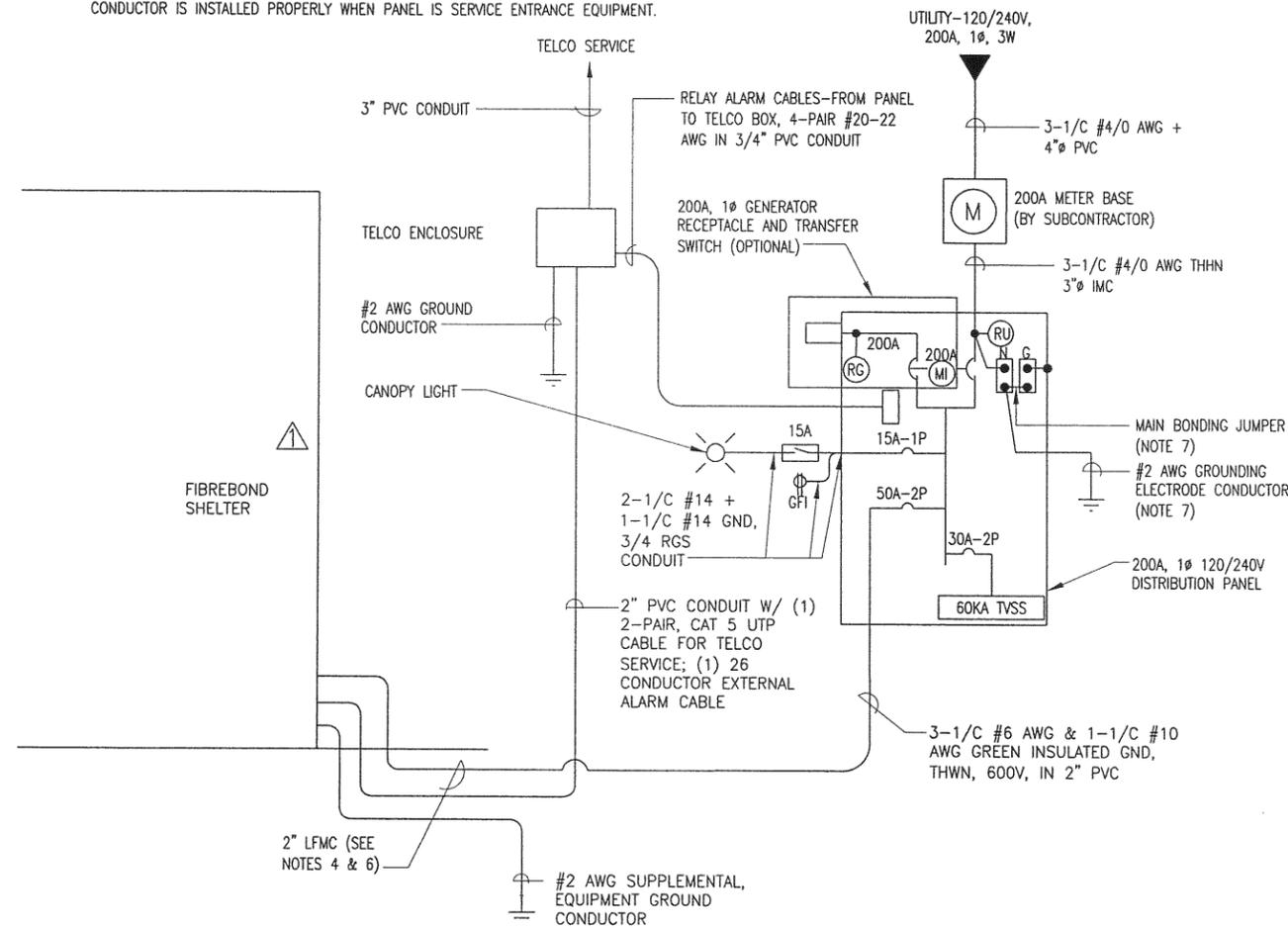
BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

ELECTRICAL DETAILS & NOTES

DRAWING NUMBER
E-5
REV
1

NOTES:

1. SUBCONTRACTOR SHALL PROVIDE 200AMP, SINGLE PHASE, 120/240 VAC, 60HZ SERVICE FOR SITE.
2. SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY BEFORE THE START OF CONSTRUCTION. POWER AND TELEPHONE CONDUIT SHALL BE PROVIDED AND INSTALLED PER UTILITY REQUIREMENTS.
3. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY PANEL MANUFACTURER.
4. SUBCONTRACTOR SHALL INSTALL SUFFICIENT LENGTHS OF LFMC INCLUDING ALL CONDUIT FITTINGS (NUTS, REDUCING BUSHINGS, ELBOWS, COUPLINGS, ETC) NECESSARY FOR CONNECTION FROM IMC CONDUIT TO THE INTERIOR OF THE BTS CABINET.
5. SUBCONTRACTOR SHALL PROVIDE ELECTRICAL SERVICE EQUIPMENT WITH FAULT CURRENT RATINGS GREATER THAN THE AVAILABLE FAULT CURRENT FROM THE POWER UTILITY.
6. ROUTE BRANCH CIRCUIT TO CABLE BASE FRAME, TRANSITION RACEWAY FROM PVC/IMC TO LIQUID-TIGHT FLEXIBLE METAL CONDUIT (LFMC) WITHIN 6 FEET (MAX) OF CABINET AND INSTALL STRAIGHT LFMC CONNECTOR AT BASE FRAME AND CONTINUE LFMC TO ACCU LOCATION. CUT, COIL AND TAPE 3-FOOT PIGTAIL FROM END OF CONDUIT FOR CONNECTION BY ERICSSON. COLOR CODE DIFFERENT PHASE CONDUCTORS WITH BLACK OR RED MARKING IN ABSENCE OF DIFFERING LOCAL CODE COLOR REQUIREMENT.
7. SUBCONTRACTOR SHALL VERIFY THAT THE MAIN BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR IS INSTALLED PROPERLY WHEN PANEL IS SERVICE ENTRANCE EQUIPMENT.



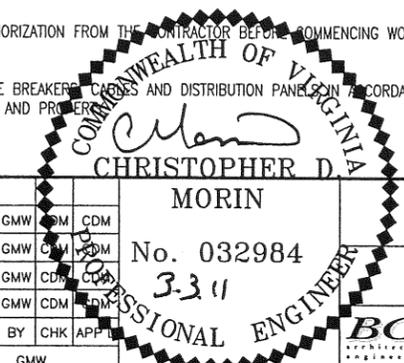
POWER & TELEPHONE SINGLE LINE DIAGRAM
SCALE: N.T.S.

ELECTRICAL NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. SUBCONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC AND TELCORDIA.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC AND TELCORDIA.
5. CABLES SHALL NOT BE ROUTED THROUGH LADDER-STYLE CABLE TRAY RUNGS.
6. EACH END OF EVERY POWER, POWER PHASE CONDUCTOR (I.E., HOTS), GROUNDING, AND T1 CONDUCTOR AND CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2 INCH PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC & OSHA.
7. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS. ALL EQUIPMENT SHALL BE LABELED WITH THEIR VOLTAGE RATING, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING, AND BRANCH CIRCUIT ID NUMBERS (I.E., PANELBOARD AND CIRCUIT ID'S).
8. PANELBOARDS (ID NUMBERS) AND INTERNAL CIRCUIT BREAKERS (CIRCUIT ID NUMBERS) SHALL BE CLEARLY LABELED WITH ENGRAVED LAMACOID PLASTIC LABELS.
9. ALL TIE WRAPS SHALL BE CUT FLUSH WITH APPROVED CUTTING TOOL TO REMOVE SHARP EDGES.
10. POWER, CONTROL, AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE CONDUCTOR (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
11. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE CONDUCTOR (#6 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2 GREEN INSULATION, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; LISTED OR LABELED FOR THE LOCATION AND RACEWAY SYSTEM USED, UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING, NOT IN TUBING OR CONDUIT, SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 AWG OR LARGER), 600 V, OIL RESISTANT THHN OR THWN-2, CLASS B STRANDED COPPER CABLE RATED FOR 90 °C (WET AND DRY) OPERATION; WITH OUTER JACKET; LISTED OR LABELED FOR THE LOCATION USED, UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND POWER GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRENUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRENUTS SHALL BE RATED FOR OPERATION AT NO LESS THAN 75°C (90°C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT) OR RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40, OR RIGID PVC SCHEDULE 80 FOR LOCATIONS SUBJECT TO PHYSICAL DAMAGE) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT), ELECTRICAL NONMETALLIC TUBING (ENT), OR RIGID NONMETALLIC CONDUIT (RIGID PVC, SCHEDULE 40) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. GALVANIZED STEEL INTERMEDIATE METALLIC CONDUIT (IMC) SHALL BE USED FOR OUTDOOR LOCATIONS ABOVE GRADE.
18. RIGID NONMETALLIC CONDUIT (I.E., RIGID PVC SCHEDULE 40 OR RIGID PVC SCHEDULE 80) SHALL BE USED UNDERGROUND; DIRECT BURIED, IN AREAS OF OCCASIONAL LIGHT VEHICLE TRAFFIC OR ENCASED IN REINFORCED CONCRETE IN AREAS OF HEAVY VEHICLE TRAFFIC.
19. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
20. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SETSCREW FITTINGS ARE NOT ACCEPTABLE.
21. CABINETS, BOXES, AND WIREWAYS SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE, AND NEC.
22. WIREWAYS SHALL BE EPOXY-COATED (GRAY) AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARD; SHALL BE PANDUIT TYPE E (OR EQUAL); AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.

ELECTRICAL NOTES CONT.:

23. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES, AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL, SHALL MEET OR EXCEED UL 50, AND RATED NEMA 1 (OR BETTER) INDOORS, OR NEMA 3R (OR BETTER) OUTDOORS.
24. METAL RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED, OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
25. NONMETALLIC RECEPTACLE, SWITCH, AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2; AND RATED NEMA 1 (OR BETTER) INDOORS, OR WEATHER PROTECTED (WP OR BETTER) OUTDOORS.
26. THE SUBCONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CONTRACTOR BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
27. THE SUBCONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABINETS AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD AGAINST LIFE AND PROPERTY.



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5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

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3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



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GLEN ALLEN, VA 23060

3									
2	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM				
1	02-21-11	ADDED FIBREBOND NOTE	GMW	CDM	CDM				
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM				
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NO.	DATE	REVISIONS	BY	CHK	APP				
SCALE: AS SHOWN		DESIGNED C. MORIN	DRAWN GMW						

MORIN
BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

No. 032984

3-3-11

ELECTRICAL NOTES

DRAWING NUMBER
E-6

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2

03-03-11 JAMAL ELEBUTE 14:14:44 Y:/Drawings - 2010/AT&T_Rawlands/RO500G/CD's/SP2.dwg

- 4.2 PIPE DETECTION AND IDENTIFICATION
 A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.
- 4.3 TRENCH EXCAVATION
 A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.
 B. TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
 C. DISPOSE OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.
 D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.
- 4.4 TRENCH PROTECTION
 A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
 B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.
- 4.5 BACKFILLING
 A. NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
 B. BACKFILL TRENCH WITH LIFTS UP TO 12 INCHES, LOOSE MEASURE.
 C. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT, OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL AT LEAST 12 INCHES OF COVER IS OVER THE CONDUIT.
- 4.6 COMPACTION
 A. COMPACT BACKFILL TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
 B. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RECOMPACT AS SPECIFIED.
 C. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR STRUCTURE BACKFILL DURING MAINTENANCE PERIOD SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.
- 5.0 CHAIN LINK FENCES AND GATES
- 5.1 GENERAL
 A. PROVIDE CHAIN LINK FENCES AND GATES AS COMPLETE UNITS BY A SINGLE SUPPLY SOURCE INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS, AND FASTENERS.
- 5.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS.)
 A. COMPOUND FABRIC 84 INCHES HIGH AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER.
 B. STEEL FABRIC:
 COMPLY WITH CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL. FURNISH ONE PIECE OF FABRIC WIDTHS. WIRE SIZE INCLUDES ZINC OR ALUMINUM COATING.
 1. SIZE: 2-INCH MESH, 9 GAUGE (0.148-INCH DIAMETER) WIRE.
 2. GALVANIZED STEEL FINISH: ASTM A 392, CLASS 2, WITH A MINIMUM 2.0 OZ. ZINC PER SQ. FT. OF UNCOATED WIRE SURFACE.
 C. FRAMEWORK AND ACCESSORIES:
 1. GENERAL REQUIREMENTS: EXCEPT AS INDICATED OTHERWISE, CONFORM TO THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL, INDUSTRIAL STEEL GUIDE FOR FENCE RAILS, POSTS, GATES AND ACCESSORIES, INCLUDING TABLE II.
 2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F 669.
 3. TYPE I PIPE: HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F 1083, PLANE ENDS, STANDARD WEIGHT (SCHEDULE 40) WITH NOT LESS THAN 1.8 OZ. ZINC PER SQ. FT. OF SURFACE AREA COATED.
 4. FITTINGS: COMPLY WITH ASTM F 626. MILL FINISHED ALUMINUM OR GALVANIZED IRON STEEL, TO SUIT MANUFACTURER'S STANDARDS.
 5. TOP RAIL: MANUFACTURER'S LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS, APPROXIMATELY 6 INCHES LONG, FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE CORNER, PULL AND END POST.
 A. GALVANIZED STEEL: 1 1/4 INCH NPS (1.66 INCH OD) TYPE I OR II STEEL PIPE OR 1.625 INCH X 1.25 INCH ROLL-FORMED C SECTIONS WEIGHTING 1.35 LBS. PER FT.
- D. SWING GATES:
 COMPLY WITH ASTM F 9000. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE, GALVANIZED PER ASTM A 153, AND IN ACCORDANCE WITH THE FOLLOWING:
 1. HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEG. GATE OPENING.
 2. LATCH: MTS MULTI-LOCKING DEVICE #MT-C6477 OR APPROVED EQUAL.

3. KEEPER: PROVIDE KEEPER FOR VEHICLE GATES, WHICH AUTOMATICALLY ENGAGES GATE LEAF AND HOLDS IT IN OPEN POSITION UNTIL MANUALLY RELEASED.
- E. CONCRETE:
 PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C 150, AGGREGATES ASTM C 33, AND CLEAN WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM OF 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.
- 6.0 LANDSCAPING
 A. FURNISH, INSTALL AND MAINTAIN LANDSCAPE WORK AS SHOWN AND OR REQUIRED WITHIN THE CONSTRUCTION DOCUMENTS OR AS SPECIFIED IN THE AT&T CONSTRUCTION SPECIFICATIONS.
- 7.0 CONCRETE FORMWORK
 A. FORMS: SMOOTH AND FREE OF SURFACE IRREGULARITIES. UTILIZE FORM RELEASE AGENTS.
 B. CHAMFER: EXPOSED EDGES OF ALL TOWER FOUNDATIONS SHALL RECEIVE A 3/4" BY 3/4", 45 DEGREE CHAMFER. OTHER EXPOSED EDGES SHALL RECEIVE A TOOLED RADIUS FINISH.
 C. UPON COMPLETION, REMOVE ALL FORMS, INCLUDING THOSE CONCEALED OR BURIED.
 D. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
- 8.0 CONCRETE REINFORCEMENT
 REFER TO STRUCTURAL DRAWINGS FOR ALL REQUIREMENTS.
- 9.0 CAST-IN PLACE CONCRETE

FOR STRUCTURAL CONCRETE (FOOTINGS, FOUNDATIONS, ETC.), REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS. FOR ANY MISCELLANEOUS CONCRETE, REFER TO SPECIFICATION BOOK OR OBTAIN REQUIREMENTS FROM CONSTRUCTION MANAGER.

- A. ALL CONCRETE SHALL COMPLY WITH ASTM C94 UNLESS NOTED OTHERWISE.
 B. MINIMUM COMPRESSIVE STRENGTH (F'C) AT 28 DAYS: 4000 PSI FOR TOWER FOUNDATION, AND 3500 PSI FOR ALL OTHER CONCRETE UNLESS SPECIFIED IN CONSTRUCTION DOCUMENTS.
 C. AIR ENTRAINMENT: PROVIDE 4 TO 8% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE-THAW CYCLE.
 D. CONCRETE TESTING: ALL FOUNDATION CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE CONSTRUCTION MANAGER. ALL STRUCTURAL TOWER FOUNDATION CONCRETE MUST BE TESTED. EQUIPMENT OR BUILDING PADS ARE NOT REQUIRED TO BE TESTED, UNLESS OTHERWISE NOTED BY CONSTRUCTION MANAGER. PROVIDE A MINIMUM OF 5 CYLINDERS (2-7-DAY, 2-28-DAY, 1-SPARE) FOR EACH DAYS POUR, OR FOR EVERY 50 YARDS PLACED - WHICHEVER IS GREATER. ADDITIONAL TESTS OR CYLINDERS MAY BE REQUIRED BY CONSTRUCTION MANAGER. A SLUMP, AIR, AND TEMPERATURE TEST SHALL BE PERFORMED FOR EACH SET OF CYLINDERS CAST. PREFERABLY, TESTS SHALL BE PERFORMED AT THE LOCATION OF ANCHOR BOLTS (PIERS - FOR MAT & PIERS, CAISSONS - TOP 1/3 OF CAISSON). TESTS SHALL ALSO BE REQUIRED FOR CONCRETE CONSIDERED BEING LESS THAN DESIRABLE BY CONCRETE SPECIFICATION STANDARDS. THE TESTING AGENCY HAS THE AUTHORITY TO NOT ACCEPT CONCRETE MEETING THESE SPECIFICATIONS FOR AT&T. THE CONTRACTOR IS RESPONSIBLE FOR ANY CONCRETE NOT MEETING THESE STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE TESTING AGENCY A MINIMUM OF 24 HOURS IN ADVANCE OF EACH FOUNDATION POUR. TEST REPORTS SHALL BE FORWARDED TO CINGULAR CONSTRUCTION MANAGER WITHIN 24 HOURS OF LAB TEST.
 E. VIBRATE ALL CONCRETE USING SUFFICIENT HIGH FREQUENCY, LOW AMPLITUDE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE AROUND AND BETWEEN REINFORCEMENT BARS AND INTO CORNERS AND IRREGULARITIES. VIBRATE THOROUGHLY THROUGH EACH LIFT TO THE PREVIOUS LIFT. REVIBRATION AS LATE AS THE RUNNING VIBRATOR WILL SINK THROUGH UPPER LAYERS OF ITS WEIGHT, IS RECOMMENDED. DISCONTINUE VIBRATION WHEN RISING ENTRAPPED AIR BUBBLES STOP BREAKING THE LEVELING SURFACE. DO NOT OVERVIBRATE AS THIS MAY CAUSE SEGREGATION.
 F. FINISHING EXPOSED CONCRETE SURFACES:

1. THESE PROVISIONS APPLY TO ALL EXPOSED AND ALL FORMED CONCRETE, EXTERIOR OR INTERIOR, UNLESS SPECIFICALLY DETAILED OTHERWISE. PERFORM PROCEDURES PRIOR TO APPLICATION OF ANY CURING COMPOUNDS.
 2. ALL SURFACES: THOROUGHLY CLEAN OF ALL STAINS, SPATTER AND LOOSE MATERIAL.
 3. FINS, RIDGES, HIGH SPOTS: HONE SMOOTH WITH ABRASIVE POWER GRINDERS WHILE CONCRETE IS GREEN, IMMEDIATELY AFTER FORM REMOVAL.
 4. FORM TIE HOLES AND DEEP DEPRESSIONS: FLUSH THOROUGHLY WITH CLEAN WATER AND TAMP TO OVERFULL WITH DRYPACK. CURE 10 DAYS AND HONE FLUSH AND SMOOTH.
 5. ROCK POCKETS, HONEYCOMB, SAND STREAKS, DEBRIS AND VOIDS: CUT OUT AT LEAST 1 INCH DEEP WITH SIDES PERPENDICULAR TO SURFACE. FLUSH OUT WITH CLEAN WATER, COAT SURFACE WITH NEAT CEMENT PASTE AND TAMP TO OVERFULL WITH DRYPACK IN AT LEAST TWO LAYERS. CURE FOR 10 DAYS AND HONE FLUSHED AND SMOOTH.

- G. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL ELECTRICAL OPENINGS AND EQUIPMENT/BUILDING PADS WITH THE ELECTRICAL DRAWINGS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES.
 CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.
 PRIOR TO POURING CONCRETE THE INDEPENDENT TESTING AGENCY SHALL INSPECT ALL FOUNDATION STEEL AND FOUNDATION SUBGRADE.

10.0 STRUCTURAL STEEL

MEET OR EXCEED MANUFACTURER'S RECOMMENDATIONS.

- A. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
 B. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.
 C. HEATING AND WELDING OF BARS IS PROHIBITED WITH THE EXCEPTION OF WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
 D. ALL REINFORCEMENT BARS TO BE FREE FROM LOOSE RUST AND SCALE.
 E. UNLESS OTHERWISE NOTED, ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVERAGE OF 3 INCHES. THIS MAY REQUIRE SPACERS AND CHAIRS AS REQUIRED BY TESTING AGENCY OR CONSTRUCTION MANAGER.
 F. SPLICES IN REINFORCEMENT STEEL ARE PROHIBITED, UNLESS APPROVED BY CONSTRUCTION MANAGER. ALL SPLICES MUST THEN MEET ALL APPLICABLE ASTM STANDARDS FOR SPLICING.

11.0 GROUNDING

MEET ALL APPLICABLE CODES, REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, AND AT&T CONSTRUCTION SPECIFICATIONS.

GENERATOR SPECIFICATIONS

1. SWITCHES AND STANDARD FEATURES
 A. CYCLIC CRANKING
 B. ALARM HORN WITH SILENCING SWITCH
 C. VOLTAGE ADJUSTING RHEOSTAT
 D. OVERVOLTAGE PROTECTION
 E. REMOTE TWO-WIRE AUTO START SYSTEM
 F. LAMP TEST SWITCH
 G. RUN-OFF-RESET/AUTO SWITCH (ENGINE START)
 H. ENGINE COOLDOWN TIMER (5 MINUTES)
 2. ERROR-PROOF WIRING HARNESS FOR ELECTRICAL CONNECTIONS
 3. PANEL LAMPS
 4. DC CIRCUIT PROTECTION

GENERATOR ACCESSORIES

1. MAIN LINE CIRCUIT BREAKER-100 AMPS, INSTALLED ON GENERATOR
 2. VOLTAGE REGULATOR ±2%
 3. SAFEGUARD BREAKER

ENGINE ELECTRICAL ACCESSORIES

1. ELECTRONIC/ISOCHRONOUS GOVERNOR
 2. BATTERY RACK, CABLES AND STARTING BATTERY SYSTEM-LEAD ACID TYPE
 3. BATTERY CHARGER-AUTOMATIC 6 AMP OUTPUT

UNIT ACCESSORIES

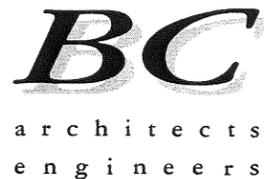
1. WEATHER HOUSING-STANDARD WITH ROOF MOUNTED SILENCER
 2. MOUNTED CRITICAL GRADE EXHAUST SILENCER
 3. TAIL PIPE AND RAIN CAP

COOLING SYSTEM ACCESSORIES

1. UNIT MOUNTED RADIATOR
 2. ENGINE BLOCK HEATER

FUEL SYSTEM ACCESSORIES

1. FLEXIBLE FUEL LINES
 2. ENGINE BLOCK HEATER
 3. SUBBASE FUEL TANK-172 GALLONS
 4. DOUBLE WALL CONSTRUCTION WITH LEAK DETECTION MONITOR
 5. U.L. 142 LISTED
 6. FUEL LEVEL GAUGE
 7. LOW FUEL LEVEL ALARM
 8. FILL PIPE EXTENDED 10% INTO TANK
 9. HIGH-FUEL LEVEL ALARM-SET AT 95%
 10. 7.5 GALLON LOCKABLE FILL WITH SPILL CONTAINMENT



5659 COLUMBIA PIKE, SUITE 101
 FALLS CHURCH, VA 22041-2868
 TEL: (703) 671-6000
 FAX: (703) 671-6300

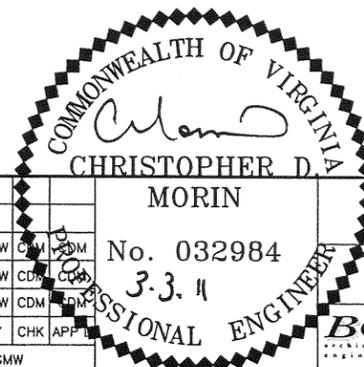
SITE NAME: US460 AND SR778
 SITE NO. R0500G

3153 PANDAPAS POND RD
 BLACKSBURG, VA 24060



LIBERTY PLAZA 1
 4801 COX RD, SUITE 300
 GLEN ALLEN, VA 23060

3					
2					
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		



BC ARCHITECTS ENGINEERS
 FALLS CHURCH, VA

SPECIFICATIONS

DRAWING NUMBER

SP-2

REV

1

GENERAL NOTES:

1. THE GENERAL CONTRACTOR MUST VERIFY ALL DIMENSIONS, CONDITIONS, AND ELEVATIONS BEFORE STARTING WORK. ALL DISCREPANCIES SHALL BE CALLED TO THE ATTENTION OF THE ENGINEER AND SHALL BE RESOLVED BEFORE PROCEEDING WITH THE WORK. ALL WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER IN ACCORDANCE WITH ACCEPTED CONSTRUCTION PRACTICES.
2. IT IS THE INTENTION OF THESE DRAWINGS TO SHOW THE COMPLETED INSTALLATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, TIES, FORM WORK, ETC., IN ACCORDANCE WITH ALL NATIONAL, STATE, AND LOCAL ORDINANCES, TO SAFELY EXECUTE ALL WORK AND SHALL BE RESPONSIBLE FOR SAME. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES.
3. THE CONTRACTOR SHALL USE ADEQUATE NUMBER OF SKILLED WORKMEN WHO ARE THOROUGHLY TRAINED AND EXPERIENCED IN THE NECESSARY CRAFTS AND WHO ARE COMPLETELY FAMILIAR WITH THE SPECIFIED REQUIREMENTS AND METHODS NEEDED FOR PROPER PERFORMANCE OF THE WORK.
4. CONSTRUCTION CONTRACTOR AGREES THAT IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONSTRUCTION CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY. THAT REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS AND CONSTRUCTION CONTRACTOR FURTHER AGREES TO INDEMNIFY AND HOLD DESIGN ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT.
5. SITE GROUNDING SHALL COMPLY WITH CINGULAR GROUNDING STANDARDS, LATEST EDITION, AND COMPLY WITH CINGULAR GROUNDING CHECKLIST, LATEST VERSION. WHEN NATIONAL AND LOCAL GROUNDING CODES ARE MORE STRINGENT, THEY SHALL GOVERN. GROUNDING SHALL BE COMPLETED BEFORE ERECTION OF A NEW TOWER.
6. ALL WORK SHALL COMPLY WITH OSHA AND STATE SAFETY REQUIREMENTS. PROCEDURES FOR THE PROTECTION OF EXCAVATIONS, EXISTING CONSTRUCTION, AND UTILITIES SHALL BE ESTABLISHED PRIOR TO FOUNDATION INSTALLATION. IF TEMPORARY LIGHTING AND MARKING ARE REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION (FAA), IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN THE NECESSARY LIGHTS AND NOTIFY THE PROPER AUTHORITIES IN THE EVENT OF A PROBLEM.
7. ALL WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL CODES OR ORDINANCES. THE MOST STRINGENT CODE WILL APPLY IN THE CASE OF DISCREPANCIES OR DIFFERENCES IN THE CODE REQUIREMENTS.
8. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
9. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AMPLE NOTICE TO THE BUILDING INSPECTION DEPARTMENT TO SCHEDULE THE REQUIRED INSPECTIONS. A MINIMUM OF 24 HOURS OF NOTICE SHOULD BE GIVEN AND THE BUILDING INSPECTION DEPARTMENTS HAVE REQUESTED THAT GROUPS OF TWO OR THREE SITES BE SCHEDULED AT ONE TIME IF POSSIBLE.
10. FOR NEW TOWERS, CINGULAR WILL CONFIRM FAA APPROVAL OF TOWER LOCATION BY ISSUING TOWER RELEASE FORM. NO TOWER SHALL BE CONSTRUCTED UNTIL TOWER RELEASE FORM IS ISSUED TO THE CONTRACTOR.
11. THE COMPLETE BID PACKAGE INCLUDES THESE CONSTRUCTION DRAWINGS ALONG WITH THE SPECIFICATIONS AND TOWER DRAWINGS/ANALYSIS. CONTRACTOR IS RESPONSIBLE FOR REVIEW OF THE TOTAL BID PACKAGE PRIOR TO BID SUBMITTAL.
12. THE CONTRACTOR SHALL VERIFY LOCATIONS OF ALL EXISTING UTILITIES WITHIN THE CONSTRUCTION LIMITS PRIOR TO CONSTRUCTION.
13. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE ON THE SITE AT ALL TIMES. SILT AND EROSION CONTROL SHALL BE MAINTAINED ON THE DOWNSTREAM SIDE OF THE SITE AT ALL TIMES. ANY DAMAGE TO ADJACENT PROPERTIES WILL BE CORRECTED AT THE CONTRACTOR'S EXPENSE.
14. CLEARING OF TREES AND VEGETATION ON THE SITE SHOULD BE KEPT TO A MINIMUM. ONLY THE TREES NECESSARY FOR CONSTRUCTION OF THE FACILITIES SHALL BE REMOVED. ANY DAMAGE TO PROPERTY OUTSIDE THE LEASED PROPERTY SHALL BE REPAIRED BY THE CONTRACTOR.
15. ALL SUITABLE BORROW MATERIAL FOR BACKFILL OF THE SITE SHALL BE INCLUDED IN THE BID. EXCESS TOPSOIL AND UNSUITABLE MATERIAL SHALL BE DISPOSED OF OFF SITE AT LOCATIONS APPROVED BY GOVERNING AGENCIES PRIOR TO DISPOSAL.
16. SEEDING AND MULCHING OF THE SITE WILL BE ACCOMPLISHED AS SOON AS POSSIBLE AFTER COMPLETION OF THE SITE DEVELOPMENT. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND MAINTAINING AN ADEQUATE COVER OF VEGETATION OVER THE SITE FOR A ONE YEAR PERIOD.
17. PERMITS: THE CONTRACTOR SHALL OBTAIN AND PAY FOR ALL REQUIRED PERMITS, LICENSES, FEES, INSPECTIONS, ETC AND PROVIDE E911 ADDRESS TO AT&T.
18. RECORD DRAWINGS: MAINTAIN A RECORD OF ALL CHANGES, SUBSTITUTIONS, ETC., BETWEEN THE WORK AS SPECIFIED AND INSTALLED. RECORD CHANGES ON A CLEAN SET OF CONTRACT DRAWINGS WHICH SHALL BE TURNED OVER TO THE CONSTRUCTION MANAGER UPON COMPLETION OF THE PROJECT.

EXCAVATION AND GRADING NOTES:

1. ALL CUT AND FILL SLOPES SHALL BE 3 : 1 MAXIMUM.
2. ALL EXCAVATIONS ON WHICH CONCRETE IS TO BE PLACED SHALL BE SUBSTANTIALLY HORIZONTAL ON UNDISTURBED AND UNFROZEN SOIL AND BE FREE FROM LOOSE MATERIAL AND EXCESS GROUND WATER. DEWATERING FOR EXCESS GROUND WATER SHALL BE PROVIDED IF REQUIRED.
3. CONCRETE FOUNDATIONS SHALL NOT BE PLACED ON ORGANIC MATERIAL IF SOUND SOIL IS NOT REACHED AT THE DESIGNATED EXCAVATION DEPTH. THE UNSATISFACTORY SOIL SHALL BE EXCAVATED TO ITS FULL DEPTH AND EITHER BE REPLACED WITH MECHANICALLY COMPACTED GRANULAR MATERIAL OR THE EXCAVATION SHALL BE FILLED WITH CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION.
4. ANY EXCAVATION OVER THE REQUIRED DEPTH SHALL BE FILLED WITH EITHER MECHANICALLY COMPACTED GRANULAR MATERIAL OR CONCRETE OF THE SAME QUALITY SPECIFIED FOR THE FOUNDATION. CRUSHED STONE MAY BE USED TO STABILIZE THE BOTTOM OF THE EXCAVATION. STONE IF USED, SHALL NOT BE USED AS COMPILING CONCRETE THICKNESS.
5. AFTER COMPLETION OF THE FOUNDATION AND OTHER CONSTRUCTION BELOW GRADE, AND BEFORE BACK FILLING, ALL EXCAVATIONS SHALL BE CLEAN OF UNSUITABLE MATERIAL SUCH AS VEGETATION, TRASH, DEBRIS, AND SO FORTH.
6. ALL BACKFILLING SHALL (1) USE APPROVED MATERIALS CONSISTING OF EARTH, LOAM, SANDY CLAYS, SAND AND GRAVEL, OR SOFT SHALE, (2) BE FREE FROM CLODS OR STONES OVER 2 1/2" MAXIMUM DIMENSIONS, AND (3) BE PLACED IN LAYERS AND COMPACTED.
7. SITE FILL MATERIAL AND FOUNDATION BACK FILL SHALL BE PLACED IN LAYERS, MAXIMUM 6" DEEP BEFORE COMPACTION. EACH LAYER SHALL BE SPRINKLED IF REQUIRED AND COMPACTED BY HAND OR MACHINE TAMPERS TO 95% OF MAXIMUM DENSITY. AT THE OPTIMUM MOISTURE CONTENT OF ±2% AS DETERMINED BY ASTM DESIGNATION D-698, UNLESS OTHERWISE APPROVED. SUCH BACK FILL SHALL NOT BE PLACED BEFORE 3 DAYS AFTER PLACEMENT OF CONCRETE.
8. THE FOUNDATION AREA SHALL BE GRADED TO PROVIDE WATER RUNOFF AND PREVENT WATER FROM STANDING. THE FINAL GRADE SHALL SLOPE AWAY IN ALL DIRECTIONS FROM THE FOUNDATION AREA (UP TO ONE FOOT OUTSIDE THE FENCE OR GROUND SYSTEM PERIMETER) AND SHALL BE COVERED WITH A GEOTEXTILE FABRIC MIRAFI 500X OR APPROVED EQUAL TO PREVENT REOCCURRENCE OF VEGETATIVE GROWTH, AN THEN SHALL BE COVERED WITH 4" DEEP COMPACTED STONE OR GRAVEL.
9. THE CONTRACTOR SHALL PROVIDE ALL EROSION AND SEDIMENTATION CONTROL MEASURES AS REQUIRED BY LOCAL, CITY, COUNTY, AND STATE CODES AND ORDINANCES TO PROTECT EMBANKMENTS FROM SOIL LOSS AND TO PREVENT ACCUMULATION OF SOIL AND SILT IN STREAMS AND DRAINAGE PATHS FROM LEAVING THE CONSTRUCTION AREA. THIS MAY INCLUDE SUCH MEASURES AS SILT FENCES, STRAW BALE SEDIMENT BARRIERS, AND CHECK DAMS.
10. FILL PREPARATION: REMOVE ALL VEGETATION, TOPSOIL, DEBRIS, WET AND UNSATISFACTORY SOIL MATERIALS, OBSTRUCTIONS, AND DELETERIOUS MATERIAL FROM GROUND SURFACE PRIOR TO PLACING FILLS, PLOW STRIP OR BREAK UP SLOPED SURFACES STEEPER THAT 1 VERTICAL TO 4 HORIZONTAL SO FILL MATERIAL WILL BOND WITH EXISTING SURFACE WHEN SUBGRADE OR EXISTING GROUND SURFACE TO RECEIVE FILL HAS A DENSITY LESS THAN THAT REQUIRED FOR FILL, BREAK UP GROUND SURFACE TO REQUIRED DEPTH, PULVERIZE, MOISTURE CONDITION OR AERATE SOIL, AND RECOMPACT TO REQUIRED DENSITY.
11. REPLACE EXISTING GRAVEL SURFACING ON AREAS FROM WHICH GRAVEL SURFACING IS REMOVED DURING CONSTRUCTION OPERATIONS. GRAVEL SURFACING SHALL BE REPLACED TO MATCH EXISTING ADJACENT GRAVEL SURFACING AND SHALL BE OF THE SAME THICKNESS. SURFACES AND GRAVEL SURFACING SHALL BE FREE FROM CORRUGATIONS AND WAVES. EXISTING GRAVEL SURFACING MAY BE EXCAVATED SEPARATELY AND REUSED IF INJURIOUS AMOUNTS OF EARTH, ORGANIC MATTER, OR OTHER DELETERIOUS MATERIALS ARE REMOVED PRIOR TO REUSE. FURNISH ALL ADDITIONAL GRAVEL RESURFACING MATERIAL AS REQUIRED. BEFORE GRAVEL SURFACING IS REPLACED, SUBGRADE SHALL BE GRADE TO CONFORM TO REQUIRED SUBGRADE ELEVATIONS, AND LOOSE OR DISTURBED MATERIALS SHALL BE THOROUGHLY COMPACTED. DEPRESSIONS IN THE SUBGRADE SHALL BE FILLED AND COMPACTED WITH APPROVED SELECTED MATERIAL GRAVEL SURFACING MATERIAL SHALL NOT BE USED FOR FILLING DEPRESSIONS IN THE SUBGRADE.
12. PROTECT EXISTING GRAVEL SURFACING AND SUBGRADE IN AREAS WHERE EQUIPMENT LOADS WILL OPERATE. USE PLANKING OR OTHER SUITABLE MATERIALS DESIGNED TO SPREAD EQUIPMENT LOADS. REPAIR ANY DAMAGE TO EXISTING GRAVEL SURFACING OR SUBGRADE WHERE SUCH DAMAGE IS DUE TO THE CONTRACTOR'S OPERATIONS.
13. DAMAGE TO EXISTING STRUCTURES AND UTILITIES RESULTING FROM CONTRACTOR'S NEGLIGENCE SHALL BE REPAIRED/REPLACED TO OWNERS'S SATISFACTION AT CONTRACTOR'S EXPENSE.
14. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION SCHEDULE WITH THE PROPERTY OWNER SO AS TO AVOID INTERRUPTIONS TO PROPERTY OWNER'S OPERATIONS.
15. ENSURE POSITIVE DRAINAGE DURING AND AFTER COMPLETION OF CONSTRUCTION.
16. RIPRAP SHALL BE CLEAN, HARD, SOUND, DURABLE, UNIFORM IN QUALITY, AND FREE OF ANY DETRIMENTAL QUANTITY OF SOFT, FRIABLE, THIN, ELONGATED OR LAMINATED PIECES, DISINTEGRATED MATERIAL, ORGANIC MATTER, OIL, ALKALI, OR OTHER DELETERIOUS SUBSTANCE.

UTILITY POLES

1. ALL UTILITY POLES SHALL BE 35 FT., CLASS 4 OR AS DIRECTED BY THE UTILITY PROVIDER. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY COMPANY PRIOR TO EXCAVATING OR INSTALLING ANY UTILITY POLES.

ABBREVIATION KEY	
Ø	DIAMETER
&	AND
BTM.	BOTTOM
CL	CENTER LINE
CONC.	CONCRETE
C.J.	CONTROL JOINT
DIA.	DIAMETER
EL.	ELEVATION
E.S.	EACH SIDE
E.W.	EACH WAY
FFI	FLANGE FACING INSIDE
FFO	FLANGE FACING OUTSIDE
FT.	FEET
F.V.	FIELD VERIFY
GALV.	GALVANIZED
HORIZ.	HORIZONTAL
IN.	INCH
LFO	LEG FACING OUTSIDE
LLVD	LONG LEG VERTICAL DOWN
LLVU	LONG LEG VERTICAL UP
MAZ.	MAXIMUM
MFR.	MANUFACTURER
MIN.	MINIMUM
MPH	MILES PER HOUR
O.C.	ON CENTER
PL	PLATE
REINF.	REINFORCE
REQ'D	REQUIRED
SIM.	SIMILAR
STD.	STANDARD
STL.	STEEL
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
VERT.	VERTICAL
VLD	VERTICAL LEG DOWN
VLU	VERTICAL LEG UP
W/	WITH

03-03-11 JAMAL ELEBUTE 14:13:46 Y:/Drawings - 2010/AT&T/_Rawlands/R0500G/CD's/SP3.dwg



5659 COLUMBIA PIKE, SUITE 101
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

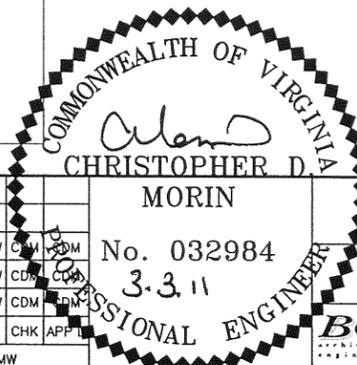
SITE NAME: US460 AND SR778
SITE NO. R0500G

3153 PANDAPAS POND RD
BLACKSBURG, VA 24060



LIBERTY PLAZA 1
4801 COX RD, SUITE 300
GLEN ALLEN, VA 23060

3					
2					
1	03-03-11	REVISED SITE ADDRESS	GMW	CDM	CDM
0	11-17-10	FINAL CONSTRUCTION DRAWINGS	GMW	CDM	CDM
A	05-10-10	PRELIMINARY CONSTRUCTION DRAWINGS	GMW	CDM	CDM
NO.	DATE	REVISIONS	BY	CHK	APP
SCALE:	AS SHOWN	DESIGNED C. MORIN	DRAWN GMW		



BC ARCHITECTS ENGINEERS
FALLS CHURCH, VA

SPECIFICATIONS

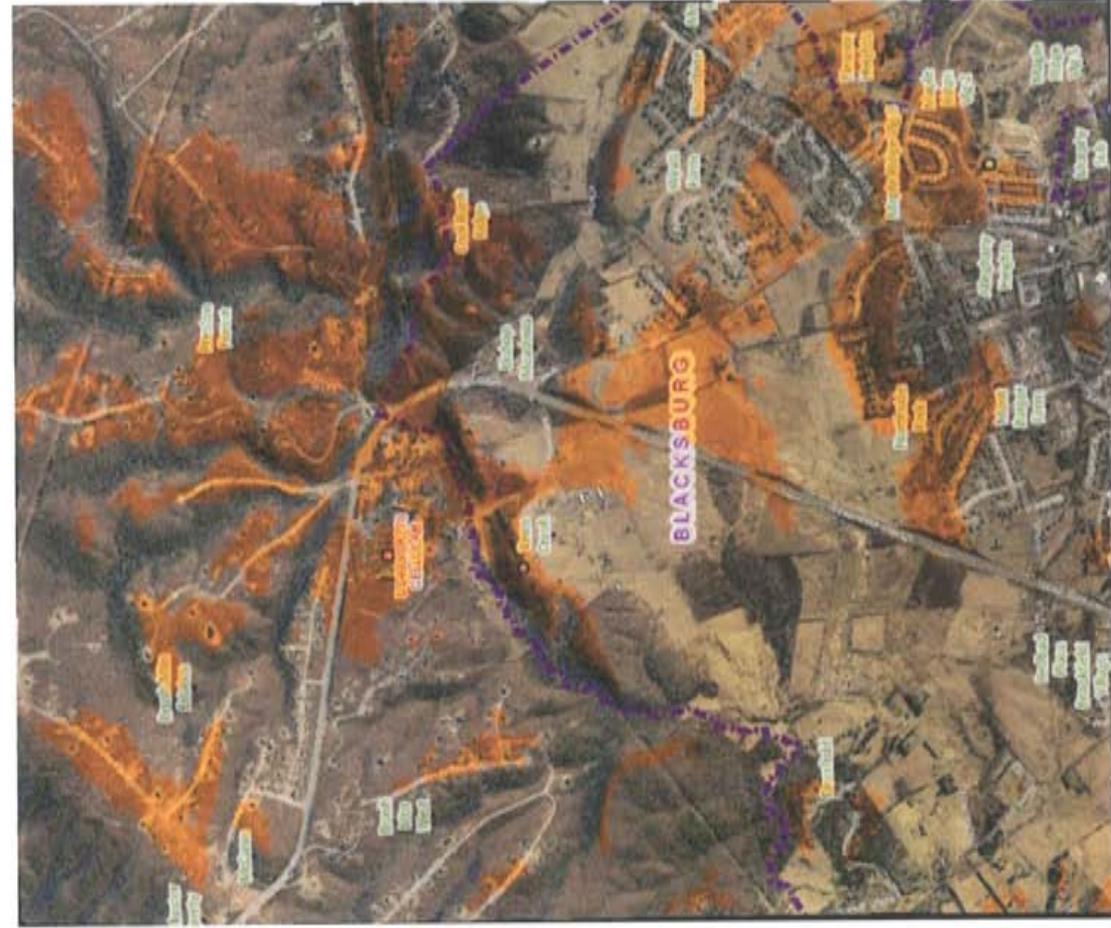
DRAWING NUMBER

SP-3

REV

1

ATT PANDAPAS



100 ft height - Approximate Leaf Off vs. Leaf On visibility

ATT PANDAPAS

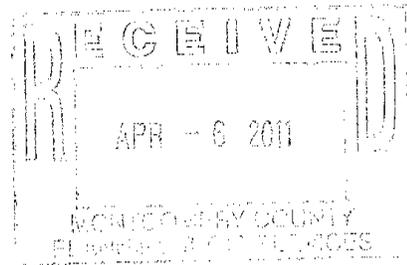


100 ft vs. 80 ft height - Leaf On visibility

TOWN OF
Blacksburg
a special place

April 1, 2011

Mr. Bryan Rice, Chair
Montgomery County Planning Commission
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073-3177



Subject: Montgomery County Referral for SU-2011-08656 for Special Use for a 100'
Telecommunications Tower at 3153 Pandapas Pond Road

Dear Bryan:

The Blacksburg Planning Commission appreciates the opportunity to review the above referenced application proposing a new telecommunications tower and associated facilities on the Vaught property located at 3153 Pandapas Pond Road in the Prices Fork Magisterial District on Pandapas Pond Road (Route 460). The property is located within the Fountain Mobile Home Park on Brush Mountain, which is within the Extraterritorial Area of Blacksburg, as defined by the Town of Blacksburg's Comprehensive Plan, *Blacksburg 2046*.

In the above referenced application, AT&T Mobility ("AT&T") has proposed to construct and operate a new wireless telecommunications facility that will consist of a 100 foot monopole telecommunications tower and associated ground equipment. The facility is to be constructed in an existing wooded area of the property, which is zoned A-1 (Agricultural). The property is identified as R-2 (Residential Transition) land use in the County's Comprehensive Plan.

The application specifies that the monopole and associated ground equipment are to be painted "umbra" color, and the monopole will have flush mounted antennas, also painted "umbra." The application states that the proposed facilities would not (a) have a demand on public services or utilities, (b) change the character of the zoning district, or (c) adversely affect the similarly zoned adjacent properties. There will be no advertising of any kind on the tower and no lighting, unless required by the FAA. AT&T agrees to permit future co-location, to promptly remove the tower upon abandonment, and to comply with all FAA requirements. The application states that AT&T's proposed facility will meet all applicable standards for telecommunications towers, satisfies the requirements of the Montgomery County Zoning Ordinance, and is consistent with the policies of the County's Comprehensive Plan.

Blacksburg 2046 was reviewed for guidance during the review of this application. *Blacksburg 2046* addresses the regional approach to reviewing and siting telecommunication and broadcasting facilities. *Blacksburg 2046* emphasizes co-location and includes design considerations for the siting of new towers. Co-location of additional new public or private antennas on a tower is encouraged. The siting and design of the tower should be reviewed to evaluate the potential impacts it may have on Town of Blacksburg residents.

The Government Relations Chapter of *Blacksburg 2046* includes the 2046 Vision for the Extraterritorial Area. The following are pertinent Extraterritorial Area Identifying Characteristics relating to Brush Mountain and telecommunication facilities:

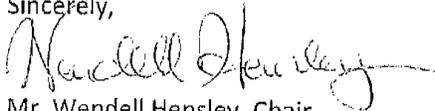
- ***To the north of Town, the slope of Brush Mountain is forested and contains residential large-lot properties with conservation easements. The appearance of the mountain face is natural, and there is little ridgeline development or significant clearing that would indicate disruption of the scenic viewscape.*** Greenways, bikeways, hiking and equestrian trails wind from the Town up the slope into the National Forest, connecting to Pandapas Pond. These connections are open to the public and have been developed in a low-impact manner that is not apparent from the various views of the mountain.
- ***Telecommunication and broadcasting tower placements on mountain ridges will be a common request.*** With the explosion of cellular and digital phone use and the burgeoning wireless communication industry, there is an increasing demand for tower sites. In addition, many companies are reluctant to share towers due to competitive pressures. The mountain ridges provide locations for good tower reception and transmission. However, the proliferation of prominent towers on the surrounding ridges would be detrimental to retention of the aesthetic natural qualities of the surrounding mountains. Refer to the Utilities and Community Design chapters for further information regarding the Town's Telecommunication Policy.
- ***The Town is nestled between largely undeveloped, wooded mountains, which provide scenic views from areas in Town.*** Brush Mountain is located to the north and west, Paris Mountain to the east, and Price Mountain to the south. These mountains provide a visual boundary and a community identity to Blacksburg. ***Suburbanization of mountain slopes and ridgelines threatens these natural and scenic resources that are widely valued in the region as contributing significantly to the quality of life in the area.*** Most of the mountain slopes facing Blacksburg are in private ownership and not protected with conservation easements. Further, the spectacular views afforded from points on these slopes make them attractive for housing development. In many cases the lack of well and septic sites, and the unavailability of public utilities, has limited development. In addition, poor road access has constrained development. The designation of much of the County (including the western half of Price Mountain, the undeveloped portions of Brush Mountain, the North Fork Valley, Paris Mountain, and other features in the Blacksburg area) to Resource Stewardship has curtailed future development of large-scale subdivisions on mountain slopes; the eastern portion of Price Mountain is the exception and will likely have the greatest visual impact on Blacksburg. ***The Town should work with the County and other organizations to protect the viewshed, which is currently zoned R-2 and is designated as "Residential Transition" in the County's comprehensive plan. Development on mountain slopes, if any, should be in a conservation pattern where either very large lots retain natural forest cover and the subsequent clearing of individual properties is severely limited; or in a planned development where building sites are carefully chosen to minimize clearing and grading and large portions of the property are permanently preserved in their natural state, with greenway and trail connections.***

The regional approach to reviewing and siting was developed with mutual cooperation between the Town and County Planning Commissions. Based upon information submitted with the original application on February 23, 2011, the Blacksburg Planning Commission has concerns regarding the location of the proposed telecommunications tower. After review of the application, the Blacksburg Planning Commission concludes and recommends the following:

- The proposed location of the tower will negatively impact the viewshed of surrounding residents within the Fountain Mobile Home Park. Also, the proposed location of the tower may negatively impact the surrounding ridgelines and viewsheds of residents in both Montgomery County and the Town of Blacksburg.
- The Blacksburg Planning Commission recommends investigating the following options:
 - a. Discuss additional co-locating options with the applicant, instead of constructing the proposed facilities in the proposed location.
 - b. If co-location is not an option, relocate the tower from the proposed location on the parcel to a location on the parcel that is farther from Route 460 and the existing residents within the Fountain Mobile Home Park.
- If the Montgomery County Planning Commission recommends approval of this application, the Blacksburg Planning Commission recommends the following conditions for the proposed telecommunications tower:
 - a. Restrict the maximum height of the tower and antennas to what is applied for within the application.
 - b. Require the tower to be painted and constructed as specified within the application.
 - c. Limit or eliminate any lighting on the tower if permitted by law.
 - d. Limit the amount of clearing and grading on each site to what is only necessary for construction of the tower and associated equipment.
 - e. Ensure space is reserved on the tower for public emergency response antennas and associated equipment; allow for co-location of other private antennas on the tower
 - f. Require the tower to be removed if not utilized for telecommunication services.
 - g. If the tower remains in the proposed location, require additional landscaping and screening, such as additional trees and a privacy fence.

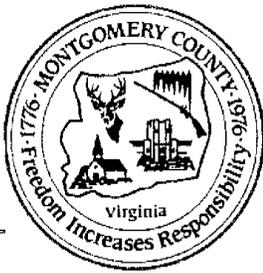
Again, thank you for the opportunity to review the application.

Sincerely,



Mr. Wendell Hensley, Chair
Town of Blacksburg Planning Commission

cc: Town of Blacksburg Planning Commission
Montgomery County Planning Commission
Steve Sandy, Planning Director, Montgomery County (via e-mail)
Anne McClung, Planning & Building Director, Town of Blacksburg (via e-mail)



MONTGOMERY COUNTY DEPARTMENT
OF PLANNING & GIS SERVICES

PLANNING
GIS & MAPPING

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

TO: Montgomery County Planning Commission

FROM: Dari Jenkins, CZA
Planning & Zoning Administrator

DATE: April 7, 2011

SUBJ: An ordinance amending Chapter 10, entitled Zoning, Section 10-52 (3) (b) of the Code of the County of Montgomery, Virginia, by deleting the requirement that a person applying to the Board of Supervisors, Planning Commission or Board of Zoning Appeals on a planning or zoning matter shall post a placard notice notifying the public of the place and time of a public hearing regarding the property.

Based on information and guidance provided by the County Attorney, staff has been working on amendment(s) to Chapter 10 of the Montgomery County Code, specifically Section 10-52(3) Public Hearings.

The proposed amendment(s) will modify the requirements of the existing ordinance, resulting in the removal of language requiring the applicant to post placards advising of each public hearing before the Planning Commission, the Board of Supervisors, and the Board of Zoning Appeals for properties involved in planning and zoning matters. Listed below are several reasons staff has proposed this change:

- The Code of Virginia does not require the posting of placards for each public hearing involving planning and zoning matters. Currently, Montgomery County code requires a higher standard than state code regarding processing public hearings for these matters.
- Applicants are required to post the placard on the property. The major issue with requiring the posting of placards has been the physical challenge of keeping the placard properly posted on the site. Many times, the applicants come into this office more than once to get replacement placards since the wind and rain often destroys the placard. Maintenance of the placard is difficult when the applicant is not local to Montgomery County.
- There is expense incurred by the Planning Department associated with providing the placards to the applicants for posting. The County could avoid the expense of approximately \$5.00 per placard if the amendment is approved.

Copies of the proposed amendment(s), in ordinance form, are enclosed for review. This item has been advertised for public hearing by the Planning Commission on April 13th and Board of Supervisors on April 25th.

Enclosure(s): Proposed Amendments

Sec. 10-52. Administration, enforcement and public hearings.

- (3) *Public hearings, notice required.* Each public hearing involving planning and zoning matters before the planning commission, the board of supervisors and the board of zoning appeals, requires notice as set forth in section 15.2-2204 of the Virginia Code and below.
- (a) *Written notice.*
1. *Contents.* All required written notices shall contain:
 - a. The time, date and place of hearing.
 - b. A brief description of the matter being heard.
 - c. Identification of the land subject of the application including the tax map number of the property and complete street address of the property.
 2. *Second notice remailed if hearing continued.* If a public hearing is continued, or if a planning and zoning matter is deferred or tabled by the board of supervisors for a period more than ninety (90) days after the board's public hearing, then the second notice required in such case shall be remailed.
 3. *Notice by county.* Notwithstanding any other provision of this section, whenever the notices required under this section are sent on behalf of an agency, department or division of the county, such notice shall be sent by the zoning administrator and may be sent by first class mail; however, the zoning administrator shall make affidavit that such mailings have been made and file such affidavit with the papers in the case.
 4. *Certification.* At least five (5) calendar days prior to the hearing, an affidavit, prepared by the person or persons, or their representative providing notice, shall be filed with the director of planning certifying that first and second notices have been sent and such affidavit shall include a list of names of those to whom notice was sent. A counterpart of such affidavit shall be presented at the beginning of the public hearing on the application.
 5. *Failure to receive notice.* Failure to receive any notice of a hearing required by this section, in and of itself, shall not invalidate any action taken at or subsequent to the hearing.
 6. *Condominium ownership.* In the case of a condominium, written notice may be sent to the unit owner's association instead of to each individual unit owner.
- ~~(b) *Placard notice.* Each application shall be posted by the applicant, using a form of placard provided by the zoning administrator, at least fourteen (14) and no more than thirty (30) calendar days prior to each public hearing. County-initiated amendments involving more than ten (10) parcels shall be exempt from placard requirements.~~

- ~~1. *Location of placards.* Placards shall be affixed to a pole, post, fence or other structure to be clearly visible from each public road abutting the property. If no public roads abut the property, then the placard shall be posted so as to be clearly visible from at least two (2) abutting properties and at the access points to said property.~~
- ~~2. *Maintenance and removal of placards.* The applicant shall maintain all placards up to the time of the hearing and shall remove all posted placards no later than fifteen (15) calendar days after the public hearing has been closed. Public hearing(s) may proceed even if placards are missing, damaged or vandalized.~~
- ~~3. *Penalties.* It shall be unlawful for any person to destroy, deface or remove such placard notice. Any person taking such action shall be subject to the penalties set forth in subsection (2)(c) of this section.~~

~~(e)~~(b) *Newspaper notice.* The county shall give newspaper notice prior to each public hearing in accord with section 15.2-2204A of the Virginia Code.

1. *Contents of newspaper notice.* The notice shall contain:
 - a. The time, date and place of the hearing;
 - b. A brief description of the matter being heard;
 - c. If the matter is one for which an additional public hearing is necessary and has been scheduled before the BZA or board of supervisors, the time, date and place of the scheduled BZA or board of supervisors hearing; and
 - d. Identification of the land that is the subject of the application including the tax map number and complete address of the property.
 - e. In the case of a zoning map amendment, including an amendment to an approved concept development plan, or a modification of ordinance regulations, the general usage and density range of the proposed zoning amendment, and the general usage and density range, if any, set forth in the comprehensive plan shall be included within the notice.

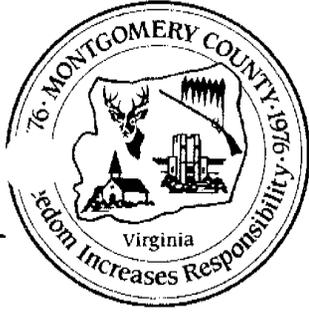
~~(d)~~ (c) *Notice requirements for particular hearings.* The following particular hearings require the following form of notice:

1. *Appeals to board of supervisors.* Public hearings on appeals to the board of supervisors require that the county provide newspaper notice of the hearing.
2. *Appeals to board of zoning appeals.* Public hearings on appeals to the BZA require that the county provide newspaper notice of the hearing.

~~(e)~~(d) *Additional notice required.*

1. *Deferral.* If an item is not heard at the time for which it was noticed but is deferred at that time to another date, all notice required by this section shall be given of the deferred public hearing.
2. *Recessed public hearings.* If a public hearing is begun but the agenda not completed, thereby requiring the meeting to be recessed, no additional notice is required as long as the dates for completion of the public hearing agenda is announced at the hearing which has been recessed.

⊕ ~~(e)~~ *Speakers at public hearings.* All witnesses and speakers presenting facts and evidence at any public hearing shall provide their name, address and affiliation, if any, for the record. At the discretion of the person presiding over the hearing, witnesses or speakers may be required to give oath or affirmation regarding the truth of their statements.



MONTGOMERY COUNTY DEPARTMENT OF
PLANNING & GIS SERVICES

PLANNING
GIS & MAPPING

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

TO: Planning Commission

FROM: Planning Staff

DATE: April 8, 2011

RE: **2nd Staff Analysis (RZ-2011-08574)**

A request by **Huckleberry Ridge, LLC (Agent: Bluestone Land, LLC)** for rezoning of approximately 48 acres from Agriculture (A1) to Residential Multi-family (RM-1) with possibly proffered conditions, to allow 388 multi-family residential dwellings and approximately 15 acres from Agriculture (A1) to Residential (R3), with possible proffered conditions, to allow 40 lots for single/two-family residential dwelling units.

This 2nd staff analysis is intended to address changes that have occurred concerning the above application since the 1st staff analysis dated March 9, 2011 and the Planning Commission action to table the request on March 16, 2011. Please refer to 1st staff analysis for background information. The first staff analysis for this project recommended tabling the request in order for the applicant to address the several items. Many of the concerns expressed have been addressed however, some items remain unaddressed or unclear.

Since the proposed project has an anticipated traffic count that exceeds 100 vehicles per hour (vph), the applicant was required to prepare a traffic impact analysis (TIA) in accordance with VDOT's Chapter 527 regulations. The initial TIA prepared by Anderson & Associates was dated January 26, 2011. On February 23, 2011, VDOT issued a comment letter after their review of the submitted TIA (copy previously submitted). The review contained eight (8) comments pertaining to the report information and required resubmission of a revised report.

Staff recommended that a revised report be resubmitted to VDOT to allow for additional review and comment by VDOT. Staff felt like this information was critical in the analysis of the impact that this proposed project could potentially have on the transportation network around this property. In particular, staff expressed concerns about the potential impacts at the intersection of Merrimac and Hightop Roads. A revised TIA dated March 14, 2011 was submitted to VDOT on March 16, 2011. No additional comments have been received from VDOT as of the date of this report.

The applicant has proposed a Code of Development to help to address many of the site development concerns expressed by staff such as architectural, landscape items as well as site development concerns. This Code of Development has been offered as a proffered condition by the applicant. The Code of Development only pertains to the development in the Residential R-3 portion of the property. It does not pertain to the Residential Multi-Family portion of the property. There have been no proffered conditions offered that relate to the development of the multi-family portion of the development except for the trail construction and buffering of the site from adjacent properties.

I. Analysis

In response to previous comments by staff and citizens, the applicant has prepared a Code of Development Handbook dated April 7, 2011. This Code of Development only pertains to the 15 acre portion of the property requested to be rezoned to Residential R-3. The handbook includes a revised Conceptual Master Plan

This is not a Traditional Neighborhood Development (TND) as envisioned with the proposed UDA legislation and the County's proposed TND ordinances. This proposal is not a mixed use development in the sense that there are a mixture of residential and commercial uses. The development is proposing a mixture of residential uses including single-family, duplexes and multi-family units. The developer has attempted to incorporate some TND ideas into the single-family portion of the development as discussed in the Code of Development book such as front porches, sidewalks, street trees, garages to the side of homes, etc. However, many of these items such as porches and front yard landscaping appear optional and not a requirement of the owner/developer.

A project of this size and character should exhibit the characteristics of a walkable community as well as having access to other forms of mobility such as bicycling and transit. Walking trails and sidewalks along all street frontages have been included on the concept plan and proffers dictate when, where and how these trails will be developed. A transit stop at the proposed community center has been proposed with the provision of a shelter installation if public transit services are extended to this property in the future. Any shelter on the site would need to be approved by Blacksburg Transit. Since the property is adjacent to the Huckleberry Trail, staff has discussed the desire to enhance this amenity and possibly improve

safety of the trail. This could include addition of benches and/or trash cans or improvement of existing bridges along the portion of the trail that runs through this property. Staff has recommended that additional or improved signage be proposed at each road crossing of the trail at Hightop and Merrimac Road to provide increased safety due to increased traffic both on the roadways and on the Huckleberry Trail. In addition, the County has the Coal Miner's Heritage Park in close proximity to this site. Since no public improvements have been proposed the applicant could offer to improve these facilities by constructing a picnic shelter or some other form of community improvement. No proffers have been offered to address any of these items related to recreation or community enhancements.

Traffic is still a major factor in consideration of this project. Without the final comments from VDOT it is difficult to determine the impact that this traffic will have on the transportation system in the vicinity of this site. The applicant has proffered to construct public streets to VDOT standards within the Residential R-3 development and the main entrance road that serves the multi-family development (Road D). No proffers have been provided regarding entrance improvements or any road or intersection improvements off-site. The TIA does make recommendations for improvements at each of the proposed access roads to the site but these improvements have not been proffered by the applicant. The multi-family portion of the development is proposed to be served by privately maintained parking areas. These areas have been redesigned from the original proposal to allow for better circulation of vehicles including emergency service vehicles. Phase 1 of the proposal indicates the construction of Road D to serve 248 multi-family units and community center with pool. Staff has concern that the proposed loop to Road A entrance should be constructed with phase 1 to provide secondary access.

No design standards or restrictions have been placed on the multi-family portion of the development. Therefore, staff cannot comment on the impact of this portion of the development on the community. The applicant has proposed sidewalks and trails within this portion of the development as well as a community building with pool for the use and enjoyment of residents of the development. In addition, consideration of buffering and landscaping of adjoining properties has been included. There is very little connectivity of the road and parking areas within this development. The applicant has indicated that this was due to topographic conditions of the site. There is also no connectivity shown to adjoining properties to the east. However, there would be opportunity to connect with Tax Parcel #67-A-91 at the southeast corner of the property in the future by extending the proposed parking area.

Further review concerning the availability of public water and sewer has been conducted by staff. The applicant has also proposed to relocate multi-family units so that only building #800 falls totally outside of the backup water supply area agreement with the Town of Blacksburg. According to the applicant's attorney, all other buildings could be built without an amended backup water supply agreement

between the PSA and Town of Blacksburg since a portion of each building is outside that area. The conceptual master plan indicates that building #800 and associated parking will not be constructed until a successful water boundary agreement is achieved. If the County joins the Blacksburg-Christiansburg-VPI Water Authority this backup water supply issue would also be resolved. Staff has requested a revised availability letter from the PSA for this proposal. The April 16, 2010 PSA letter (previously submitted) addresses water and sewer capacities and improvements for a 250 lot residential subdivision. The current development proposal is to allow up to 468 total residential units. A new letter from the PSA was not yet available at the time of this report.

The development proposal indicates that over 20% of the site will be maintained as open space. In particular, much of the land and existing vegetation on the northern side of the proposed development along Hightop Road, Slate Branch and the Huckleberry Trail will remain in its current vegetated state. This will provide continued buffer for residents along Hightop Road and users of the Huckleberry Trail as well as providing a natural buffer/filter for Slate Branch to protect water quality.

II. STAFF RECOMMENDATION

Overall, the project proposal is greatly improved from the original proposal however, there are still two very important issues to be addressed. The County must have the comments from VDOT and PSA concerning the proposed impacts of the proposed project before a decision to rezone this property can be considered. Accordingly, staff's preliminary recommendation is to **table** this request for one additional week in order to receive input from VDOT and PSA concerning this request as well as additional time to allow the applicant to revise/add proffered conditions based on the input from VDOT, PSA and the Planning Commission.

Planning and GIS Services staff has been contacted regarding this request by several concerned citizens. In addition, staff has received three (3) letters of support which have been attached to this report.

Enclosures: Code of Development handbook dated April 7, 2011
Proffer Statement dated April 7, 2011
Conceptual Master Plan dated April 1, 2011
TIA Executive Summary dated January 26, 2011, revised March 14, 2011
Letters of Support (VT CRC, Lewis Gale Hospital, Oak Forest MHP)

CODE OF DEVELOPMENT

For

The Highlands

at Huckleberry Ridge

Montgomery County, Virginia

RZ-2011-08574

April 7, 2011

Prepared for:
Bluestone Land, LLC
1821 Avon St. Suite 200
Charlottesville, Virginia 22902
(434) 979-2900

The Highlands

at Huckleberry Ridge

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The Highlands at Huckleberry Ridge

INTRODUCTION

This submission is intended to describe a proposed 15.7 acre Traditional Neighborhood Development (“TND”) community named The Highlands at Huckleberry Ridge. In the following pages, and on the attached exhibits, this report will attempt to convey the vision for a new development, which simultaneously embraces the Traditional Neighborhood Development model, the Montgomery County Comprehensive Plan, comments from Montgomery County staff, the solicited opinions of adjacent property owners, comments from the public at a community meeting conducted by the applicant on March 28, 2011, the local real estate market, and the vision of the applicant. The intent is to clearly describe the framework within which a diverse, high-quality residential community can evolve. Within The Highlands a variety of single-family, and/or duplex housing types are to be provided and linked by a network of streets, sidewalks, formal and informal open spaces, and trails that connect to the Huckleberry Trail and create a pedestrian-friendly environment. Further, the plan preserves portions of the natural environment, and offers ample opportunity for recreation and enjoyment. A Conceptual Master Plan of The Highlands can be found on the following page as *Exhibit 1*.

The Conceptual Master Plan condenses onto one drawing sheet the neighborhood concept and most of the major design parameters guiding the property’s development, including roadways, pedestrian systems, and amenities. Even though a degree of flexibility is built into the document, much like covenants and restrictions, it provides new and potential owners of The Highlands peace-of-mind that their neighborhood will develop as planned. The Code of Development goes further by encouraging design diversity while assuring that elements of traditional neighborhoods, such as front porches, a pleasing streetscape and a variety of public gathering spaces are established and maintained throughout the community. Finally, to ensure clarity in the interpretation of the document, the Code of Development defines certain terminologies that may be new and/or unique and clearly explains what activities will and will not be permitted within The Highlands.

The Conceptual Master Plan and Code of Development are intended to work in tandem, guiding the development of The Highlands, so that the end result is a socially rich community with a distinct mix of single-family and/or duplex housing types and a quality of life unique to the Urban Development Area. Because these documents are important to the success of the community, both instruments are being proffered with this application.

The Highlands
at Huckleberry Ridge

Exhibit 1: Conceptual Master Plan

The Highlands

at Huckleberry Ridge

PROPERTY BACKGROUND AND EXISTING SITE CONDITIONS

The land associated with this rezoning request comprises 15.7 acres of a 63 acre undeveloped parcel currently designated as Montgomery County Tax Parcel Nos.: 066A-91; 066A-92; 067A-42; 067A-229 (Acct#: 010585; 010584; 010583; 035616) in the Prices Fork Magisterial District (District E). This Code of Development shall not be applicable to the remaining acres which are proposed to be rezoned to RM-1 Multi-family Development as part of the proposed rezoning application (Phases I & II).

Routes 657/Merrimac Road and 808/Hightop Road form the western and northern boundary of the property, respectively. The northern portion of the property is intersected by the Huckleberry Trail, an asphalt paved bike and pedestrian path. The site is generally forested with one open area in the southwest portion of the property and to the north along an existing sewer easement. An intermittent tributary of Stroubles Creek flows through the northern portion of the property. The topography is primarily gently rolling, but includes some steep grade changes.

The Highlands

at Huckleberry Ridge

PLANNING CRITERIA AND PROPOSED LAND USE

This application proposes to change the zoning classification of the 15.7 acres of the subject parcel from Agricultural (A1) to Residential (R3). The intention of this Code of Development is to incorporate some of the development concepts represented in the draft Traditional Neighborhood Development Ordinance under review and consideration by the County. The Highlands will be a residential community consisting of a mix of single-family and/or duplex residential units.

When developing the plan for The Highlands, the intent was to respond to the densities and unit types envisioned for the various zones within the site. The front of the property was to remain largely undeveloped, while the middle was to receive rather dense development. The area of the property along the creek and Huckleberry Trail was designated as open space. The Conceptual Master Plan includes an area of Open Space northwest of the Highlands and a note that “existing vegetation to remain, vegetation to be removed for road, water, sewer, stormwater, trail, and similar infrastructure improvements.” Applicant intends that except for removal of invasive, dead or diseased material, or removal of vegetation as may be required under an approved Site Plan, or for construction and maintenance of infrastructure to serve the community, the existing vegetation shall not be disturbed.

Amenities are an important element of a Traditional Neighborhood development. To that end, amenities abound throughout the proposed community. Large, open areas reside along the frontage of the property. A pocket park has been set aside in the middle of the community for recreation. Recreational amenities may be added to the pocket park at the discretion of the Homeowners’ Association. To the north, a great deal of land was reserved as open space to the creek and Huckleberry Trail so that a park-like setting could be maintained for all to enjoy. A sidewalk system has been shown which ties all of these common areas together while helping to establish a social fabric within the new community. This system is integrated with a trail linking the community to the Huckleberry Trail System.

The Highlands

at Huckleberry Ridge

LAND USE FRAMEWORK

The subject property is in an area designated Urban Expansion on the future policy map of the comprehensive plan. This area is also in an area that is under consideration for designation as an Urban Development Area (UDA) based on the State of Virginia mandate that the County must designate UDAs to accommodate 10-20 years of projected growth. See Montgomery County Urban Development Area map attached as *Exhibit 2*.

Urban Expansion

The County's Comprehensive Plan (PLU 1.8) identifies these as areas adjacent to the two towns and City of Radford that are planned for a broad range and mix of uses at urban development densities and intensities. These areas are to be served with public water and sewer and should serve as natural areas for uses occurring within the town and city boundaries.

PLU 1.8.3 states that Urban Expansion Areas are the preferred location for new residential and non-residential development occurring in the unincorporated areas of the County accommodating a full range of residential unit types and densities. Area wide densities in Urban Expansion Areas are projected to be no more than four (4) dwelling units per acre.

The Housing chapter of the comprehensive plan states that the County's goal is to promote affordable, safe, livable neighborhoods for all residents (HSC 1.0). Additional goals of encouraging planned, pedestrian and transit-friendly neighborhoods (HSC 1.3.1) and encouraging intra- and inter-connectivity of roads, bikeways and walkways in new residential developments in order to promote an increased sense of community and safety, while decreasing traffic concentration are also stated in this chapter.

The County is considering the designation of this area of Merrimac as an Urban Development Area (UDA). The draft comprehensive plan language for the UDA areas, based on legislative requirements, states that overall density in the UDA should be village-like in terms of scale and intensity, with a mixture of high density and intensity ranging from 8-12 du/acre at the core and 4-8 du/acre at the edges. The County must adopt UDAs by June 30, 2011.

Comprehensive Plan Summary

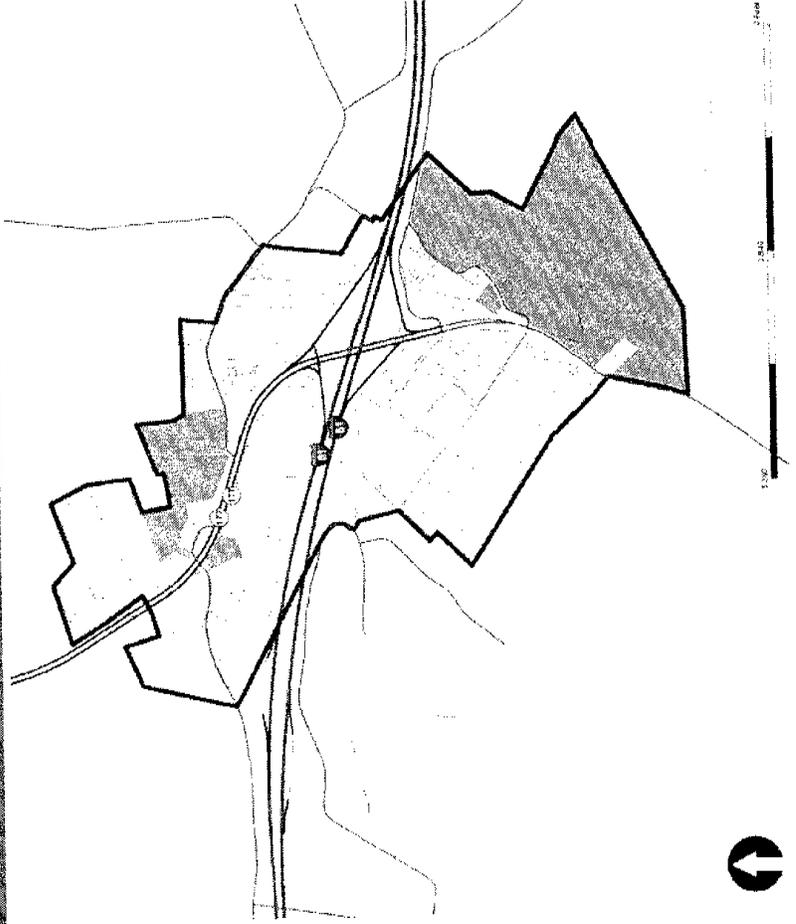
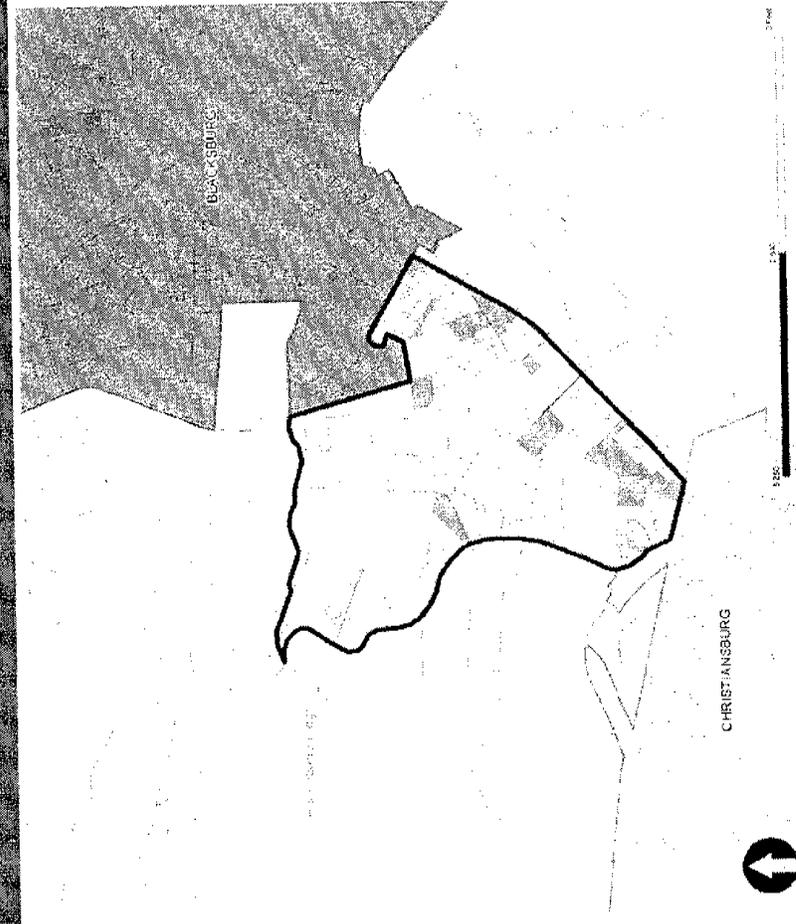
The intent of the proposal is consistent with the Planning and Land Use and Housing chapters of the Montgomery County 2025 Comprehensive Plan. As proposed, this development meets the goals and objectives of the future land use for this area.

The Highlands *at Huckleberry Ridge*

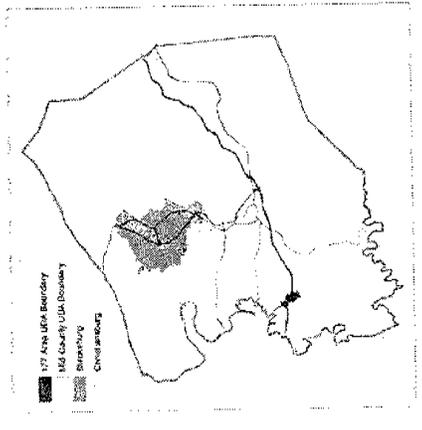
Exhibit 2: Urban Development Area Map

Proposed Urban Development Areas Montgomery County, Virginia

Working Map for Review Purposes - March 15, 2011



177 Corridor Interchange Area. Colored parcels are proposed for UDA.



Legend

- UDA Boundary
- Parcels - Total Copy
- Proposed UDA Parcels
- Development Potential Evaluation
 - GOVT. WORK. SCHOOL. AMBULANCE
 - RESCUEMENT - urban/stable
 - DEVT. - Existing Commercial
 - RES - Existing Residential
 - VACANT/UNDERUTILIZED - undevelopable
- Jurisdictions
 - BLACKSBURG
 - CHRISTIANSBURG

Development Potential	Urban Expansion Acres	Corridor Acres *	Total Acres	Development Potential
Vacant/Underutilized	176	237	414	developable
Developed - Commercial	18	136	154	redevelopable
Developed - Residential	72	73	146	redevelopable
Govt. public, school, park, ROW	7	5	12	undevelopable
Total	274	452	726	

* This percentage is a subsection of the 177 Study area, concentrating around the I-81 interchange area.

Summary

Total Vacant/Underutilized within Proposed UDA	414
UDA Acreage Requirements: 10 Year (No less than)	204
20 Year (No more than)	448

The Highlands *at Huckleberry Ridge*

INFRASTRUCTURE

The infrastructure is what permits the community to function and at the same time organizes the neighborhood and ties its various parts into a whole. In many cases it is the series of systems that actually defines the blocks that make up the community.

For this discussion, infrastructure includes vehicular roadways, pedestrian pathways, and the requisite utilities that serve and support the development. In certain instances it is critical that proposed infrastructure tie thoughtfully into existing improvements. Conversely, it is important to provide for extensions of proposed infrastructure to accommodate well-orchestrated growth that may occur in the future.

Water, sanitary sewer, storm sewer and other basic systems that are attendant to all developments do not necessarily warrant detailed discussion here, however, it should be noted that the developer is agreeing to extend water and sewer laterals out from utility mains located in the streets to serve each prospective dwelling.

Street Classifications

All travelways utilized at The Highlands will be public.

There are four streets within the project; Roads 'A', 'B', 'C' and 'D'. All streets shall be designed and constructed to VDOT Subdivision Street Standards (24' width inclusive of parking lane).

- Road 'A', runs generally east-west and begins at Route 657/Merrimac Road. The applicant will work with VDOT to solidify the design requirements for this intersection. Due to topographic concerns, Road 'A' ends in a cul-de-sac.
- Road 'B', branches off from and intersects Road 'A' in two locations.
- Road 'C', branches off from Road 'A' and intersects Road 'A' in two locations. Road 'C' serves eight lots.
- Road 'D' is conceived as a road to connect to the proposed RM-1 Multi-family Development portion of the proposed rezoning application (Phases I & II). Road 'D' branches off from Road 'B.'

All streets are designed to promote slow moving traffic for the safety of the homeowners with a design speed of 25 miles per hour. The streets will have curb and gutter sections with a six foot minimum planting area behind the face of curb. Where designated on the plan, the streets will include a 5-ft sidewalk parallel to the street.

The Highlands *at Huckleberry Ridge*

Trails

In addition to the Streets, a walking trail is proposed to serve the twelve lots bounded by Road 'A' and Road 'B'. The paved asphalt walking trail will be maintained by the Homeowners' Association and will connect with the proposed walking trail in Phases I & II (proposed Multi-Family) which is proposed to connect to the Huckleberry Trail.

Street Names

During the site plan approval process, the applicant will work with County Planning staff regarding reservation of street names and address numbering.

The Highlands

at Huckleberry Ridge

ARCHITECTURAL AND LANDSCAPE STANDARDS AND URBAN REQUIREMENTS

The following regulations and development guidelines will be applied to the buildings and lots in The Highlands at Huckleberry Ridge. The guidelines are intended to produce a development that exudes variety while maintaining a degree of consistency that ties the entire development together in a pleasing and well-orchestrated manner. In the event that there ever exists a conflict between these standards and requirements and any applicable state or local codes, the codes shall take precedence. The Homeowners' Association to be established for The Highlands at Huckleberry Ridge shall govern the creation and the composition of the Architectural Review Committee which shall be responsible to enforce architectural guidelines.

Form, Massing and Proportion of Structure

- All single-family detached residences and duplex units should have a formal porch facing the street. Where dimensions and logistics permit, these entries should be covered.
- Garages on single-family and duplex lots shall be recessed from the house façade if the doors face the street. This code encourages the placement of garages to the rear of the house, either attached or unattached. Shared driveways on these lots will be permitted.

Materials and Color

- Exterior siding shall consist of painted horizontal or board and batten-patterned wood or Hardiplank, brick, stucco, or stone. Vinyl siding is not permitted.
- All materials and exterior colors shall be submitted and approved by the Architectural Review Committee of the Homeowners' Association.
- Multiple colors may be used for the main siding type. One trim color shall be used throughout the structure. Siding colors shall be earth tones; white is not acceptable.
- Roof materials may be architectural dimensional shingles, tile, standing seam copper or metal. In all cases roof colors will be muted, darker tones with low or no reflectivity.
- Exposed foundation areas must be finished with stone, brick or stucco.

Roof Pitch and Form

- Minimum roof pitch for main roof areas shall be 6:12 for gable end structures. Lower pitches of 5:12 or 4:12 may be permitted if a hip roof is employed and the design warrants it.
- Dormer roofs shall match the pitch of the principle roof.
- Shed roof dormers may use pitches one half of the main roof.
- With the exception of corner lots, ridgelines of the main structure shall be parallel or perpendicular to the street.

The Highlands

at Huckleberry Ridge

Architectural Ornamentation

- While not wishing to dictate a specific architectural style, certain exterior elements should be utilized to provide a blended architectural context. Please see Façade Treatments below.

Façade Treatments (including window and door openings)

- On houses with siding, window and door trim, and corner boards, trim material shall be 5/4" thick by a minimum of 4" wide painted wood, Miratec, Hardi-Trim, or equivalent. This shall apply to all exterior facades.
- Shutters, where used, must be half the width of the window in size. No shutters will be allowed on "twin windows" without specific approval of the Architectural Review Committee of the Homeowners' Association.
- All components (with the exception of the floor material itself) used to construct porches and decks will be painted. This includes support columns, lattice work, bands, railings, and pickets.

Streetscape Treatments

- Front Porch sections on single-family homes and duplex units which face a road shall have a minimum depth of 5 feet.
- Sidewalks serving individual units will be concrete or brick.
- In the case of driveway entrances, the area between the gutter line of the street and the roadside edge of the public sidewalk shall be concrete unless VDOT approves, and the developer chooses to install brick paving. Private drives may utilize brick, asphalt, masonry pavers, or solid stone. Gravel shall not be used except during construction.
- All streets shall be paved with asphalt.
- If shared, costs for driveway installation and maintenance shall be shared equally by the two adjoining land owners. Owners shall not use any shared driveway in any manner that inhibits use of the driveway by either owner. Guests visiting either owner shall be encouraged to park on the street.
- House numbers shall be mounted at the house and visible from the street.
- Trash receptacles shall be placed at the street only on the evening before or the day of scheduled pick-up. Receptacles shall be removed from the street by the end of the day of each scheduled pick-up. At all other times the trash receptacles shall be located out of view from the street. Suitable enclosures for the trash receptacles may include solid fenced areas either located to the side or rear of homes, garages or in the event of duplexes without garages, in a centralized location, out view from the street.

The Highlands

at Huckleberry Ridge

Lighting Treatments

- All exterior lighting shall comply with County ordinances.
- Fixtures shall not be shoe-box in character.
- Fixtures should be pedestrian scaled and traditional in character.
- Lamp posts and fixtures located on individual lots shall be subject to approval by the Architectural Review Committee.

Landscape Treatments

- All street tree plantings shall be a minimum 2" to 3" in caliper according to the American Nurseryman's Association criteria. Installation of each species shall be performed at appropriate times of the year. In general, trees shall be evenly spaced 30' to 40' on-center and located 3' from the back of curb. Tree spacing shall be flexible to accommodate driveway locations. Uniformity in tree spacing shall be maintained as much as possible, but may differ, on each individual street.
- Street tree branching shall be regularly maintained by the Homeowners' Association to ensure clear sight lines along the street and sidewalk and from each intersection. Branching shall not begin less than 5' from the adjacent ground surface and a minimum of 7' of head clearance shall be maintained on all public sidewalks.
- Street trees shall not be cut down for any reason unless the tree(s) are identified as being unhealthy, dead or dying by a certified state arborist. In the event a street tree is removed, it shall be replaced by a tree of equal or greater caliper of the same species at the expense of the Homeowners' Association. Only at the approval of the Homeowners' Association can a substitute tree(s) species be installed.
- Supplemental plantings on individual lots are encouraged, particularly within the front yard area to soften the appearance of building facades. Combinations of the various types of plant material (evergreen and deciduous trees and shrubs) as well as native plantings are encouraged.

The Highlands at Huckleberry Ridge

Recommended Plant List

<i>Botanical Name</i>	<i>Common Name</i>
Street Trees	
<i>Carpinus caroliniana</i>	American Hornbeam
<i>Cercidiphyllum japonicum</i>	Katsura Tree
<i>Cladrastis kentuckea (lutea)</i>	Yellowwood
<i>Fraxinus americana & cvs.</i>	White Ash
<i>Gleditsia triacanthos inermis & cvs.</i>	Thornless Honeylocust
<i>Liquidambar styraciflua "Rotundiloba"</i>	"Rotundiloba" Sweetgum
<i>Quercus acutissima</i>	Sawtooth Oak
<i>Quercus palustris</i>	Pin Oak
<i>Quercus phellos</i>	Willow Oak
<i>Quercus rubra</i>	Northern Red Oak
<i>Quercus shumardii</i>	Shumard Oak
<i>Platanus occidentalis</i>	American Planetree (Sycamore)
<i>Ulmus parvifolia "Allee"</i>	"Allee" Elm
<i>Zelkova serrata & cvs.</i>	Zelkova
Shade Trees	
<i>Aesculus hippocastanum</i>	Common Horsechestnut
<i>Acer nigrum & cvs.</i>	Red Maple
<i>Acer saccharum & cvs.</i>	Sugar Maple
<i>Betula nigra "Heritage"</i>	"Heritage" River Birch
<i>Liriodendron tulipifera</i>	Tulip Poplar
<i>Metasequoia glyptostroboides</i>	Dawn Redwood
<i>Taxodium distichum & cvs.</i>	Bald Cypress
<i>Tilia americana</i>	Linden
<i>Tilia cordata & cvs.</i>	Linden
<i>Sophora japonica & cvs.</i>	Japanese Pagodatree
(Shade Trees are in addition to the Street Trees listed above)	
Ornamental Trees	
<i>Acer buergerianum</i>	Trident Maple
<i>Acer griseum</i>	Paperbark Maple
<i>Acer palmatum var. atropurpureum & cvs.</i>	Japanese Maple
<i>Amelanchier canadensis & cvs.</i>	Shadblow Serviceberry
<i>Amelanchier x grandiflora & cvs.</i>	Serviceberry
<i>Betula platyphylla "Whitespire"</i>	"Whitespire" Asian White Birch
<i>Carpinus betulus "Fastigiata"</i>	Pyramidal European Hornbeam
<i>Cercis canadensis & cvs.</i>	Redbud
<i>Cornus florida & cvs.</i>	Flowering Dogwood
<i>Cornus kousa</i>	Kousa Dogwood
<i>Chionanthus virginicus</i>	White Fringetree
<i>Crataegus viridis "Winter King"</i>	"Winter King" Hawthorn
<i>Koelreuteria paniculata</i>	Goldenrain tree
<i>Magnolia grandiflora & cvs.</i>	Southern Magnolia
<i>Magnolia liliiflora</i>	Magnolia
<i>Magnolia x loebneri & cvs.</i>	Loebner Magnolia
<i>Magnolia x soulangiana & cvs.</i>	Saucer Magnolia

The Highlands at Huckleberry Ridge

Magnolia stellata & cvs.	Star Magnolia
Prunus incisa x Campanulata "Okame"	Flowering Cherry
Prunus sargentii & cvs.	Sargent Cherry
Prunus serrulata & cvs.	Japanese Flowering Cherry
Prunus x subhirtella & cvs.	Flowering Higan Cherry
Prunus yedoensis & cvs.	Yoshino Flowering Cherry
Salix babylonica	Babylon Weeping Willow
Stewartia pseudocamellia	Japanese Stewartia
Parrotia persica	Persian Parrotia
Evergreen Trees	
Abies concolor	White Fir
Cedrus atlantica "Glauca"	Blue Atlas Cedar
Cedrus deodara	Deodar Cedar
Cedrus libani	Cedar of Lebanon
Chamaecyparis lawsoniana	Falsecypress
Cryptomeria japonica & cvs.	Cryptomeria
X Cupressocyparis leylandii	Leyland Cypress
Ilex opaca & cvs.	American Holly
Ilex x attenuata 'Fosteri'	Foster's Holly
Ilex x "Nellie R. Stevens"	Nellie R. Stevens Holly
Juniperus virginiana & cvs.	Eastern Redcedar
Magnolia grandiflora & cvs.	Southern Magnolia
Picea abies	Norway Spruce
Picea orientalis	Oriental Spruce
Picea pungens var. glauca	Colorado Blue Spruce
Pinus densiflora	Japanese Red Pine
Pinus resinosa	Red Pine
Pinus strobus & cvs.	Eastern White Pine
Pinus thunbergiana	Japanese Black Pine
Taxodium distichum	Bald Cypress
Thuja occidentalis & cvs.	Eastern Arborvitae
Thuja orientalis & cvs.	Oriental Arborvitae
Thuja plicata & cvs.	Giant Arborvitae

cvs. denotes cultivars are acceptable

Huckleberry Ridge
PROFFER STATEMENT
April 7, 2011

Proffer Statement for the *Rezoning Application/or Tax Parcels* 066-A-91; 066-A-92; 067A-42; 067-A-229 (the "Property") from A-1 to R-3 and RM-1 in the Montgomery County Zoning Ordinance. Pursuant to Section 10-54-1.(i) of the Montgomery County Zoning Ordinance, the Owner hereby voluntarily proffers that the property which is the subject of this Rezoning Application will be developed in accordance with the following conditions, if and only if, approval of Ordinance is granted, and the property is rezoned as requested. The Applicant, the Owners, their Successors and Assigns, voluntarily proffer the following conditions for the property as follows:

1. *Code of Development and Conceptual Master Plan*
The Property will be developed substantially in accordance with the Code of Development prepared for Bluestone Land, L.L.C., dated 4/7/2011 and the Conceptual Master Plan prepared by Gay & Neel, dated 4/1/2011(the "Conceptual Master Plan").
2. *Number of Units*
No more than 388 multi-family dwellings (apartment/condominiums) shall be constructed in the RM-1 District. No more than 40 single-family detached dwelling units, or 80 two-family attached dwelling units, or any combination of single-family and two-family dwellings shall be constructed in the R-3 District.
3. *Phasing*
The Property will be developed in three Phases. Phase I consists of 248 multi-family dwelling units, and includes a community building and pool (RM-1). Construction on Phase I is anticipated to begin Spring 2012. Phases II and III shall be constructed according to market conditions.
4. *Roads*
Public streets will be designed and constructed to VDOT's Subdivision Street Standards, latest edition. The proposed entrances will be constructed to allow for future widening of the existing road. All improvements shall be at the sole expense of the developer.
5. *Storm water*
Stormwater management practices will be designed to detain the post development peak flow rate to the predevelopment peak flow rates for the 10 year and 2 year storm events as required by state Erosion and Sediment Control Law. Stormwater quality will be in accordance with the regulations in effect at the time of rezoning and the developer will obtain a VSMP permit for construction.
6. *Open Space and Amenities*
A minimum of 25(twenty-five) percent, 15.75 acres+-, of the total gross area of the Property shall be reserved as common open space and/or recreational areas as shown on the Conceptual Master Plan. Furthermore, each individual phase shall meet the minimum open space requirements of the zoning district. Active recreation amenities may include, but not limited to walking/hiking trails, benches, picnic tables, community building w/ pool, common recreation pavilion(s)/gazebo(s), playground(s), and retention pond(s).

7. *Trails*

The Property will include a walking/nature trail system traversing portions of the dedicated open space as shown on the Conceptual Master Plan. The trail system will connect to the Huckleberry Trail. The foot trails within the open space will be constructed in conjunction with the phase that is the most geographically adjacent to the proposed trail. Trails will be ten (10) feet wide, constructed with a minimum 1 1/2" asphalt on top of 4" base stone.

8. *Homeowner's Association*

A homeowner's association or associations will be formed for R-3 district. The association or associations' documents will at a minimum address: maintenance of open areas, alleys, buffers, trails, active recreation spaces, and stormwater management facilities; enforcement of maintenance and all regulations set forth in the association documents, including architectural guidelines.

9. *Water and Sanitary Sewer Service*

Huckleberry Ridge, LLC shall construct all water and sanitary sewer mains and appurtenances and will connect these mains to publicly owned mains. All mains and appurtenances will be dedicated to public use.

10. *Landscaping*

Huckleberry Ridge, LLC will preserve existing vegetation to the greatest extent possible. Extensive landscaping such as buffers and street trees will be provided as part of proposed development. A Type 2 Landscape Buffer shall be provided between Merrimac Road and the proposed multi-family dwelling area. Existing vegetation can be credited towards the buffer requirements. Buffer shall not impede sight distance at the proposed entrance.

I (we) hereby proffer that the development of the subject property of this application shall be in strict accordance with the conditions set forth in this submission.

Applicant

Owner:
Huckleberry Ridge LLC


Sean Believeau, Operating Manager

Commonwealth of Virginia
County of Montgomery

The foregoing instrument was acknowledged before me this 8th day of ~~February~~, April, 2011 by SEAN MICHAEL BELIVEAU


Notary Public

MICHAEL KENT SUTHERLAND
NOTARY ID # 7141456
NOTARY PUBLIC
COMMONWEALTH OF VIRGINIA
MY COMMISSION EXPIRES JULY 31, 2011

Agent:
Bluestone Land LLC

William N. Park, Manager

Commonwealth of Virginia
County of _____

The foregoing instrument was acknowledged before me this ____ day of February,
2011 by _____.

Notary Public

Executive Summary

The proposed site to be developed (approximately 63 acres) is located in the southeast quadrant of the intersection of Merrimac Road (VA 657) and High Top Road (VA 808) (Figure 1) in Montgomery County, VA. The site is currently undeveloped and zoned A1. This study is based on the proposed site layout developed by Fugleberg Koch. (Figure 2). The current site plan calls for a phased construction of 40 Single Family Homes and 388 Apartment Style structures and will require a rezoning to R-3 for the Single Family Homes and RM-1 for the Apartment Style structures. Site access is proposed at the following intersections:

- One proposed full movement access to Merrimac Road (VA 657) at Totem Lane (Access "A").
- One proposed, full movement access to Merrimac Road (VA 657) approximately 600' north of Access "A" (Access "B").

The projected build-out date for the site is 2017. This build-out date was used for the traffic study.

This study analyzes the existing and projected operation of the intersections and access points within the approved study area. The study includes the existing 2011 operations and 2017 Build-Out year operations with grown background volumes and added site volumes for the following intersections:

1. N. Franklin Street (Bus 460) & Merrimac Road (signalized)
2. S. Main Street (Bus 460) & High Top Road (VA 808)/Yellow Sulphur Road (VA 643) (signalized)
3. Merrimac Road (VA 657) & High Top Road (VA 808) (unsignalized)
4. Merrimac Road (VA 657) & Totem Lane/Proposed Access "A" (unsignalized)
5. Merrimac Road (VA 657) & Proposed Access "B" (unsignalized)

Trip generation for the proposed development was estimated using the rates provided in the Institute of Transportation Engineers, *Trip Generation Manual*, 7th Edition, 2003. Trip generation results indicate that the proposed residential development has a potential to generate 2,857 daily, 234 morning peak hour and 296 evening peak hour trips.

Under the 2011 Existing Conditions scenario, all existing intersections operate at a LOS "C" or better.

Under the 2017 No Build scenario, all existing intersections operate at a LOS "C" or better.

Under the 2017 Build Out scenario, all existing intersections operate at a LOS "C" or better. The levels of service for intersections 3 and 4 drop from LOS A to LOS B after the introduction of site traffic. The Proposed Access "B" operates at a LOS B or better during both AM and PM Peak Hours.

Conclusions

VDOT Turn Lane Warrants for existing intersections include:

- (1) Merrimac Road warrants a right-turn lane on the eastbound approach to N. Franklin Street for the 2017 Build-Out Scenario. Under the 2017 No-Build Scenario, this approach warrants a right-turn taper. The existing configuration includes a shared left/through lane and a right-turn taper. Traffic analysis shows adequate operation under the existing traffic control and **traffic simulation shows a right-turn queue of approximately 4 vehicles.**
- (2) Yellow Sulphur Road warrants a right-turn taper on the westbound approach to S. Main Street for the 2017 Build-Out Scenario. Under the 2017 No-Build Scenario, this approach also warrants a right-turn taper. The existing configuration includes a left-turn lane and a shared through/right lane. Traffic analysis shows adequate operation under the existing traffic control. **This movement is not associated with any of the site traffic presented in this study.**
- (3) Merrimac Road warrants a right-turn taper on the westbound approach to High Top Road for the 2017 Build-Out Scenario. Under the 2017 No-Build Scenario, this approach warrants a right-turn radius. The existing configuration includes a shared left/through/right lane. **Construction of a right-turn taper at this intersection is not recommended due to the existing bridge structure and Huckleberry Trail crossing on Merrimac Road.** A right-turn taper would require modifications to the bridge structure and lengthen the length of the trail crossing with minimal improvements to the intersection operations.
- (4) Proposed Access "A" warrants a right-turn taper on the southbound approach to Merrimac Road for the 2017 Build-Out Scenario.
- (4) Merrimac Road warrants a right-turn taper on the eastbound approach to Proposed Access "A" for the 2017 Build-Out Scenario.

Recommendations

Based on this study, no improvements are recommended at any of the four existing intersections based on the 2017 Build-Out volumes.

It is recommended that Proposed Access "A" to Merrimac Road be constructed with one ingress and two egress lanes. Turn lane warrants show right-turn tapers from Merrimac Road to Proposed Access "A", and from Proposed Access "A" to Merrimac Road are warranted.

It is recommended that Proposed Access "B" to Merrimac Road be constructed with one ingress and two egress lanes. Proposed Access "B" does not meet any of the VDOT turn lane warrants.

The recommendations of this study are summarized in Figure 9. Queuing analysis results and turn lane warrant diagrams are included in the Appendix.

March 11, 2011

Mr. Steve Sandy
Montgomery County
Department of Planning & GIS Services
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073-3177

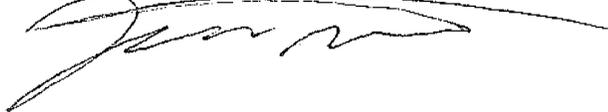
Dear Mr. Sandy:

As an adjacent property owner to the Huckleberry Ridge rezoning request, I would encourage the Planning Commission and Board of Supervisors to approve the rezoning request. I have reviewed the plans that have been submitted, and feel the community will be an asset to the area and will help further the County's Comprehensive Plan.

I would also like to thank Staff for the thorough staff report, and if you have any questions, don't hesitate to call me at (540) 357-4676.

Sincerely,

Mr. Jimmy Radford
Oak Forest Mobile Home Park
P.O. Box 2533
Christiansburg, VA 24068



Faint text at the bottom of the page, possibly a return address or contact information, which is mostly illegible.



March 28, 2011

Planning Commission
c/o Montgomery County Department of Planning & GIS Services
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073-3177

RE: Huckleberry Ridge

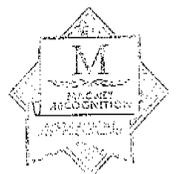
Dear Commission Members:

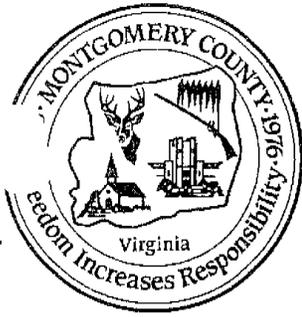
On behalf of LewisGale Hospital Montgomery, I would like to express support of the proposed Huckleberry Ridge housing development in close proximity to the hospital campus. The high quality housing that this development will provide is needed in this area and will aid us in our recruitment of physicians to the New River Valley region.

Therefore, I am writing in full support of the Huckleberry Ridge development. Should you need additional information regarding the hospital please do not hesitate to contact me.

Sincerely,

Scott Hill, M.Ed., MHA, FACHE
Chief Executive Officer





MONTGOMERY COUNTY DEPARTMENT OF
PLANNING & GIS SERVICES

PLANNING
GIS & MAPPING

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

TO: Planning Commission

FROM: Planning Staff *stwe/bh*

DATE: March 9, 2011

RE: **Staff Analysis (RZ-2011-08574)**

A request by **Huckleberry Ridge, LLC (Agent: Bluestone Land, LLC)** for rezoning of approximately 48 acres from Agriculture (A1) to Residential Multi-family (RM-1) with possibly proffered conditions, to allow 388 multi-family residential dwellings and approximately 15 acres from Agriculture (A1) to Residential (R3), with possible proffered conditions, to allow 40 lots for single/two-family residential dwelling units.

I. NATURE OF REQUEST

The applicant is requesting rezoning of approximately 48 acres from Agriculture (A1) to Residential Multi-family (RM-1) with possibly proffered conditions, to allow 388 multi-family residential dwellings and approximately 15 acres from Agriculture (A1) to Residential (R3), with possible proffered conditions, to allow 40 lots for single/two-family residential dwelling units.

II. LOCATION

The property is located south east of the intersection of Merrimac Road (Rte.657) and Hightop Road (Rte. 808) and is identified as Tax Parcel Nos. 067-A-42, 66-A-91, 92, & 67-A-229 (Acct # 010583, 010584, 010585, & 035616) in the Prices Fork Magisterial District (District E). The Huckleberry Trail runs through the northern portion of the property. Forest Park and Oak Forest Mobile Home Parks are

adjacent to the property across Merrimac and Hightop Roads, respectively. Both of these parks are zoned Planned Mobile Home Residential (PMR). Most of the remaining area surrounding this property is zoned Agriculture (A-1). See attached zoning map.

III. BACKGROUND

In early 2006 this same property owner requested rezoning of this property from Agriculture (A-1) to Planned Unit Development Residential (PUD-Res) to allow 245 residential dwellings and up to 10% of the areas as commercial uses. This proposal included primary access to the site from Hightop Road and also across the Huckleberry Trail. After several months of review, the Planning Commission recommended denial of the request by a 5-3 vote. The primary concerns stated at that time were the at-grade crossing of the Huckleberry Trail and the lack of some proffers in being submitted in writing. After much deliberation, the Board of Supervisors ultimately denied the request on April 24, 2006 by a 5-1 vote stating in Resolution R-FY-06-161, "... [the proposed project] does not meet the requirement of public necessity, convenience, general welfare and good zoning practice because the existing road network that provides public access for this proposed development (Hightop Road and Merrimac Road) cannot adequately service the proposed density for this development in a safe and orderly fashion...".

IV. IMPACTS

The impacts associated with rezoning this property are discussed below. The proposed use of the property is to allow the construction of up to 388 multi-family residential dwellings and forty (40) one or two-family residential dwellings. The proposal also includes the construction of a community building and pool for use by the residents of the development.

Transportation

Since the proposed project has an anticipated traffic count that exceeds 100 vehicles per hour (vph), the applicant was required to prepare a traffic impact analysis (TIA) in accordance with VDOT's Chapter 527 regulations. The TIA was prepared by Anderson & Associates and is dated January 26, 2011. A copy of the TIA Executive Summary has been attached for your reference.

The report consisted of traffic counts that were gathered on January 19th and 20th. The purpose of the report is to evaluate the current traffic/road conditions and then re-analyze them again based upon normal growth and the addition of the proposed project. Specifically, the report reviewed five (5) intersections in the vicinity of the project.

1. Route 460 and Merrimac Road (Rte. 657)
2. Route 460 and Hightop Road (Rte. 808)
3. Merrimac Road (Rte. 657) and Hightop Road (Rte. 808)
4. Merrimac Road (Rte. 657) and Totem Lane/Access "A"
5. Merrimac Road (Rte. 657) and Access "B"

The analysis of these intersections showed that all intersections operate currently at a level of service "C" or better. Under the 2017 build-out scenario, all intersections continue to operate a level of service "C" or better. However, intersections #3 and #4 drop from level of service "A" to "B" as a result of the development. The TIA proposes no intersection improvements at any of the existing intersections. The TIA does recommend that both new entrances to the development be constructed with one ingress and two egress lanes. It is further recommended that Access "A" be installed with a right-turn taper along Merrimac Road.

On February 23, 2011, VDOT issued a comment letter after their review of the submitted TIA (copy attached). The review contained eight (8) comments pertaining to the report information and required resubmission of a revised report. As of the date of this analysis, no revised report had been received by this office.

Infrastructure

The property is currently in the Montgomery County PSA water and sewer service area. According to a letter from Mr. Bob Fronk, PSA Director, dated April 10, 2010 (see attached), public water and sanitary sewer can be provided by the PSA. Public water exists along Merrimac Road and can be extended into the development via an 8-inch water line extension. Public sewer can be provided to the property by a sewer main extension from the existing line that runs along the northern portion of the property along the Huckleberry Trail. This letter was issued based on 250 dwelling units not the current request of 468 units.

The PSA letter also points out that the current PSA water service area does not include the southern quarter of the subject property and unless the agreement is modified, water service would not be available to this area of the subject property. PSA Director Bob Fronk requested that the Town of Blacksburg modify this agreement by letter on July 22, 2010. Town Manager Marc Verneil stated that the Town would consider the modification upon submittal and review of a rezoning request by the property owner and after the public input process. A letter from the Town's Planning Commission letter dated March 1, 2011 only addresses this matter by saying, "Currently, Town policy has been not to provide water service outside of the Town boundary". Bob Fronk submitted an email to the Planning Director on March 5, 2011 to clarify the water issue related to this proposed project as follows, "Our request to realign the existing boundary of the existing back-up supply

service area that is only needed in the event that our usual water supplier cuts off supply due to seasonal limitations. The current boundary line of the existing agreement did not follow property lines but split the property in question. It is not realistic to consider this an additional water service area request as we are only requesting realignment of the boundary and nothing more". As of the date of this report, there has been no further resolution from the Town of Blacksburg concerning this needed service area modification.

Schools

Montgomery County Public Schools submitted a comment letter dated February 11, 2011 concerning the potential impact that this proposed development would have on the county school system. This letter has been attached to this report.

The letter indicates that children from residential dwellings in this proposed development would attend Kipps Elementary School, Blacksburg Middle School and Blacksburg High School. Kipps Elementary has a capacity of 500 students and has a current enrollment of 512 students. Blacksburg Middle School has a capacity of 1200 students and a current enrollment of 835 students. The new Blacksburg High School is being designed to accommodate 1400 students and has a current enrollment of 1065 students.

According to the letter, the project with a projected density of 468 units could potentially add 281 children to the school system or approximately 22 students in every grade level upon full build-out. The letter indicates that this potential number of additional students could further impact Kipps Elementary School. It goes on to state that the school system intends to perform some redistricting in the next year as a result of the new Prices Fork Elementary being completed. This redistricting may put this proposed development area into the new Prices Fork Elementary School rather than Kipps.

The private roads throughout the multi-family portion of the development will not be accessible by public school buses therefore; schoolchildren will have to go to the intersection with Merrimac Road in order to catch the bus. The school bus will be able to traverse the single-family portion of the development if the streets remain public as currently proposed.

Emergency Services

Montgomery County Emergency Services Director, Neal Turner, reviewed the proposed development and expressed concern with one-way in and one-way out to the development via Merrimac Road. He also expressed concern over adequate turning area for fire trucks within the development and requested that the development incorporate wider turning areas and more cut-through areas within parking lots. Because of topography of site there may be some challenges to provide optimal access for emergency service vehicles therefore, there may be a need to incorporate more fire hydrants within the development.

V. COMPREHENSIVE PLAN

The subject property is in an area designated Urban Expansion on the future policy map of the comprehensive plan. This area is also in an area that is under consideration for designation as an Urban Development Area (UDA) based on the State of Virginia mandate that the County must designate UDAs to accommodate 10-20 years of projected growth.

Urban Expansion

The County's Comprehensive Plan (PLU 1.8) identifies these as areas adjacent to the two towns and City of Radford that are planned for a broad range and mix of uses at urban development densities and intensities. These areas are to be served with public water and sewer and should serve as natural areas for uses occurring within the town and city boundaries.

PLU 1.8.3 states that Urban Expansion Areas are the preferred location for new residential and non-residential development occurring in the unincorporated areas of the County accommodating a full range of residential unit types and densities. Area wide densities in Urban Expansion Areas are projected to be no more than four (4) dwelling units per acre.

The Housing chapter of the comprehensive plan states that the County's goal is to promote affordable, safe, livable neighborhoods for all residents (HSG 1.0). Additional goals of encouraging planned, pedestrian and transit-friendly neighborhoods (HSG 1.3.1) and encouraging intra- and inter-connectivity of roads, bikeways and walkways in new residential developments in order to promote an increased sense of community and safety, while decreasing traffic concentration are also stated in this chapter.

The County is considering the designation of this area of Merrimac as a Urban Development Area (UDA). The draft comprehensive plan language for the UDA areas, based on legislative requirements, states that overall density in the UDA should be village-like in terms of scale and intensity, with a mixture of high density and intensity ranging from 8-12 du/acre at the core and 4-8 du/acre at the edges. The County must adopt UDAs by June 30, 2011.

Comprehensive Plan Summary

The intent of the proposal appears consistent with the Planning and Land Use and Housing chapters of the Montgomery County 2025 Comprehensive Plan. As proposed, this development meets the goals and objectives of the future land use for this area and does qualify for consideration of rezoning from Agriculture (A-1) to Residential

Multiple Family (RM-1) and Residential (R-3). However, there are many aspects and details of the proposed development that need to be considered and incorporated into the proposal to fully comply with the guidelines and goals of the Comprehensive Plan and zoning ordinance.

VI. ANALYSIS

The subject parcel qualifies for rezoning to Residential Multiple Family (RM-1) and Residential (R-3) based on the submittal requirements of the zoning ordinance. The proposed zoning change will present a significant change in land use and traffic patterns compared to the existing surrounding community uses and will represent an increase in intensity as compared to the existing uses in the community.

Traffic impacts and site design elements are major concerns for the County and surrounding property owners that have been identified during the review of this proposal. The submitted TIA addresses the major intersections surrounding the development and indicates that no improvements are needed. However, the intersection of Merrimac Road and Hightop Road is of significant concern. Revision of the traffic turning movements at this intersection is necessary to more accurately reflect the potential impact to this intersection at build out.

A project of this size and character should exhibit the characteristics of a walkable community as well as having access to other forms of mobility such as bicycling and transit. This proposal appears to have a lot of potential to achieve this desired outcome but will need some increased emphasis in the design and subsequently in the proffered conditions. For instance, sidewalks along all street frontages would be desirable but the concept plan and proffers do not indicate whether or not these items will be part of the development.

More information concerning the details of the development is needed to ensure that this project will represent the type of development that the County envisions for this area. Specifically, the applicant needs to address details concerning the following:

- a) Roads, streets and parking areas within the development.
- b) Interconnectivity with adjoining property, location, design.
- c) Interconnectivity of trails and sidewalks for pedestrians and bicycling.
- d) Incorporation of transit friendly design.
- e) Building and lighting design details.

The incorporation of these items will require amendments to the conceptual plan and proffered conditions. In addition, a community design book or similar resource may be necessary to adequately demonstrate compliance with various site and building design characteristics and details.

VII. STAFF RECOMMENDATION

Staff's preliminary recommendation is to **table** this request in order to allow the applicant additional time to address a number of the items and concerns expressed by VDOT and staff that have been outlined in this analysis. The applicant should address the following items before the Planning Commission makes a final recommendation to the Board of Supervisors on this request.

1. Applicant shall revise the TIA and resubmit to VDOT for additional comment. The revision of the report to address the VDOT comments is critical to ascertain the full impacts of the development on the existing road network. In particular, staff is concerned about the potential impacts at the intersection of Merrimac Road and Hightop Road.
2. Applicant shall develop a resolution to the existing back-up supply service area for water with the Town of Blacksburg.
3. Applicant shall revise and/or add to the submitted proffered conditions to mitigate impacts and concerns expressed such as intersection and/or roadway improvements per TIA and VDOT comments, inter and intra connectivity of roads, trail construction specifications, incorporation of transit, pedestrian and bicycling features, permitted density, architectural guidelines to ensure buildings are consistent with elevation drawings submitted, phasing schedule, etc. While this is not an exhaustive list, there are many details of the development that need to be addressed to ensure compliance with the County's Comprehensive Plan prior to any further action being considered by the County.
4. Applicant shall provide a metes and bounds survey of the proposed rezoning areas must be completed so the County can accurately depict the boundaries of the rezoned area.
5. Staff suggests that the County consider allowing the County's UDA consultant to review the proposal and determine if the project is compatible with proposed UDA designation and if not identify how the project could be modified to provide a more compatible development.

At the time this report was issued, the Planning and GIS Services office had been contacted regarding this request by several concerned citizens, requesting additional information on the request. Adjoining property owners were notified in accordance with Montgomery County Code Section 10-52(3). Consideration should be given to adjacent property owners or other interested citizens attending the public hearing to express their views regarding this request.

Enclosures: Aerial Map
Zoning Map
TIA Executive Summary dated January 26, 2011
Letter from Montgomery County Schools dated February 11, 2011
Letter from Blacksburg Planning Commission, dated March 1, 2011
Letter from VDOT, dated February 23, 2011



**Huckleberry Ridge LLC
Request For
Rezoning
(A-1 to R-3 & RM-1)**

Legend

- Corporate Line
- State Road
- Interstate Highway
- Private Road (New)
- Private Road (Old)
- Railroad
- Huckleberry Trail
- Hydrology
- Tax Parcels

Huckleberry Ridge LLC Parcels

- Parcel
- Proposed Zoning RM-1
- Proposed Zoning R-3

Parcel ID(s): 010583
010584
010585
035516



Montgomery County, Virginia
2012-2013

THE INFORMATION CONTAINED HEREIN IS FOR INFORMATIONAL PURPOSES ONLY AND DOES NOT CONSTITUTE AN OFFICIAL ACTION OF MONTGOMERY COUNTY, VIRGINIA. THE INFORMATION IS PROVIDED AS IS AND MONTGOMERY COUNTY, VIRGINIA, AND ITS EMPLOYEES, AGENTS, CONTRACTORS, AND CONSULTANTS MAKE NO WARRANTY, REPRESENTATION, OR GUARANTEE OF ANY KIND, EXPRESS OR IMPLIED, REGARDING THE ACCURACY, COMPLETENESS, OR RELIABILITY OF THE INFORMATION CONTAINED HEREIN. THE USER SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ANY INFORMATION CONTAINED HEREIN AND FOR OBTAINING NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AGENCIES.

SCALE: 1" = 100'

0 50 100 200 300 400 Feet



Executive Summary

The proposed site to be developed (approximately 63 acres) is located in the southeast quadrant of the intersection of Merrimac Road (VA 657) and High Top Road (VA 808) (Figure 1) in Montgomery County, VA. The site is currently undeveloped and zoned A1. This study is based on the proposed site layout developed by Fugleberg Koch. (Figure 2). The current site plan calls for a phased construction of 40 Single Family Homes and 380 Apartment Style structures and will require a rezoning to R-3 for the Single Family Homes and RM-1 for the Apartment Style structures. Site access is proposed at the following intersections:

- o One proposed full movement access to Merrimac Road (VA 657) at Totem Lane (Access "A").
- o One proposed, full movement access to Merrimac Road (VA 657) approximately 600' North of Access "A" (Access "B").

The projected build-out date for the site is 2017. This build-out date was used for the traffic study.

This study analyzes the existing and projected operation of the intersections and access points within the approved study area. The study includes the existing 2011 operations and 2017 Build-Out year operations with grown background volumes and added site volumes for the following intersections:

1. N. Franklin Street (Bus 460) & Merrimac Road (signalized)
2. S. Main Street (Bus 460) & High Top Road (VA 808)/Yellow Sulphur Road (VA 643) (signalized)
3. Merrimac Road (VA 657) & High Top Road (VA 808) (unsignalized)
4. Merrimac Road (VA 657) & Totem Lane/Proposed Access "A" (unsignalized)
5. Merrimac Road (VA 657) & Proposed Access "B" (unsignalized)

Trip generation for the proposed development was estimated using the rates provided in the Institute of Transportation Engineers, *Trip Generation Manual*, 7th Edition, 2003. Trip generation results indicate that the proposed residential development has a potential to generate 2,469 daily, 211 morning peak hour and 253 evening peak hour trips.

Under the 2011 Existing Conditions scenario, all existing intersections operate at a LOS "C" or better.

Under the 2017 No Build scenario, all existing intersections operate at a LOS "C" or better.

Under the 2017 Build Out scenario, all existing intersections operate at a LOS "C" or better. The levels of service for intersections 3 and 4 drop from LOS A to LOS B after the introduction of site traffic. The Proposed Access "B" operates at a LOS B or better during both AM and PM Peak Hours.

Conclusions

Based on this study, no improvements are recommended at any of the four existing intersections.

It is recommended that Proposed Access "A" and Proposed Access "B" to Merrimac Road be constructed with one ingress and two egress lanes. Turn lane warrants show a right-turn taper from Merrimac Road to Proposed Access "A"

The recommendations of this study are summarized in Figure 9. Queuing analysis results are included in the Appendix.

Montgomery County Public Schools

Facilities and Planning Department

1175 Cambria Street, Christiansburg, VA 24073

Telephone: 540-382-5141 Fax: 540-381-6118

RECEIVED
FEB 15 2011

February 11, 2011

BY:.....

Ms. Jamie MacLean
Development Planner
Montgomery County
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073

Re: Rezoning Request by Huckleberry Ridge, LLC
48 Acres from A1 to RM-1
15 Acres from A1 to R3

Dear Ms. MacLean:

I am writing in response to your email dated February 10, 2011, regarding the subject rezoning requests.

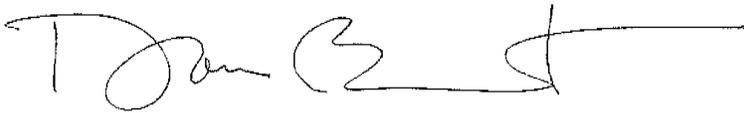
The referenced property is located in the Blacksburg Strand. Children from homes in this area attend Kipps Elementary School, Blacksburg Middle School, and Blacksburg High School. Kipps Elementary School has a capacity of 500 students and a current enrollment of 512. Blacksburg Middle School has a capacity of 1,200 students and a current enrollment of 835. The new Blacksburg High School that we are planning will have a capacity of at least 1,400 students. The high school's current enrollment is 1,065. Our planning consultant advises us that on average across the country, new family dwelling units have the potential to add .6 children each to the school system. Four hundred sixty eight additional units in this development could potentially add 281 students to our school system, or approximately 22 students in every grade level. This potential number of additional students could further impact Kipps Elementary School, which is using mobile classrooms. However, we do intend to do some redistricting in this coming year for when we open the new Price's Fork Elementary School. This redistricting may put this proposed development in the district that will attend the new Prices Fork Elementary School, versus Kipps Elementary School.

Page 2
February 11, 2011

Please consider the impact of this development in conjunction with other recent rezoning approvals that potentially add students to the schools. If the rezoning request is approved, please ensure that any new public roads servicing this development can accommodate large school busses.

Thank you for this opportunity to comment on the proposed developments.

Sincerely,

A handwritten signature in black ink, appearing to read "Dan Berenato", with a long horizontal line extending to the right.

Daniel A. Berenato
Director

cc: Walt Shannon
Rebecca Mummau



PLANNING COMMISSION

March 1, 2011

Mr. Bryan Rice, Chairman
Montgomery County Planning Commission
Montgomery County Government Center
755 Roanoke St. Ste. 2A
Christiansburg, VA 24073

Subject: Montgomery County Referral: Rezoning Request by Huckleberry Ridge, LLC; 48 acres from A1 to RM-1 and 15 acres from A1 to R-3 (62.368 acres off of Merrimac Road and Hightop Road)

Dear Mr. Rice:

At the Town of Blacksburg Planning Commission work session on February 15, 2011, we discussed the proposal to develop 388 multi-family units (244 units in Phase 1 and 144 units in Phase 2) and a 40-lot single family/two-family dwellings on 62.368 acres. We have adopted this letter as part of the Planning Commission's March 1, 2011 consent agenda. As always, we appreciate the opportunity to comment on land use applications coming before your Commission that are located in the Town's Extraterritorial Area.

The Planning Commission is aware that agricultural areas proximate to the urban area including this parcel are designated as "Urban Expansion Areas" on the County's Comprehensive Plan and are targeted for urban development. We do have concerns, however, about the level of urban intensity proposed in the Huckleberry Ridge project and how the proposed development fits into any overall plans for coordinated and connected urban development in the designated Urban Expansion Area.

Based on the application, it appears that a maximum of 468 units are possible if duplexes are constructed in the 40 lot subdivision. Most of the density comes from the 388 multi-family units proposed. The County zoning code would allow 3 unrelated individuals in the proposed RM-1 zoning district which could result in a significant population increase and commensurate needs for services including water, sewer, roads, schools and emergency services.

In terms of the land use transition between the Town and the County in this area, the current zoning district for most Town properties along Hightop Road and Farmview Drive is RR-1, Rural Residential 1 which allows one unit per acre. The current proposal provides a much higher density than the Town's RR-1 district. There are other higher density residential developments existing in the County along Merrimac Road, thus the logic of designating these areas as an

Urban Expansion Area. There is certainly a way to bridge the transition with urban infill development that can reflect the County's goal of urban development and still be sensitive to the lifestyles of existing Town, or County residents. However, the Blacksburg Planning Commission questions if the current Huckleberry Ridge proposal is the right way to make this transition.

Given the level of development proposed, we are concerned about the adequacy of infrastructure and services to support the project. The Town of Blacksburg Comprehensive Plan emphasizes the important connection between the provision of utility services and the demand on missing or inadequate infrastructure or vulnerable recreational and environmental resources. "Water and sewer utility extensions and stormwater management throughout the area will contribute to development pressures on these mountainsides and on agricultural land. There is a strong linkage between the provision of water and sewer services, stormwater management, efficient land use, and the delivery of other vital municipal services. Extension of utilities without a strong and detailed plan to control and direct growth will contribute to the elimination of agricultural uses and the loss of the unique rural and scenic character of the region."

As noted in the application, "the current PSA water service area does not include the southern quarter of the subject property and unless the agreement is modified, water service would not be available to this area of the subject property." Blacksburg Town Council approval is needed to modify the agreement. Currently, Town policy has been not to provide water service outside of the Town boundary.

The existing road system and topography in this area also present development limitations. Hightop Road and Merrimac Road are narrow, winding two-lane roads with limited roadway shoulders and visibility issues. We are particularly concerned about the intersection of Merrimac Road and Hightop Road and recommend this intersection be evaluated for visibility according to current road design standards, and that any upgrades necessary to achieve that visibility be achieved as part of this development if approved. Sensitivity should be given to any improvements to ensure they do not negatively impact the Huckleberry Trail crossing in this area.

While two access points to Merrimac Road are proposed to serve the development, it appears that most of the traffic will be using only one access point. It is also not clear how access or circulation in this development may fit into an overall connectivity or circulation plan for the Urban Expansion Area. Are there opportunities that are being missed with an approval of this project? The proposed development may also impact the Town of Blacksburg if it is anticipated that a significant portion of the residents will commute to jobs within the Town of Blacksburg or attend the University. Individual commuting traffic is already heavy on the south end of the Town. It is important to note that there is no transit service to this site to meet resident needs, nor is any planned currently. Expansion of transit service will need to fit into overall transit development planning and have a funding source. If transit service is contemplated in the future, the development will logistically need to be able to accommodate the service.

The type and intensity of single-family/two-family development and multi-family development proposed would result in the clearing of a significant part of the overall site area. This level of density is difficult to support on a topographically-challenged lot without disturbing a good portion of the mountainside. The Town's Comprehensive Plan addresses mountain slopes in close proximity to the Town as a "development on mountain slopes, if any, should be in a conservation pattern where either very large lots retain natural forest cover and the subsequent clearing of individual properties is severely limited; or in a planned development where building sites are carefully chosen to minimize clearing and grading and large portions of the property are permanently preserved in their natural state, with greenway and trail connections."

We do appreciate that the design of the project limits the area of disturbance around the creek and the Huckleberry Trail on the northern portion of the site compared to the previous 2006 proposal to develop the property. Many residents in this area are challenged to find a safe way to access the Huckleberry Trail given the nature of the topography and the safety of walking or biking on Merrimac Road. With the construction of a trail connection in this development, it is realistic to think that neighborhood residents will access the Huckleberry through this connection. Has any consideration been given to facilitate a more public trail access?

The applicant has provided information on the potential public school age population generated by the project and coordinated with the School Board regarding school capacity, particularly elementary school capacity. As you are aware, the current elementary school serving this area is Kipps Elementary School which is overcrowded. The School Board has acknowledged there are capacity issues with Kipps Elementary but that the pupils can be accommodated given that redistricting efforts are already planned.

Given the factors discussed above, the Town of Blacksburg's Planning Commission finds that the proposed Huckleberry Ridge rezoning would exacerbate identified critical issues of over development of a rural and environmentally-sensitive area with limited infrastructure. Therefore, the Planning Commission recommends the Montgomery County Planning Commission recommend denial of the Huckleberry Ridge rezoning application. If the Montgomery County Planning Commission recommends approval of this rezoning application, we strongly encourage that more measures be taken to limit the areas of disturbance of the site and provisions be required, if possible, to address the rural roadway visibility issues.

Again, thank you for the opportunity to review the application.

Sincerely,

A handwritten signature in black ink that reads "Wendell Hensley". The signature is written in a cursive, flowing style.

Mr. Wendell Hensley, Chairman
Town of Blacksburg Planning Commission



COMMONWEALTH of VIRGINIA

DEPARTMENT OF TRANSPORTATION

PO Box 3071

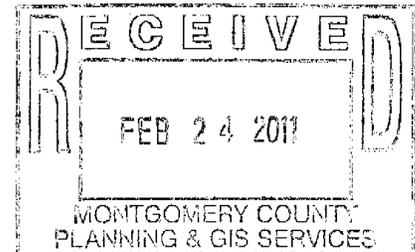
Salem VA 24153-0560

GREGORY A. WHIRLEY
COMMISSIONER

February 23, 2011

Mr. Steve Sandy
Montgomery County Planning
& Inspections Department
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073-3177

RE: HUCKLEBERRY RIDGE
Montgomery County



Dear Mr. Sandy:

In accordance with §15.2-2222.1 of the Code of Virginia and the Virginia Traffic Impact Analysis Regulations, 24 VAC 30-155, a traffic impact analysis was prepared by Anderson & Associates, Inc. for re-zoning for the proposed Huckleberry Ridge development dated January 2011. This report was submitted for the site plan developed Fugleberg Koch and prepared for Bluestone Land, L.L.C. We have evaluated this traffic impact analysis for compliance with the above noted code and offer the following comments:

- Please clarify when the AM peak hour counts were taken. According to the text on page 5, the counts were taken from 7:00 AM to 9:00 AM. However the counts in the appendix show that the counts were taken from 6:00 AM to 8:00 AM. The counts need to be taken to 9:00 AM to capture the true peak hour for the location.
- The traffic counts were taken on January 18 and 19 (Tuesday and Wednesday) as stated in the summary. However, the counts were taken on January 19 and 20 as stated in the Appendix. Clarify which days the counts were taken.
- In Synchro, it appears that volume of 1 was assumed as a minimum for turning movements. This should be noted in the report.
- There are some conflicts in the land use and trip generation. The scoping says that LU-220 Apartments will be used. Table 3 shows LU-230 Residential Townhouses was used. Our understanding of the project is that the units will be "apartment style" townhouses. Does this mean they will be rentals? Typically townhouses are bigger than apartments. Also, typically rental units will generate more traffic than non-rental units. If the units

are intended to be rental units, LU-224 Rental Townhouse should be used. If they are to be owner occupied, LU-230 should be used. Also, check the number of units. The scoping form and the text in the Executive Summary indicate there will be 380 Townhouse units. The text on page 10 and table 3 indicates 388 units. The generated volumes for phase 3 are the volumes associated with 142 units, not 144. The text on page 10 indicates 2,469 daily trips while table 3 indicates 2,693 trips. Please clarify the land use type, number of units and generated volumes. Please note that the 8th edition of the ITE Trip Generation is available and has been out for while. The 7th edition can be used for this study, but the 8th edition should be used for future studies.

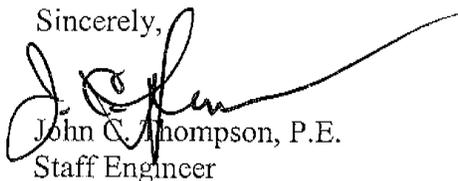
- The percentage of generated trips entering and leaving the network using Merrimac Road is very high for a road with very little non-residential land uses. This should be about 10% instead of 30%. If the townhouses are rentals, it would be reasonable the biggest destinations for the residents would be Blacksburg or Christiansburg with a little more heading to Blacksburg due to Virginia Tech. Please adjust your trip distribution accordingly.
- An analysis of the need for left and right turn lanes at the site entrances and at the intersection of High Top Road and Merrimac Road should be included in the report. See appendix F of the VDOT Road Design Manual.
- In the Analysis of each of the conditions the tables show that the results were derived from Synchro or the HCM analysis for the unsignalized intersections. The TIA should include the results for the SimTraffic analysis for each of the conditions. Ten random runs should be preformed in SimTraffic. The average of the ten runs should be reported for each intersection. This was mentioned in the text on page 5 but the SimTraffic results were not shown in the tables or the figures.
- For the figures 4, 5, 7 and 8, show the level of service for each movement and for the approach. It appears that the levels shown are for each lane.

The correction of these items requires resubmission of the report. We would be glad to meet with you and the engineer if that would be beneficial. Please let us know if you would like to schedule a time to meet on this project.

Finally, I ask that you arrange to have VDOT's summary of the key findings of the traffic analysis included in the official public records (meeting minutes, staff report) on the proposed project and to have this letter and the traffic impact analysis placed in the case file for the site plan application. VDOT will make these documents available to the general public through various means such as posting them on VDOT's website.

Should you have questions, please contact John Jones at (540) 381-7198.

Sincerely,



John C. Thompson, P.E.
Staff Engineer

JCJ/gat



Application to Planning Commission and Board of Supervisors

Application For: (check appropriate boxes)

Rezoning Rezoning & Special Use Permit Special Use Permit

Owner/Applicant Information: (Use current mailing/contact information for all property owners. An additional sheet may be attached for multiple owners.)

Property Owner: <u>Huckleberry Ridge LLC, Sean Beliveau, Operating Manager</u>	Agent: <u>Bluestone Land LLC, William N. Park, Manager</u>
Address: <u>111 Cohee Road</u> Blacksburg VA	Address: <u>1821 Avon St. Suite 200 Charlottesville VA 22902</u>
Phone 1: <u>540-449-3284</u>	Phone 1: <u>434-979-2900</u>
Phone 2: _____	Phone 2: <u>434-979-0001 (fax)</u>
Email: <u>seanbeliveau@yahoo.com</u>	Email: <u>wpark@pinnacleconstructionva.com</u>

Location of Property/ Site Address: Merrimac Rd

Legal Record of Property: Total Area: 62.368 Acres Magisterial District Prices Fork

Parcel ID: 010585; 010584; 010583; 035616 Tax Parcel Number(s): 066A-91; 066A-92; 067A-42; 067A-229

Rezoning Details: Current Zoning District: A1 Requested Zoning District: RM-1; R-3

Desired Use(s): [RM-1]: 2 phase multi-family residential development on +/- 48 acres. Phase 1: 244 units on +/- 16.6 acres;
Phase 2: 144 units on +/- 29.8 acres; [R-3]: Approx. 40 lot residential development (single-family/two-family dwelling units) on +/- 15 acres.

Special Use Permit: Current Zoning District: _____ Total Area/Acres: _____

Desired Use(s): _____

Comprehensive Plan Designation: URBAN EXPANSION

Traffic Impact Analysis Required: Yes (payment enclosed) No

I certify that the information supplied on this application and on the attachments provided (maps or other information) is accurate and true to the best of my knowledge. In addition, I hereby grant permission to the agents and employees of Montgomery County and State of Virginia to enter the above property for the purposes of processing and reviewing the above application.

<u>[Signature]</u>	<u>[Signature]</u>
Property Owner(s) Signature	Agent's Signature
February 1, 2011	February 1, 2011
Date	Date

Date Received: _____ FOR OFFICE USE ONLY Application Number: _____

Traffic Impact Analysis and Payment Received: Yes No Date Submitted to VDOT: _____

Huckleberry Ridge PROFFER STATEMENT

February 1, 2011

Proffer Statement for the *Rezoning Application/or Tax Parcels* 066-A-91; 066-A-92; 067A-42; 067-A-229 (the "Property") from A-1 to R-3 and RM-1 in the Montgomery County Zoning Ordinance. Pursuant to Section 10-54-1.(i) of the Montgomery County Zoning Ordinance, the Owner hereby voluntarily proffers that the property which is the subject of this Rezoning Application will be developed in accordance with the following conditions, if and only if, approval of Ordinance is granted, and the property is rezoned as requested. The Applicant, the Owners, their Successors and Assigns, voluntarily proffer the following conditions for the property as follows:

1. *Zoning Regulations and Conceptual Layout*

The Property will be developed substantially in accordance with the Conceptual Layout prepared by Gay & Neel, dated 02/01/2011 (the "Conceptual Layout").

2. *Number of Units*

No more than 388 multi-family dwellings (apartment/condominiums) shall be constructed in the RM-1 District. No more than 40 single-family detached dwelling units, or 80 two-family attached dwelling units, or any combination of single-family and two-family dwellings shall be constructed in the R-3 District.

3. *Roads*

Public streets will be designed and constructed to VDOT's Subdivision Street Standards, latest edition. The proposed entrances will be constructed to allow for future widening of the existing road. All improvements shall be at the sole expense of the developer.

4. *Storm water*

Stormwater management practices will be designed to detain the post development peak flow rate to the predevelopment peak flow rates for the 10 year and 2 year storm events as required by state Erosion and Sediment Control Law. Stormwater quality will be in accordance with the regulations in effect at the time of rezoning and the developer will obtain a VSMP permit for construction.

5. *Open Space and Amenities*

A minimum of 25(twenty-five) percent, 15.75 acres+-, of the total gross area of the Property shall be reserved as common open space and/or recreational areas as shown on the Conceptual Layout. Furthermore, each individual phase shall meet the minimum open space requirements of the zoning district. Active recreation amenities may include, but not limited to walking/hiking trails, benches, picnic tables, community building w/ pool, common recreation pavilion(s)/gazebo(s), playground(s), and retention pond(s).

6. *Trails*

The Property will include a walking/nature trail system traversing portions of the dedicated open space as shown on the Conceptual Layout. The trail system will connect to the Huckleberry Trail. The foot trails within the open space will be constructed in conjunction with the phase that is the most geographically adjacent to the proposed trail.

7. **Homeowner's Association**

A homeowner's association or associations will be formed for R-3 district. The association or associations' documents will at a minimum address: Maintenance of open areas, alleys, buffers, trails, active recreation spaces, and stormwater management facilities; Enforcement of maintenance and all regulations set forth in the association documents.

8. **Water and Sanitary Sewer Service**

Huckleberry Ridge, LLC shall construct all water and sanitary sewer mains and appurtenances and will connect these mains to publicly owned mains. All mains and appurtenances will be dedicated to public use.

9. **Landscaping**

Huckleberry Ridge, LLC will preserve existing vegetation to the greatest extent possible. Extensive landscaping such as buffers and street trees will be provided as part of proposed development. A Type 2 Landscape Buffer shall be provided between Merrimac Road and the proposed multi-family dwelling area. Existing vegetation can be credited towards the buffer requirements. Buffer shall not impede sight distance at the proposed entrance.

I (we) hereby proffer that the development of the subject property of this application shall be in strict accordance with the conditions set forth in this submission.

Applicant

Owner:

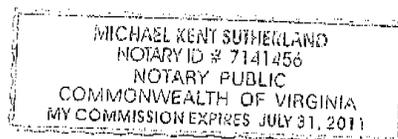
Huckleberry Ridge LLC


Sean Believeau, Operating Manager

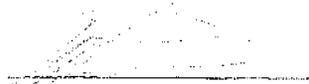
Commonwealth of Virginia
County of Monroe

The foregoing instrument was acknowledged before me this 2nd day of February, 2011 by Sean Believeau.


Notary Public



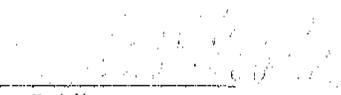
Agent:
Bluestone Land LLC



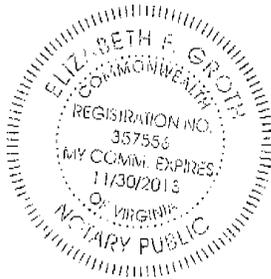
William N. Park, Manager

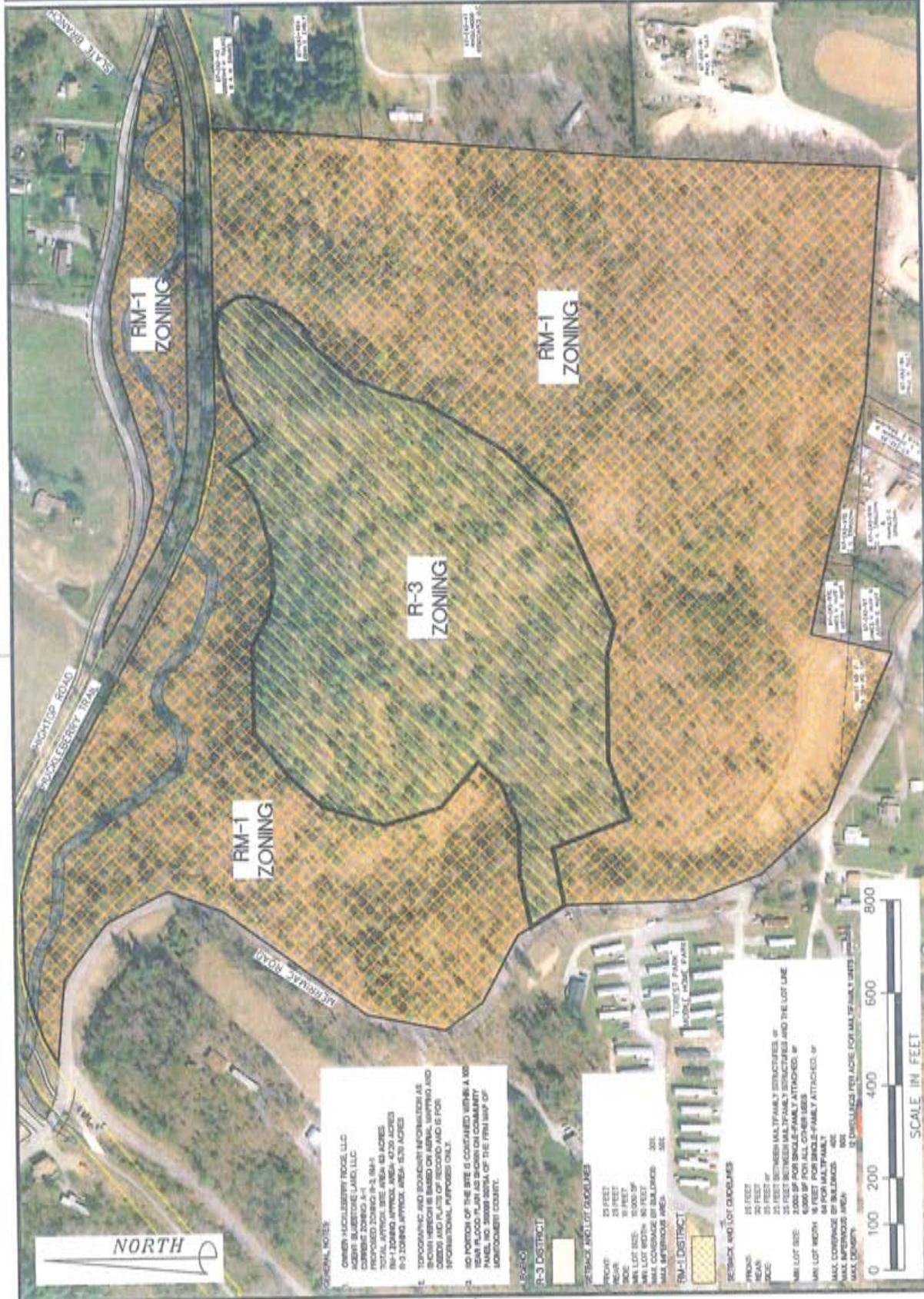
Commonwealth of Virginia
County of Spotsylvania

The foregoing instrument was acknowledged before me this 24th day of February,
2011 by William N. Park



Notary Public





GAY AND NEEL, INC.
 CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE
 UNIVERSITY
 1260 Radford Street
 Christiansburg, Virginia 24073
 Phone (540) 281-0011 Fax (540) 281-2773
 Email: info@gayandneel.com

**Huckleberry Ridge
 Proposed Zoning Districts**
 Montgomery County, Virginia

REVISED:

DESIGNED/CALC.:
 CHECKED:
 DATE: 02/01/11
 JOB NO. 1571.4
 SHEET 2 OF 3

GENERAL NOTES

- OWNER: HUCKLEBERRY RIDGE LLC
 AGENT: BLUESTONE LAND, LLC
 SUBJECT: ZONING A-1
 PROPOSED ZONING: R-3, RM-1
 RM-1 ZONING APPROVAL AREA: 670 ACRES
 R-3 ZONING APPROVAL AREA: 570 ACRES
- EXISTING AND PROPOSED LOTS ARE SHOWN HEREON IS BASED ON AERIAL PHOTOGRAPHY AND DEEDS AND PLATS OF RECORD AND IS FOR INFORMATIONAL PURPOSES ONLY.
- NO PORTION OF THE SITE IS CONSIDERED WITHIN A 100 YEAR FLOOD PLAIN AS SHOWN ON COMMUNITY PANEL NO. 30088 SOUTH OF THE FIRST BAY OF MONTGOMERY COUNTY.

R-3 DISTRICT

1-TRACK AND LOT DIMENSIONS

FRONT: 25 FEET
 SIDE: 15 FEET
 REAR: 15 FEET
 MIN LOT SIZE: 15,000 SF
 MIN LOT WIDTH: 80 FEET
 MAX CONCRETE OR BALCONY: 300
 MAX APPROACH AREA: 500

RM-1 DISTRICT

1-TRACK AND LOT DIMENSIONS

FRONT: 25 FEET
 SIDE: 15 FEET
 REAR: 15 FEET
 MIN LOT SIZE: 15,000 SF
 MIN LOT WIDTH: 80 FEET
 MAX CONCRETE OR BALCONY: 300
 MAX APPROACH AREA: 500

SCALE IN FEET

0 100 200 400 600 800

GAY AND NEEL, INC.
 CIVIL ENGINEERING
 LANDSCAPE ARCHITECTURE
 UNIVERSITY
 1200 Radford Street
 Christiansburg, Virginia 24073
 Phone: (540) 381-6011 Fax: (540) 381-2773
 Email: info@gayandneel.com

**Huckleberry Ridge
 Conceptual Master Plan**
 Montgomery County, Virginia

DESIGNED/CALC.:
 DATED: 01/11/11
 SCALE: 1"=200'
 DATE: 02/03/11
 JOB NO: 1571.4
 SHEET 3 OF 3



GENERAL NOTES:

- OWNER: HUCKLEBERRY RIDGE, LLC
- OWNER: HUCKLEBERRY RIDGE, LLC
- CONTRACT TORNOID A-1
- PROPOSED TORNOID 9-3, 9H-1
- TOTAL IMPROVED SITE AREA: 4,028 ACRES
- 9-3 TORNOID APPROX. AREA: 1,579 ACRES
- 9H-1 PHASE 1
- 9H-1 PHASE 2
- 9H-1 PHASE 3
- 9H-1 PHASE 4
- 9H-1 PHASE 5
- 9H-1 PHASE 6
- 9H-1 PHASE 7
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- 9H-1 PHASE 100

**Rezoning Justification
For the Property Located
Merrimac Rd/Hightop**

Tax Map #066A-91; 066A-92; 067A-42; 067A-229
Parcel ID#: 010585; 010584; 010583; 035616

1. Background

In accordance with the Montgomery County Zoning Ordinance, Huckleberry Ridge, LLC, the owners of property located at Merrimac Rd (S.R. 675)/Hightop Rd (S.R. 808), (consisting of approximately 62.3 acres) are seeking to rezone the property from A-1 to RM-1(+/- 47.3 acres) and R-3 (+/- 15.7 acres).

Bluestone Land, L.L.C.(William Park, its manager) is the contract purchaser and agent for the owner.

2. Concept Development Plan (see attached plan)

The site is undeveloped wooded land and partially cleared land. The Huckleberry Trail transects the northern portion of the property.

The Concept Development Plan for the proposed RM-1 zoning includes two phases. The first phase proposes a ten building 244-unit multi-family garden-style apartment complex with clubhouse and in-ground swimming pool. The second phase includes 144 multi-family garden-style units in six buildings. The proposed R-3 zoning proposes approximately 40 lots for single-family and/or two-family residential uses.

The RM-1 zoning designation *“provides for multiple-family residences and is for the purpose of accommodating the construction of townhouse developments and garden-type apartments in appropriate locations in order to provide convenient and compact residential neighborhoods, efficient provision of public facilities and services, and a range of housing prices, including moderate[ly] priced housing.”*

The R-3 zoning designation *“is intended to accommodate moderate density suburban residential uses to be served by public water and sewer facilities.”*

3. Comprehensive Plan Justification

The property is located within the area designated as Urban Expansion (PLU 1.8) in the 2025 Comprehensive Plan of Montgomery County.

“Urban Expansion Areas are the preferred location for new residential and nonresidential development occurring in the unincorporated areas of Montgomery County. These areas will accommodate a full range of residential unit types and densities.”

Additional items to be addressed:

- a. Compliance with required lot minimums, district minimums, and availability of water and sewer.

- The proposed development enhances the diversity, recognizes the quality of life, social, and environmental issues and enables the development of a livable, sustainable community. RRS 1.0
- e. Housing Resources
 - The proposed development promotes an affordable, safe, and livable neighborhood for all residents. HSG 1.0
 - The development will increase the availability of quality housing for moderate-income level residents. HSG 1.1
 - The plan provides for a range of residential uses with amenities, walkways, and trails to promote a sense of community and safety. HSG 1.3
- f. Educational Facility and Program Needs
 - The proposed development provides for growth within the Urban Expansion area as planned by the County. The County anticipates “stable and fairly constant population growth” with the population of residents under 18 at approximately 17% of the total population. (Educational Resources p.112)
 - Multi-family rental units appeal to a number of households including singles, young couples, families and “empty-nesters.” Data from the HUD/Census Bureau American Housing Survey (2007) confirms that there *considerably fewer* children per unit in multi-family rental units as compared to the number in single-family detached units. For multi-family developments with 20 or more rental units, there are 22.8 children per 100 multi-family households, compared to 58.8 children per 100 single-family detached households. (See Multi-Family Market Outlook NAHB 1/29/2009)
- g. Specific Criteria included in PLU 2.1.
 - a) *Location*: The property is located within an Urban Expansion Area.
 - b) *Public Utilities*: The proposed development can be served by public water and sewer (see letter from Montgomery County Public Service Authority dated April 16, 2010 attached) which confirms that public water and sanitary sewer can be made available to the property.
 - c) *Road Access*: The property has adequate and safe road access from Merrimac Road. Any necessary improvements will be provided by the applicant. Entrances onto existing public roads will be adequately spaced to provide safe access and maintain adequate capacity of the existing roadway. The applicant will dedicate any right-of-way necessary for future widening of such existing road.
 - d) *Public Facilities and amenities*: The concept development plan illustrates the entire property, showing future land uses, roads, walkways and trails, open spaces, public facility sites and the like.
 - e) *Inter-parcel access*: The concept plan shows one or more street connections to all adjoining properties that are not blocked by natural

- There will be no construction traffic through existing neighborhoods.
 - Schools are located approximately 5.5 miles north of the property, and no traffic impacts to the schools are anticipated.
- h) Whether a reasonably viable economic use of the subject property exists under the current zoning.
 - Due to existing land features, Owner/applicant has been unable to make a reasonably viable economic agricultural use of the property.
- i) The effect of the proposed rezoning on environmentally sensitive land or natural features, wildlife habitat, vegetation, water quality and air quality.
 - A Phase 1 Environmental Site Assessment conducted in August 2010 concluded that there were no environmental concerns on the proposed site.
 - Applicant plans to minimize impacts on natural features by phasing development of the property and limiting construction to approximately 45 acres.
- j) Whether the proposed rezoning encourages economic development activities in areas designated by the Comprehensive Plan and provides desirable employment and enlarges the tax base.
 - The proposed rezoning encourages economic development by enlarging the tax base with 388 multi-family units and approximately 40 single-family lots or 80 two-family attached lots, or combination thereof. These units will provide housing for residents (in a range of income levels) who work and shop in the community.
- k) Whether the proposed rezoning considers the needs of agriculture, industry, and businesses in future growth.
 - The proposed rezoning is for residential development consistent with the Comprehensive Plan.
- l) Whether the proposed rezoning considers the current and future requirements of the community as to land for various purposes as determined by population and economic studies.
 - The proposed plan is consistent with the land use goals of the Comprehensive plan.
- m) Whether the proposed rezoning encourages the conservation of properties and their values and the encouragement of the most appropriate use of land throughout the County.
 - The proposed rezoning is consistent with the goals of the Comprehensive Plan.
- n) Whether the proposed rezoning considers trends of growth or changes, employment, and economic factors, the need for housing, probable future economic and population growth of the county.
 - The proposed rezoning considers these trends and is designed to meet the need for moderate-income rental housing in the unincorporated areas of Montgomery County.



MONTGOMERY COUNTY
PUBLIC SERVICE AUTHORITY

Government Center
Suite 2I
755 Roanoke Street
Christiansburg, VA 24073-3185

Gary D. Creed, Chair
James D. Politis, Vice-Chair
Mary W. Biggs, Secretary-Treasurer
Annette S. Perkins, Member
William H. Brown, Member
John A. Muffo, Member
Douglas W. Marrs, Member

Robert C. Fronk, PE
PSA Director

April 16, 2010

Mr. Sean Beliveau
111 Cohee Road
Blacksburg, VA 24060

RE: Availability No. 10-32
Residential Development
Hightop & Merrimac Roads
Tax Map No. 66-A 91, 66-A 92 & 67-A 229
Parcel ID 010585, 010584 & 035616
Water/Sewer

Dear Mr. Beliveau:

Public water and sanitary sewer can be made available to this proposed 250-lot residential subdivision at the corner of Hightop & Merrimac Roads, Tax Map No. 66-A 91, 66-A 92 & 67-A 229.

Public water service would require a minimum eight-inch water line extension to a point adjacent to all lots of this proposed development from the existing twelve-inch water main located along the opposite side of Merrimac Road adjacent to the subject property and/or the existing eight-inch water line on the opposite side of Hightop Road adjacent to the northeastern property corner of the subject property. The hydraulic grade line of the water system is 2284 feet MSL. The water facility fee would be \$2,500.00, the connection fee would reduce to the meter cost of \$225.00 and the water service inspection fee is \$25.00 for total water connection fee of \$2,750.00 per each residential unit. *Please be advised that the current PSA water service area does not include the southern quarter of the subject property and unless the agreement is modified, water service would not be available to this area of the subject property.*

Sanitary sewer service will require a sewer main extension to a point adjacent to all lots of this proposed development from the existing public sewer located within a public easement along the Huckleberry Trail and northern property line of the subject property. The sewer facility fee would be \$3,000.00 and sewer service inspection fee is \$25.00 for total sewer connection fee of \$3,025.00 per each residential unit.

The water and sewer facilities must be designed to PSA standards by an engineer and approved by the PSA prior to construction. The owner would be required to obtain public easements for all portions of the water and sewer line extensions in private property. The owner would be responsible for the cost of the water and sewer line extensions, any necessary water system appurtenances, public easements, highway permits, and any other associated requirements. These designs should be incorporated into the site development plans for this development and submitted to the PSA for review. Payment of twenty-five percent of the water and sewer facility fees for all units of the development would be required prior to approval of the site plan.

ADMINISTRATIVE OFFICES: (540) 381-1997
BILLING & COLLECTIONS: (540) 382-6930
FAX NO. (540) 382-5703

Multifamily Market Outlook - 01/29/2009 (Plain Text Version)

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In this issue:

[New Data Confirms Low Number of School-Aged Children in Multifamily](#)
[Multifamily Starts Drop, Despite Decline in Single Family Production](#)
[Competition from Vacant Properties Puts Pressure on Rents](#)
[2009 Economic Strife Could Make Record History](#)
[MFSI in Negative Territory Three Months in a Row](#)

New Data Confirms Low Number of School-Aged Children in Multifamily

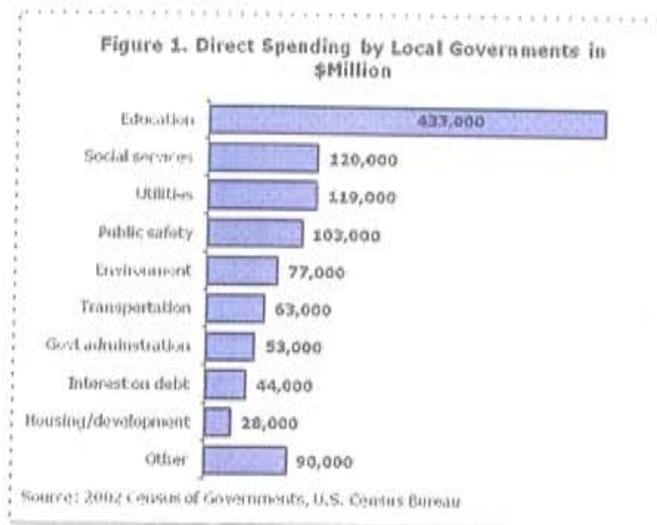
Building new multifamily housing tends to increase local demand for public education, but the real question is by how much. Results published in NAHB's Multifamily Market Outlook in 2004 showed that there were, at that time, considerably fewer children per unit in multifamily housing compared to the number in single family detached units.

Those results were based on the HUD/Census Bureau American Housing Survey (AHS). It's now possible to revisit this issue and see if the single family/multifamily results can be replicated using a new data source—the American Community Survey (ACS), an ongoing annual survey conducted by the Census Bureau that is designed to replace the long form decennial Census questionnaire. Compared to the AHS, the ACS produces data more frequently (every year instead of every other year) and is based on a much larger sample. The weakness of the ACS is that it contains relatively little information on specific characteristics of multifamily and other types of housing units.

Nevertheless, the ACS contains enough information that it can be used to investigate the number of school-aged children in different categories of housing of units. Results from the most recent ACS data available (2007) are consistent with the AHS results reported in 2004. Per unit, households living in multifamily buildings tend to have fewer children than other types of housing structures, and the number of school-age children tends to be particularly low in larger multifamily structures, and in multifamily condominiums.

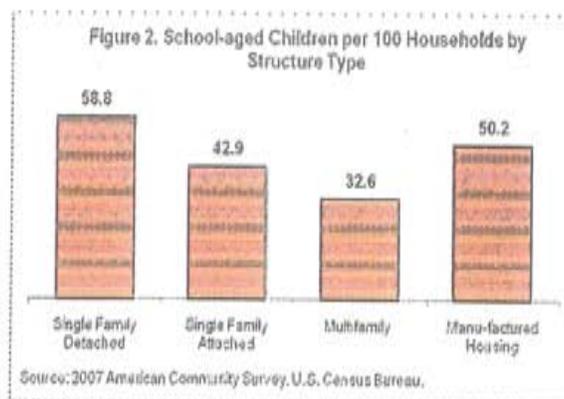
Public Education Budget

Education generally accounts for the largest share of local government budgets. Across all local governments in the U.S., the expenditure on public education is about \$433 billion—far more than other major categories such as social services, utilities, public safety, and transportation, etc., according to the 2002 Census of Governments (Figure 1). During the fiscal year 2001 to 2002, local governments in the U.S. spent a little over 1.1 trillion in total, and the largest share is on public education. Among the \$433 billion on education, \$407 billion is spent on elementary and secondary schools. Even the second largest budget item—social services—only account for \$120 billion dollars. In contrast, only \$28 billion is spent on housing and community development.



Although residential development has an impact on the demand for public education, it is important to remember that school enrollment can also rise as a result of natural population growth or households with different numbers of school-age children moving into and out of existing units. Moreover, there are many other factors that tend to mitigate the impact of new residential construction on local school system. For one, in most parts of the country, when new households move into an area, school districts typically receive additional state and federal government aid.

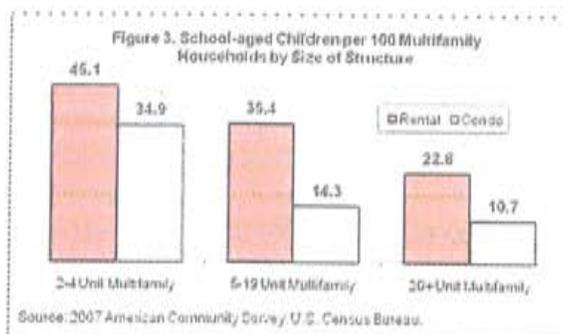
Also, some parents choose to send their children to private schools. According to the National Center for Education Statistics (NCES), there are about 11% children enrolled in private elementary and secondary schools nationally in 2005, and this percentage is projected to be quite stable in 2006 and 2007 as well. Since local



Within the category of multifamily housing, larger apartment buildings tend to have fewer number of school-age children on average than small, garden-style apartments. There are about 43.1 school-age children per 100 households in structures with 2 to 4 units, compared to 33.1 in multifamily structures with 5 to 19 units, and 20.8 in 20+ unit structures.

Renters Compared to Owners

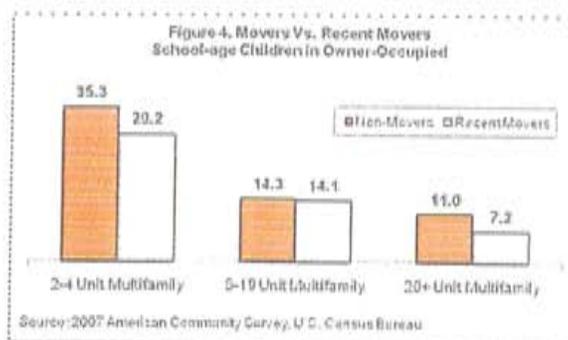
Within a given structure type, renters have more children than owners, but the magnitude of the difference varies by structure type (Figure 3). In multifamily buildings with 2 to 4 units, there are 45.1 school-age children per 100 renter households and only 34.9 per 100 owner households. In multifamily buildings with 5 to 19 units, these numbers become 35.4 per 100 renter households versus 14.3 per 100 owner households. Fewer numbers of school-age children exist in 20+ unit multifamily buildings. A similar pattern is observed in other structure types such as single family detached, single family attached and manufactured housing.



As noted above, there tends to be fewer children per household in larger apartment buildings. If this is combined with the effect of ownership status, it produces an even larger spread between 45 children per 100 renters in 2 to 4 unit multifamily buildings and fewer than 11 per 100 owners of condos in 20+ unit buildings.

Recent Movers

In multifamily structures, households who stay put tend to have more school-age children than households that have moved in recently (Figures 4 and 5). This is not generally true for other structure types, however. Recent movers into single-family detached homes have, on average, 67.9 school-age children, which is much larger than 57.9 per 100 non-movers in single family detached homes.







**MONTGOMERY COUNTY
PUBLIC SERVICE AUTHORITY**

**Government Center
Suite 21
755 Roanoke Street
Christiansburg, VA 24073-3185**

Gary D. Creed, Chair
John A. Muffo, Vice-Chair
Mary W. Biggs, Secretary-Treasurer
Annette S. Perkins, Member
William H. Brown, Member
James D. Politis, Member
Douglas W. Marrs, Member

Robert C. Fronk, PE.
PSA Director

April 8, 2011

Mr. Sean Beliveau
111 Cohee Road
Blacksburg, VA 24060

RE: Availability No. 10-32A
Residential Development
Hightop & Merrimac Roads
Tax Map No. 66-A 91, 66-A 92 & 67-A 229
Parcel ID 010585, 010584 & 035616
Water/Sewer

Dear Mr. Beliveau:

Public water and sanitary sewer can be made available to this proposed residential subdivision at the corner of Hightop & Merrimac Roads, Tax Map No. 66-A 91, 66-A 92 & 67-A 229. *This letter is to update Availability Letter 10-32 issued April 16, 2010 which requested water and sewer availability for 250 units on the subject property.*

Public water service would require a minimum eight-inch water line extension to a point adjacent to all lots of this proposed development from the existing twelve-inch water main located along the opposite side of Merrimac Road adjacent to the subject property and/or the existing eight-inch water line on the opposite side of Hightop Road adjacent to the northeastern property corner of the subject property. Per existing water service agreements and current water system customer demands, remaining water capacity is only currently available for 325 residential units. The hydraulic grade line of the water system is 2284 feet MSI. The water facility fee would be \$2,500.00, the connection fee would reduce to the meter cost of \$225.00 and the water service inspection fee is \$25.00 for total water connection fee of \$2,750.00 per each residential unit. ***Please be advised that the current PSA water service area does not include the southern quarter of the subject property and unless the agreement is modified, water service would not be available to this area of the subject property.***

Sanitary sewer service will require a sewer main extension to a point adjacent to all lots of this proposed development from the existing public sewer located within a public easement along the Huckleberry Trail and northern property line of the subject property. Per the existing sewer service agreement and current system customer demands, remaining sewer capacity is currently only adequate to serve an additional 310 residential units. *However, additional sewer capacity can be purchased at the developer's expense for an additional 150 residential units (total of 460 residential units).* The sewer facility fee would be \$3,000.00 and sewer service inspection fee is \$25.00 for total sewer connection fee of \$3,025.00 per each residential unit.

ADMINISTRATIVE OFFICES: (540) 381-1997
BILLING & COLLECTIONS: (540) 382-6930
FAX NO. (540) 382-5703

Page Two
Mr. Sean Beliveau
April 8, 2011

The water and sewer facilities must be designed to PSA standards by an engineer and approved by the PSA prior to construction. The owner would be required to obtain public easements for all portions of the water and sewer line extensions in private property. The owner would be responsible for the cost of the water and sewer line extensions, any necessary water system appurtenances, public easements, highway permits, and any other associated requirements. These designs should be incorporated into the site development plans for this development and submitted to the PSA for review. Payment of twenty-five percent of the water and sewer facility fees for all units of the development would be required prior to approval of the site plan.

This letter and stated fees are only valid to October 1, 2011.

Please be advised that all PSA water and sewer systems have a fixed number of available connections. Water and sewer capacity is reserved by payment of facility fees, provided service is currently available to the subject property.

Also be advised that this development must also meet all Montgomery County Planning and Zoning Department requirements. The availability of water and sanitary sewer facilities does not by itself authorize the development of this property.

If you have questions or need additional clarification on the above information, please contact me at 381-1997.

Sincerely,



Robert C. Fronk, PE
PSA Director

cc: Montgomery Co. Planning Dept.



**MONTGOMERY COUNTY
PUBLIC SERVICE AUTHORITY**

**Government Center
Suite 21
755 Roanoke Street
Christiansburg, VA 24073-3185**

April 16, 2010

Gary D. Creed, Chair
James D. Politis, Vice-Chair
Mary W. Biggs, Secretary-Treasurer
Annette S. Perkins, Member
William H. Brown, Member
John A. Muffo, Member
Douglas W. Marrs, Member

Robert C. Fronk, PE
PSA Director

Mr. Sean Beliveau
111 Cohee Road
Blacksburg, VA 24060

FILE COPY

RE: Availability No. 10-32
Residential Development
Hightop & Merrimac Roads
Tax Map No. 66-A 91, 66-A 92 & 67-A 229
Parcel ID 010585, 010584 & 035616
Water/Sewer

Dear Mr. Beliveau:

Public water and sanitary sewer can be made available to this proposed 250-lot residential subdivision at the corner of Hightop & Merrimac Roads, Tax Map No. 66-A 91, 66-A 92 & 67-A 229.

Public water service would require a minimum eight-inch water line extension to a point adjacent to all lots of this proposed development from the existing twelve-inch water main located along the opposite side of Merrimac Road adjacent to the subject property and/or the existing eight-inch water line on the opposite side of Hightop Road adjacent to the northeastern property corner of the subject property. The hydraulic grade line of the water system is 2284 feet MSL. The water facility fee would be \$2,500.00, the connection fee would reduce to the meter cost of \$225.00 and the water service inspection fee is \$25.00 for total water connection fee of \$2,750.00 per each residential unit. ***Please be advised that the current PSA water service area does not include the southern quarter of the subject property and unless the agreement is modified, water service would not be available to this area of the subject property.***

Sanitary sewer service will require a sewer main extension to a point adjacent to all lots of this proposed development from the existing public sewer located within a public easement along the Huckleberry Trail and northern property line of the subject property. The sewer facility fee would be \$3,000.00 and sewer service inspection fee is \$25.00 for total sewer connection fee of \$3,025.00 per each residential unit.

The water and sewer facilities must be designed to PSA standards by an engineer and approved by the PSA prior to construction. The owner would be required to obtain public easements for all portions of the water and sewer line extensions in private property. The owner would be responsible for the cost of the water and sewer line extensions, any necessary water system appurtenances, public easements, highway permits, and any other associated requirements. These designs should be incorporated into the site development plans for this development and submitted to the PSA for review. Payment of twenty-five percent of the water and sewer facility fees for all units of the development would be required prior to approval of the site plan.

ADMINISTRATIVE OFFICES: (540) 381-1997
BILLING & COLLECTIONS: (540) 382-6930
FAX NO. (540) 382-5703

Page Two
Mr. Sean Beliveau
April 16, 2010

This letter and stated fees are only valid to May 1, 2011.

Please be advised that all PSA water and sewer systems have a fixed number of available connections. Water and sewer capacity is reserved by payment of facility fees, provided service is currently available to the subject property.

Also be advised that this development must also meet all Montgomery County Planning and Zoning Department requirements. The availability of water and sanitary sewer facilities does not by itself authorize the development of this property.

If you have questions or need additional clarification on the above information, please contact me at 381-1997.

Sincerely,

A handwritten signature in black ink, appearing to read 'R. Fronk', written in a cursive style.

Robert C. Fronk, PE
PSA Director

cc: Utility Billings
Montgomery Co. Planning Dept.

10-32 1750

Montgomery County Public Service Authority
Water/Sewer Availability Application

Date: 4/2/10

beliveau1@aol.com

Applicant: Sean Beliveau

Mailing Address: 111 Cohen Road

Blacksburg VA 24060

Phone: 540 449 1579

Cell: ''

Fax: _____

Property Address: Corner of Hightop Rd & Merrimac Rd

Tax Map Number(s): 66-A-91; 67-A-229; 66-A-92

Development (Subdivision) Name: Huckleberry Ridge

Single Residential, Duplex, Multi-Residential, Mobile Home Park, Subdivision, or Commercial Facility? 250 Multi family units

Water Meter Size Requested: Yes

Sewer Lateral Size Requested: Yes

**COMPLETE THE FOLLOWING FOR
NON-RESIDENTIAL AND MULTI-RESIDENTIAL SERVICES**

Domestic Flow Required? GPM

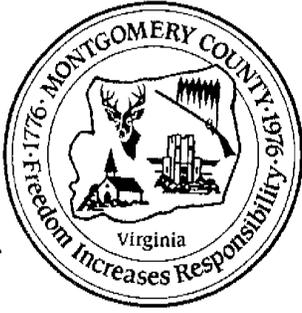
** (Attach completed "Sizing Water Service Lines and Meters" Form AND "Non-Residential Sanitary Sewer Checklist", blank forms available on website under "Engineer's section".)

Is Building to be Sprinkled? Yes No

Minimum Fire Flow Required? GPM

Return to Robert Fronk; Phone: (540)381-1997; Fax: (540)382-5703
Postal Mail: 755 Roanoke Street, Suite 2-I, Christiansburg, VA 24073
fronkrc@montgomerycountyva.gov

Acct# 010584, 010585, 035616
066-A-92, 066-A-91, 067-A-229



MONTGOMERY COUNTY DEPARTMENT OF
PLANNING & GIS SERVICES

PLANNING
GIS & MAPPING

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

April 7, 2011

TO: Planning Commission Members
FROM: Brea Hopkins, Planning & Zoning Technician *BH*
RE: Proposed Ordinance Amendments to Section 10-45 Sign Regulations

Staff has been working on amendment(s) to Section 10-45, Sign regulations, identified below. Enclosed are copies of the proposed amendment(s) in ordinance form.

- Section 10-45 (a)
 - An amendment to add regulations regarding LED/Changeable Message Signs
- Section 10-45(b)(2) Sign Matrix
 - Amend the matrix to allow directory signage and incorporate the proposed TND-I and TND-PUD districts
- Section 10-45(b)(3) Supplemental sign regulations
 - Amendment to Apply allowances for "shopping centers" regardless of the amount of retail space and add size limitations for walls up to one thousand (1,000) square feet.
 - Amendment to add regulations for Mixed-use development & business parks
 - Amendment to allow off-premise signs for semipublic uses, community signs, subdivision signs, and signs for church, chapel, synagogue, temple or other place of worship
- Section 10-45(c)(g)(2) Administration- Special Use Permits
 - An amendment to allow the BZA to grant a special use permit to allow an increase in sign area
- Section 10-45
 - An amendment correct numerical errors

Currently, staff is requesting suggestions or comments regarding the proposed ordinance amendments. Upon consensus of the planning commission the amendments will be advertised for public hearings to be held in May.

Please contact me should you need any additional information regarding this matter.

Attachments: Draft Ordinance Amendments

Sec. 10-45. Sign regulations.

(a) *General provisions.*

- (1) *Purpose.* The purpose of these regulations is to regulate all signs placed for exterior observance, thus ensuring the conservation of property values, the consideration of the character of the various communities, the protection of safety and welfare of pedestrians and wheeled traffic, the provision of convenience to citizens and the encouragement of economic development. A sign placed on land or on a building for the purpose of identification, protection or directing persons to a use conducted therein is intended to be an integral but accessory and subordinate part of the principal use of land or building.

These regulations are intended to promote signs that are appropriate to the activity to which they pertain and are constructed and maintained in a structurally sound and attractive condition.

The regulations of this chapter are not intended to interfere with, abrogate or annul any law of the state relating to outdoor advertising nor to prevent application of the county's higher/stricter regulations.

- (2) *Permits required.* A sign permit is required prior to the display and erection of any sign unless it is excepted in subsection (3).
- (3) *Permits not required.*
- a. Signs of a constituted governmental body, including traffic signs and signals, directional signs and regulatory signs.
 - b. National or state flags or flags of other political units or of any civic, charitable, educational, philanthropic or similar group or movement; provided, that no freestanding pole shall be erected in the public right-of-way nor be within five (5) feet of a service drive, travel lane or adjoining street.
 - c. Legal devices or warnings at railroad crossings.
 - d. Freestanding signs or signs attached to a structure or tree, no more than one and one-half (1 1/2) square feet in area, to warn the public against hunting, fishing, trespassing, dangerous animals, swimming, the existence or danger or such, when placed on the periphery of the property or at a location where the warning is necessary.
 - e. Directional signs.
 - f. The changing of messages on marquees and the repair of an existing permitted sign.
 - g. Temporary signs as defined and as specified herein may be used in every zoning district unless otherwise prohibited:
 1. One (1) contractor's sign per job site, no more than twelve (12) square feet in area, located on the property on which the work is being done.

2. One (1) real estate sign per lot, advertising the sale, rental or lease of the premises, or part of the premises on which the sign is displayed, no more than twelve (12) square feet in area.
 3. Official notices or advertisements posted or displayed by or under the direction of any public or court officer in the performance of official or directed duties; provided, that all such signs shall be removed no more than ten (10) days after their purpose has been accomplished.
 4. Political campaign signs, no more than twelve (12) square feet in area, on any privately owned lot or parcel.
 5. Temporary signs, no more than twelve (12) square feet, announcing a campaign drive or an event of a civic, philanthropic, educational or religious organization; provided, that the sponsoring organization shall ensure proper and prompt removal of such sign within five (5) days after drive or event.
 6. Temporary signs, no more than twelve (12) square feet in area, featuring such announcements as "Grand Opening," "Under New Management" or "Going Out of Business"; provided, they are displayed for no longer than thirty (30) days and removed on the thirty-first day.
 7. Window signs advertising weekly specials or special services offered for a limited time by a business establishment and then promptly removed.
- (4) *Prohibited signs.* All signs not specifically permitted are prohibited, including, but not limited to, the following:
- a. Moving signs of which all or any parts move by any means, including, but not limited to, ~~flashing~~ or rotating signs, propellers, discs and such, but excluding pennants and signs indicating time and temperature. This prohibition shall not apply to the hands of a clock, a weathervane or flags as provided in subsection (3) or to LED/Changeable Message signs as provided in subsection (11).
 - b. Any sign that uses the word "stop" or "danger" or otherwise presents or implies the need or requirement to stop or cautions of the existence of danger or which is a copy of, imitation of or which for any reason is likely to be confused with any sign displayed or authorized by a public authority.
 - c. Any nonshielded illumination of a sign within two hundred (200) feet of an A-1, C-1, R or PD-RES district.
 - d. Illuminated tubing or strings of lights solely for the purpose of illumination, except when displayed as decorations during the months of November through January. This includes any lighting arrangement which outlines any portion of a building or structure by exposed tubing or strings of light.
 - e. Any sign that violates any provision of the Montgomery County Code, Buildings and Structures or the Virginia Uniform Statewide Building Code.
 - f. Any sign that is attached to a tree, except official notices or announcements as provided in subsection (3).

- g. Any sign that is attached to a utility pole, rock, curbstone, sidewalk, lamppost, hydrant, bridge, highway marker or other signs, except official notices or announcements as provided in subsection (3).
 - h. Any sign that projects beyond a lot line.
 - i. Any sign not meeting sign setback regulations or within any public right-of-way.
 - j. Any sign that overhangs and has a minimum clearance of less than ten (10) feet above a walkway or fifteen (15) feet above a driveway, alley or travel lane.
 - k. Any sign located in the vision triangle formed by any two (2) intersecting streets, or of a commercial entrance and a public street as regulated by section 10-41(11) provisions.
 - l. Roof signs.
 - m. Any sign erected to a height higher than the maximum building height allowed in the respective zoning district.
 - n. Any sign which projects more than four (4) feet from the building to which it is attached, or extends above the roof line.
- (5) *Measurement of sign area, allowable sign area.*
- a. Measurements of sign area: The area of a sign shall be that contained within the outside measurement of the perimeter of the display area of the sign, the total area of which is in the smallest square or squares, rectangle or rectangles, triangle or triangles which will contain the entire sign including lighting but excluding supports or sign background whether lighted or not. The area of a sign with two (2) sign faces shall be computed according to the following:
 - 1. If the sign faces are separated by an interior angle of forty-five (45) degrees or greater, all faces shall be included in computing the area of the sign.
 - 2. If the sign faces are separated by an interior angle that is less than forty-five (45) degrees, the area of one (1) face shall be used when the two (2) faces are equal in area. The area of the larger face shall be used when the two (2) faces are unequal in area.
 - 3. If the sign faces are parallel to one another, the area of one (1) face shall be used when the interior distance or space between the two (2) faces is eighteen (18) inches or less. The area of all faces shall be used when the interior distance or space between the two (2) faces is greater than eighteen (18) inches.
 - b. Measurement of allowable sign area: Supports, uprights or structures on which any sign is supported shall not be included in determining the sign area unless such supports, uprights or structure are designed in such a way as to form an integral background of the display; except, however, when a sign is placed on a fence, wall, planter, or other similar structure that is designed to serve a separate purpose other than to support the sign, the entire area of such structure shall not be computed. In such cases, the sign area shall be computed in accordance with the preceding provisions. In instances where there are multiple tenants or users

on a property or in a building, allowable sign area for all parties shall not exceed the maximum sign area computed as if there were a single tenant or user.

(6) *Nonconforming signs.*

- a. No nonconforming sign shall be enlarged nor be worded so as to advertise or identify any use other than that in effect at the time it became a nonconforming sign.
- b. Signs lawfully existing on the effective date of this chapter or prior ordinances, which do not conform to the provisions of this chapter, and signs which are accessory to a nonconforming use shall be deemed to be nonconforming signs and may remain except as qualified below. Such signs shall not be enlarged, extended or structurally reconstructed or altered in any manner, except a sign face may be changed so long as the new face is equal to or reduced in height and/or sign area. The burden of establishing nonconforming status of signs and of the physical characteristics/location of such signs shall be that of the owner of the property. Upon notice from the zoning administrator, a property owner shall submit verification that sign(s) were lawfully existing at time of erection. Failure to provide such verification shall be cause for order to remove sign(s) or bring sign(s) into conformance with current ordinance.
- c. Nothing in this section shall be deemed to prevent keeping in good repair a nonconforming sign; provided, however, that no nonconforming sign which has been declared by the zoning administrator to be unsafe because of its physical condition, as provided for in this chapter, shall be repaired, rebuilt or restored unless such repair or restoration will result in a sign which conforms to all applicable regulations.
- d. No nonconforming sign shall be moved for any distance on the same lot or to any other lot unless such change in location will make the sign conform to the provisions of this article.
- e. If a nonconforming sign is removed, the subsequent erection of a sign shall be in accordance with the provisions of this article.
- f. A nonconforming sign that is destroyed or damaged by any casualty to an extent not exceeding fifty (50) percent of its replacement value may be restored within two (2) years after such destruction or damage but shall not be enlarged in any manner. If such sign is so destroyed or damaged to an extent exceeding fifty (50) percent, it shall not be reconstructed except for a sign which would be in accordance with the provisions of this article.
- g. A nonconforming sign that is destroyed or damaged by any casualty to an extent not exceeding fifty (50) percent of its appraised value may be restored within two (2) years after such destruction or damage but shall not be enlarged in any manner. If such sign is so destroyed or damaged to an extent exceeding fifty (50) percent, it shall not be reconstructed except for a sign which would be in accordance with the provisions of this article.

- h. A nonconforming sign which is changed to or replaced by a conforming sign shall no longer be deemed nonconforming, and thereafter such sign shall be in accordance with the provisions of this article.
 - i. A nonconforming sign shall be subject to the removal provisions of section 10-47. In addition, a nonconforming sign shall be removed if the structure to which it is accessory is demolished or destroyed to an extent exceeding fifty (50) percent of its appraised value.
 - j. The ownership of the sign or the property on which the sign is located shall not, in and of itself, affect the status of a nonconforming sign.
- (7) **Setback.** Minimum setback from public right-of-way for all signs shall be ten (10) feet. Signs are not permitted in required side yards.
- (8) **Maximum height.** Signs shall not be greater in height than the building upon which it is mounted. If freestanding and at existing grade, then signs shall not be greater than twelve (12) feet in height. Signs not at existing grade shall not exceed twelve (12) feet in height if ground mounted nor fifteen (15) feet if pole mounted, inclusive of berm, above edge of pavement adjacent to such sign. In cases where normal grade cannot reasonably be determined, sign height shall be computed on the assumption that the elevation of the normal grade at the base of the sign is equal to the elevation of the nearest point of the crown of a public street or the grade of the land at the principal entrance to the principal structure on the premises, whichever is lower. If the land is uneven, an average elevation will be used at the base of the sign. Signs on penthouses, cooling towers or other rooftop appendages are prohibited.
- (9) **Lighting.** All lighting for signs shall not cause a glare onto adjacent properties or oncoming traffic.
- (10) **Monument signs.** The base of a monument sign is the structure or apparent structure in direct contact with the ground that supports or appears to support the message portion of a monument sign. All monument signs shall have a minimum base height of eighteen (18) inches and a maximum of four (4) feet. The width of the base shall not exceed twice the height of the total structure and shall not extend more than one (1) foot beyond either outside edge of the message portion of the sign. The minimum width of the base shall be one-half the width of the message portion of the sign.
- (11) LED/Changeable Message. For signs with changeable message panels or zip tracks, the changeable message area of the sign shall meet the following requirements:
- a. The message shall not change more frequently than once every five (5) seconds, entry and exit modes shall be consistent for all frames, with the exception of signs that indicate the temperature or time by digital displays.
 - b. The message shall have no image(s) and/or message(s) which continually, intermittently or regularly change, flash, blink, flicker, or flutter.
 - c. The changeable message area of the sign shall not exceed 25 percent of the total sign area, except for gasoline price signs which shall not exceed 75 percent of the total sign area.

(b) *Permitted signs by use and district.*

(1) *Number of signs, aggregate sign area.* Except for business and general advertising signs or unless otherwise provided, these regulations shall be interpreted to permit one (1) sign for each permitted use on the lot or premises. For business and general advertising signs, these regulations shall be interpreted as the maximum aggregate area of such signs permitted on the lot or premises subject to the following requirements:

- a. No more than one (1) freestanding sign shall be erected on any one (1) lot or premises with the exception of shopping centers, mixed-use developments, business parks.
- b. Where two (2) or more individual businesses share a common lot or premises it is the responsibility of the property owner to allocate sign sizes in conformance with the maximum aggregate area requirements listed within the sign matrix at subsection (b)(2), following herein.

(2) *Sign matrix.* The following sign matrix indicates the type and maximum aggregate sign area (in square feet) of signs permitted in each zoning district. With the exception of special districts, if the sign matrix gives no numerical value, then the indicated type of sign is not permitted in the indicated zoning district:

Sign	Zoning District										
	C-1	A-1	R-R	R-1, R-2	R-3	RM-1	CB, GB	M-1, M-L	PIN, PMR, RSE and All PUD**	TND-I	TNL PUD
Business		20	20				50*	50		<u>40</u>	<u>40</u>
Church	50	50	50	50			50			<u>40</u>	<u>40</u>
Identification	6	6	6	6	6	6	6	6	6	<u>6</u>	<u>6</u>
Home occupation	4	4	4	4	4				4	<u>4</u>	<u>4</u>
General advertising							100*	300			
Location/direction	4	4				<u>10</u>	10	10		<u>4</u>	<u>4</u>
<u>Directory</u>						<u>24</u>	<u>24</u>	<u>24</u>		<u>24</u>	<u>24</u>
Farm identification	25	25	25								
Residential project***		24	24	24	24	24				<u>24</u>	<u>24</u>

Temporary	6	6	6	6	6	6	32	32	6		
table							32	32			

TABLE INSET:

*If there are no general advertising signs on the premises, then the maximum aggregate area of all business signs permitted is increased to one hundred fifty (150) square feet.

**Size and type of signs will be as for most similar base district or variations as determined by the board of supervisors at time of rezoning and incorporated in approved development plans.

***Residential project to include subdivision, multifamily housing and planned mobile home park signs.

(3) *Supplementary sign regulations.*

- a. *Shopping centers:* In addition to all other permitted signs, shopping centers with ~~more than one hundred thousand (100,000) square feet of retail space under one (1) roof~~ may have wall signs to identify tenants occupying at least twenty-five thousand (25,000) square feet of floor space subject to the following:
 1. Permitted wall signage size shall not include permitted business locations signs of ten (10) square feet or less;
 2. For walls up to one thousand (1,000) square feet, one wall sign per tenant shall be permitted provided the maximum size of the permitted wall signs shall not exceed twenty (20) square feet.
 - 2.3. For walls greater than one thousand (1,000) square feet and up to six thousand (6,000) square feet, the maximum size of the permitted wall signs shall be the cumulative of either five (5) percent of the area of the wall or two hundred (200) square feet, whichever is smaller; or
 - 3.4. For walls over six thousand (6,000) square feet in size, the maximum size of the permitted wall signs shall be the cumulative of either two hundred (200) square feet plus two (2) percent of the area of the wall over six thousand (6,000) square feet or three hundred (300) square feet, whichever is smaller;
 - 4.5. No more than one (1) freestanding sign shall be erected for each abutting public street frontage in a shopping center;
- b. *Medical facilities:* In addition to other permitted signs, medical facilities approved with a special use permit may be permitted a business sign with aggregate area of one hundred (100) square feet and both identification and location/directions signs with sign areas of twenty-four (24) square feet each.
- c. *Subdivision, multifamily housing, planned mobile home park:* One (1) sign per principal street entrance to a development (not to exceed two (2) signs per development) shall be permitted with a aggregate sign area not to exceed twenty-four (24) square feet and a maximum height not to exceed eight (8) feet.
- d. ~~{CB or GB district sign area bonus.}~~ A twenty (20) percent sign area bonus may be permitted in CB or GB districts in specific instances where two (2) or more businesses on separate lots existing at time of adoption of this chapter: (1) decrease the number of signs otherwise allowed through sharing, and (2) assure

that a decrease occurs in the number of entrances to the primary highway already existing or permitted.

e. *Mixed-use developments & business parks:* Properties or establishments located within mixed use development or business park shall be permitted the following:

1. One (1) monument sign per each principal entrance identifying the occupants in addition to an allowed freestanding sign. Each sign shall have a minimum base height of eighteen (18) inches and a maximum of four (4) feet. The width of the base shall not exceed twice the height of the total structure and shall not extend more than one (1) foot beyond either outside edge of the message portion of the sign. The minimum width of the base shall be one-half the width of the message portion of the sign.

2. Developments located on a single parcel with three (3) or more separate occupants shall be permitted a twenty (20) percent sign area bonus to be allocated toward wall or monument signs.

f. *Signs for semipublic use, community signs, subdivision signs, and signs for church, chapel, synagogue, temple or other place of worship.* One (1) off-premise sign is permitted per subdivision, community, or use subject to the following requirements:

1. The sign shall not exceed 24 square feet in area.

2. A perpetual easement shall be recorded and a copy submitted to the zoning administrator prior to the issuance of a sign permit. The easement shall identify the entity responsible for maintaining the sign per subsection (d).

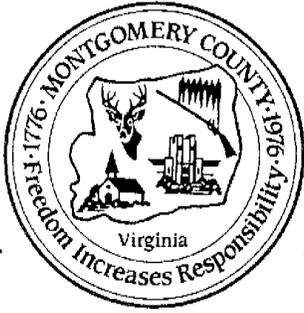
(c) *Administration.*

- a1. Permit requirements: Except as otherwise provided herein, no sign shall be erected, altered, refaced or relocated unless a sign permit has been approved by the zoning administrator.
- b2. Application: The application for a sign permit shall be filed with the zoning administrator on forms furnished by the county. The application shall contain the identification and address of the property on which the sign is to be erected; the name and address of the sign owner and of the sign erector; drawings showing the design, dimensions and location on the building/site of the sign; and such other pertinent information as the zoning administrator may require to ensure compliance with the provisions of this chapter and other applicable ordinances of the county.
- e3. Permit expiration: A sign permit shall expire and become null and void if the sign is not erected within a period of twelve (12) months from the date of the permit. In the event the sign is not erected within the twelve-month period, an application for extension of an additional six-month period may be made to the zoning administrator. Such an extension may be granted if the proposed sign is in accordance with current applicable regulations. If the proposed sign is not in accordance, the application for an extension shall be denied.

- d4. Issuance: Sign permits shall be issued by the zoning administrator.
- e-5. Fee: A fee, as established according to section 10-52 shall be paid prior to the issuance of a sign permit. Under no circumstances are permit fees refundable.
- f-6. Permit number: Any sign erected under permit shall indicate in the lower right hand corner of the sign the number of the permit. The permit number shall be so affixed that it is legible from the ground.
- g7. Special use permits:
 - 1a. The BZA may grant a special use permit to allow an increase in the height of a sign where, in its opinion, the provisions of this article would cause a hardship by virtue of topography. The purpose of such a permit shall be to allow as much, but not more, visibility as the sign would have if located on level ground.
 - b. The BZA may grant a special use permit to allow an increase in sign area where, in its opinion, the size of the development, topography of the parcel, or other physical limitation would restrict visibility of the sign.
 - 2c. The BZA or the board of supervisors, as part of an approving action for a special use permit, may impose stricter sign requirements as condition of approval.

(2d) *Maintenance and removal.*

- a.(1) All signs shall be constructed in compliance with the Virginia Uniform Statewide Building Code.
- b.(2) All signs and components thereof shall be maintained in good repair and in a safe, neat and clean condition.
- e.(3) The building official may cause to have removed or repaired immediately without written notice any sign which, in the building official's opinion, has become insecure, in danger of falling, or otherwise unsafe, and, as such, presents an immediate threat to the safety of the public. If such action is necessary to render a sign safe, the cost of such emergency removal or repair shall be at the expense of the owner or lessee thereof.
- d.(4) Any sign which is obsolete, because of discontinuance of the subject's activity or any other reason which would cause the sign to be obsolete, shall be removed within thirty (30) days.
- e.(5) Any sign located on property which becomes vacant and is unoccupied for a period of two (2) years or more shall be deemed abandoned. An abandoned sign shall be removed by the owner or lessee of the property. If the owner or lessee fails to remove the sign, the zoning administrator shall give the owner fifteen (15) days' written notice to remove it. Upon failure to comply with this notice, the zoning administrator may initiate such action as may be necessary to gain compliance with this provision.



MONTGOMERY COUNTY DEPARTMENT OF
PLANNING & GIS SERVICES

PLANNING
GIS & MAPPING

755 ROANOKE STREET, SUITE 2A, CHRISTIANSBURG, VIRGINIA 24073-3177

MEMORANDUM

April 7, 2011

TO: Planning Commission Members
FROM: Brea Hopkins, Planning & Zoning Technician *BH*
RE: Prices Fork Elementary Safe Route to Schools

As a project for an independent study class at Radford University, I have studied the Prices Fork Elementary School site and the feasibility of the development of a "Safe Route to School" program. The "Safe Route to School" program is part of an overall implementation plan for the Village of Prices Fork.

At this time there are no current plans to move forward with the project; therefore, this project is meant to serve as a guideline in the future when the time is appropriate.

A summary report with maps depicting potential routes and phasing of developments, as well as existing conditions in the area will be submitted to the Planning Commission at the April 13th meeting.



COMMONWEALTH of VIRGINIA

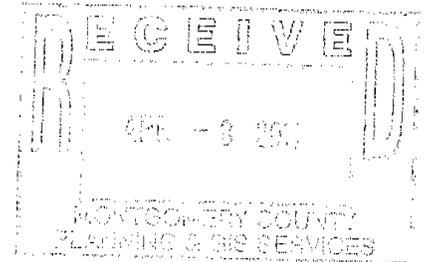
DEPARTMENT OF TRANSPORTATION

PO Box 3071

Salem VA 24153-0560

GREGORY A. WHIRLEY
COMMISSIONER

April 7, 2011



Mr. Steve Sandy
Montgomery County Planning
& Inspections Department
755 Roanoke Street, Suite 2A
Christiansburg, VA 24073-3177

RE: HUCKLEBERRY RIDGE
Montgomery County

Dear Mr. Sandy:

In accordance with §15.2-2222.1 of the Code of Virginia and the Virginia Traffic Impact Analysis Regulations, 24 VAC 30-155, a traffic impact analysis was prepared by Anderson & Associates, Inc. for re-zoning for the proposed Huckleberry Ridge development dated January 2011 and revised on March 14, 2011. This report was submitted for the site plan developed Fugleberg Koch and prepared for Bluestone Land, L.L.C. and is the second submission of the report. We have evaluated this traffic impact analysis for compliance with the above noted code and offer the following comments:

- For the Trip Generation, page 10, the daily trip totals for Phase 1 & 2 should be 2065 and for Phase 1, 2 & 3 should be 3081.
- No SimTraffic analysis was included for the 2011 existing conditions and 2017 no-build conditions analysis. These are normally required to be a baseline to show the impact of the development at each of the intersections. However, the build out conditions showed the maximum queue lengths to be relatively short, less than 210 feet, the levels of service are acceptable and the increase in the delays from the background to build out conditions at all of the studied intersections to be low, it is anticipated that the increase in queue length will also be low.
- The CD of the electronic files allows us to post the reports for the public. Please include a copy of the report in PDF form including all of the appendices, HCS, Synchro and SimTraffic outputs.

Steve Sandy
Page Two
April 7, 2011

The first two comments are not anticipated to have an impact on the outcome of the report, so no re-submission of the hard copy of the report will be required. Please provide the full report in PDF form for the public records. Once this is submitted the report will be considered complete.

Finally, I ask that you arrange to have VDOT's summary of the key findings of the traffic analysis included in the official public records (meeting minutes, staff report) on the proposed project and to have this letter and the traffic impact analysis placed in the case file for the site plan application. VDOT will make these documents available to the general public through various means such as posting them on VDOT's website.

Should you have questions, please contact John Jones at (540) 381-7198.

Sincerely,



John C. Thompson, P.E.
Staff Engineer

JCI/gat