STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@po.state.ct.us
Web Site: www.state.ct.us/csc/index.htm

October 24, 202

Stephen J. Humes
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

RE: **TS-T-MOBILE-089-021008** - T-Mobile USA d/b/a T-Mobile request for an order to approve tower sharing at an existing facility located at 175 Lester Street, New Britain, Connecticut.

Dear Attorney Humes:

At a public meeting held October 23, 2002, the Connecticut Siting Council (Council) ruled that the shared use of this existing tower site is technically, legally, environmentally, and economically feasible and meets public safety concerns, and therefore, in compliance with General Statutes § 16-50aa, the Council has ordered the shared use of this facility to avoid the unnecessary proliferation of tower structures. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

This decision is under the exclusive jurisdiction of the Council. Any additional change to this facility may require an explicit request to this agency pursuant to General Statutes § 16-50aa or notice pursuant to Regulations of Connecticut State Agencies Section 16-50j-73, as applicable. Such request or notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Any deviation from this format may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

This decision applies only to this request for tower sharing and is not applicable to any other request or construction.

The proposed shared use is to be implemented as specified in your letter dated October 8, 2002.

Thank you for your attention and cooperation.

Very truly yours,

Mortimer A. Gelston
Chairman

MAG/laf

c: Honorable Lucian J. Pawlak, Mayor, City of New Britain
Steven P. Schiller, Director of Planning, City of New Britain
Robert Stanford, Crown Atlantic Company
Christopher B. Fisher, Esq., Cuddy & Feder & Worby LLP
Sandy M. Carter, Verizon Wireless

I:\siting\em\omni\newbritain\dc102302.doc

LEBOEUF, LAMB, GREENE & MACRAE
L.L.P.
A LIMITED LIABILITY PARTNERSHIP INCLUDING PROFESSIONAL CORPORATIONS

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HARTFORD, CT 06103
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FACSIMILE: (860) 293-3555

WRITER'S DIRECT DIAL:
(860) 293-3744

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TS-T-MOBILE-089-021008

October 8, 2002

Mortimer A. Gelston, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Request by T-Mobile for an Order to Approve the Shared Use of a Tower Facility at 175 Lester Street, New Britain, Connecticut

Dear Chairman Gelston and Members of the Council:

Please be advised that LeBoeuf, Lamb, Greene & MacRae, L.L.P. represents Omnipoint Communications, Inc., a subsidiary of T-Mobile USA, Inc. (hereinafter T-Mobile) in the above-referenced matter. T-Mobile is the successor to VoiceStream Wireless Corp. by virtue of a recent corporate name change and nationwide re-branding strategy. Pursuant to Connecticut General Statutes §16-50aa, T-Mobile hereby requests an order from the Connecticut Siting Council ("Council") approving T-Mobile's proposed shared use of an existing tower located at 175 Lester Street, in New Britain, Connecticut. T-Mobile proposes to install antennas on the existing tower, and the equipment associated with this facility would be located near the base of the tower within and adjacent to the existing compound (see drawing A-1 attached as part of Exhibit B). T-Mobile requests that the Council find that the proposed shared use of the tower satisfies the criteria stated in §16-50aa and issue an order approving the proposed use.

Background

Omnipoint Communications, Inc., under the brand name of T-Mobile, operates "Wideband PCS" licenses for the 2-Ghz PCS frequencies for the greater New York City area, including the entire State of Connecticut. Omnipoint is licensed by the Federal Communications Commission (FCC) to provide PCS wireless telecommunications service in Connecticut, which includes the area to be served by the proposed installation.

The tower at 175 Lester Street, New Britain is a one hundred ninety foot (190') Crown Castle monopole. The coordinates for the site are **41°-41'-12" N** and **72°-45'-29" W**. The tower is located just west of Route 9, approximately eight hundred feet (800') east of Route 175 in New Britain. The site is approximately one hundred fifty feet (150') west of the Newington town line. The tower is owned by Crown Castle. The underlying property is owned by Helen Balavender. The site is in an industrial zoning district. T-Mobile and the owner have agreed to mutually acceptable terms and conditions for the proposed shared use of this tower, and the owner has authorized T-Mobile to act on its behalf to apply for all necessary local, state and federal permits, approvals and authorizations which may be required for the proposed shared use of this facility. The tower is designed and built to hold multiple carrier antennas at multiple elevations above ground level ("AGL"). These elevations are listed on page one of the structural analysis attached as Exhibit D and are also shown on the elevation drawing 3, A-1 attached as part of Exhibit B. Currently, AT&T has antennas at the one hundred eighty-seven foot (187'-0") centerline AGL, Verizon has antennas at the one hundred fifty-seven foot (157'-0") centerline AGL, and plans call for the future location of antennas at the one hundred seventy-seven foot (177'-0") centerline AGL.

T-Mobile proposes to install an antenna cluster comprised of three (3) sectors, with three (3) antennas per sector for a total of nine (9) antennas. The model number for each antenna is EMS RR90-17-02 DP. The antennas would be mounted on a low profile triangular platform at the one hundred sixty-seven foot (167'-0") centerline AGL. The radio transmission equipment associated with these antennas, three (3) Nortel S8000 BTS cabinets, would be located near the base of the tower on a proposed ten foot by twenty foot (10'-0" x 20'-0") concrete pad. The tower and all of the equipment for all existing and proposed carriers is within an existing compound, surrounded by a gated, chain link fence. (shown on drawing 1, A-1, attached as part of Exhibit B). Access to the compound is via a roughly forty foot (40') gravel access drive from Lester Street to the existing compound gate. Utilities will be run from an existing utility stub (shown in drawing 1, A-1, attached as part of Exhibit B).

C.G.S. §16-50aa (c) (1) provides, in pertinent part, that upon written request for approval of a proposed shared use, "if the council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such shared use." The shared use of the tower satisfies those criteria as follows:

A. **Technical Feasibility** - The existing tower and compound were designed to accommodate multiple carriers. A structural analysis of the tower with the proposed T-Mobile installation has been performed and is attached as Exhibit D. The proposed shared use of this tower therefore is technically feasible.

B. **Legal Feasibility** Under C.G.S. § 16-50aa, the Council has been authorized to issue orders approving the proposed shared use of an existing tower facility such as the facility at Lester Street in New Britain. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. C.G.S. § 16-50x(a) vests exclusive jurisdiction over these facilities in the Council, which shall "give such consideration to other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower

facilities. Under this statutory authority vested in the Council, an order by the Council approving the shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility The proposed shared use would have minimal environmental effects, if any, for the following reasons:

1. The proposed installations (i.e., three (3) sectors with three (3) antennas per sector) would have an insignificant incremental visual impact, and would not cause any significant change or alteration in the physical or environmental characteristics of the existing site. In particular, the proposed installations would not increase the height of the existing tower, and would not extend the boundaries of the existing compound area. The tower is designed to accommodate multiple carriers

2. The proposed installations would not increase the noise levels at the existing facility by six decibels or more.

3. Operation of antennas at this site would not exceed the total radio frequency electromagnetic radiation power density level adopted by the American National Standards Institute ("ANSI"). The "worst-case" exposure calculated for operation of this facility (i.e., calculated at the base of the tower, which represents the closest publicly accessible point within the broadcast field of the antennas) will be 0.01656 mW/cm2, which is1.656% of the Maximum Permissible Emission (MPE). The combined power density calculations from other carriers is 0.09% of the MPE. This accounts for a combined power density of 1.746% of the MPE standard. These calculations are attached as Exhibit E.

4. The proposed installations would not require any water or sanitary facilities, or generate air emissions or discharges to water or sanitary facilities, or generate air emissions or discharges to water bodies. After construction is complete (approximately two (2) weeks), the proposed installations would not generate any traffic other than periodic maintenance visits.

The proposed use of this facility would therefore have a minimal environmental effect, if any, and is environmentally feasible.

D. Economic Feasibility As previously mentioned, the owner and T-Mobile have entered into a mutual agreement to share the use of the existing tower on terms agreeable to the parties. The proposed tower sharing is therefore economically feasible.

E. Public Safety Concerns As stated above, the existing tower is structurally capable of supporting the proposed T-Mobile antennas. The tower stands on a compound accessible from Lester Street, via a gravel access road. T-Mobile is not aware of any public safety concerns relative to the proposed sharing of the existing tower. In fact, the provision of new or improved phone service through shared use of the existing tower will enhance the safety and welfare of area residents and the public.

Conclusion

For the reasons discussed above, the proposed shared use of the existing tower facility at Lester Street in New Britain, Connecticut satisfies the criteria stated in C.G.S. §16-50aa, and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. T-Mobile therefore respectfully requests that the Council issue an order approving the proposed shared use of this tower.

Thank you for your consideration of this matter.

Respectfully submitted,

T-MOBILE USA, INC.

By: _____

Its Counsel
Diane W. Whitney
Stephen J. Humes

Attachments

cc: Lucian J. Pawlak, Mayor, City of New Britain

Exhibit A

Site Map

Lester Street

New Britain, Connecticut

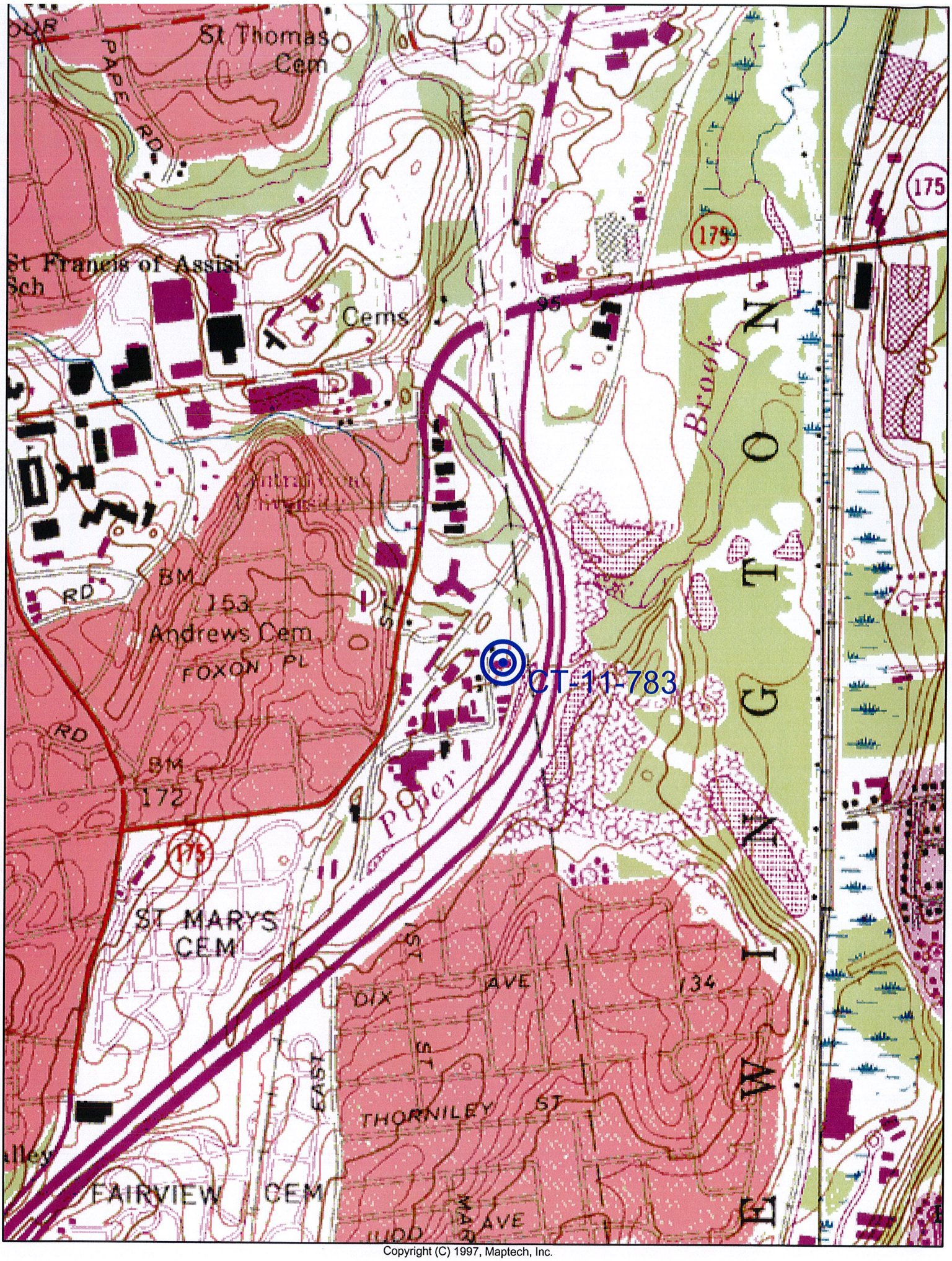


Exhibit B

Design Drawings

Lester Street

New Britain, Connecticut

T-Mobile®

SITE NAME:

CROWN CASTLE MONOPOLE

175 LESTER STREET
NEW BRITAIN, CT 06051

NEW EQUIPMENT AND NEW ANTENNAS ON EXISTING 190' MONOPOLE TOWER

SITE NUMBER:

CT-11-783B

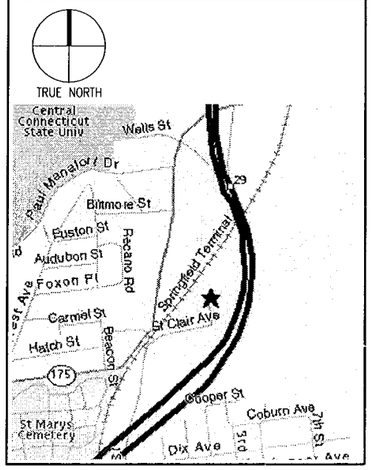
CO-LOCATE

GENERAL NOTES

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE T-MOBILE REPRESENTATIVE OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS / CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE T-MOBILE REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE T-MOBILE REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
16. ALL UNDERGROUND UTILITY INFORMATION WAS DETERMINED FROM SURFACE INVESTIGATIONS AND EXISTING PLANS OF RECORD. THE CONTRACTOR SHALL LOCATE ALL UNDERGROUND UTILITIES IN THE FIELD PRIOR TO ANY SITE WORK. CALL DIG-SAFE AT 1-888-DIG SAFE (1-888-344-7233) A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

VICINITY MAP

NO SCALE



DO NOT SCALE DRAWINGS

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

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	2
A-1	PLANS AND ELEVATION	2
S-1	STRUCT. NOTES, SECTIONS AND DETAILS	2
E-1	ELECT. & GROUNDING NOTES, RISERS & DETAILS	2

PROJECT SUMMARY

SITE NUMBER:	CT-11-783B
SITE NAME:	CROWN CASTLE MONOPOLE
SITE ADDRESS:	(CROWN CASTLE MONOPOLE) 175 LESTER STREET NEW BRITAIN, CT 06051
PROPERTY OWNER:	HELEN BALAVENDER
APPLICANT:	OMNIPOINT COMMUNICATIONS, INC. 100 FILLEY STREET BLOOMFIELD, CT 06002
STRUCTURE OWNER:	CROWN CASTLE

T-Mobile
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-794-4300
FAX: (860)-692-7159

Dynatek
TELECOMMUNICATIONS SERVICES
5170 Belmont Avenue
Youngstown, Ohio 44505
Phone: 800-838-3224
Fax: (330) 759-8471
www.dynatektelecom.com

STATE OF CONNECTICUT
DAVID C. BAER
9/27/02
NO. 10032
LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: 4447
DRAWN BY: M.N.T.
CHECKED BY: D.C.B.

SUBMITTALS

2	9/27/02	REDLINE REVISIONS
1	9/18/02	ISSUED FOR CONSTRUCTION
0	9/10/02	ISSUED FOR REVIEW

CT-11-783B
CROWN CASTLE MONOPOLE

175 LESTER STREET
NEW BRITAIN, CT 06051

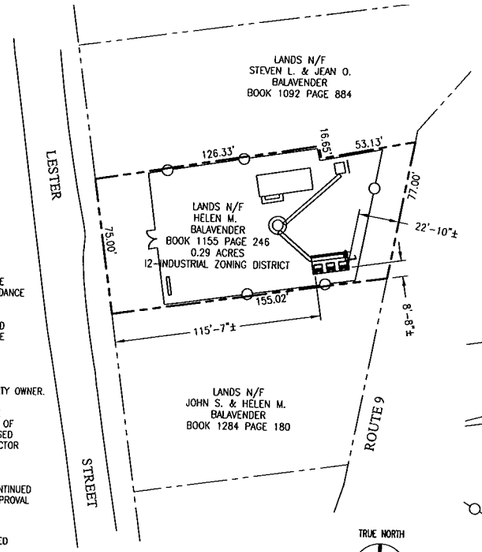
SHEET TITLE

TITLE SHEET

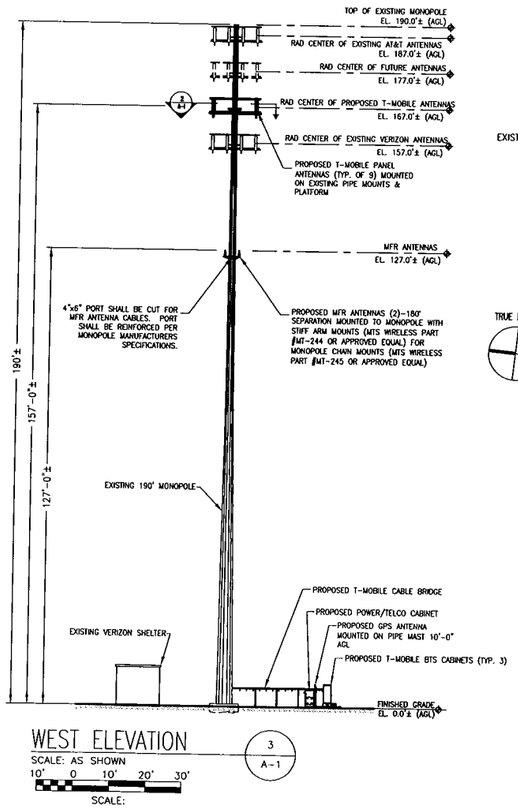
SHEET NUMBER

T-1

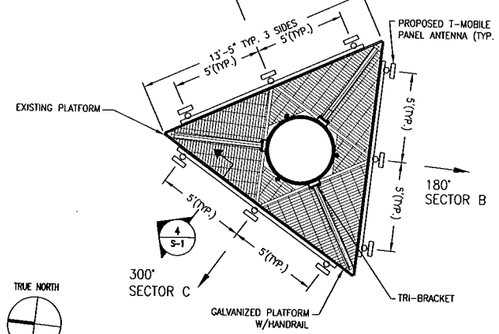
1. ALL DIMENSIONS SHOWN THUS ± ARE APPROXIMATE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND ELEVATIONS WHICH EFFECTS THE CONTRACTORS WORK. CONTRACTOR TO VERIFY ALL DIMENSIONS WITH OWNER PRIOR TO CONSTRUCTION.
2. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY TRUE NORTH AND INFORM CONSTRUCTION MANAGER OF ANY DISCREPANCIES BEFORE STARTING CONSTRUCTION.
3. THE GENERAL CONTRACTOR AND OR HIS SUB CONSULTANT SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTRY OR LOCAL GOVERNMENT AUTHORITY.
4. ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES AND SUPPORT STRUCTURES.
5. COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE PROVIDED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. A SCHEDULE OF OWNER SUPPLIED MATERIALS IS ATTACHED TO THE BID DOCUMENTS (SEE ATTACHMENT K). ALL OTHER HARDWARE TO BE PROVIDED BY THE CONTRACTOR. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.
6. ANY EQUIPMENT THAT IS TO BE PAINTED SHALL BE PAINTED TO MATCH EXISTING. PAINT SHALL BE SHERWIN WILLIAMS, COROTHANE II. SURFACE PREPARATION AND APPLICATION SHALL BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS AND OMNIPOINT GUIDELINES.
7. COORDINATION, LAYOUT, AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
8. EQUIPMENT WILL BE INDEPENDENTLY POWERED WITH SEPARATE METER.
9. PRIOR TO EXCAVATION NEAR (E)TOWER, CONTRACTOR TO CONTACT AND COORDINATE WITH PROPERTY OWNER.
10. ALL (E)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 ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
11. ALL (E)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 UTILITY COMPANY ENGINEERING.
12. THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE EQUIPMENT, DRIVEWAY OR GRAVEL, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED AND COVERED WITH MULCH.
13. THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION.
14. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
15. PER FCC MANDATE, ENHANCED EMERGENCY (E911) POSITION LOCATION EQUIPMENT IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. IMPLEMENTATION REQUIRES DEPLOYMENT OF APPROXIMATELY 2 MEASUREMENT FUNCTION RECEIVER (MFR) ANTENNAS AND 1 GLOBAL POSITIONING SYSTEM (GPS) ANTENNA. THIS PLAN DEPICTS A SCHEMATIC DESIGN AND LOCATION OF ANTENNAS AND MAY BE SUBJECT TO CHANGE. T-MOBILE RESERVES THE RIGHT TO CHANGE THE LOCATION AND CONFIGURATION OF THE E911 EQUIPMENT AS REQUIRED.



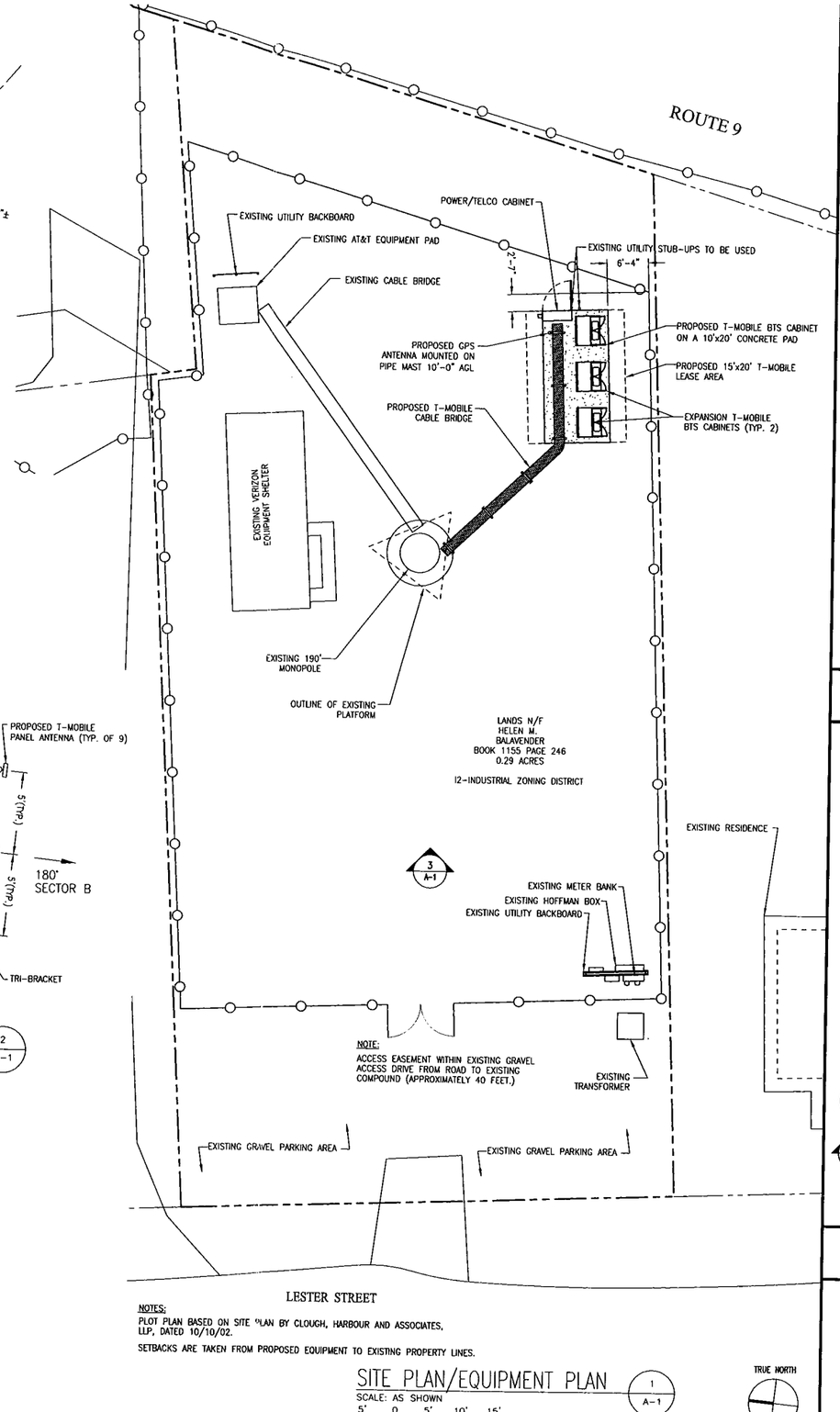
PLOT PLAN
SCALE: AS SHOWN (4 / A-1)
20' 0 20' 40' 60'
SCALE:



WEST ELEVATION
SCALE: AS SHOWN (3 / A-1)
10' 0 10' 20' 30'
SCALE:



ANTENNA MOUNTING PLAN
SCALE: AS SHOWN (2 / A-1)
2' 0 2' 4' 6'
SCALE:



NOTES:
PLOT PLAN BASED ON SITE PLAN BY CLOUGH, HARBOUR AND ASSOCIATES, LLP, DATED 10/10/02.
SETBACKS ARE TAKEN FROM PROPOSED EQUIPMENT TO EXISTING PROPERTY LINES.

SITE PLAN/EQUIPMENT PLAN
SCALE: AS SHOWN (1 / A-1)
5' 0 5' 10' 15'
SCALE:

TRUE NORTH

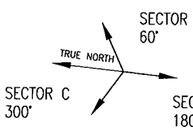
ABBREVIATIONS

ADJ	ADJUSTABLE	SF	SQUARE FOOT
APPROX	APPROXIMATE	SHT	SHEET
C	CONDUIT	SIM	SIMILAR
CONC	CONCRETE	STL	STEEL
CONT	CONTINUOUS	TOC	TOP OF CONCRETE
CJ	CONSTRUCTION JOINT	TOM	TOP OF MASONRY
DIA	DIAMETER	TYP	TYPICAL
DWG	DRAWING	VIF	VERIFY IN FIELD
EGB	EQUIPMENT GROUND BAR	UON	UNLESS OTHERWISE NOTED
EA	EACH	WWF	WELDED WIRE FABRIC
ELEC	ELECTRICAL	W/	WITH
EL	ELEVATION	BTS	BASE TRANSMISSION STATION
EQ	EQUAL	LNA	LOW NOISE AMPLIFIER
EQUIP	EQUIPMENT	PCS	PERSONAL COMMUNICATIONS SERVICES
(E)	(E)		
EXT	EXTERIOR		
FF	FINISHED FLOOR		
FG	FINISHED GRADE		
GA	GAUGE	A-1	ANTENNA MARK NO.
GALV	GALVANIZED		
GC	GENERAL CONTRACTOR	PL	PLATE
LG	LONG	&	AND
MAX	MAXIMUM	@	AT
MECH	MECHANICAL		
MFR	MANUFACTURER		
MGB	MASTER GROUND BAR		
MIN	MINIMUM		
MTL	METAL		
NIC	NOT IN CONTRACT		
NTS	NOT TO SCALE		
OC	ON CENTER		
OPP	OPPOSITE		

SYMBOLS AND MATERIALS

- NEW ANTENNA
- EXISTING ANTENNAS
- ASPHALT
- NEW ACCESS EASEMENT
- CONCRETE
- ELECTRIC BOX
- LIGHT POLE
- FND. MONUMENT
- SPOT ELEVATION
- SET POINT
- REVISION
- GRID REFERENCE
- DETAIL REFERENCE (XT. / SHT.)
- ELEVATION (D / SH)
- SECTIONS & DETAILS (D / SH)
- GROUT OR PLASTER
- (E)BRICK
- (E)MASONRY
- CONCRETE
- EARTH
- GRAVEL
- PLYWOOD
- SAND
- WOOD CONT.
- WOOD BLOCKING
- STEEL
- CENTER LINE
- PROPERTY LINE
- STEPPED FOOTING
- MATCH LINE
- WORK POINT
- G — GROUND WIRE
- COAXIAL CABLE

ANTENNA ORIENTATION KEY



T-Mobile
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-794-4300
FAX: (860)-692-7159

Dynatek
TELECOMMUNICATIONS SERVICES
5170 Belmont Avenue
Youngstown, Ohio 44505
Phone: 800-838-3224
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STATE OF CONNECTICUT
DAVID C. BOWSER
9/27/02
No. 10032
LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: 4447
DRAWN BY: M.N.T.
CHECKED BY: D.C.B.

SUBMITTALS

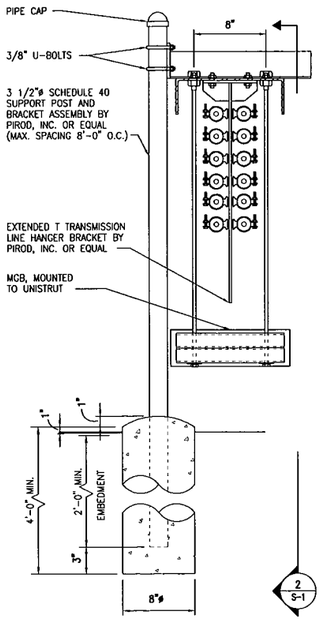
2	9/27/02	REDLINE REVISIONS
1	9/18/02	ISSUED FOR CONSTRUCTION
0	9/10/02	ISSUED FOR REVIEW

CT-11-783B
CROWN CASTLE
MONOPOLE

175 LESTER STREET
NEW BRITAIN, CT 06051

SHEET TITLE
PLANS AND ELEVATIONS

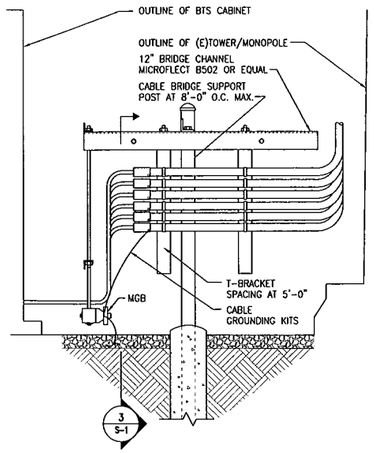
SHEET NUMBER
A-1



SECTION AT CABLE BRIDGE

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

3 S-1

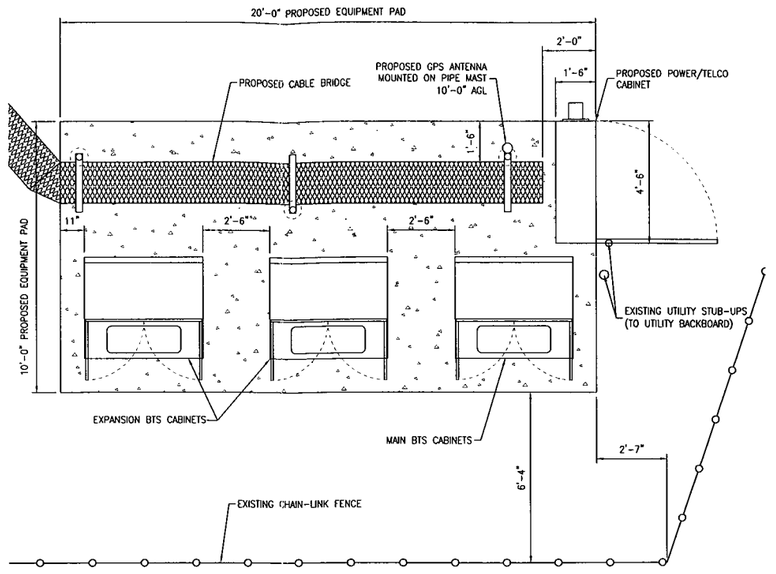


NOTE:
REFER TO EQUIPMENT PLAN ON SHEET A-1 FOR DIMENSIONS OF CABLE BRIDGE.

PROFILE AT CABLE BRIDGE

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

2 S-1



EQUIPMENT PAD LAYOUT

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

1 S-1

STRUCTURAL NOTES:

1. DESIGN REQUIREMENTS ARE PER STATE BUILDING CODE AND APPLICABLE SUPPLEMENTS, ANSI/ASCE7, EIA/TIA-222-F STRUCTURAL STANDARDS FOR STEEL ANTENNA SUPPORTING STRUCTURES.

2. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. ANY UNUSUAL CONDITIONS SHALL BE REPORTED TO THE ATTENTION OF THE CONSTRUCTION MANAGER.

3. DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS".

4. STRUCTURAL AND MISCELLANEOUS STEEL SHALL CONFORM TO ASTM A36 STRUCTURAL STEEL UNLESS OTHERWISE INDICATED.

5. STEEL PIPE SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING", GRADE A, OR ASTM A53 PIPE STEEL BLACK AND HOT-DIPPED ZINC-COATED WELDED AND SEAMLESS TYPE E OR S, GRADE B. PIPE SIZES INDICATED ARE NOMINAL. ACTUAL OUTSIDE DIAMETER IS LARGER.

6. STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS (BEARING TYPE)AND CONFORM TO ASTM A325 "HIGH STRENGTH BOLTS FOR STRUCTURAL JOINTS, INCLUDING SUITABLE NUTS AND PLAIN HARDENED WASHERS". ALL BOLTS SHALL BE 5/8" DIA UON.

7. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED.

8. ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS OTHERWISE NOTED.

9. FIELD WELDS, DRILL HOLES, SAW CUTS AND ALL DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED WITH AN ORGANIC ZINC REPAIR PAINT COMPLYING WITH REQUIREMENTS OF ASTM A780. GALVANIZING REPAIR PAINT SHALL HAVE 65 PERCENT ZINC BY WEIGHT, ZIRP BY DUNCAN GALVANIZING, GALVA BRIGHT PREMIUM BY CROWN OR EQUAL. THICKNESS OF APPLIED GALVANIZING REPAIR PAINT SHALL BE NOT NOT LESS THAN 4 COATS (ALLOW TIME TO DRY BETWEEN COATS) WITH A RESULTING COATING THICKNESS REQUIRED BY ASTM A123 OR A153 AS APPLICABLE.

10. CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". 9TH EDITION.

11. INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS SHALL BE REPORTED TO THE CONSTRUCTION MANAGER PRIOR TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE CONSTRUCTION MANAGER APPROVAL.

12. UNISTRUTS SHALL BE FORMED STEEL CHANNEL STRUT FRAMING AS MANUFACTURED BY UNISTRUT CORP, WAYNE, MI OR EQUAL. STRUT MEMBERS SHALL BE 1 5/8"x1 5/8"x12GA, UNLESS OTHERWISE NOTED, AND SHALL BE HOT-DIP GALVANIZED AFTER FABRICATION.

13. EPOXY ANCHOR ASSEMBLY SHALL CONSISIT OF 1/2" DIAMETER STAINLESS STEEL ANCHOR ROD WITH NUTS & WASHERS. AN INTERNALLY THREADED INSERT, A SCREEEN TUBE AND A EPOXY ADHESIVE. THE ANCHORING SYSTEM SHALL BE THE HILTI-HIT HY-20 AND OR HY-150 SYSYTEMS (AS SPECIFIED AN DWG.) OR ENGINEERS APPROVED EQUAL WITH 4-1/4" MIN. EMBEDMENT DEPTH.

14. EXPANSION BOLTS SHALL CONFORM TO FEDERAL SPECIFICATION FF-S-325, GROUP II, TYPE 4, CLASS 1, HILTI KWIK BOLT II OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE THREE AND ONE HALF (3 1/2) INCHES.

15. GRAVEL SUB BASE AND CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL.

16. CONCRETE FOR FENCE AND ICE BRIDGE SUPPORT SHALL BE 3000 PSI AIR ENTRAINED (4 %-6%) NORMAL WEIGHT CONCRETE.

17. ALL CAST IN PLACE CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND ACI 301.

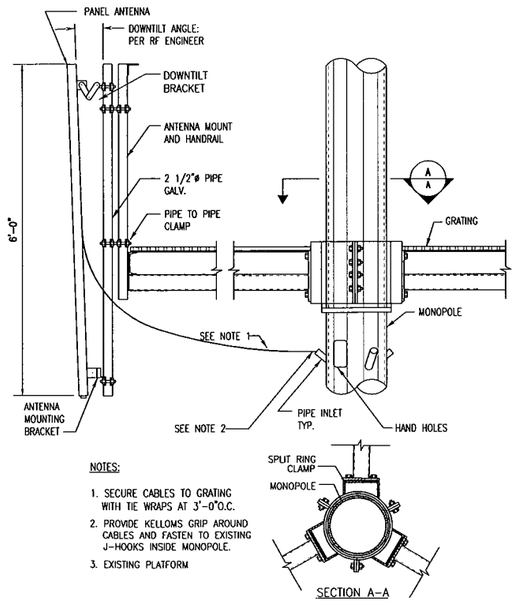
18. THE FOLLOWING MINIMUM CONCRETE COVER OVER REINFORCING STEEL SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:
CONCRETE CAST AGAINST EARTH ... 3 INCHES.
CONCRETE EXPOSED TO EARTH OR WATER
#6 AND LARGER .....2 INCHES
#5 AND SMALLER .....1 1/2 INCHES

ALL EXPOSED EDGES SHALL BE PROVIDED WITH A 3/4"x3/4" CHAMFER UNLESS NOTED OTHERWISE.

19. LUMBER SHALL COMPLY WITH THE REQUIREMENTS OF THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION AND THE NATIONAL FOREST PRODUCTS ASSOCIATION'S NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION. ALL LUMBER SHALL BE PRESSURE TREATED AND SHALL BE STRUCTURAL GRADE NO. 2 OR BETTER.

20. WHERE ROOF PENETRATIONS ARE REQUIRED, THE CONTRACTOR SHALL CONTACT AND COORDINATE RELATED WORK WITH THE BUILDING OWNER AND THE EXISTING ROOF INSTALLER. WORK SHALL BE PERFORMED IN SUCH A MANNER AS TO NOT VOID THE EXISTING ROOF WARRANTY.

21. PER FCC MANDATE, ENHANCED EMERGENCY (E911) POSITION LOCATION EQUIPMENT IS REQUIRED TO MEET NATIONWIDE STANDARDS FOR WIRELESS COMMUNICATIONS SYSTEMS. IMPLEMENTATION REQUIRES DEPLOYMENT OF APPROXIMATELY 2 MEASUREMENT FUNCTION RECEIVER (MFR) ANTENNAS AND 1 GLOBAL POSITIONING SYSTEM (GPS) ANTENNA. THIS PLAN DEPICTS A SCHEMATIC DESIGN AND LOCATION OF ANTENNAS AND MAY BE SUBJECT TO CHANGE. T-MOBILE RESERVES THE RIGHT TO CHANGE THE LOCATION AND CONFIGURATION OF THE E911 EQUIPMENT AS REQUIRED."



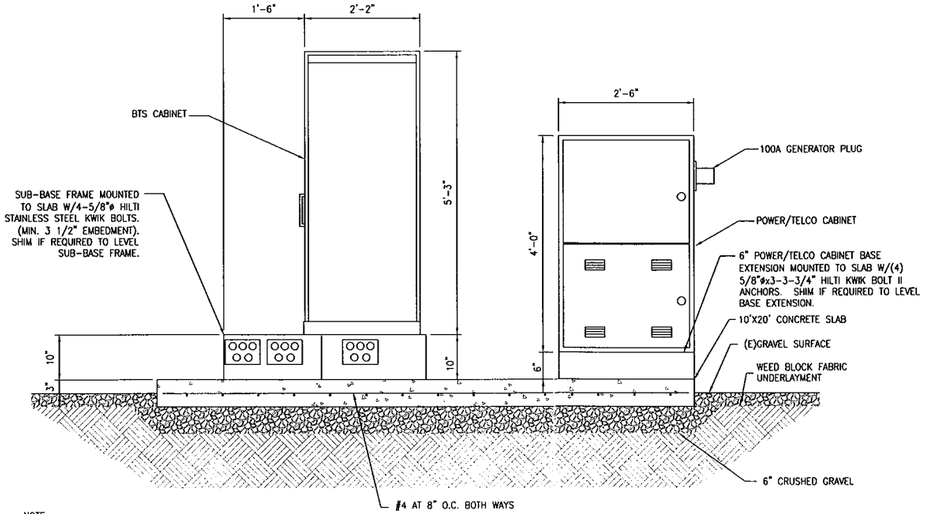
NOTES:

1. SECURE CABLES TO GRATING WITH TIE WRAPS AT 3'-0"O.C.
2. PROVIDE KELLOMS GRIP AROUND CABLES AND FASTEN TO EXISTING J-HOOKS INSIDE MONOPOLE.
3. EXISTING PLATFORM

ANTENNA MOUNTING DETAIL

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

5 S-1



NOTE:
REFER TO EQUIPMENT PLAN ON SHEET A-1 FOR LOCATION OF POWER/TELCO CABINET.

SECTION AT EQUIPMENT SLAB

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

4 S-1

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100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-794-4300
FAX: (860)-692-7159

Dynatek
TELECOMMUNICATIONS SERVICES
5170 Belmont Avenue
Youngstown, Ohio 44505
Phone: 800-838-3224
Fax: (330) 759-8471
www.dynatektelecom.com

STATE OF CONNECTICUT
DAVID C. BAUER
9/27/02
NO. 10036
LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: 4447

DRAWN BY: M.N.T.

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CT-11-783B
CROWN CASTLE
MONOPOLE

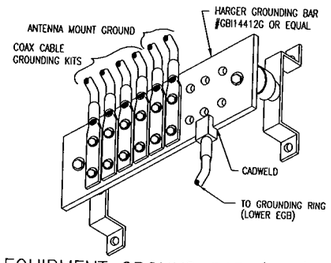
175 LESTER STREET
NEW BRITAIN, CT 06051

SHEET TITLE

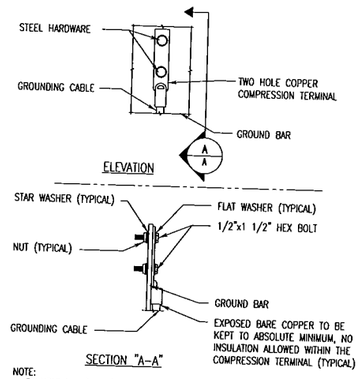
STRUCTURAL NOTES, SECTIONS, AND DETAILS

SHEET NUMBER

S-1

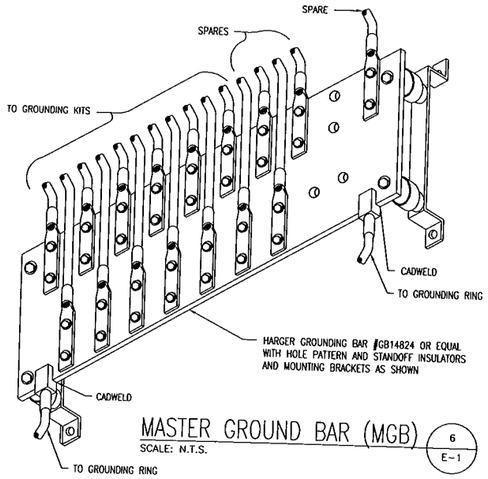


EQUIPMENT GROUND BAR (EGB)
SCALE: N.T.S.
8 / E-1

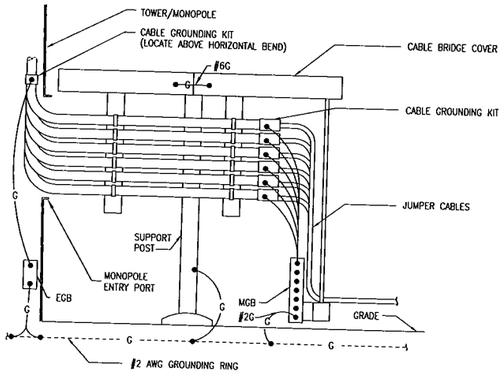


NOTE:
1. "DOUBLING UP" OR "STACKING " OF CONNECTION IS NOT PERMITTED.
2. OXIDE INHIBITING COMPOUND TO BE USED AT ALL LOCATIONS.

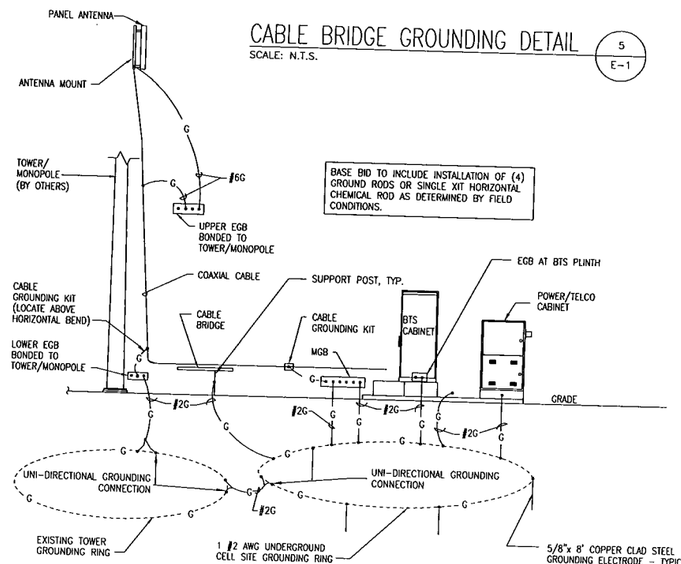
TYPICAL GROUND BAR CONNECTIONS DETAIL
SCALE: N.T.S.
7 / E-1



MASTER GROUND BAR (MGB)
SCALE: N.T.S.
6 / E-1



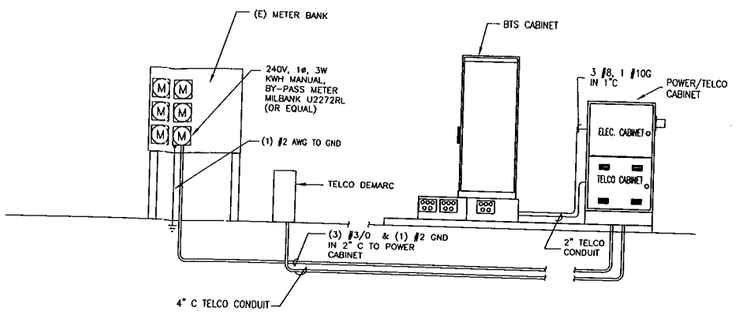
CABLE BRIDGE GROUNDING DETAIL
SCALE: N.T.S.
5 / E-1



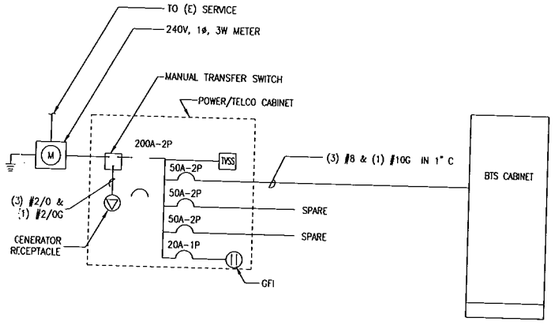
BASE BID TO INCLUDE INSTALLATION OF (4) GROUND RODS OR SINGLE XIT HORIZONTAL CHEMICAL ROD AS DETERMINED BY FIELD CONDITIONS.

GROUNDING RISER DIAGRAM
SCALE: N.T.S.
4 / E-1

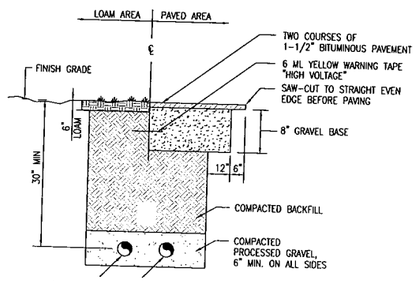
MAKE ALL CONNECTIONS AS PER UTILITY COMPANY'S REQUIREMENTS.



POWER RISER DIAGRAM
SCALE: N.T.S.
3 / E-1



ONE LINE DIAGRAM
SCALE: N.T.S.
2 / E-1



SCHEDULE 40 CONDUITS FOR NEW ELECTRICAL AND TELEPHONE SERVICES SEE UTILITY AND SITE PLANS. PROVIDE APPROVED PULL BOXES AS REQUIRED, AND COORDINATE INSTALLATION W/ ALL UTILITY COMPANIES FOR INTERFACING AT TERMINATION POINTS. PROVIDE FULL LENGTH PULL ROPES (TYP.).

BURIED CABLE DETAIL
SCALE: N.T.S.
1 / E-1

ELECTRICAL LEGEND

	NEW PANEL BOARD, SURFACE MOUNTED
	EXISTING PANEL BOARD, SURFACE MOUNTED
	DRY TYPE TRANSFORMER
M	METER
	CIRCUIT BREAKER
	NON-FUSIBLE DISCONNECT SWITCH, MOUNTED 54" A.F.F.
	FUSIBLE DISCONNECT SWITCH, MOUNTED 54"A.F.F.
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR WITH BUILT-IN FUSES, SURFACE MOUNTED
	DUPLEX OUTLET, SURFACE MOUNTED, 20 AMPS, 125 VOLTS, SINGLE PHASE
J	JUNCTION BOX, SURFACE MOUNTED 18" A.F.F.
	EXPOSED WIRING
	HOME RUNS, MINIMUM 2#10 + 1#10G IN 3/4" CONDUIT U.O.N.
A.F.F.	ABOVE FINISHED FLOOR
U.O.N.	UNLESS OTHERWISE NOTED
WP	WEATHERPROOF
GFI	GROUND FAULT INTERRUPTER
A	AMPERE
V	VOLT
KWH	KILOWATT - HOUR
C	CONDUIT
G	GROUND
	GROUND
MGB	MASTER GROUND BAR 1/4"x8"x24" COPPER
EGB	EQUIPMENT GROUND BAR 1/4"x4"x12" OR 1/4"x4"x18" COPPER
G	GROUND COPPER WIRE, SIZE AS NOTED
	EXPOSED WIRING
	COAXIAL CABLE
	5/8"x8' COPPER CLAD STEEL GROUND ROD
	EXOTHERMIC (CADWELD) OR MECHANICAL (COMPRESSION TYPE) CONNECTION

ELECTRICAL AND GROUNDING NOTES

1. ALL ELECTRICAL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NATIONAL ELECTRICAL CODE (NEC) AS WELL AS APPLICABLE STATE AND LOCAL CODES.
2. ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED AND PROCURED PER SPECIFICATION REQUIREMENTS.
3. THE ELECTRICAL WORK INCLUDES ALL LABOR AND MATERIAL DESCRIBED BY DRAWINGS AND SPECIFICATION INCLUDING INCIDENTAL WORK TO PROVIDE COMPLETE OPERATING AND APPROVED ELECTRICAL SYSTEM.
4. GENERAL CONTRACTOR SHALL PAY FEES FOR PERMITS, AND IS RESPONSIBLE FOR OBTAINING SAID PERMITS AND COORDINATION OF INSPECTIONS.
5. ELECTRICAL AND TELCO WIRING OUTSIDE A BUILDING AND EXPOSED TO WEATHER SHALL BE IN WATER TIGHT GALVANIZED RIGID STEEL CONDUITS OR SCHEDULE 80 PVC (AS PERMITTED BY CODE) AND WHERE REQUIRED IN LIQUID TIGHT FLEXIBLE METAL OR NONMETALLIC CONDUITS.
6. BURIED CONDUIT SHALL BE SCHEDULE 40 PVC.
7. ELECTRICAL WIRING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHNINSULATION.
8. RUN ELECTRICAL CONDUIT OR CABLE BETWEEN ELECTRICAL UTILITY DEMARCATION POINT AND T-MOBILE CELL SITE POWER PEDESTAL AS INDICATED ON THIS DRAWING. PROVIDE FULL LENGTH PULL ROPE. COORDINATE INSTALLATION WITH UTILITY COMPANY.
9. RUN TELCO CONDUIT OR CABLE BETWEEN TELEPHONE UTILITY DEMARCATION POINT AND T-MOBILE CELL SITE TELCO CABINET AND BTS CABINET AS INDICATED ON THIS DRAWING PROVIDE FULL LENGTH PULL ROPE IN INSTALLED TELCO CONDUIT. PROVIDE GREENLEE CONDUIT MEASURING TAPE AT EACH END.
10. WHERE CONDUIT BETWEEN BTS AND T-MOBILE CELL SITE POWER PEDESTAL AND BETWEEN BTS AND T-MOBILE CELL SITE TELCO SERVICE CABINET ARE UNDERGROUND USE PVC, SCHEDULE 40 CONDUIT. ABOVE THE GROUND PORTION OF THESE CONDUITS SHALL BE PVC CONDUIT.
11. ALL EQUIPMENT LOCATED OUTSIDE SHALL HAVE NEMA 3R ENCLOSURE.
12. POWER PEDESTAL SUPPLIED BY T-MOBILE.
13. GROUNDING SHALL COMPLY WITH NEC ART. 250.
14. GROUND COAXIAL CABLE SHIELDS MINIMUM AT BOTH ENDS USING MANUFACTURERS COAX CABLE GROUNDING KITS SUPPLIED BY T-MOBILE.
15. USE #6 COPPER STRANDED WIRE WITH GREEN COLOR INSULATION FOR ABOVE GRADE GROUNDING (UNLESS OTHERWISE SPECIFIED) AND #2 SOLID TINNED BARE COPPER WIRE FOR BELOW GRADE GROUNDING AS INDICATED ON THE DRAWING.
16. ALL GROUND CONNECTIONS TO BE BURNDY HYGROUND COMPRESSION TYPE CONNECTORS OR CADWELD EXOTHERMIC WELD. DO NOT ALLOW BARE COPPER WIRE TO BE IN CONTACT WITH GALVANIZED STEEL.
17. ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE. ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY. BOND ANY METAL OBJECTS WITHIN 7 FEET OF T-MOBILE EQUIPMENT OR CABINET TO MASTER GROUND BAR.
18. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO HOLE COMPRESSION TYPE COPPER LUGS. APPLY OXIDE INHIBITING COMPOUND TO ALL LOCATIONS.
19. APPLY OXIDE INHIBITING COMPOUND TO ALL COMPRESSION TYPE GROUND CONNECTIONS.
20. BOND ANTENNA MOUNTING BRACKETS, COAXIAL CABLE GROUND KITS, AND ALNA TJ EGB PLACED NEAR THE ANTENNA LOCATION.
21. BOND ANTENNA EGB'S AND MGB TO GROUND RING.
22. TEST COMPLETED GROUND SYSTEM AND RECORD RESULTS FOR PROJECT CLOSE-OUT DOCUMENTATION.

T-Mobile
100 FILLEY STREET
BLOOMFIELD, CT 06002
OFFICE: (860)-794-4300
FAX: (860)-692-7159

Dynatek
TELECOMMUNICATIONS SERVICES
5170 Belmont Avenue
Youngstown, Ohio 44505
Phone: 800-838-3224
Fax: (330) 759-8471
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STATE OF CONNECTICUT
DAVID C. BROWN
9/27/02
NO. 10032
LICENSED ARCHITECT

APPROVALS

LANDLORD _____
LEASING _____
R.F. _____
ZONING _____
CONSTRUCTION _____
A/E _____

PROJECT NO: 4447
DRAWN BY: M.N.T.
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CT-11-783B
CROWN CASTLE MONOPOLE

175 LESTER STREET
NEW BRITAIN, CT 06051

SHEET TITLE
ELECTRICAL AND GROUNDING NOTES, RISERS, AND DETAILS

SHEET NUMBER
E-1

Exhibit C

Equipment Specifications

Lester Street

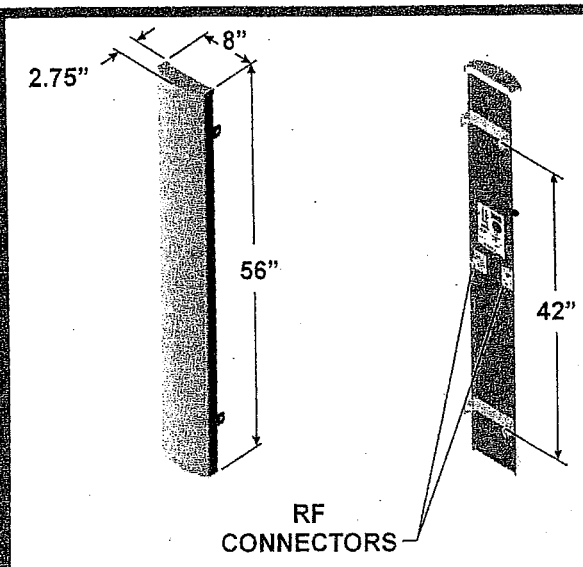
New Britain, Connecticut

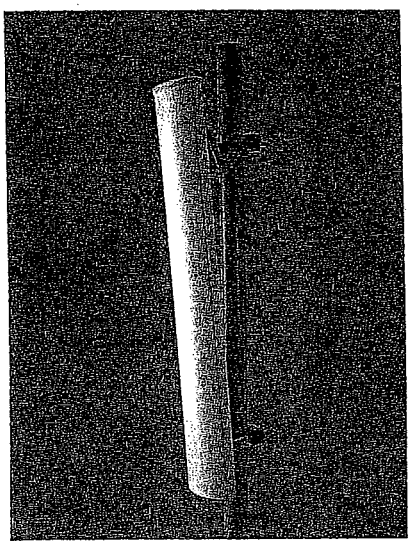
EMS WIRELESS

OptiRange™

RR90-17-XXXP

1850 MHz - 1990 MHz (P)





90° beamwidth

16.5 dBi gain

±45° DualPol™

56 inch

SPECIFICATIONS

Electrical

Azimuth Beamwidth	90°
Elevation Beamwidth	6°
Gain	16.5 dBi (14.4 dBd)
Polarization	Slant, ±45°
Port-to-Port Isolation	≥ 30 dB
Front-to-Back Ratio	≥ 25 dB (≥ 30 dB Typ.)
Electrical Downtilt Options	0°, 2°, 4°, 6°
VSWR	1.35:1 Max
Connectors	2;Type N or 7-16 DIN (female)
Power Handling	250 Watts CW
Passive Intermodulation	<-147 dBc (2 tone @ +43 dBm {20W} ea.)
Lightning Protection	Chassis Ground

Mechanical

Dimensions (L x W x D)	56in x 8in x 2.75in (142 cm x 20.3 cm x 7.0 cm)
Rated Wind Velocity	150 mph (241 km/hr)
Equivalent Flat Plate Area	3.1ft² (.29 m²)
Front Wind Load @ 100 mph (161 kph)	90 lbs (400 N)
Side Wind Load @ 100 mph (161 kph)	31 lbs (139 N)
Weight	18 lbs (8.2 kg)

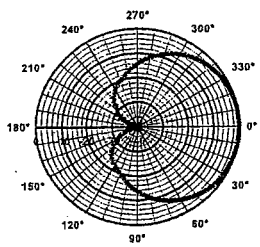
Note: Patent Pending and US Patent number 5, 757, 246.

Values and patterns are representative and variations may occur. Specifications may change without notice due to continuous product enhancements. Digitized pattern data is available from the factory or via the web site www.emswireless.com and reflect all updates.

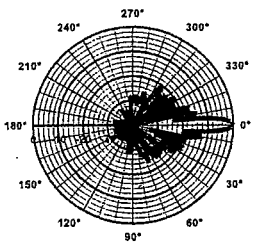
MOUNTING OPTIONS

Model Number	Description	Comments
MTG-P00-10	Standard Mount (Supplied with antenna)	Mounts to Wall or 1.5 inch to 5.0 inch O.D. Pole (3.8 cm to 12.7 cm)
MTG-S02-10	Swivel Mount	Mounting kit providing azimuth adjustment.
MTG-DXX-20*	Mechanical Downtilt Kits	0° - 10° or 0° - 15° Mechanical Downtilt
MTG-CXX-10*	Cluster Mount Kits	3 antennas 120° apart or 2 antennas 180° apart
MTG-C02-10	U-Bolt Cluster Mount Kit	3 antennas 120° apart , 4.5" O.D. pole.
MTG-TXX-10*	Steel Band Mount	Pole diameters 7.5" - 45"

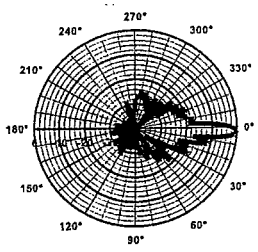
* Model number shown represents a series of products. See mounting options section for specific model number.



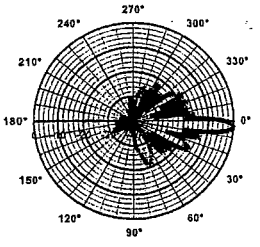
Azimuth



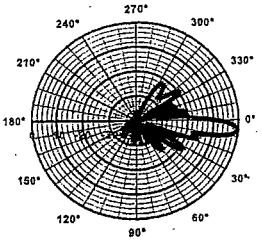
Elevation
0° Downtilt



Elevation
2° Downtilt



Elevation
4° Downtilt

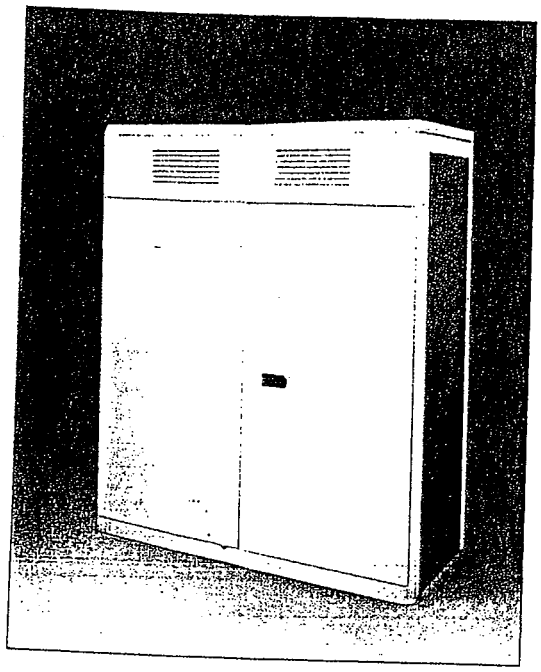


Elevation
6° Downtilt

GSM 900 / DCS 1800 / PCS 1900

NORTEL
NORTHERN TELECOM

S8000 Outdoor Base Transceiver Station



Nortel's S8000 Outdoor Base Transceiver Station has been designed to meet the economic and performance requirements of network operators. Based on a highly integrated RF and digital design, the S8000 Outdoor Base Transceiver Station represents a major technology advancement and delivers all the benefits of a compact, modular, high quality and high performance product.

Nortel's S8000 Outdoor BTS: Radio Performance Leadership - Reduced Site Acquisition and Operating Costs

Installation

- The S8000 Outdoor Base Transceiver Station (BTS) offers compact packaging and requires minimal floor space, only .88 sq m (9.5 sq ft.). Front only access keeps total space required, including maintenance access, to only 1.8 sq m (19.4 sq ft) per cabinet.

Transmission

- Integrated drop and insert connection to the Base Station Controller (BSC) and signaling concentration on the A-bis interface provide significant transmission cost reduction.
- Optional integrated digital microwave radio.

Maintenance

- Highly reliable technology, redundant architecture and integrated battery backup ensure high availability service.
- Front access and interconnections, as well as powerful fault detection, help reduce lifetime maintenance costs.

Industry leading performance

- New RF technology and advanced digital processing techniques provide very high receive sensitivity (-108 dBm guaranteed) and improved diversity gain (up to 6 dB). This provides higher resistance to interference, as well as, improved speech quality and cell coverage.
- Nortel's proven experience in frequency hopping, 1*3 frequency reuse, sophisticated microcellular handover algorithms and support of half-rate vocoders enables the operator to maximize use of available spectrum and deploy fewer cell sites.

Fast network deployment

- The S8000 BTS can be shipped fully equipped and tested, which provides fast network roll out to meet operator time to market requirements.

Modular and flexible configuration

- The S8000 supports eight transceivers (TRX) per cabinet in Omni and sectored configurations. The typical one cabinet S222 configuration may be expanded up to S332 or S422 without an additional cabinet.

• Frequency range		900 MHz GSM
		900 MHz GSM extended
		1800 MHz DCS
		1900 MHz PCS
• Receive sensitivity (guaranteed)		-108 dBm
• Dimensions	Height	1600 mm / 5 ft. 3 in.
	Width	1350 mm / 4 ft. 5 in.
	Depth	650 mm / 2 ft. 1 in.
• Weight	Fully equipped	600 kg / 1300 lbs.
• Capacity		8 TRX per cabinet
		up to 3 cabinets
• Configuration	Trisectorial	up to S888
	Omnidirectional	up to O16
• Amplifier output power		30 W (± 1.5 dB)
• Power control	Static	6 steps of 2 dB
	Dynamic	15 steps of 2 dB
• Frequency hopping		RF synthesized
		baseband
• Supported vocoders		Full rate
		Enhanced full rate
		Half rate
• Encryption algorithms		A5/1 A5/2
• Power supply		230V AC 50/60 Hz
• Power back-up		Integrated battery back-up plus optional battery cabinet allows provisioning up to 8 hours back-up time.
• Operating temperature range		-40°C to +50°C
		-40°F to +122°F

For more information,
please contact your local Nortel account representative.

In the USA:
Northern Telecom
2221 Lakeside Boulevard
Richardson TX 75082
USA
Telephone: 1-800-4 NORTEL
1-800-466-7838 or (214) 684-5935
http://www.nortel.com/wireless

In Canada:
Northern Telecom
2920 Matheson Boulevard East
Mississauga ON L4W 4M7
Canada
Telephone: 1-800-4 NORTEL

In the Caribbean and Latin America:
Northern Telecom (CALA) Corporation
1500 Concord Terrace
Sunrise FL 33323
USA
Telephone: (305) 851-8400

In Asia:
Northern Telecom (Asia) Limited
151 Lorong Chuan
#02-01 New Tech Park
Singapore 1955
Telephone: (65) 287-2877

Nortel China Ltd.
34th Floor, Central Plaza
18 Harbour Road, Wanchai
Hong Kong
Telephone (852) 2585 2888

In Europe:
Nortel Limited
Stafferton Way
Maidenhead
Berkshire SL6 1AY
England
Telephone: (44) (1628) 812000

Nortel Matra Cellular
BP 50
1 place des Frères Montgolfier
78042 Guyancourt Cedex
France
Telephone (33) (1) 34 52 52 52

Nortel Europe
12-12bis rue Jean Jaurès
92807 Puteaux
France
Telephone (33) (1) 46 96 15 15

Publication Reference S8O.INS.0696
Printed in France

NORTEL
NORTHERN TELECOM

3 CABINET DESCRIPTION

3.1 PHYSICAL CHARACTERISTICS

3.1.1 S8000 Outdoor BTS

3.1.1.1 BTS cabinet

Dimensions

The BTS S8000 Outdoor has the following dimensions:

- height: 160 cm (63 in.)
- width: 135 cm (52.8 in.)
- depth: 65 cm (25.6 in.)

Weight

The weight of the cabinet when empty, that is, without its battery, fan units or boards, is 164 kg (361 lb). Depending on the configuration, a fully equipped cabinet weighs approximately 480 kg (1056 lb) with ACU unit or 440 kg (968 lb) with DACS unit.

These weights do not include the plinth.

Operating temperature

To operate correctly, the BTS requires a temperature greater than –40°C (–40°F) and less than +50°C (+122°F).

Consumption

BTS input voltage:

- GSM 900/1800
  - nominal voltage contained between 220V AC and 240V AC
  - minimum voltage: 220 – 10% = 198V AC
  - maximum voltage: 240 + 6% = 254V AC
- GSM 1900 (with DACS)
  - nominal voltage: 208V AC to 240V AC
  - minimum voltage: 208 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC
- GSM 1900 (with ACU and/or the power system six–rectifier type)
  - nominal voltage: 240V AC
  - minimum voltage: 240 – 10% = 187V AC
  - maximum voltage: 240 + 6% = 254V AC

NON - PREMIUM BTS ONLY

Exhibit D

Structural Analysis

Lester Street

New Britain, Connecticut

Dynatek

Telecommunications Services

September 18, 2002

Mr. Mark Thompson
Dynatek Telecommunications Services
5170 Belmont Avenue
Youngstown, OH 44505

Re: T-Mobile Site CT-11-783B – Hartford, Connecticut
Monopole Structural Evaluation, Structural Letter of Opinion

Dear Mr. Thompson:

I am a registered professional engineer licensed to practice in the State of Ohio, do hereby attest to the following concerning the proposed installation of T-Mobile equipment at the above referenced location. Based upon the information provided, we find that this monopole is adequate to support the proposed T-Mobile equipment at this location as specified herein. My calculations are attached for your review.

1. I am familiar with the design and construction of wireless telecommunications facilities including telecommunications monopoles and antenna attachments.

2. I have reviewed the monopole and foundation drawings and calculations provided for the existing Crown Castle 190-foot monopole prepared by Paul J. Ford and Company and Summit Manufacturing, LLC dated December 11, 2000. I find that the 190-foot monopole was designed to accommodate four levels of antennas and mounts at the 147, 162, 177, and 190 ft elevation above ground level (AGL). The actual rad centerlines for these levels are at the 157, 167, 177 and 187 ft. elevations AGL per our survey. Two of the levels are higher in elevation than the original design, but the antenna loading at the 167 ft elevation is less than originally designed for, which compensated for this difference. The actual rad centerlines and the existing and future antenna loadings were used in our analysis. Each of these levels included (12) 1ft x 3 in. x 5 ft panel antennas and platform mounts. The design wind loading is based on 85mph wind loading with and without ½ inch ice and calculated using the ANSI/TIA/EIA-222-F Standard. The 85 mph wind loading used in the design is appropriate for the site.

3. The T-Mobile antenna configuration will consist of (9) panel-type antennas on a clamp-on three-sector platform set at the 167 ft AGL elevation. The antenna panels were assumed to have an effective projected surface area (EPA) of 4.5 square feet.

The total EPA of these antennas is less than the original design, which consisted of (12) panel-type antennas.

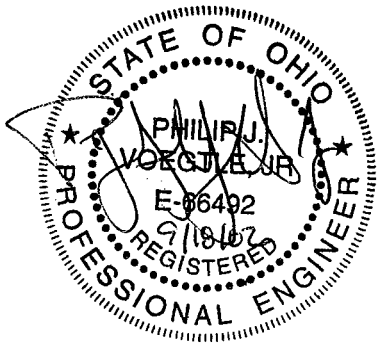
4. Based on a recent inspection, the existing antenna configurations on the monopole consists of (3) panel-type antennas on a clamp-on three-sector platform at the 187 ft AGL elevation and (12) panel-type antennas on a clamp-on three-sector platform at the 157 ft AGL elevation. The platforms at the 167 and 177 ft AGL elevations are without antennas. However, the analysis we performed included complete build-out of these levels assuming (12) panel-type antennas at all the levels and a maximum of (9) T-Mobile antennas at the 167 ft. AGL elevation. No other equipment is on the pole and all coax cable runs are inside the pole.

5. It is my conclusion based on the findings outlined above, that the existing monopole, base plate, anchors and foundation can safely accommodate the T-Mobile antennas as specified in this letter. The calculated loads due to dead, wind and ice are less than the loads calculated in the original design by Paul J Ford Company and the design meets the requirements set by ANSI/TIA/EIA-222-F

Please feel free to call me at (303) 770-2884 if you have any questions.

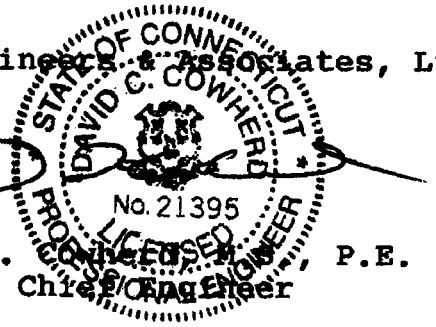
Respectfully,

Dynatek Telecommunications Services



Philip J. Voegtle, PE, SE
Structural Engineer

CBC Engineers & Associates, Ltd



David C. Cowherd, M.S., P.E.
CEO and Chief Engineer

Structural Calculations
Monopole Analysis

Site No.: CT-11-783B
Client: T-Mobile
Date: September 18, 2002

Designed By: Phil Voegtle
Checked By: ASR

Design Per TIA/EIA-222-F, Revised June, 1996

[ ] Indicates Input Required

Polygon Monopole Input

Section 1

Diameter of Pole at Base:	59.61	Inches - Across Flats		
Diameter of Pole at Top of Section:	48.899	Inches - Across Flats		
Number of Sides	18			
Thickness of Shell	0.5	Inches		
Moment of Inertia - Polygon	41396.1	Inches^4 at Base of Section		
Section Modulus - Polygon	1388.90	Inches^3 at Base of Section		
Area of Pole - Polygon	94.60	Inches ^2 at Base of Section		
Length of Section/Wind Length	51.00	Feet	44.50	Feet

Section 2

Diameter of Pole at Base:	51.014	Inches - Across Flats		
Diameter of Pole at Top of Section:	40.302	Inches - Across Flats		
Thickness of Shell	0.375	Inches		
Moment of Inertia	19123.48	Inches^4 at Base of Section		
Section Modulus	749.73	Inches^3 at Base of Section		
Area of Pole	59.66	Inches ^2 at Base of Section		
Length of Section/Wind Length	51.00	Feet	45.75	Feet

Section 3

Diameter of Pole at Base:	42.03	Inches - Across Flats		
Diameter of Pole at Top of Section:	31.319	Inches - Across Flats		
Thickness of Shell	0.3125	Inches		
Moment of Inertia	8910.16	Inches^4 at Base of Section		
Section Modulus	423.99	Inches^3 at Base of Section		
Area of Pole	40.96	Inches ^2 at Base of Section		
Length of Section/Wind Length	51.00	Feet	46.75	Feet

Section 4

Diameter of Pole at Base:	32.711	Inches - Across Flats		
Diameter of Pole at Top of Section:	22	Inches - Across Flats		
Thickness of Shell	0.25	Inches		
Moment of Inertia	3358.21	Inches^4 at Base of Section		
Section Modulus	205.33	Inches^3 at Base of Section		
Area of Pole	25.49	Inches ^2 at Base of Section		
Length of Section/Wind Length	51.00	Feet	51.00	Feet

Yield Strength (Fy)	65	KSI
Weight of Steel	495	PCF

Structural Calculations
Monopole Analysis

Weight Calculations

	Without Ice		*With Ice*	
Estimated Pole Weight:	34,449	Pounds	41,878	Pounds
Base Plate Weight	3743	Pounds	3768	Pounds
Total Weight of Pole:	38,192	Pounds	45,646	Pounds
(12) Exist. & Future Antennas 1 Weight	300.0	Pounds	650.0	Pounds
(12) Exist. & Future Antennas 2 Weight	300.0	Pounds	650.0	Pounds
(9) Sprint Antennas 3 Weight	225.0	Pounds	487.0	Pounds
(12) Exist. & Future Antennas 4 Weight	300.0	Pounds	650.0	Pounds
Lightning Rod Weight	108.0	Pounds	115.0	Pounds
Microwave Dish 1 Weight	0.0	Pounds	0.0	Pounds
Microwave Dish 2 Weight	0.0	Pounds	0.0	Pounds
Antenna Mount 1 Weight	2,100.0	Pounds	2,700.0	Pounds
Antenna Mount 2 Weight	2,100.0	Pounds	2,700.0	Pounds
Antenna Mount 3 Weight	2,100.0	Pounds	2,700.0	Pounds
Antenna Mount 4 Weight	2,100.0	Pounds	2,700.0	Pounds
Cable Weight	8,150.0	Pounds	8,150.0	Pounds
Total Weight of Accessories	17,783.0		21,502.0	
Total Estimated Weight:	***55,975.4***	***Pounds***	***67,147.8***	***Pounds***

Structural Calculations
Monopole Analysis

Wind Loading

Wind Load Criteria	85	MPH	
Ice Loading	0.50	Inches	
Ice Weight	56.00	PCF	2.33 PSF
Gust Response Factor (Gh)	1.69	For tubular pole structures	

Wind Loads Without Ice

Heights (z), Exposure Coeficients (Kz), Velocity Pressure (Qz), Pole Effective Projected Area (Ae), Appurtenance Effective Projected Area (Ac), Pole Force Coefficient (Cf), Appurtenance Force Coefficient (Ca), Shear Force (Fz), and Moment at Base (Mz)

	Feet z	Kz	PSF Qz	SF Ae/Ac	Cf/Ca	Pounds Fz	Ft-Lbs Mz
Center of Pole Section 1	22.25	1.000	18.50	201.19	0.65	4,087.8	90,954
Center of Pole Section 2	67.38	1.226	22.68	174.07	0.65	4,336.9	292,218
Center of Pole Section 3	113.63	1.424	26.33	142.88	0.65	4,132.9	469,624
Center of Pole Section 4	162.5	1.577	29.17	116.26	0.65	3,724.9	605,294
Banded Cables	0	1.000	18.50	0.00	0.65	0.0	0
(12) Existing & Future Antennas 1	187	1.641	30.36	54.75	1.00	2,809.1	525,310
(12) Existing & Future Antennas 2	177	1.616	29.89	54.75	1.00	2,765.4	489,473
(9) Sprint Antennas 3	167	1.589	29.39	40.50	1.00	2,011.9	335,990
(12) Existing and Future Antennas 4	157	1.561	28.88	54.75	1.00	2,672.3	419,544
Lightning Rod	195	1.661	13.34	1.00	1.00	0.0	0
Microwave Dish 1	20	1.000	18.50	0.00	1.00	0.0	0
Microwave Dish 2	30	1.000	18.50	0.00	1.00	0.0	0
Antenna Mounts 1	185	1.636	30.27	31.08	1.00	1,589.8	294,109
Antenna Mounts 2	175	1.611	29.79	31.08	1.00	1,564.7	273,829
Antenna Mounts 3	165	1.584	29.29	31.08	1.00	1,538.7	253,878
Antenna Mounts 4	155	1.556	28.78	31.08	1.00	1,511.4	234,269
						32,746	4,284,494

Wind Loads With Ice

Heights (z), Exposure Coeficients (Kz), Velocity Pressure (Qz), Pole Effective Projected Area (Ae), Appurtenance Effective Projected Area (Ac), Pole Force Coefficient (Cf), Appurtenance Force Coefficient (Ca), Shear Force (Fz), and Moment at Base (Mz)

	Feet z	Kz	PSF Qz	SF Ae/Ac	Cf/Ca	Pounds Fz	Ft-Lbs Mz
Center of Pole Section 1	22.25	1.000	18.50	203.05	0.65	4,125.5	91,792
Center of Pole Section 2	67.38	1.226	22.68	175.98	0.65	4,384.4	295,418
Center of Pole Section 3	113.63	1.424	26.33	144.83	0.65	4,189.3	476,027
Center of Pole Section 4	162.5	1.577	29.17	118.39	0.65	3,793.0	616,357
Banded Cables	0	1.000	18.50	0.00	0.65	0.0	0
Antennas 1	187	1.641	30.36	60.00	1.00	3,078.5	575,683
Antennas 2	177	1.616	29.89	60.00	1.00	3,030.6	536,408
Antennas 3	167	1.589	29.39	44.25	1.00	2,198.2	367,100
Antennas 4	157	1.561	28.88	60.00	1.00	2,928.5	459,774
Lightning Rod	195	1.661	30.73	1.00	1.00	51.9	10,126
Microwave Dish 1	20	1.000	18.50	0.00	1.00	0.0	0
Microwave Dish 2	30	1.000	18.50	0.00	1.00	0.0	0
Antenna Mounts 1	185	1.636	30.27	48.00	1.00	2,455.3	454,223
Antenna Mounts 2	175	1.611	29.79	48.00	1.00	2,416.6	422,903
Antenna Mounts 3	165	1.584	29.29	48.00	1.00	2,376.3	392,090
Antenna Mounts 4	155	1.556	28.78	48.00	1.00	2,334.2	361,806
						37,362.2	5,059,707

Structural Calculations
Monopole Analysis

Summary of Results

Load Case	Vertical Weight (Pounds)	Shear Wind (Pounds)	Moment Wind (Ft.-Lbs)	Axial Stress (PSI)	Bending Stress (PSI)	P-Delta Stress (PSI)	Total Stress (PSI)
Dead Load + Wind Without Ice:	55,975	32,746	4,284,494	592	37,018	3,702	41,311
Dead Load + 0.75(Wind With Ice)	67,148	37,362	3,794,780	710	32,787	3,279	36,775

Allowable Bending Stress: 39,000 KSI (O.6 Fy)

				Pole Status
Dead Load + Wind Without Ice:	Stress Ratio:	1.06	<1.33?	O.K.
Dead Load + 0.75(Wind With Ice)	Stress Ratio:	0.94	<1.33?	O.K.

SUMMIT MANUFACTURING, LLC
225 KIWANIS BOULEVARD, WEST HAZLETON, PA 18201
PHONE: (888) 347-6537 E-MAIL: SUMMITCA@EPIX.NET
FAX: (888) 410-6885 WWW.SUMMITMFGLLC.COM

PJF STRUCTURAL ENGINEERS
250 East Broad Street, Suite 500, Columbus, Ohio 43215
(614) 221-6679 Fax: (614) 221-0166 www.PJFweb.com

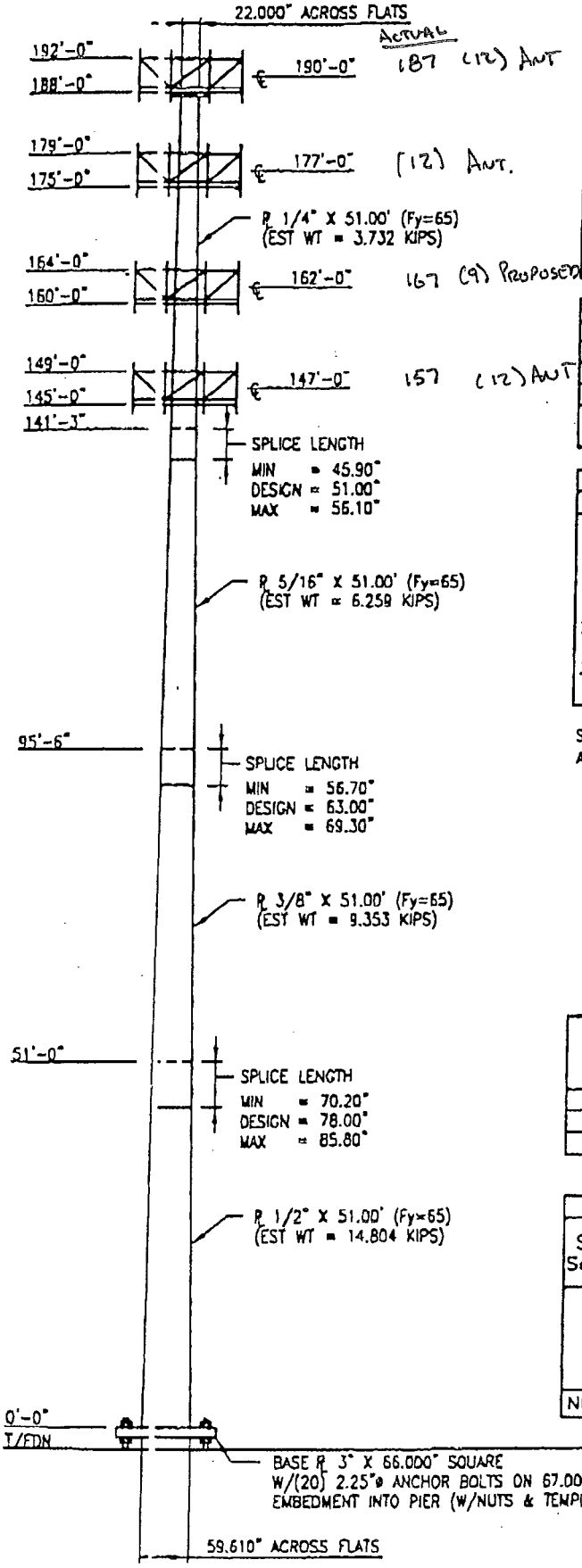
JOB DATA			
Page 1 of 3		Job No.	29200-1787
By	MFP / KJS	Design No.	SUMMIT JOB #12481
Chk'd By		Date	12-11-2000
		Rev. No.	Rev. Date
Pole	190-FT EXPRESS POLE		
Site	NEW BRITAIN III., HARTFORD CO., CT		
Owner	CROWN CASTLE		
Ref. No.			
Design	85 MPH / 74 MH + 1/2" ICE ACCORDING TO TIA/EIA-222-F 1996		

LOAD CASES		
CASE 1	85 MPH WITH NO ICE	DESIGN WIND
CASE 2	74 MPH WITH 1/2" RADIAL ICE	REDUCED WIND WITH ICE
CASE 3	50 MPH WITH NO ICE	OPERATIONAL WIND

POLE SPECIFICATIONS	
Pole Shape Type:	18-SIDED POLYGON
Taper:	0.210027 IN/FT
Shaft Steel:	ASTM A607 GRADE 65
Base PL Steel:	ASTM A572 GRADE 50 (50 KSI)
Anchor Bolts:	2 1/4"ø x 8'-0" LONG #18J ASTM A615 GRADE 75

ANTENNA LIST		
No.	Elev.	Description
-	TOP	5/8" LIGHTNING ROD
1-12	TOP	(12) 1-FT X 5-FT X 3-IN PANEL ANTENNA
-	TOP	14' PLATFORM
13-24	177.00	(12) 1-FT X 5-FT X 3-IN PANEL ANTENNA
-	177.00	14' PLATFORM
25-36	162.00	(12) 1-FT X 5-FT X 3-IN PANEL ANTENNA
-	162.00	14' PLATFORM
37-48	147.00	(12) 1-FT X 5-FT X 3-IN PANEL ANTENNA
-	147.00	14' PLATFORM

STEP BOLTS FULL HEIGHT.
ANTENNA FEED LINES RUN INSIDE OF POLE.



Elevation	85 MPH WIND		50 MPH WIND	
	Lateral Deflection (Inches)	Rotation (sway) (degrees)	Lateral Deflection (Inches)	Rotation (sway) (degrees)
TOP	158.6	7.772	54.7	2.689

SHAFT SECTION DATA					
Shaft Section	Section Length (feet)	Plate Thickness (in.)	Lap Splice (in.)	Diameter Across Flats (inches) @ Top	@ Bottom
1	51.00	0.2500	51.00	22.000	32.711
2	51.00	0.3125	63.00	31.319	42.030
3	51.00	0.3750	78.00	40.302	51.014
4	51.00	0.5000		48.899	59.610

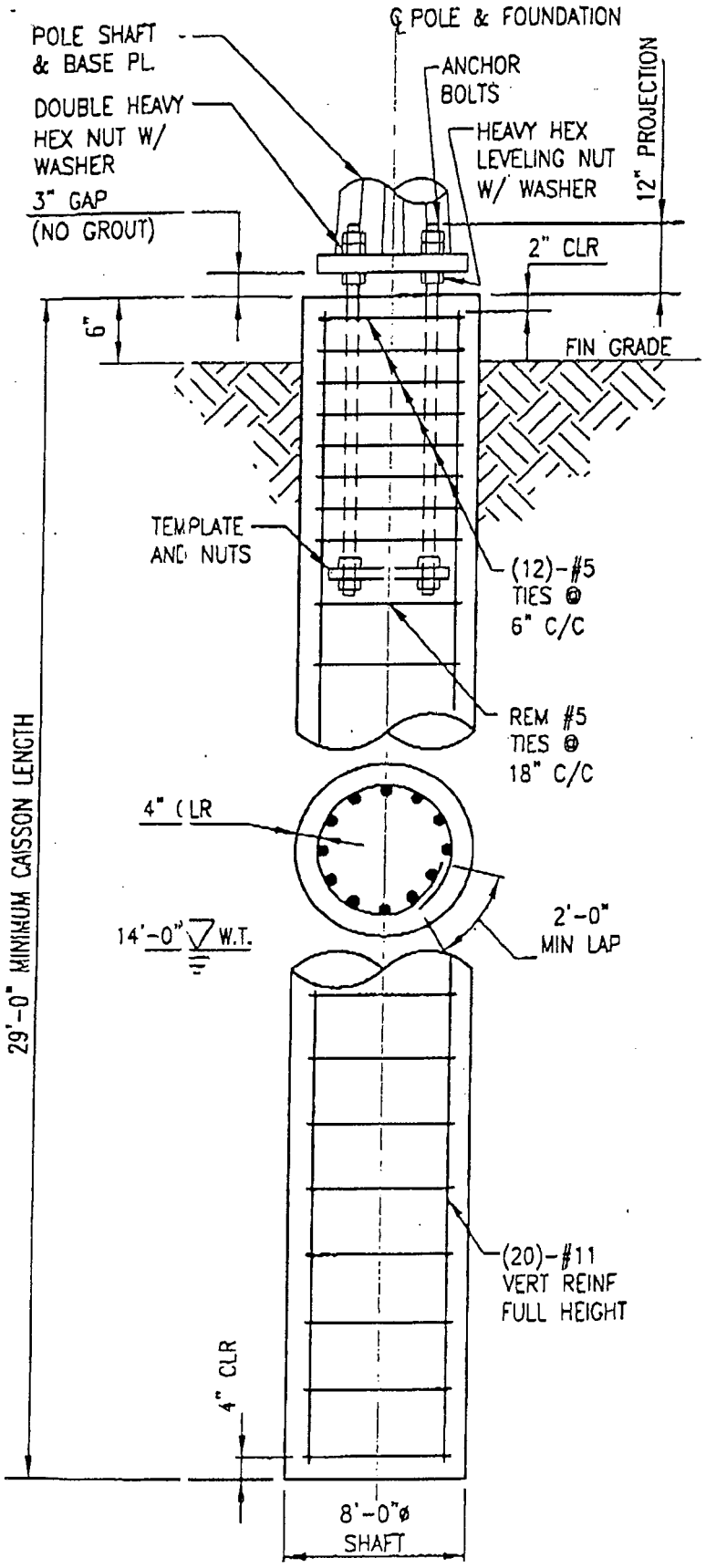
NOTE: DIMENSIONS SHOWN DO NOT INCLUDE GALVANIZING TOLERANCES

FOUNDATION DESIGN BASE REACTIONS

MOMENT =	4650 ft-kips
SHEAR =	34.5 kips
AXIAL =	44.0 kips

SUMMIT MANUFACTURING, LLC
225 KIWANIS BOULEVARD, WEST HAZLETON, PA 18201
PHONE: (888) 947-6537 FAX: (888) 460-6885
VISIT US AT WWW.SUMMITMFG.COM

PAUL J. FORD AND COMPANY
STRUCTURAL ENGINEERS
250 East Broad Street, Suite 500, Columbus, Ohio 43215
(614) 221-6679 Fax: (614) 221-0166 www.PJFweb.com



JOB DATA		
Page 2 of 3	Job No.	29200-1787
By MFP / KJS	Design No.	SUMMIT JOB #12481
Chk'd By	Date	12-11-2000
	Rev. No.	Rev. Date
Pole	190' EXPRESS POLE	
Site	NEW BRITAIN III.; HARTFORD CO., CT	
Owner	CROWN CASTLE USA	
Ref. No.	29200-1711	
Design	80 MPH / 69 MPH + 1/2" RADIAL ICE ACCORDING TO TIA/EIA-222-F 1996	

THERE ARE TWO NOTCHES ON THE ANCHOR BOLT TEMPLATES LOCATED 180° APART. THE CONTRACTOR SHALL POSITION THE ANCHOR BOLTS AND TEMPLATES IN THE FOUNDATION PER THE SUMMIT MANUFACTURING ANCHOR BOLT TEMPLATE DRAWING.

NOTES:

1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI AT 28 DAYS. CONCRETE SHALL BE AIR ENTRAINED (6±1.5%). CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.4. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", ACI 318, LATEST EDITION. FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.

2. REINFORCING STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615 (GRADE 60) EXCEPT THAT CAISSON TIES MAY BE ASTM A-615 (GRADE 40). ALL REINFORCING DETAILS SHALL CONFORM TO "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", ACI 315, LATEST EDITION, UNLESS DETAILED OTHERWISE ON THIS DRAWING.

3. SEE PAGE 1 FOR ANCHOR BOLT QUANTITY, SIZE, LENGTH, AND BOLT CIRCLE.

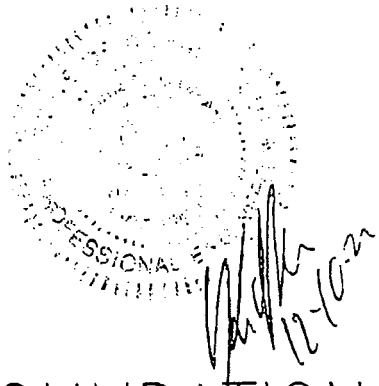
4. TOTAL CONCRETE = 54 CUBIC YARDS.

5. FOUNDATION DESIGN IS BASED UPON GEOTECHNICAL EXPLORATION REPORT PREPARED BY: CLOUGH, HARBOUR & ASSOCIATES, LLP.
REPORT NO.: 8961.07.46
DATED: 10-26-2000

6. CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.

7. GEOTECHNICAL REPORT INDICATES GROUNDWATER WAS ENCOUNTERED AT 14'-0" BELOW GRADE.

8. THE FOUNDATION WAS DESIGNED USING THE FOLLOWING SERVICE LOADS:
MOMENT: 4650 FT-KIPS
SHEAR: 34.5 KIPS
AXIAL: 44.0 KIPS



CAISSON (DRILLED PIER) FOUNDATION

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Exhibit E

Power Density Calculations

Lester Street

New Britain, Connecticut

VOICESTREAM WIRELESS CORPORATION
100 Filley St, Bloomfield, CT 06002-1853
Phone: (860) 692-7100
Fax: (860) 692-7159

Technical Memo

To: Karina Hansen
From: Hassan Syed - Radio Frequency Engineer
cc: Mike Fulton
Subject: Power Density Report for CT11783
Date: September 24, 2002

1. Introduction:

This report is the result of an Electromagnetic Field Intensities (EMF - Power Densities) study for the Voicestream Wireless Corporation PCS antenna installation on a Monopole at 175 Lester Street, New Britian, CT. This study incorporates the most conservative consideration for determining the practical combined worst case power density levels that would be theoretically encountered from locations surrounding the transmitting location.

2. Discussion:

The following assumptions were used in the calculations:

1) The emissions from Voicestream Wireless transmitters are in the 1935-1945 MHz frequency band.
2) The antenna array consists of three sectors, with 3 antennas per sector.
3) The model number for each antenna is EMS RR90-17-02DP.
4) The antenna center line height is 167 ft.
5) The maximum transmit power from any sector is 1956.51 Watts Effective Radiated Power (EiRP) assuming 8 channels per sector.
6) All the antennas are simultaneously transmitting and receiving, 24 hours a day.
7) Power levels emitting from the antennas are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.
8) The average ground level of the studied area does not change significantly with respect to the transmitting location

Equations given in "FCC OET Bulletin 65, Edition 97-01" were then used with the above information to perform the calculations.

3. Conclusion:

Based on the above worst case assumptions, the power density calculation from the VoiceStream Wireless Corporation PCS antenna installation on a Monopole at 175 Lester Street, New Britian, CT, is 0.01656 mW/cm^2. This value represents 1.656% of the Maximum Permissible Emission (MPE) standard of 1 milliwatt per square centimeter (mW/cm^2) set forth in the FCC/ANSI/IEEE C95.1-1991. Furthermore, the proposed antenna location for VoiceStream Wireless will not interfere with existing public safety communications, AM or FM radio broadcasts, TV, Police Communications, HAM Radio communications or any other signals in the area.
The combined Power Density from other carriers is 0.09%. The combined Power Density for the site is 1.746% of the M.P.E. standard.

New England Market

Connecticut

Worst Case Power Density

VoiceStream

Global Wireless by T-Mobile

Site:	**CT11783**
Site Address:	**175 Lester Street**
Town:	**New Britian**
Tower Height:	**167 ft.**
Tower Style:	**Monopole**
Base Station TX output	11 W
Number of channels	8
Antenna Model	EMS RR90-17-02DP
Cable Size	1 5/8 in.
Cable Length	175 ft.
Antenna Height	167.0 ft.
Ground Reflection	1.6
Frequency	1935.0 MHz
Jumper & Connector loss	1.00 dB
Antenna Gain	16.5 dBi
Cable Loss per foot	0.0116 dB
Total Cable Loss	2.0300 dB
Total Attenuation	3.0300 dB
Total EIRP per Channel	53.88 dBm
(In Watts)	244.56 W
Total EIRP per Sector	62.91 dBm
(In Watts)	1956.51 W
nsg	13.4700
Power Density (S) =	**0.016560 mW/cm^2**
Voicestream Worst Case % MPE =	**1.6560%**

Equation Used :

$$S = \frac{(1000)(grf)^2 (Power) * 10^{(nsg/10)}}{4\pi (R)^2}$$

Office of Engineering and Technology (OET) Bulletin 65, Edition 97-01, August 1997

Co-Location Total

Carrier	% of Standard
Verizon \ AT&T Wireless	0.0900 %
Total Excluding Voicestream	**0.0900 %**
Voicestream	1.6560
Total % MPE for Site	**1.7460%**