

June 22, 2007

**BY FEDERAL EXPRESS**

Mr. S. Derek Phelps  
Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, Connecticut 06051



Re: Docket No. 320  
Message Center Management, Inc. / New Cingular Wireless PCS, LLC  
Development & Management Plan  
Norfolk, Connecticut, Greenwood Road East/U.S. Route 44

Dear Mr. Phelps:

On behalf of Message Center Management, Inc. ("MCM"), the Certificate holder, enclosed please find twenty-one sets of plans and other development and management plan ("D&M") materials relevant to the Norfolk Facility approved by the Siting Council in Docket No. 320. The enclosed are being filed in accordance with the Council's Decision and Order and Certificate of Environmental Compatibility and Public Need ("Certificate") dated March 13, 2007.

**Development and Management Plan**

The proposed Development and Management ("D&M") Plan for the Norfolk Facility includes a monopole 180' above grade level ("AGL") with antennas extending no further than 183 feet AGL as provided in Order No.1. As shown in the enclosed design documents, the tower and foundation are designed to accommodate multiple carrier antennas. Cingular, Verizon and other carriers will install their associated equipment at grade within the 60' x 100' fenced compound. Initially, Cingular will install up to six (6) panel antennas on a low profile platform, with a centerline of approximately 180' AGL. Verizon Wireless will install 12 panel antennas at a centerline height of 160' AGL.

As required by Order No. 2, the proposed D&M Plan includes specifications for the tower, tower foundation, antennas, equipment buildings, access road, utility line, and landscaping. The D&M Plan includes details of the Cingular and Verizon equipment shelters. Also included are construction plans for the site clearing, drainage, and erosion and sedimentation control measures consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control as amended.

**Conclusion**

In accordance with the provisions of RCSA Section 16-50j-77, MCM hereby notifies the Council of its intention to commence clearing and related site work immediately upon D&M Plan approval and to commence other construction activities immediately upon issuance of a building permit by the Town of Norfolk. The supervisor for all construction related matters on this

June 22, 2007

Page 2

project is Mr. Jim Maher. Mr. Maher is located at MCM's office in Hartford, Connecticut and can be reached by telephone at (203) 223-4665.

We respectfully request that this matter be included on the Council's next agenda for review and approval. In the event that the Council requires additional information prior to completing its review of the D&M Plan, MCM respectfully requests that partial approval be granted in order to allow MCM to commence clearing and excavation work. Thank you for your consideration of the enclosed.

Respectfully Submitted,

Handwritten signature of Christopher B. Fisher in black ink. The signature is stylized and includes the initials 'C.B.F.' and 'D.M.L.' in a circled area.

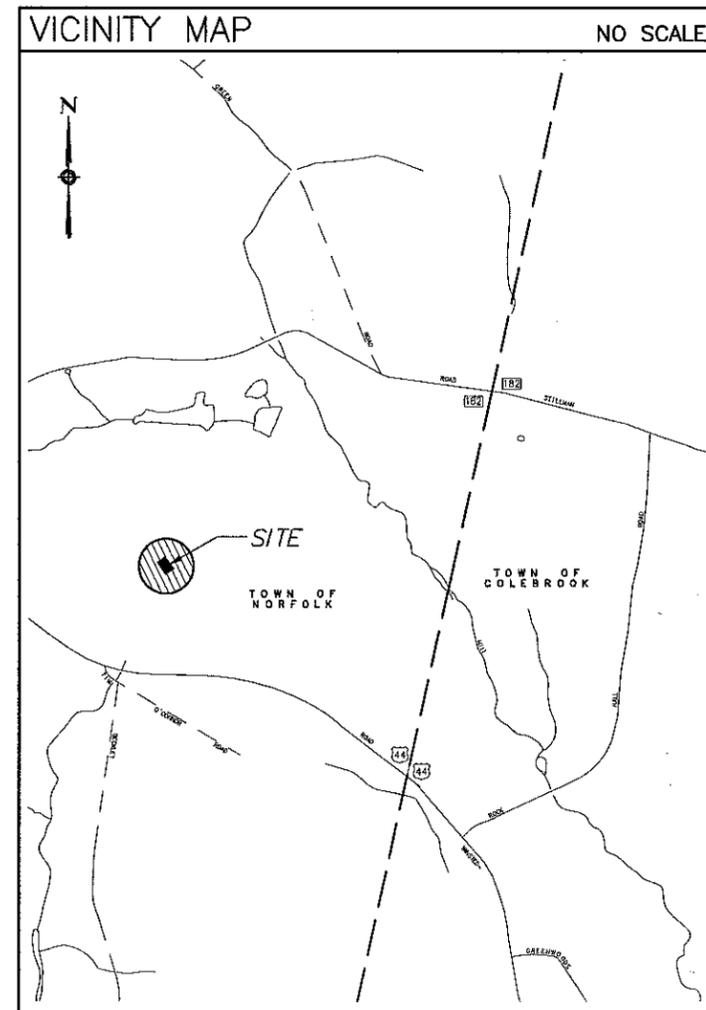
Christopher B. Fisher

Enclosures

cc: Hans Fiedler  
Kenneth C. Baldwin, Esq.  
Steve Levine  
John Blevins  
Douglas Roberts  
Michael Libertine

# MESSAGE CENTER MANAGEMENT DEVELOPMENT & MANAGEMENT PLAN & CONSTRUCTION DRAWINGS NORFOLK

GREENWOODS ROAD EAST  
NORFOLK, CONNECTICUT 06058

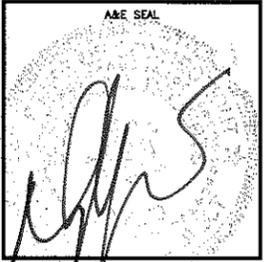


## PROJECT SUMMARY

**SITE NAME:** NORFOLK  
**SITE ADDRESS:** GREENWOODS ROAD EAST  
NORFOLK, CONNECTICUT 06058  
**CONTACT PERSON:** MESSAGE CENTER MANAGEMENT  
VIRGINIA KING  
NAME (860) 727-5790  
**GOVERNING CODE:** CONNECTICUT STATE BUILDING  
AND LIFE SAFETY CODE  
**APPLICANT:** MESSAGE CENTER MANAGEMENT  
40 WOODLAND STREET  
HARTFORD, CONNECTICUT 06105  
**ARCHITECT:** URS CORPORATION  
500 ENTERPRISE DRIVE  
ROCKY HILL, CT 06087  
**M/E/P ENGINEER:** URS CORPORATION  
500 ENTERPRISE DRIVE  
ROCKY HILL, CT 06087

**MESSAGE CENTER MANAGEMENT**  
40 WOODLAND STREET  
HARTFORD, CONNECTICUT 06105

**URS CORPORATION**  
500 ENTERPRISE DRIVE  
ROCKY HILL, CONNECTICUT  
1-(860)-529-8882



## LEGEND

SYMBOL	DESCRIPTION
	SECTION OR DETAIL NUMBER SHEET WHERE DETAIL/SECTION OCCURS
	ELEVATION NUMBER SHEET WHERE ELEVATION OCCURS

## ABBREVIATIONS

MIN.	MINIMUM
V.I.F.	VERIFY IN FIELD
O.C.	ON CENTER
PSF	POUND/SQUARE FOOT
TYP.	TYPICAL
FT.	FEET
SQ.FT.	SQUARE FEET
N/A	NOT APPLICABLE

## SHEET INDEX

SHT. NO.	DESCRIPTION
T-1	TITLE SHEET - GENERAL NOTES AND LEGENDS
S-1	SURVEY
C-1	SITE PLAN AND SEDIMENTATION CONTROL NOTES
C-2	COMPOUND PLAN AND TOWER ELEVATION
C-3	SITE DETAILS AND NOTES
C-4	CINGULAR WIRELESS EQUIPMENT SHELTER ELEVATIONS AND SITE DETAILS
C-5	VERIZON WIRELESS EQUIPMENT SHELTER ELEVATIONS AND DETAILS
E-1	SITE UTILITIES PLAN, DETAILS, NOTES AND LEGEND
E-2	ELECTRICAL RISER DIAGRAM
E-3	GROUNDING DETAILS
E-4	ELECTRICAL SPECIFICATIONS

PROJECT NO: 36924832

JOB NO: MCM 003

DRAWN BY: KAP

CHECKED BY:

ISSUED FOR	
03/26/07	REVIEW
04/12/07	REVIEW
05/04/07	REVIEW
06-22-07	D&M APPROVAL

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**NORFOLK**  
GREENWOODS ROAD EAST  
NORFOLK, CONNECTICUT 06058

SCALE: NONE

**TITLE SHEET-  
GENERAL NOTES  
AND LEGENDS**

**T-1**



**SITE NOTES**

- THE FOLLOWING STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE WORK SHOWN HEREON UNLESS SUPERSEDED BY LOCAL (NORFOLK) REGULATIONS:
  - STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR ROADS, BRIDGES AND INCIDENTAL CONSTRUCTION" FORM 816 ENGLISH & METRIC FORM 816 ORIGINAL
  - FORM 816 SUMMARY OF CHANGES
  - SUPPLEMENT FORM 816 JANUARY 2005
  - SUPPLEMENT FORM 816 JULY 2005
- "DEP BULLETIN 34, CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENTATION CONTROL" AS PUBLISHED BY THE CONNECTICUT COUNCIL OF SOIL AND WATER CONSERVATION, DATED 2002.
- THE CONTRACTOR SHALL INSTALL ALL EROSION AND SEDIMENTATION CONTROL MEASURES PRIOR TO ANY GRADING ACTIVITIES.
- THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN SOIL EROSION AND SEDIMENTATION CONTROLS AT ALL TIMES DURING CONSTRUCTION. ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES ARE SUBJECT TO INSPECTION AND MONITORING BY THE TOWN.
- COORDINATION, LAYOUT AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS AND/OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY CELLULAR CARRIER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
- THE CONTRACTOR SHALL STABILIZE ALL UTILITY LINE TRENCHES WITHIN FIVE WORKING DAYS AFTER EXCAVATION UNLESS OTHERWISE APPROVED BY CELLULAR CARRIER.
- 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 ENGINEERS. 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.
- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND PROJECT SPECIFICATIONS.
- IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE EQUIPMENT SHELTERS/SLABS AND TOWER AREAS.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING, OWNER AND/OR LOCAL UTILITIES.
- ALL EXISTING AREAS DISTURBED DUE TO CONSTRUCTION SHALL BE RESTORED TO MATCH PRECONSTRUCTION CONDITIONS.
- THE EXACT SHELTER FOUNDATION SIZE AND SHELTER FLOOR PENETRATIONS FOR UTILITIES SHALL BE CONFIRMED WITH THE SHELTER SPECIFICATIONS AND PLANS PRIOR TO LAYOUT.
- COORDINATED CONTROL POINTS TO BE PROVIDED BY URS CORPORATION A.E.S.
- THE CONTRACTOR SHALL CONTACT "CALL BEFORE YOU DIG" AT LEAST 48 HOURS PRIOR TO ANY EXCAVATIONS TO VERIFY AND IDENTIFY THE EXACT LOCATIONS OF ALL UNDERGROUND UTILITIES AND OBSTRUCTIONS PRIOR TO COMMENCING WORK IN THE CONTRACT AREA.
- SUB-CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

**SEDIMENTATION CONTROL FENCE SPECIFICATIONS MAINTENANCE**

- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS THAT ARE REQUIRED SHALL BE MADE IMMEDIATELY.
- IF THE FABRIC ON A SILT FENCE SHOULD DECOMPOSE OR BECOME INEFFECTIVE DURING THE EXPECTED LIFE OF THE FENCE, THE FABRIC SHALL BE REPLACED PROMPTLY.
- SEDIMENT DEPOSITS SHOULD BE INSPECTED AFTER EVERY STORM EVENT. THE DEPOSITS SHOULD BE REMOVED WHEN THEY REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
- SEDIMENT DEPOSITS THAT ARE REMOVED OR LEFT IN PLACE AFTER THE FABRIC HAS BEEN REMOVED SHALL BE GRADED TO CONFORM WITH THE EXISTING TOPOGRAPHY AND VEGETATION.

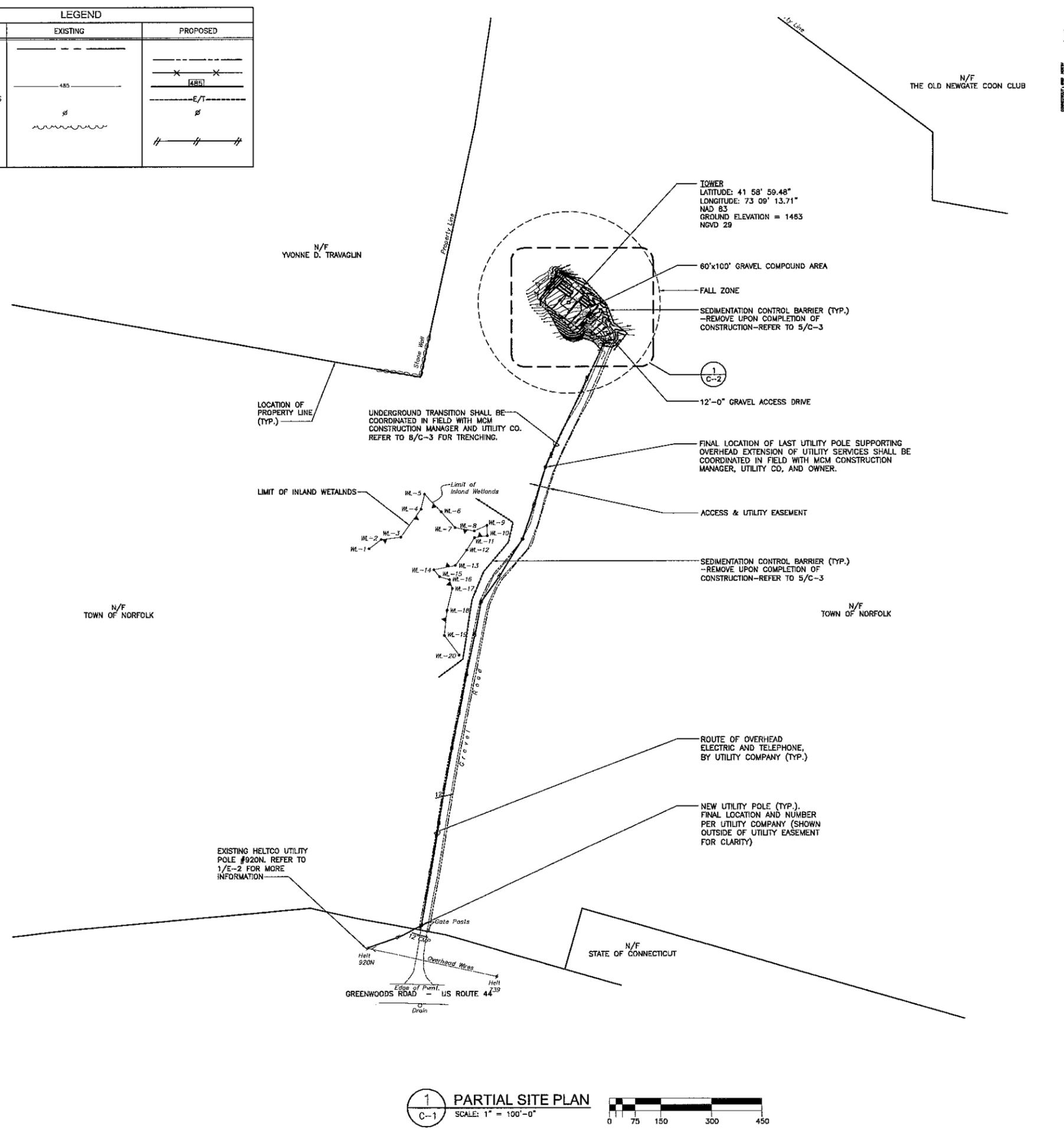
**CONSTRUCTION SEQUENCE**

- THE GEOTEXTILE FABRIC SHALL MEET THE DESIGN CRITERIA FOR SILT FENCES
- THE FABRIC SHALL BE EMBEDDED A MINIMUM OF 8 INCHES INTO THE GROUND AND THE SOIL COMPACTED OVER THE EMBEDDED FABRIC.
- WOVEN WIRE FENCES SHALL BE FASTENED SECURELY TO THE FENCE POSTS WITH WIRE TIES OR STAPLES.
- FILTER CLOTH SHALL BE FASTENED SECURELY TO THE WOVEN WIRE FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP, MID-SECTION, AND BOTTOM.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER, THEY SHALL BE OVERLAPPED BY 6 INCHES, FOLDED AND STAPLED.
- FENCE POSTS SHALL BE A MINIMUM OF 36 INCHES LONG AND DRIVEN A MINIMUM OF 18 INCHES INTO THE GROUND. WOOD POSTS SHALL BE OF SOUND QUALITY HARDWOOD AND SHALL HAVE A MINIMUM CROSS SECTIONAL AREA OF 3.0 SQUARE INCHES.
- MAINTENANCE SHALL BE PERFORMED AS NEEDED TO PREVENT BULGES IN THE SILT FENCE DUE TO DEPOSITION OF SEDIMENT.

**EROSION CONTROL NOTES**

- DURING CONSTRUCTION AND THEREAFTER EROSION CONTROL MEASURES ARE TO BE IMPLEMENTED AS NOTED. NOT GREATER THAN 80,000 SQ. FT. OF LAND SHALL BE EXPOSED AT ANY ONE TIME DURING DEVELOPMENT. WHEN LAND IS EXPOSED DURING DEVELOPMENT, THE EXPOSURE SHOULD BE KEPT TO THE SHORTEST PRACTICAL PERIOD OF TIME AND SHALL NOT EXCEED 90 DAYS. LAND SHOULD NOT BE LEFT EXPOSED DURING THE WINTER MONTHS.
- SILTATION FENCING SHALL BE INSTALLED WHERE SHOWN PRIOR TO ANY ON SITE GRADING OR DISTURBANCE OF EXISTING SURFACE MATERIAL. IT SHOULD BE MAINTAINED DURING AND AFTER DEVELOPMENT TO REMOVE SEDIMENT FROM RUNOFF WATER AND FROM LAND UNDERGOING DEVELOPMENT. WHERE POSSIBLE NATURAL DRAINAGE-WAYS SHOULD BE UTILIZED AND LEFT OPEN TO REMOVE EXCESS SURFACE WATER.
- ALL DISTURBED AREAS AND SIDE SLOPES WHICH ARE FINISH GRADED WITH NO FURTHER CONSTRUCTION TO TAKE PLACE SHALL BE LOAMED AND SEEDED. A MINIMUM OF 4" OF LOAM SHALL BE INSTALLED.
- ANY DISTURBED AREAS WHICH ARE TO BE LEFT TEMPORARILY, AND WHICH WILL BE REGRADED LATER DURING CONSTRUCTION SHALL BE MACHINE HAY MULCHED AND SEEDED WITH RYE GRASS TO PREVENT EROSION. HAY OR STRAW MULCH SHALL BE APPLIED TO ALL FRESHLY SEEDED AREAS AT A RATE OF 2 TONS PER ACRE. BALES SHALL BE UNSPOILED, AIR-DRIED, AND FREE FROM WEED, SEEDS AND ANY COARSE MATERIAL.

LEGEND		
DESCRIPTION	EXISTING	PROPOSED
PROPERTY LINE	---	---
LEASE LINE	---	---
CHAIN LINK FENCE	---	---X---X---
CONTOUR LINES	---485---	---485---
UNDERGROUND UTILITIES	---	---E/T---
UTILITY POLE	⊘	⊘
TREE LINE	~~~~~	~~~~~
SEDIMENTATION FENCE	---	---#---#---



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 NORFOLK, CONNECTICUT 06058

SCALE: AS NOTED

**SITE PLAN AND SEDIMENTATION CONTROL NOTES**

**C-1**



**GENERAL NOTES**

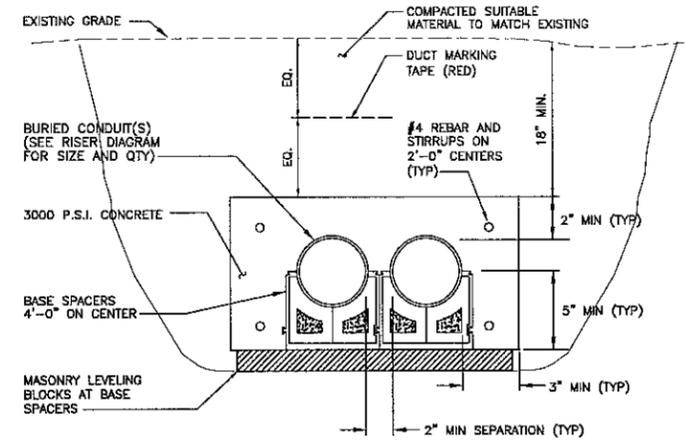
- SOIL**
- SOIL BEARING CAPACITY OF 3,000 PSF USED FOR FOUNDATION DESIGN. GENERAL CONTRACTOR RESPONSIBLE FOR VERIFYING BEARING CAPACITIES.
  - ALL SURFACES MUST BE FREE OF STANDING WATER PRIOR TO PLACING CONCRETE.
  - COMPACTED GRAVEL FILL PER CONNECTICUT DOT STANDARD SPEC. SECTION M.02.01 AND ASTM D1557.
  - CONTACT THE ENGINEER IF GROUND WATER IS IN ENCOUNTERED AND DEWATERING IS REQUIRED.

- CONCRETE**
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318 AND THE SPECIFICATION CAST-IN-PLACE CONCRETE.
  - ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3500 PSI AT 28 DAYS, UNLESS NOTED OTHERWISE. CONCRETE SHALL BE AIR ENTRAINED TO (4% TO 6%) AND SLUMP OF 3" TO 5".
  - 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.
  - 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 LARGER .....2 IN.
      - #5 AND SMALLER & WWF .....1 1/2 IN.
    - CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:
      - SLAB AND WALL .....3/4 IN.
      - BEAMS AND COLUMNS .....1 1/2 IN.
  - A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNO, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
  - 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 ENGINEERING APPROVAL WHEN DRILLING HOLES IN CONCRETE.
  - COLD WEATHER CONCRETE PLACING SHALL BE IN ACCORDANCE WITH ACI-306.
  - NO FOOTING SHALL BE PLACED ON FROZEN GROUND. UNCURED CONCRETE SHALL BE PROTECTED AGAINST FROST.
  - APPLY NON-SLIP BROOM FINISH IMMEDIATELY AFTER TROWEL FINISHING.

**DESIGN LOAD CRITERIA**

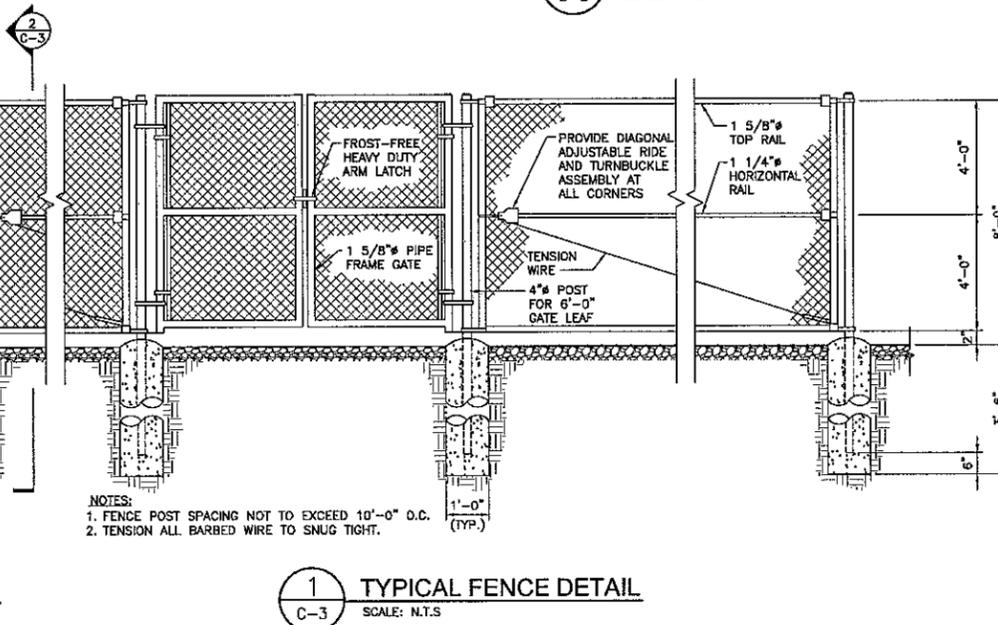
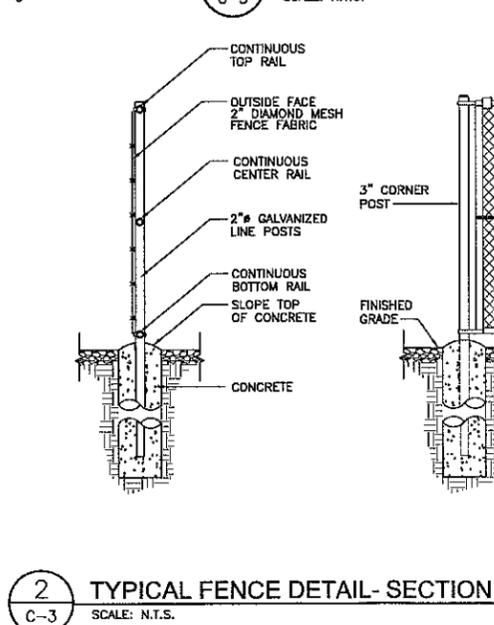
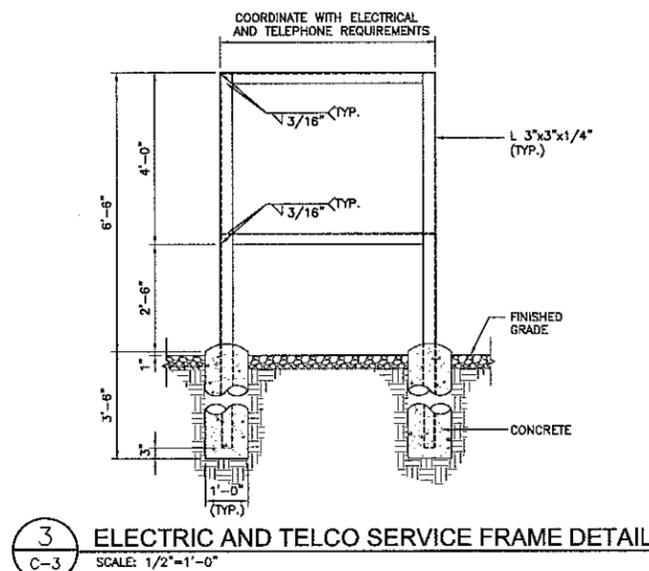
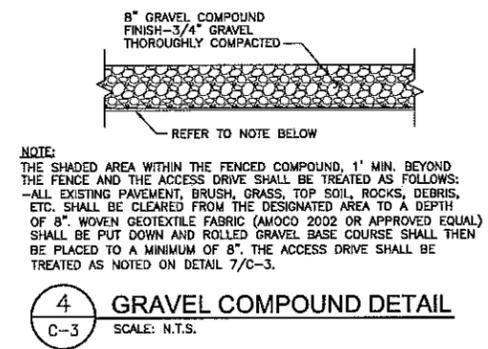
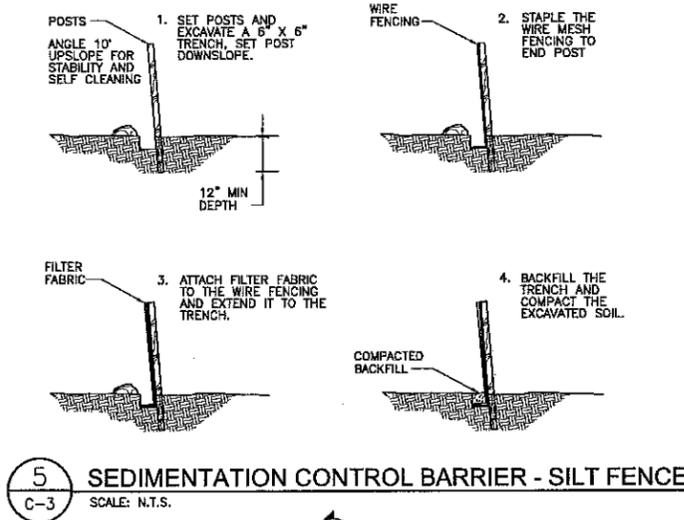
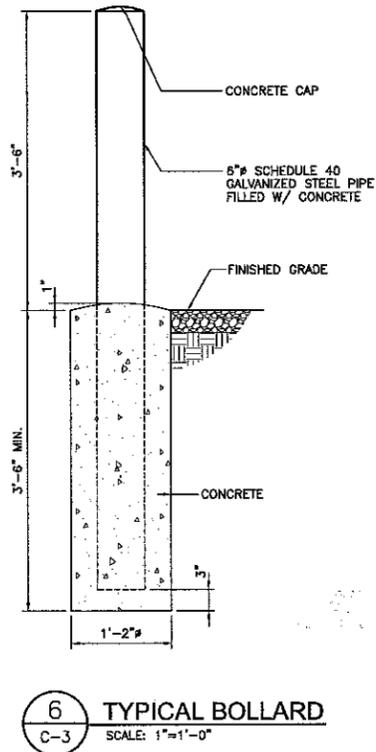
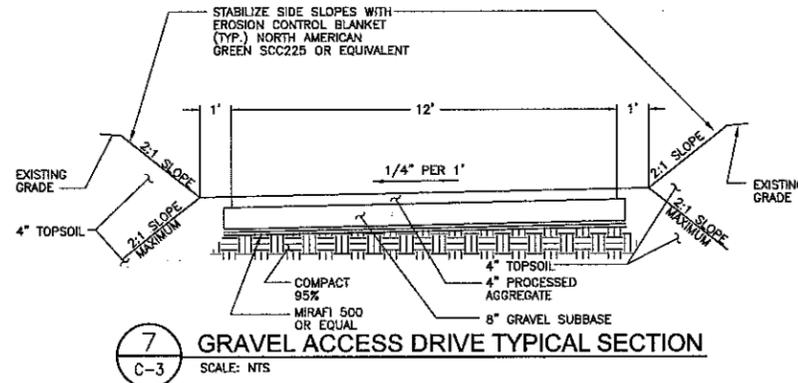
EQUIPMENT SHELTER SHALL BE DESIGNED AND MANUFACTURED TO MEET ALL STATE AND LOCAL CODES. ITS LAYOUT SHALL BE COORDINATED WITH CARRIERS.

<b>DESIGN BASIS</b>	CONNECTICUT STATE BUILDING CODE
GOVERNING CODE	
DESIGN LIVE LOADS:	
IMPORTANCE CATEGORY	III
<b>SNOW LOAD:</b>	
GROUND SNOW LOAD (P <sub>g</sub> )	XX PSF
IMPORTANCE FACTOR (I <sub>s</sub> )	1.2
EXPOSURE FACTOR (C <sub>e</sub> )	0.9
THERMAL FACTOR (C <sub>t</sub> )	1.0
<b>WIND LOAD:</b>	
BASIC WIND LOAD	XX MPH (3 SECOND GUST)
EXPOSURE GROUP	C
IMPORTANCE FACTOR (I <sub>w</sub> )	1.15
<b>SHELTER LOAD:</b>	
FLOOR LIVE LOAD INCLUDING EQUIPMENT:	150 PSF
EQUIPMENT SHELTER DL:	46,000 LBS
<b>SEISMIC DESIGN PARAMETERS:</b>	
SEISMIC USE GROUP	III
MCE SPECTRAL ACCELERATION SHORT (S <sub>s</sub> )	.000X
MCE SPECTRAL ACCELERATION SHORT (S <sub>1</sub> )	.000X
SITE CLASS	D FOR UNKNOWN SOIL PROPERTIES
IMPORTANCE FACTOR (I <sub>e</sub> )	1.5



NOTES:  
 1. ALL DUCTBANKS SHALL BE FORMED ON SIDES.

**8 TYPICAL CONCRETE ENCASED DUCTBANK TRENCH DETAIL**  
 C-3 SCALE: N.T.S.



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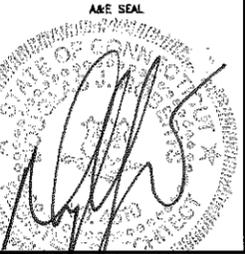
SCALE: AS NOTED

**SITE DETAILS AND NOTES**

**C-3**

**MESSAGE CENTER MANAGEMENT**  
 40 WOODLAND STREET  
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A&E FIRM  
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A&E SEAL  


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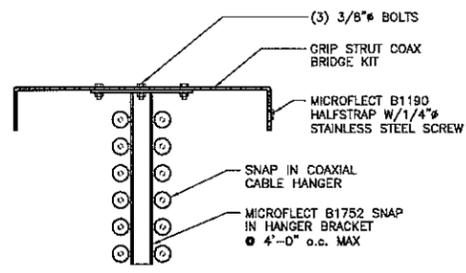
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SCALE: AS NOTED

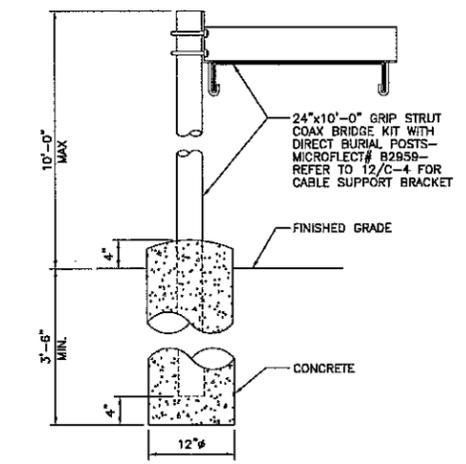
**CINGULAR WIRELESS EQUIPMENT SHELTER ELEVATIONS AND SITE DETAILS**

**C-4**

CINGULAR WIRELESS EQUIPMENT SHELTER FOUNDATION IS SHOWN FOR D&M APPROVAL PURPOSES ONLY AND NOT FOR CONSTRUCTION. CONTRACTOR SHALL REFER TO CINGULAR WIRELESS CONSTRUCTION DOCUMENTS FOR SPECIFIC EQUIPMENT SHELTER FOUNDATION DESIGN.

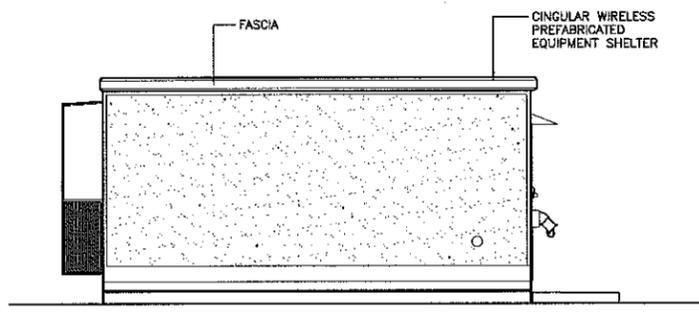


**12 CABLE SUPPORT DETAIL**  
 C-4 SCALE: 1 1/2" = 1'-0"

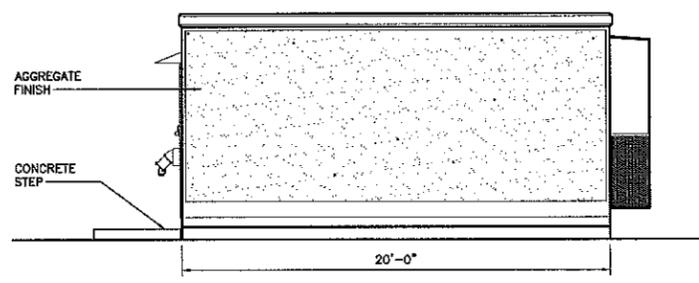


NOTE:  
 1. MAXIMUM 10' SPACING BETWEEN POST SUPPORTS  
 2. 2 POSTS REQUIRED

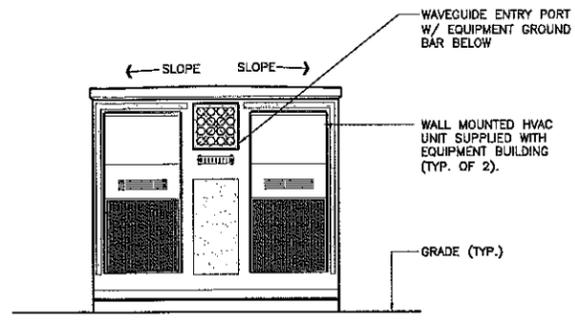
**11 ICE BRIDGE DETAILS**  
 C-4 SCALE: 1" = 1'-0"



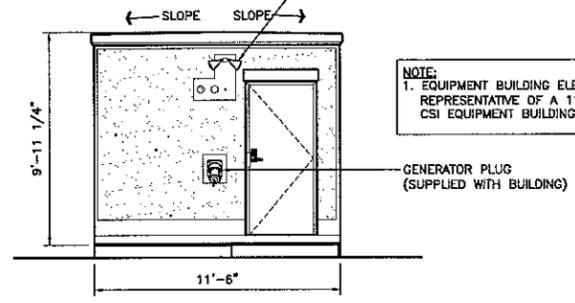
**10 SOUTH ELEVATION**  
 C-4 SCALE: 1/4" = 1'-0"



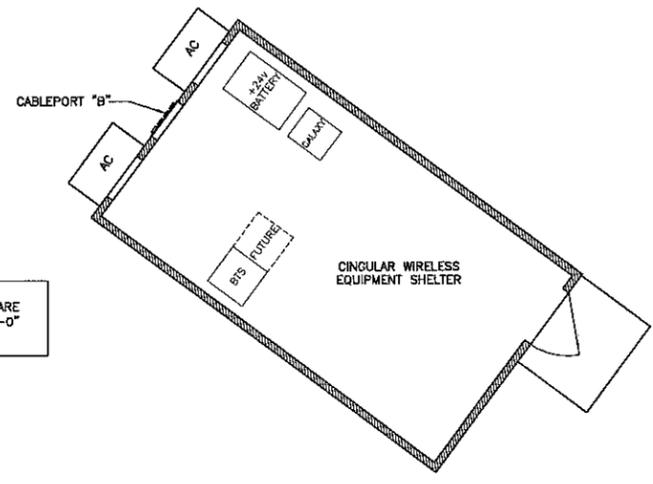
**8 NORTH ELEVATION**  
 C-4 SCALE: 1/4" = 1'-0"



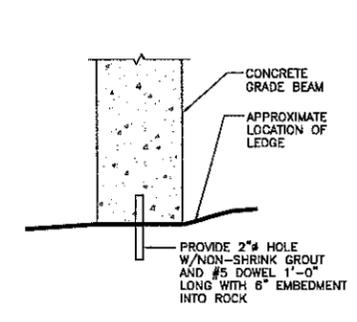
**9 WEST ELEVATION**  
 C-4 SCALE: 1/4" = 1'-0"



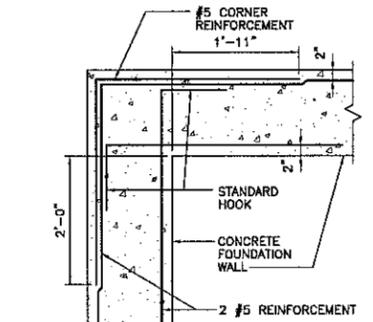
**7 EAST ELEVATION**  
 C-4 SCALE: 1/4" = 1'-0"



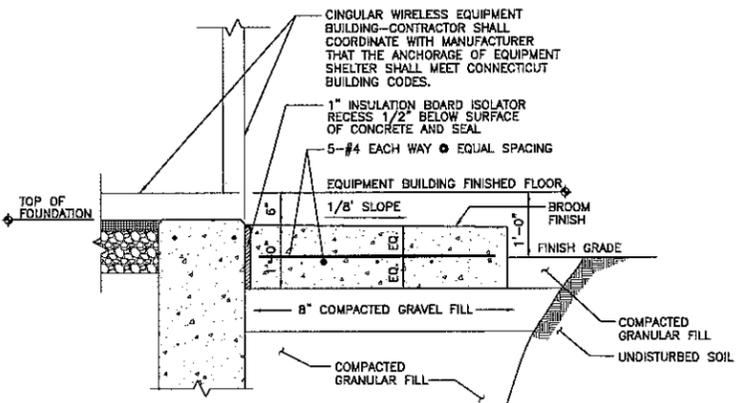
**6 EQUIPMENT FLOOR PLAN**  
 C-4 SCALE: 1/4" = 1'-0"



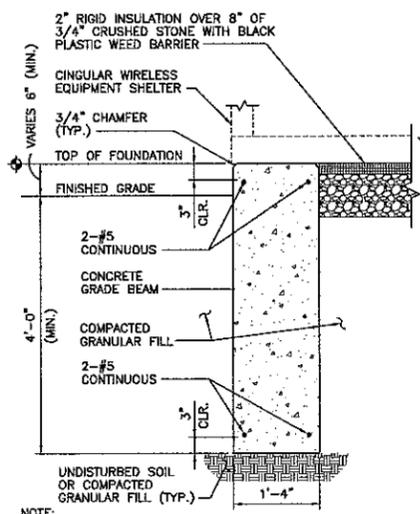
**5 PINNED FOUNDATION**  
 C-4 SCALE: 3/4" = 1'-0"



**4 FOUNDATION CORNER DETAIL**  
 C-4 SCALE: N.T.S.

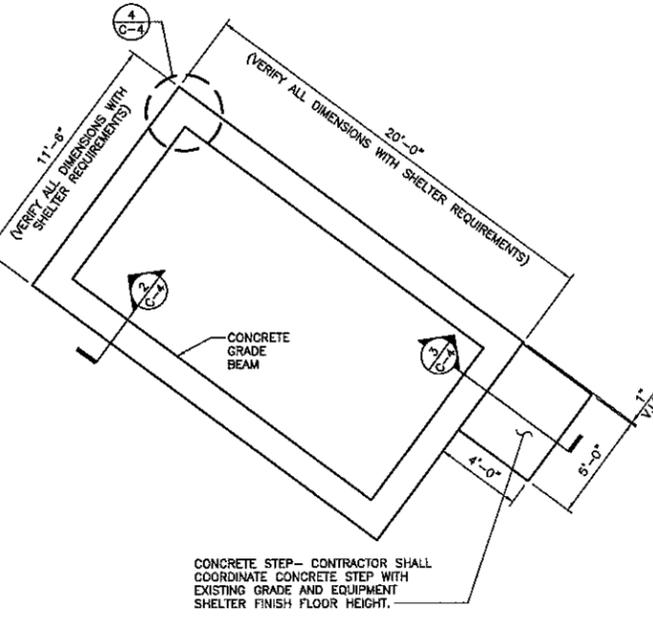


**3 CONCRETE STEP SECTION**  
 C-4 SCALE: 3/4" = 1'-0"



NOTE:  
 1. WHERE LEDGE IS ENCOUNTERED FOUNDATION SHALL BEAR ON LEDGE WITH IT'S ENTIRETY REFER TO DETAIL 5/C-4.

**2 FOUNDATION SECTION**  
 C-4 SCALE: 3/4" = 1'-0"



**1 FOUNDATION PLAN**  
 C-4 SCALE: 1/4" = 1'-0"

VERIZON EQUIPMENT SHELTER FOUNDATION IS SHOWN FOR D&M APPROVAL PURPOSES ONLY AND NOT FOR CONSTRUCTION. CONTRACTOR SHALL REFER TO VERIZON CONSTRUCTION DOCUMENTS FOR SPECIFIC EQUIPMENT SHELTER FOUNDATION DESIGN.

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DRAWN BY: KAP

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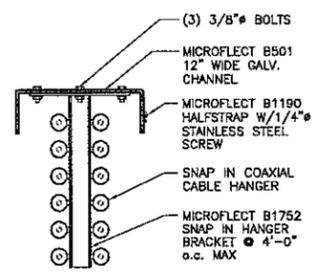
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 NORFOLK, CONNECTICUT 06058

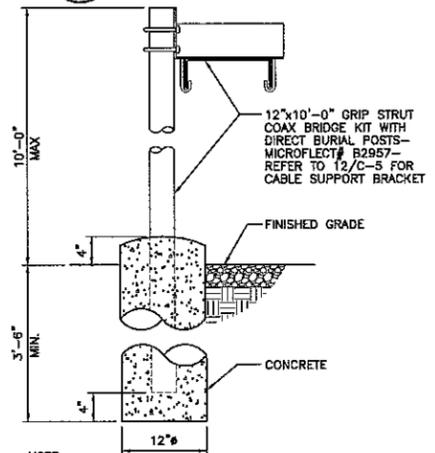
SCALE: AS NOTED

**VERIZON WIRELESS EQUIPMENT SHELTER ELEVATIONS AND DETAILS**

**C-5**

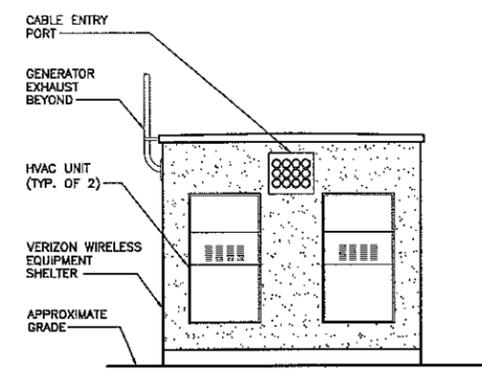


**12 ICE BRIDGE DETAIL**  
 C-5 SCALE: 1 1/2\"/>

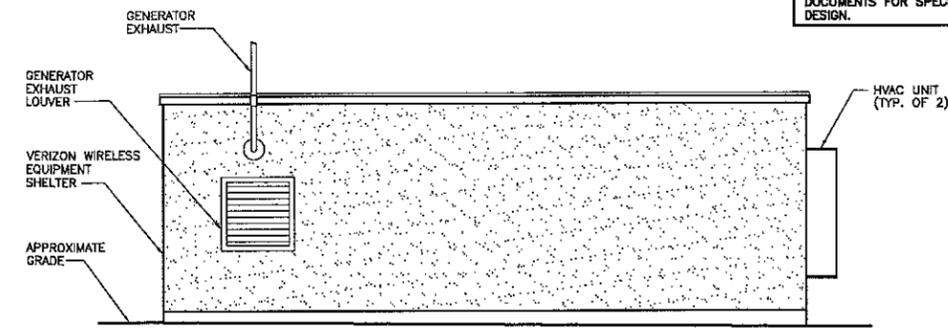


NOTE:  
 1. MAXIMUM 10' SPACING BETWEEN POST SUPPORTS

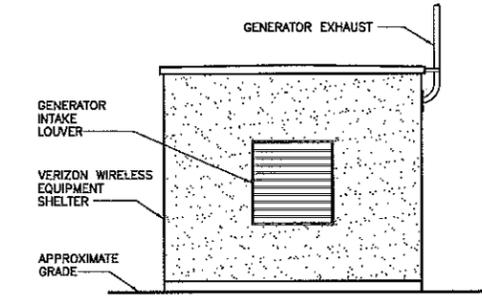
**11 ICE BRIDGE DETAIL**  
 C-5 SCALE: 1\"/>



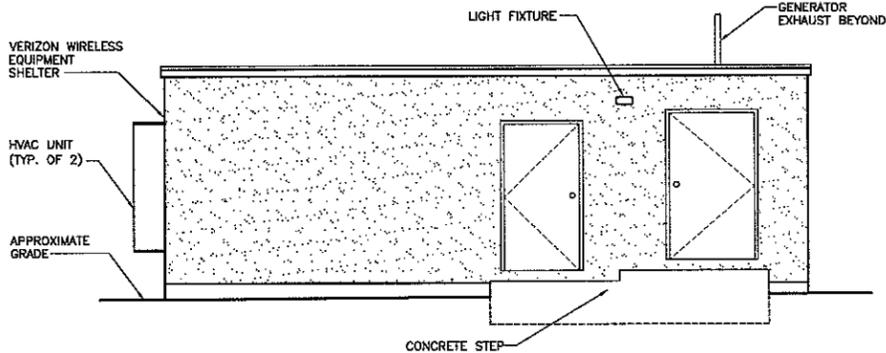
**10 EAST ELEVATION**  
 C-5 SCALE: 1/4\"/>



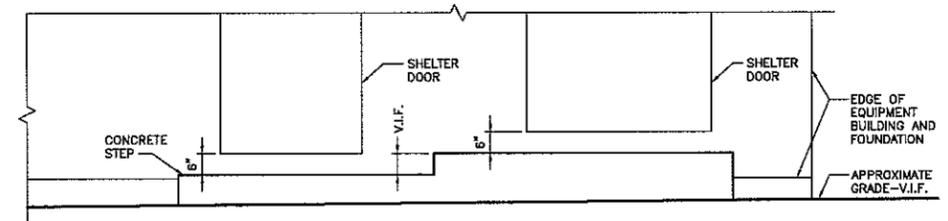
**9 NORTH ELEVATION**  
 C-5 SCALE: 1/4\"/>



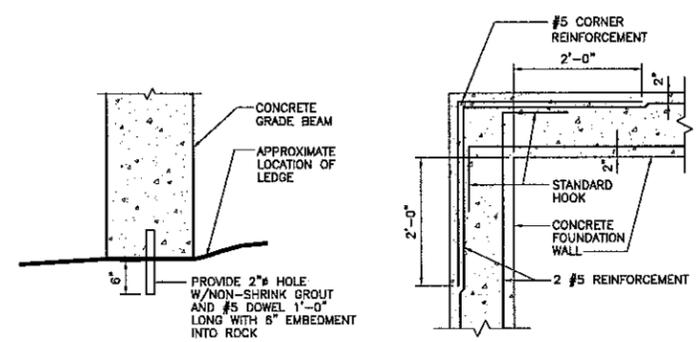
**8 WEST ELEVATION**  
 C-5 SCALE: 1/4\"/>



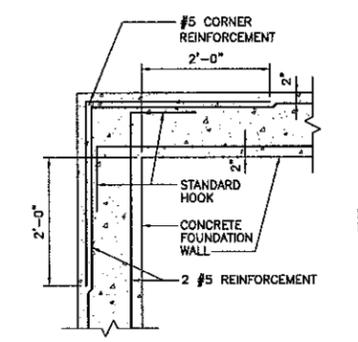
**7 SOUTH ELEVATION**  
 C-5 SCALE: 1/4\"/>



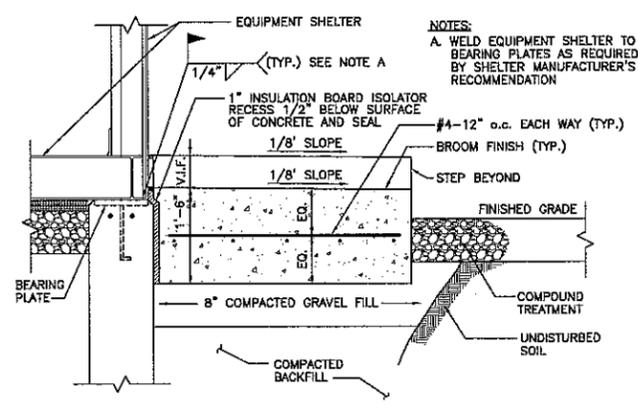
**6 CONCRETE STEP DETAIL**  
 C-5 SCALE: N.T.S.



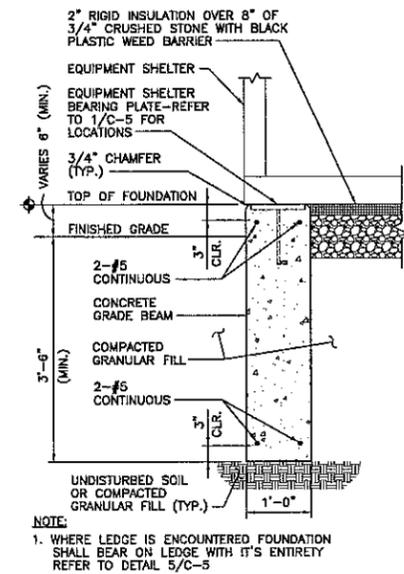
**5 PINNED FOUNDATION**  
 C-5 SCALE: 3/4\"/>



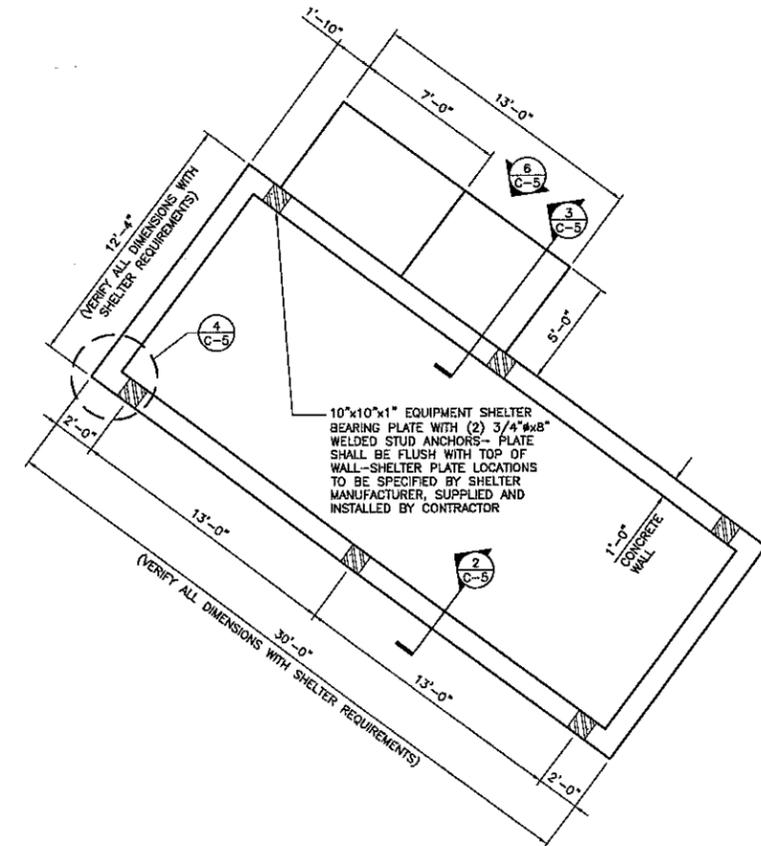
**4 FOUNDATION CORNER**  
 C-5 SCALE: 3/4\"/>



**3 CONCRETE STEP DETAIL**  
 C-5 SCALE: 3/4\"/>



**2 FOUNDATION SECTION**  
 C-5 SCALE: 3/4\"/>



**1 FOUNDATION PLAN**  
 C-5 SCALE: 1/4\"/>



**CELLULAR GROUNDING NOTES:**

**OBJECTIVE**  
 PROVIDE A CELLULAR GROUNDING SYSTEM WITH MAXIMUM ALTERNATING CURRENT RESISTANCE OF 5 OHMS BETWEEN ANY POINT ON THE GROUNDING SYSTEM AND REFERENCE GROUND. MODIFY EXTERIOR GROUNDING SCHEME WITH MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE APPROVAL AS REQUIRED TO ACHIEVE MINIMUM AC RESISTANCE TO GROUND. TESTING PROCEDURE ARE DESCRIBED IN SPECS. CHEMICAL ADDITIVES SHALL NOT BE USED TO ENHANCE MINIMUM RESISTANCE ON THE CELLULAR GROUNDING SYSTEM UNLESS APPROVED BY MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE.

**CONDUCTOR USED FOR CELLULAR GROUNDING SYSTEM**  
 EGR - #2 AWG ANNEALED SOLID TINNED BARE COPPER  
 INTER-BUS EXTENSION (FROM IGR TO EGR) - #2 AWG ANNEALED SOLID TINNED BARE COPPER  
 EXTERNAL BOND CONNECTIONS TO EGR - #2 AWG ANNEALED SOLID TINNED BARE COPPER  
 TOWER BOND CONNECTION TO EGR - #2 AWG SOLID COPPER

**MINIMUM BENDING RADIUS**  
 EGR #2 : 2'-0" NOMINAL AND 8" MINIMUM.  
 CELLULAR GROUNDING CONDUCTOR SHALL BE AS STRAIGHT AS POSSIBLE WITH MINIMUM 8" BENDING RADIUS.

**GROUNDING ELECTRODE**  
 GROUNDING ELECTRODE SHALL BE 5/8" DIA. x 8'-0" L. COPPER CLAD STEEL ROD. ADJUST LOCATION OF GROUNDING ELECTRODE IF SOIL CONDITION IS NOT CONDUCTIVE (GRAVEL, SANDY SOIL, ROCKS). SPACING OF GROUNDING ELECTRODES SHALL NOT BE LESS THAN 8' O.C. ELECTRODES SHALL BE DRIVEN ONLY WITH PROPER DRIVER SLEEVE TO PREVENT MUSHROOMING TOP OF ROD. WHEN ROCK BOTTOM IS ENCOUNTERED, THE ELECTRODE SHALL BE DRIVEN AT AN OBLIQUE ANGLE NOT TO EXCEED 45° FROM THE VERTICAL AWAY FROM STRUCTURES. TOP OF GROUNDING ELECTRODE SHALL BE MIN. 3'-6" BELOW FINISH GRADE. IF IT IS IMPRACTICAL TO DRIVE THE 8'-0" GROUND ROD, CONTRACTOR SHALL INSTALL THE GROUND ROD HORIZONTALLY IN A TRENCH AWAY FROM STRUCTURE, NOT LESS THAN 36" BELOW FINISHED GRADE. UNDER NO CIRCUMSTANCES SHALL THE GROUND ROD BE CUT OR MODIFIED TO ACCOMMODATE VERTICAL INSTALLATION INTO LEDGE. REFER TO THE NEC 2005, ARTICLE #250 FOR MORE INFORMATION ON GROUNDING.

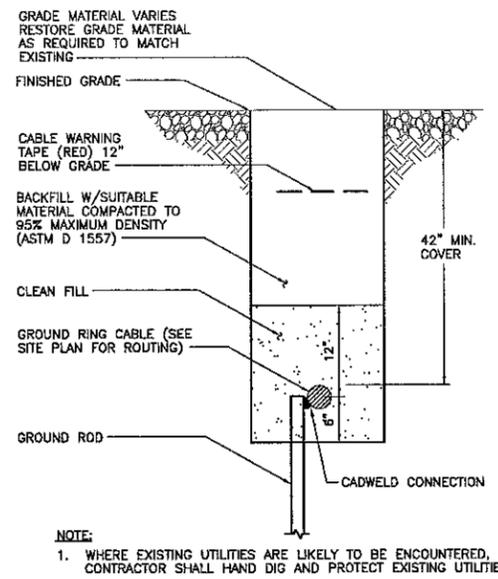
**CONNECTIONS (MECHANICAL)**  
 COMPRESSION LUG CONNECTOR - 15 TON COMPRESSION, 2 HOLE, LONG BARREL, ELECTRO TINNED PLATED, HIGH CONDUCTIVITY COPPER, 600V RATED, USE 1/4" DIA. BOLT, 3/4" SPACING LUGS TO BOND OBJECTS FROM IGR. CONNECTOR SHALL BE BURNDY "HYLUG" SERIES OR EQUAL.  
 EXOTHERMIC WELD LUG CONNECTOR - 2 HOLE OFFSET, ELECTRO TINNED PLATED, HIGH CONDUCTIVITY COPPER, 600V. USE 1/2" DIA. BOLT, 1-3/4" SPACING LUGS. CONNECTOR SHALL BE CADWELDED CONNECTION STYLE (CABLE TO SURFACE) TYPE "LA". EXOTHERMIC WELD TO LUG AS REQUIRED.  
 "C" TAP COMPRESSION CONNECTOR - HIGH CONDUCTIVITY COPPER FOR MAIN-BRANCH TAPPING. CONNECTOR SHALL BE BURNDY "HYTAP" SERIES OR EQUAL.

USE MATCHING MANUFACTURER TOOL AND DIE FOR COMPRESSION CONNECTION. APPLY ANTI-OXIDANT CONDUCTIVITY ENHANCER COMPOUND ON SURFACES THAT ARE COMPRESSED. SURFACES INTENDED TO BE CONNECTED WITH MECHANICAL CONNECTORS SHALL BE BARE METAL TO BARE METAL. PRIME AND PAINT OVER BONDED AREA TO PREVENT CORROSION.

**CONNECTIONS BELOW GRADE (EXOTHERMIC)**  
 PROVIDE CADWELDED CONNECTIONS - STYLE AND TYPE AS REQUIRED.

**WHEN BONDING #2 TO #2**  
 EXTERIOR OF SHELTER - USE EXOTHERMIC WELD CONNECTION.

**WHEN BONDING #2 TO FENCE POST**  
 USE EXOTHERMIC WELD "CADWELD TYPE VS" CONNECTION TO FENCE POST STEEL SURFACE. TEST WELD FOR POSSIBLE BURN THRU. PATCH WELDED AREA WITH GALVANIZED COATING AS REQUIRED FOR PROPER WELDED PERMANENT BOND. REFER TO MANUFACTURER'S REQUIREMENTS FOR DETAILS.

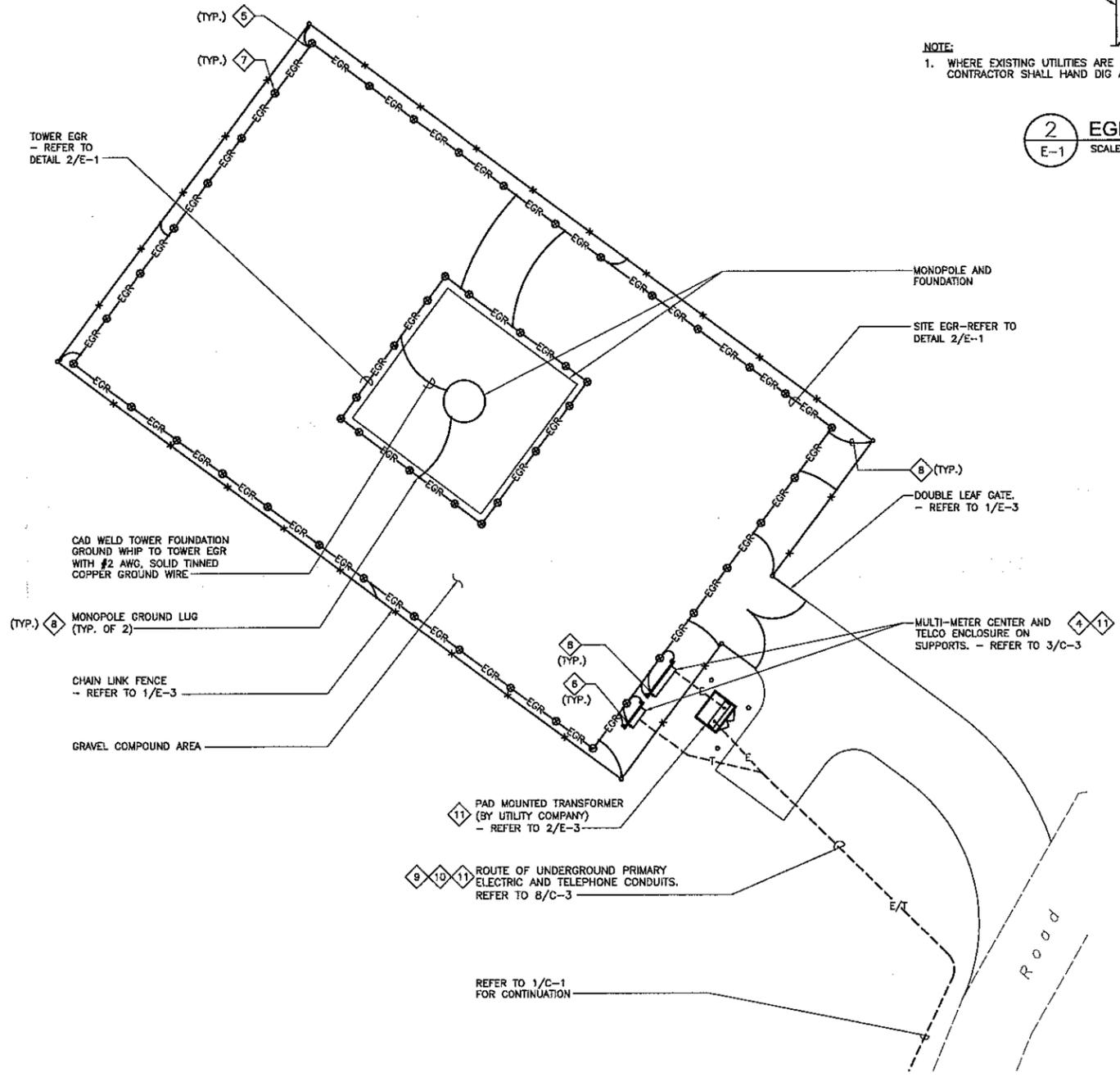


**2 EGR DETAIL**  
 E-1 SCALE: N.T.S.

**DRAWING NOTES:**

- 1 REFER TO DRAWINGS C-1, C-2 AND E-1 FOR ACTUAL LOCATIONS OF STRUCTURES ON SITE.
- 2 COORDINATION, LAYOUT AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL SERVICES SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
- 3 THE EXACT ROUTING OF CONDUITS FOR UTILITIES SHALL BE CONFIRMED WITH THE UTILITIES AND PLANS PRIOR TO TRENCHING AND CONSTRUCTION.
- 4 ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
- 5 PROVIDE CADWELD CONNECTION STYLE (CABLE TO CABLE) TYPE "TA".
- 6 PROVIDE CADWELD CONNECTION STYLE (CABLE TO SURFACE) TYPE "LA".
- 7 PROVIDE CADWELD CONNECTION STYLE (CABLE TO ROD) TYPE "GT" OR "NC".
- 8 BOND ALL EXTERIOR METAL FRAMES, MONOPOLE GROUND LUGS AND FENCE POSTS TO EGR WITH #2 AWG, SCW.
- 9 EXTEND TELEPHONE SERVICE FROM EXISTING POLE MOUNTED TELCO DEMARCATION TO TELCO ENCLOSURE. COORDINATE WITH UTILITY COMPANY IN THE FIELD.
- 10 EXTEND PRIMARY ELECTRIC SERVICE FROM EXISTING UTILITY POLE TO PAD MOUNTED TRANSFORMER. COORDINATE WITH ELECTRIC COMPANY IN THE FIELD.
- 11 REFER TO RISER DIAGRAM 1/E-2 FOR ADDITIONAL INFORMATION.
- 12 EXTEND SECONDARY ELECTRIC SERVICE FROM PAD MOUNTED TRANSFORMER TO MULTIMETER CENTER. COORDINATE WITH ELECTRIC COMPANY IN THE FIELD.

LEGEND			
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
—EGR—	EXTERIOR GROUND RING	A/C	AIR CONDITIONING UNIT
—T—	UNDERGROUND TELEPHONE SERVICES	GRC	GALVANIZED RIGID CONDUIT
—E—	UNDERGROUND ELECTRICAL SERVICES	AFG	ABOVE FINISHED GRADE
⊗	EXOTHERMIC WELD THRU' CONDUCTOR TO TOP OF GROUND ROD	⊕	GROUND CONNECTION
⊕	EXOTHERMIC WELD "T" OF THRU' CONDUCTOR & TAP CONDUCTOR	V.I.F.	VERIFY IN FIELD
⊗	GROUND ROD	⊕	METER
⊕	GROUND BAR	⊕	CIRCUIT BREAKER
⊕	CONNECTION POINT TO EXISTING SYSTEM	⊕	GPCR



**1 SITE UTILITIES PLAN**  
 E-1 SCALE: 1" = 10'-0"

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PROJECT NO: 36924832

JOB NO: MCM 003

DRAWN BY: BMM

CHECKED BY:

ISSUED FOR	
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04/12/07	REVIEW
05/04/07	REVIEW
06-22-07	D&M APPROVAL

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 NORFOLK, CONNECTICUT 06058

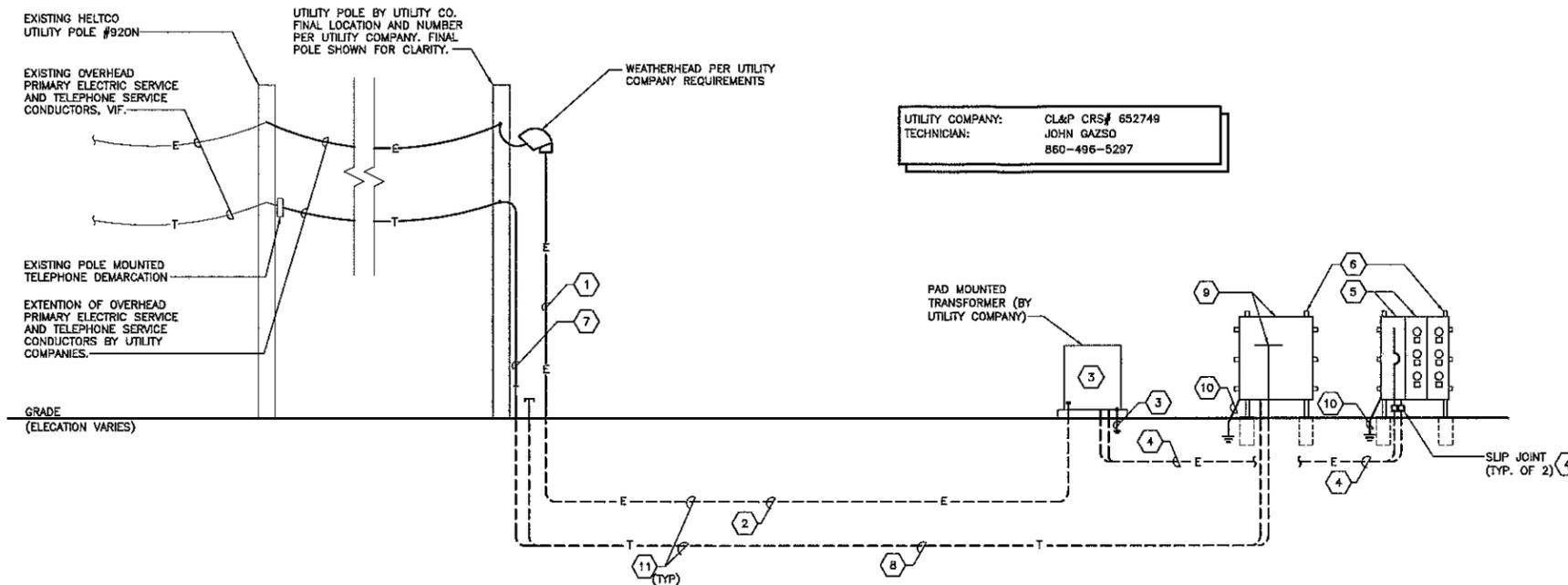
SCALE: AS NOTED

**SITE UTILITIES PLAN, DETAILS, NOTES AND LEGEND**

**E-1**

**DRAWING NOTES**

1. REFER TO E-1 & C-1 FOR ROUTING AND LOCATIONS OF EQUIPMENT REFERENCED HERE. REFER TO E-3 FOR GROUNDING DETAILS. REFER TO E-4 FOR DIV. 16 SPECIFICATIONS.
2. COORDINATION, LAYOUT AND FURNISHING OF CONDUIT, CABLE AND ALL APPURTENANCES REQUIRED FOR PROPER INSTALLATION OF ELECTRICAL AND TELECOMMUNICATION SERVICE SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR.
3. ALL UTILITY WORK SHALL BE IN ACCORDANCE WITH LOCAL UTILITY COMPANY REQUIREMENTS AND SPECIFICATIONS.
4. IF ANY FIELD CONDITIONS PRECLUDE COMPLIANCE WITH THE DRAWINGS AND/OR CONDITIONS SPECIFIED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY MESSAGE CENTER MANAGEMENT CONSTRUCTION MANAGER AND SHALL NOT PROCEED WITH ANY AFFECTED WORK.
5. SUB-CONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.
6. ALL EXISTING AREAS DISTURBED DUE TO CONSTRUCTION SHALL BE RESTORED TO MATCH PRECONSTRUCTION CONDITIONS.



**RISER DIAGRAM NOTES:**

- 1 PROVIDE ONE (1) 4" GRC RISER INCLUDING GRC VERTICAL SWEEP WITH 1/4" NYLON DRAG LINE TO SUPPORT PRIMARY ELECTRIC SERVICE. RISER TO EXTEND 30'-0" AFG (FINAL HEIGHT TO BE SPECIFIED BY UTILITY CO.) FASTEN CONDUIT TO POLE PER UTILITY COMPANY REQUIREMENTS. PRIMARY CABLES BY UTILITY CO.
  - 2 PROVIDE ONE(1) SCHEDULE 40 4" PVC CONDUIT WITH 1/4" NYLON DRAG LINE TO SUPPORT PRIMARY ELECTRIC SERVICE TO PAD MOUNTED TRANSFORMER. PRIMARY CABLES BY UTILITY COMPANY.
  - 3 PAD MOUNTED TRANSFORMER SERVICING TELECOMMUNICATIONS FACILITY, BY UTILITY COMPANY. FINAL LOCATION OF TRANSFORMER TO BE DETERMINED BY UTILITY COMPANY. ALL WORK ON & CABLE TERMINATION TO PAD MOUNTED TRANSFORMER BY UTILITY CO. REFER TO DETAIL 2/E-3 FOR TRANSFORMER GROUNDING.
  - 4 PROVIDE TWO (2) SCHEDULE 40 4" PVC CONDUITS WITH TWO SETS OF (3)#50D MCM & (1)#1/0 AWG G ONE SET IN EACH CONDUIT TO SUPPORT 800A, 120/240V, 1#, 3W ELECTRIC SERVICE TO MODULAR MULTI-METER CENTER FROM PAD MOUNTED TRANSFORMER. PROVIDE SLIP JOINTS IN EACH CONDUIT PER UTILITY COMPANY REQUIREMENT. GRC SHALL BE USED FOR APPLICATIONS OF CONDUIT ABOVE GRADE INCLUDING VERTICAL SWEEP. REFER TO B/C-3 FOR TRENCHING.
  - 5 PROVIDE A SERVICE FRAME MOUNTED OUTDOOR MODULAR MULTI-METER CENTER WITH PROVISIONS FOR FUTURE EXPANSION (SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT) AS MANUFACTURED BY SQUARE 'D' OR APPROVED EQUAL WITH THE FOLLOWING COMPONENTS:
    - 800A MAIN CIRCUIT BREAKER SERVICE ENTRANCE MODULE WITH 800A BUSSING BRACED FOR 65KAIC ("SQ. D" #E2M1800CB) -- QUANTITY ONE (1) MODULE
    - METERING MODULE WITH THREE (3) METER SOCKETS & THREE (3) CIRCUIT BREAKERS PROVISIONS ("SQ. D" #EZML113225CU) -- QUANTITY TWO (2) MODULES
    - 225AF/200AT, 25KAIC, 2-POLE BRANCH CIRCUIT BREAKER ("SQ. D" #QDP22200TM) -- QUANTITY ONE (1) BREAKER FOR MESSAGE CENTER MANAGEMENT
- NOTES:**  
 BARREL LOCK SPARE SOCKET (1a. UNMETERED SOCKET) PER UTILITY COMPANY REQUIREMENTS. REFER TO PLAN 1/E-1 FOR LOCATION. CONTRACTOR SHALL PROVIDE PERMANENT BAKELITE, OR EQUIVALENT MATERIAL, LABEL FOR FUTURE METER SOCKET. FINAL LOCATION OF METERING EQUIPMENT SHALL BE CONFIRMED WITH UTILITY CO. AND AUTHORITY HAVING JURISDICTION.
- 6 PROVIDE A STEEL SUPPORT FRAME TO SUPPORT UTILITY SERVICE EQUIPMENT. TOP OF TOP METER SHALL BE 6'-0" AFG, BOTTOM OF BOTTOM METER SHALL BE MINIMUM 3 FEET AFG. SUPPORT THE WEATHER PROOF TELEPHONE ENCLOSURE ON IT'S OWN STEEL FRAME. CONTRACTOR SHALL PROVIDE AND INSTALL UNISTRUT AS REQUIRED TO SUPPORT THE MULTI-METER CENTER & WEATHER PROOF ENCLOSURE PER DETAIL 3/C-3.
  - 7 PROVIDE ONE(1) 4" GRC RISER WITH 1/4" NYLON DRAG LINE INCLUDING VERTICAL SWEEP TO SUPPORT TELEPHONE SERVICE. RISER TO EXTEND TO 20'-0" AFG (FINAL HEIGHT TO BE SPECIFIED BY UTILITY CO.) FASTEN CONDUIT TO POLE PER UTILITY COMPANY REQUIREMENTS. TELEPHONE CABLES BY UTILITY CO.
  - 8 PROVIDE TWO (2) SCHEDULE 40 4" PVC CONDUITS WITH 1/4" NYLON DRAG LINE TO SUPPORT TELEPHONE SERVICE (ONE (1) ACTIVE AND ONE (1) SPARE). STUB UP SPARE CONDUIT 6" AFG AT POLE AND CAP. TELEPHONE WIRES BY TELEPHONE COMPANY.
  - 9 PROVIDE A NEMA 4 ENCLOSURE WITH A LOCK KIT AND 3/4" PLYWOOD BACKBOARD INSIDE FOR USE BY THE TELEPHONE CO. (MCKINSTRY #54-483010LP AND #97-55SLK). COORDINATE TELEPHONE SERVICE INSTALLATION WITH TELEPHONE CO.
  - 10 PROVIDE #4/0 BCW IN 1" GRC AND EXOTHERMIC CAD WELD THE MULTI-METER CENTER AND TELCO ENCLOSURE TO SITE EXTERIOR GROUND RING. ALTERNATIVELY, PROVIDE ONE (1) GROUND ROD AND GROUND THE EQUIPMENT PER GROUNDING NOTES ON SHEET E-1.
  - 11 REFER TO DETAIL B/C-3 FOR TRENCHING.

**MESSAGE CENTER MANAGEMENT**  
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**URS CORPORATION**  
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 06058

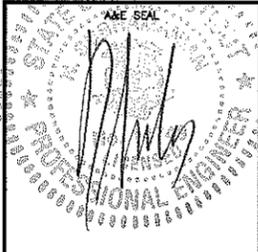
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**ELECTRICAL RISER DIAGRAM**

**E-2**

MESSAGE CENTER MANAGEMENT  
40 WOODLAND STREET  
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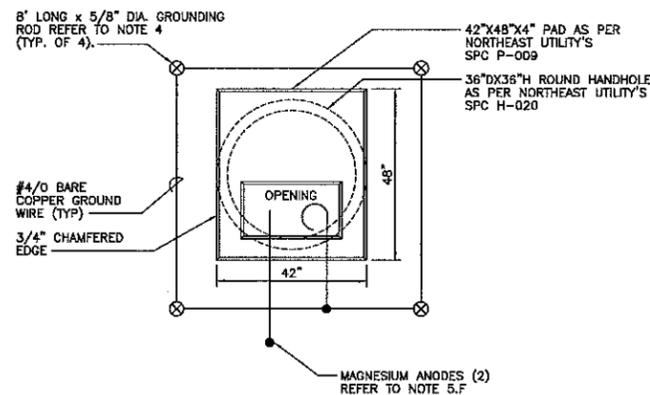
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NORFOLK, CONNECTICUT 06058

SCALE: AS NOTED

GROUNDING DETAILS

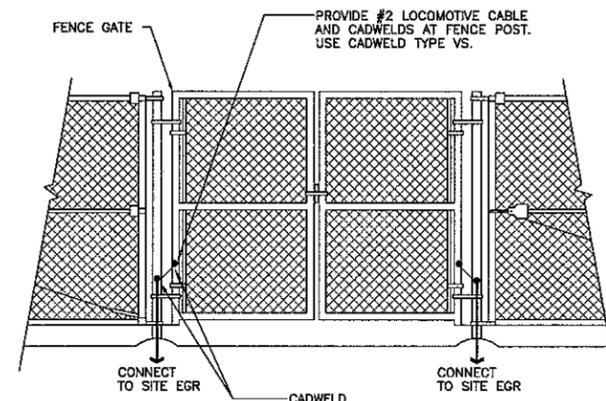
E-3



**NOTES:**

- UP TO 167 KVA - INSTALL 42" X 48" X 4" PAD AS PER SPC P-009 AND 36"Ø X 36" H HANDHOLE AS PER SPC H-020
- PRIMARY CABLE**
  - INSTALL DIRECT BURIED CABLES A MINIMUM OF 30" BELOW GRADE.
  - INSTALL CABLES IN CONDUIT A MINIMUM OF 24" BELOW GRADE.
  - LOOP CABLES IN CABLE PIT BEFORE MAKING CONNECTIONS.
- SECONDARY CABLE** - LEAVE SLACK FOR FUTURE RECONNECTING TO TRANSFORMERS WITH HIGHER SECONDARY TERMINALS.
- GALVANIZED STEEL GROUND RODS** - INSTALL IN TRENCH AND CONNECT #6-4 COPPER CONDUCTORS FROM RODS THROUGH PAD OPENING AND EXTENDING 5 FEET ABOVE BOTTOM OF HANDHOLE. MINIMUM SEPERATION OF GROUND RODS IS 6 FEET.
- THE FOLLOWING DTR'S SHOULD ALSO BE USED:
  - DTR 33.211 - 600-VOLT CONNECTOR GUIDE FOR NEMA PADS, SINGLE PHASE PAD MOUNT TRANSFORMERS
  - DTR 44.221 - FAULT INDICATOR GUIDE - SOLID DIELECTRIC CABLES
  - DTR 58.107 - 15/23KV MULTIGROUNDED, SINGLE PHASE, DIRECT BURIED SYSTEM, PAD MOUNTED LOOP FED XF CONNECTIONS
  - DTR 58.185 - GRADE ADJUSTMENT - SINGLE PHASE, PAD MOUNTED TRANSFORMER
  - DTR 70.121-122 - METHODS OF SERVING LOADS FROM LOOPS - UG SYSTEMS
  - DTR 44.221 - JACKETED PRIMARY CABLE - GROUNDING
- THE EXCAVATION FOR THE PAD SHALL BE CARRIED TO A DEPTH OF 8" BELOW THE BOTTOM OF THE PAD. THE BOTTOM LAYER OF BACKFILL SHALL BE COMPACTED, CLEAN GRAVEL, FREE OF FOREIGN MATTER AND CONSTRUCTION DEBRIS, EXTENDED 12" BEYOND THE CIRCUMFERENCE OF THE STRUCTURE, AND IN ACCORDANCE WITH CONNECTICUT DOT SPEC. M.02.06 GRADING 'A'; OR MASSACHUSETTS DPW SPEC. M1.03.0 TYPE 'B'. THE REMAINING BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DEBRIS, OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION. IT SHALL BE COMPACTED WITH MECHANICAL TAMPERS TO NOT LESS THAN 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY THE STANDARD COMPACTION TESTS, AASHTO T180 OR ASTM D698.

2 PRE-CAST TRANSFORMER PAD AND GROUNDING DETAIL  
SCALE: N.T.S.



1 TYPICAL GATE/FENCE GROUNDING DETAIL  
SCALE: N.T.S.

**ELECTRICAL SPECIFICATIONS**

**SECTION 16010 "ELECTRICAL REQUIREMENTS"**

1.01 SCOPE OF WORK

- A. WORK SHALL INCLUDE ALL LABOR, EQUIPMENT AND SERVICES REQUIRED TO COMPLETE (MAKE READY FOR OPERATION) ALL THE ELECTRICAL WORK INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING:
  - 1. PROVIDE AN 800A, 120/240V, 1 PHASE, 3 WIRE NORMAL ELECTRIC SERVICE TO TELECOMMUNICATIONS FACILITY.
  - 2. SECONDARY CABLE TERMINATIONS
  - 3. CELLULAR GROUNDING SYSTEMS, CONSISTING OF EXTERIOR GROUNDING RINGS, GROUND RODS, ETC..
- B. LOCAL UTILITY COMPANIES SHALL PROVIDE THE FOLLOWING:
  - 1. CUSTOMER METER (FOR MESSAGE CENTER MANAGEMENT)
  - 2. TELEPHONE CABLES.
- C. CONTRACTOR SHALL CONFER WITH LOCAL UTILITY COMPANIES TO ASCERTAIN THE LIMITS OF THEIR WORK AND SHALL INCLUDE IN THE BID ANY CHARGES OR FEES MADE BY THE UTILITY COMPANIES FOR THE UTILITY COMPANIES' PORTIONS OF THE WORK.

1.02 GENERAL REQUIREMENTS

- A. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE MADE IN STRICT ACCORDANCE WITH ALL LOCAL, STATE AND NATIONAL CODES AND REGULATIONS WHICH APPLY.
- B. THE CONTRACTOR IS RESPONSIBLE FOR THE COMPLETE INSTALLATION AND COORDINATION OF THE ENTIRE ELECTRICAL SERVICE. ALL ACTIVITIES TO BE COORDINATED THROUGH MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE AND OTHER AUTHORITIES HAVING JURISDICTION OF TRADES.
- C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND PAY ALL FEES AS MAY BE REQUIRED FOR THE ELECTRICAL WORK AND FOR SCHEDULING OF ALL INSPECTIONS AS MAY BE REQUIRED BY THE LOCAL AUTHORITY.
- D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION WITH LOCAL TELEPHONE COMPANY AS MAY BE REQUIRED FOR THE INSTALLATION OF TELEPHONE SERVICE TO THE CELLULAR SITE.
- E. NO MATERIAL OTHER THAN THAT CONTAINED IN THE "LATEST LIST OF ELECTRICAL FITTINGS" APPROVED BY THE UNDERWRITERS' LABORATORIES, SHALL BE USED IN ANY PART OF THE WORK. ALL MATERIAL FOR WHICH LABEL SERVICE HAS BEEN ESTABLISHED SHALL BEAR THE U.L. LABEL.
- F. THE CONTRACTOR SHALL GUARANTEE ALL NEW WORK FOR A PERIOD OF ONE YEAR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING WARRANTIES FROM ALL EQUIPMENT MANUFACTURERS FOR SUBMISSION TO MESSAGE CENTER MANAGEMENT.
- G. ALL WORK SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER AND WILL BE SUBJECT TO THE APPROVAL OF THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE.
- H. ALL EQUIPMENT AND MATERIALS TO BE INSTALLED SHALL BE NEW, UNLESS OTHERWISE NOTED.
- I. BEFORE FINAL PAYMENT, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS TO THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE, LEGIBLY MARKED IN RED PENCIL TO SHOW ALL CHANGES FROM THE ORIGINAL PLANS.
- J. SHOP DRAWINGS
  - 1. CONTRACTOR SHALL SUBMIT TO THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE THREE (3) COPIES OF SHOP DRAWINGS ON ALL EQUIPMENT AND MATERIALS PROPOSED FOR USE ON THIS PROJECT, GIVING ALL DETAILS, WHICH INCLUDE DIMENSIONS, CAPACITIES, ETC.
  - 2. CONTRACTOR SHALL SUBMIT THREE (3) COPIES OF ALL TEST REPORTS CALLED FOR IN THE SPECIFICATIONS AND DRAWINGS TO THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE.

**SECTION 16060 "GROUNDING"**

- 1.01 ALL NON-CURRENT CARRYING PARTS OF THE ELECTRICAL AND TELEPHONE CONDUIT SYSTEMS SHALL BE MECHANICALLY AND ELECTRICALLY CONNECTED TO PROVIDE AN INDEPENDENT RETURN PATH TO THE EQUIPMENT GROUNDING SOURCES.
- 1.02 GROUNDING SYSTEM WILL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL INSPECTOR HAVING JURISDICTION.
- 1.03 ELECTRICAL AC SERVICE GROUNDED SYSTEM -- GROUNDING AT MAIN SERVICE OVERCURRENT PROTECTION DEVICE:
  - A. THE GROUNDED CONDUCTOR (NEUTRAL) OF THE INCOMING SERVICE FEEDERS (LINE SIDE OF METER SOCKET) SHALL TERMINATE INTO THE MAIN OVERCURRENT DEVICE ENCLOSURE SOLID NEUTRAL BAR WHICH IS INSULATED FROM THE ENCLOSURE.
  - B. THE GROUNDING ELECTRODE CONDUCTOR SHALL EXTEND CONTINUOUSLY WITHOUT SPLICES OR JOINTS FROM THE MAIN OVERCURRENT DEVICES SOLID NEUTRAL BAR TO THE MAIN SWITCHBOARD GROUND TERMINAL.
  - C. THE MAIN SERVICE OVERCURRENT PROTECTION DEVICE ENCLOSURE'S EQUIPMENT GROUND BAR KIT SHALL BE LUGGED TO THE ENCLOSURE WITH THE SURFACES BETWEEN THEM BARE METAL TO BARE METAL. PROVIDE BONDING JUMPER BETWEEN EQUIPMENT GROUND BAR AND SOLID NEUTRAL. BONDING JUMPER CONDUCTOR SIZE SHALL BE THE SAME AS THE GROUNDING ELECTRODE CONDUCTOR. CONDUITS TERMINATING INTO THE MAIN OVERCURRENT DEVICE ENCLOSURE SHALL HAVE GROUNDING TYPE BUSHINGS. THE BUSHINGS SHALL BE BONDED TOGETHER WITH #10 AWG BARE COPPER WHICH IN TURN IS TERMINATED INTO THE EQUIPMENT GROUND BAR KIT.

1.04 CELLULAR GROUNDING SYSTEM:

PROVIDE THE CELLULAR GROUNDING SYSTEM AS SPECIFIED ON DRAWINGS, INCLUDING, BUT NOT LIMITED TO:

- GROUND RODS
- EXTERIOR GROUNDING RING

- 1.05 CONTRACTOR, AFTER COMPLETION OF THE COMPLETE GROUNDING SYSTEM BUT PRIOR TO CONCEALMENT/BURIAL OF SAME, SHALL NOTIFY THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE AND LOCAL AUTHORITY HAVING JURISDICTION WHO WILL MAKE A VISUAL INSPECTION OF THE GROUNDING GRID, RODS AND CONNECTIONS OF THE EXTERIOR GROUNDING SYSTEMS.

**SECTION 16120 "CONDUCTORS"**

- 1.01 ALL CONDUCTORS SHALL BE TYPE THWN (INTERIOR) AND XHHW (EXTERIOR), 75 DEGREE C, 600 VOLT INSULATION, SOFT ANNEALED STRANDED COPPER, #10 AWG AND SMALLER SHALL BE SPICED USING SOLDERLESS PRESSURE CONNECTORS, ACCEPTABLE. #12 AWG SHALL BE THE MINIMUM SIZE CONDUCTOR FOR LINE VOLTAGE BRANCH CIRCUITS. REFER TO PANEL SCHEDULE FOR BRANCH CIRCUIT CONDUCTOR SIZE(S). CONDUCTORS SHALL BE COLOR CODED FOR CONSISTENT PHASE IDENTIFICATION:

120/240VAC - 1 PHASE, 3 WIRE SYSTEM	
PHASE	COLOR
A	BLACK
B	RED
N	CONTINUOUS WHITE
G	CONTINUOUS GREEN

- 1.02 MINIMUM BENDING RADIUS FOR CONDUCTORS SHALL BE 12 TIMES THE LARGEST DIAMETER OF BRANCH CIRCUIT CONDUCTOR.

**SECTION 16130 "RACEWAY"**

- 1.01 CONDUIT MATERIAL SHALL BE AS FOLLOWS:
  - (1) GALVANIZED RIGID CONDUIT (GRC) -- FEEDERS EXPOSED TO EXTERIOR & UNDERGROUND CONDUIT SWEEPS.
  - (2) PVC CONDUIT -- SERVICE CONDUITS AND WHERE SHOWN ON GROUNDING DETAILS.

**SECTION 16060 "TESTS BY INDEPENDENT ELECTRICAL TESTING FIRM"**

- 1.01 CONTRACTOR SHALL RETAIN THE SERVICES OF A LOCAL INDEPENDENT ELECTRICAL TESTING FIRM (WITH MINIMUM 5 YEARS COMMERCIAL EXPERIENCE IN THE ELECTRICAL TESTING INDUSTRY) TO PERFORM:
  - TEST 1: RESISTANCE TO GROUND TEST ON THE CELLULAR GROUNDING SYSTEM AS MEASURED BY THE 3-POINT FALL OF POTENTIAL GROUNDING TEST. THE TEST SHALL BE DONE PRIOR TO THE CONNECTION OF SITE EGR TO THE TOWER EGR AND TO THE ELECTRICAL POWER AND TELCO EQUIPMENT.
- 1.02 THE TESTING FIRM SHALL INCLUDE THE FOLLOWING INFORMATION WITH THE REPORT:
  - A. TESTING PROCEDURE INCLUDING THE MAKE AND MODEL OF TEST EQUIPMENT.
  - B. CERTIFICATION OF TESTING EQUIPMENT CALIBRATION WITHIN SIX (6) MONTHS OF DATE OF TESTING. INCLUDE CERTIFICATION LAB ADDRESS AND TELEPHONE NUMBER.
  - C. GRAPHICAL DESCRIPTION OF TESTING METHOD ACTUALLY IMPLEMENTED.
- 1.03 THESE TESTS SHALL BE PERFORMED IN THE PRESENCE AND TO THE SATISFACTION OF THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE. TESTING DATA SHALL BE INITIALED AND DATED BY THE MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE AND INCLUDED WITH THE WRITTEN REPORT/ANALYSIS.
- 1.04 THE CONTRACTOR SHALL FORWARD THREE (3) COPIES OF THE INDEPENDENT ELECTRICAL TESTING FIRM REPORT/ANALYSIS TO MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE A MINIMUM OF TEN (10) WORKING DAYS PRIOR TO THE JOB TURNOVER.
- 1.05 CONTRACTOR TO PROVIDE A MINIMUM OF ONE (1) WEEK NOTICE TO MESSAGE CENTER MANAGEMENT CONSTRUCTION REPRESENTATIVE FOR ALL TESTS REQUIRING WITNESSING.

**MESSAGE CENTER MANAGEMENT**  
40 WOODLAND STREET  
HARTFORD, CONNECTICUT 06105

A&E FIRM  
**URS CORPORATION**  
500 ENTERPRISE DRIVE  
ROCKY HILL, CONNECTICUT  
1-(800)-529-8882



PROJECT NO: 36924832

JOB NO: MCM 003

DRAWN BY: BMM

CHECKED BY:

ISSUED FOR	
03/28/07	REVIEW
04/12/07	REVIEW
05/04/07	REVIEW
06-22-07	D&M APPROVAL

THE INFORMATION CONTAINED IN THIS SET OF DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO MESSAGE CENTER MANAGEMENT IS STRICTLY PROHIBITED.

**NORFOLK**  
GREENWOODS ROAD EAST  
NORFOLK, CONNECTICUT 06058

SCALE: NONE

**ELECTRICAL SPECIFICATIONS**

# valmont

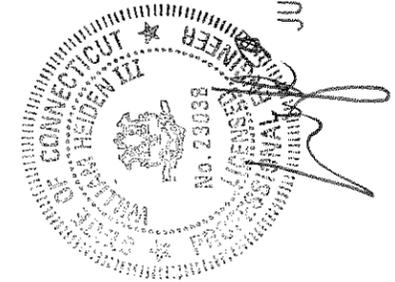
## STRUCTURES

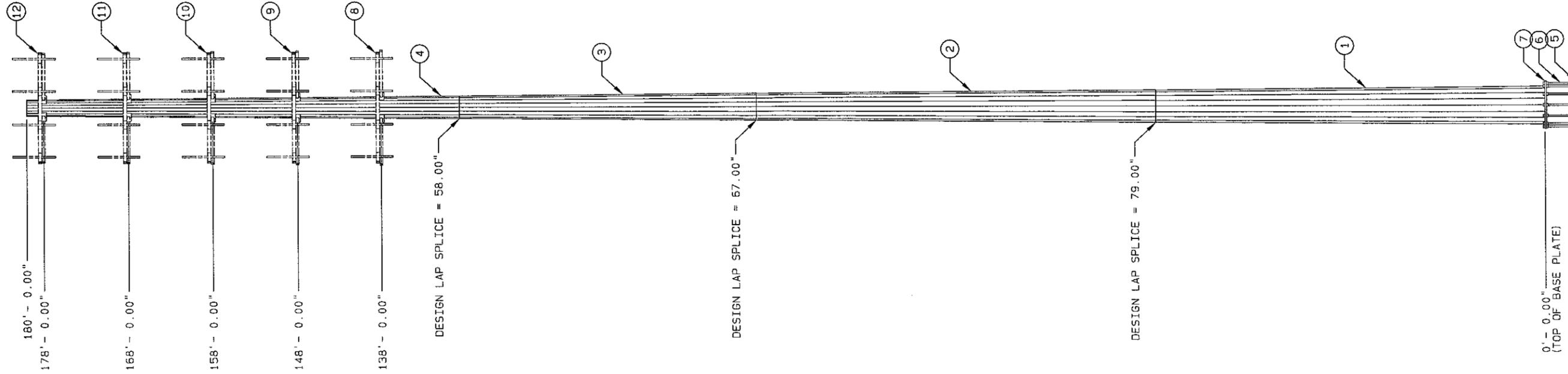
### COMMUNICATION POLE PERMIT DRAWING

TOWER MEETS THE REQUIREMENTS OF THE 2003 INTERNATIONAL BUILDING CODE UTILIZING AN 100 MPH 3-SEC GUST BASIC WIND SPEED WITH AN IMPORTANCE FACTOR OF 1.00 AND EXPOSURE (C) CRITERIA AND IN ACCORDANCE WITH STANDARD EIA/TIA-222-E.

Engineering by:  
PiRod, Inc.  
1545 Pidco Drive  
Plymouth, Indiana 46563  
Phone: (574) 936-4221  
COA#: PEC. 797

MESSAGE CENTER  
VALMONT ORDER #: 11004-67 (406033)  
SITE NAME: NORFOLK, CT  
POLE HEIGHT: 180'

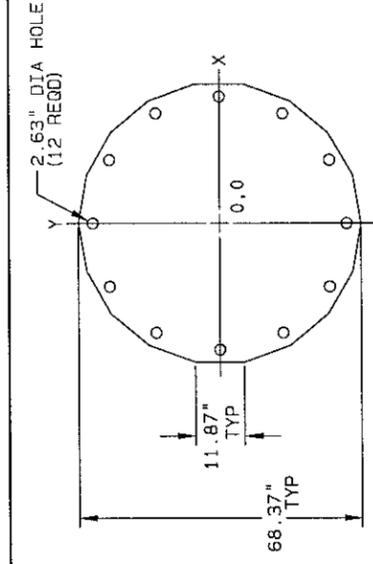




0' - 0.00"  
(TOP OF BASE PLATE)

ITEM NO. / ID	REQD	FEATURES	WEIGHT (LBS)
1	1	SECTION A	8,713
2	1	SECTION B	7,376
3	1	SECTION C	3,252
4	1	SECTION D	2,849
5	1	BOTTOM CAGE PLATE	125
6	12	2.25"-4.5 UNC-2A ANCHOR BOLT, LENGTH = 4.00'	814
7	1	BASE PLATE	2,226
8	1	VALMONT PLATFORM (13'-5" FACE)	1,589
9	1	VALMONT PLATFORM (13'-5" FACE)	1,589
10	1	VALMONT PLATFORM (13'-5" FACE)	1,589
11	1	VALMONT PLATFORM (13'-5" FACE)	1,589
12	1	VALMONT PLATFORM (13'-5" FACE)	1,589
	1	TOP CAGE PLATE (REMOVE BEFORE SETTING POLE)	163
	1	SAFETY CLIMBING CABLE (LENGTH = 170.00')	122
	2	GROUNDING LUG	2
		GALVANIZING	581
	195	STEP AND CLIP (VALMONT STANDARD)	1
	3	HAND HOLE (6" x 18") (FORMED)	18
	5	HAND HOLE (9" x 24")	56
	2	HAND HOLE (5" x 8")	17
	2	HAND HOLE (5" x 8")	17
	12	HAND HOLE (6" x 18") (TUBE)	12
	1	POLE CAP	38

HOLE COORDS (INCHES)	
X-COORD	Y-COORD
30.67	0.00
26.56	15.33
15.33	26.56
0.00	30.67



NOTES:  
 1. BASE PLATE THICKNESS = 2.500"  
 2. BASE PLATE ALLOWABLE STRESS (KSI) = 60  
 3. VENT AND DRAIN HOLES PROVIDED  
 4. MAXIMUM BOLT CIRCLE DIAMETER = 61.33"  
 5. MAXIMUM CAGE TEMPLATE DIAMETER = 67.33"

**BASE PLATE / ANCHORAGE CHARACTERISTICS**

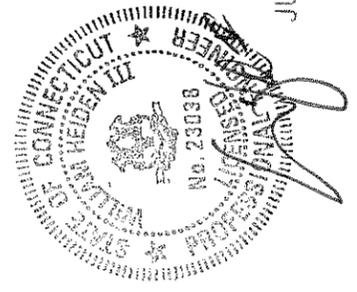
**NOTES:**

- REACTIONS FOR FOUNDATION DESIGN:  
 MOMENT = 30,930 IN-KIPS  
 SHEAR = 18,439 #  
 VERTICAL = 34,177 #
- GALVANIZED PER ASTM A-123.
- DESIGN CRITERIA: EIA/TIA 222-F
- THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING:  
 A. CASE 1: WIND = 80 MPH  
 B. CASE 2: WIND = 69 MPH, ICE = 0.75 INCH  
 C. EQUIPMENT

DESCRIPTION	MTC HT. (FT)	CENTROID HT. (FT)	ECC (FT)	WITHOUT ICE		WITH ICE	
				EPA WT (LBS)	(FT**2)	EPA WT (LBS)	(FT**2)
1-Lighting Rod, 8'	180.00	184.00	0.00	1.12	37	1.77	45
12-PANEL (1' X 5') (G)	178.00	180.50	0.00	56.52	528	67.92	1536
1-Platform, PiRd w/	178.00	179.50	0.00	15.70	1300	20.10	1765
12-PANEL (1' X 5') (G)	168.00	170.50	0.00	56.52	528	67.92	1536
1-Platform, PiRd w/	168.00	169.50	0.00	15.70	1300	20.10	1765
12-PANEL (1' X 5') (G)	158.00	160.50	0.00	56.52	528	67.92	1536
1-Platform, PiRd w/	158.00	159.50	0.00	15.70	1300	20.10	1765
12-PANEL (1' X 5') (G)	148.00	150.50	0.00	56.52	528	67.92	1536
1-Platform, PiRd w/	148.00	149.50	0.00	15.70	1300	20.10	1765
12-PANEL (1' X 5') (G)	138.00	140.50	0.00	56.52	528	67.92	1536
1-Platform, PiRd w/	138.00	139.50	0.00	15.70	1300	20.10	1765
12-PANEL (1' X 5') (G)	178.00	170.50	0.00	78.72	360	92.64	1848
12-PANEL (1' X 5') (G)	168.00	180.50	0.00	78.72	360	92.64	1848
12-PANEL (1' X 5') (G)	158.00	160.50	0.00	78.72	360	92.64	1848
12-PANEL (1' X 5') (G)	148.00	150.50	0.00	78.72	360	92.64	1848
12-PANEL (1' X 5') (G)	138.00	140.50	0.00	78.72	360	92.64	1848

5. FEEDLINES ARE PLACED INTERIOR TO POLE SHAFT (UNLESS NOTED OTHERWISE).

SECTION INFORMATION					
ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	52' - 9.00"	54.00"	44.51"	0.313"	S-22
2	53' - 0.00"	46.32"	36.77"	0.313"	S-22
3	40' - 0.00"	38.22"	31.01"	0.219"	S-22
4	51' - 3.00"	32.26"	23.04"	0.188"	S-22



JUN 21 2007

11004-67

FOUNDATION NOTES

1. THIS FOUNDATION HAS BEEN DESIGNED FOR A TAPERED POLE TOWER. THE BASE REACTIONS USED IN THE DESIGN ARE:

MOMENT = 30930. IN-KIPS  
SHEAR = 18439. LBS  
VERTICAL 34117. LBS

2. SOIL AS PER REPORT BY DR. CLARENCE WELTI, PE, PC DATED 3/4/07.

3. CONCRETE TO BE 3000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 (2002) BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.

4. ALL FILL SHOULD BE PLACED IN LOOSE LEVEL LIFTS OF NO MORE THAN 12" THICK. FILL MATERIALS SHOULD BE CLEAN AND FREE OF ORGANIC AND FROZEN MATERIALS OR ANY OTHER DELETERIOUS MATERIALS. COMPACT FILL TO 95% OF MODIFIED PROCTOR MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D1557.

5. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.

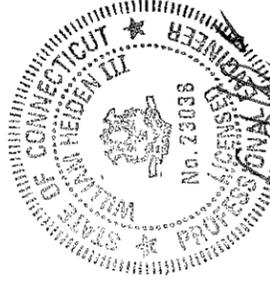
6. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.

7. DIFFICULTIES DURING EXCAVATION MAY ARISE DUE TO THE PRESENCE OF SHALLOW BEDROCK. PNEUMATIC HAMMERS, RIPPERS, AND/OR BLASTING MAY BE REQUIRED TO REMOVE MATERIAL FROM THE EXCAVATION.

8. A LAYER OF CRUSHED STONE AT LEAST 8" THICK MUST BE PLACED TO LEVEL THE SUBGRADE. SEE THE GEOTECHNICAL REPORT FOR DETAILS.

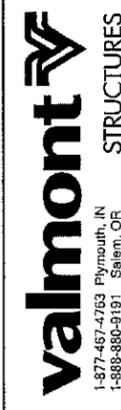
9. THE ON-SITE GEOTECHNICAL ENGINEER SHOULD OBSERVE THE EXCAVATION AND RECOMPACTION OF THE SUBGRADE PRIOR TO CONCRETE PLACEMENT.

TOWER FOUNDATION



William R. Heiden III, CT Professional Engineer # 23038

MESSAGE CENTER  
NORFOLK, CT  
TP54 X 180'



B	REVISED REACTIONS	WBR	06/21/2007	CONNECTICUT C. O. A.	PEC. 797
A	ADDED FOUNDATION	WBR	06/12/2007	APPROVED/ENG.	WBR 6/21/2007
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	WBR 6/21/2007
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				ENG. FILE NO.	A-406033-
				ARCHIVE	F-1010290

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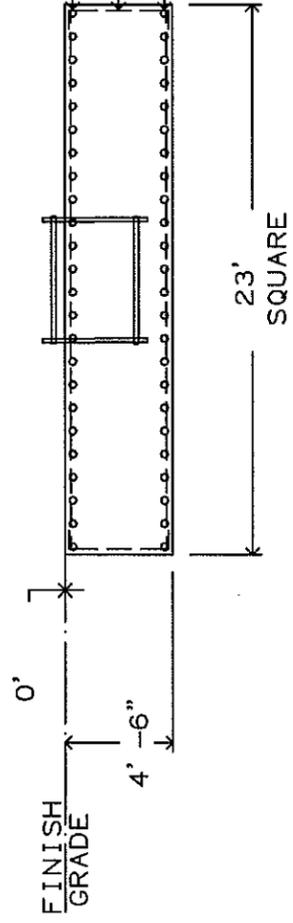
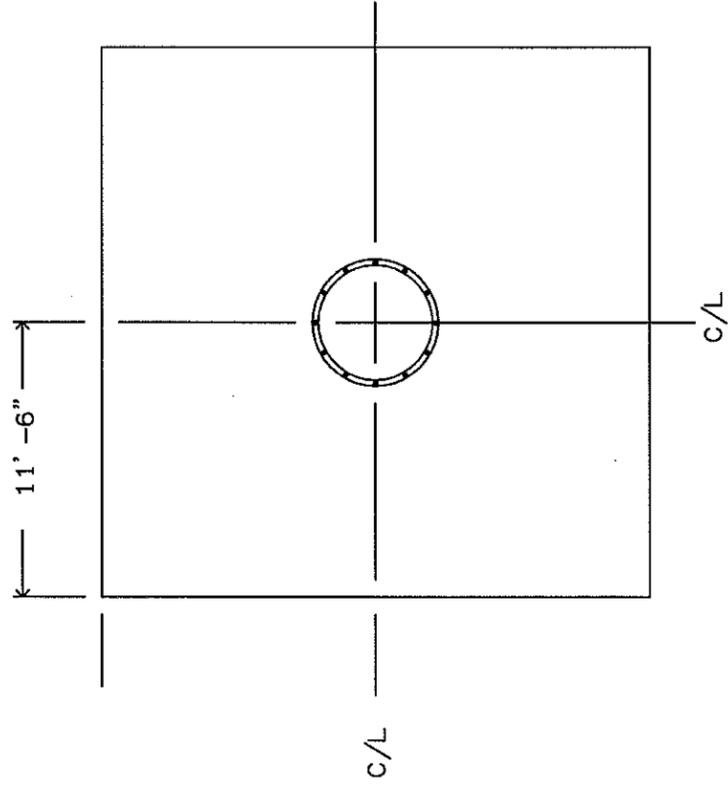
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1 OF 4

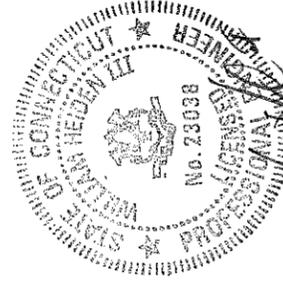


# 7 REBAR - SEE (A) ON PAGE 3.  
 24 BARS EACH WAY, EQUALLY SPACED.  
 # 5 STANDEES - SEE (B) ON PAGE 3.  
 49 PIECES REQUIRED.  
 # 7 REBAR - SEE (A) ON PAGE 3.  
 24 BARS EACH WAY, EQUALLY SPACED.

NOTE: ALL REBAR REQUIRES  
 MIN. 3" CONCRETE COVERAGE

**TOWER FOUNDATION**

88.2 CUBIC YARDS CONCRETE REQUIRED  
 FOR INSTALLATION SPECIFICATIONS AND  
 ADDITIONAL INFORMATION, SEE PAGE 1  
 OF THIS DRAWING.



William R. Heiden III, CT Professional Engineer # 23038

MESSAGE CENTER  
 NORFOLK, CT  
 TP54 X 180'

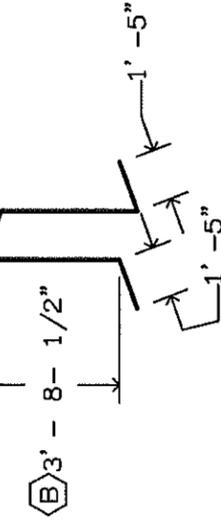
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ARCHIVE	F-1010290		

REV	DESCRIPTION OF REVISIONS	WBR	INI	DATE
A	ADDED FOUNDATION	WBR		06/12/2007

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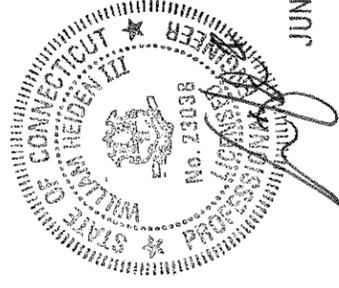
REBAR SUPPORTS MAY CONSIST OF ANY ACCEPTABLE MEANS OF SECURELY SUPPORTING THE TOP REINFORCEMENT GRID ABOVE THE BOTTOM REINFORCEMENT GRID WHILE MAINTAINING A SEPARATION OF 4' (OUTSIDE REBAR TO OUTSIDE REBAR).



# 5 REBAR - 49 PIECES REQUIRED TOTAL  
 TYPE 26 STANDEE PLACED BETWEEN REBAR GRIDS ON NOMINAL 4' SPACING THROUGHOUT  
 APPROX UNBENT LENGTH = 11' - 7 - 1/4"  
 APPROX WT = 12.1# EACH, 593# TOTAL

**TOWER FOUNDATION**

TOTAL APPROX REBAR WEIGHT = 5009#  
 REINFORCING BAR TO CONFORM TO  
 ASTM A615 GRADE 60 SPECIFICATIONS.

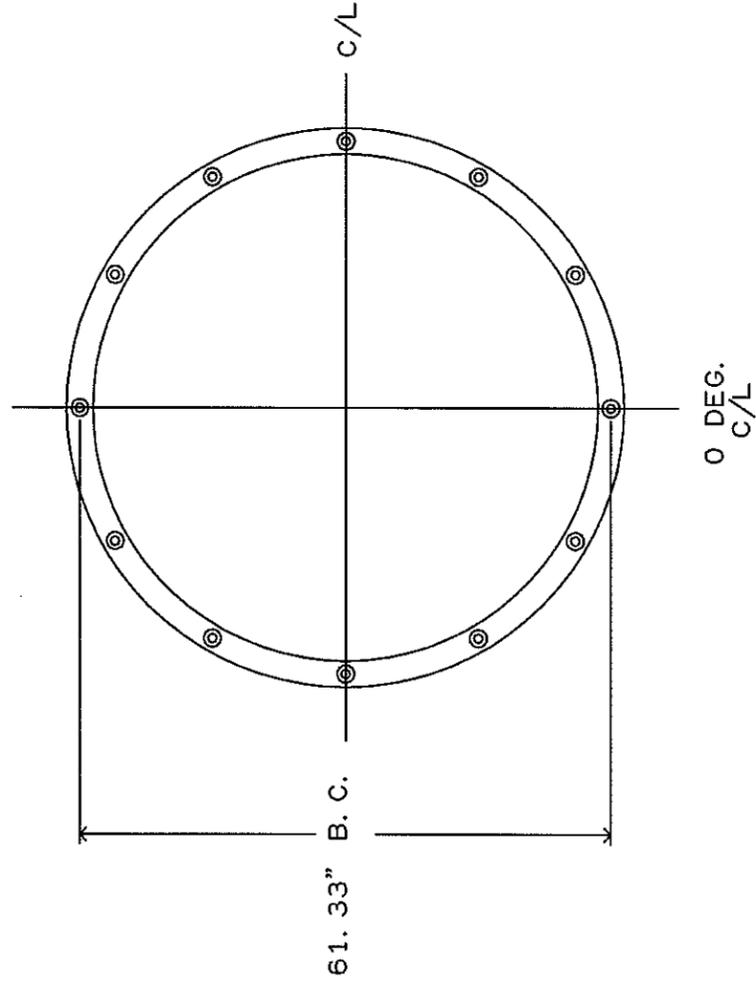


William R. Heiden III, CT Professional Engineer # 23038

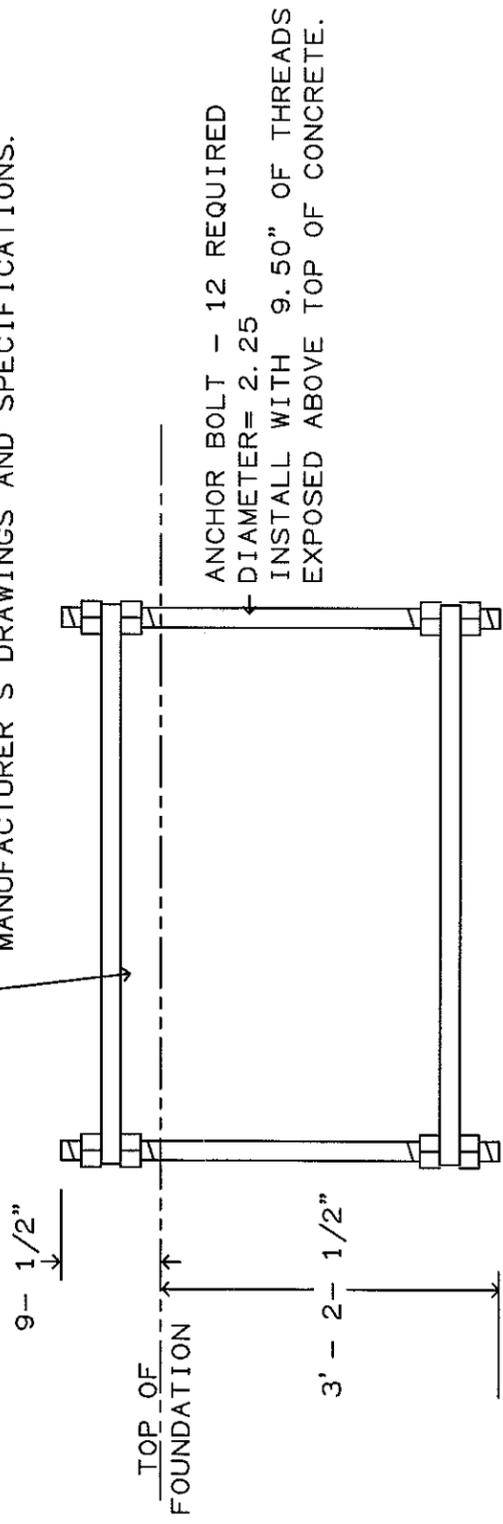
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 TP54 X 180'

CONNECTICUT C. O. A. PEC. 797		valmont STRUCTURES 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR	
A	ADDED FOUNDATION	WBR	06/12/2007
REV	DESCRIPTION OF REVISIONS	INI	DATE
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		ENG. FILE NO. A-406033-	
		PAGE 3 OF 4	

BASE FLANGE MUST BE CENTERED IN BLOCK WITHIN +/- 10% OF BLOCK DIAMETER.

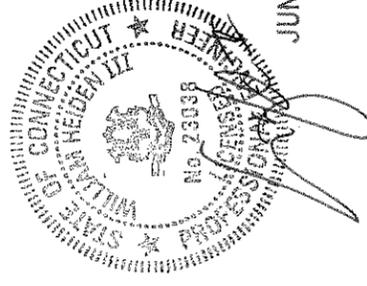


ANCHOR BOLTS AND BASE PLATE SHALL BE PROVIDED AND INSTALLED IN ACCORDANCE WITH TOWER MANUFACTURER'S DRAWINGS AND SPECIFICATIONS.



**TOWER FOUNDATION**

TOWER ANCHOR BOLT PLACEMENT



William R. Heiden III, CT Professional Engineer # 23038

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