

December 24, 2014

VIA EMAIL & FEDEX

Hon. Robert Stein, Chairman
and Members of the Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: Connecticut Siting Council Docket No. 442
Application of New Cingular Wireless PCS, LLC (AT&T)
Norwalk Armory Approved Tower Facility

Dear Chairman Stein and Members of the Siting Council:

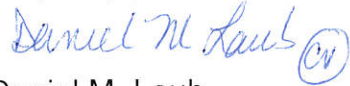
On behalf of New Cingular Wireless PCS, LLC ("AT&T"), this letter and enclosures are provided in accordance with a staff request for revised drawings and additional information pertaining to the Development Management Plan ("D&M Plan") filing for the captioned Facility as approved in Docket No. 442.

Enclosed please find revised D&M Plan drawings incorporating details to clarify the details of the proposed Verizon facility. These changes include Verizon's planned antenna, shelter and propane tank locations. Please note that in accordance with Decision and Order item 2c AT&T's project engineers centered the compound within the two buffer zones to the east and west. Only the proposed telephone cabinet, transformer and utility conduit are within the buffer area to the west but are in an area already developed and utilized by the State for site access and/or parking. The silt fence and straw bales incorporated as sediment and erosion control will be in the buffer area to the northeast but not the compound or compound fencing itself. Accordingly, there will be minimal disturbance to the buffer areas.

Also of note, we are advised that this facility is included in Verizon's build plan for 2015. While construction logistics are still being coordinated at this time it is planned that Verizon will commence construction once the site is prepared and AT&T's tower and shelter are in place but prior to completion of the compound fencing. Please also note that the diameter of the base of AT&T's tower will be 53.7" and the Verizon tower will be 47.5" at the base.

Thank you for your consideration of the enclosed.

Very truly yours,



Daniel M. Laub

Enclosures

cc: Melanie A. Bachman, Staff Attorney/Acting Executive Director
Robert Mercier, Siting Analyst
Mayor Harry W. Rilling, Norwalk
First Selectman Robert E. Mallozzi III, New Canaan
Major General Thaddeus Martin, Connecticut Military Department
Kenneth Baldwin, Esq.
Michele Briggs, AT&T
David Vivian, SAI
Christopher B. Fisher, Esq.

CERTIFICATE OF SERVICE

I hereby certify that on this day, an original and fifteen copies of the foregoing was sent electronically and by overnight delivery to the Connecticut Siting Council with copy to:

Service List:

Kenneth C. Baldwin, Esq.
Robinson & Cole LLP
280 Trumbull Street
Hartford, CT 06103-3597
(860) 275-8200
kbaldwin@rc.com

Municipalities:

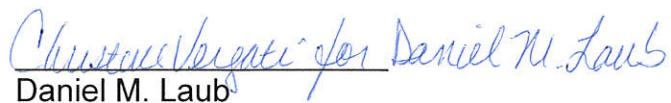
Mayor Harry W. Rilling, Norwalk
125 East Ave.
P.O. Box 5125
Norwalk, CT 06856-5125

First Selectman Robert E. Mallozzi III, New Canaan
Police Station, 2nd Floor
174 South Ave
New Canaan, CT 06840

Property Owner:

Major General Thaddeus Martin
Adjutant General of the Connecticut Military Department
Governor William A. O'Neill State Armory
360 Broad Street
Hartford, CT 06105-3706

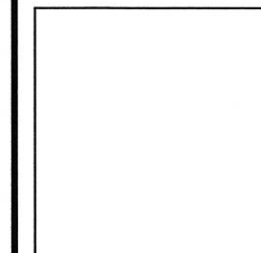
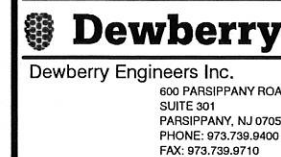
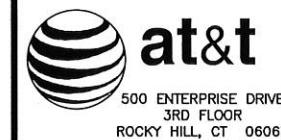
Dated: December 24, 2014


Daniel M. Laub

CONNECTICUT SITING COUNCIL

NEW CINGULAR WIRELESS PCS, LLC WIRELESS COMMUNICATIONS FACILITY

NATIONAL GUARD ARMORY 284 NEW CANAAN AVENUE NORWALK, CONNECTICUT 06850 SR1038 DEVELOPMENT & MANAGEMENT PLAN



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY
284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

SHEET TITLE:

TITLE SHEET

DEWBERRY P.N. 50055111

T-1

SHEET NO.

SITE INFORMATION:

THE SCOPE OF WORK SHALL INCLUDE:

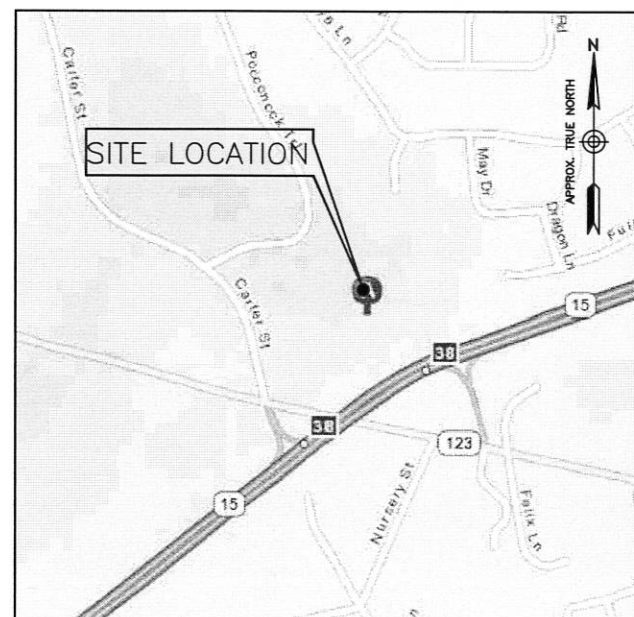
1. THE CONSTRUCTION OF A 50'x80' FENCED WIRELESS COMMUNICATIONS COMPOUND WITHIN A 50'x80' LEASE AREA.
2. SITE GRADING SHALL BE CONDUCTED, AS REQUIRED, WITHIN LEASE AREA AND ACCESS DRIVE FOR PROPER DRAINAGE.
3. A TOTAL OF SIX (6) DIRECTIONAL PANEL ANTENNAS ARE PROPOSED TO BE MOUNTED AT A RAD CENTER ELEVATION OF 137'± & 127'± A.G.L. INSIDE A 140' A.G.L. PROPOSED FLAGPOLE LOCATED WITHIN THE PROPOSED COMPOUND.
4. POWER AND TELCO UTILITIES SHALL BE ROUTED OVERHEAD ON PROPOSED UTILITY POLES ALONG EXISTING DRIVEWAY AND THEN ROUTED UNDERGROUND ALONG THE END OF THE REAR PARKING AREA TO THE PROPOSED TRANSFORMER, TELEPHONE CABINET, AND METER BOARD LOCATED OUTSIDE THE PROPOSED COMPOUND. UTILITIES SHALL BE ROUTED UNDERGROUND FROM THE PROPOSED UTILITY BACKBOARDS TO THE PROPOSED 11'-5"x16'-0" EQUIPMENT SHELTER LOCATED WITHIN THE COMPOUND. FINAL UTILITY ROUTING WILL BE VERIFIED BY LOCAL UTILITY COMPANIES.
5. FINAL DESIGN FOR TOWER, TOWER FOUNDATION, AND ANTENNA MOUNTS SHALL BE DONE BY THE TOWER MANUFACTURER.
6. THE PROPOSED WIRELESS FACILITY INSTALLATION SHALL BE DESIGNED IN ACCORDANCE WITH THE CURRENT CONNECTICUT STATE BUILDING CODE.
7. THERE WILL NOT BE ANY LIGHTING UNLESS REQUIRED BY THE FCC OR THE FAA.
8. THERE WILL NOT BE ANY SIGNS OR ADVERTISING ON THE ANTENNAS OR EQUIPMENT.

NOTE:

THIS DOCUMENT WAS DEVELOPED TO REFLECT A SPECIFIC SITE AND ITS SITE CONDITIONS AND IS NOT TO BE USED FOR ANOTHER SITE OR WHEN OTHER CONDITIONS PERTAIN. REUSE OF THIS DOCUMENT IS AT THE SOLE RISK OF THE USER.

DIRECTIONS:

FROM ROCKY HILL, TAKE 1-91 SOUTH TOWARD NEW HAVEN. AT EXIT 17 MERGE ONTO CT-155. TAKE EXIT 38 TOWARDS CT-123/NEW CANAAN AVE. SITE WILL BE ON THE LEFT.



LOCATION MAP
SCALE: N.T.S.
NORWALK

PROJECT SUMMARY

SITE NAME: NATIONAL GUARD ARMORY - NORWALK

APPLICANT / LESSEE: NEW CINGULAR WIRELESS PCS, LLC (AT&T)
500 ENTERPRISE DRIVE
3RD FLOOR
ROCKY HILL, CT 06067

PROPERTY OWNER: STATE OF CONNECTICUT
80 WASHINGTON ST.
HARTFORD, CT 06106

AT&T CONTACT: DAVID VIVIAN
(413) 218-5042

ARMORY CONTACT: KEVIN CWANEK
(860) 913-5473

COORDINATES: LATITUDE: 41° 08' 9.74" N (NAD 83)
LONGITUDE: 73° 27' 22.68" W (NAD 83)
COORDINATES TAKEN FROM HANDHELD GPS

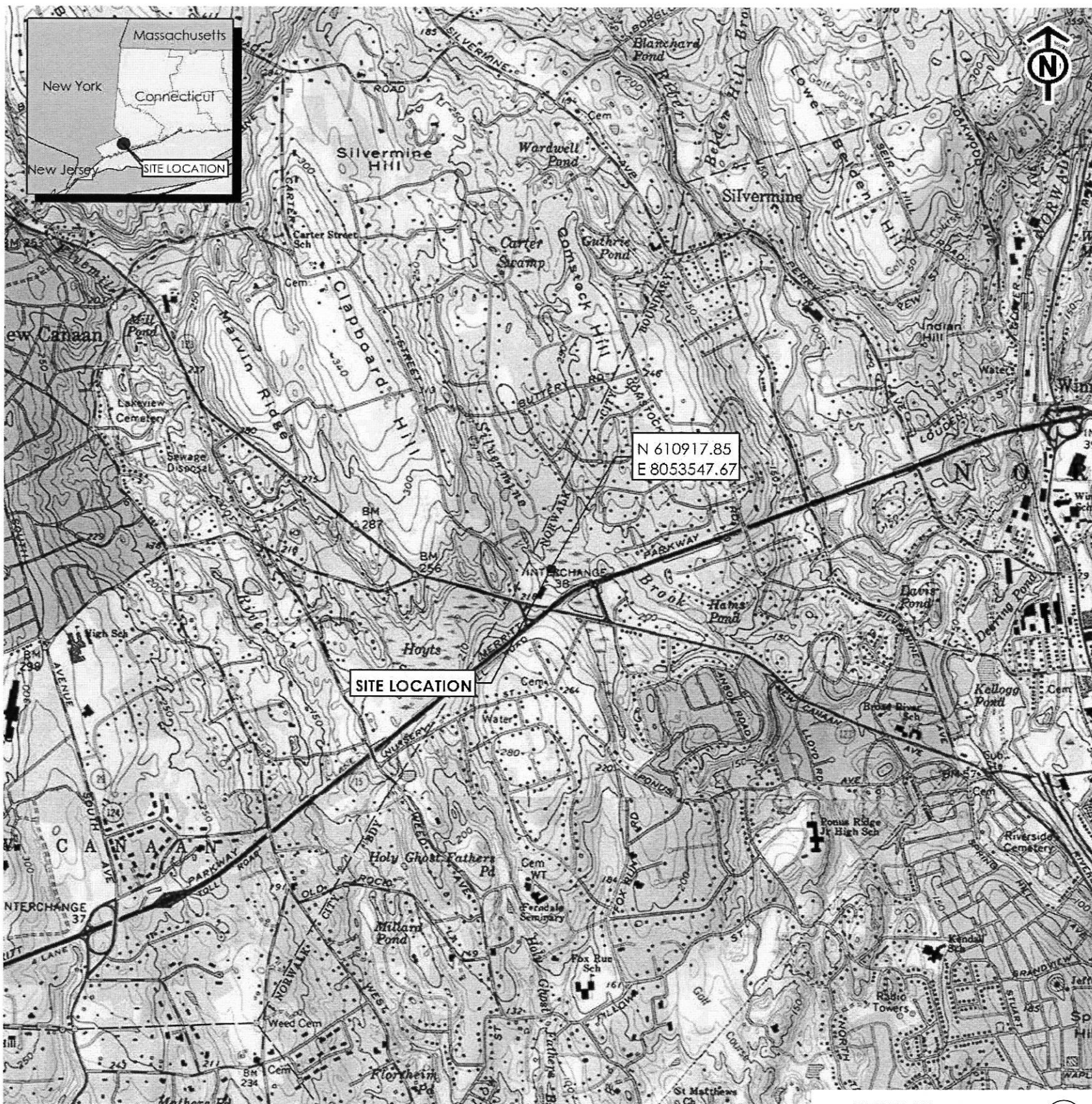
PROJECT DESCRIPTION:

THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF 3 SECTORS OF 2 PANEL ANTENNAS PER SECTOR WHICH SHALL BE MOUNTED INSIDE A PROPOSED 140-FT TALL FLAGPOLE, AND THE INSTALLATION OF A 11'-5"x16'-0" EQUIPMENT SHELTER AND GENERATOR. THIS SYSTEM WILL BOTH TRANSMIT AND RECEIVE RADIO SIGNALS.

THE PROPOSED USE DOES NOT REQUIRE FULL-TIME OR PART-TIME EMPLOYEES AT THE SITE. IT WILL BE TYPICALLY VISITED ONCE OR TWICE PER MONTH FOR MAINTENANCE. THE FACILITY IS NOT EXPECTED TO GENERATE ADDITIONAL NOISE, FUMES OR VIBRATIONS. NO WATER OR SEWER SERVICES ARE NEEDED.

DRAWING INDEX	
DRAWING	TITLE
T-1	TITLE SHEET
S-1	KEY PLAN
S-2	SITE AREA PLAN
S-3	OVERALL SITE PLAN & ENLARGED DETAIL
S-4	DETAILED SITE PLAN AND TREE COUNT
S-4a	ELEVATIONS
S-5	CONSTRUCTION DETAILS I
S-6	CONSTRUCTION DETAILS II
S-7	FENCE NOTES & DETAILS & SITE DETAILS
S-8	EQUIPMENT SHELTER PLAN & ELEVATIONS
S-9	BORING LOCATION PLAN
S-10	GEOTECH NOTES AND BORING LOGS
S-11	SHELTER FOUNDATION & DETAILS
E-1	UTILITY PLAN AND DETAILS
E-2	ELECTRICAL DETAILS

NOT FOR CONSTRUCTION



Source: © 2013 National Geographic Society, Inc. used

KEY PLAN

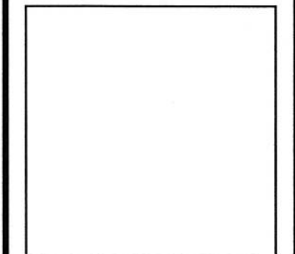
SCALE: 1"=2000' FOR 11"x17"
1"=1000' FOR 22"x34"



1

500 ENTERPRISE DRIVE
3RD FLOOR
ROCKY HILL, CT 06067

Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

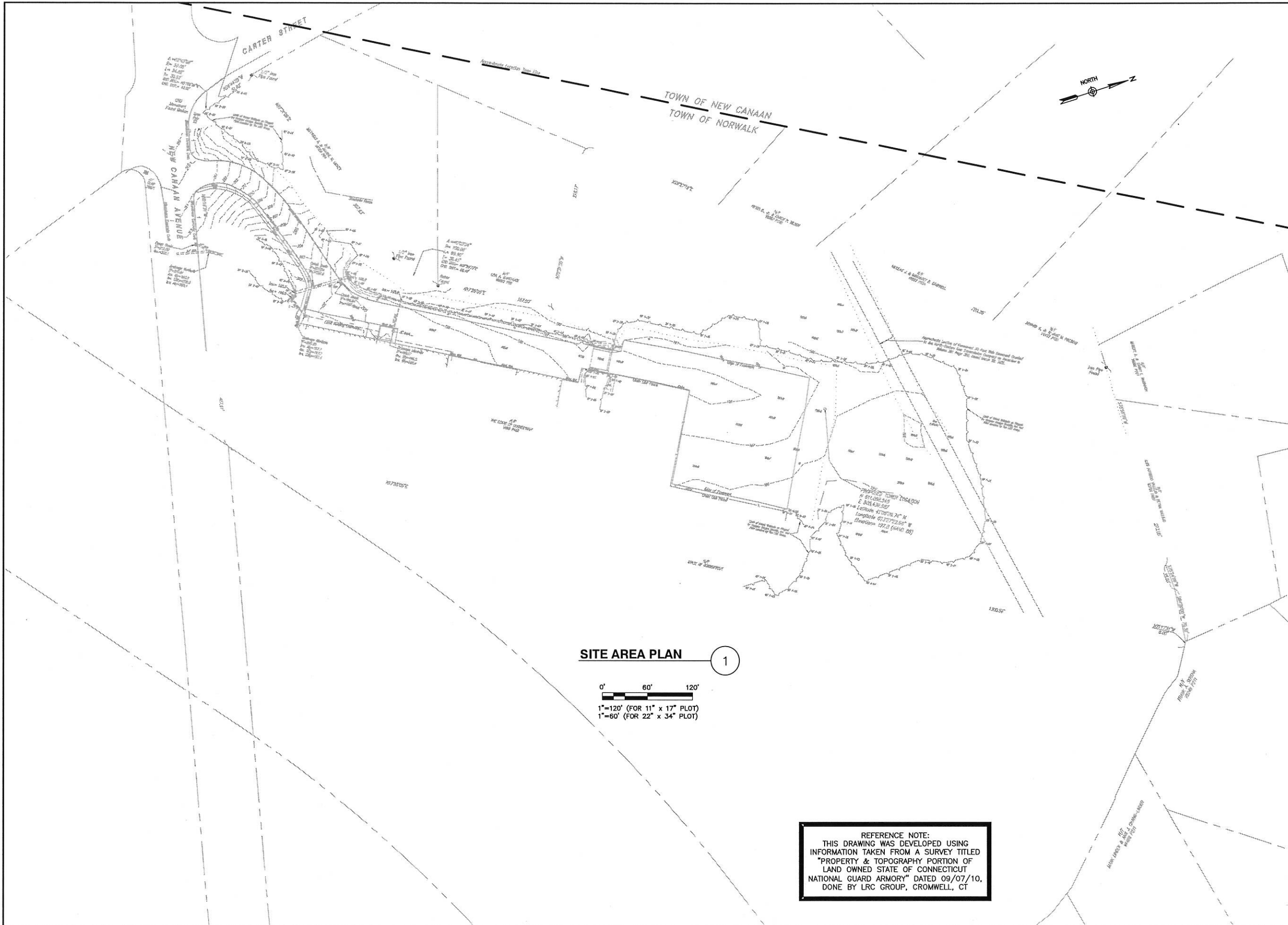
SHEET TITLE:

KEY PLAN

DEWBERRY P.N. 50055111

S-1

SHEET NO.



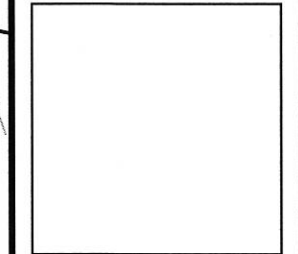
SITE AREA PLAN ①

0' 60' 120'
 1"=120' (FOR 11" x 17" PLOT)
 1"=60' (FOR 22" x 34" PLOT)

REFERENCE NOTE:
 THIS DRAWING WAS DEVELOPED USING
 INFORMATION TAKEN FROM A SURVEY TITLED
 "PROPERTY & TOPOGRAPHY PORTION OF
 LAND OWNED STATE OF CONNECTICUT
 NATIONAL GUARD ARMORY" DATED 09/07/10,
 DONE BY LRC GROUP, CROMWELL, CT

at&t
 500 ENTERPRISE DRIVE
 3RD FLOOR
 ROCKY HILL, CT 06067

Dewberry[®]
 Dewberry Engineers Inc.
 600 PARSIPPANY ROAD
 SUITE 301
 PARSIPPANY, NJ 07054
 PHONE: 973.739.9400
 FAX: 973.739.9710



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

**NATIONAL GUARD
 ARMORY**

284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

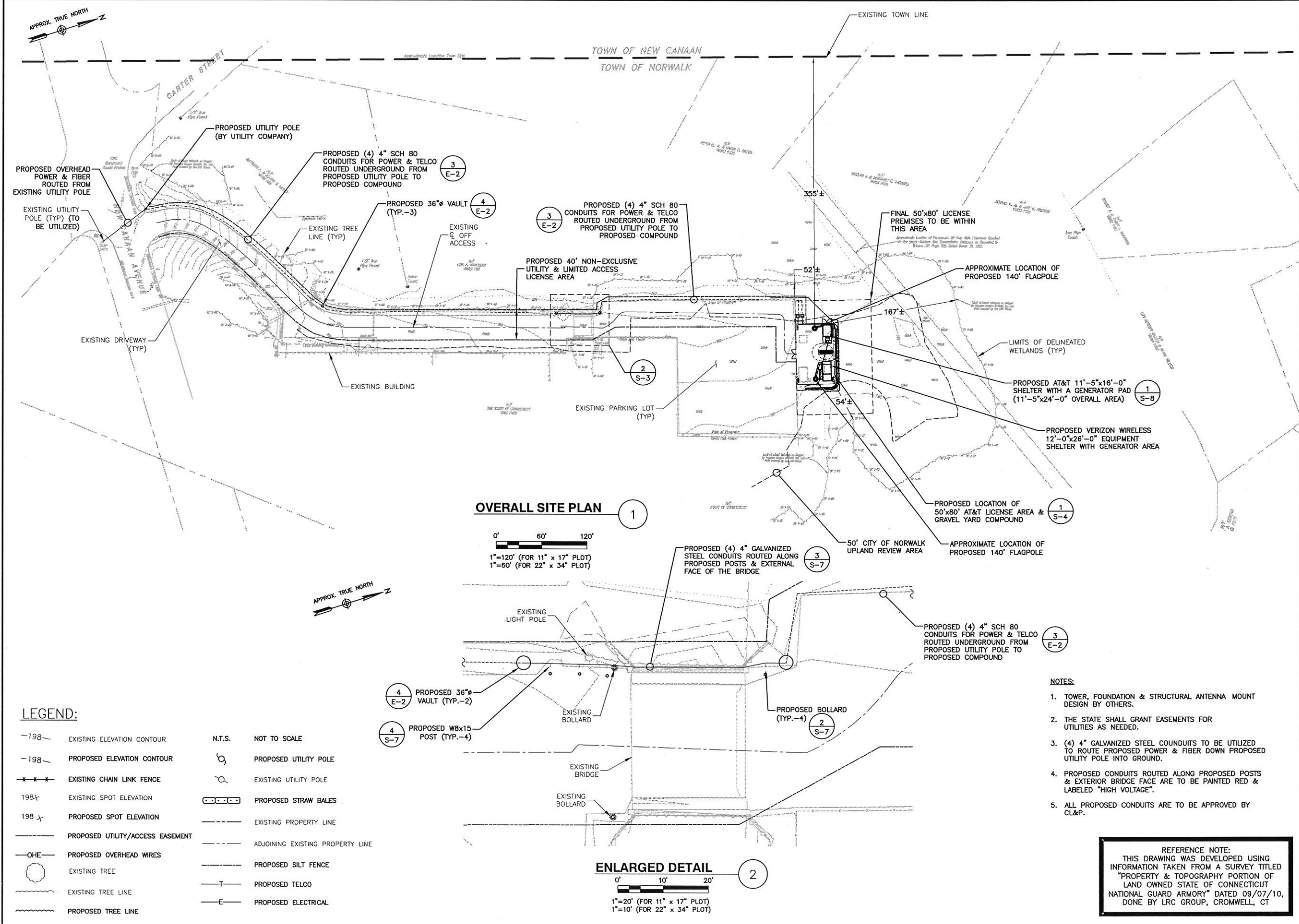
DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

SHEET TITLE:
**SITE AREA
 PLAN**

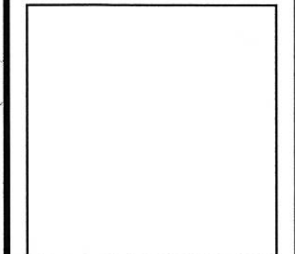
DEWBERRY P.N. 50055111

S-2

SHEET NO.



Dewberry®
Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY
284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

OVERALL SITE PLAN & ENLARGED DETAIL

DEWBERRY P.N. 50055111

S-3

SHEET NO.

REFERENCE NOTE:
THIS DRAWING WAS DEVELOPED USING INFORMATION TAKEN FROM A SURVEY TITLED "PROPERTY & TOPOGRAPHY PORTION OF LAND OWNED STATE OF CONNECTICUT NATIONAL GUARD ARMORY" DATED 09/07/10, DONE BY LRC GROUP, CROMWELL, CT

- NOTES:**
- TOWER, FOUNDATION & STRUCTURAL ANTENNA MOUNT DESIGN BY OTHERS.
 - THE STATE SHALL GRANT EASEMENTS FOR UTILITIES AS NEEDED.
 - (4) 4" GALVANIZED STEEL CONDUITS TO BE UTILIZED TO ROUTE PROPOSED POWER & FIBER DOWN PROPOSED UTILITY POLE INTO GROUND.
 - PROPOSED CONDUITS ROUTED ALONG PROPOSED POSTS & EXTERIOR BRIDGE FACE ARE TO BE PAINTED RED & LABELED "HIGH VOLTAGE".
 - ALL PROPOSED CONDUITS ARE TO BE APPROVED BY CL&P.

ENLARGED DETAIL
1"=20' (FOR 11" x 17" PLOT)
1"=10' (FOR 22" x 34" PLOT)

OVERALL SITE PLAN
1"=120' (FOR 11" x 17" PLOT)
1"=60' (FOR 22" x 34" PLOT)



500 ENTERPRISE DRIVE
3RD FLOOR
ROCKY HILL, CT 06067



Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

TREE COUNT NATIONAL GUARD ARMORY		
Trees in Construction Area		
Size	Count	Type
6"	1	Deciduous Maple
7"	1	Deciduous Maple
10"	1	Deciduous Maple
12"	1	Deciduous Maple (Double Trunk)
15"	1	Deciduous Maple
24"	1	Deciduous Maple
Trees in Lease Area		
Size	Count	Type
6"	13	Deciduous Maple/ Oak/ Ash
7"	5	Deciduous Maple/ Oak/ Ash
8"	7	Deciduous Maple/ Oak/ Ash
9"	6	Deciduous Maple/ Oak/ Ash
10"	2	Deciduous Maple/ Oak/ Ash
12"	6	Deciduous Maple/ Oak/ Ash
13"	5	Deciduous Maple/ Oak/ Ash
14"	2	Deciduous Maple/ Oak/ Ash
16"	2	Deciduous Maple/ Oak/ Ash
17"	1	Deciduous Maple/ Oak/ Ash
20"	1	Deciduous Maple/ Oak/ Ash

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD
ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY RSA

APPROVED BY GHN

CHECKED BY JWS

DATE 05/16/14

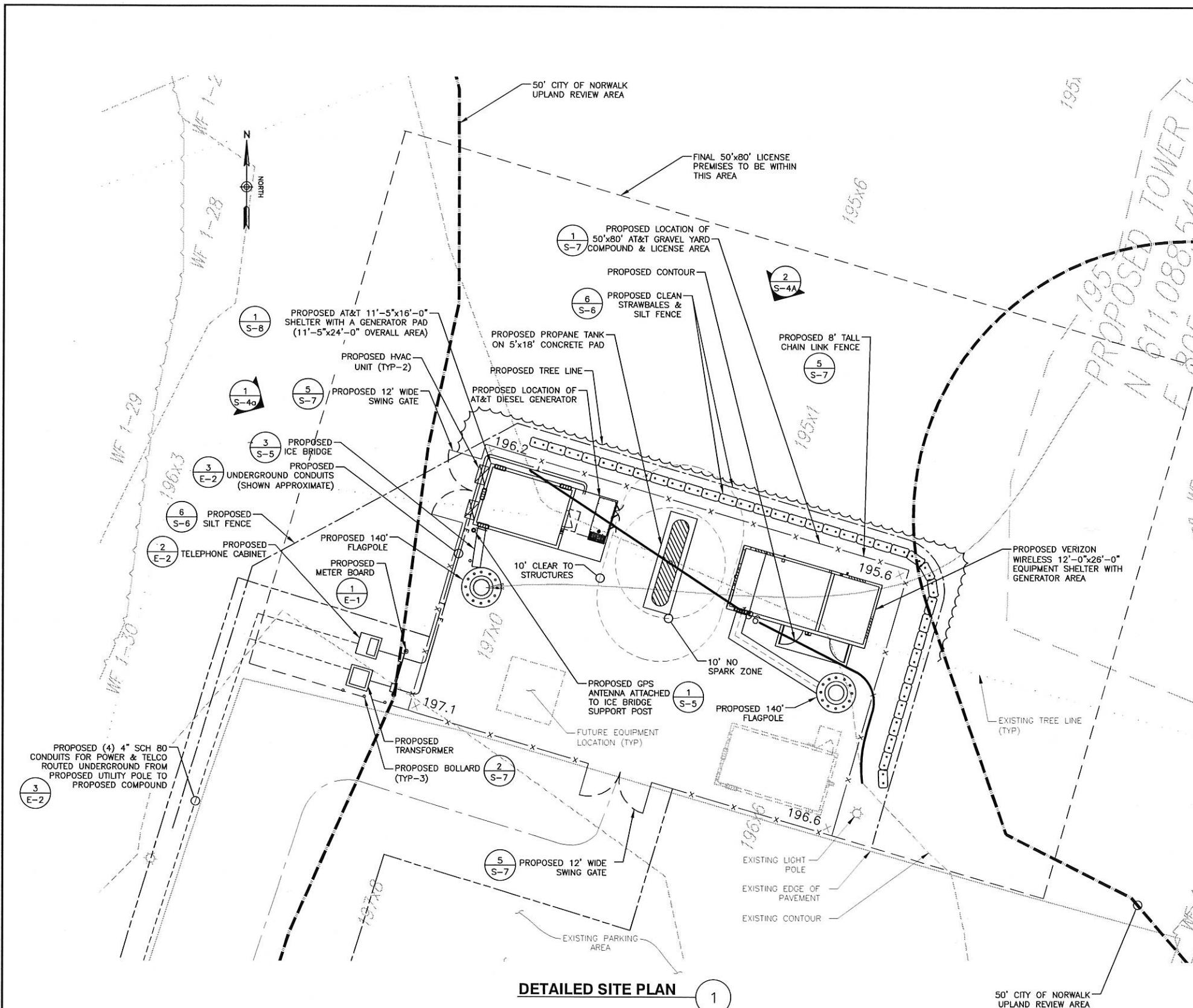
SHEET TITLE:

DETAILED
SITE PLAN
AND TREE COUNT

DEWBERRY P.N. 50055111

S-4

SHEET NO.



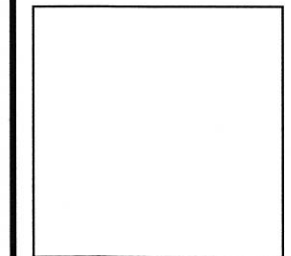
DETAILED SITE PLAN 1

0' 10' 20'
1"=20' (FOR 11" x 17" PLOT)
1"=10' (FOR 22" x 34" PLOT)

NOTE:

1. TOWER, FOUNDATION & STRUCTURAL ANTENNA MOUNT DESIGN BY OTHERS.

REFERENCE NOTE:
THIS DRAWING WAS DEVELOPED USING
INFORMATION TAKEN FROM A SURVEY TITLED
"PROPERTY & TOPOGRAPHY PORTION OF
LAND OWNED STATE OF CONNECTICUT
NATIONAL GUARD ARMORY" DATED 09/07/10,
DONE BY LRC GROUP, CROMWELL, CT



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY
 284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

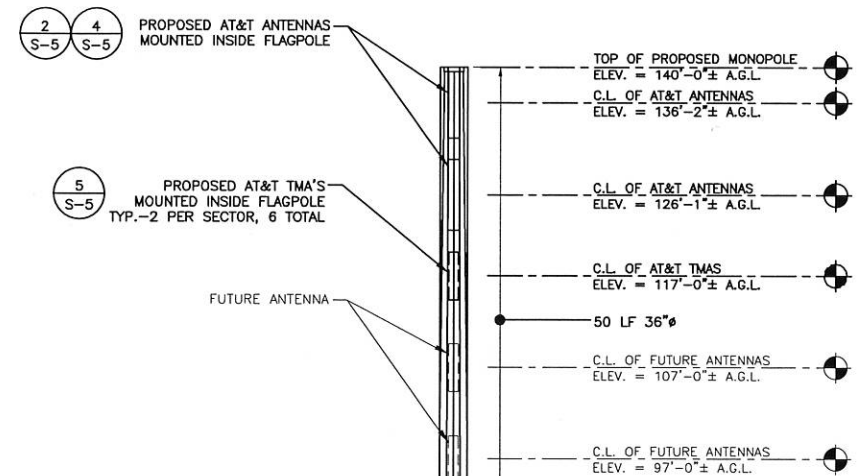
SHEET TITLE:

ELEVATIONS

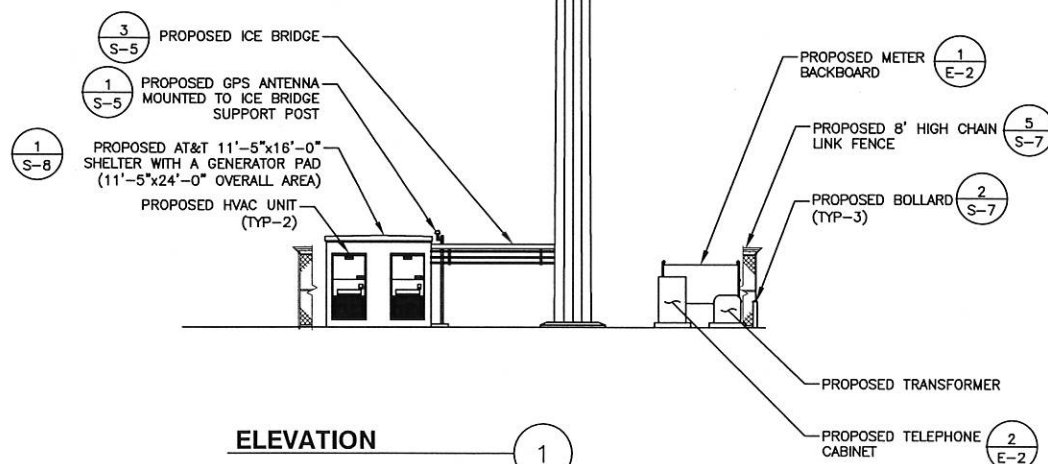
DEWBERRY P.N. 50055111

S-4a

SHEET NO.

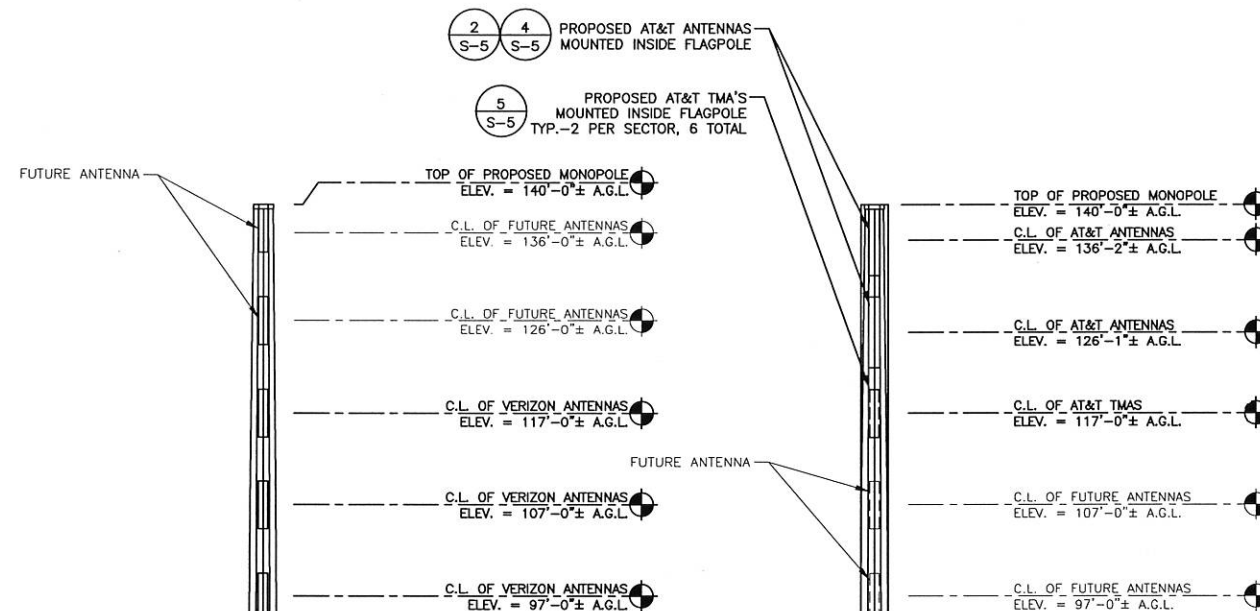


PROPOSED 140' ± A.G.L. RF TRANSPARENT FLAGPOLE (BY OTHERS)



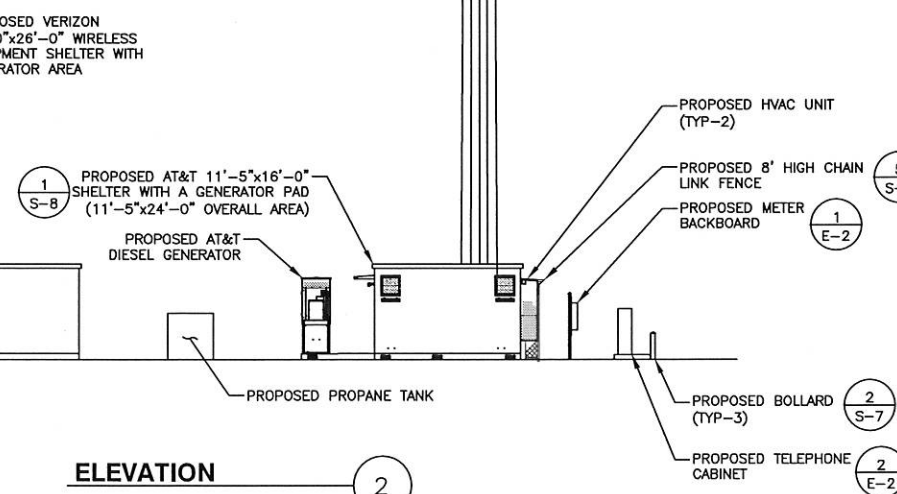
ELEVATION 1

0' 10' 20'
 1" = 20' (FOR 11" x 17" PLOT)
 1" = 10' (FOR 22" x 34" PLOT)



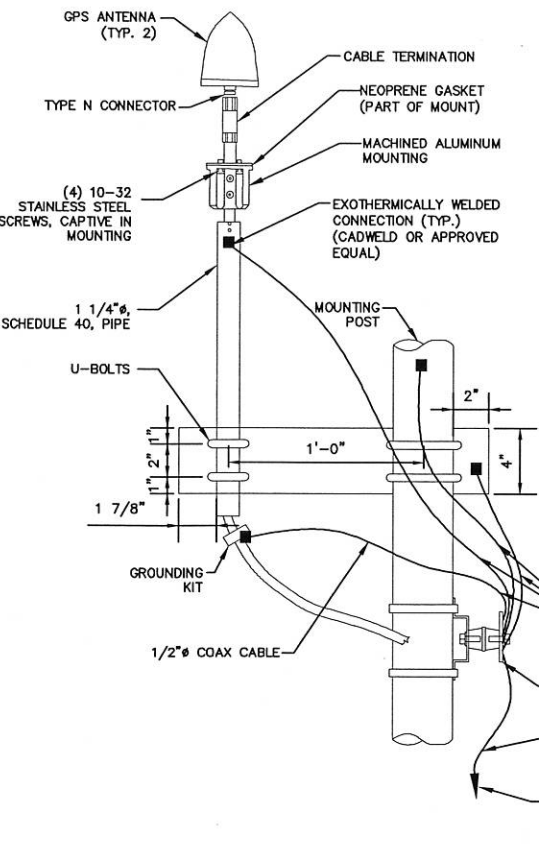
PROPOSED 140' ± A.G.L. RF TRANSPARENT FLAGPOLE (BY OTHERS)

PROPOSED 140' ± A.G.L. RF TRANSPARENT FLAGPOLE (BY OTHERS)



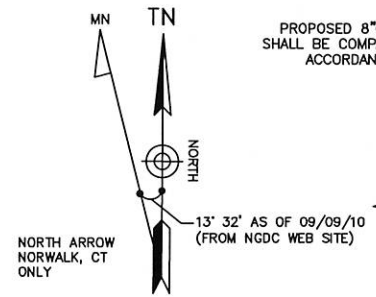
ELEVATION 2

0' 10' 20'
 1" = 20' (FOR 11" x 17" PLOT)
 1" = 10' (FOR 22" x 34" PLOT)



GPS ANTENNA DETAIL 1
SCALE: N.T.S.

- NOTES:**
1. THE ELEVATION AND LOCATION OF THE GPS ANTENNA SHALL BE IN ACCORDANCE WITH THE FINAL RF REPORT.
 2. THE GPS ANTENNA MOUNT IS DESIGNED TO FASTEN TO A STANDARD 1-1/4" DIAMETER, SCHEDULE 40 GALVANIZED STEEL OR STAINLESS STEEL PIPE. THE PIPE MUST NOT BE THREADED AT THE ANTENNA MOUNT END. THE PIPE SHALL BE CUT TO THE REQUIRED LENGTH (MINIMUM OF 18") USING HAND OR ROTARY PIPE CUTTER TO ASSURE A SMOOTH AND PERPENDICULAR CUT. A HACK SAW SHALL NOT BE USED. THE CUT PIPE END SHALL BE DEBURRED AND SMOOTH IN ORDER TO SEAL AGAINST THE NEOPRENE GASKET ATTACHED TO THE ANTENNA MOUNT.
 3. THE MOUNTING PLATE SHALL BE FABRICATED AS SHOWN USING 3/8" THICK GALVANIZED STEEL, AND ATTACHED TO THE APPROPRIATE SUPPORT STRUCTURE USING U-BOLTS. THE SUPPORT PIPE SHALL THEN BE ATTACHED TO THE MOUNTING PLATE USING THE OVERSIZED U-BOLTS PROVIDED TO ALLOW FOR ADJUSTMENT. IT IS CRITICAL THAT THE BASE OF THE GPS IS MOUNTED SUCH THAT IT IS WITHIN 2 DEGREES OF THE VERTICAL AND THE BASE OF THE GPS IS WITHIN 2 DEGREES OF THE LEVEL.
 4. MOUNTING PLATE MAY BE SUBSTITUTED WITH VALMONT UNIVERSAL MOUNTING KIT (P/N B1841) OR APPROVED EQUAL. GPS BASE MUST BE MOUNTED AS DESCRIBED IN NOTE 3.



PROPOSED 8" ANTENNA MOUNT (MOUNT SHALL BE COMPATIBLE WITH TOWER AND IN ACCORDANCE WITH SPECIFICATIONS IN STRUCTURAL ANALYSIS)

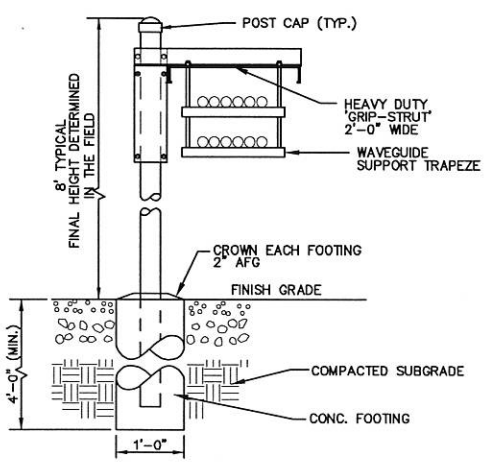
PROPOSED AT&T 140'± A.G.L. FLAGPOLE (50 LF 36" - EL. 90' TO 140')

PROPOSED ANTENNA (TYP) (2 PER SECTOR-6 TOTAL)

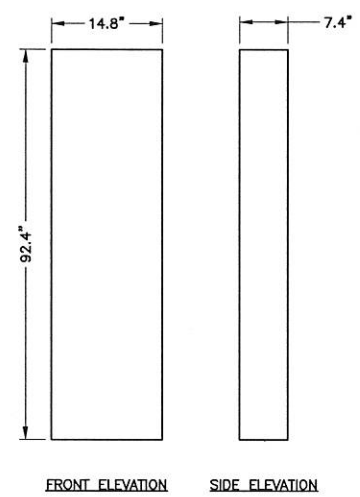
- NOTE:**
1. ANTENNA TYPES AND AZIMUTHS SHOWN REPRESENT A TYPICAL SITE CONFIGURATION. GC SHALL COORDINATE WITH RF ENGINEER FOR SITE SPECIFIC ANTENNA TYPE AND AZIMUTH REQUIREMENTS.
 2. ANTENNA MOUNTING SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.

ANTENNA AZIMUTH DETAIL 2
SCALE: N.T.S.

- NOTES:**
1. ICE BRIDGE SHALL BE SITE PRO1 GRIP STRUT TRANSMISSION LINE BRIDGE KIT (P/N: GRS24) OR APPROVED EQUAL.
 2. CABLE SUPPORT SHALL BE SITE PRO1 DOUBLE LEVEL CHANNEL (P/N: A24K-D) OR APPROVED EQUAL.
 3. ALL COMPONENTS SHALL BE INSTALLED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
 4. CONTRACTOR SHALL DETERMINE REQUIRED QUANTITY OF ALL ICE BRIDGE COMPONENTS.
 5. SNAP-IN HANGERS, SPLICE KITS, HINGE KITS, EXTENSION KITS, STIFFENERS, AND OTHER MISCELLANEOUS HARDWARE SHALL BE PROVIDED BY THE CONTRACTOR AS REQUIRED.
 6. ICE BRIDGE SHALL BE ROUTED TO ACCOMMODATE THE MINIMUM BENDING RADIUS OF THE COAXIAL CABLE.
 7. ICE BRIDGE COMPONENTS SHOWN ARE SCHEMATIC, CONSULT MANUFACTURER FOR EXACT AND CURRENT SPECIFICATIONS.

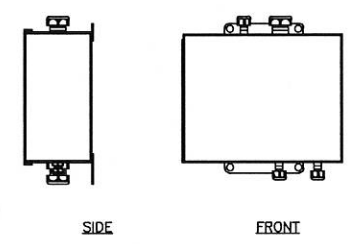


ICE BRIDGE DETAIL 3
SCALE: N.T.S.



CCI_OPA-65R-LCUU-H8
CONNECTOR: (8) 7/16 DIN FEMALE NECK

ANTENNA DETAIL 4
SCALE: N.T.S.



CCI_TMABPB7823VG12A

TMA DETAIL 5
SCALE: N.T.S.

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

SHEET TITLE:
CONSTRUCTION DETAILS

DEWBERRY P.N. 50055111

S-5

SHEET NO.

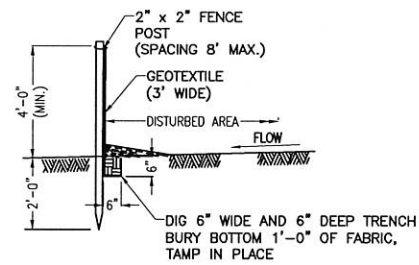
SEEDING RESTORATION STANDARDS

STANDARD FOR TEMPORARY VEGETATIVE COVER

- APPLY GROUND LIMESTONE AT A RATE OF 100 LBS. PER 1000 S.F.
- APPLY STARTER FERTILIZER (10-6-4) AT A RATE OF 40 LBS. PER 1000 S.F.
- APPLY ANNUAL RYEGRASS SEED AT 1 LB. PER 1000 S.F.
- MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 3 TONS PER ACRE.
- APPLY A LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
- SEEDING PERIOD: MARCH THRU MAY/AUGUST THRU SEPTEMBER

STANDARD FOR PERMANENT VEGETATIVE COVER

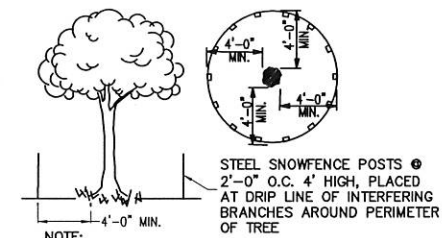
- APPLY GROUND LIMESTONE AT A RATE OF 4 TONS PER ACRE AND WORK FOUR INCHES INTO SOIL.
- APPLY FERTILIZER (10-20-20) AT A RATE OF 14 LBS. PER 1000 S.F.
- APPLY 60% TALL FESCUE, 20% KENTUCKY BLUE GRASS AND 20% PERENNIAL RYEGRASS SEED MIXTURE AT 6 LBS. PER 1000 S.F.
- MULCH STOCKPILE WITH STRAW OR HAY AT A RATE OF 3 TONS PER ACRE.
- APPLY LIQUID MULCH BINDER OR TACK TO STRAW OR HAY MULCH.
- SEEDING PERIOD: MARCH THRU MAY/AUGUST THRU SEPTEMBER



PROPOSED SILT AND TREE PROTECTION FENCE DETAIL

SCALE: N.T.S.

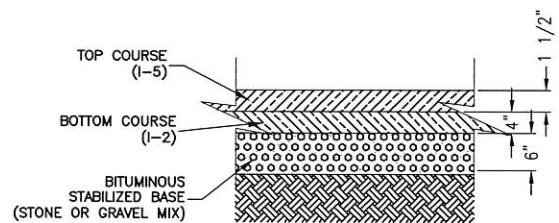
1



TREE DRIPLINE PROTECTION

SCALE: N.T.S.

2

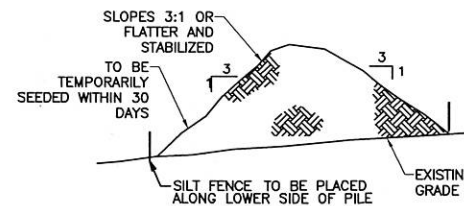


NOTE:
MIX NUMBERS ACCORDING TO ADDENDS 'A' TO THE LATEST NEW JERSEY STATE HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS.

PAVEMENT REPAIR DETAIL

SCALE: N.T.S.

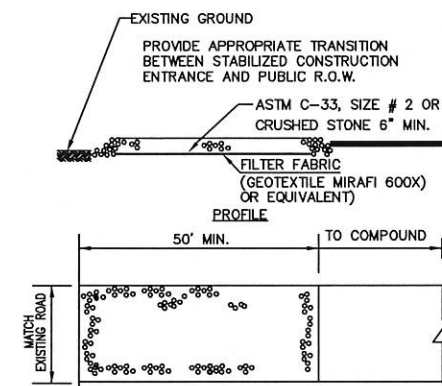
3



TOPSOIL STOCKPILE

SCALE: N.T.S.

4

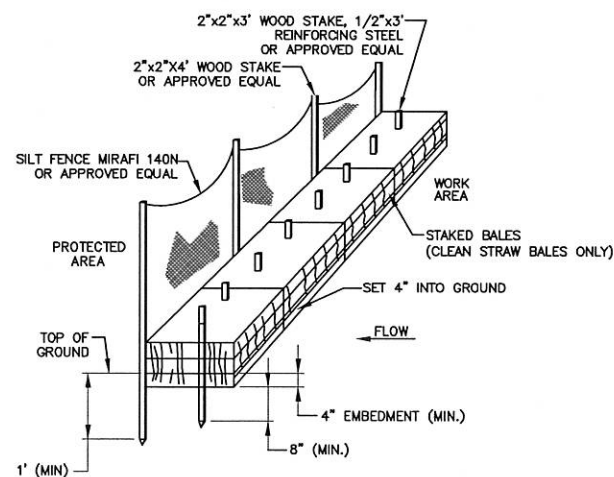


NOTE:
CRUSHED STONE VEHICLE WHEEL CLEANING BLANKET SHALL BE INSTALLED FOR 50' FEET FROM THE EDGE OF PAVEMENT (IF CONDITIONS DICTATE) IMMEDIATELY AFTER ROUGH GRADING ROAD. BLANKET (2 1/2" CRUSHED STONE, 6" THICK) SHALL BE PLACED DIRECTLY OVER A FILTER FABRIC TO PREVENT STONE FROM WORKING INTO SOIL UNDER HEAVY TRAFFIC.

STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

5



SILT FENCE/CLEAN STRAW BALE DETAIL

SCALE: N.T.S.

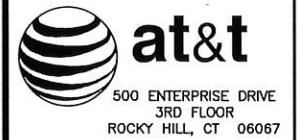
6

SEDIMENTATION AND EROSION CONTROL NOTES

- CONTRACTOR SHALL MAINTAIN SEDIMENTATION CONTROLS. ALL CONTROLS SHOWN SHALL BE CONSIDERED TYPICAL. CONTRACTOR SHALL EMPLOY ALL STANDARDS OF SOIL EROSION AND SEDIMENTATION CONTROL, AS PRESCRIBED IN THE "2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL PUBLISHED BY THE CONNECTICUT COUNCIL ON SOIL AND WATER CONSERVATION," AND AS AMENDED, AS WELL AS ANY LOCAL REGULATIONS AND/OR GUIDELINES.
- INSTALL AND MAINTAIN THE EROSION CONTROL SYSTEM AS SHOWN ON THE PLANS PRIOR TO INITIATING ANY OTHER EARTH DISTURBANCE CONSTRUCTION ACTIVITY.
- SEDIMENTATION AND EROSION CONTROL MEASURES SHOWN ARE THE MINIMUM REQUIRED. INSTALL AND MAINTAIN ADDITIONAL MEASURES, AS REQUIRED, TO CONTROL EROSION AS THE CONSTRUCTION PROJECT PROGRESSES AND COMPLY WITH THE CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
- CONTRACTOR SHALL SEED DISTURBED AREAS, IF THEY ARE LEFT TO BE UNDISTURBED FOR 15 OR MORE DAYS, TO PREVENT ADDITIONAL EROSION.
- CONDUCT CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE APPLICABLE REQUIREMENTS OF ENVIRONMENTAL PERMITS ISSUED FOR THIS PROJECT.

EROSION CONTROL CONSTRUCTION SPECIFICATIONS

- STRAWBALES SHALL BE PLACED PRIOR TO CONSTRUCTION ON THE CONTOUR AND IN A ROW WITH ENDS TIGHTLY ABUTTING THE ADJACENT STRAWBALES.
- EACH STRAWBALE SHALL BE EMBEDDED IN THE SOIL A MINIMUM OF 4 INCHES, AND PLACED SO THE BINDINGS ARE HORIZONTAL.
- STRAWBALES SHALL BE SECURELY ANCHORED IN PLACE BY EITHER TWO STAKES OR REBARS DRIVEN THROUGH THE STRAWBALE. THE FIRST STAKE IN EACH STRAWBALE SHALL BE DRIVEN TOWARD THE PREVIOUSLY LAID STRAWBALE AT AN ANGLE TO FORCE THE STRAWBALES TOGETHER. STAKES SHALL BE DRIVEN FLUSH WITH THE STRAWBALE.
- INSPECTION SHALL BE FREQUENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
- UPON COMPLETION OF CONSTRUCTION AND STABILIZATION OF ALL DISTURBED AREAS, EROSION CONTROL MEASURES ARE TO BE REMOVED.



500 ENTERPRISE DRIVE
3RD FLOOR
ROCKY HILL, CT 06067



Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

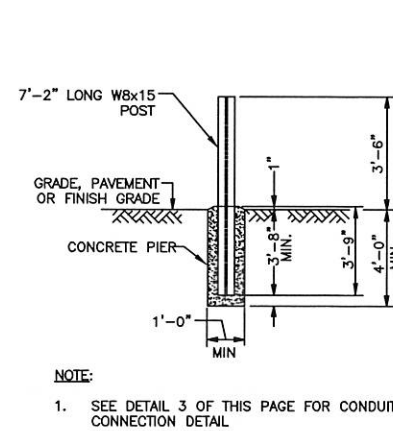
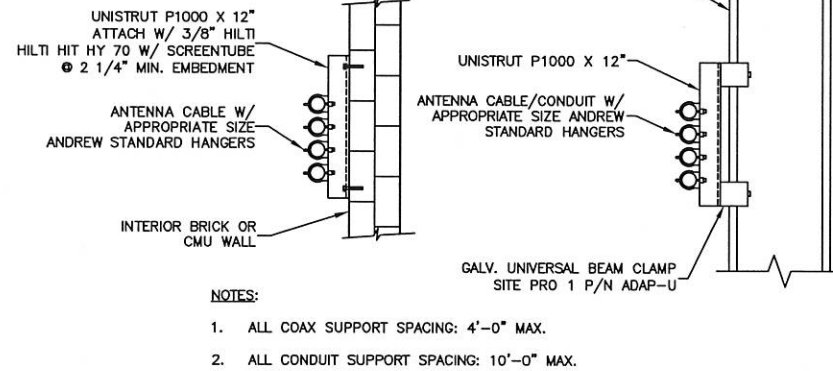
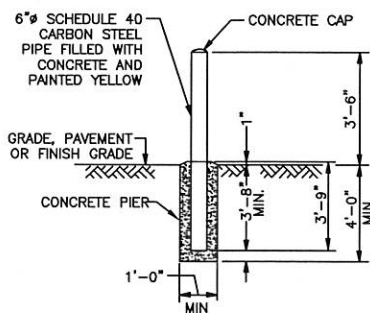
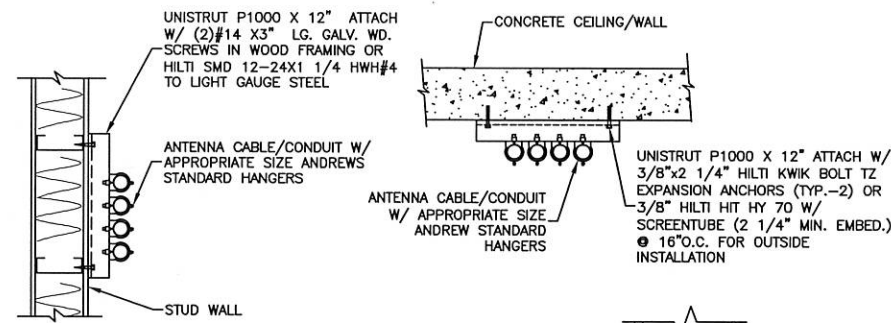
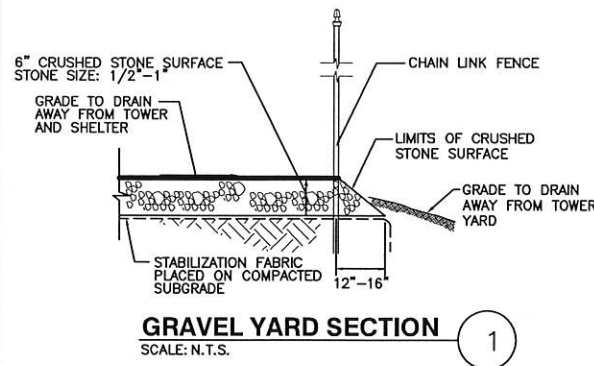
SHEET TITLE:

CONSTRUCTION DETAILS II

DEWBERRY P.N. 50055111

S-6

SHEET NO.



CHAIN LINK FENCE NOTES AND SPECIFICATIONS:

NOTES:

1. ALTERNATE FOOTINGS FOR ALL FENCE POSTS IN LEDGE: IF LEDGE IS ENCOUNTERED AT GRADE, OR AT A DEPTH SHALLOWER THAN 3'-6", CORE DRILL AN 8" DIA HOLE 18" INTO THE LEDGE. CENTER POST IN THE HOLE AND FILL WITH CONCRETE OR GROUT. IF LEDGE IS BELOW FINISH GRADE, COAT BACKFILLED SECTION OF POST WITH COAL TAR, AND BACKFILL WITH WELL-DRAINING GRAVEL.
2. ATTACH GATE WITH 1-1/2" PAIR OF NON-LIFT-OFF TYPE, MALLEABLE IRON OR FORGING, PIN-TYPE HINGES. ASSEMBLIES SHALL ALLOW FOR 180° OF GATE TRAVEL.

QUALITY ASSURANCE:

1. INSTALL FENCING PER ASTM F-567, SWING GATES PER ASTM F-900
2. COMPLY WITH STANDARDS OF THE CHAIN LINK FENCE MANUFACTURER'S INSTITUTE
3. PROVIDE STEEL FENCE AND RELATED GATES AS PRODUCED BY A SINGLE MANUFACTURER, INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS, AND FASTENINGS
4. COMPLY WITH ASTM A-120 FOR REQUIREMENTS OF SCHEDULE 40 PIPING
5. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED.
6. HEIGHT = 8' VERTICAL + 1' BARBED WIRE VERTICAL DIMENSION.

FINISHES:

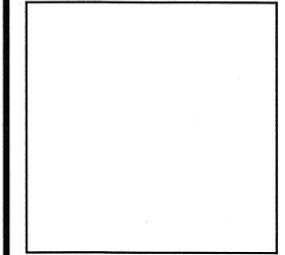
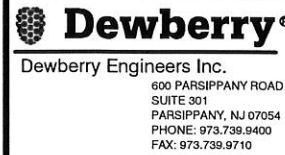
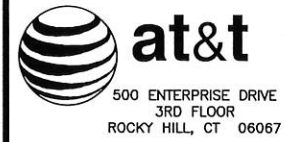
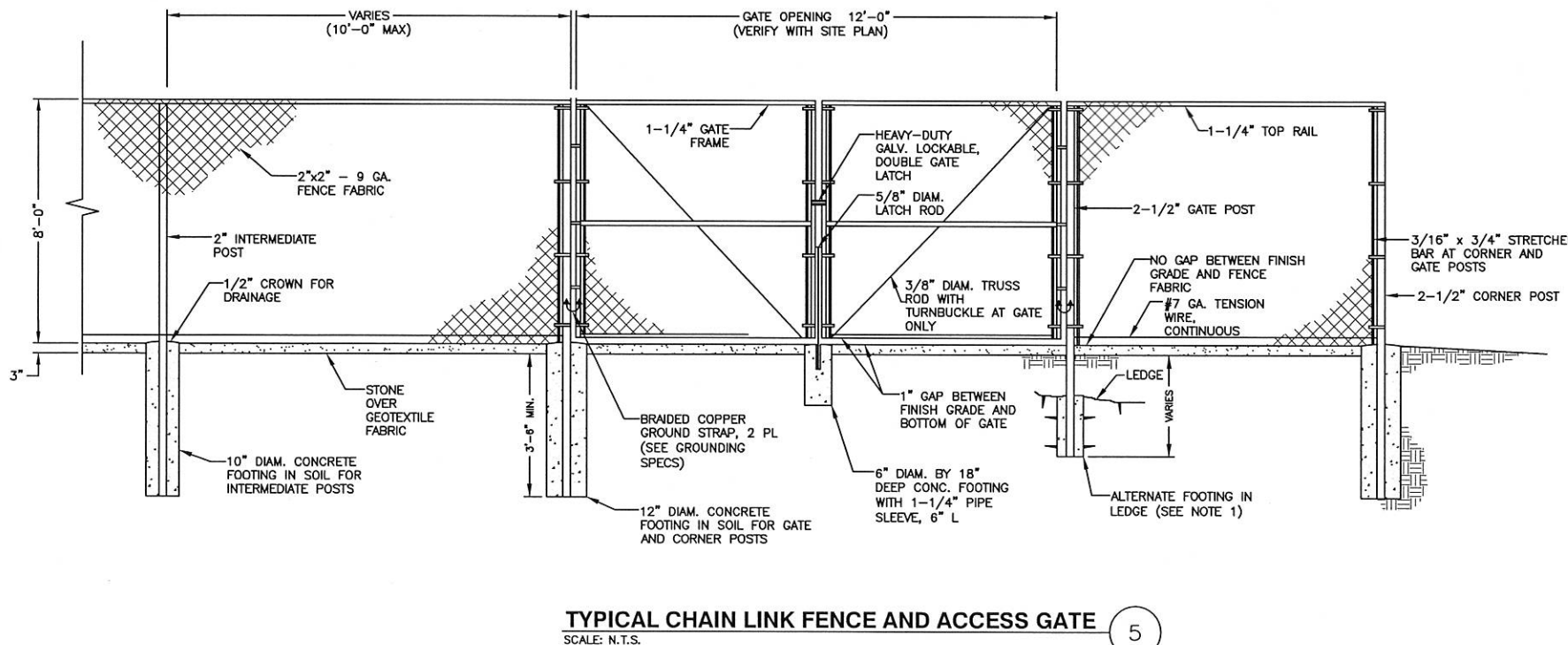
1. STEEL FRAMEWORK: PIPE - GALVANIZED IN ACCORDANCE WITH ASTM A-120, 2.0 OZ. ZINC PER SQ. FT. CLASS "B" STEEL TUBING - EXTERIOR: 1.0 OZ ZINC PER SQ. FT PLUS A COATING OF CHROMATE AND POLYURETHANE. INTERIOR: ZINC RICH ORGANIC COATING.
2. FABRIC: ALUMINUM FINISH - ASTM A-491 ALUMINUM COATED WITH 0.40 OZ PER SQ. FT.
3. FENCE AND GATE HARDWARE, MISCELLANEOUS MATERIALS, ACCESSORIES: WIRE TIES - GALVANIZED FINISH, ASTM A-90 2.0 OZ PER SQ. FT. HARDWARE AND OTHER MISCELLANEOUS ITEMS - GALVANIZED FINISH, ASTM A-153 (TABLE 1) ANGLE BEAMS, I BEAMS, AND STEEL SHAPES - GALVANIZED IN ACCORDANCE WITH ASTM A-123, 2.0 OZ ZINC PER SQ. FT.
4. BARBED WIRE: ALUMINUM FINISH - ASTM A-585 CLASS 2, 0.30 OZ PER SQ. FT.

PRODUCTS:

1. STEEL FRAMEWORK: END POSTS, CORNER POSTS, PULL POSTS AND LINE POSTS - CLASS B STEEL TUBING: 2.875" OD, 4.64 LB PER LINEAR FT; SS-40 FENCE PIPE
2. STEEL FABRIC: ONE PIECE WIDTHS FOR FENCE HEIGHTS UP TO 12'-0"; CHAIN LINK NO. 9 GAUGE, 2 INCH MESH; SELVAGES: TOP SIDE TWISTED AND BARBED, BOTTOM SIDE KNUCKLED.
3. SWING GATE POSTS: PIPE - 4" OD, 9.11 LB PER LINEAR FT (SCHEDULE 40)
4. SWING GATE FRAMES: CLASS B STEEL TUBING - 1.90" OD, 2.28 LB PER LINEAR FT; SS-40 FENCE PIPE
5. GATE HARDWARE: HINGES - NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180° DOOR SWING, AND OF SUITABLE SIZE AND WEIGHT TO SUPPORT GATE. PROVIDE 1 1/2" PAIR OF HINGES FOR EACH LEAF OVER 6' HIGH. LATCH - PROVIDE INDUSTRIAL SINGLE LEAF LATCH BY CARGO PROTECTORS, INC. (OR APPROVED EQUAL) AS SUPPLIED BY AFSCO FENCE SUPPLY CO. (OR SIMILAR VENDOR) FOR ALL DOUBLE SWING GATES OVER 10' IN TOTAL WIDTH.
6. RAILS AND POST BRACES: CLASS B STEEL TUBING - 1.660 INCHES OD, 1.84 LB PER LINEAR FT; SS-40 FENCE PIPE
7. POST TOPS: STEEL, WROUGHT IRON, OR MALLEABLE IRON.
8. STRETCHER BARS: ONE PIECE EQUAL TO FULL HEIGHT OF FABRIC, MINIMUM CROSS-SECTION 3/16" x 3/4".
9. METAL BANDS (FOR STRETCHER BARS): STEEL, WROUGHT IRON, OR MALLEABLE IRON, TO SECURE STRETCHER BARS TO END, CORNER, PULL GATE POSTS.
10. WIRE TIES: FOR TYING FABRIC TO LINE POSTS, RAILS AND BRACES - 9 GAUGE STEEL WIRE
11. TRUSS RODS: 3/8" DIA.
12. ANGLE BEAMS, I BEAMS AND STEEL SHAPES: ASTM A-36
13. BOLTS AND NUTS: ASTM A-307, GRADE A
14. CONCRETE: MINIMUM 3000 PSI AT 28 DAYS

INSTALLATION:

1. SPACE POSTS EQUIDISTANT IN THE FENCE LINE WITH A MAXIMUM OF 10' ON CENTER
2. LOCATE CORNER POSTS AT CORNERS AND AT CHANGES IN DIRECTION.
3. INSTALL BRACE AND BOTTOM RAILS IN ONE PIECE BETWEEN POSTS AND FLUSH WITH POST ON FABRIC SIDE USING SPECIAL OFFSET FITTINGS WHERE NECESSARY.
4. DIAGONALLY BRACE CORNER POSTS, PULL POSTS, AND TERMINATE POSTS TO ADJACENT LINE POSTS WITH TRUSS RODS AND TURNBUCKLES
5. ATTACH FABRIC TO SECURITY SIDE OF FENCE. MAINTAIN A 2" CLEARING ABOVE FINISHED GRADE EXCEPT WHEN INDICATED OTHERWISE. THREAD STRETCHER BARS THROUGH FABRIC USING ONE BAR FOR EACH GATE AND END POST AND TWO FOR EACH CORNER AND PULL POST. PULL FABRIC TIGHT SO THAT THE MAXIMUM DEFLECTION OF FABRIC IS 2" WHEN A PULL IS EXERTED PERPENDICULAR TO THE CENTER OF A PANEL. MAINTAIN TENSION BY SECURING STRETCHER BARS TO POSTS WITH METALS BANDS SPACED 15" O.C. FOR RAILS AND BRACES. BEND BACK WIRE ENDS TO PREVENT INJURY. TIGHTEN STRETCHER BAR BANDS, WIRE TIES, AND OTHER FASTENERS SECURELY.
6. POSITION BOLTS FOR SECURING METAL BANDS AND HARDWARE SO NUTS ARE LOCATED OPPOSITE THE FABRIC SIDE OF FENCE. TIGHTEN NUTS AND SCORE EXCESS THREADS. SECURE POST TOPS, EXTENSION ARMS, AND CAPS WITH ONE-WAY CADMIUM PLATED STEEL SCREWS.
7. INSTALL GATES PLUMB AND LEVEL AND ADJUST FOR FULL OPENING WITHOUT INTERFERENCE. INSTALL GROUND-SET ITEMS IN CONCRETE FOR ANCHORAGE, AS RECOMMENDED BY A FENCE MANUFACTURER. ADJUST HARDWARE FOR SMOOTH OPERATION AND LUBRICATE WHERE NECESSARY.



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

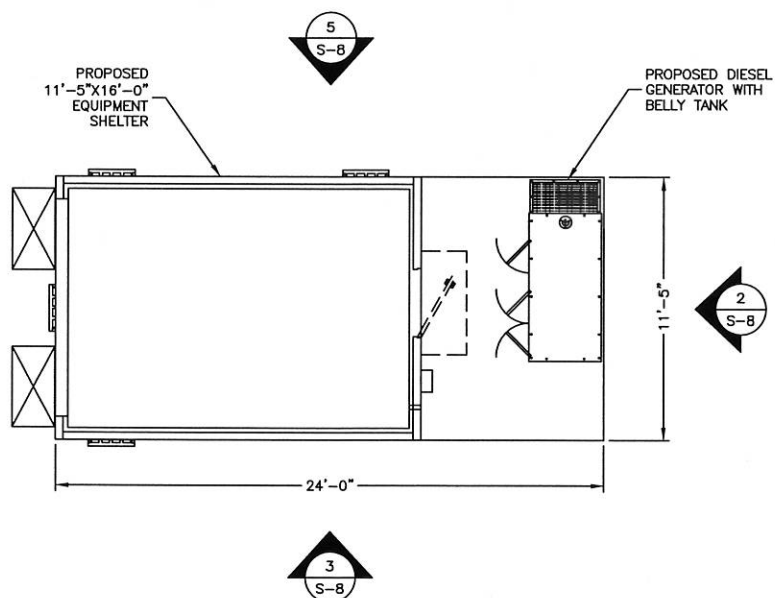
SHEET TITLE:

FENCE NOTES & DETAILS & SITE DETAILS

DEWBERRY P.N. 50055111

S-7

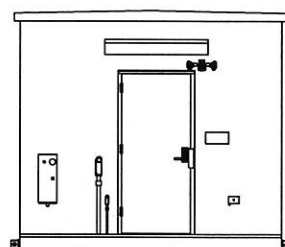
SHEET NO.



SHELTER FLOOR PLAN

0' 2' 4' 8'

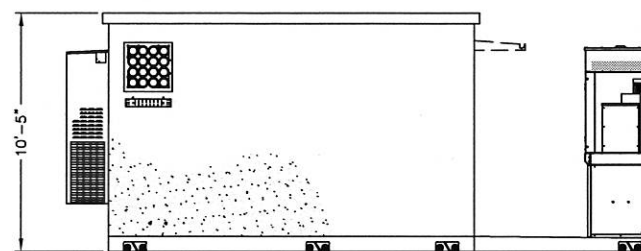
SCALE: 1/8"=1' FOR 11"x17"
 1/4"=1' FOR 22"x34"



SHELTER RIGHT ELEVATION

0' 2' 4' 8'

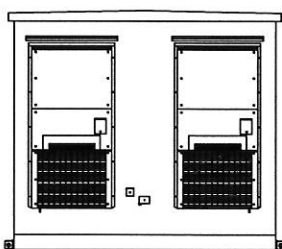
SCALE: 1/8"=1' FOR 11"x17"
 1/4"=1' FOR 22"x34"



SHELTER REAR ELEVATION

0' 2' 4' 8'

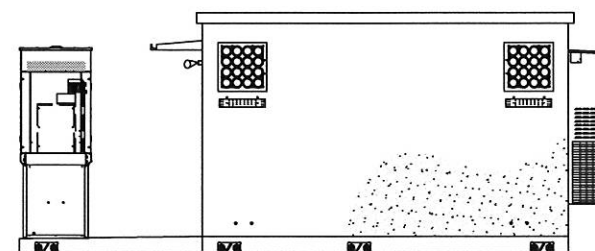
SCALE: 1/8"=1' FOR 11"x17"
 1/4"=1' FOR 22"x34"



SHELTER LEFT ELEVATION

0' 2' 4' 8'

SCALE: 1/8"=1' FOR 11"x17"
 1/4"=1' FOR 22"x34"



SHELTER FRONT ELEVATION

0' 2' 4' 8'

SCALE: 1/8"=1' FOR 11"x17"
 1/4"=1' FOR 22"x34"

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

**NATIONAL GUARD
 ARMORY**

284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

SHEET TITLE:

**EQUIPMENT
 SHELTER PLAN
 & ELEVATIONS**

DEWBERRY P.N. 50055111

S-8

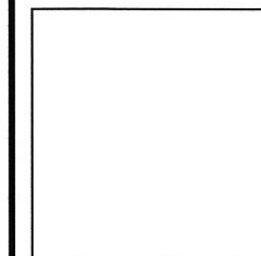
SHEET NO.



500 ENTERPRISE DRIVE
3RD FLOOR
ROCKY HILL, CT 06067



Dewberry Engineers Inc.
600 PARSIPPANY ROAD
SUITE 301
PARSIPPANY, NJ 07054
PHONE: 973.739.9400
FAX: 973.739.9710



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

DRAWN BY RSA

APPROVED BY GHN

CHECKED BY JWS

DATE 05/16/14

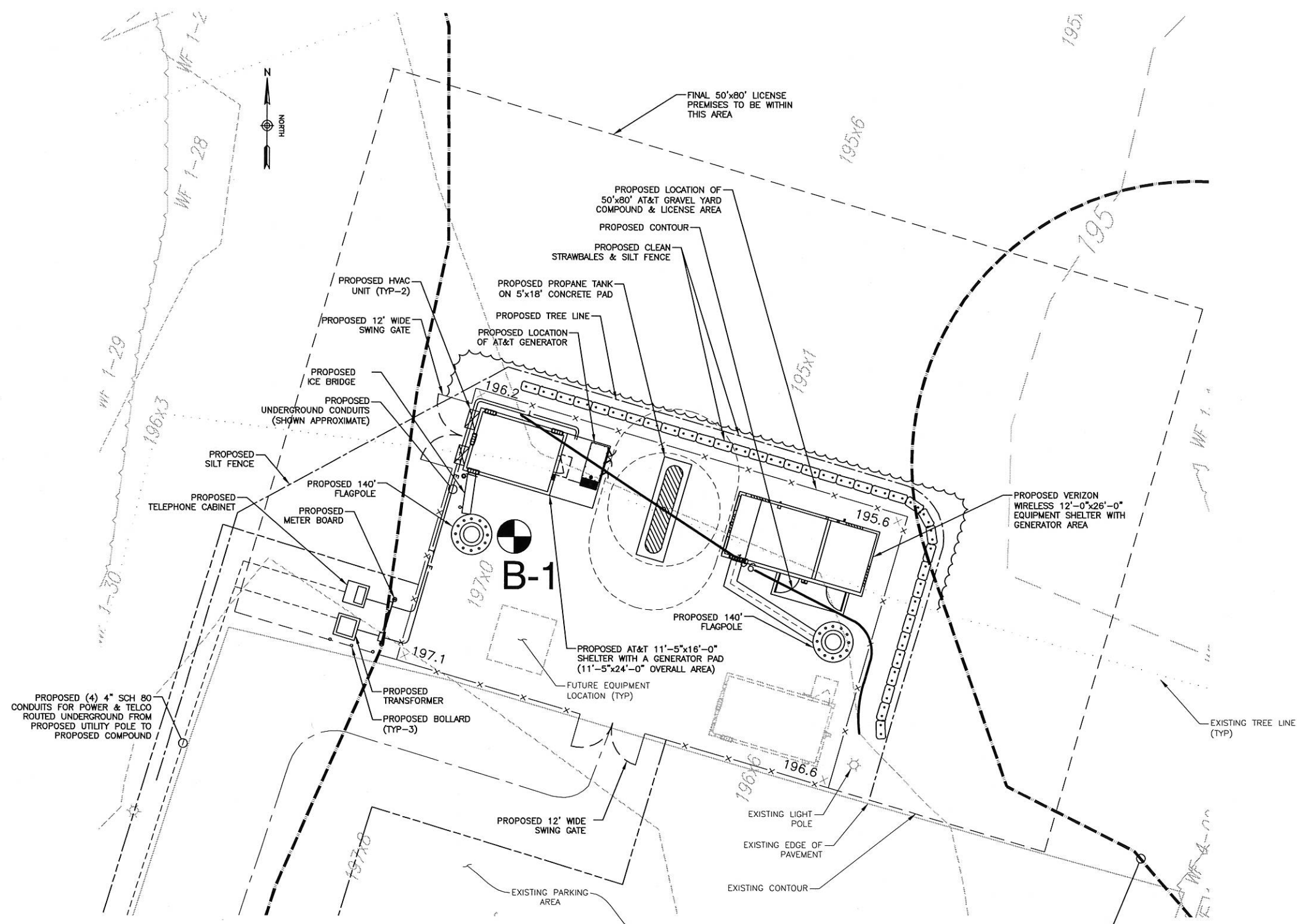
SHEET TITLE:

BORING LOCATION PLAN

DEWBERRY P.N. 50055111

S-9

SHEET NO.



BORING LOCATION PLAN 1

0' 10' 20'
1"=20' (FOR 11" x 17" PLOT)
1"=10' (FOR 22" x 34" PLOT)

NOTE:
1. TOWER, FOUNDATION & STRUCTURAL ANTENNA MOUNT DESIGN BY OTHERS.

REFERENCE NOTE:
THIS DRAWING WAS DEVELOPED USING INFORMATION TAKEN FROM A SURVEY TITLED "PROPERTY & TOPOGRAPHY PORTION OF LAND OWNED STATE OF CONNECTICUT NATIONAL GUARD ARMORY" DATED 09/07/10, DONE BY LRC GROUP, CROMWELL, CT

50' CITY OF NORWALK UPLAND REVIEW AREA

INTRODUCTION

This project consists of the construction of a monopole tower and associated equipment shelter within a proposed 50 ft. x 80 ft. fenced compound for telecommunications use at the National Guard Armory located at 284 New Canaan Avenue, Norwalk, Connecticut. This report presents the findings of a subsurface investigation conducted at this site, and presents recommendations for the design and construction of the proposed tower and shelter.

The project site is located approximately due north of the intersection of Route 15 (Merritt Parkway) and Route 123 (New Canaan Ave.). A new 140 ft. tall monopole and 11.5 ft. x 20 ft. equipment shelter will be located 205 ft. north of the northern edge of pavement at the rear parking lot of the National Guard Armory. The site is currently a lawn area that slopes gently down to the northeast, with ground elevations ranging from EL. 197 in the southwest area of the lease site, to EL. 195.5 in the northeast area. Access to the site is direct from the rear parking lot and generally unimpeded. There is a small bridge along the access roadway to the rear parking lot with unknown capacity.

SUBSURFACE INVESTIGATION

On March 7, 2014, one boring was drilled by Soiltesting, Inc. of Oxford, CT at the location of the proposed 140 ft. monopole. Soil sampling at boring B-1 was performed using a 2 in. diameter split spoon sampler driven by a 140 lb. safety hammer with a 30 in. drop, in accordance with provisions of the Standard Penetration Test (SPT), ASTM D 1586. The boring was sampled continuously from the ground surface to a depth of 16 ft., then at 5 ft. intervals to the bottom of the boring at 40 ft. A 4 in. inner diameter hollow stem auger was used to advance and maintain the hole. Bedrock was not encountered; however, at a depth of approximately 36 ft. the in situ material became very dense and spoon refusal was encountered. Boring B-1 was terminated at a depth of 40.1 ft. An experienced boring inspector was present during drilling and all soil samples were identified according to the Burmister Field Classification System (ASTM, 1958). The Boring Location Plan and boring log are included in the Appendix.

SUBSURFACE CONDITIONS

Boring B-1 encountered approximately 3 in. of topsoil underlain by brown medium dense to very dense granular material with varying amounts of silt and gravel to a depth of 10 ft. (EL. ±187.0). Standard penetration test N-values ranged from 11 to 21. Brown and gray, loose to medium dense silty sands with N-values ranging from 8 to 11 are present beneath this layer of dense sand and continued to a depth of ±28 ft. (EL. ±169.0). Dense to very dense, silty sand with pockets of clayey silt are present below EL. ±169 and continued to the completion of the boring at a depth of 40 ft. (EL. ±157.0), with spoon refusal encountered at the 35 ft. and 40 ft. sample depths.

Groundwater was encountered during drilling at a depth of ±6 ft. (EL. 190.5).

DESIGN RECOMMENDATIONS

Based on the subsurface data obtained from the borings, the following foundation alternatives and design criteria are recommended:

Monopole

Considering the favorable relative density of the in situ soils, the use of either a large spread footing or a drilled shaft is considered suitable for support of the proposed monopole.

For the spread footing alternative, a net allowable bearing capacity of 3 TSF (tons per square foot) may be utilized if founded in the granular soils present at depths ranging from 5 to 10 ft. beneath existing ground (EL. ±191.5 to ±186.5). The subgrade at the bottom of the excavation should be thoroughly compacted prior to footing construction. A minimum embedment depth of 4 ft. is recommended to protect against frost heave and limit settlement to <1 in. It is further recommended that the footing be founded even lower than this so the footing is entirely below grade and not visible. The size of the footing will likely be governed by overturning, however a base friction factor of 0.45 is recommended for a cast-in-place footing founded within the sand present at the recommended elevations.

For the drilled shaft alternative, the design should use Brom's method of analysis or a p-y analysis method as used by modern computer programs which mobilizes lateral soil resistance for support. Commonly accepted factors of safety and design methods should be used in accordance with TIA standards. The top 2 ft. of soil should be neglected in developing the allowable lateral resistance to account for disturbance, etc. at this site. Otherwise, the following criteria are recommended for analysis, assuming the concrete is placed in direct contact with the soil sides, and a permanent steel casing is not used:

Brown & gray Silty Sand with Gravel (2 ft. to 10 ft.)
 Moist unit weight of soil, $\gamma = 123 \text{ pcf}$
 Angle of internal friction, $\phi = 37^\circ$
 Lateral earth pressure coefficients:
 $K_a = 0.25$
 $K_p = 4.02$
 Wall friction angle $\delta = 29^\circ$ (mass concrete on sand)
 $= 17^\circ$ (steel on sand)

Brown & gray Silty Sand (10 ft. to 28 ft.)
 Moist unit weight of soil, $\gamma = 115 \text{ pcf}$
 Angle of internal friction, $\phi = 30^\circ$
 Lateral earth pressure coefficients:
 $K_a = 0.33$
 $K_p = 3.00$
 Wall friction angle $\delta = 19^\circ$ (mass concrete on sand)
 $= 17^\circ$ (steel on sand)

Gray Silty Sand (28 ft. to 40 ft.)
 Moist unit weight of soil, $\gamma = 125 \text{ pcf}$
 Angle of internal friction, $\phi = 36^\circ$
 Active Earth Pressure Coefficient, $K_a = 0.24$
 Passive Earth Pressure Coefficient, $K_p = 4.20$
 Wall friction angle $\delta = 29^\circ$ (mass concrete on sand)
 $= 17^\circ$ (steel on sand)

Based on the relative density of the in-situ soils, a seismic site class of D is recommended.

Liquefaction analysis indicates the lowest factor of safety against liquefaction is >3, which is above the recommended factor of safety of 1.0.

Equipment Shelter

The proposed 11.5 ft. by 20 ft. equipment shelter is proposed to be set on existing grade after grading the site. It is recommended that the existing soil be removed to a minimum depth of 12 in. below the proposed bottom of slab, the subgrade be thoroughly compacted using at least four passes of a vibratory roller and until no further settlement is observed, and a minimum of 12 in. of 3/4 in. clean, crushed stone be placed with compaction to the elevation of the bottom of slab. This will provide uniform support for the equipment shelter and help minimize post construction settlement. Settlement/movement will be dependent on seasonal frost heave action, and provision for a minimum of 2 in. of vertical movement should be provided by means of flexible connections. A modulus of subgrade reaction equal to 300 pci may be used for design of this slab following such construction.

CONSTRUCTION RECOMMENDATIONS

Spread footings should not be constructed on saturated or frozen subgrade materials. For wet excavations, all standing water shall be removed by pumping before placing concrete. In wet weather conditions, a 4 in. thick layer of 3/4 in. clean crushed stone may be placed below the bottom of footing to protect the excavation from softening prior to concrete placement. Frozen subgrade shall be removed and replaced with either compacted structural backfill placed in 8 in. thick loose lifts and compacted to 95% maximum dry density at optimum moisture (ASTM D 1557); or with clean, 3/4 in. crushed stone, or with additional concrete.

Structural backfill should consist of well-graded, free-draining granular soil with a maximum of 10% non-plastic fines. Structural fill should be compacted to 95% maximum dry density at optimum moisture content (ASTM D 1557). The majority of the on-site sand is suitable for use as structural fill. Compaction tests should be performed according to the following recommended schedule:

For the drilled shaft alternate, construction methods used to install drilled shafts should be in accordance with the procedures outlined in FHWA publication IF-99-025, "Drilled Shafts: Construction Procedures and Design Methods". The method of construction must include full support of the shiewalls during the entire construction period. The construction period is defined as the initial excavation to the final concrete placement. Methods that are considered acceptable and satisfy the above requirement include, but are not limited to:

1. Use of mud slurry (bentonite, etc.) to support the shaft walls prior to concrete placement.
2. Use of steel casing as a temporary form. The casing is installed as the shaft is augered, and then removed as the concrete is placed in order to develop full concrete-soil contact.
3. Use of steel casing as a permanent form. The casing is installed as the shaft is augered; however, it remains part of the drilled shaft. Steel casing significantly reduces shaft friction and is therefore a less efficient design, which would need to be considered prior to construction.

For construction of the equipment shelter slab-on-grade, all loose soil should be proof rolled and compacted until no further subsidence is visible. A double-drum walk-behind vibratory roller should be used for this compaction, with a minimum of 4 passes over the area to receive the slab-on-grade. All water and/or ice must be removed prior to construction of the slab.

An experienced geotechnical engineer should be retained during foundation excavation and construction to verify that the monopole or drilled shaft bear in/on material consistent with these findings and recommendations. Additionally, a licensed professional engineer and/or materials testing firm should be present during construction of the foundation to ensure that reinforcing steel and concrete are placed and constructed according to this report and the designer's specification(s).

Dewberry												
ROUTE		LOCAL NAME: New Circular Wireless PCS, LLC Communications Facility				BORING NO. B-1		Page 1 of 2				
SECTION:		National Guard Armory, 284 New Canaan Ave, Norwalk, CT				FIELD BORING NO.						
STATION:		OFFSET:		REFERENCE LINE:		GROUND ELEVATION: ±196.5						
BORING BY: Soiltesting, Inc.		DATE STARTED: 3-7-2014		DATE COMPLETED: 3-7-2014		G.W. ELEVATION: ±190.5 (6 ft. deep)		DATE: 3-7-2014				
INSPECTOR: C. Barban												
DEPTH (ft)	CASING BLOWNS	SAMPLE NO.	DEPTH	Blows on Spoon			REC (ft)	SOIL DESCRIPTION AND STRATIFICATION				(ft)
				0-16	6-12	10-18						
0	Auger	S-1	0	4	3		5"	Brown and black m-f SAND, and Silt				
				8	12							
		S-2	2	4	28	22	15"	Brown and gray m-f SAND, and Silt				
				26	26							
5		S-3	4	6	26	35	14"	Brown c-f SAND, little m-f Gravel, little Silt				
				36	35							
		S-4	6	8	33	16	8"	Brown & gray c-f SAND, trace f Gravel, trace Silt				
				14	10							
		S-5	8	10	16	11	22"	Brown c(-)-f SAND, little m(-)-f Gravel, trace(-) Silt				
				15	22							
10		S-6	10	12	4	5	16"	Brown c(-)-f SAND, trace Silt				
				3	6							
		S-7	12	14	3	5	16"	Brown & gray c-f SAND, some Silt				
				6	5							
15		S-8	14	18	5	5	12"	Brown c(-)-f SAND, little Silt, trace(-) f Gravel				
				5	5							
20												
		S-9	20	22	3	3	20"	Brown m-f SAND, little Silt				
				5	7							
25												
		S-10	25	27	3	3	24"	Gray SILT, and f Sand				
				5	10							
30												
		S-11	30	32	16	21	24"	Gray c-f SAND, some Silt; clayey silt pockets				
				20	20							
35												
		S-12	35	36.3	29	57	N/A	Gray m-f SAND, some Silt; clayey silt pockets				
40												

Nominal I.D. of Hollow Stem Auger	4 in.
Nominal I.D. of Split Barrel Sampler	2 in.
Weight/type of Hammer on Drive Pipe	N/A
Weight/type of Hammer on Split Barrel	140 lb. Safety
Drop of Hammer on Drive Pipe	N/A
Drop of Hammer on Split Barrel	30 in.
Core Size	N/A

The subsurface information shown hereon was obtained for the Owner's design and estimate purposes. It is made available to authorized users only that they may have access to the same information available to the Owner. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

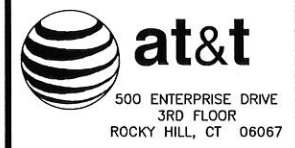
Approximate Change in Strata
 Inferred Change in Strata

Dewberry												
ROUTE		LOCAL NAME: New Circular Wireless PCS, LLC Communications Facility				BORING NO. B-1		Page 2 of 2				
SECTION:		National Guard Armory, 284 New Canaan Ave, Norwalk, CT				FIELD BORING NO.						
STATION:		OFFSET:		REFERENCE LINE:		GROUND ELEVATION: ±196.5						
BORING BY: Soiltesting, Inc.		DATE STARTED: 3-7-2014		DATE COMPLETED: 3-7-2014		G.W. ELEVATION: ±190.5 (6 ft. deep)		DATE: 3-7-2014				
INSPECTOR: C. Barban												
DEPTH (ft)	CASING BLOWNS	SAMPLE NO.	DEPTH	Blows on Spoon			REC (ft)	SOIL DESCRIPTION AND STRATIFICATION				(ft)
				0-16	6-12	10-18						
0	Auger	S-13	40	100	1		1"	Gray f SAND, and Silt; weathered rock pieces, possible SS				
								End of Boring at 40.1 ft				
45												
50												
55												
60												
65												
70												
75												
80												

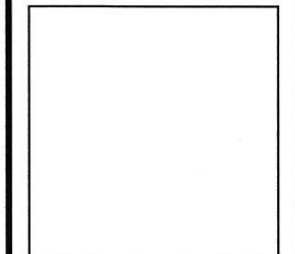
Nominal I.D. of Hollow Stem Auger	4 in.
Nominal I.D. of Split Barrel Sampler	2 in.
Weight/type of Hammer on Drive Pipe	N/A
Weight/type of Hammer on Split Barrel	140 lb. Safety
Drop of Hammer on Drive Pipe	N/A
Drop of Hammer on Split Barrel	30 in.
Core Size	N/A

The subsurface information shown hereon was obtained for the Owner's design and estimate purposes. It is made available to authorized users only that they may have access to the same information available to the Owner. It is presented in good faith, but is not intended as a substitute for investigations, interpretation or judgment of such authorized users.

Approximate Change in Strata
 Inferred Change in Strata



Dewberry
 Dewberry Engineers Inc.
 600 PARSIPPANY ROAD
 SUITE 301
 PARSIPPANY, NJ 07054
 PHONE: 973.739.9400
 FAX: 973.739.9710



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

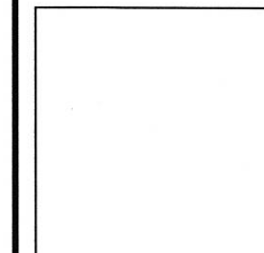
SHEET TITLE:

GEOTECH NOTES AND BORING LOGS

DEWBERRY P.N. 50055111

S-10

SHEET NO.



No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

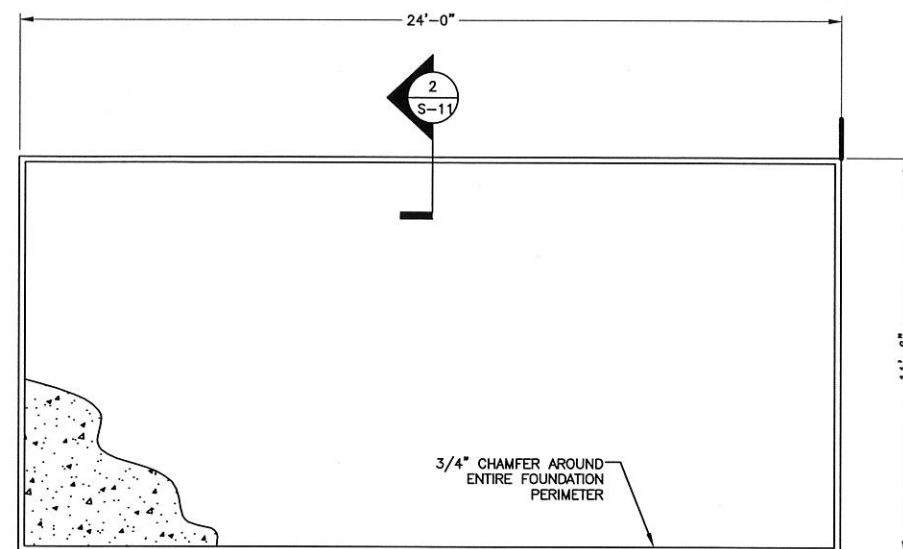
SHEET TITLE:

SHELTER FOUNDATION & DETAILS

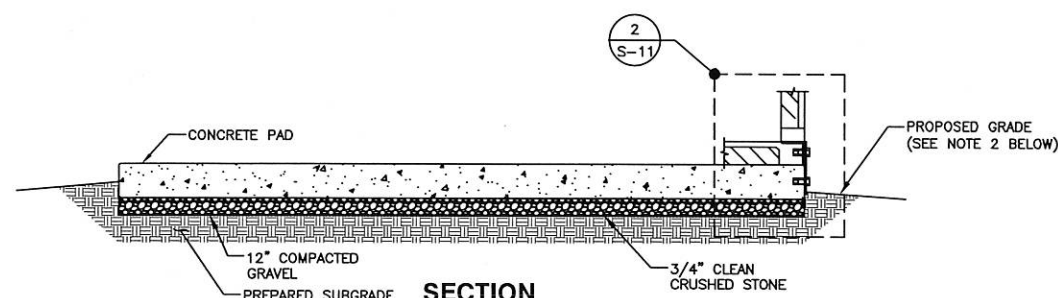
DEWBERRY P.N. 50055111

S-11

SHEET NO.



PLAN



SECTION

NOTES:

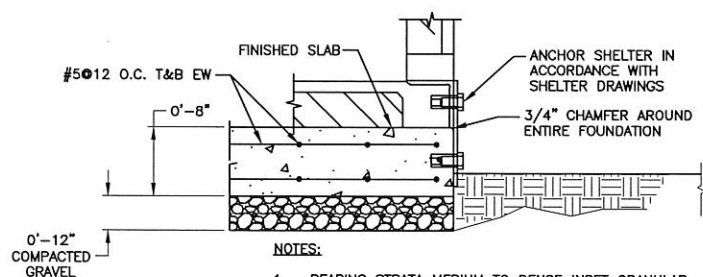
1. CONTRACTOR TO VERIFY FINAL SHELTER AND GENERATOR DIMENSIONS PRIOR TO CONSTRUCTION OF FOUNDATION.
2. GRADE SHALL SLOPE AWAY FROM THE CONCRETE PAD TO ALLOW FOR PROPER WATER RUN OFF.
3. ANCHOR SHELTER TO FOUNDATION PER SHELTER MANUFACTURER RECOMMENDATIONS.
4. IF BEDROCK IS ENCOUNTERED @ A SHALLOW DEPTH USE DETAIL 3, THIS SHEET.
5. BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED GRAVEL FILL 95% COMPACTION.
6. FILL SHALL CONSIST OF CLEAN SOIL. NO DELETERIOUS MATERIALS OR ORGANICS TO BE USED.

CONCRETE PAD FOUNDATION

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



1

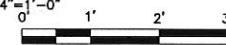


NOTES:

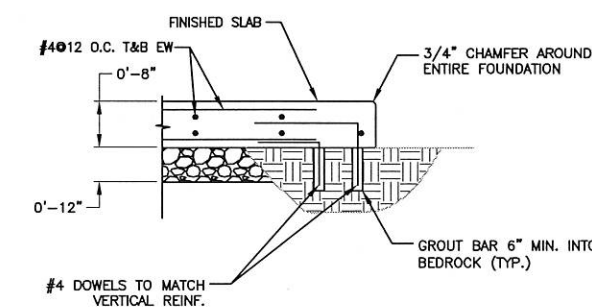
1. BEARING STRATA MEDIUM TO DENSE INSET GRANULAR MATERIAL OR COMPACTED GRAVEL FILL 95% COMPACTION.
2. MAINTAIN 3" MIN. COVER ON ALL STEEL REINFORCEMENT.

FOUNDATION WALL & SLAB DETAIL

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

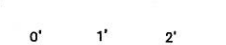


2

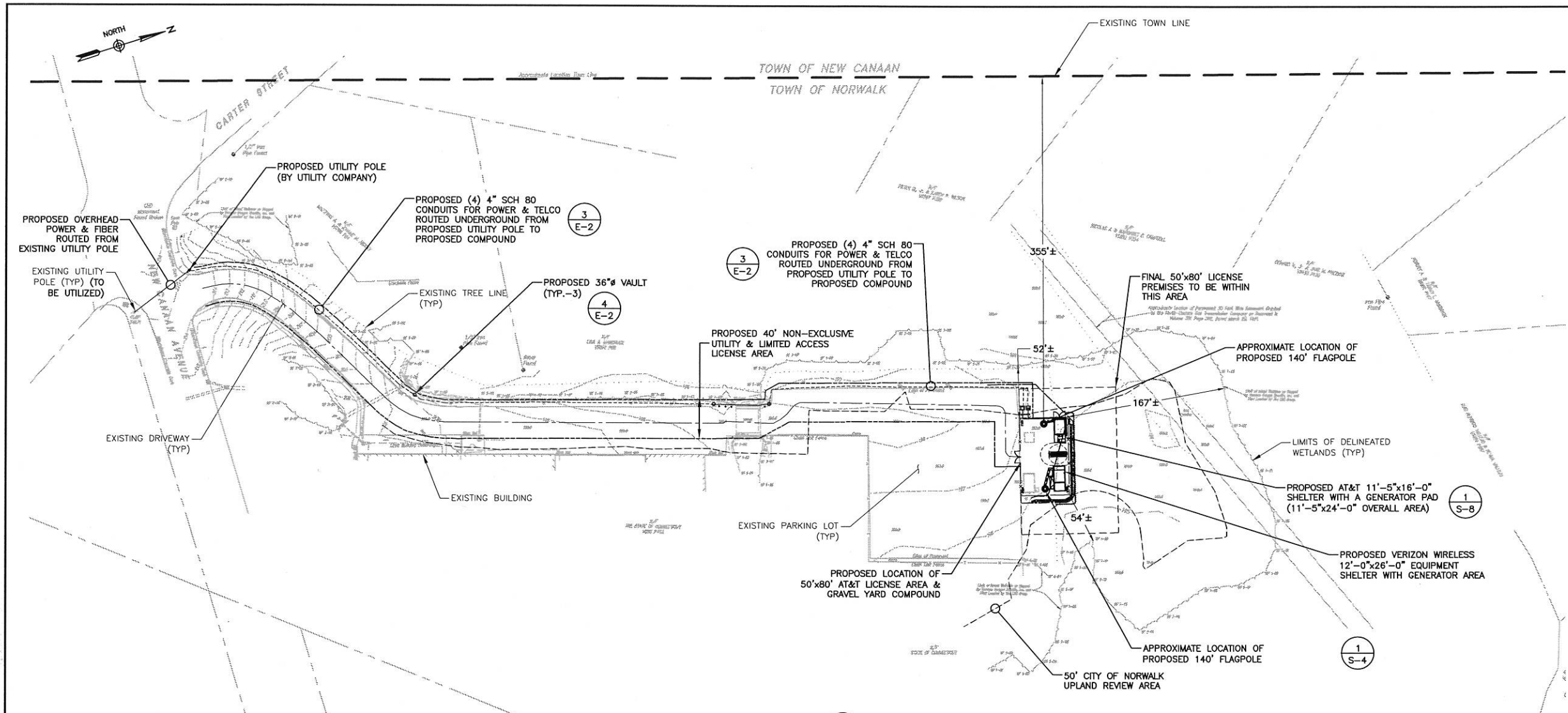


FOUNDATION SLAB DETAIL @ BEDROCK

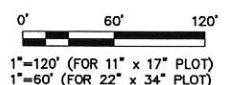
SCALE: 3/4"=1'-0"



3



UTILITY PLAN ①



LEGEND:

-198-	EXISTING ELEVATION CONTOUR	N.T.S.	NOT TO SCALE
-198-	PROPOSED ELEVATION CONTOUR	⊗	PROPOSED UTILITY POLE
-x-x-x-	EXISTING CHAIN LINK FENCE	⊗	EXISTING UTILITY POLE
198x	EXISTING SPOT ELEVATION	⊗	PROPOSED STRAW BALES
198x	PROPOSED SPOT ELEVATION	---	EXISTING PROPERTY LINE
---	PROPOSED UTILITY/ACCESS EASEMENT	---	ADJOINING EXISTING PROPERTY LINE
-OHE-	PROPOSED OVERHEAD WIRES	---	PROPOSED SILT FENCE
⊗	EXISTING TREE	-T-	PROPOSED TELCO
~~~~~	EXISTING TREE LINE	-E-	PROPOSED ELECTRICAL
~~~~~	PROPOSED TREE LINE		

NOTES:

1. TOWER, FOUNDATION & STRUCTURAL ANTENNA MOUNT DESIGN BY OTHERS.
2. THE STATE SHALL GRANT EASEMENTS FOR UTILITIES AS NEEDED.
3. (4) 4" SCH. 80 GALVANIZED CONDUITS TO BE UTILIZED TO ROUTE PROPOSED POWER & FIBER DOWN PROPOSED UTILITY POLE INTO GROUND.
4. PROPOSED CONDUITS ROUTED ALONG PROPOSED POSTS & EXTERIOR BRIDGE FACE ARE TO BE PAINTED RED & LABELED "HIGH VOLTAGE".
5. ALL PROPOSED CONDUITS ARE TO BE APPROVED BY CL&P.

REFERENCE NOTE:
THIS DRAWING WAS DEVELOPED USING INFORMATION TAKEN FROM A SURVEY TITLED "PROPERTY & TOPOGRAPHY PORTION OF LAND OWNED STATE OF CONNECTICUT NATIONAL GUARD ARMORY" DATED 09/07/10, DONE BY LRC GROUP, CROMWELL, CT

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
NORWALK, CT 06850
SR1038

SITE NAME / ADDRESS

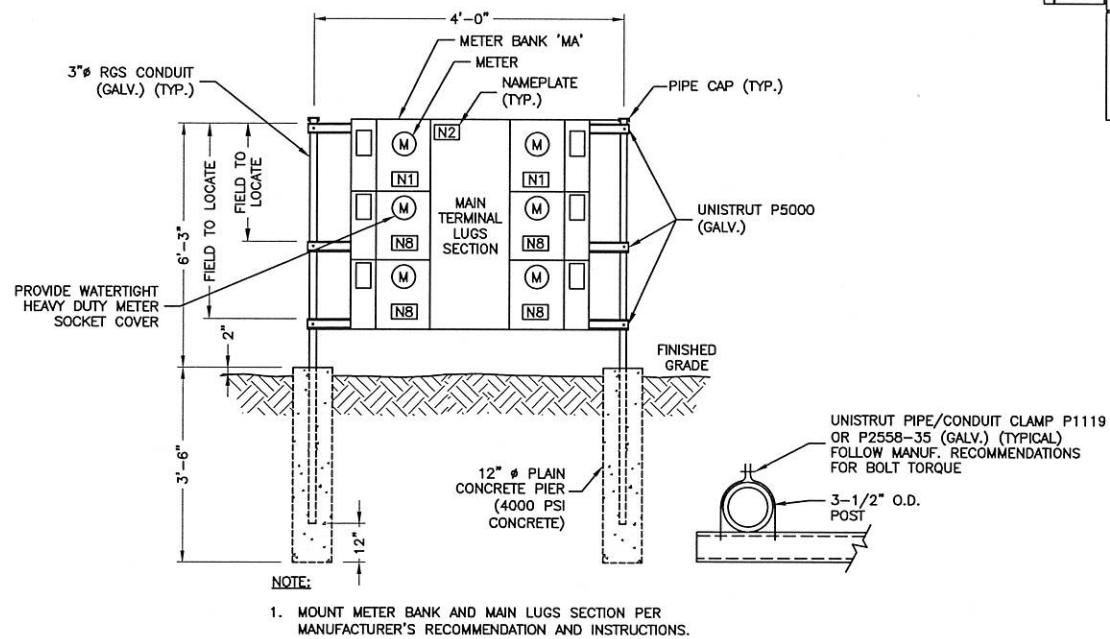
DRAWN BY: RSA
APPROVED BY: GHN
CHECKED BY: JWS
DATE: 05/16/14

SHEET TITLE:
UTILITY PLAN AND DETAILS

DEWBERRY P.N. 50055111

E-1

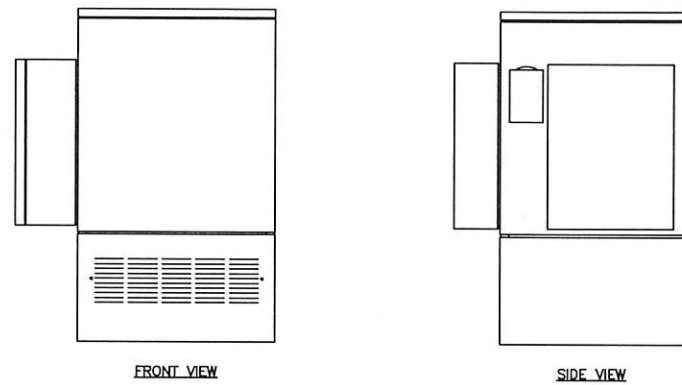
SHEET NO.



MULTIPLE POWER METER MOUNTING

SCALE: N.T.S.

1



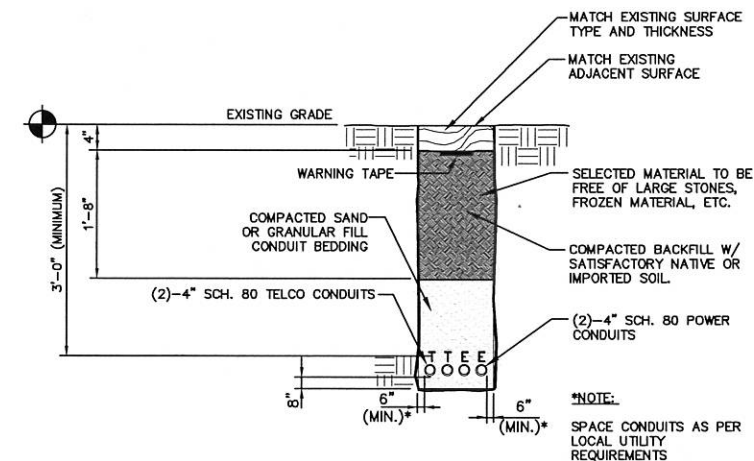
NOTES:

1. MOUNT MESA CABINET TO PROPOSED STEEL PLATFORM PER MANUFACTURER'S SPECIFICATIONS.

MESA CABINET DETAIL

SCALE: N.T.S.

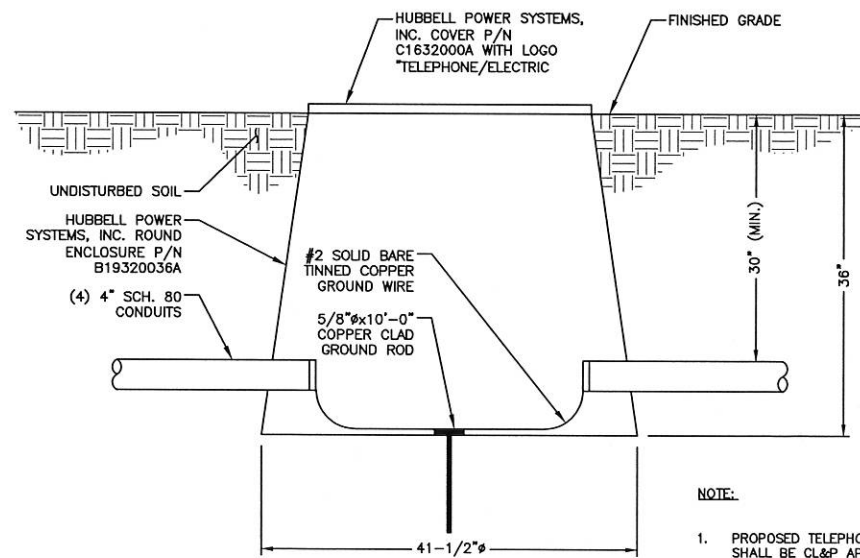
2



UNDERGROUND UTILITY DETAIL

SCALE: N.T.S.

3



36" VAULT DETAIL

SCALE: N.T.S.

4

No.	DATE	By	Description
E	12/05/14	JC	PER COMMENTS
D	11/18/14	JC	PRELIMINARY
C	10/10/14	JC	PRELIMINARY
B	06/10/14	RSA	PRELIMINARY
A	06/05/14	RSA	PRELIMINARY

REVISIONS

NATIONAL GUARD ARMORY

284 NEW CANAAN AVENUE
 NORWALK, CT 06850
 SR1038

SITE NAME / ADDRESS

DRAWN BY: RSA
 APPROVED BY: GHN
 CHECKED BY: JWS
 DATE: 05/16/14

SHEET TITLE:

ELECTRICAL DETAILS

DEWBERRY P.N. 50055111

E-2

SHEET NO.