

December 10, 2025

Via Federal Express

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Docket No. 528 – Application of Tarpon Towers III, LLC and Cellco Partnership
d/b/a Verizon Wireless for a Certificate of Environmental Compatibility and Public
Need for the Construction, Maintenance and Operation of a Wireless
Telecommunications Facility at 746 East Street, Andover, Connecticut**

Development and Management Plan Submission

Dear Attorney Bachman:

Enclosed please find fifteen (15) copies of the following:

1. Development and Management (“D&M”) Plans prepared by On Air Engineering, LLC for the approved telecommunications facility at 746 East Street in Andover, Connecticut incorporating the Council’s conditions of approval. Also enclosed are two (2) full size (24” x 36”) sets of D&M plans.

In accordance with Condition 2(c), of the Council’s Decision and Order, the Applicant, with the cooperation of the landowner, has increased the setback of the tower and the access driveway from adjacent property boundaries.

2. Tower and Foundation Design from TAPP dated November 25, 2025. In accordance with Condition 2(e) of the Council’s Decision and Order, the tower design incorporates a maximum fall radius of 49 feet.
3. Geotechnical Study prepared by Welti Geotechnical, P.C. dated November 24, 2025.

Melanie A. Bachman, Esq.

December 10, 2025

Page 2

4. Letter from Verizon Wireless confirming its commitment to share the approved tower.

We respectfully request that this information be reviewed, and this matter be placed on the next available Siting Council agenda for approval. Please feel free to contact me if you have any questions or require additional information. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth C. Baldwin", written in a cursive style.

Kenneth C. Baldwin

Enclosures

Copy to:

Jeffrey J. Maguire, Andover First Selectman



DEVELOPMENT AND MANAGEMENT PLAN
DOCKET NO. 528
TARPON TOWERS SITE ID: CT1234 ANDOVER
VERIZON SITE NAME: ANDOVER CT

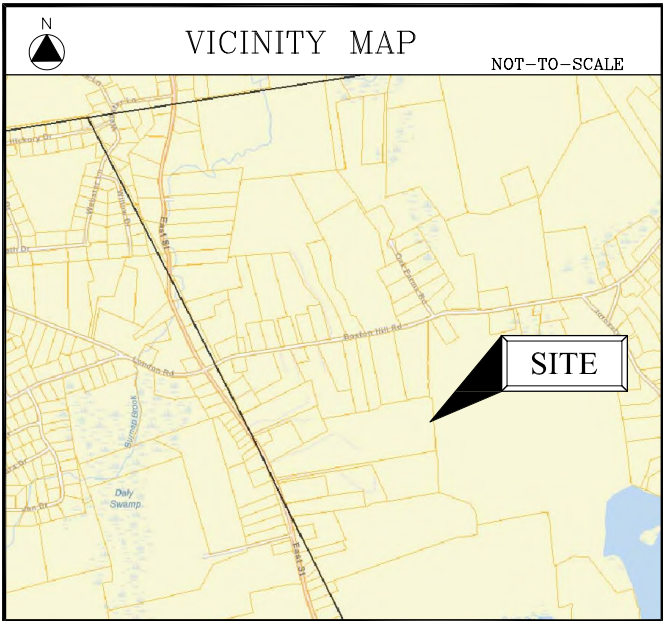
746 EAST ST.
ANDOVER, CT 06232

PROJECT SUMMARY

TARPON SITE ID/NAME:	CT1234 ANDOVER
VERIZON SITE NAME:	ANDOVER CT
SITE ADDRESS:	746 EAST ST. ANDOVER, CT 06232
PROPERTY OWNER:	THOMAS & PATRICIA HURST 746 EAST ST. ANDOVER, CT 06232
PARCEL ID:	18-17-30
TOWER COORDINATES:	41° 43' 10.70" N 72° 24' 17.65" W
AMSL:	650 FT.
APPLICANT:	TARPON TOWERS III, LLC 8916 77TH TERRACE EAST, SUITE 103 LAKEWOOD RANCH, FL 34202
TARPON TOWERS CONTACT:	BRETT BUGGELN BBUGGELN@TARPONTOWERS.COM
LEGAL/REGULATORY COUNSEL:	KENNETH C. BALDWIN, ESQ. ROBINSON & COLE, LLP (860) 275-8345

PROJECT DESCRIPTION

- INSTALLATION OF A 120 FT. MONOPOLE/TOWER AND FENCED-IN COMPOUND AT GRADE
- INSTALLATION OF OUTDOOR CABINETS AND A PROPANE FUELED STANDBY GENERATOR ON A 20'-0"x12'-0" EQUIPMENT PAD WITHIN THE COMPOUND
- INSTALLATION OF (9) PANEL ANTENNAS AND ASSOCIATED DEVICES ON THE MONOPOLE
- INSTALLATION OF CABLING FROM EQUIP. CABINETS TO ANTENNAS
- ELECTRICAL & TELEPHONE CONNECTIONS TO EXISTING UTILITY DEMARCATION POINTS



HOURS OF CONSTRUCTION:
7AM-6PM MON-SAT
OR AS DETERMINED BY
THE LOCAL MUNICIPALITY

DRAWING SCHEDULE

SHEET NO.	SHEET DESCRIPTION
T-1	TITLE SHEET
1 OF 2	COMPILATION SURVEY
2 OF 2	PARTIAL TOPO SURVEY
C-1	OVERALL SITE LAYOUT
C-2	SITE PLAN
C-3	DRIVEWAY PLAN & PROFILE
C-4	DRIVEWAY PLAN & PROFILE
C-5	DRIVEWAY PLAN & PROFILE
C-6	DRIVEWAY PLAN & PROFILE
C-7	DRIVEWAY SECTIONS & DETAILS
C-8	SITE/CIVIL ENGINEERING DETAILS
C-9	SITE/CIVIL ENGINEERING DETAILS
C-10	FENCE & MISC. DETAILS
C-11	ENVIRONMENTAL NOTES
A-1	COMPOUND PLAN, EQUIPMENT PLAN & ELEVATION
A-2	ANTENNA PLAN & DETAILS



TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless



WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC

88 Foundry Pond Road
Cold Spring, NY 10516
dweinpahl@onaireng.com
201-456-4624

LICENSURE



DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.	DATE	SUBMISSIONS
0	06.09.25	D&M PRELIM FOR NEPA FILING
1	08.11.25	REVISED FOR STORMWATER DESIGN
2	12.04.25	D&M FILING

DRAWN BY:	CHECKED BY:
AS	DW

TARPON SITE ID/NAME:
CT1234
ANDOVER

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
HURST FARM
746 EAST ST.
ANDOVER, CT 06232

DRAWING TITLE:
TITLE SHEET

SHEET NUMBER:
T-1

LEGEND

PROPERTY LINE - SUBJECT PARCEL

ABUTTERS PROPERTY LINE

EASEMENT LINE

STONEWALL

WIRE FENCE

TOWN LINE

IRON PIPE OR ROD FOUND

CALCULATED POINT

TOWER CONTROL POINT

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1997.

TYPE OF SURVEY: IMPROVEMENT LOCATION SURVEY

BOUNDARY SURVEY CATEGORY: DEPENDENT RESURVEY

CLASS OF ACCURACY: HORIZONTAL CLASS G-2
VERTICAL CLASS V-5
TOPOGRAPHIC CLASS T-2

PURPOSE OF SURVEY: PROPOSED SITE IMPROVEMENTS

THIS DOCUMENT AND COPIES THEREOF ARE VALID ONLY IF THEY BEAR THE LIVE SIGNATURE AND EMBOSSED SEAL OF THE DESIGNATED PROFESSIONAL. UNAUTHORIZED ALTERATIONS RENDER ANY DECLARATION NULL AND VOID.

TO THE BEST OF MY KNOWLEDGE AND BELIEF, THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.

Charles G. Gidman
CHARLES G. GIDMAN, P.L.S. #70103

SURVEY NOTES:

1. FIELD SURVEY DATE: 5/29/2025

2. HORIZONTAL DATUM: NORTH AMERICAN DATUM OF 1983 (NAD83)

3. VERTICAL DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

4. OWNER: ESTATE OF PATRICIA B. HURST
746 EAST STREET
ANDOVER, CT 06232

5. SITE NAME: ANDOVER CT

6. SITE ADDRESS: HURST FARM
746 EAST STREET
ANDOVER, CT 06232

7. APPLICANT: TARPON TOWERS
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

8. JURISDICTION: TOWN OF ANDOVER
TOLLAND COUNTY

9. TAX ID: 18-17-30

10. DEED REFERENCE: DEED BOOK 143 PAGE 243

11. PLAN REFERENCE: MAP 181, MAP 475, MAP 602, MAP 789

12. ZONING DISTRICT: ANDOVER RURAL RESIDENTIAL DESIGN DISTRICT (ARRD)

13. THE HORIZONTAL DATUM AND VERTICAL DATUM WERE DERIVED FROM A DUAL FREQUENCY GPS SURVEY.

14. ALL UNDERGROUND UTILITY INFORMATION PRESENTED HEREON WAS DETERMINED FROM SURFACE EVIDENCE AND PLANS OF RECORD. ALL UNDERGROUND UTILITIES SHOULD BE LOCATED IN THE FIELD PRIOR TO COMMENCEMENT OF ALL SITE WORK. CALL CT CALL BEFORE YOU DIG AT 1-800-322-4455 A MINIMUM OF 72 HOURS PRIOR TO PLANNED ACTIVITY.

15. ACCORDING TO FEDERAL EMERGENCY MANAGEMENT AGENCY MAPS, THE IMPROVEMENTS ON THIS PROPERTY ARE LOCATED IN AN AREA DESIGNATED AS ZONE C, AREAS OF MINIMAL FLOODING. COMMUNITY PANEL 090161 0010 A, EFFECTIVE DATE: 2/3/1982.

16. FIELD SURVEY BY RTK GPS.

17. THIS IS NOT A BOUNDARY SURVEY.

18. ALL PROPERTY LINES SHOWN ARE FROM DEEDS AND PLANS OF RECORD, MONUMENTS FOUND AND GIS DATA AND ARE APPROXIMATE ONLY.

19. ABUTTING PROPERTY LINES ARE TAKEN FROM THE REFERENCE PLANS AND GIS DATA AND ARE APPROXIMATE ONLY.

20. WETLANDS SHOWN HEREON ARE TAKEN FROM DIGITAL DATA PROVIDED BY ON AIR ENGINEERING, INC.

NORTHEAST SURVEY CONSULTANTS

3 FERRY STREET
STUDIO 1 EAST
EASTHAMPTON, MA 01027
(413) 203-5144

CT1234
ANDOVER
-
COMPILED
SURVEY

ENGINEER: CGG

DESIGN: JDG

HORZ. SCALE: 1"=100'

VERT. SCALE: 25'-071'

DATE: 6-4-2025

PLAN OF LAND IN
ANDOVER, CT
746 EAST STREET

PREPARED FOR
ON AIR ENGINEERING, LLC

SHEET NO.

1 OF 2

LEGEND

— PROPERTY LINE — SUBJECT PARCEL
- - - ABUTTERS PROPERTY LINE
- - - EASEMENT LINE
- - - STONE WALL
* * * WIRE FENCE
- - - CONTOUR LINE
- - - TREE LINE
OHW OHW OVERHEAD WIRES
- - - WETLAND DELINEATION

○ IRON PIPE OR ROD FOUND
⊙ TOWER CONTROL POINT
⊕ UTILITY POLE
+ GUY WIRE ANCHOR
● TREE
⊙ POST

19-17-2
308 BOSTON HILL ROAD
N/F
STEVEN M. LOVELACE
308 BOSTON HILL ROAD
ANDOVER, CT 06232

19-17-2-2
294 BOSTON HILL ROAD
N/F
NORMAN MADEAU
294 BOSTON HILL ROAD
ANDOVER, CT 06232

19-17-2-1
288 BOSTON HILL ROAD
N/F
ROBERT A. &
DONNA S. CARR
P.O. BOX 164
ANDOVER, CT 06232

19-17-3
274 BOSTON HILL ROAD
N/F
JOSEPH KAULBACK
P.O. BOX 27
ANDOVER, CT 06232

18-17-30
HURST FARM
746 EAST STREET
N/F
ESTATE OF PATRICIA B. HURST
746 EAST STREET
ANDOVER, CT 06232

18-17-29-2
740 EAST STREET
N/F
NANCY A. FRACASSE
740 EAST STREET
ANDOVER, CT 06232

PROPOSED CENTER
OF TOWER
LAT: 41°43'10.70"
LONG: 72°24'17.65"
N: 823129.57
E: 1094213.73
GROUND EL: 650'±

26-17-12
JUROVATY ROAD
N/F
STATE OF CONNECTICUT
2800 BERLIN TURNPIKE
NEWINGTON, CT 06131

THIS SURVEY HAS BEEN PREPARED PURSUANT TO THE REGULATIONS OF CONNECTICUT STATE AGENCIES SECTIONS 20-300B-1 THROUGH 20-300B-20 AND THE "STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ADOPTED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS INC. ON SEPTEMBER 26, 1997.

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Charles G. Gidman, P.L.S. #70103



NORTHEAST
SURVEY
CONSULTANTS
3 FERRY STREET
STUDIO 1 EAST
EASTHAMPTON, MA 01027
(413) 205-5144

CT1234
ANDOVER
-
PARTIAL TOPO
SURVEY

SURVEYOR:	CGG	ENGINEER:	-
DRAFTING:	JDG	DESIGN:	-
FIELD WORK:	MAK	CRC	1"=50'
PROJECT NUMBER:	25-071	HORZ. SCALE:	-
DRAWING NAME:	25-071.DWG	VERT. SCALE:	-
		DATE:	6-4-2025

PLAN OF LAND IN
ANDOVER, CT
746 EAST STREET
PREPARED FOR
ON AIR ENGINEERING, LLC

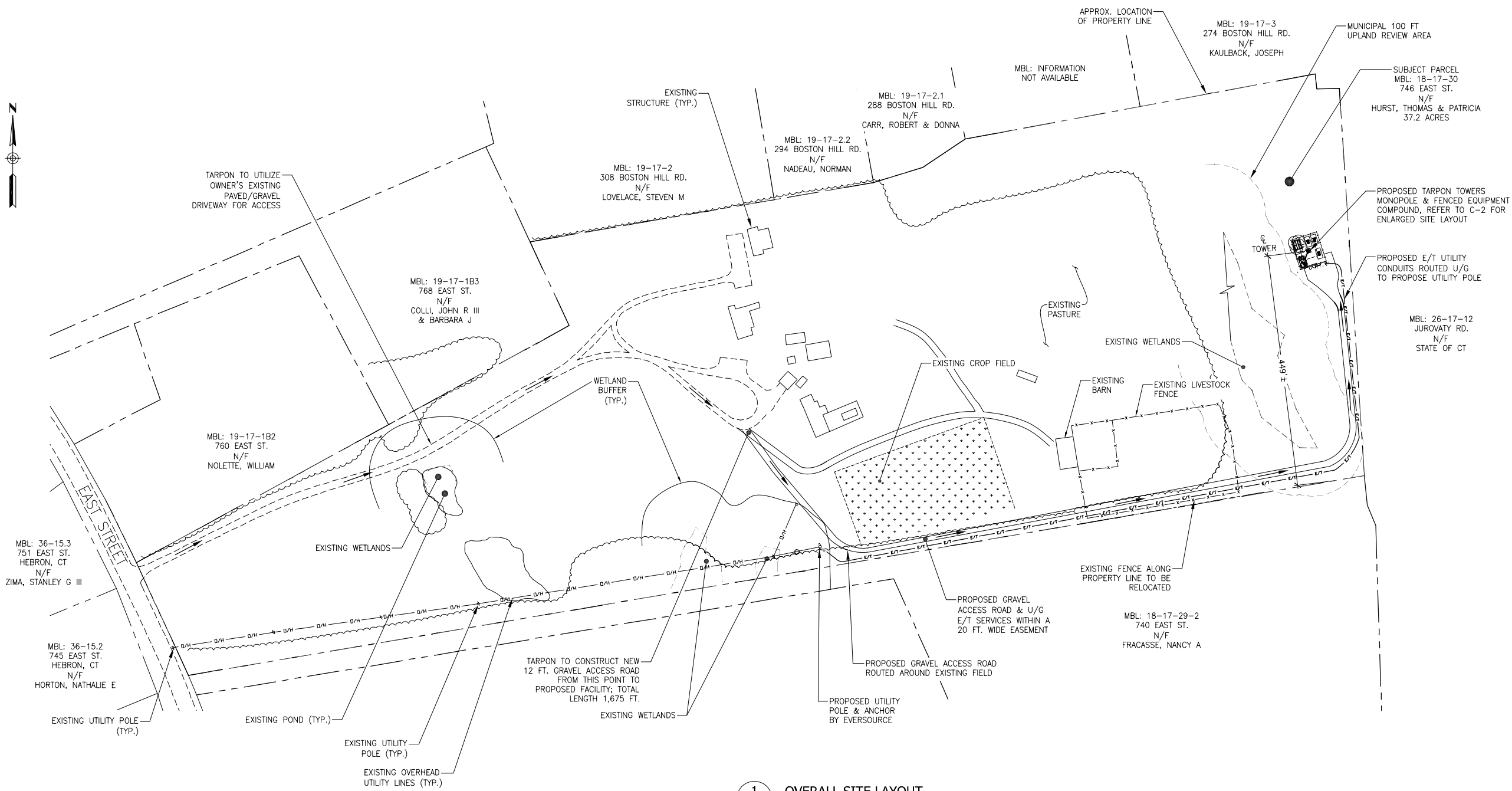
SHEET NO.

2 OF 2

PROJECT SUMMARY TABLE		
DESCRIPTION	DISTANCE	NUMBER
EXISTING ASPHALT/GRAVEL ACCESS DRIVE	1,325 FT.	
PROPOSED GRAVEL ACCESS DRIVE	1,675 FT.	
APPROX. # OF HOMES WITHIN 1,000 FT. OF TOWER		2
TREES >10"Ø TO BE REMOVED		24

TOWER SETBACK	
DESCRIPTION	DISTANCE
DISTANCE TO NEAREST OFFSITE RESIDENCE (740 EAST ST, ANDOVER, CT)	600'±
DISTANCE TO NORTH PROPERTY LINE	351'±
DISTANCE TO WEST PROPERTY LINE	2,357'±
DISTANCE TO EAST PROPERTY LINE	71'±
DISTANCE TO SOUTH PROPERTY LINE	449'±

1. ALL SETBACKS ARE FROM CENTER OF TOWER



1 OVERALL SITE LAYOUT
C-1 Scale: 1" = 100'



TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless
verizon
WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

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1	08.11.25	REVISED FOR STORMWATER DESIGN
2	12.04.25	D&M FILING

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AS	DW

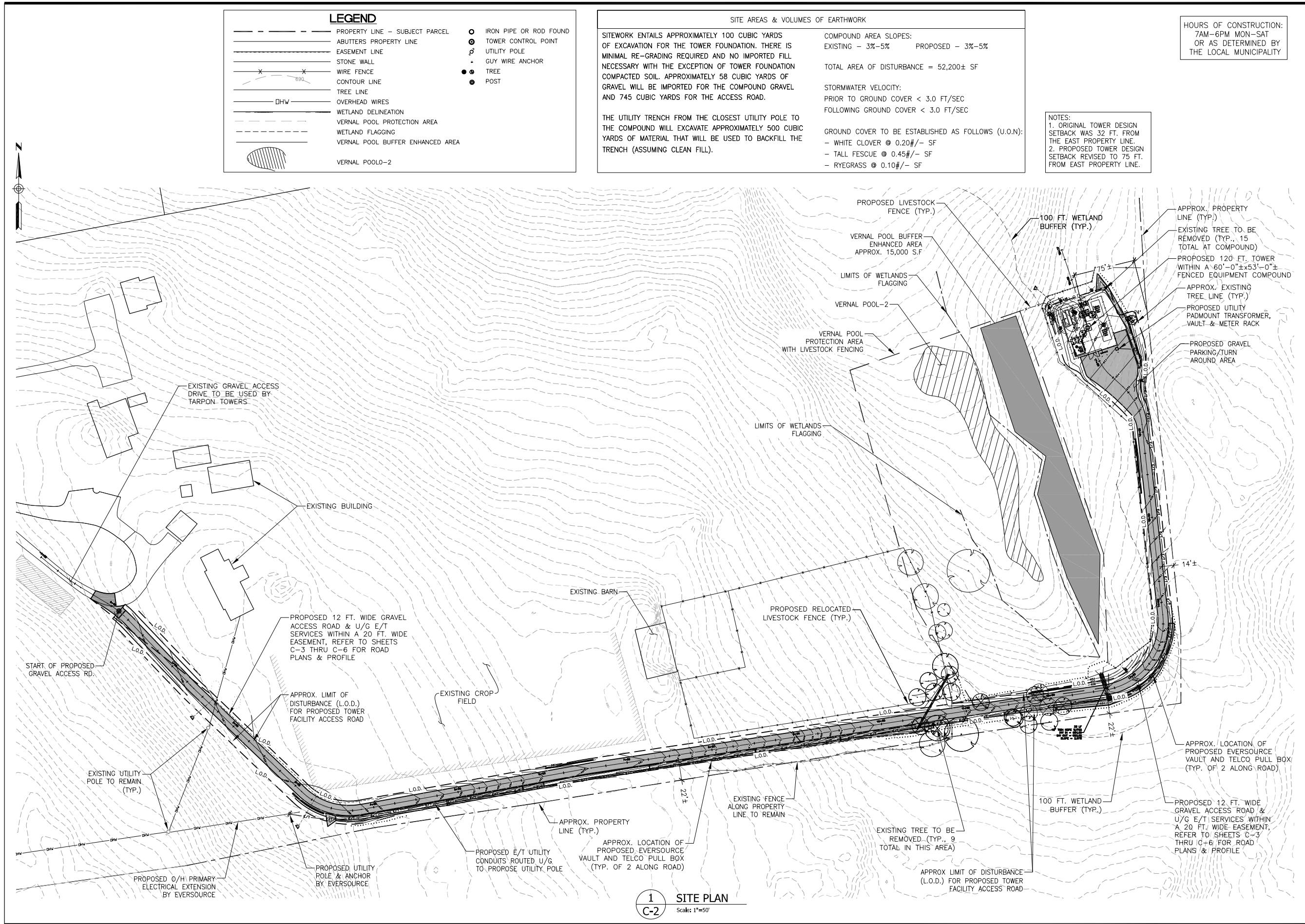
TARPON SITE ID/NAME:
**CT1234
ANDOVER**

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
OVERALL SITE LAYOUT

SHEET NUMBER:
C-1



TARPON TOWERS

TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless

verizon

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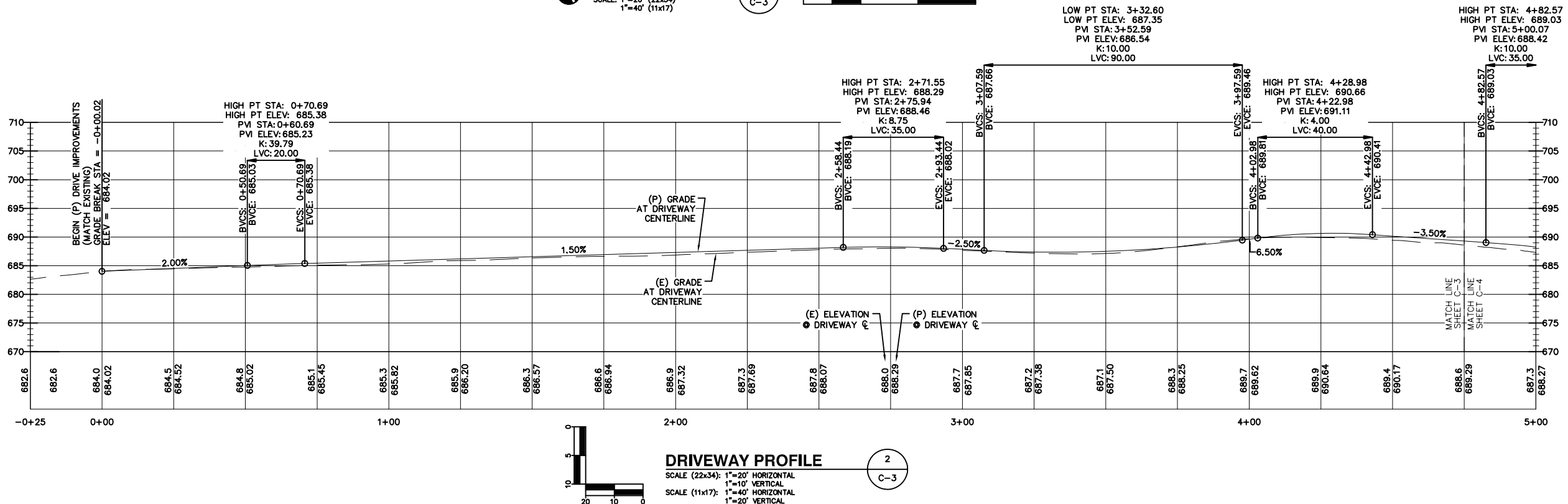
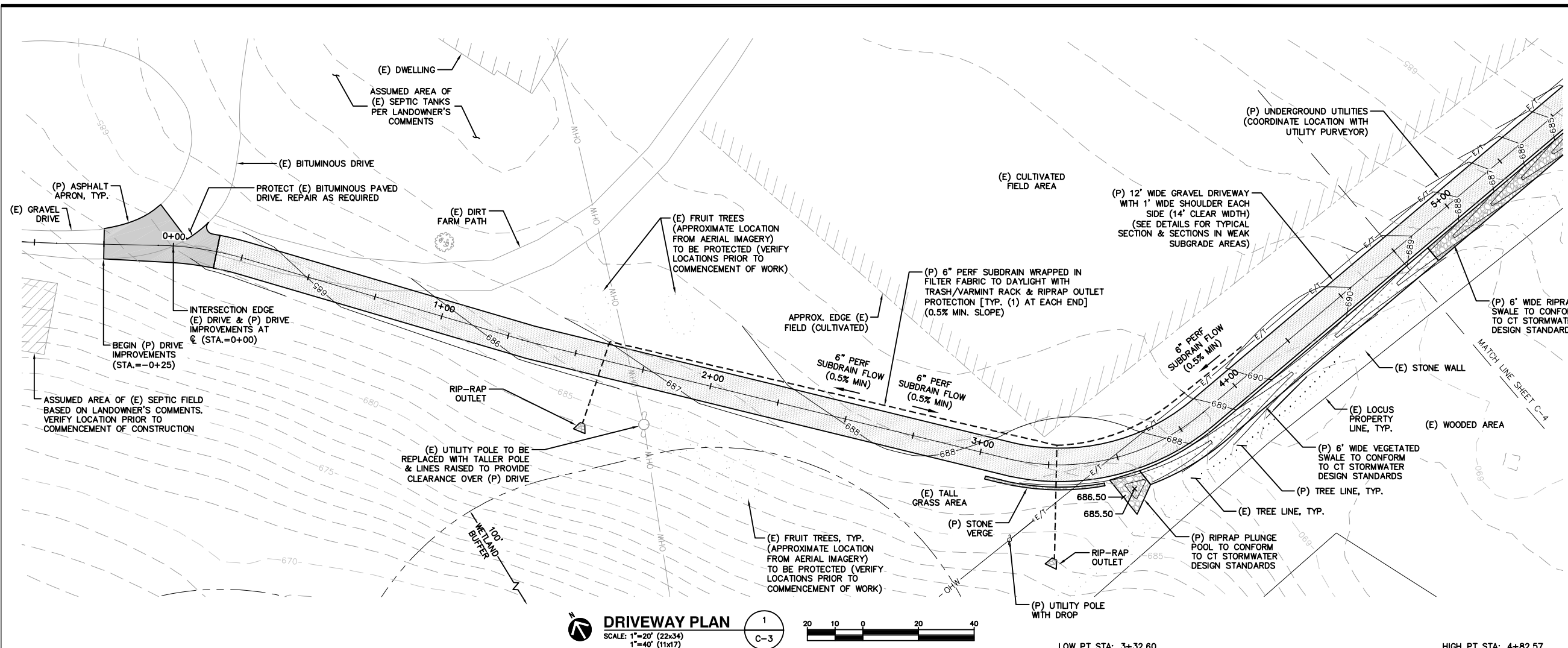
TARPON SITE ID NAME:
CT1234 ANDOVER

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
SITE PLAN

SHEET NUMBER:
C-2



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 8916 77TH TERRACE EAST, SUITE 103
 LAKEWOOD RANCH, FL 34202

Cellco Partnership
 d/b/a Verizon Wireless
verizon
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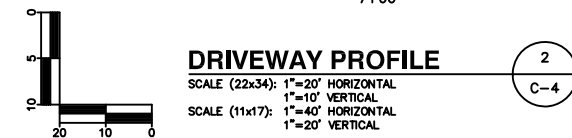
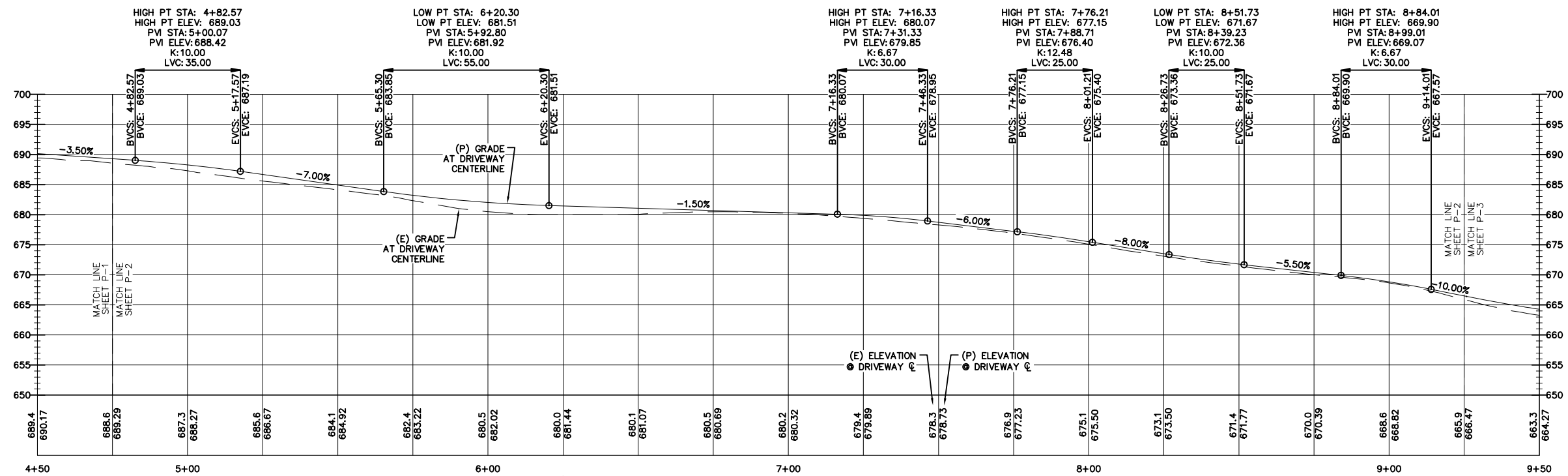
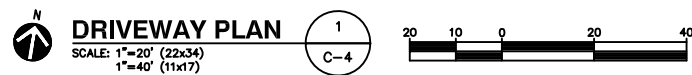
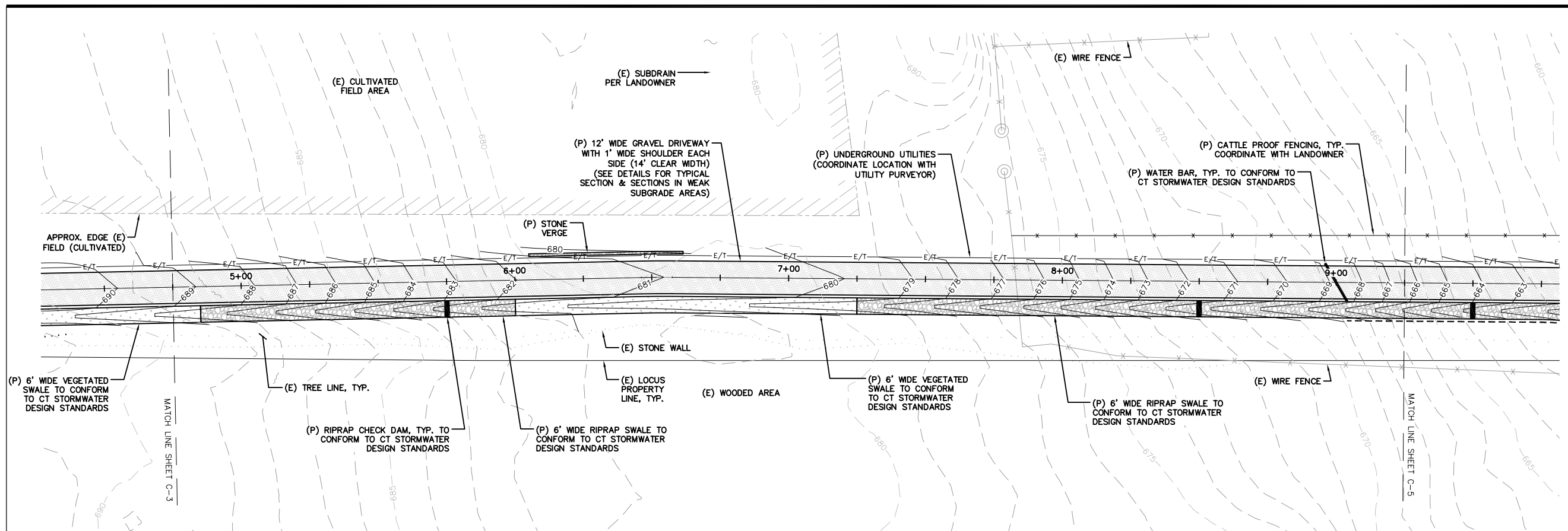
TARPON SITE ID/NAME:
**CT1234
 ANDOVER**

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
 746 EAST ST.
 ANDOVER, CT 06232**

DRAWING TITLE:
**DRIVEWAY PLAN &
 PROFILE**

SHEET NUMBER:
C-3



TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless
verizon
WIRELESS COMMUNICATIONS FACILITY
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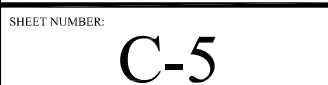
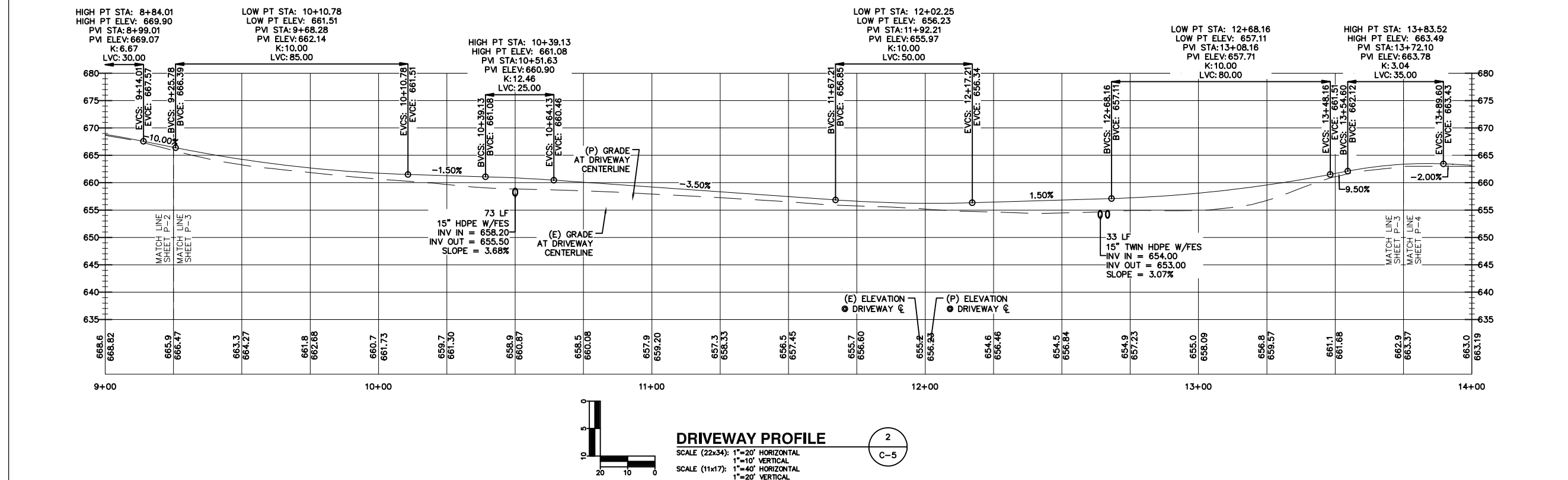
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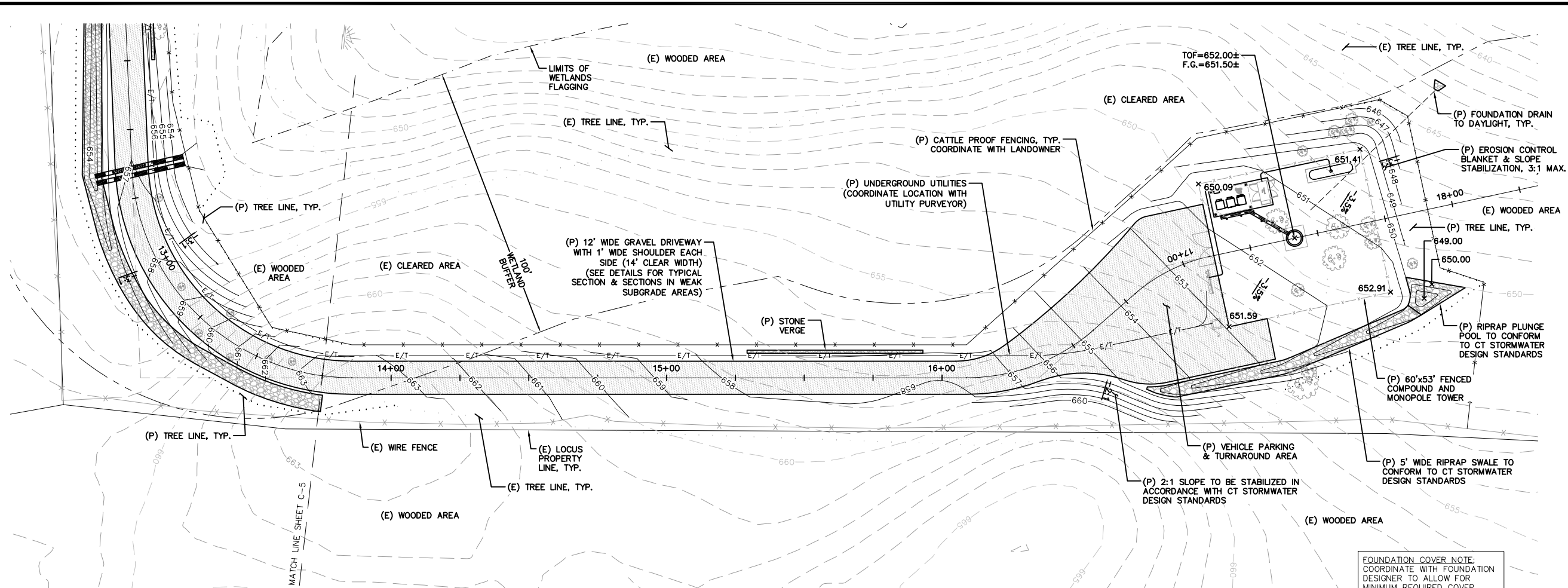
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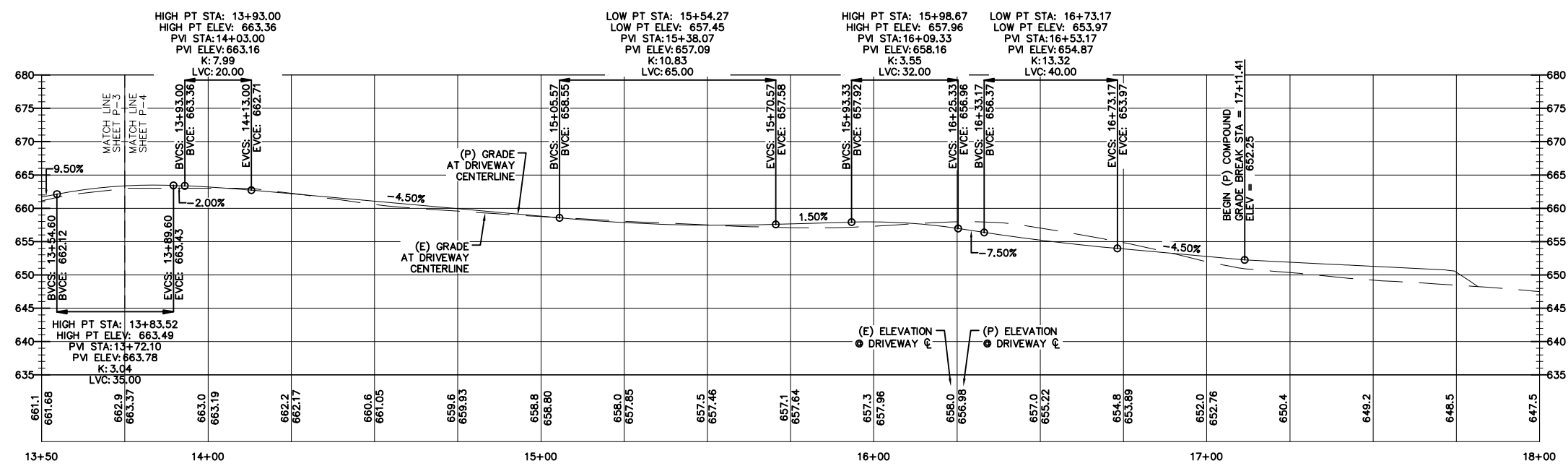
DRAWING TITLE:
**DRIVEWAY PLAN &
PROFILE**

SHEET NUMBER:
C-4





DRIVEWAY PLAN
SCALE: 1"=20' (22x34)
1"=40' (11x17)



DRIVEWAY PROFILE
SCALE (22x34): 1"=20' HORIZONTAL
1"=10' VERTICAL
SCALE (11x17): 1"=40' HORIZONTAL
1"=20' VERTICAL

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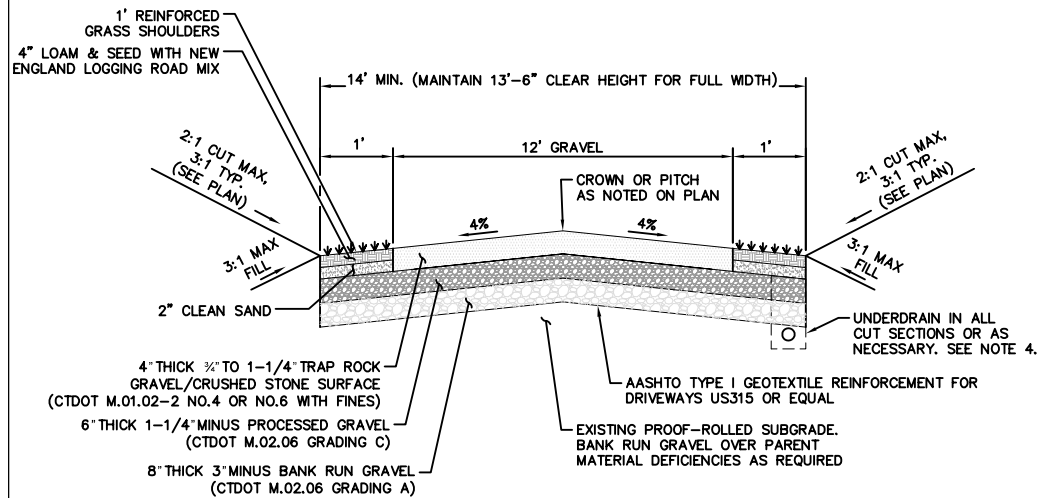
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VERIZON SITE NAME:
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PROJECT INFORMATION:
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ANDOVER, CT 06232**

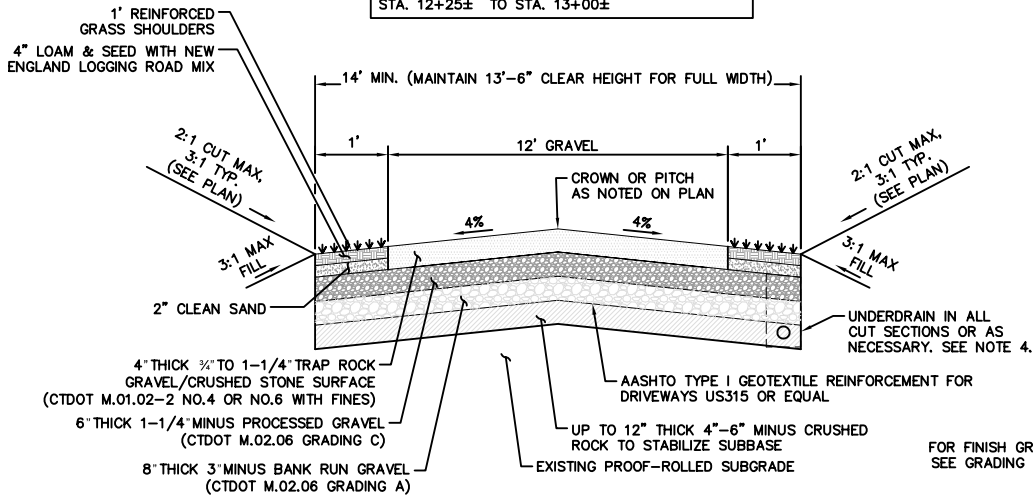
DRAWING TITLE:
**FENCE & SITE
DETAILS**

SHEET NUMBER:
C-5



DRIVEWAY SECTION
SCALE: NONE

1
C-7



DRIVEWAY SECTION IN
WEAK SUBGRADE AREAS
SCALE: NONE

2
C-7

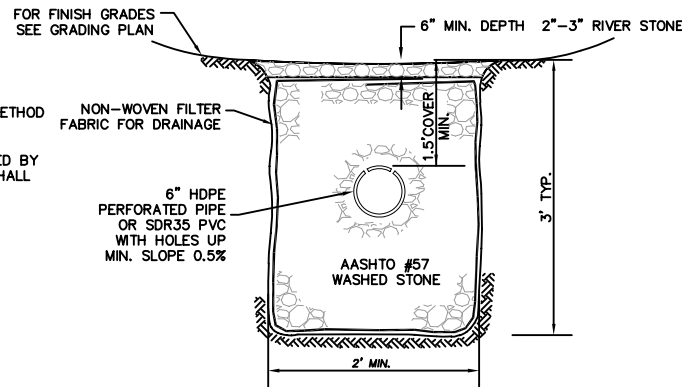
NOTE:
SLOPE \leq 4% - VEGETATED
SLOPE $>$ 4% - RIPRAP

6' WIDE SWALE
SCALE: NONE

4
C-7

5' WIDE SWALE
SCALE: NONE

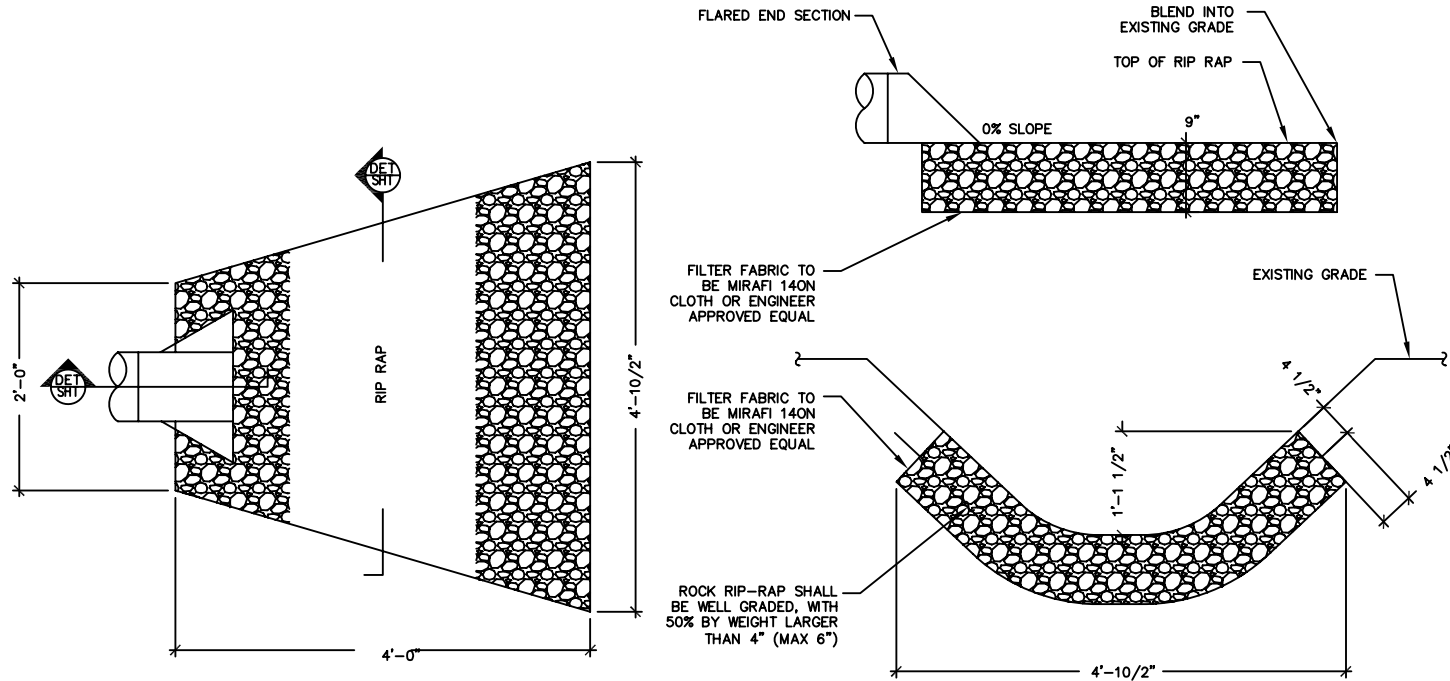
3
C-7



NOTE:
1. LENGTH VARIES SEE GRADING PLAN FOR DETAIL.
2. MIN. 4"-12" STONE BELOW PIPE
3. MIN. PIPE SLOPE TO DAYLIGHT IS 0.5%

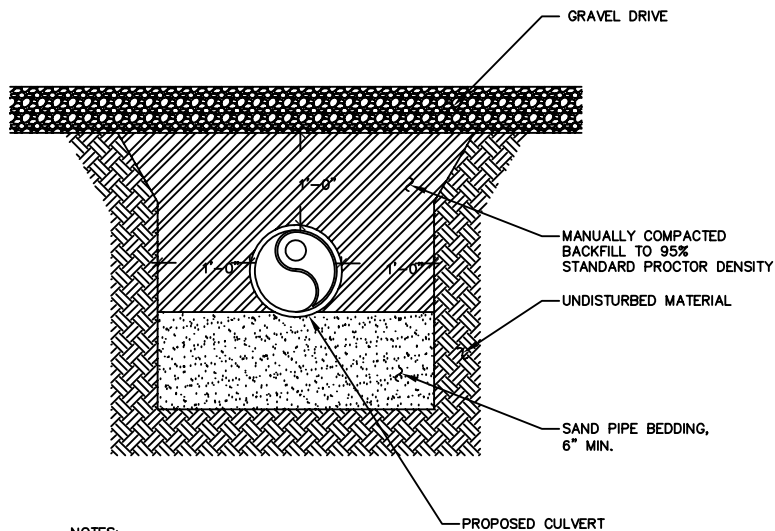
SUBDRAIN DETAIL
SCALE: NONE

4
C-7



OUTLET PROTECTION DETAIL
SCALE: NONE

5
C-7



NOTES:
1. OVEREXCAVATE FOR BELLS.
2. ADDITIONAL BEDDING MAY BE USED AS ORDERED BY ENGINEER.
3. ALL EXCAVATION AND TRENCHING SHALL MEET OSHA REQUIREMENTS.

CULVERT TRENCH DETAIL
SCALE: NONE

6
C-7



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8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless

verizon
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AS	DW

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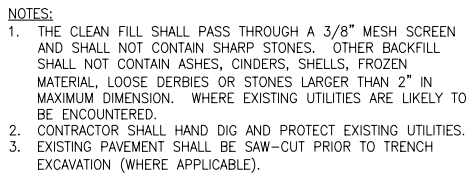
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ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
**DRIVEWAY SECTIONS
& DETAILS**

SHEET NUMBER:
C-7

1. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS.
2. RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
3. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE BTS EQUIPMENT AND TOWER AREAS.
4. 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.
5. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
6. 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 CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
7. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC, AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF ENGINEERING.
8. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEEDED, AND COVERED WITH MULCH.
9. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE NEW YORK STATE STANDARDS AND SPECIFICATIONS FOR SEDIMENT AND EROSION CONTROL.



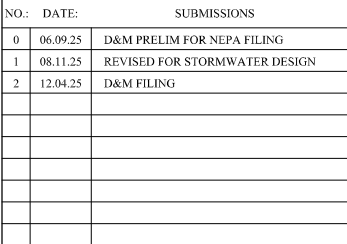
AREAS WHERE SEED MIX APPLIES	SEEDING MIXTURES BY WEIGHT		RATE PER 1,000 SQ. FT.	SEEDING DATES
ALL LAWN AREAS	RED FESCUES	45%	1 LBS.	APRIL 1 – JUNE 15
	KENTUCKY BLUEGRASS	45%		OR
	PERENNIAL RYEGRASS	10%		AUG. 15 – OCT. 1
ROAD CUTS, FILLS, DIVERSION DITCHES, & STORMWATER BASINS	KENTUCKY TALL FESCUE	47%	0.95 LBS.	APRIL 1 – JUNE 15
	REDTOP	6%		OR
	CREeping RED FESCUE	47%		AUG. 15 – OCT. 1

TEMPORARY SEEDING	ANNUAL RYEGRASS OR PERENNIAL RYEGRASS	1-1/2 LBS.	WITHIN 7 DAYS AFTER SUSPENSION OF GRADING WORK
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4 TYPICAL SILT STOCK
C-8 Scale: N.T.S.

TYPICAL
Scale: N.T.S.



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ANDOVER

ANDOVER CT

HURST FARM
746 EAST ST.
ANDOVER, CT 06232

SITE/CIVIL ENGINEERING DETAILS

C-8

GENERAL STRUCTURAL NOTES:

1. ALL EQUIPMENT SHALL BE INSTALLED PLUMB AND LEVEL.
2. ALL WIDE FLANGE STRUCTURAL STEEL SHALL CONFORM WITH A992 SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH THE LATEST AISC CODE AND ASTM SPECIFICATION. STEEL SHALL CONFORM TO ASTM A-36. PIPE SHALL CONFORM TO ASTM A-501 OR ASTM TYPE EOR S A-53 (GRADE B).
3. ALL CONNECTIONS OF STRUCTURAL STEEL MEMBERS SHALL BE MADE USING SPECIFIED WELDS WITH WELDING ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS TO BE ASTM A325, THREAD EXCLUDED FROM SHEAR PLANE.
4. ALL STEEL EXPOSED TO MOISTURE SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A-123. ALL DAMAGED SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (EXISTING OR NEW) SHALL BE PAINTED WITH 2 COATS OF ZRC COLD GALVANIZING COMPOUND MANUFACTURED BY ZRC CHEMICAL PRODUCTS CO. QUINCY, MA, OR USE THERMAL SPRAYING WITH PLATTZINC 85/15 AS MANUFACTURED BY PLATT BROTHERS & COMPANY, WATERBURY, CT 1-800-752-8276.
5. ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE TYPE OF WORK REQUIRED.
6. ALL PIPE SIZES ARE NOMINAL DIAMETER (INSIDE DIAMETER).

CAST-IN-PLACE CONCRETE:

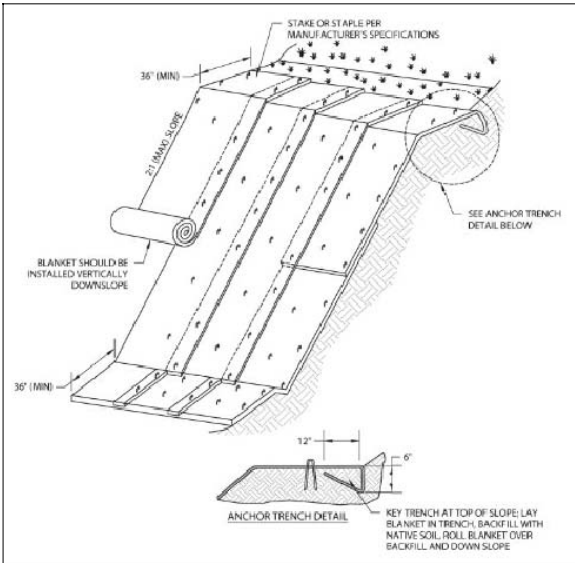
1. ALL CONCRETE WORK SHALL CONFORM TO THE LATEST EDITION OF THE ACI BUILDING CODE.
2. ALL CONCRETE SHALL ATTAIN 4000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
3. READY MIX: COMPLY WITH ACI-301 AND ASTM C-94. ALL CONCRETE EXPOSED TO THE GROUND OR WEATHER SHALL BE AIR ENTRAINED.
4. COLD WEATHER CONCRETE POURING SHALL BE IN ACCORDANCE WITH ACI-306.
5. THROUGHOUT CONSTRUCTION THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR THODS, ICE, RAIN, SNOW, EXCESSIVE HEAT AND FREEZING TEMPERATURES.
6. EARLY DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY GUARDED AGAINST. ALL SURFACES SHALL BE PROTECTED USING MOIST CURING OR A MEMBRANE CURING AGENT APPLIED AS SOON AS FORMS ARE REMOVED OR FINISHING OPERATIONS ARE COMPLETE. CARE SHALL BE EXERCISED SO AS NOT TO DAMAGE COATING.
7. APPLY NON-SLIP BROOM FINISH IMMEDIATELY AFTER TROWEL FINISHING.
8. CONTRACTOR TO COORDINATE REQUIREMENTS OF STRUCTURAL, CIVIL, MECHANICAL AND ELECTRICAL DRAWINGS INCLUDING ANY AND ALL PENETRATIONS SPECIFIED PRIOR TO POURING CONCRETE.
9. CONTRACTOR SHALL PROVIDE A 3/4" CHAMFER ON ALL CONCRETE SLABS.

REINFORCING:

1. ALL REINFORCING BAR SHALL CONFORM TO THE LATEST ACI CODE AND DETAILING MANUAL.
2. WHERE REINFORCING IS CALLED OUT IN THE CONSTRUCTION DOCUMENTS IT SHALL BE 3" CLEAR COVER (MINIMUM UNLESS OTHERWISE NOTED).
3. ALL BARS SHALL BE ASTM A-615, GRADE 60.
4. WELDED WIRE FABRIC SHALL BE ASTM A-185.

FOUNDATION

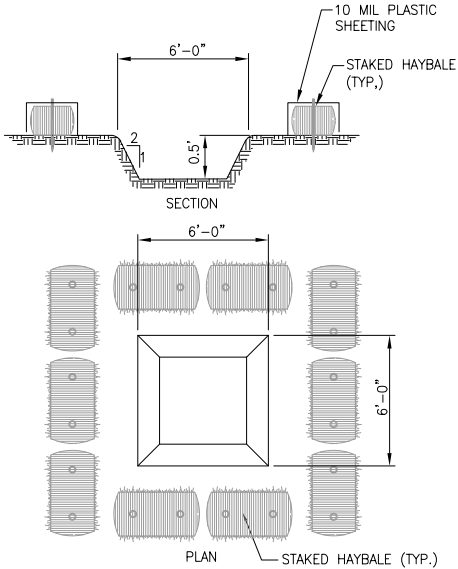
FOOTINGS SHALL BEAR ON UNDISTURBED SOIL AND /OR SUPERVISED COMPACTED FILL, FREE OF FROST,HAVING A MINIMUM ALLOWABLE BEARING CAPACITY OF 1 1/2 TONS PER SQUARE FOOT



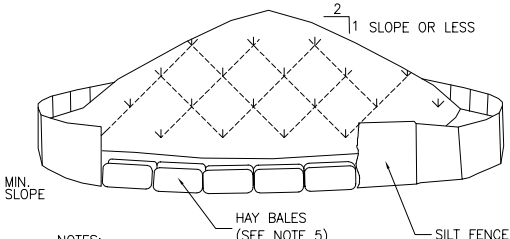
NOTES:

1. SLOPE SURFACE SHALL BE FREE ROCK, VEGETATION STICKS AND DEBRIS MATS/BLANKETS SHALL HAVE GOOD SOIL
2. LAY BLANKET LOOSELY AND STAKE OR STAPLE AS NEEDED TO MAINTAIN DIRECT CONTACT WITH THE SOIL DO NOT STRETCH OR TWIST
3. EROSION CONTROL BLANKETS SHOULD BE USED IN CONJUNCTION WITH REVEGETATION (CONTAINER OR PLUG PLANTING) TO SPECIFICATIONS OF REVEGETATION PLAN FOR PROJECT
3. HAND WALK BLANKET DOWN SLOPE AS BLANKET IS STAKED OR STAPLED TO PREVENT STRETCHING.
4. DO NOT WALK ON BLANKETS WHILE IN PLACE.
5. ALL ANCHORS SHALL BE INSTALL PERPENDICULAR TO SLOPE.

1 STEEP SLOPE PROTECTION DETAIL
Scale: N.T.S.

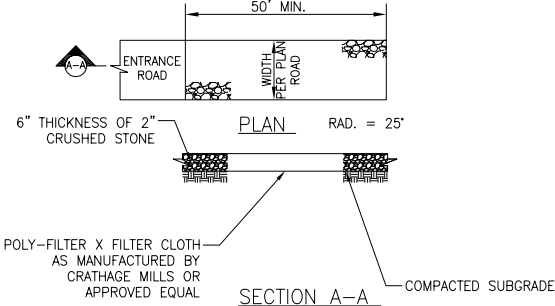


2 TEMPORARY CONCRETE WASH DETAIL
Scale: N.T.S.



- NOTES:
1. AREA CHOSEN FOR STOCKPIILING OPERATIONS SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1V:2H.
 3. UPON COMPLETION OF SOIL STOCKPIILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.
 4. SEE SPECIFICATIONS FOR INSTALLATION OF SILT FENCE.
 5. HAYBALES TO BE USED WHERE STOCKPILES ARE LOCATED ON PAVED AREAS.

3 TEMPORARY SOIL STOCKPILE DETAIL
Scale: N.T.S.



1. STONE SIZE – USE 2" STONE, OR RECLAIMED OR RECYCLED CONCRETE EQUIVALENT.
2. LENGTH – NOT LESS THAN 50 FEET
3. THICKNESS – NOT LESS THAN SIX INCHES
4. WIDTH – 12 FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
5. FILTER CLOTH – WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER – ALL SURFACE WATER FLOWING OR DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE. IF PIPING IS IMPRACTICAL A MOUNTABLE BERM WITH 5:1 SLOPES WILL BE PERMITTED.
7. MAINTENANCE – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.
8. WASHING – WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHTS-OF-WAY. IF ACCUMULATED SOIL DOES NOT COME OFF BY WAY OF STABILIZED CONSTRUCTION ENTRANCE, THE CONTRACTOR SHALL KNOCK OFF ACCUMULATED SOIL BY MANUAL METHODS UPSLOPE OF A SILT FENCE BARRIER.
9. SEDIMENT TRAPPING – SILT FENCE BARRIER SHALL BE INSTALLED DOWN SLOPE OF CONSTRUCTION ENTRANCE TO CATCH ANY SEDIMENT THAT COULD POTENTIALLY FALL OFF OF CONSTRUCTION EQUIPMENT AND/OR VEHICLES.
10. PERIODIC INSPECTIONS AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

4 STABALIZED CONSTRUCTION ENTRANCE
Scale: N.T.S.



TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless
verizon
WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC
88 Foundry Pond Road
Cold Spring, NY 10516
dweinpahl@onairng.com
201-456-4624

LICENSURE



DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.:	DATE:	SUBMISSIONS
0	06.09.25	D&M PRELIM FOR NEPA FILING
1	08.11.25	REVISED FOR STORMWATER DESIGN
2	12.04.25	D&M FILING

DRAWN BY:	CHECKED BY:
AS	DW

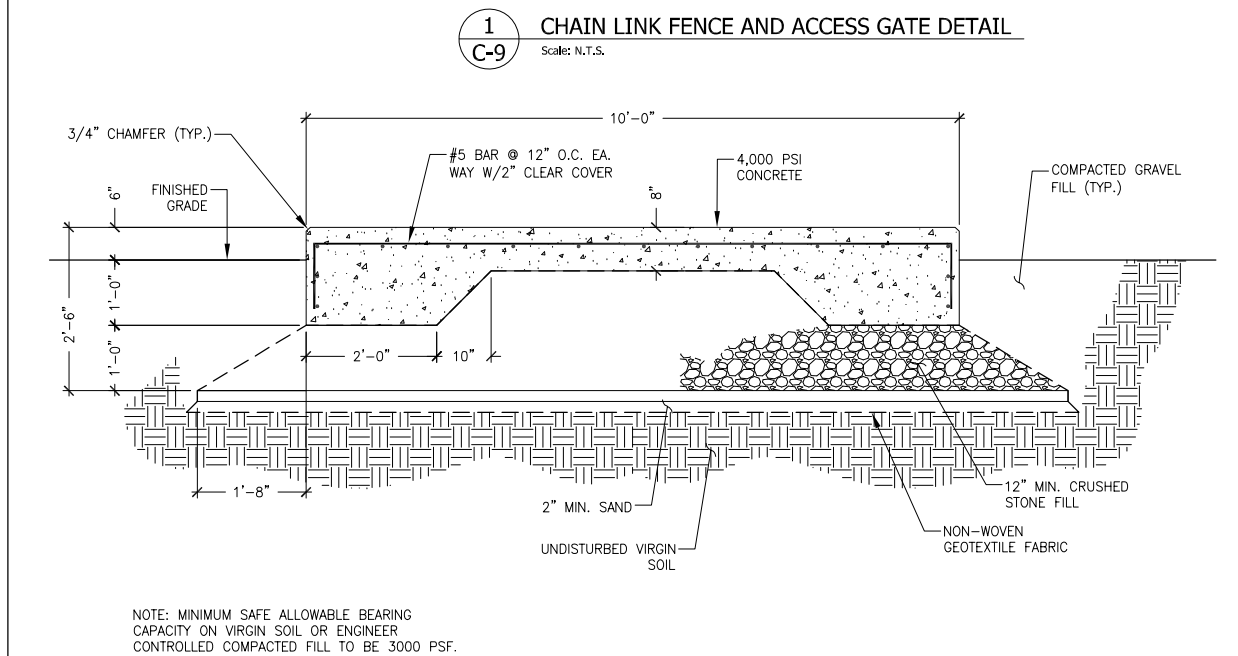
TARPON SITE ID NAME:
**CT1234
ANDOVER**

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
**SITE/CIVIL
ENGINEERING DETAILS**

SHEET NUMBER:
C-9

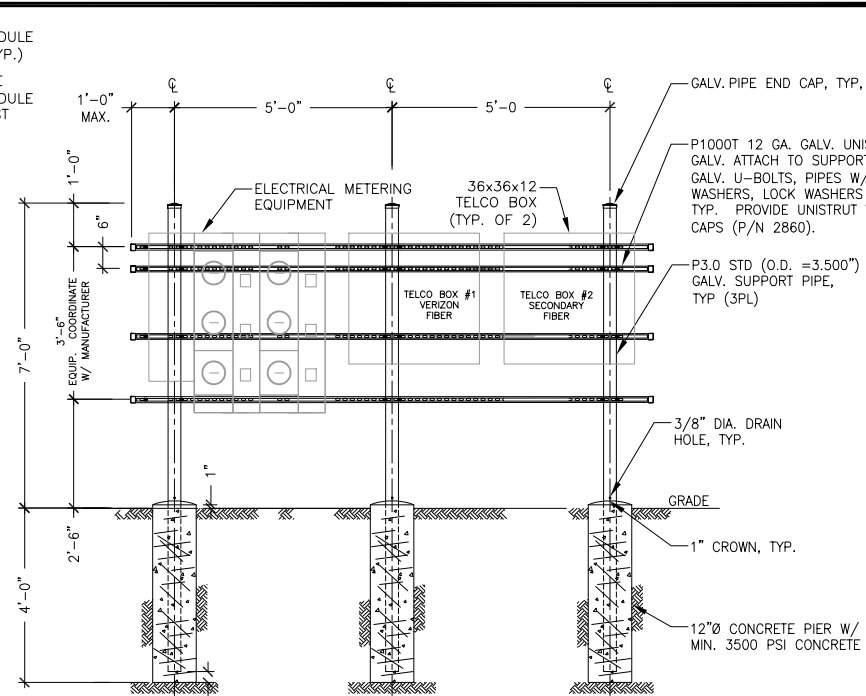


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C-9

CHAIN LINK FENCE AND ACCESS GATE DETAIL

Scale: N.T.S.

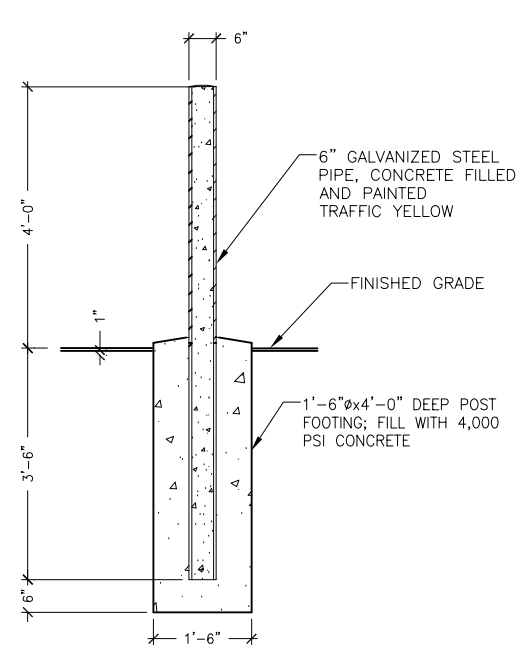
2 CONCRETE SLAB SECTION
C-9 Scale: 3/4" = 1'-0"



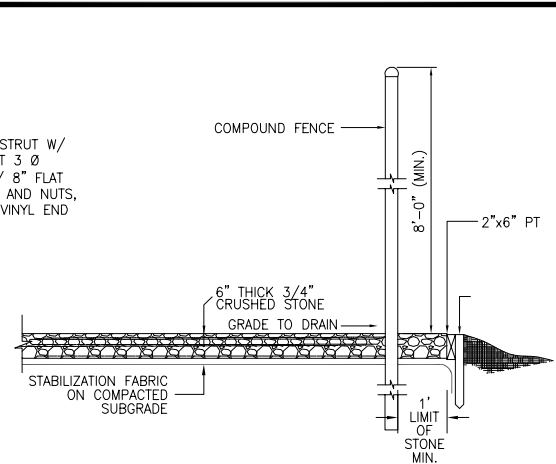
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C-9

UTILITY RACK ELEVATION

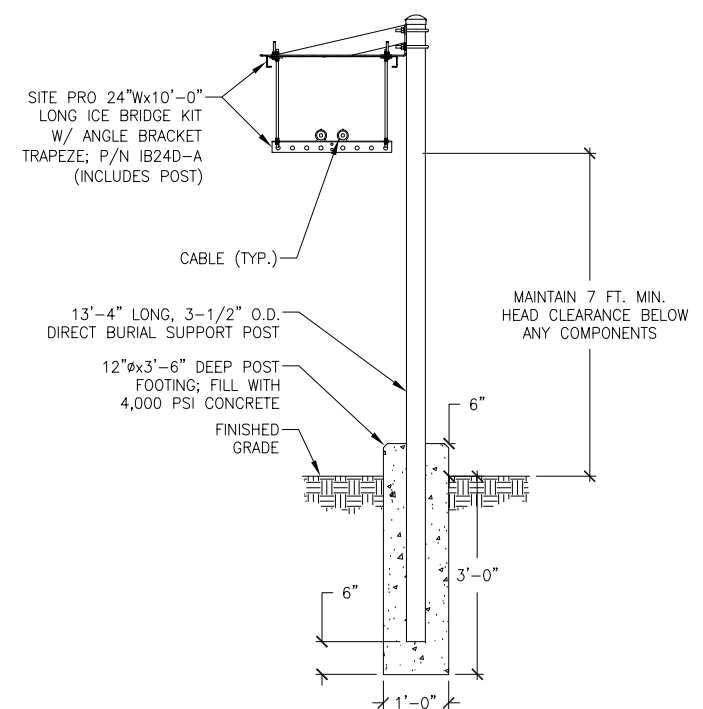
Scale: 1/2"=1'-0"



5
C-9



4 COMPOUND DETAIL
C-9 Scale: N.T.S.



6
C-9

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ENVIRONMENTAL NOTES – RESOURCES PROTECTION MEASURES

WETLAND AND VERNAL POOL PROTECTION PROGRAM

AS A RESULT OF THE FACILITY'S LOCATION IN THE VICINITY OF SENSITIVE WETLAND RESOURCES THAT INCLUDE VERNAL POOL HABITAT, THE FOLLOWING PROTECTION PROGRAM SHALL BE IMPLEMENTED BY THE CONTRACTOR TO AVOID UNINTENTIONAL IMPACTS TO THESE RESOURCES INCLUDING PROXIMATE WETLAND RESOURCES OR MORTALITY TO VERNAL POOL HERPETOFAUNA (I.E., WOOD FROG, SALAMANDERS, TURTLES, ETC.) DURING CONSTRUCTION ACTIVITIES.

IT IS OF THE UTMOST IMPORTANCE THAT THE CONTRACTOR COMPLIES WITH THE REQUIREMENT FOR THE INSTALLATION OF PROTECTIVE MEASURES AND THE EDUCATION OF ITS EMPLOYEES AND SUBCONTRACTORS PERFORMING WORK ON THE PROJECT SITE. THE WETLAND AND VERNAL POOL PROTECTION MEASURES SHALL BE IMPLEMENTED AND MAINTAINED THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES UNTIL PERMANENT STABILIZATION OF SITE SOILS HAS OCCURRED. THE VERNAL POOL SPECIFIC PROTECTION MEASURES SHALL BE IMPLEMENTED SHOULD CONSTRUCTION ACTIVITIES OCCUR DURING PEAK AMPHIBIAN MOVEMENT PERIODS (EARLY SPRING BREEDING [MARCH 1ST TO MAY 15TH] AND LATE SUMMER DISPERSAL [JULY 15TH TO SEPTEMBER 15TH]). PROTECTION MEASURES ASSOCIATED WITH WETLANDS SHALL BE IMPLEMENTED REGARDLESS OF THE TIME OF YEAR.

ALL-POINTS TECHNOLOGY CORPORATION, P.C. ("APT") WILL SERVE AS THE ENVIRONMENTAL MONITOR FOR THIS PROJECT TO ENSURE THAT THESE PROTECTION MEASURES ARE IMPLEMENTED PROPERLY AND WILL PROVIDE AN EDUCATION SESSION ON THE PROJECT'S PROXIMITY TO SENSITIVE WETLANDS AND ASSOCIATED VERNAL POOL HERPETOFAUNA PRIOR TO THE START OF CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST AT APT, AT LEAST 5 BUSINESS DAYS PRIOR TO THE PRECONSTRUCTION MEETING. MR. GUSTAFSON CAN BE REACHED BY PHONE AT (860) 552-2033 OR VIA EMAIL AT DGUSTAFSON@ALLPOINTSTECH.COM.

THIS RESOURCE PROTECTION PROGRAM CONSISTS OF SEVERAL COMPONENTS INCLUDING: EDUCATION OF ALL CONTRACTORS AND SUBCONTRACTORS PRIOR TO INITIATION OF WORK ON THE SITE; INSTALLATION OF EROSION CONTROLS AND WILDLIFE ISOLATION BARRIERS; PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION MEASURES; WETLAND AND VERNAL POOL SPECIES PROTECTIVE MEASURES; HERBICIDE, PESTICIDE, AND SALT LIMITATIONS; AND REPORTING.

1. CONTRACTOR EDUCATION:

a. PRIOR TO WORK ON SITE AND INITIAL DEPLOYMENT/MOBILIZATION OF EQUIPMENT AND MATERIALS, THE CONTRACTOR SHALL ATTEND AN EDUCATIONAL SESSION AT THE PRECONSTRUCTION MEETING WITH APT. THIS ORIENTATION AND EDUCATIONAL SESSION WILL CONSIST OF INFORMATION SUCH AS, BUT NOT LIMITED TO: IDENTIFICATION OF WETLAND RESOURCES PROXIMATE TO WORK AREAS, REPRESENTATIVE PHOTOGRAPHS OF TYPICAL HERPETOFAUNA THAT MAY BE ENCOUNTERED, TYPICAL SPECIES BEHAVIOR, AND PROPER PROCEDURES IF SPECIES ARE ENCOUNTERED, AND THE ENVIRONMENTALLY SENSITIVE NATURE OF THE DEVELOPMENT SITE.

b. THE MEETING WILL FURTHER EMPHASIZE THE NONAGGRESSIVE NATURE OF THE RARE SPECIES, THE ABSENCE OF NEED TO DESTROY SUCH ANIMALS AND THE NEED TO FOLLOW PROTECTIVE MEASURES AS DESCRIBED IN FOLLOWING SECTIONS.

c. THE CONTRACTOR WILL DESIGNATE A MEMBER OF ITS CREW AS THE PROJECT MONITOR TO BE RESPONSIBLE FOR THE PERIODIC "SWEEPS" FOR HERPETOFAUNA (AND OTHER POSSIBLE WILDLIFE) WITHIN THE CONSTRUCTION ZONE EACH MORNING AND FOR ANY GROUND DISTURBANCE WORK. THIS INDIVIDUAL WILL RECEIVE MORE INTENSE TRAINING FROM APT ON THE IDENTIFICATION AND PROTECTION OF HERPETOFAUNA IN ORDER TO PERFORM SWEEPS. ANY HERPETOFAUNA (OR OTHER WILDLIFE) DISCOVERED WOULD BE TRANSLOCATED OUTSIDE THE WORK ZONE IN THE GENERAL DIRECTION THE ANIMAL WAS ORIENTED. THE CONTRACTOR'S PROJECT MONITOR WILL BE PROVIDED WITH CELL PHONE AND EMAIL CONTACTS FOR APT PERSONNEL.

d. APT WILL ALSO POST CAUTION SIGNS THROUGHOUT THE PROJECT SITE FOR THE DURATION OF THE CONSTRUCTION PROJECT TO MAINTAIN AWARENESS OF THE ENVIRONMENTALLY SENSITIVE NATURE OF THE DEVELOPMENT SITE. SIGNAGE WILL PROVIDE NOTICE OF THE ENVIRONMENTALLY SENSITIVE NATURE OF THE WORK AREA, THE POTENTIAL FOR ENCOUNTERING VARIOUS AMPHIBIANS AND REPTILES AND PRECAUTIONS TO BE TAKEN TO AVOID INJURY TO OR MORTALITY OF THESE ANIMALS.

2. EROSION AND SEDIMENTATION CONTROLS/ISOLATION BARRIERS

a. PLASTIC NETTING USED IN A VARIETY OF EROSION CONTROL PRODUCTS (I.E., EROSION CONTROL BLANKETS, FIBER ROLLS [WATTLES], REINFORCED SILT FENCE) HAS BEEN FOUND TO ENTANGLE WILDLIFE, INCLUDING REPTILES, AMPHIBIANS, BIRDS AND SMALL MAMMALS. NO PERMANENT EROSION CONTROL PRODUCTS OR REINFORCED SILT FENCE WILL BE USED ON THE PROJECT. TEMPORARY EROSION CONTROL PRODUCTS THAT WILL BE EXPOSED AT THE GROUND SURFACE AND REPRESENT A POTENTIAL FOR WILDLIFE ENTANGLEMENT WILL USE EITHER EROSION CONTROL BLANKETS AND FIBER ROLLS COMPOSED OF PROCESSED FIBERS MECHANICALLY BOUND TOGETHER TO FORM A CONTINUOUS MATRIX (NETLESS) OR NETTING COMPOSED OF PLANAR WOVEN NATURAL BIODEGRADABLE FIBER TO AVOID/MINIMIZE WILDLIFE ENTANGLEMENT.

b. THE EXTENT OF THE EROSION CONTROLS WILL BE AS SHOWN ON THE SITE PLANS. THE CONTRACTOR SHALL HAVE ADDITIONAL SEDIMENTATION AND EROSION CONTROLS STOCKPILED ON SITE SHOULD FIELD OR CONSTRUCTION CONDITIONS WARRANT EXTENDING DEVICES. IN ADDITION TO THE CONTRACTOR MAKING THESE DETERMINATIONS, REQUESTS FOR ADDITIONAL CONTROLS WILL ALSO BE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR.

c. INSTALLATION OF EROSION AND SEDIMENTATION CONTROLS, REQUIRED FOR EROSION CONTROL COMPLIANCE AND CREATION OF A BARRIER TO POSSIBLE MIGRATING/DISPERSING HERPETOFAUNA (ONLY APPLICABLE DURING THE SEASONAL RESTRICTION PERIOD AND WILL BE INSTALLED AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR), SHALL BE PERFORMED BY THE CONTRACTOR IF ANY SOIL DISTURBANCE OCCURS OR HEAVY MACHINERY IS ANTICIPATED. THE ENVIRONMENTAL MONITOR WILL INSPECT THE WORK ZONE AREA PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION. IN ADDITION, WORK ZONES IN PROXIMITY TO VERNAL POOL RESOURCES WILL BE INSPECTED PRIOR TO AND FOLLOWING EROSION CONTROL BARRIER INSTALLATION TO ENSURE THE AREA IS FREE OF HERPETOFAUNA AND THE BARRIER IS SATISFACTORILY INSTALLED. THE INTENT OF THE BARRIER IS TO SEGREGATE THE MAJORITY OF THE WORK ZONE FROM MIGRATING/DISPERSING HERPETOFAUNA. OFFENTIMES COMPLETE ISOLATION OF A WORK ZONE IS NOT FEASIBLE DUE TO ACCESSIBILITY NEEDS AND LOCATIONS OF STAGING/MATERIAL STORAGE AREAS, ETC. IN THOSE CIRCUMSTANCES, THE BARRIERS WILL BE POSITIONED AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR TO DETECT MIGRATING/DISPERSAL ROUTES AWAY FROM THE WORK ZONE TO MINIMIZE POTENTIAL ENCOUNTERS WITH HERPETOFAUNA.

d. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DAILY INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS FOR TEARS OR BREACHES AND ACCUMULATION LEVELS OF SEDIMENT, PARTICULARLY FOLLOWING STORM EVENTS THAT GENERATE A DISCHARGE, AS DEFINED BY AND IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THE CONTRACTOR SHALL NOTIFY THE APT ENVIRONMENTAL MONITOR WITHIN 24 HOURS OF ANY BREACHES OF THE SEDIMENTATION AND EROSION CONTROLS AND ANY SEDIMENT RELEASES BEYOND THE PERIMETER CONTROLS THAT IMPACT WETLANDS, THE VERNAL POOL, OR AREAS WITHIN 100 FEET OF WETLANDS. THE APT ENVIRONMENTAL MONITOR WILL PROVIDE PERIODIC INSPECTIONS OF THE SEDIMENTATION AND EROSION CONTROLS THROUGHOUT THE DURATION OF CONSTRUCTION ACTIVITIES ONLY AS IT PERTAINS TO THEIR FUNCTION TO PROTECT NEARBY WETLANDS. SUCH INSPECTIONS WILL GENERALLY OCCUR ONCE PER MONTH. THE FREQUENCY OF MONITORING MAY INCREASE DEPENDING UPON SITE CONDITIONS, LEVEL OF CONSTRUCTION ACTIVITIES IN PROXIMITY TO SENSITIVE RECEPTORS, OR AT THE REQUEST OF REGULATORY AGENCIES. IF THE ENVIRONMENTAL MONITOR IS NOTIFIED BY THE CONTRACTOR OF A SEDIMENT RELEASE, AN INSPECTION WILL BE SCHEDULED SPECIFICALLY TO INVESTIGATE AND EVALUATE POSSIBLE IMPACTS TO WETLAND RESOURCES.

e. THIRD PARTY MONITORING OF SEDIMENTATION AND EROSION CONTROLS WILL BE PERFORMED BY OTHER PARTIES, AS NECESSARY, UNDER APPLICABLE LOCAL, STATE AND/OR FEDERAL REGULATIONS AND PERMIT CONDITIONS.

f. NO EQUIPMENT, VEHICLES OR CONSTRUCTION MATERIALS SHALL BE STORED WITHIN 100 FEET OF WETLAND RESOURCES OUTSIDE OF THE PERIMETER EROSION CONTROLS.

g. ALL SILT FENCING AND OTHER EROSION CONTROL DEVICES SHALL BE REMOVED WITHIN 30 DAYS OF COMPLETION OF WORK AND PERMANENT STABILIZATION OF SITE SOILS. IF FIBER ROLLS/WATTLES, STRAW BALES, OR OTHER NATURAL MATERIAL EROSION CONTROL PRODUCTS ARE USED, SUCH DEVICES WILL NOT BE LEFT IN PLACE TO BIODEGRADE AND SHALL BE PROMPTLY REMOVED AFTER SOILS ARE STABLE SO AS NOT TO CREATE A BARRIER TO WILDLIFE MOVEMENT. SEED FROM SEEDING OF SOILS SHOULD NOT SPREAD OVER FIBER ROLLS/WATTLES AS IT MAKES THEM HARDER TO REMOVE ONCE SOILS ARE STABILIZED BY VEGETATION.

3. PETROLEUM MATERIALS STORAGE AND SPILL PREVENTION

a. CERTAIN PRECAUTIONS ARE NECESSARY TO STORE PETROLEUM MATERIALS, REFUEL AND CONTAIN AND PROPERLY CLEAN UP ANY INADVERTENT FUEL OR PETROLEUM (I.E., OIL, HYDRAULIC FLUID, ETC.) SPILL DUE TO THE PROJECT'S LOCATION IN PROXIMITY TO WETLAND RESOURCES.

b. A SPILL CONTAINMENT KIT CONSISTING OF A SUFFICIENT SUPPLY OF ABSORBENT PADS AND ABSORBENT MATERIAL WILL BE MAINTAINED BY THE CONTRACTOR AT THE CONSTRUCTION SITE THROUGHOUT THE DURATION OF THE PROJECT. IN ADDITION, A WASTE DRUM WILL BE KEPT ON SITE TO CONTAIN ANY USED ABSORBENT PADS/MATERIAL FOR PROPER AND TIMELY DISPOSAL OFF SITE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL LAWS.

c. SERVICING OF MACHINERY SHALL NOT OCCUR WITHIN 100 FEET OF WETLANDS.

d. AT A MINIMUM, THE FOLLOWING PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING RESTRICTIONS AND SPILL RESPONSE PROCEDURES WILL BE ADHERED TO BY THE CONTRACTOR.

- i. PETROLEUM AND HAZARDOUS MATERIALS STORAGE AND REFUELING
 1. REFUELING OF VEHICLES OR MACHINERY SHALL OCCUR A MINIMUM OF 100 FEET FROM WETLANDS AND SHALL TAKE PLACE ON AN IMPERVIOUS PAD WITH SECONDARY CONTAINMENT DESIGNED TO CONTAIN FUELS.
 2. ANY FUEL OR HAZARDOUS MATERIALS THAT MUST BE KEPT ON SITE SHALL BE STORED ON AN IMPERVIOUS SURFACE UTILIZING SECONDARY CONTAINMENT A MINIMUM OF 100 FEET FROM WETLANDS.
- ii. INITIAL SPILL RESPONSE PROCEDURES
 1. STOP OPERATIONS AND SHUT OFF EQUIPMENT.
 2. REMOVE ANY SOURCES OF SPARK OR FLAME.
 3. CONTAIN THE SOURCE OF THE SPILL.
 4. DETERMINE THE APPROXIMATE VOLUME OF THE SPILL.
 5. IDENTIFY THE LOCATION OF NATURAL FLOW PATHS TO PREVENT THE RELEASE OF THE SPILL TO SENSITIVE NEARBY WETLANDS AND VERNAL POOL.
 6. ENSURE THAT FELLOW WORKERS ARE NOTIFIED OF THE SPILL.
 - iii. SPILL CLEAN UP & CONTAINMENT
 1. OBTAIN SPILL RESPONSE MATERIALS FROM THE ONSITE SPILL RESPONSE KIT. PLACE ABSORBENT MATERIALS DIRECTLY ON THE RELEASE AREA.
 2. LIMIT THE SPREAD OF THE SPILL BY PLACING ABSORBENT MATERIALS AROUND THE PERIMETER OF THE SPILL.
 3. ISOLATE AND ELIMINATE THE SPILL SOURCE.
 4. CONTACT APPROPRIATE LOCAL, STATE AND/OR FEDERAL AGENCIES, AS NECESSARY.
 5. CONTACT A DISPOSAL COMPANY TO PROPERLY DISPOSE OF CONTAMINATED MATERIALS.

- iv. REPORTING
 1. COMPLETE AN INCIDENT REPORT.
 2. SUBMIT A COMPLETED INCIDENT REPORT TO LOCAL, STATE AND FEDERAL AGENCIES, AS NECESSARY, INCLUDING THE CONNECTICUT SITING COUNCIL.

4. WETLAND AND VERNAL POOL PROTECTIVE MEASURES

a. A THOROUGH COVER SEARCH OF THE CONSTRUCTION AREA WILL BE PERFORMED BY APT'S ENVIRONMENTAL MONITOR FOR HERPETOFAUNA PRIOR TO AND FOLLOWING INSTALLATION OF THE SILT FENCING BARRIER TO REMOVE ANY SPECIES FROM THE WORK ZONE PRIOR TO THE INITIATION OF CONSTRUCTION ACTIVITIES. ANY HERPETOFAUNA DISCOVERED WOULD BE TRANSLOCATED OUTSIDE THE WORK ZONE IN THE GENERAL DIRECTION THE ANIMAL WAS ORIENTED. PERIODIC INSPECTIONS WILL BE PERFORMED BY APT'S ENVIRONMENTAL MONITOR THROUGHOUT THE DURATION OF THE CONSTRUCTION.

b. ANY RUTS OR ARTIFICIAL DEPRESSIONS THAT COULD HOLD WATER CREATED INTENTIONALLY OR UNINTENTIONALLY BY SITE CLEARING/CONSTRUCTION ACTIVITIES WILL BE PROPERLY FILLED IN AND PERMANENTLY STABILIZED WITH VEGETATION TO AVOID THE CREATION OF VERNAL POOL. ?DECOY POOLS? THAT COULD INTERCEPT AMPHIBIANS MOVING TOWARD THE VERNAL POOLS. STORMWATER MANAGEMENT FEATURES SUCH AS LEVEL SPREADERS WILL BE CAREFULLY REVIEWED IN THE FIELD TO ENSURE THAT STANDING WATER DOES NOT ENDURE FOR MORE THAN A 24-HOUR PERIOD, WHERE FEASIBLE AT THE DISCRETION OF THE ENVIRONMENTAL MONITOR, TO AVOID CREATION OF DECOY POOLS AND MAY BE SUBJECT TO FIELD DESIGN CHANGES. ANY SUCH PROPOSED DESIGN CHANGES WILL BE REVIEWED BY THE DESIGN ENGINEER TO ENSURE STORMWATER MANAGEMENT FUNCTIONS ARE MAINTAINED.

c. EROSION CONTROL MEASURES WILL BE REMOVED NO LATER THAN 30 DAYS FOLLOWING FINAL SITE STABILIZATION SO AS NOT TO IMPEDE MIGRATION OF HERPETOFAUNA OR OTHER WILDLIFE.

5. HERBICIDE, PESTICIDE, AND SALT LIMITATIONS

a. THE USE OF HERBICIDES AND PESTICIDES AT THE FACILITY SHALL BE MINIMIZED. IF HERBICIDES AND/OR PESTICIDES ARE REQUIRED AT THE FACILITY, THEIR USE WILL BE IN ACCORDANCE WITH CURRENT INTEGRATED PEST MANAGEMENT (IPM?) PRINCIPLES WITH PARTICULAR ATTENTION TO AVOID/MINIMIZE APPLICATIONS WITHIN 100 FEET OF WETLAND AND VERNAL POOL RESOURCES.

b. MAINTENANCE OF THE FACILITY DURING THE WINTER MONTHS SHALL MINIMIZE THE APPLICATION OF CHLORIDE-BASED DEICERS SALT WITH USE OF MORE ENVIRONMENTALLY FRIENDLY NON-CHLORIDE ALTERNATIVES.

6. REPORTING

a. COMPLIANCE MONITORING REPORTS (BRIEF NARRATIVE AND APPLICABLE PHOTOS) DOCUMENTING EACH APT INSPECTION WILL BE SUBMITTED BY APT TO THE PERMITTEE AND ITS CONTRACTOR FOR COMPLIANCE VERIFICATION OF THESE PROTECTION MEASURES. THESE REPORTS ARE NOT TO BE USED TO DOCUMENT COMPLIANCE WITH ANY OTHER PERMIT AGENCY APPROVAL CONDITIONS (E.G., DEEP STORMWATER PERMIT MONITORING). ANY NON-COMPLIANCE OBSERVATIONS OF EROSION CONTROL MEASURES OR EVIDENCE OF EROSION OR SEDIMENT RELEASE WILL BE IMMEDIATELY REPORTED TO THE PERMITTEE AND ITS CONTRACTOR AND INCLUDED IN THE REPORTS ALONG WITH ANY OBSERVATIONS OF VERNAL POOL HERPETOFAUNA.

b. FOLLOWING COMPLETION OF THE CONSTRUCTION PROJECT, APT WILL PROVIDE A FINAL COMPLIANCE MONITORING REPORT TO THE PERMITTEE DOCUMENTING IMPLEMENTATION OF THE RESOURCE PROTECTION PROGRAM AND MONITORING OBSERVATIONS. THE PERMITTEE IS RESPONSIBLE FOR PROVIDING A COPY OF THE FINAL COMPLIANCE MONITORING REPORT TO THE CONNECTICUT SITING COUNCIL FOR COMPLIANCE VERIFICATION.

c. ANY OBSERVATIONS OF RARE SPECIES WILL BE REPORTED TO CTDEP BY APT, WITH PHOTO?DOCUMENTATION (IF POSSIBLE) AND WITH SPECIFIC INFORMATION ON THE LOCATION AND DISPOSITION OF THE ANIMAL.

SEEDING SPECIFICATIONS (NON-WETLAND AREAS)

- IF GROUND HAS BEEN PREVIOUSLY MULCHED, MULCH MUST BE REMOVED OR ADDITIONAL NITROGEN MUST BE ADDED.
- REMOVE ALL SURFACE STONES 2" OR LARGER AS WELL AS ALL DEBRIS SUCH AS WIRE, CABLE, TREE ROOTS, PIECES OF CONCRETE, CLOUDS, CLUMPS, OR OTHER UNSUITABLE MATERIAL.
- APPLY FERTILIZER AT 7.5 POUNDS PER 1,000 SQUARE FEET AND LIME AT 200 POUNDS PER 1,000 SQUARE FEET UNLESS SOIL TESTING FOR REQUIREMENTS IS PERFORMED.
- NO MOWING IS TO BE UNDERTAKEN UNTIL THE MAJORITY OF THE VEGETATION IS AT LEAST 6" HIGH. MOWING SHOULD CUT THE TOP 1/3 OF VEGETATION. DO NOT UNDER ANY CIRCUMSTANCES CUT VEGETATION BELOW 3".
- DO NOT APPLY ANY FORM OF WEED CONTROL UNTIL GRASS HAS BEEN MOWED AT LEAST 4 TIMES.
- THESE SEEDING MEASURES ARE NOT TO BE USED ON SLOPES IN EXCESS OF 2:1 GRADING.
- PERMANENT SEEDING MEASURES ARE TO BE USED INSTEAD OF TEMPORARY SEEDING MEASURES WHERE WORK IS TO BE SUSPENDED FOR A PERIOD OF TIME LONGER THAN 1 YEAR.
- IF THERE IS NO EROSION, BUT SEED SURVIVAL IS LESS THAN 100 PLANTS PER SQUARE FOOT AFTER 4 WEEKS OF GROWTH, RE-SEED AS PLANTING SEASON ALLOWS.
- ALL DISTURBED AREAS OUTSIDE THE PAVEMENT AREA SHALL BE LOAMED AND SEEDDED IN ACCORDANCE WITH THE SUGGESTED SEEDING MIXTURES TABLE.

WETLAND AND VERNAL POOL BUFFER ENHANCEMENT PLAN NOTES

MITIGATION GOALS

1) COMPENSATE FOR ACTIVITIES IN PROXIMITY TO WETLANDS THAT SUPPORT VERNAL POOL HABITAT BY PROVIDING A WETLAND BUFFER ENHANCEMENT PLAN THAT INCLUDES PLANTING WITH NATIVE SPECIES WHICH WILL IMPROVE FUNCTIONS AND VALUES, PARTICULARLY WILDLIFE HABITAT AND WATER QUALITY.

2) PLANT \pm 100 SF OF UPLAND HABITAT ENHANCEMENT AREA WITH SUFFICIENT DENSITY, FOCUSING ON SUPPORTING THE EXISTING FORESTED CANOPY AND NATIVE SPECIES, TO SUPPORT A VARIETY OF FUNCTIONS AND VALUES THAT ARE SUPPORTED BY THE ADJACENT WETLANDS AND VERNAL POOL.

3) THIS ENHANCEMENT WILL HAVE A PARTICULAR IMPROVEMENT TO THE VERNAL POOL ENVELOPE IMPROVING THE HABITAT QUALITY. THE PROPOSED NATIVE PLANTINGS WILL SIGNIFICANTLY DIVERSIFY THE WILDLIFE HABITAT VALUE OF THE BUFFER BY PROVIDING SHELTER, NESTING AND FOOD FOR SMALL WILDLIFE, AND REDUCING THE "EDGE" EFFECTS BY EXPANDING THE EXISTING VEGETATIVE BUFFER.

GENERAL MITIGATION NOTES

1) THE PROJECT WETLAND SCIENTIST WITH EXPERTISE IN WETLAND MITIGATION AND IN INVASIVE PLANT SPECIES IDENTIFICATION AND REMOVAL/ERADICATION WILL SUPERVISE ALL ELEMENTS OF THE MITIGATION PLAN. DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST, WITH ALL-POINTS TECHNOLOGY CORPORATION, P.C. WILL SERVE AS THE PROJECT WETLAND SCIENTIST; (860) 552-2033, DGUSTAFSON@ALLPOINTSTECH.COM.

2) ANY FOREIGN DEBRIS AND LITTER THAT HAS ACCUMULATED ON THE SURFACE OF THE MITIGATION AREA SHALL BE REMOVED AND PROPERLY DISPOSED OF IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL REGULATIONS.

3) PLASTIC MESH SLEEVES AND DEER REPELLANTS WILL BE USED AS NECESSARY TO PROTECT PLANTED SHRUBS FROM EXCESSIVE DEER DAMAGE. PLANTS WITH EXCESSIVE DAMAGE WILL BE REPLACED.

4) PROPOSED ACTIVITIES ARE NOT ANTICIPATED TO RESULT IN SIGNIFICANT SOIL DISTURBANCE. ANY EXPOSED SOILS RESULTING FROM THE WETLAND BUFFER ENHANCEMENT ACTIVITIES WILL BE MULCHED AND SEEDDED WITH AN APPROPRIATE NATIVE SEED MIX SUITABLE FOR THE AREA DEPENDING UPON SHADE AND SOIL MOISTURE CONDITIONS OF THE AFFECTED AREAS.

5) THE USE OF FERTILIZER AND PESTICIDES IN THE MITIGATION AREA IS PROHIBITED. HERBICIDE USAGE WILL ONLY OCCUR AS NECESSARY FOR THE CONTROL OF INVASIVE SPECIES.

6) A PRE-CONSTRUCTION MEETING WILL BE HELD ON SITE BETWEEN THE PROJECT WETLAND SCIENTIST AND CONTRACTOR(S) PERFORMING ALL ASPECTS OF THE WETLAND BUFFER ENHANCEMENT PLAN. THE PRIMARY INTENT OF THE PRE-CONSTRUCTION MEETING IS TO DISCUSS THE GOALS OF THE PLAN AND IMPLEMENTATION OF REQUIRED ELEMENTS NECESSARY TO ACHIEVE THESE GOALS AND SEQUENCE OF ELEMENTS.

PROPOSED WETLAND BUFFER ENHANCEMENT AREA

1) THE PROJECT WETLAND SCIENTIST RESPONSIBLE FOR THIS BUFFER ENHANCEMENT PLAN DESIGN SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF SEVEN (7) BUSINESS DAYS PRIOR TO ANY PHASE OF THE MITIGATION PROJECT TO MONITOR AND OVERSEE IMPLEMENTATION OF THE MITIGATION PLAN. PLEASE CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST, ALL-POINTS TECHNOLOGY CORP., P.C. AT (860) 552-2033 OR DGUSTAFSON@ALLPOINTSTECH.COM.

2) SOIL EXPOSED AS A RESULT OF GRADING ACTIVITIES OR NATIVE SPECIES PLANTING ACTIVITIES IN UPLAND AREAS WILL BE UNDER SOWN WITH NATIVE UPLAND WILDLIFE MEADOW SEED MIX (ERNMX-123, OR APPROVED EQUIVALENT). THIS SEED MIX PROVIDES A PERMANENT COVER OF GRASSES, FORBS, WILDFLOWERS, LEGUMES, AND GRASSES TO PROVIDE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE.

3) ALL PLANT MATERIALS INSTALLED SHALL MEET OR EXCEED THE SPECIFICATIONS OF THE ?AMERICAN STANDARDS FOR NURSERY STOCK? BY THE AMERICAN ASSOCIATION OF NURSERYMEN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CAREFUL INSTALLATION, MAINTENANCE (INCLUDING WATERING), AND ESTABLISHMENT OF NATIVE SHRUB PLANT MATERIAL IN THE MITIGATION AREA. ALL PLANTS SHALL BE GUARANTEED BY THE CONTRACTOR TO REMAIN ALIVE AND HEALTHY FOR A FULL TWELVE (12) MONTH PERIOD.

4) THE SPECIES, SIZE, AND QUANTITY OF THE PLANTINGS WILL FOLLOW THE BUFFER ENHANCEMENT AREA PLANTING SCHEDULE. THE PROJECT WETLAND SCIENTIST WILL INSPECT PLANT MATERIALS DELIVERED TO THE SITE TO ENSURE THAT THE SPECIMENS ARE HEALTHY, FREE FROM PESTS, AND SUITABLE FOR USE WITHIN THE WETLAND BUFFER MITIGATION AREA. UNSUITABLE SPECIMENS WILL BE REJECTED AND REPLACED WITH SUITABLE SPECIMENS. THE PROJECT WETLAND SCIENTIST MUST APPROVE ANY PLANTING SUBSTITUTIONS. ALL WOODY PLANT STOCK WILL BE CONTAINER-GROWN OR BURLAP BALLED. PLANTING WITHIN THE MITIGATION AREA WILL CONFORM TO THE PLANS OR WILL BE COMPLETED IN ACCORDANCE WITH DIRECTIONS PROVIDED IN THE FIELD BY THE PROJECT WETLAND SCIENTIST. ONLY PLANT MATERIALS NATIVE AND INDIGENOUS TO THE REGION SHALL BE USED.

5) ALL PLANTINGS TO BE SPACED IN A RANDOM PATTERN WITH ASSISTANCE FROM THE PROJECT WETLAND SCIENTIST TO SIMULATE NATURAL GROWTH PATTERNS. PLANT QUANTITIES MAY BE ADJUSTED IN THE FIELD DEPENDING UPON AVAILABLE PLANTING SPACE PROVIDED FOLLOWING WOODY INVASIVE PLANT REMOVAL ACTIVITIES. THE PLANT QUANTITIES NOTED REPRESENT THE MINIMUM QUANTITIES REQUIRED.

INVASIVE SPECIES CONTROL AND HERBICIDE USE

1) TARGET INVASIVE WOODY SHRUB SPECIES CURRENTLY PRESENT IN THE UNDERSTORY OF THE BUFFER ENHANCEMENT AREA, INCLUDING BUT NOT LIMITED TO MULTIFLORA ROSE (ROSE MULTIFLORA) AND JAPANESE BARBERRY (BERBERIS THUNBERG) SHALL BE REMOVED BY HAND CUTTING DOWN TO THE STEM BASE. CUT STEMS WILL BE TREATED WITH HERBICIDE AS SPECIFIED IN THE HERBICIDE USE NOTES. HERBICIDE APPLICATIONS WILL BE CONDUCTED BY A STATE-LICENSED INDIVIDUAL. THE CONTRACTOR IS RESPONSIBLE FOR SECURING NECESSARY LOCAL, STATE AND/OR FEDERAL PERMITS, INCLUDING A PERMIT FROM CTDEP TO APPLY THE HERBICIDE IN AN AQUATIC ENVIRONMENT IF HERBICIDE APPLICATION OCCURS WHILE SURFACE WATER IS PRESENT. IT IS RECOMMENDED THAT HERBICIDE APPLICATIONS USE TECHNIQUES TO AVOID OVERSPRAY THAT COULD IMPACT NEARBY WETLANDS AND VERNAL POOL. REFER TO THE CONNECTICUT INVASIVE PLANT WORKING GROUP INVASIVE PLANT MANAGEMENT GUIDE OR MOST RECENT GUIDANCE FOR FURTHER DETAILS AND GUIDANCE ON INVASIVE PLANT CONTROL AND REMOVAL RECOMMENDATIONS (HTTPS://CIPWG.UCONN.EDU/CONTROL-INFORMATION/).

2) THE PROJECT WETLAND SCIENTIST RESPONSIBLE FOR THIS MITIGATION PLAN DESIGN SHALL BE NOTIFIED BY THE CONTRACTOR A MINIMUM OF SEVEN (7) BUSINESS DAYS PRIOR TO ANY PHASE OF THE MITIGATION PROJECT INCLUDING REMOVAL OF INVASIVE PLANTS AND PLANTING OF NATIVE SHRUBS TO MONITOR AND OVERSEE IMPLEMENTATION OF THE ENHANCEMENT PLAN. PLEASE CONTACT DEAN GUSTAFSON, SENIOR WETLAND SCIENTIST, ALL-POINTS TECHNOLOGY CORP., P.C. AT (860) 552-2033 OR DGUSTAFSON@ALPPOINTSTECH.COM.

3) SOIL EXPOSED AS A RESULT OF INVASIVE SPECIES REMOVAL OR NATIVE SPECIES PLANTING ACTIVITIES WILL BE UNDER SOWN WITH NEW ENGLAND SEMI SHADE GRASS WITH FORB MIX (NEWP, OR APPROVED EQUIVALENT). THIS SEED MIX PROVIDES A PERMANENT CORE OF GRASSES, FORBS, WILDFLOWERS, LEGUMES, AND GRASSES TO PROVIDE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE.

4) ALL FEDERAL, STATE AND LOCAL REGULATIONS REGARDING HERBICIDE USE, APPLICATOR PERMIT AND POSTING REQUIREMENTS SHALL BE FOLLOWED.

5) ALL HERBICIDE APPLICATIONS SHALL BE PERFORMED BY A STATE LICENSED INDIVIDUAL UNDER THE SUPERVISION OF THE PROJECT WETLAND PROFESSIONAL.

6) CERTIFICATIONS, LICENSES AND PERMITS SHALL BE PRODUCED BY THE LICENSED APPLICATOR PRIOR TO THE START OF WORK.

7) ALL HERBICIDES SHALL BE MIXED WITH A DYE APPROVED BY U.S. EPA FOR USE AS AN HERBICIDE ADJUVANTS, SUCH AS TURFMARK DYE OR EQUIVALENT.

8) ONLY NONIONIC SURFACTANTS SHALL BE ADDED TO THE SPECIFIED HERBICIDES.

9) WOODY INVASIVE SHRUBS WITHIN THE MITIGATION AREA SHALL BE TREATED WITH A CUT-STUMP TREATMENT METHOD. SHRUBS SHALL BE CUT NEAR THE STUMP LEVEL AND STUMPS SHALL RECEIVE AN APPLICATION OF TRICLOPYR OR GLYPHOSATE (GARLON, ACCESS, AQUANEAT, OR APPROVED EQUIVALENT) USING A LOW-FLOW SPRAY OR HAND APPLICATOR METHOD (PAINT BRUSH, SPONGE, OR EQUIVALENT) WITHIN ONE HOUR OF CUTTING. HERBICIDE APPLICATIONS SHOULD AVOID OVERSPRAY IMPACTING THE ADJACENT WETLAND.

MITIGATION MONITORING SUCCESS STANDARDS AND REPORTING

1) THE MITIGATION AREA WILL BE ASSESSED USING THREE SUCCESS STANDARDS AS DESCRIBED BELOW. ~~SUCCESS STANDARD~~ AT LEAST 75% OF THE SURFACE AREA OF THE WOODY AND HERBACEOUS UNDERSTORY WITHIN THE MITIGATION AREA SHOULD BE REESTABLISHED WITH INDIGENOUS WOODY AND HERBACEOUS SPECIES. ~~SUCCESS STANDARD~~ VEGETATION SHOULD BE CHECKED TO ENSURE THAT NO MORE THAN 20% OF THE SURFACE AREA IS OCCUPIED BY INVASIVE WOODY SPECIES. ~~SUCCESS STANDARD~~ SOILS WITHIN THE MITIGATION AREA DISTURBED DURING IMPLEMENTATION OF THIS PLAN ARE PERMANENTLY STABILIZED.

2) A REPORT WILL BE PREPARED UPON THE COMPLETION OF ALL MITIGATION ACTIVITIES DOCUMENTING PROPER IMPLEMENTATION OF THE BUFFER ENHANCEMENT PLAN.

3) MONITORING OF THE BUFFER ENHANCEMENT AREA WILL BE PERFORMED DURING THE TWO (2) YEAR'S GROWING SEASON FOLLOWING COMPLETION OF NATIVE PLANTING ACTIVITIES. A MONITORING REPORT WILL PROVIDE DETAILS ON THE THREE SUCCESS STANDARDS PREVIOUSLY NOTED WITH THE GOAL BEING THAT ALL SUCCESS STANDARDS ARE SATISFIED BY THE END OF THE SECOND GROWING SEASON. THE MONITORING REPORT WILL INCLUDE REPRESENTATIVE PHOTOGRAPHS, THE PERCENT SURVIVAL OF PLANTED SHRUBS AND WILL ALSO INCLUDE OBSERVATIONS OF VEGETATION HEALTH AND DEVELOPMENT ALONG WITH ANY WILDLIFE OBSERVATIONS. IF FOLLOWING COMPLETION OF TWO-YEAR MONITORING PROGRAM NOT ALL OF THE SUCCESS STANDARDS ARE SATISFIED, RECOMMENDATIONS FOR ADDITIONAL MONITORING/CORRECTIVE ACTIONS WILL BE INCLUDED IN THE REPORT.

QUALITY	BOTANICAL NAME	COMMON NAME	SIZE*	SPACING*
20	AMELANCHIER CANADENSIS	SERVICEBERRY	3-4"	10 FEET
25	ARONIA MELANOCARPA	BLACK CHOKBERRY	3-4"	5-10 FEET
25	CORNUS RACEMOSA	GRAY DOGWOOD	3-4"	5-10 FEET
25	VIBURNUM DENTATUM	ARROWWOOD	3-4"	5-10 FEET
25	VIBURNUM LENTAGO	NANNYBERRY	3-4"	5-10 FEET
20	ACER RUBRUM	RED MAPLE	4-6"	20 FEET

NOTES:

- THE WETLAND AND VERNAL POOL BUFFER ENHANCEMENT AREA WILL CONSIST OF PLANTING WITH SELECT NATIVE SHRUBS TO IMPROVE FUNCTION AND VALUE OF BUFFER ZONE WITH FOCUS ON PROVIDING A DENSE BUFFER OF NATIVE VEGETATION BETWEEN THE PROPOSED FACILITY AND NEARBY WETLAND WITH A FOCUS ON IMPROVING WILDLIFE HABITAT AND WATER QUALITY FUNCTIONS.
- SOIL EXPOSED AS A RESULT OF WOODY INVASIVE PLANT REMOVAL AND NATIVE SPECIES PLANTING ACTIVITIES WILL BE SEEDDED SOWN WITH A NATIVE UPLAND WILDLIFE MEADOW SEED MIX (ERNMX-123, OR APPROVED EQUIVALENT). THIS SEED MIX IS APPROPRIATE FOR SEMI-SHADED FOREST UNDERSTORY HABITAT BY PROVIDING A PERMANENT COVER OF GRASSES AND FORBS TO PROVIDE BOTH GOOD EROSION CONTROL AND WILDLIFE HABITAT VALUE.
- NATIVE TREE AND SHRUB SPACING IS PROVIDED FOR GENERAL PURPOSES. ACTUAL LOCATION OF PLANTS TO BE ADJUSTED IN THE FIELD BASED ON SITE CONDITIONS. THE SUPERVISING PROJECT WETLAND SCIENTIST WILL ASSIST IN SELECTING PLANTING LOCATIONS AND SPACING TO SIMULATE NATURAL GROWTH PATTERNS FOR WETLAND BUFFER HABITATS
- NATIVE PLANTINGS SHALL BE FROM A SOURCE THAT WOULD ELIMINATE THE POTENTIAL FOR JUMPING WORM INTRODUCTION.



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LICENSURE

DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.:	DATE:	SUBMISSIONS
0	06.09.25	D&M PRELIM FOR NEPA FILING
1	08.11.25	REVISED FOR STORMWATER DESIGN
2	12.04.25	D&M FILING

DRAWN BY:	CHECKED BY:
AS	DW

TARPON SITE ID/NAME:
**CT1234
ANDOVER**

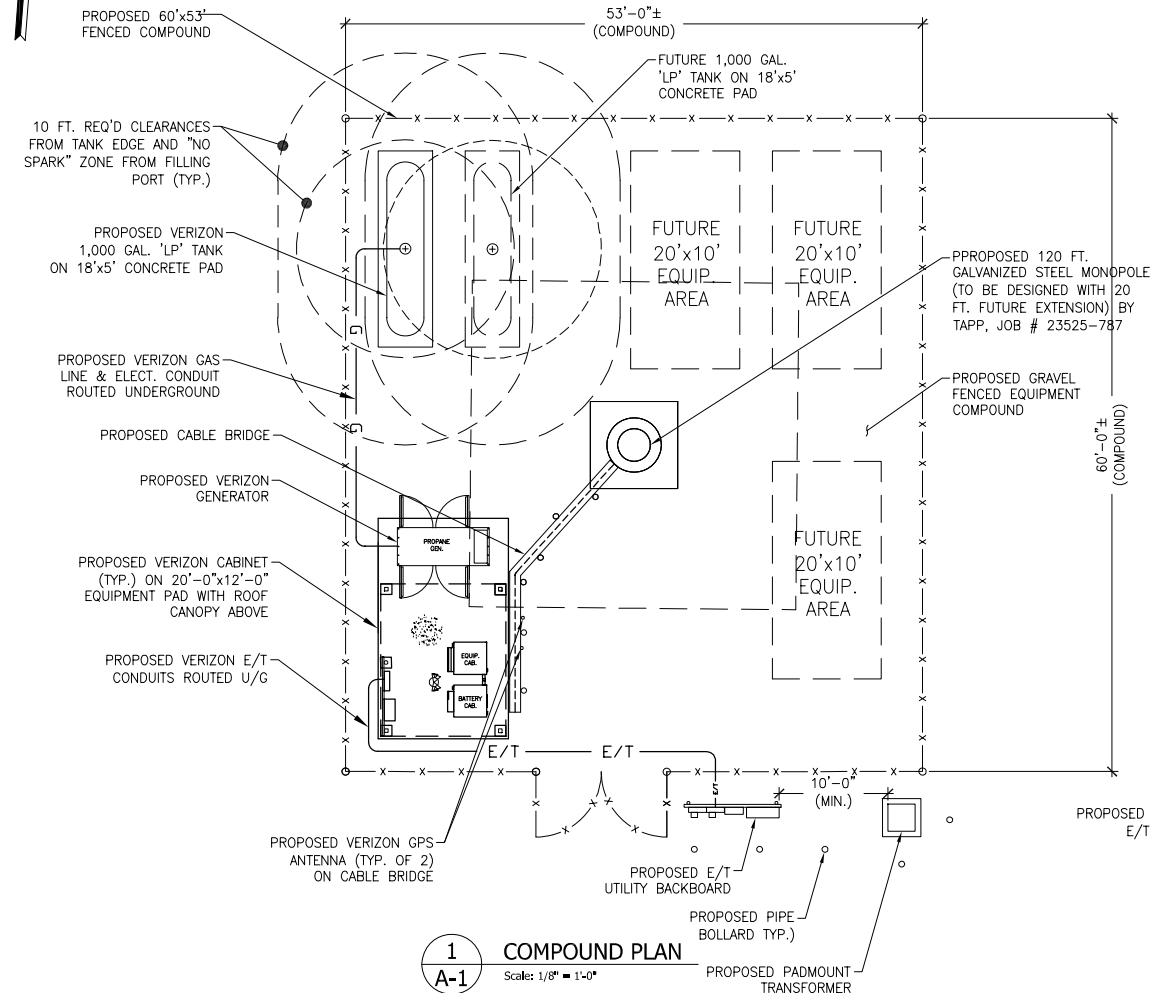
VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:

ENVIRONMENTAL NOTES

SHEET NUMBER:
C-11



SEC. 16-50J-77. REPORTING REQUIREMENTS

(a) SUPERVISORY PERSONNEL. THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL SUBMIT TO THE COUNCIL CONTACT INFORMATION FOR THE PERSONNEL OF THE CONTRACTOR ASSIGNED TO THE PROJECT.

(b) NOTICE.

(1) THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL PROVIDE THE COUNCIL, IN WRITING, WITH A MINIMUM OF TWO WEEKS ADVANCE NOTICE OF THE BEGINNING OF:

(A) CLEARING AND ACCESS WORK, AND

(B) CONSTRUCTION OF THE TOWER AND ASSOCIATED EQUIPMENT.

(2) THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL PROVIDE THE COUNCIL WITH ADVANCE WRITTEN NOTICE WHENEVER A SIGNIFICANT MODIFICATION OF THE APPROVED D&M PLAN IN NECESSARY INCLUDING, BUT NOT LIMITED TO, A CHANGE IN THE LOCATION OF THE TOWER, ASSOCIATED EQUIPMENT, GUY WIRES, OR ACCESS ROAD. THE COUNCIL, OR ITS DESIGNEE SHALL PROMPTLY REVIEW THE CHANGES, AND THE COUNCIL SHALL APPROVE, MODIFY, OR DISAPPROVE THE CHANGES IN ACCORDANCE WITH SUBSECTION (d) OF SECTION 16-50J-75 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES.

(3) THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL PROVIDE THE COUNCIL WITH A MONTHLY CONSTRUCTION PROGRESS REPORT, OR A CONSTRUCTION PROGRESS REPORT AT THE TIME INTERVALS DETERMINED BY THE COUNCIL, INDICATING CHANGES AND DEVIATIONS FROM THE APPROVED D&M PLAN. THE COUNCIL MAY APPROVE THE CHANGES AND DEVIATIONS OR REQUEST CORRECTIONS OR MITIGATING MEASURES.

(4) THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL PROVIDE THE COUNCIL WITH WRITTEN NOTICE OF COMPLETION OF CONSTRUCTION AND SITE REHABILITATION.

(c) FINAL REPORT. THE CERTIFICATE HOLDER, OR FACILITY OWNER OR OPERATOR, SHALL PROVIDE THE COUNCIL WITH A FINAL REPORT NOT LATER THAN 180 DAYS AFTER COMPLETION OF ALL SITE CONSTRUCTION AND SITE REHABILITATION. THIS FINAL REPORT SHALL IDENTIFY:

(1) ALL AGREEMENTS WITH ADJUTERS OR OTHER PROPERTY OWNERS REGARDING SPECIAL MAINTENANCE PRECAUTIONS;

(2) SIGNIFICANT MODIFICATIONS OF THE D&M PLAN THAT WERE REQUIRED BECAUSE OF THE PROPERTY RIGHTS OF UNDERLYING AND ADJOINING OWNERS OR FOR OTHER REASONS;

(3) THE LOCATION OF CONSTRUCTION MATERIALS WHICH HAVE BEEN LEFT IN PLACE IN THE FORM OF CULVERTS, EROSION CONTROL STRUCTURES ALONG WATERCOURSES AND STEEP SLOPES, AND CORDOY ROAD IN REGULATED WETLANDS;

(4) THE LOCATION OF SPECIAL AREAS WHERE SPECIAL PLANTING AND RESEEDING HAVE BEEN DONE; AND

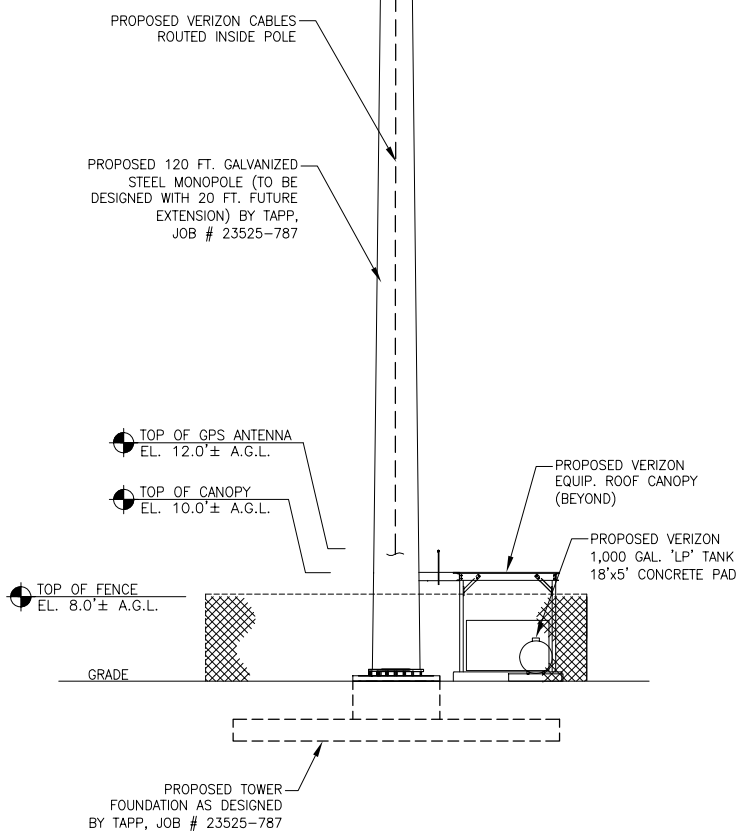
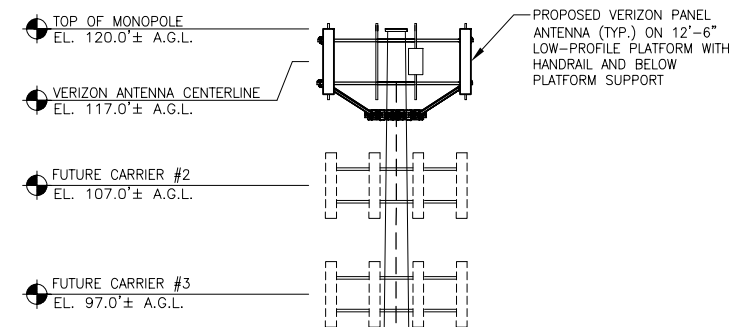
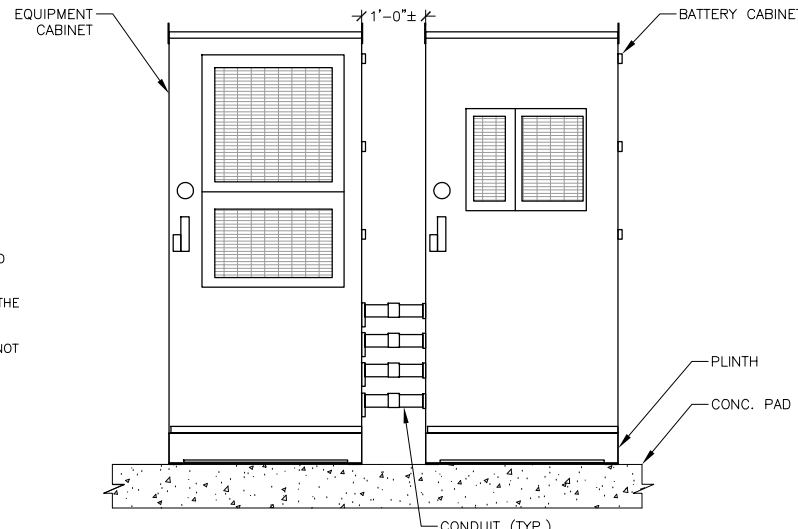
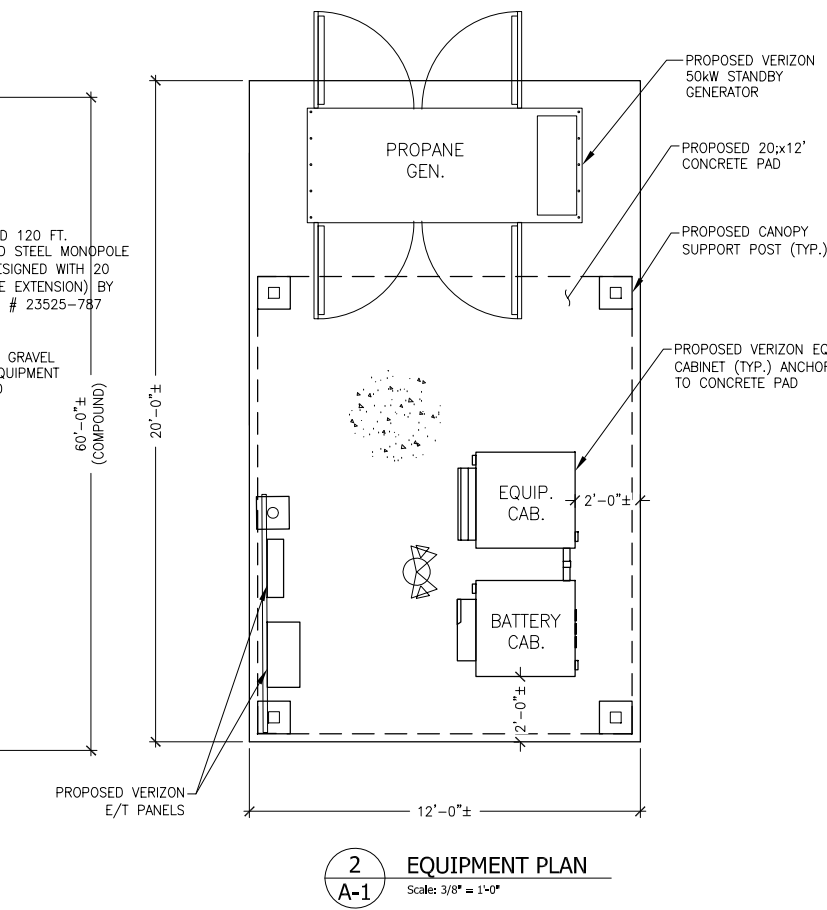
(5) AGREEMENTS BETWEEN THE CERTIFICATE HOLDER AND PUBLIC AGENCIES AUTHORIZING PUBLIC RECREATIONAL USE OF THE SITE TO THE EXTENT OF THE CERTIFICATE HOLDER'S PROPERTY RIGHTS THERETO.

(d) THE FINAL REPORT SHALL INCLUDE THE ACTUAL CONSTRUCTION COST OF THE TOWER AND ASSOCIATED EQUIPMENT, INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING COSTS:

(1) CONSTRUCTION OF THE TOWER AND ASSOCIATED EQUIPMENT;

(2) SITE REHABILITATION; AND

(3) PROPERTY ACQUISITION FOR SITE OR ACCESS TO SITE.



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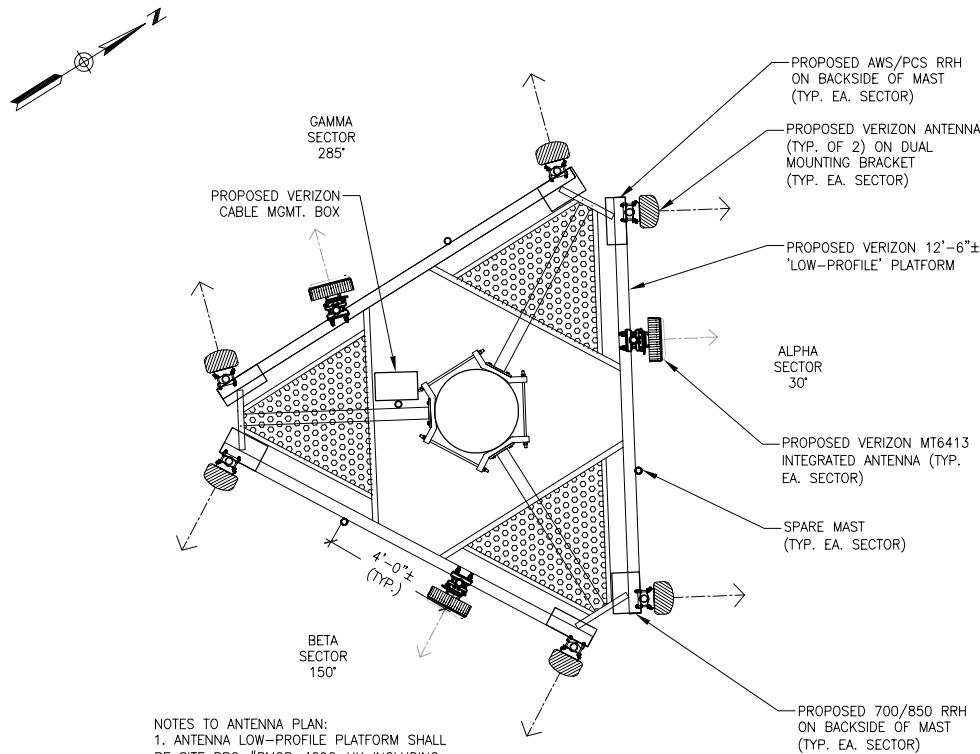
TARPON SITE ID NAME:
**CT1234
ANDOVER**

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
**COMPOUND PLAN,
EQUIPMENT PLAN
& ELEVATION**

SHEET NUMBER:
A-1



NOTES TO ANTENNA PLAN:
1. ANTENNA LOW-PROFILE PLATFORM SHALL BE SITE PRO #RMQP-4096-HK INCLUDING HANDRAIL AND BELOW PLATFORM SUPPORT
2. CONTRACTOR SHALL SET ALPHA PLATFORM FACE AT 30° AZIMUTH.
3. LAYOUT IS BASED ON VERIZON RFDS DATED 8-5-25

1 ANTENNA PLAN @ 117 FT. A.G.L.
Scale: 3/8" = 1'-0"



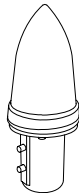
NHH65B-HG-R2B ANTENNA SPEC.			
HEIGHT	WIDTH	DEPTH	WEIGHT
71.9"	11.8"	7.1"	45.2 LBS

2 NHHSS/NHH ANTENNA DETAIL
Scale: N.T.S.



MT6413 ANTENNA SPECIFICATIONS			
HEIGHT	WIDTH	DEPTH	WEIGHT
28.9"	15.8"	5.51"	57.3 LBS

3 MT6413 ANTENNA DETAIL
Scale: N.T.S.



KS-24119L-112A GPS ANTENNA SPECIFICATION			
HEIGHT	WIDTH	DIAMETER	WEIGHT
5"	16.06"	3.17"	0.6 LBS

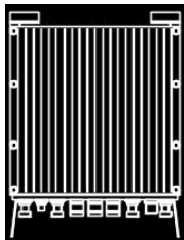
*ALL MOUNTING OPTIONS FIT PIPES OF 1"-1.45" MAX. DIA.

4 GPS ANTENNA DETAIL
Scale: 3/4" = 1'-0"



SAMSUNG RRH AWS/PCS ORAN MODEL: RF4801d-25A SPECIFICATION			
HEIGHT	WIDTH	DEPTH	WEIGHT
17.3"	21.8"	7.2"	87.9 LBS

5 RRH DETAIL - AWS/PCS
Scale: N.T.S.



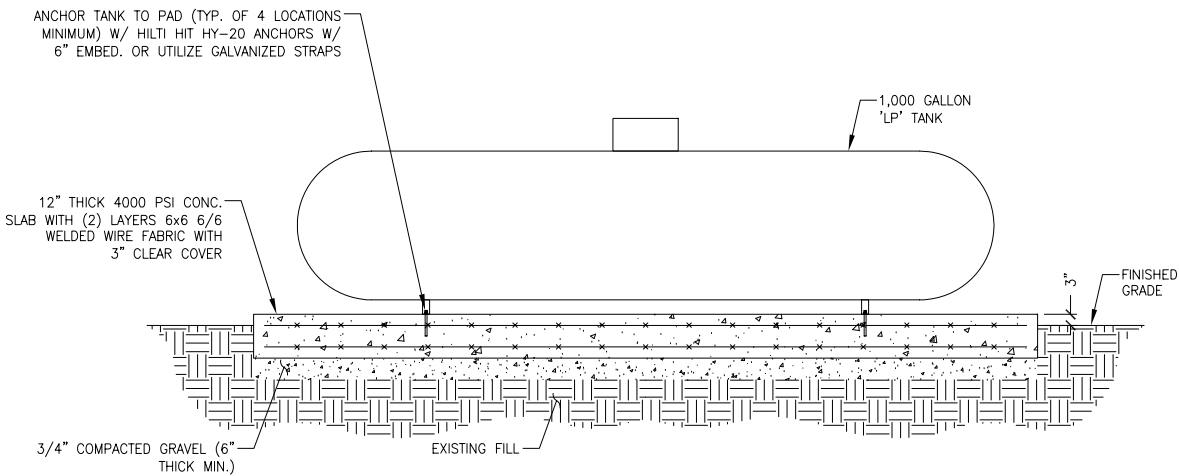
SAMSUNG RRH 700/850 ORAN MODEL: RF4461D-13A SPECIFICATION			
HEIGHT	WIDTH	DEPTH	WEIGHT
19.7"	14.9"	10.2"	79.2 LBS

6 RRH DETAIL - 700/850
Scale: N.T.S.



RAYCAP OVP SPECIFICATIONS			
HEIGHT	WIDTH	DEPTH	WEIGHT
28.9"	15.7"	10.3"	32 LBS

7 CABLE DIST. BOX DETAIL
Scale: N.T.S.

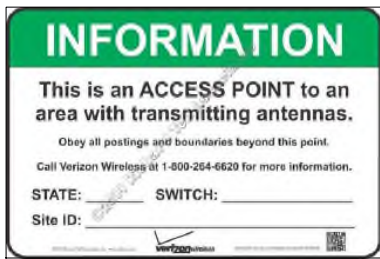


8 PROPANE TANK SECTION
Scale: 3/8" = 1'-0"



GENERAC GENERATOR SPECIFICATIONS				
MODEL #	LENGTH	WIDTH	HEIGHT	WEIGHT
SG050NA	94.8"	38.0"	57.5"	2,341 LBS

9 50KW GENERAC GAS GENERATOR
Scale: N.T.S.



NOTE:
1. "GREEN" INFORMATION SIGN SHALL BE LOCATED AT COMPOUND ENTRY LOCATION AND VERIZON EQUIPMENT.
2. SIGN MEASURES 12"Wx8"H

10 VERIZON INFORMATION SIGN
Scale: N.T.S.



NOTE:
1. "YELLOW" CAUTION SIGN SHALL BE LOCATED AT COMPOUND ENTRY LOCATION AND VERIZON EQUIPMENT.
2. SIGN MEASURES 12"Hx8"W

11 CAUTION SIGN
Scale: N.T.S.



TARPON TOWERS III
8916 77TH TERRACE EAST, SUITE 103
LAKEWOOD RANCH, FL 34202

Cellco Partnership
d/b/a Verizon Wireless



WIRELESS COMMUNICATIONS FACILITY
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492

On Air Engineering, LLC

88 Foundry Pond Road
Cold Spring, NY 10516
dwcinpahl@onaireng.com
201-456-4624

LICENSURE



DAVID WEINPAHL, P.E.
CT LIC. NO. 22144

NO.	DATE:	SUBMISSIONS
0	06.09.25	D&M PRELIM FOR NEPA FILING
1	08.11.25	REVISED FOR STORMWATER DESIGN
2	12.04.25	D&M FILING

DRAWN BY:	CHECKED BY:
AS	DW

TARPON SITE ID/NAME:
CT1234 ANDOVER

VERIZON SITE NAME:
ANDOVER CT

PROJECT INFORMATION:
**HURST FARM
746 EAST ST.
ANDOVER, CT 06232**

DRAWING TITLE:
ANTENNA PLAN & DETAILS

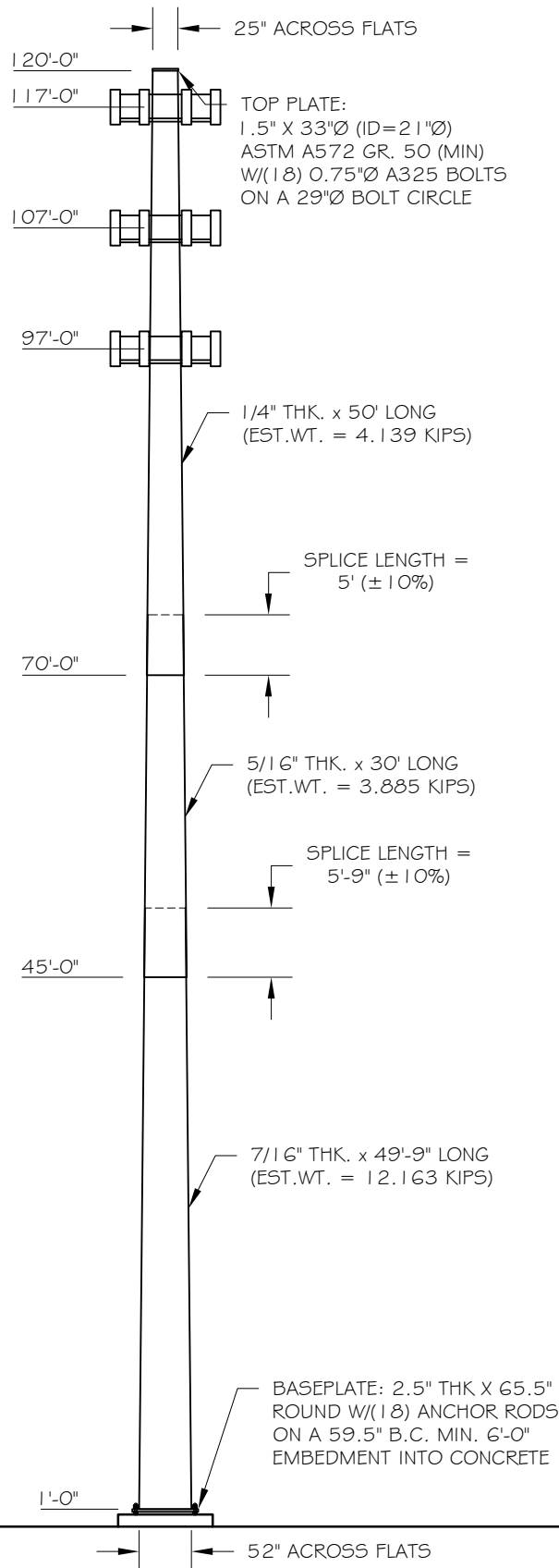
SHEET NUMBER:
A-2



TAPP

2427 Kelly Lane
Houston, Texas 77066
281-444-8277

QUALITY STEEL POLES. DELIVERED.



Page 1 of 3	Job Number: 23525-787
Eng: MFP	Customer Ref: TP-25264
	Date: 11/25/2025
Structure: 120-FT MONOPOLE	
Site: CT1234 ANDOVER	
Location: TOLLAND CO., CT / 41°43'10.7", -72°24'17.65"	
Owner: TARPON TOWERS III	
Revision No.: Revision Date:	

DESIGN			
Building Code: 2022 CONNECTICUT BUILDING CODE			
Design Standard: TIA-222-H			
Wind Speed Load Cases: ASCE-7-16 WIND SPEED			
Load Case #1: 120 MPH Design Wind Speed			
Load Case #2: 50 MPH Wind with 2" Ice Accumulation			
Load Case #3: 60 MPH Service Wind Speed			
Structure Class Risk Category II	Exposure Cat. C	Topography Cat. I	Crest Height

STRUCTURE MEETS THE MINIMUM REQUIREMENTS OF TIA-222-I

EQUIPMENT LIST	
Elev.	Description
117*	(6) NHH-65B-R2B + (3) MTG413-77A + (6) RRU + (2) RAYCAP
117*	MTSMC-HP12M-12-126 PLATFORM MOUNT
107	(6) NHH-65B-R2B + (3) MTG413-77A + (6) RRU + (2) RAYCAP
107	MTSMC-HP12M-12-126 PLATFORM MOUNT
97	(6) NHH-65B-R2B + (3) MTG413-77A + (6) RRU + (2) RAYCAP
97	MTSMC-HP12M-12-126 PLATFORM MOUNT

ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE

POLE DESIGNED FOR A MAX 49-FT FALL RADIUS

*POLE DESIGNED FOR AN EPA OF 42,000 IN2 AT 117'-0"

STRUCTURE PROPERTIES					
Cross-Section: 18-Sided			Taper: 0.23634 in/ft		
Shaft Steel: ASTM A572 GR 65			Baseplate Steel: ASTM A572 GR 50		
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0"					
Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	50.00	0.2500	5.00	25.00	36.82
2	30.00	0.3125	5.75	35.14	42.23
3	49.75	0.4375	0	40.24	52.00



BASE REACTIONS FOR FOUNDATION DESIGN

Moment: 5171 ft-kip

Shear: 54 kip

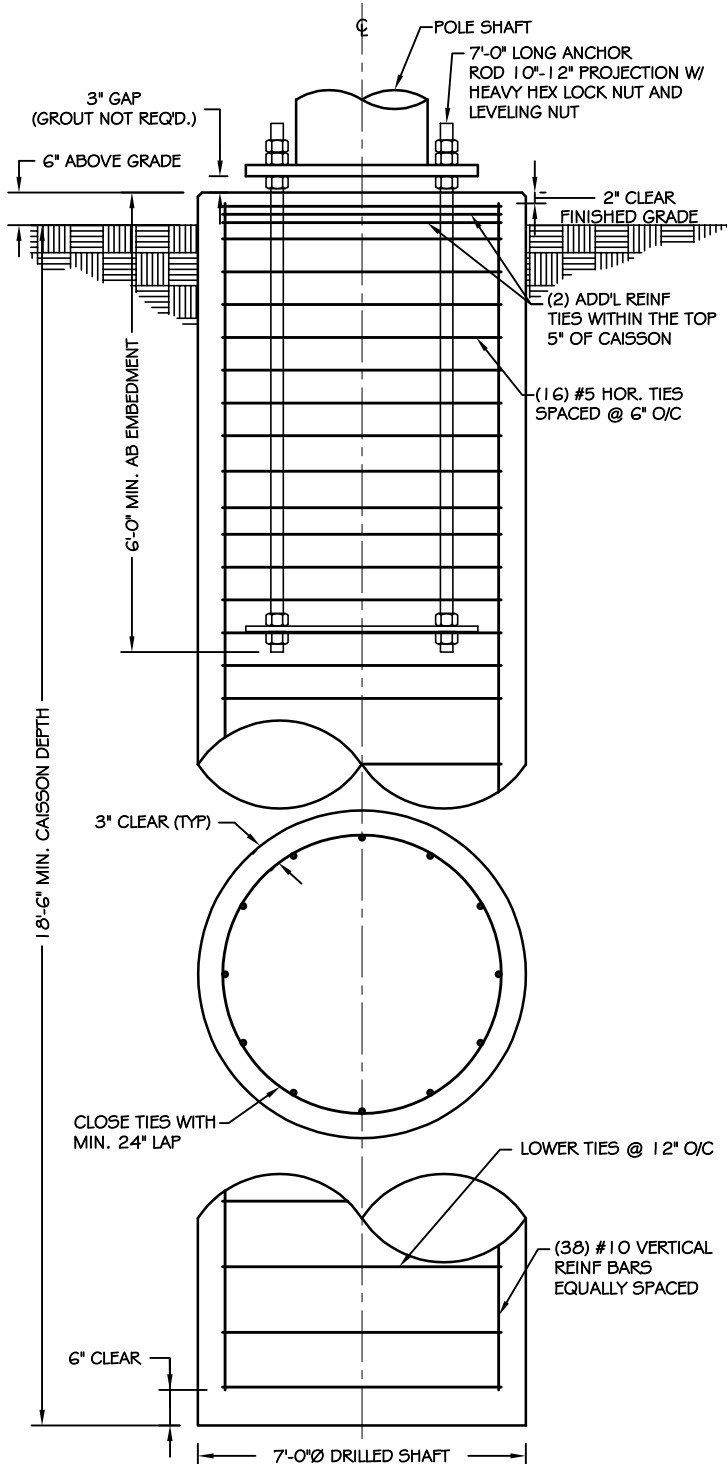
Axial: 39 kip



TAPP

2427 Kelly Lane
Houston, Texas 77066
281-444-8277

QUALITY STEEL POLES. DELIVERED.



CAISSON FOUNDATION

NOT TO SCALE

Page 2 of 3	Job Number: 23525-787
Eng: MFP	Customer Ref: TP-25264
	Date: 11/25/2025
Structure: 1 20-FT MONOPOLE	
Site: CT 1234 ANDOVER	
Location: TOLLAND CO., CT / 41°43'10.7", -72°24'17.65"	
Owner: TARPON TOWERS III	
Revision No.: Revision Date:	

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45. IN AREAS OF POTENTIAL FREEZING, CONCRETE SHALL BE AIR ENTRAINED 6% ($\pm 1.5\%$). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.
2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.
3. CAISSON FOUNDATION INSTALLATION SHALL BE IN ACCORDANCE WITH ACI 336, "STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF DRILLED PIERS", LATEST EDITION.
4. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.
5. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: WELTI GEOTECHNICAL, P.C.
REPORT NO.: N/A (DATED 11/24/25)
6. ESTIMATED CONCRETE VOLUME = 27 CUBIC YARDS.
7. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:
MOMENT: 5171 FT*KIPS
SHEAR: 54 KIPS
AXIAL: 39 KIPS
8. GEOTECHNICAL REPORT INDICATES GROUNDWATER MAY BE ENCOUNTERED AT 10'-0" BELOW GRADE.





TAPP

2427 Kelly Lane
Houston, Texas 77066
281-444-8277

QUALITY STEEL POLES. DELIVERED.

Page 3 of 3	Job Number: 23525-787
Eng: MFP	Customer Ref: TP-25264
	Date: 11/25/2025
Structure: 1 20-FT MONOPOLE	
Site: CT 1234 ANDOVER	
Location: TOLLAND CO., CT / 41°43'10.7", -72°24'17.65"	
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Revision No.: Revision Date:	

FOUNDATION NOTES:

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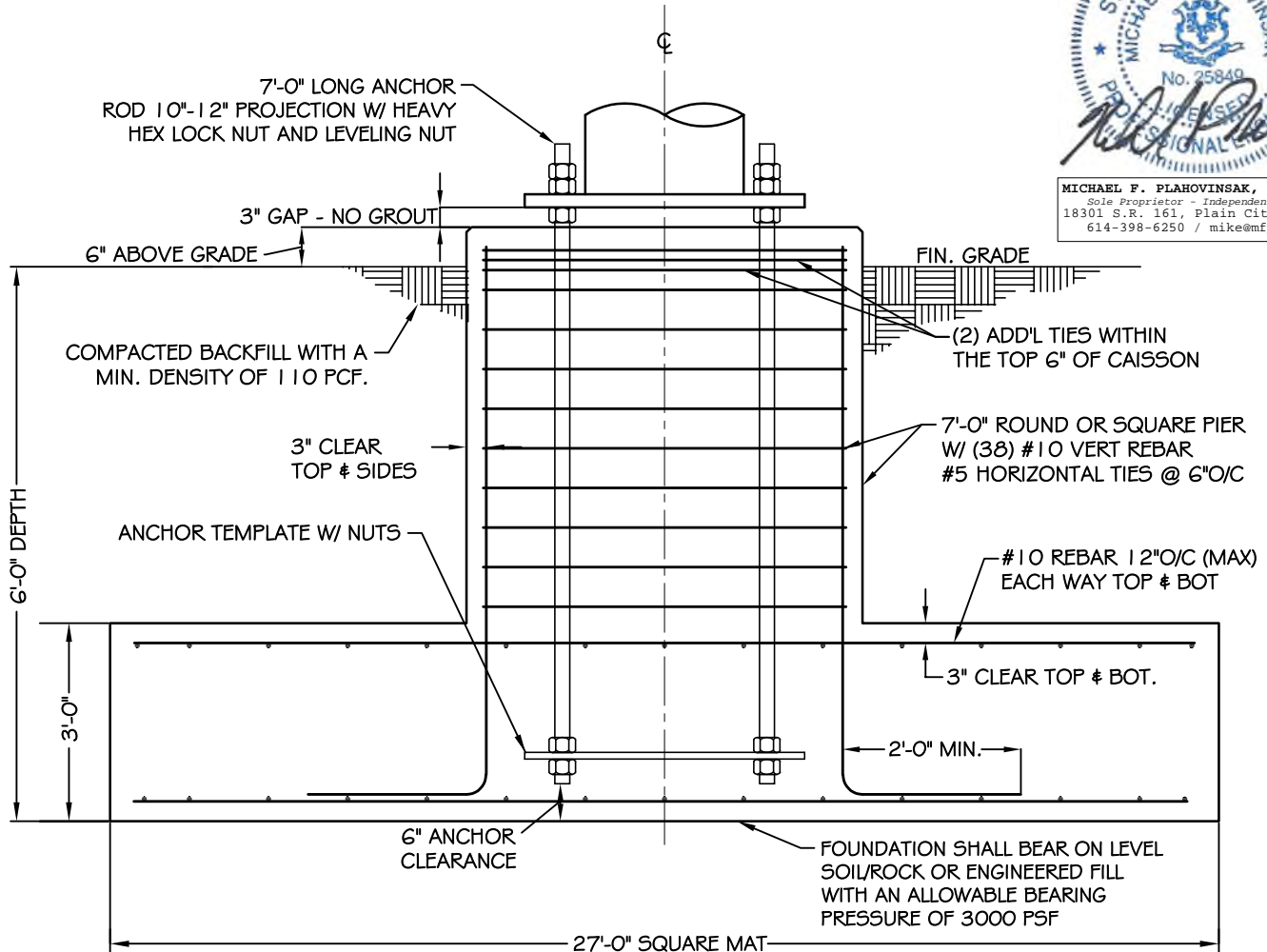
3. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.

4. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: WELTI GEOTECHNICAL, P.C.
REPORT NO.: N/A (DATED 11/24/25)

5. ESTIMATED CONCRETE VOLUME = 87 CUBIC YARDS.

6. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:

MOMENT: 5171 FT*KIPS
SHEAR: 54 KIPS
AXIAL: 39 KIPS



SPREAD FOOTING

NOT TO SCALE

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 120-ft Monopole - MFP #23525-787	Page 1 of 7
	Project CT1234 Andover	Date 06:33:01 11/25/25
	Client TP-25264	Designed by JC

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower base elevation above sea level: 650.00 ft.

Basic wind speed of 120 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 2.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	120.00-70.00	50.00	5.00	18	25.0000	36.8172	0.2500	1.0000	A572-65 (65 ksi)
L2	70.00-45.00	30.00	5.75	18	35.1355	42.2258	0.3125	1.2500	A572-65 (65 ksi)
L3	45.00-1.00	49.75		18	40.2419	52.0000	0.4375	1.7500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	It/Q in ²	w in	w/t
L1	25.3471	19.6391	1519.8824	8.7863	12.7000	119.6758	3041.7647	9.8214	3.9600	15.84
	37.3466	29.0161	4901.8550	12.9814	18.7032	262.0871	9810.1601	14.5108	6.0398	24.159
L2	36.8293	34.5401	5291.6741	12.3622	17.8488	296.4717	10590.3112	17.2733	5.6338	18.028
	42.8290	41.5728	9226.8021	14.8792	21.4507	430.1394	18465.7450	20.7903	6.8817	22.022
L3	42.1751	55.2733	11064.0552	14.1305	20.4429	541.2184	22142.6688	27.6419	6.3126	14.429
	52.7347	71.6010	24050.5121	18.3047	26.4160	910.4525	48132.6704	35.8073	8.3820	19.159

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 120.00-70.00				1	1	1			
L2 70.00-45.00				1	1	1			
L3 45.00-1.00				1	1	1			

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	120-ft Monopole - MFP #23525-787	Page	2 of 7
	Project	CT1234 Andover	Date	06:33:01 11/25/25
	Client	TP-25264	Designed by	JC

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _A A _A ft ² /ft	Weight plf
Safety Climb & Step Bolts Exposed	C	No	Yes	CaAa (Out Of Face)	120.00 - 1.00	1	No Ice	0.06	0.09
							1/2" Ice	0.14	0.63
							1" Ice	0.24	1.77
							2" Ice	0.44	5.90
**									
1 5/8"	C	No	Yes	Inside Pole	117.00 - 1.00	12	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
							2" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	107.00 - 1.00	12	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
							2" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	107.00 - 1.00	12	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
							2" Ice	0.00	0.92

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	120.00-70.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.750	1.34
L2	70.00-45.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	1.375	0.83
L3	45.00-1.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	2.420	1.46

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	120.00-70.00	A	2.220	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	24.076	1.71
L2	70.00-45.00	A	2.113	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	12.038	1.02
L3	45.00-1.00	A	1.930	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	20.245	1.75

<i>tnxTower</i> Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	120-ft Monopole - MFP #23525-787	Page	3 of 7
	Project	CT1234 Andover	Date	06:33:01 11/25/25
	Client	TP-25264	Designed by	JC

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
**									
Antennas + Mount (EPA 42,000 in2)	C	None		0.0000	117.00	No Ice	291.67	291.67	4.00
						1/2" Ice	350.00	350.00	5.00
						1" Ice	408.33	408.33	6.00
						2" Ice	524.99	524.99	8.00
**									
(2) Andrew NHH-65B-R2B w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	8.08	6.77	0.07
						1/2" Ice	8.53	7.72	0.13
						1" Ice	9.00	8.55	0.21
						2" Ice	9.95	10.26	0.38
Samsung MT6413-77A w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	4.14	2.33	0.09
						1/2" Ice	4.49	2.76	0.13
						1" Ice	4.85	3.21	0.17
						2" Ice	5.60	4.16	0.27
(2) Andrew NHH-65B-R2B w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	8.08	6.77	0.07
						1/2" Ice	8.53	7.72	0.13
						1" Ice	9.00	8.55	0.21
						2" Ice	9.95	10.26	0.38
Samsung MT6413-77A w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	4.14	2.33	0.09
						1/2" Ice	4.49	2.76	0.13
						1" Ice	4.85	3.21	0.17
						2" Ice	5.60	4.16	0.27
(2) Andrew NHH-65B-R2B w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	8.08	6.77	0.07
						1/2" Ice	8.53	7.72	0.13
						1" Ice	9.00	8.55	0.21
						2" Ice	9.95	10.26	0.38
Samsung MT6413-77A w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	107.00	No Ice	4.14	2.33	0.09
						1/2" Ice	4.49	2.76	0.13
						1" Ice	4.85	3.21	0.17
						2" Ice	5.60	4.16	0.27
(3) Samsung RF4461d-13A	A	From Face	2.00 0.00 0.00	0.0000	107.00	No Ice	1.87	1.28	0.08
						1/2" Ice	2.03	1.42	0.10
						1" Ice	2.21	1.57	0.12
						2" Ice	2.59	1.89	0.17
(3) Samsung RF4801d-25A RRU	B	From Face	2.00 0.00 0.00	0.0000	107.00	No Ice	3.13	1.04	0.09
						1/2" Ice	3.35	1.18	0.11
						1" Ice	3.58	1.33	0.14
						2" Ice	4.05	1.64	0.20
Raycap RRFDC-3315-PF-48 Surge Protector	C	From Face	2.00 0.00 0.00	0.0000	107.00	No Ice	3.36	1.34	0.03
						1/2" Ice	3.60	1.49	0.06
						1" Ice	3.84	1.65	0.09
						2" Ice	4.34	1.98	0.17
Raycap RTH-0306-PFC	A	From Face	2.00 0.00 0.00	0.0000	107.00	No Ice	1.00	0.56	0.02
						1/2" Ice	1.13	0.67	0.02
						1" Ice	1.26	0.78	0.04
						2" Ice	1.55	1.02	0.06
MTSMC-HP12M-12-126 Platorm	C	None		0.0000	107.00	No Ice	30.00	30.00	1.80
						1/2" Ice	35.00	35.00	2.60
						1" Ice	40.00	40.00	3.40
						2" Ice	50.00	50.00	5.00
**									
(2) Andrew NHH-65B-R2B w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	97.00	No Ice	8.08	6.77	0.07
						1/2" Ice	8.53	7.72	0.13
						1" Ice	9.00	8.55	0.21

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	120-ft Monopole - MFP #23525-787	Page	4 of 7
	Project	CT1234 Andover	Date	06:33:01 11/25/25
	Client	TP-25264	Designed by	JC

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Samsung MT6413-77A w/ mount pipe	A	From Face	3.00 0.00 0.00	0.0000	97.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	9.95 4.14 4.49 4.85 5.60	10.26 2.33 2.76 3.21 4.16	0.38 0.09 0.13 0.17 0.27
(2) Andrew NHH-65B-R2B w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	97.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	9.95 4.14 8.53 9.00 9.95	10.26 2.33 7.72 8.55 10.26	0.38 0.09 0.13 0.21 0.38
Samsung MT6413-77A w/ mount pipe	B	From Face	3.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.14 4.49 4.85 5.60	2.33 2.76 3.21 4.16	0.09 0.13 0.17 0.27
(2) Andrew NHH-65B-R2B w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	8.08 8.53 9.00 9.95	6.77 7.72 8.55 10.26	0.07 0.13 0.21 0.38
Samsung MT6413-77A w/ mount pipe	C	From Face	3.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.14 4.49 4.85 5.60	2.33 2.76 3.21 4.16	0.09 0.13 0.17 0.27
(3) Samsung RF4461d-13A	A	From Face	2.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.87 2.03 2.21 2.59	1.28 1.42 1.57 1.89	0.08 0.10 0.12 0.17
(3) Samsung RF4801d-25A RRU	B	From Face	2.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.13 3.35 3.58 4.05	1.04 1.18 1.33 1.64	0.09 0.11 0.14 0.20
Raycap RRFDC-3315-PF-48 Surge Protector	C	From Face	2.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.36 3.60 3.84 4.34	1.34 1.49 1.65 1.98	0.03 0.06 0.09 0.17
Raycap RTH-0306-PFC	A	From Face	2.00 0.00 0.00	0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.00 1.13 1.26 1.55	0.56 0.67 0.78 1.02	0.02 0.02 0.04 0.06
MTSMC-HP12M-12-126 Platorm	C	None		0.0000	97.00	No Ice 1/2" Ice 1" Ice 2" Ice	30.00 35.00 40.00 50.00	30.00 35.00 40.00 50.00	1.80 2.60 3.40 5.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 90 deg - No Ice
5	0.9 Dead+1.0 Wind 90 deg - No Ice
6	1.2 Dead+1.0 Wind 180 deg - No Ice
7	0.9 Dead+1.0 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	120-ft Monopole - MFP #23525-787	Page	5 of 7
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	Client	TP-25264	Designed by	JC

Comb. No.	Description
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	120 - 70	Pole	Max Tension	2	0.00	-0.00	-0.00
			Max. Compression	8	-41.60	-0.12	3.46
			Max. Mx	4	-16.49	-934.74	1.81
			Max. My	2	-16.50	-0.07	932.72
			Max. Vy	4	27.06	-934.74	1.81
			Max. Vx	2	-26.92	-0.07	932.72
			Max. Torque	5			2.35
L2	70 - 45	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-50.06	-0.12	3.44
			Max. Mx	4	-22.20	-1615.38	1.86
			Max. My	2	-22.21	-0.07	1609.99
			Max. Vy	4	29.04	-1615.38	1.86
			Max. Vx	2	-28.91	-0.07	1609.99
			Max. Torque	5			2.34
L3	45 - 1	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-72.62	-0.11	3.39
			Max. Mx	4	-38.96	-3158.51	1.89
			Max. My	2	-38.96	-0.07	3146.24
			Max. Vy	4	32.76	-3158.51	1.89
			Max. Vx	2	-32.63	-0.07	3146.24
			Max. Torque	5			2.34

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 70	13.667	12	1.0232	0.0001
L2	75 - 45	5.116	13	0.6826	0.0000
L3	50.75 - 1	2.253	13	0.4201	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.00	Antennas + Mount (EPA 42,000 in2)	12	13.036	1.0042	0.0026	40180
107.00	(2) Andrew NHH-65B-R2B w/ mount pipe	13	10.955	0.9393	0.0023	15454
97.00	(2) Andrew NHH-65B-R2B w/ mount pipe	13	8.954	0.8697	0.0019	8734

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job	120-ft Monopole - MFP #23525-787	Page	6 of 7
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Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	120 - 70	61.288	4	4.5824	0.0005
L2	75 - 45	22.959	4	3.0644	0.0002
L3	50.75 - 1	10.109	4	1.8856	0.0001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
117.00	Antennas + Mount (EPA 42,000 in2)	4	58.464	4.4978	0.0118	9106
107.00	(2) Andrew NHH-65B-R2B w/ mount pipe	4	49.145	4.2101	0.0101	3501
97.00	(2) Andrew NHH-65B-R2B w/ mount pipe	4	40.172	3.9010	0.0085	1977

Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	KL/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
L1	120 - 70 (1)	TP36.8172x25x0.25	50.00	0.00	0.0	28.0784	-16.49	1642.59	0.010
L2	70 - 45 (2)	TP42.2258x35.1355x0.3125	30.00	0.00	0.0	40.2249	-22.20	2353.15	0.009
L3	45 - 1 (3)	TP52x40.2419x0.4375	49.75	0.00	0.0	71.6010	-38.96	4188.66	0.009

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
L1	120 - 70 (1)	TP36.8172x25x0.25	934.75	1361.11	0.687	0.00	1361.11	0.000
L2	70 - 45 (2)	TP42.2258x35.1355x0.3125	1615.38	2306.88	0.700	0.00	2306.88	0.000
L3	45 - 1 (3)	TP52x40.2419x0.4375	3158.51	5385.31	0.587	0.00	5385.31	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T _u kip-ft	φT _n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	120 - 70 (1)	TP36.8172x25x0.25	27.06	492.78	0.055	2.33	1527.06	0.002
L2	70 - 45 (2)	TP42.2258x35.1355x0.3125	29.04	705.95	0.041	2.33	2507.20	0.001
L3	45 - 1 (3)	TP52x40.2419x0.4375	32.76	1256.60	0.026	2.32	5674.27	0.000

Michael F. Plahovinsak, P.E. 18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com	Job 120-ft monopole - MFP #23525-787	Page BP & AB Calc
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	Client TAPP TP-25264	Designed by Mike

Anchor Rod and Base Plate Calculation

TIA-222-H

Factored Base Reactions:	Pole Shape:	Anchor Rods:	Base Plate:
Moment: 3159 ft-kips	18-Sided	(18) 2.25 in. A615 GR. 75	2.5 in. x 65.5 in. Round
Shear: 33 kips	Pole Dia. (D_f):	Anchor Rods Evenly Spaced	$f_y = 50$ ksi
Axial: 39 kips	52.00 in	On a 59.5 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-H

$\phi_t, \phi_v =$	0.75	TIA 4.9.6
$I_{bolts} =$	7965.56	in ² Momet of Inertia
$P_u =$	139	kips Tension Force
$V_u =$	1.8	kips Shear Force
$R_{nt} =$	325.00	kips Nominal Tensile Strength
$R_{nv} =$	198.80	kips (0.5 x f_u x a_g)
Stress Rating =	57.2%	Satisfies TIA-H 4.9.9

Base Plate Calculation According to TIA-222-H

$\phi =$	0.90	TIA 4.7
$M_{PL} =$	335.2	in-kip Plate Moment
$L =$	9.1	in Section Length
$Z =$	14.2	Plastic Section Modulus
$M_P =$	709.0	in-kip Plastic Moment
$\phi M_n =$	638.1	in-kip Factored Resistance
<i>Calculated Moment vs Factored Resistance</i>		
	335.17 in-kip	\leq 638 in-kip
Stress Rating =	52.5%	

Anchor Rods Are Adequate	57.2% <input checked="" type="checkbox"/>
Base Plate is Adequate	52.5% <input checked="" type="checkbox"/>

Michael F. Plahovinsak, P.E. 18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com	Job	120-ft monopole - MFP #23525-787	Page	FND
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Caisson Calculation

According to TIA-222-H

- Foundation overturning resistance calculated with PLS Caisson, for Brom's method for rigid piles. Soil layers modeled after recommendations from the geotechnical report.
- Cohesion strength for the upper 21 ft has been reduced by 50%
- An additional load factor of 1.3 has been applied to the reinforcement design
- Foundation Loads Factored in Accordance with TIA-222-H
- Design water table = 10 ft below grade

*** PIER PROPERTIES		CONCRETE STRENGTH (ksi) = 4.50				STEEL STRENGTH (ksi) = 60.00			
		DIAMETER (ft) = 7.000		DISTANCE FROM TOP OF PIER TO GROUND LEVEL (ft) = 0.50					
*** SOIL PROPERTIES		LAYER	TYPE	THICKNESS (ft)	DEPTH AT TOP OF LAYER (ft)	DENSITY (pcf)	CU (psf)	KP	PHI (degrees)
		1	S	4.00	0.00	100.0		1.000	-0.00
		2	S	6.00	4.00	125.0		3.537	34.00
		3	S	0.50	10.00	63.0		3.537	34.00
		4	C	19.00	10.50	63.0	6000.0		
		5	C	20.50	29.50	63.0	10000.0		
*** DESIGN (FACTORED) LOADS AT TOP OF PIER		MOMENT (ft-k) = 5171.0				VERTICAL (k) = 39.0		SHEAR (k) = 54.0	
		ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 1.33							
*** CALCULATED PIER LENGTH (ft) = 19.000									
*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER									
TYPE	TOP OF LAYER BELOW TOP OF PIER (ft)	THICKNESS (ft)	DENSITY (pcf)	CU (psf)	KP	FORCE (k)	ARM (ft)		
S	0.50	4.00	100.0		1.000	16.80	3.17		
S	4.50	6.00	125.0		3.537	345.39	7.98		
S	10.50	0.50	63.0		3.537	43.29	10.75		
C	11.00	3.50	63.0	6000.0		1177.41	12.75		
C	14.50	4.50	63.0	6000.0		-1510.59	16.75		
*** SHEAR AND MOMENTS ALONG PIER									
		WITH THE ADDITIONAL SAFETY FACTOR				WITHOUT ADDITIONAL SAFETY FACTOR			
DISTANCE BELOW TOP OF PIER (ft)		SHEAR (k)		MOMENT (ft-k)		SHEAR (k)		MOMENT (ft-k)	
0.00		72.3		7014.9		54.2		5261.3	
1.90		70.2		7151.3		52.7		5363.6	
3.80		60.9		7277.0		45.7		5457.9	
5.70		13.2		7360.4		9.9		5520.4	
7.60		-81.2		7301.0		-60.9		5475.9	
9.50		-209.1		7030.5		-156.8		5273.0	
11.40		-467.6		6466.0		-350.7		4849.6	
13.30		-1106.0		4971.1		-829.5		3728.4	
15.20		-1276.8		2425.9		-957.6		1819.5	
17.10		-638.4		606.5		-478.8		454.9	
19.00		-0.0		0.0		-0.0		0.0	
*** TOTAL REINFORCEMENT PCT = 0.66		REINFORCEMENT AREA (in^2) = 36.58							
*** USABLE AXIAL CAP. (k) = 39.0		USABLE MOMENT CAP. (ft-k) = 5583.6							

For Design:

7-ft Diameter caisson x 19-ft long (18.5-ft Embeded with 0.5-ft above grade)
Concrete strength = 4500 PSI @ 28 days. Estimated Concrete Volume = 27 CY3.
(38) #10 Vertical Rebar. Steel Cross-Section = 48.26 in2

Pier and Pad Foundation

TIA-222 Revision:
Tower Type:

Top & Bot. Pad Rein. Different?: ☐
Block Foundation?: ☐
Rectangular Pad?: ☐

Superstructure Analysis Reactions		
Axial	39	kips
Shear	54	kips
Moment	5171	ft-kips
BP Dist. Above Fdn, bp_{dist}	6	in

Pier Properties		
Pier Shape:	Square	
Pier Diameter, dpier	7	ft
Ext. Above Grade, E	0.5	ft
Pier Rebar Size, Sc	10	
Pier Rebar Quantity, mc	38	
Pier Tie/Spiral Size, St	5	
Pier Tie/Spiral Quantity, mt	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}	3	in

Pad Properties		
Depth, D	6	ft
Pad Width, W₁	27	ft
Pad Thickness, T	3	ft
Pad Rebar Size (Bottom dir. 2), Sp₂	10	
Pad Rebar Quantity (Bottom dir. 2), mp₂	27	
Pad Clear Cover, cc_{pad}	3	in

Material Properties		
Rebar Grade, Fy	60	ksi
Concrete Compressive Strength, F'c	4.5	ksi
Dry Concrete Density, δc	150	pcf

Soil Properties		
Total Soil Unit Weight, γ	110	pcf
Ultimate Net Bearing, Qnet	6.000	ksf
Cohesion, Cu		ksf
Friction Angle, φ	20	degrees
SPT Blow Count, N_{blows}		
Base Friction, μ		
Neglected Depth, N		ft
Foundation Bearing on Rock?		
Groundwater Depth, gw	N/A	ft

Foundation Analysis Checks				
	Capacity	Demand	Rating	Check
Lateral (Sliding) (kips)	164.33	54.00	32.9%	Pass
Bearing Pressure (ksf)	5.00	4.74	94.9%	Pass
Overturning (kip*ft)	5684.44	5549.00	97.6%	Pass
Pier Flexure (Comp.) (kip*ft)	7623.13	5360.00	70.3%	Pass
Pier Compression (kip)	35085.96	69.87	0.2%	Pass
Pad Flexure (kip*ft)	4670.03	2677.69	57.3%	Pass
Pad Shear - 1-way (kips)	1013.76	367.79	36.3%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.201	0.000	0.0%	Pass
Flexural 2-way (Comp) (kip*ft)	5454.43	3216.00	59.0%	Pass

Soil Rating: **97.6%**
Structural Rating: **70.3%**

**3-ft Thick Mat Bearing
6-ft Below Grade**

**Allowable Bearing Pressure
of 3000 psf (S.F. = 2.0)**

**7-ft Round or Square Pier
with (38) #10 Vertical Rebar**

**#10 Rebar Spaced 12-in O/C (max)
Top & Bottom Both Ways**

Total Est Concrete = 87.4 yd3

<--Toggle between Gross and Net

WELTI GEOTECHNICAL, P.C.

227 Williams Street · P.O. Box 397
Glastonbury, CT 06033-0397

(860) 633-4623 / FAX (860) 657-2514

November 24, 2025

Mr. Brett Buggeln
Tarpon Towers, LLC
8916 77th Terrace East, Ste 103
Lakewood Ranch, FL 34202

Ref: Geotechnical Study for Proposed Cell Tower (CT1234), Hurst Farm, 746 East Street, Andover, CT

Dear Brett:

1.0 Herewith are the data from the test boring taken at the above referenced site. One boring was drilled at the proposed tower location to a depth of 17.5 feet below the existing grade. The boring was cored 5 feet into the bedrock. Two additional probes were drilled to auger refusal on bedrock at 11 and 14 feet below the existing grades. A boring/probe location plan is included with boring logs. *The boring was drilled by Clarence Welti Associates, Inc. and sampling was conducted by this firm solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.*

2.0 The **Subject Project** will include the construction of a 120-foot monopole tower.

3.0 The **Soils Cross Section** from the boring and probes is generally as follows:

Topsoil to 4" (surface boulders)

Subsoils; fine to medium SAND, some Silt, trace Roots and Gravel to 3 feet, loose

Moraine; fine to medium SAND, some Silt, trace Gravel, few Cobbles to the top of bedrock at 10 to 12.5 feet, dense

Weathered Rock to auger refusal on hard bedrock at 11 to 14 feet, very dense

Bedrock; Hebron Gneiss

Note: The rock taken from 12.5 to 17.5 feet had a recovery of 83% and an RQD value of 83%

The **groundwater** was 10 feet below the existing grade at the completion of the boring

4.0 In general the criteria for tower support is that the foundation capacity would exceed the loads, which might collapse the tower. **Movements from strains in the soils should be limited to differential settlement (or lateral movements of less than ½").**

5.0 The **foundation for the tower** can be with a large mat designed to prevent overturning by gravity resistance of the weight of the mat and soil cover. The mat foundation can be placed on the natural inorganic soils at least 4 feet below the existing grade. There should be a minimum 6" layer of 3/8" crushed stone beneath foundations on the natural soils. The **Allowable Bearing Pressure** on the crushed stone atop the natural soils can be 3.0 Tons/sf.

5.1 In **summary** the following soil properties and design values would apply to alternate 1.

Soil Property/Parameter	Value
Soil Unit Weight (Backfill)	125 pcf
Soil Unit Weight (Natural)	125 pcf
Soil Unit Weight Submerged (Natural)	63 pcf
Angle of Internal Friction (ϕ)	34°
Cohesion	0
Pull Out Angle from Vertical	30°
Sliding Coefficient	0.6
Frost Protection Depth (by code)	3.5 feet
Allowable Soil Bearing Pressure on the natural soil inorganic at 4+ feet below the existing grade	3.0 Tons/sf

6.0 Regarding **backfill of foundations**, the material should conform to the following or be 3/8" crushed stone.

Percent Passing	Sieve Size
100	3.5"
50 - 100	3/4"
25 – 85	No.4

The fraction, passing the No.4 sieve should have less than 15% passing the No. 200 sieve.

All backfill and fill must be compacted to at least 95% of modified optimum density in accordance with ASTM D-1557.

7.0 The soils at the subject site are generally in OSHA class C which would require excavations that are in excess of 5 feet to have slopes which are less than 34° (i.e., 1.5H to 1.0V).

8.0 This report has been prepared for specific application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. In the event that any changes in the nature, design and location of structures are planned, the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

Welti Geotechnical, P.C., should perform a general review of the final design and specifications in order that geotechnical design recommendations may be properly interpreted and implemented as they were intended.

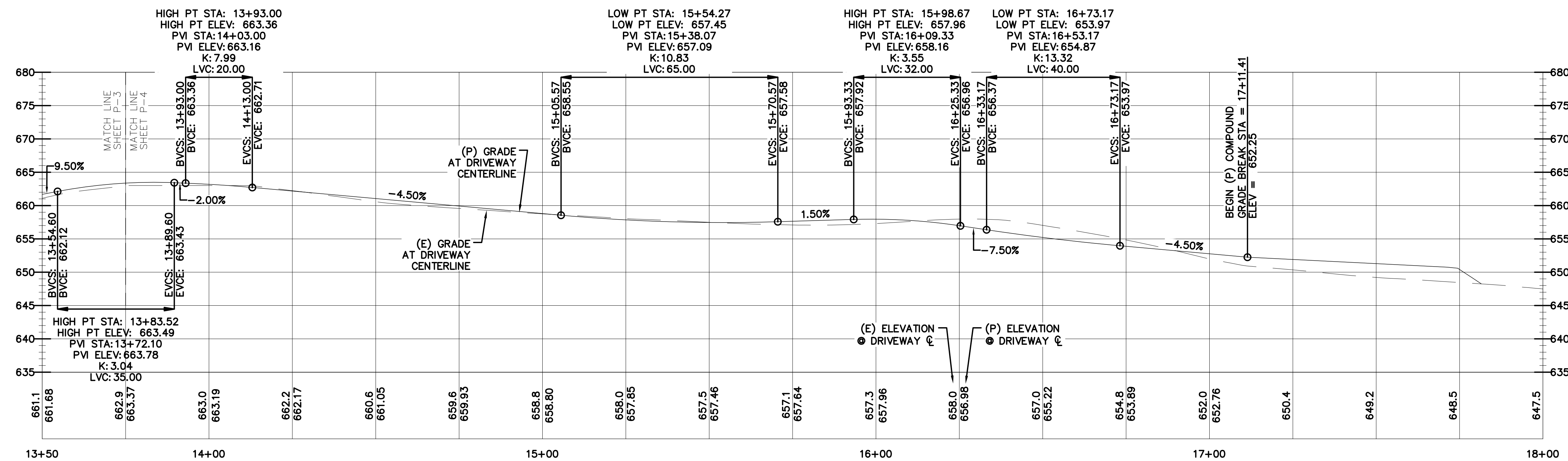
If you have any questions please call me.

Very truly yours,

A handwritten signature in cursive script that reads "Max Welti".

Max Welti, P. E.
President, Welti Geotechnical, P.C.

APPENDIX
TEST BORING LOCATION
+
TEST BORING DATA

[illegible]

DRAWN BY: AS	CHECKED BY: DW
---------------------	-----------------------

TARPON SITE ID/NAME:

CT1234

ANDOVER

VERIZON SITE NAME:

ANDOVER CT

PROJECT INFORMATION:
HURST FARM
746 EAST ST.
ANDOVER, CT 06232

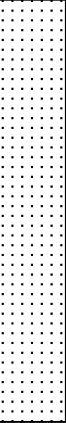
DRAWING TITLE:

FENCE & SITE
DETAILS

SHEET NUMBER: C-5

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT		PROJECT NAME PROPOSED TOWER CT1234			
				TARPON TOWERS		LOCATION 746 EAST STREET, ANDOVER, CT			
	AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.		HOLE NO. B-1	
TYPE	HSA		SS	NQ	LINE & STA.	GROUND WATER OBSERVATIONS		START DATE 11/19/25	
SIZE I.D.	3.75"		1.375"	2.0"	LONGITUDE	AT 10.0 FT. AFTER 0 HOURS			
HAMMER WT.			140lbs		LATITUDE	AT FT. AFTER HOURS		FINISH DATE 11/19/25	
HAMMER FALL			30"						
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS				ELEV.
	NO.	BLOWS/6"	DEPTH						
0	1	2-2-2-5	0.0'-2.0'		TOPSOIL (SURFACE BOULDERS) 0.33				
					BR.FINE-MED.SAND, SOME SILT, TRACE ROOTS & GRAVEL				
	2	3-60	2.0'-3.0'		BR.FINE-MED.SAND, SOME SILT, TRACE GRAVEL, FEW COBBLES 3.0				
5	3	10-25-29-36	5.0'-7.0'						
10	4	60	10.0'-10.3'		WEATHERED ROCK 10.5				
					CORED BEDROCK - GNEISS 12.5				
					RUN #1 12.5' - 17.5' RECOVERED 50" RQD=83%				
15									
					BOTTOM OF BORING @ 17.5' 17.5				
20									
25									
30									
35									
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: J. BREWER INSPECTOR:			
						SHEET 1 OF 1		HOLE NO. B-1	

[illegible]

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT		PROJECT NAME PROPOSED TOWER CT1234				
				TARPON TOWERS		LOCATION 746 EAST STREET, ANDOVER, CT				
	AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.		HOLE NO. P-2		
TYPE	HSA		SS		LINE & STA.	GROUND WATER OBSERVATIONS		START DATE 11/19/25		
SIZE I.D.	3.75"		1.375"		LONGITUDE	AT none FT. AFTER 0 HOURS				
HAMMER WT.			140lbs		LATITUDE	AT FT. AFTER HOURS		FINISH DATE 11/19/25		
HAMMER FALL			30"							
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS				ELEV.	
	NO.	BLOWS/6"	DEPTH							
0						PROBE TO BEDROCK				
5										
10					WEATHERED ROCK				10.0	
					BOTTOM OF PROBE @ 11.0' (AUGER REFUSAL ON BEDROCK)				11.0	
15										
20										
25										
30										
35										
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: T. CZMYR INSPECTOR:				
						SHEET 1 OF 1		HOLE NO. P-2		



Verizon Wireless
20 Alexander Dr
Wallingford, CT 06492

May 6, 2025

Melanie A. Bachman, Esq.
Executive Director/Staff Attorney
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

Re: **Docket No. 528 – Application of Tarpon Towers III, LLC and Cellco Partnership d/b/a Verizon Wireless for a Certificate of Environmental Compatibility and Public Need for the Construction, Maintenance and Operation of a Wireless Telecommunications Facility at 746 East Street, Andover, Connecticut.**

Dear Attorney Bachman:

In accordance with condition 2(a) of the Siting Council's Decision and Order ("D&O") in Docket No. 528, this letter serves as Verizon Wireless' commitment to install and operate on the approved Andover telecommunications facility upon completion of construction by Tarpon Towers III, LLC. Verizon Wireless anticipates that its equipment will be operational within the eighteen-month timeframe included in the Council's D&O.

Thank you for your consideration of this information.

Sincerely,

A handwritten signature in blue ink, appearing to read "Andrew Candiello".

[Andrew Candiello \(May 6, 2025 10:25 EDT\)](#)

Andrew Candiello

Associate Director – Real Estate/Regulatory