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Lucia Chiocchio
lchiocchio@cuddyfeder.com

10/29/2021

VIA ELECTRONIC MAIL & OVERNIGHT MAIL

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

Re: Docket No. 488: Homeland Towers LLC and
New Cingular Wireless PCS, LLC d/b/a AT&T
Development & Management Plan- Tower Facility at 93 Richards Road, Kent CT

Dear Executive Director Bachman:

This letter and enclosure are respectfully submitted on behalf of Homeland Towers LLC (“Homeland”), the certificate holder in Docket No. 488, in connection with the approved Development & Management Plan (“D&M Plan”) for the new tower facility approved in this Docket.

Please find enclosed for review updated D&M Plans prepared by All Points Technology last dated October 26, 2021. The enclosed plans depict two revisions. The first revision shown is for the underground utility route. Instead of following the path of the existing driveway at the site, the underground utilities will now be routed to the north of the tower facility access drive. Field investigations revealed the presence of ledge along the driveway and original utility route. To avoid chipping and/or blasting, the utility route was relocated to the area shown on the enclosed plans so that burying the utilities only involves trenching. The revised utility route does not require any tree clearing. After the utility route was relocated, Homeland asked its cultural resources management consultant to review the area, and they confirmed that the utility trenching would have no impact to cultural resources due the highly disturbed nature of the area.

The second revision includes the relocation of the tower hinge point from 51’ AGL to 80’ AGL on the 135’ tall tower. In the unlikely event of a tower failure, with a hinge point at 80’ AGL, the top 55’ of tower would fall onto the property well within the closest property line setback of 84’. The



10/29/21
Page 2 of 2

80'AGL hinge point would also ensure that a future potential 20' tower extension is also contained within the property line setback.

Thank you for your consideration of this information. Should you have any questions or require additional information, please do not hesitate to contact me.

Sincerely,

A handwritten signature in blue ink that reads 'Lucia Chiochio'.

Lucia Chiochio

Enclosure

cc: Homeland
AT&T
Service List



HOMELAND TOWERS, LLC
WIRELESS TELECOMMUNICATIONS FACILITY
KENT
93 RICHARDS ROAD
KENT, CT 06785

HOMELAND TOWERS, LLC
 9 HARMONY STREET
 2ND FLOOR
 DANBURY, CT 06810
 (203) 297-6345

at&t
 340 MOUNT KEMBLE AVENUE
 MORRISTOWN, NEW JERSEY 07960

ALL-POINTS
 TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
 WATERFORD, CT 06385 PH: (860)-663-1697
 WWW.ALLPOINTSCTECH.COM FAX: (860)-663-0935

D&M DOCUMENTS		
NO	DATE	REVISION
0	05/18/21	FOR REVIEW: RCB
1	06/03/21	CLIENT REVS: RCB
2	06/09/21	CLIENT REVS: RCB
3	10/15/21	CLIENT REVS: RCB
4	10/26/21	CLIENT REVS: RCB
5		
6		
7		
8		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS, P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS KENT

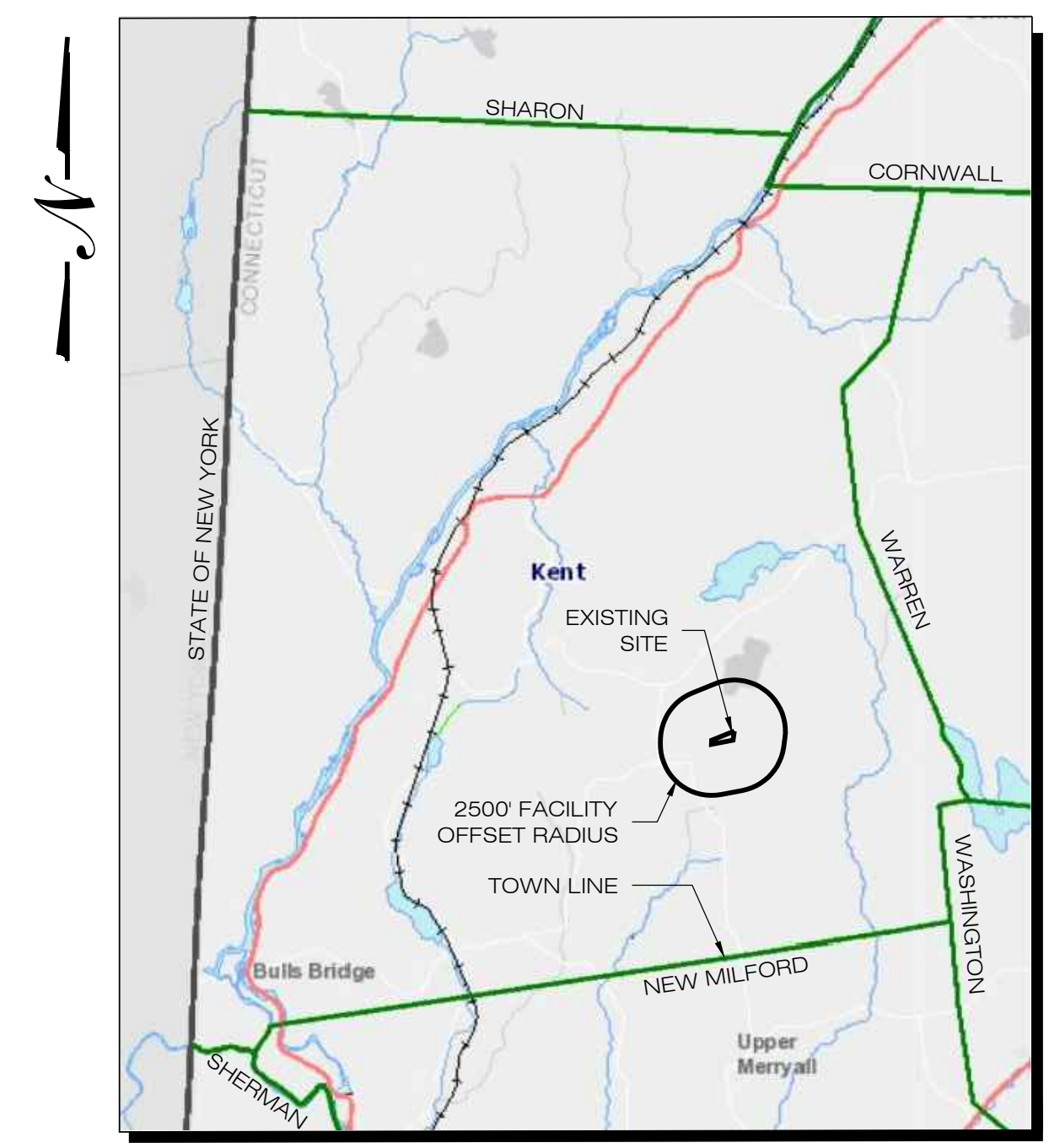
SITE ADDRESS: 93 RICHARDS ROAD KENT, CT 06785
APT FILING NUMBER: CT283180
DATE: 05/18/21 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:

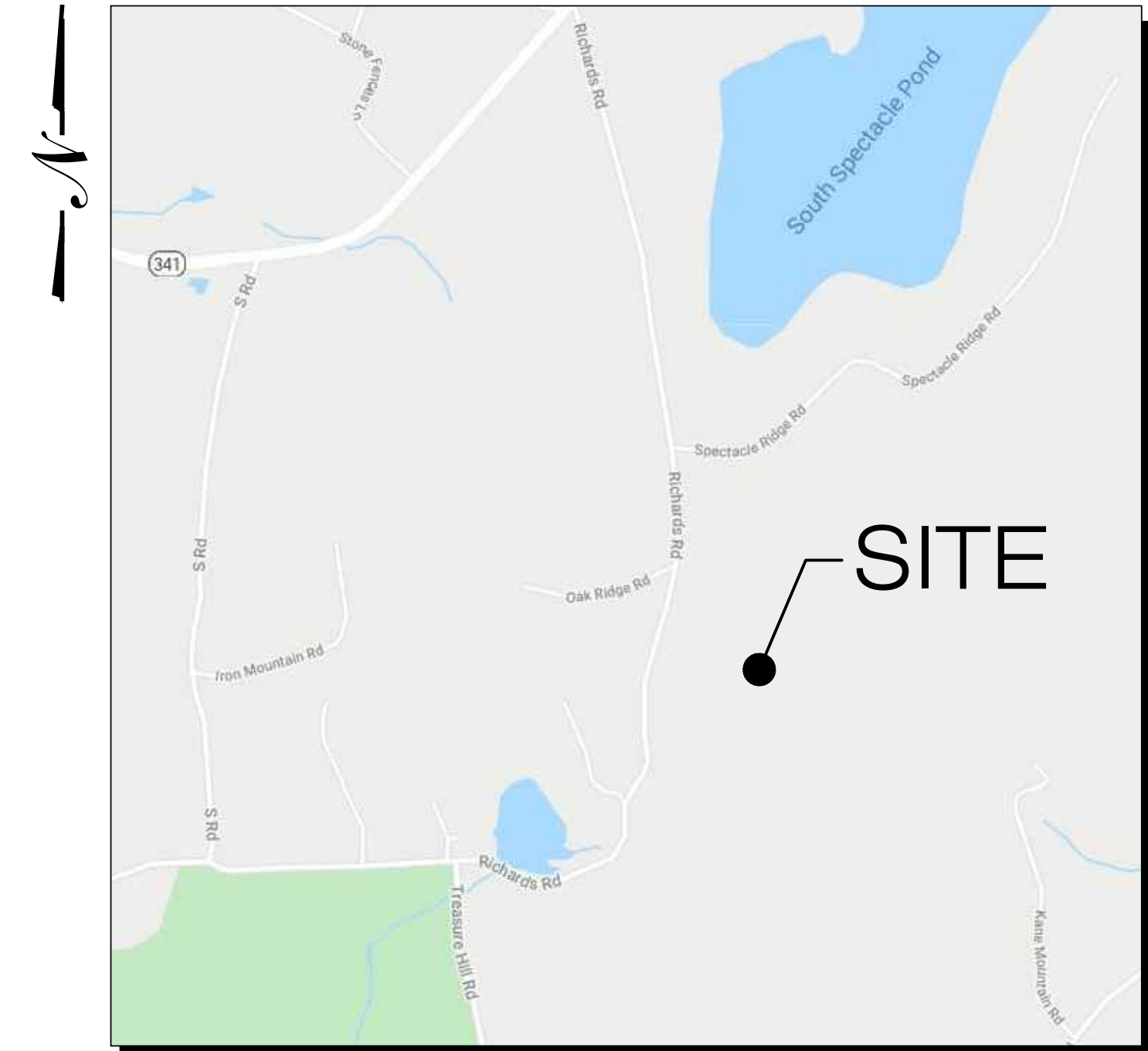
TITLE SHEET & INDEX

SHEET NUMBER:

T-1



MUNICIPAL NOTIFICATION LIMIT MAP
SCALE: 1" = 1.5 Miles



VICINITY MAP
SCALE: 1" = 500'

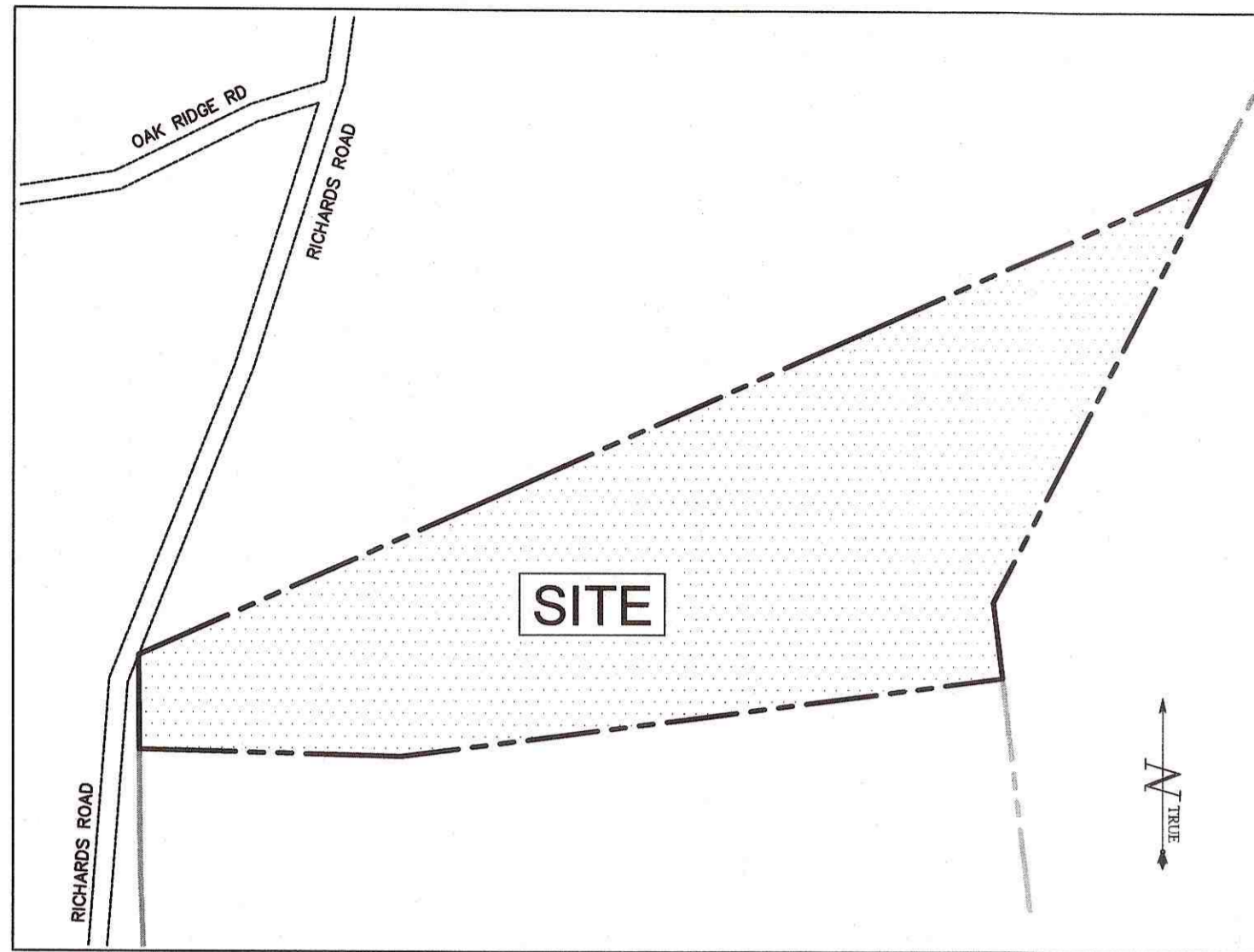
DRAWING INDEX

- T-1 TITLE SHEET & INDEX
- EX-1 EXISTING CONDITIONS SURVEY
- SP-1 SITE PLAN & ABUTTERS MAP
- CP-1 COMPOUND PLAN
- GR-1 GRADING & LANDSCAPING PLANS
- A-1 TOWER ELEVATION
- C-1 SITE DETAILS
- C-2 SITE DETAILS
- C-3 AT&T EQUIPMENT PLAN & DETAILS
- C-4 AT&T ANTENNA PLAN & DETAILS
- C-5 MUNICIPAL ANTENNA PLANS & DETAILS
- S-1 STRUCTURAL PLAN & DETAILS
- EC-1 EROSION CONTROL NOTES
- N-1 & N-2 NOTES & SPECIFICATIONS

SITE INFORMATION

PROJECT LOCATION: 93 RICHARDS ROAD KENT, CT 06785
PROJECT DESCRIPTION: RAWLAND SITE W/ GROUND EQUIPMENT WITHIN 6,075 SF TELECOMMUNICATIONS LEASE AREA W/ NEW 135'± AGL MONOPOLE.
PROPERTY DEVELOPER: HOMELAND TOWERS, LLC 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810
DEVELOPER CONTACT: RAY VERGATI (203) 297-6345
ENGINEER CONTACT: ROBERT C. BURNS, P.E. (860) 582-2036
LATITUDE: 41° 42' 31.000"N
LONGITUDE: 73° 25' 13.710"W
ELEVATION: 1,345.5'± AMSL
MAP: 17
BLOCK: 25
LOT: 1
ZONE: RURAL DISTRICT

OWNER: JASON & JENNIFER DUBRAY, 93 RICHARDS ROAD, KENT, CT 06785
APPLICANTS: HOMELAND TOWERS, LLC, 9 HARMONY STREET, 2ND FLOOR, DANBURY, CT 06810; AT&T, 340 MOUNT KEMBLE AVE., MORRISTOWN, NJ 07960
HOMELAND PROJECT ATTORNEY: CUDDY & FEDER, LLP, 445 HAMILTON AVENUE, 14TH FLOOR, WHITE PLAINS, NY 10601, (914) 761-1300
POWER PROVIDER: EVERSOURCE, (860) 496-5234, UTILITY APPLICATION #4944909
TELCO PROVIDER: FRONTIER (800) 921-8102
CALL BEFORE YOU DIG: (800) 922-4455
GOVERNING CODES: CONNECTICUT STATE BUILDING CODE, LATEST EDITION; NATIONAL ELECTRIC CODE, LATEST EDITION; TIA-222-H



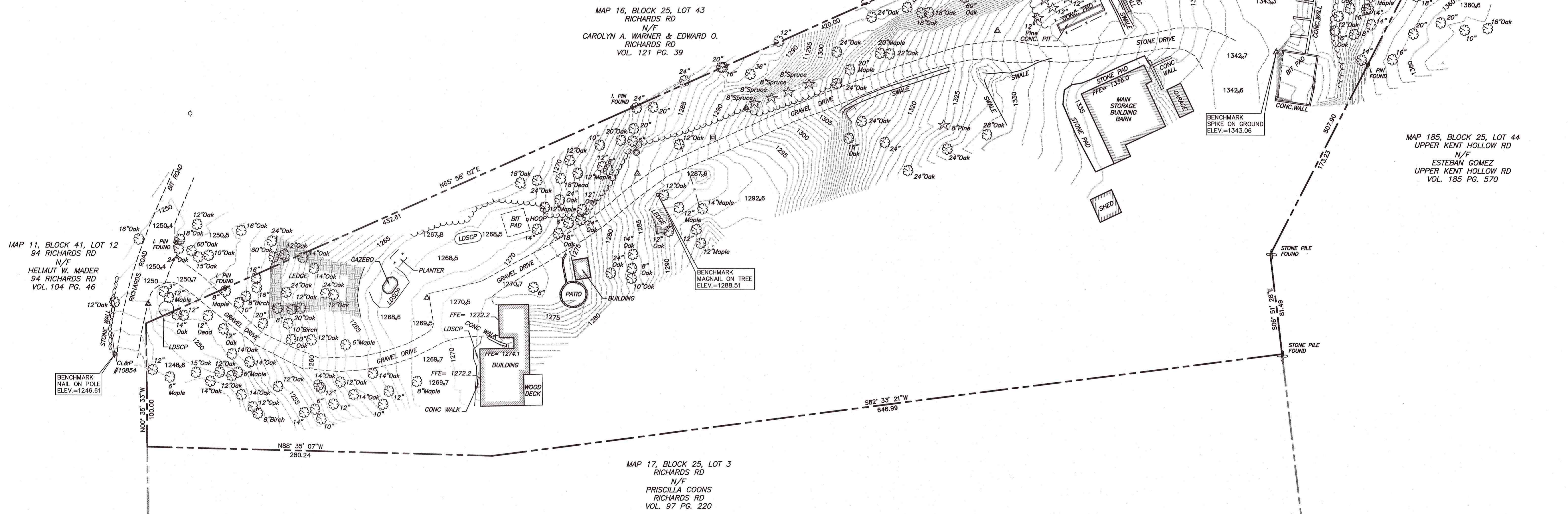
LOCATION MAP
(NOT IN SCALE)

NOTES

- 1) NORTH ORIENTATION AND COORDINATES REFER TO NAD 83.
- 2) ELEVATIONS BASED ON NAVD 1988.
- 1) PARCEL OWNER OF RECORD: JENNIFER DUBRAY & JASON
93 RICHARDS RD
KENT, CT
VOL. 94 PAG. 579
- 4) PARCEL AREA: 297,100.54SQ. FT., 6.821 ACRES.
- 5) PARCEL IS IN THE RURAL ZONING DISTRICT
- 6) PARCEL ID: MAP 17, BLOCK 25, LOT 01 PER THE TOWN OF KENT ASSESSOR MAPPING
- 7) PARCEL IS IN ZONE C FIRM FLOOD INSURANCE RATE MAP, TOWN OF KENT, CONNECTICUT LITCHFIELD COUNTY, PANEL 12 OF 15, COMMUNITY PANEL NUMBER 0901860012B, EFFECTIVE DATE: MARCH 4, 1980 BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.

MAP REFERENCES

- 1) HOMELAND TOWERS: CT 757 - KENT, CT 757 - KENT, RICHARDS ROAD, SOUTH KENT, CT 06785-1319, SITE PLAN, SCALE: 1" = 200'-0"
- 2) SUBDIVISION PLAN PREPARED FOR MARJORIE E. RICHARDS, RICHARDS ROAD, KENT, CONNECTICUT, SCALE 1" = 100', NOV. 1989, REVISED DEC. 6, 1989.
- 3) SUBDIVISION PLAN PREPARED FOR CAMP KENT ASSOCIATES, RICHARDS ROAD, KENT, CONNECTICUT, SCALE 1" = 100', FEBRUARY, 1985
- 4) MAP PREPARED FOR MARJORIE E. RICHARDS ET AL., RICHARDS ROAD AND TREASURE HILL ROAD, KENT, CONNECTICUT, SCALE 1" = 100', JUNE, 194.
- 5) PROPERTY OF LINO P. RIDOLFI & LOUIS J. SKROVANEK, KENT HOLLOW, KENT, CONNECTICUT, DECEMBER, 1965.



MAP 11, BLOCK 41, LOT 12
94 RICHARDS RD
N/F
HELMUT W. MADER
94 RICHARDS RD
VOL. 104 PG. 46

MAP 16, BLOCK 25, LOT 43
RICHARDS RD
N/F
CAROLYN A. WARNER & EDWARD O.
RICHARDS RD
VOL. 121 PG. 39

MAP 185, BLOCK 25, LOT 44
UPPER KENT HOLLOW RD
N/F
ESTEBAN GOMEZ
UPPER KENT HOLLOW RD
VOL. 185 PG. 570

MAP 17, BLOCK 25, LOT 3
RICHARDS RD
N/F
PRISCILLA COONS
RICHARDS RD
VOL. 97 PG. 220

THIS SURVEY AND MAP HAS BEEN PREPARED IN ACCORDANCE WITH SECTIONS 20-300B-1 THRU 20-300B-20 OF THE REGULATIONS OF CONNECTICUT STATE AGENCIES - "MINIMUM STANDARDS FOR SURVEYS AND MAPS IN THE STATE OF CONNECTICUT" AS ENDORSED BY THE CONNECTICUT ASSOCIATION OF LAND SURVEYORS, INC. ON SEPT. 26, 1996. IT IS A LIMITED TOPOGRAPHIC / BOUNDARY SURVEY AND IS BASED UPON A DEPENDENT RESURVEY CONFORMING TO HORIZONTAL ACCURACY CLASS A-2 AND A VERTICAL ACCURACY OF CLASS T-2 AND IS INTENDED TO BE USED FOR THE PURPOSE OF SHOWING EXISTING CONDITIONS AND PROPERTY LINE INFORMATION. TO THE BEST OF MY KNOWLEDGE AND BELIEF THIS MAP IS SUBSTANTIALLY CORRECT AS NOTED HEREON.



A. RAFAEL MARTINEZ LICENSED LAND SURVEYOR DATE 10/21/19

SYMBOLS LEGEND

▲	Traverse	---	Property Line
●	Deciduous Tree	---	Existing Road
☆	Coniferous Tree	- x - x -	Fence Line
○	Iron Pin	~ ~ ~ ~ ~	Stone Wall
□	"CL" Catch Basin	~ ~ ~ ~ ~	Tree Line
⊙	Manhole	~ ~ ~ ~ ~	Contour Line
⊞	Hand hole	1293.6	Spot Grade
⊕	Stone Pile		

HOMELAND TOWERS SITE NUMBER: CT-757-KENT APT FILING NUMBER: CT-283-180	PERMITTING DOCUMENTS CT-757-KENT 93 RICHARDS ROAD SOUTH KENT, CT 06785	EXISTING CONDITIONS SURVEY
	DESIGN TYPE: RAW LAND	APT FILING NUMBER: CT-283-180 APT DRAWING NUMBER: CT - 757 - KENT DRAWN BY: KKS CHECKED BY: JPB
REVISIONS: REV.0: REV.1: REV.2: REV.3: REV.4: REV.5:	SCALE: 1"=40' DATE: 10/21/19	SHEET NUMBER: EX-1

ALL-POINTS TECHNOLOGY CORPORATION
 3 SADDLEBROOK DRIVE
 KILLINGWORTH, CT 06419
 PHONE: (860)-663-1697
 FAX: (860)-663-0935
 WWW.ALLPOINTSTECH.COM

SITE AREAS & VOLUMES OF EARTHWORK

SITEWORK ENTAILS APPROXIMATELY NET 125 CUBIC YARDS OF EXCAVATION. THE COMPOUND AND ROADWAY WILL IMPORT APPROXIMATELY 100 CUBIC YARDS OF CLEAN BROKEN STONE. THE UTILITY TRENCH FROM THE DEMARC TO THE COMPOUND WILL EXCAVATE APPROXIMATELY 500 CUBIC YARDS OF MATERIAL THAT WILL BE USED TO BACKFILL THE TRENCH.

COMPOUND AREA SLOPES:
 EXISTING - 5%-1%
 PROPOSED - 5%-1%

TOTAL AREA OF DISTURBANCE = 17,150± SF

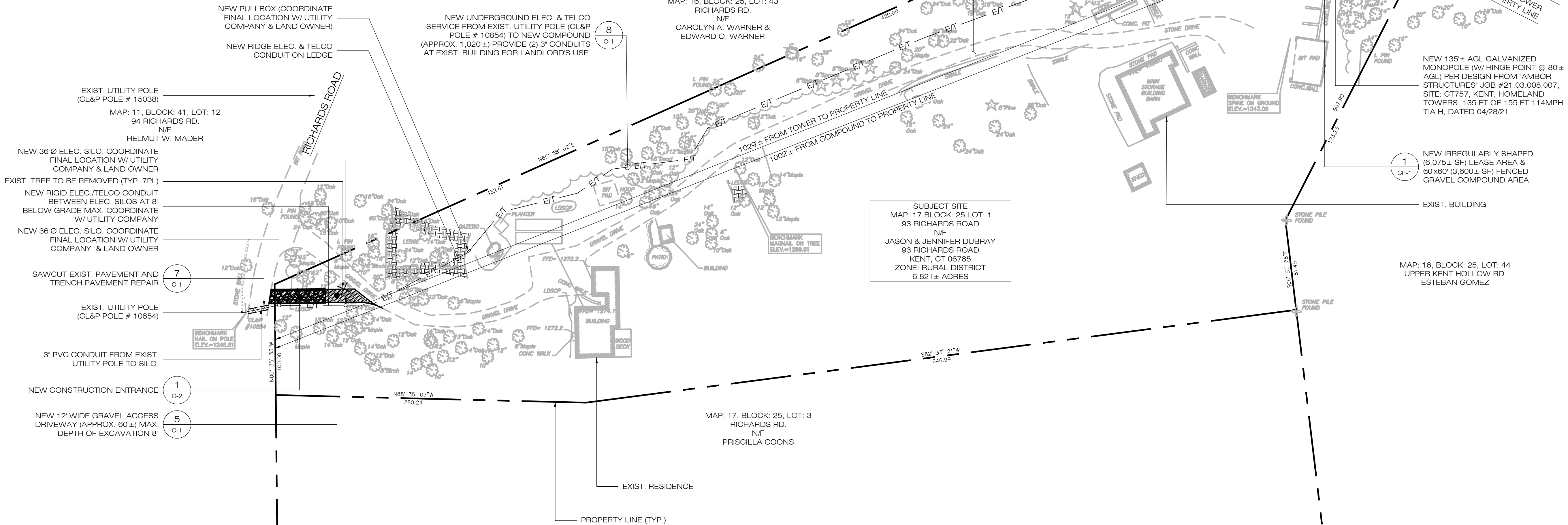
STORMWATER VELOCITY:
 PRIOR TO GROUND COVER < 3.0 FT/SEC
 FOLLOWING GROUND COVER < 3.0 FT/SEC

STORMWATER VOLUME:
 PROPOSED IMPERVIOUS AREA = 5,520 SF
 WATER QUALITY STD VOLUME (1") = 460 CF
 STORAGE VOLUME (6" DEPTH, 40% VOIDS) = 720 CF

GROUND COVER TO BE ESTABLISHED AS FOLLOWS (U.O.N):
 - WHITE CLOVER @ 0.20#/- SF
 - TALL FESCUE @ 0.45#/- SF
 - RYEGRASS @ 0.10#/- SF

NOTE:
 7 TREES WILL NEED TO BE REMOVED IN CONSTRUCTION OF THE FACILITY.

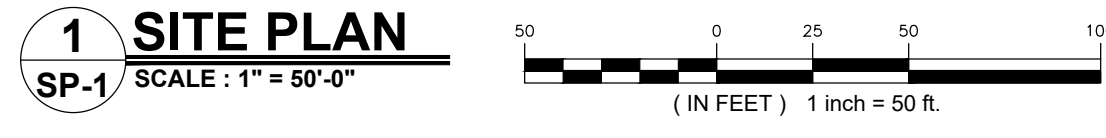
NOTE:
 SEE SHEET GR-1 FOR NEW DRIVEWAY & COMPOUND GRADING PLANS.



LEGEND

---	PROPERTY LINE
E/T	NEW UNDERGROUND ELECTRICAL/TELCO.
SF	NEW SILT FENCE
X	REMOVE EXIST. TREE

MAP REFERENCES:
 1. "EX-1, EXISTING CONDITIONS SURVEY PLAN", SHEET 1 OF 1, PREPARED BY MARTINEZ COUCH & ASSOCIATES, LLC, DATED 10/21/19



ENGINEERING ANALYSIS AND CERTIFICATION

IN ACCORDANCE WITH THE 2018 CONNECTICUT STATE BUILDING CODE AND THE TELECOMMUNICATIONS INDUSTRY ASSOCIATION STANDARD TIA-222-H "STRUCTURAL STANDARD FOR ANTENNA SUPPORT STRUCTURES AND ANTENNAS" FOR FAIRFIELD COUNTY, THE TOWER WOULD BE DESIGNED TO WITHSTAND PRESSURES EQUIVALENT TO A MAXIMUM 125 MPH ULTIMATE BASIC WIND SPEED EQUIVALENT TO 97 MPH NOMINAL BASIC WIND SPEED PER REPORT PREPARED BY AMBOR STRUCTURES' JOB #21.03.008.007, SITE: CT757, KENT, HOMELAND TOWERS, 135 FT OF 155 FT. 114MPH TIA H, DATED 04/28/21. THE FOUNDATION DESIGN WOULD BE BASED ON SOIL CONDITIONS AT THE SITE.

HOMELAND TOWERS, LLC
 9 HARMONY STREET
 2ND FLOOR
 DANBURY, CT 06810
 (203) 297-6345

at&t
 340 MOUNT KEMBLE AVENUE
 MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
 567 VAUXHALL STREET EXTENSION - SUITE 311
 WATERFORD, CT 06385 PH: (860) 663-1697
 WWW.ALLPOINTSTECH.COM FAX: (860) 663-0935

D&M DOCUMENTS

NO	DATE	REVISION
0	05/18/21	FOR REVIEW: RCB
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8		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
 COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
 ADD: 567 VAUXHAUL STREET EXTENSION - SUITE311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
 ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS KENT

SITE ADDRESS: 93 RICHARDS ROAD KENT, CT 06785

APT FILING NUMBER: CT283180

DATE: 05/18/21 DRAWN BY: CSH CHECKED BY: RCB

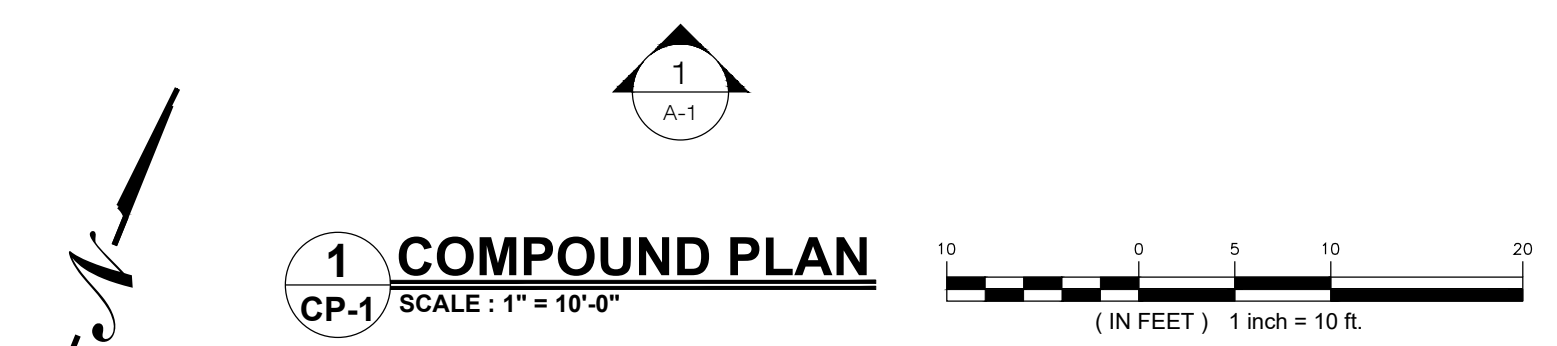
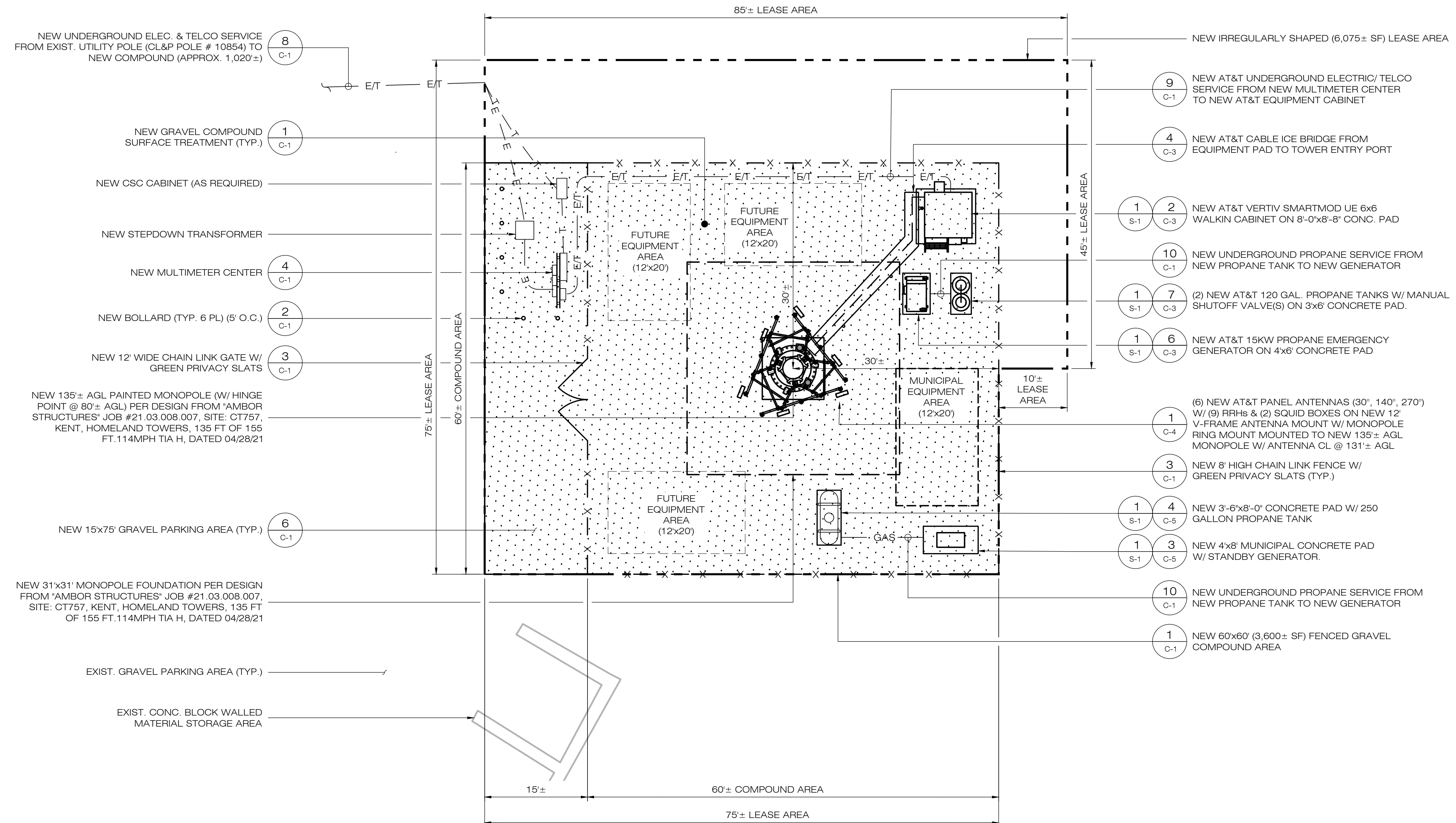
SHEET TITLE:
SITE PLAN & ABUTTERS MAP


SHEET NUMBER:
SP-1

TOWER PAINTING NOTE:
LOWER PORTION OF TOWER TO BE PAINTED A BROWN-GRAY COLOR AND THE UPPER PORTION A GRAY-BLUE COLOR.


LEGEND

- PROPERTY LINE
- - - - - NEW LEASE LINE
- X - X - X - X - 8' HIGH CHAIN LINK FENCE W/ GREEN PRIVACY SLATS
- E/T - E/T - NEW ELEC./TELECO LINE
- GAS - GAS - NEW PROPANE SERVICE






HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810
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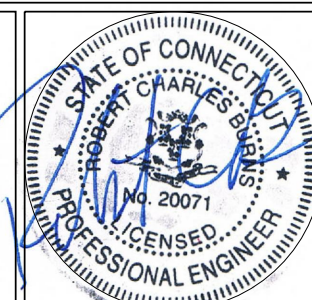
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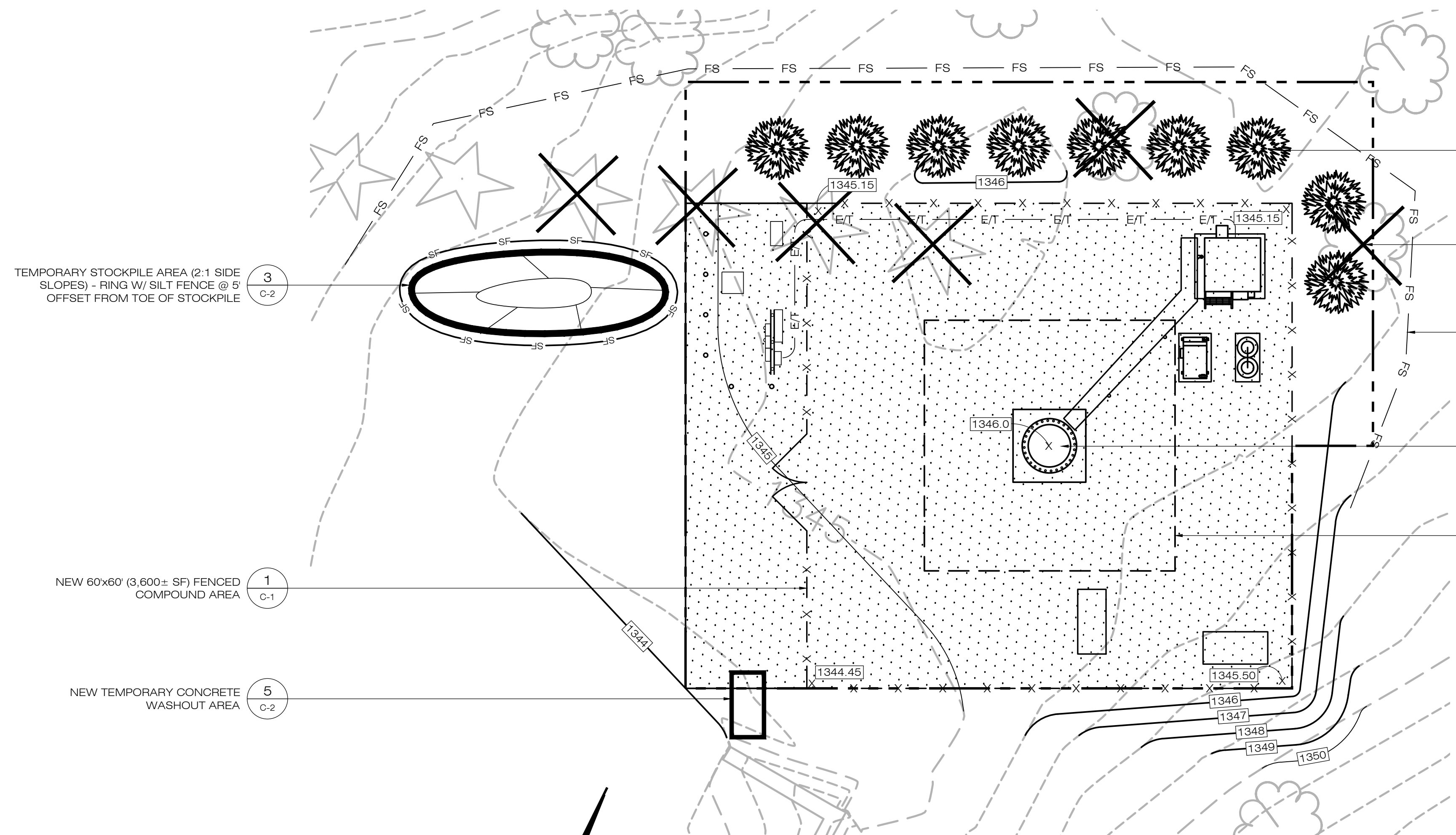
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COMPOUND PLAN

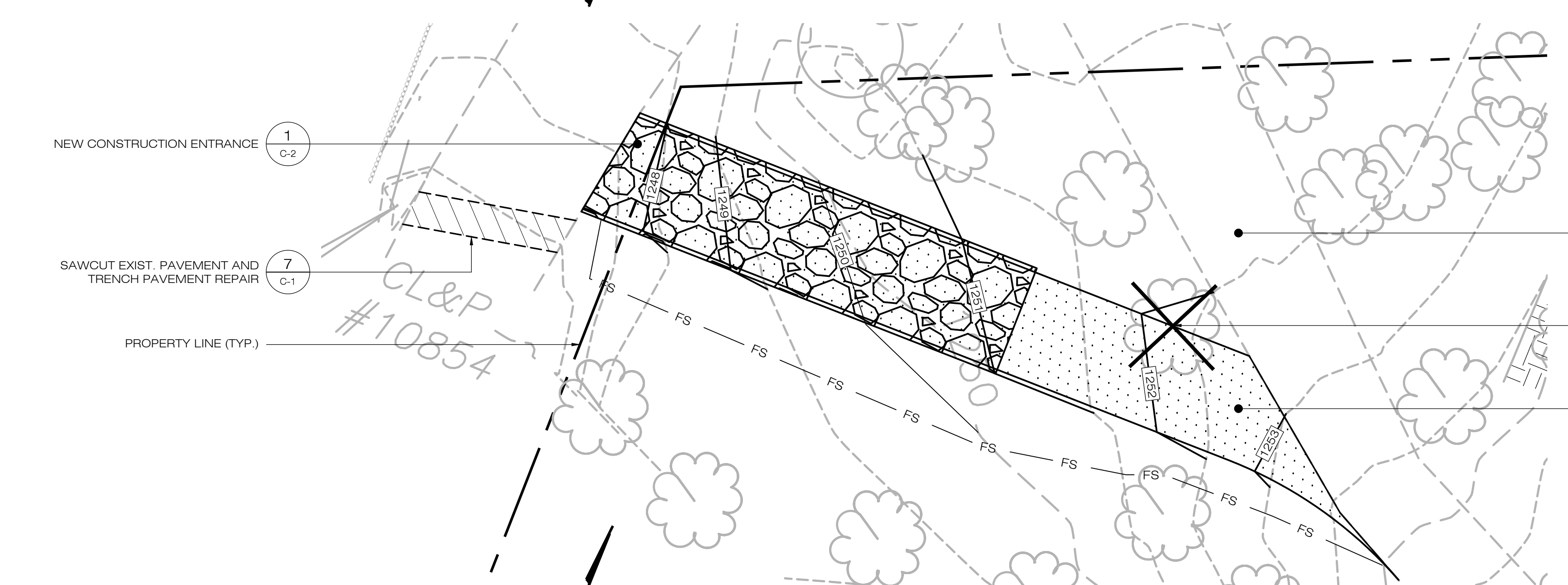
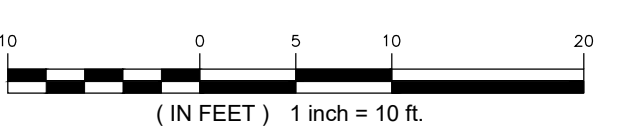
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CP-1

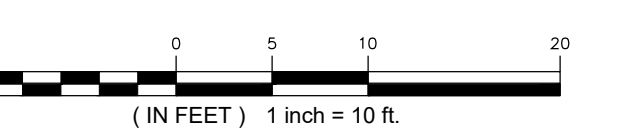




1 GRADING & LANDSCAPING PLAN
GR-1 SCALE: 1" = 10'-0"



2 DRIVEWAY GRADING PLAN
GR-1 SCALE: 1" = 10'-0"



LEGEND

- PROPERTY LINE
- X-X- 8' HIGH CHAIN LINK FENCE W/ GREEN PRIVACY SLATS
- FS FILTER SOCK
- (Tree symbol) EXIST. TREE TO REMAIN
- (Tree symbol with X) EXIST. TREE TO BE REMOVED
- (Tree symbol) NEW 8'-10' TALL EMERALD GREEN ARBORVITAE

LANDSCAPE NOTE:
ALL NEW LANDSCAPING WILL BE FULLY WARRANTED FOR 3 YEARS

HOMELAND TOWERS, LLC
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2ND FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t
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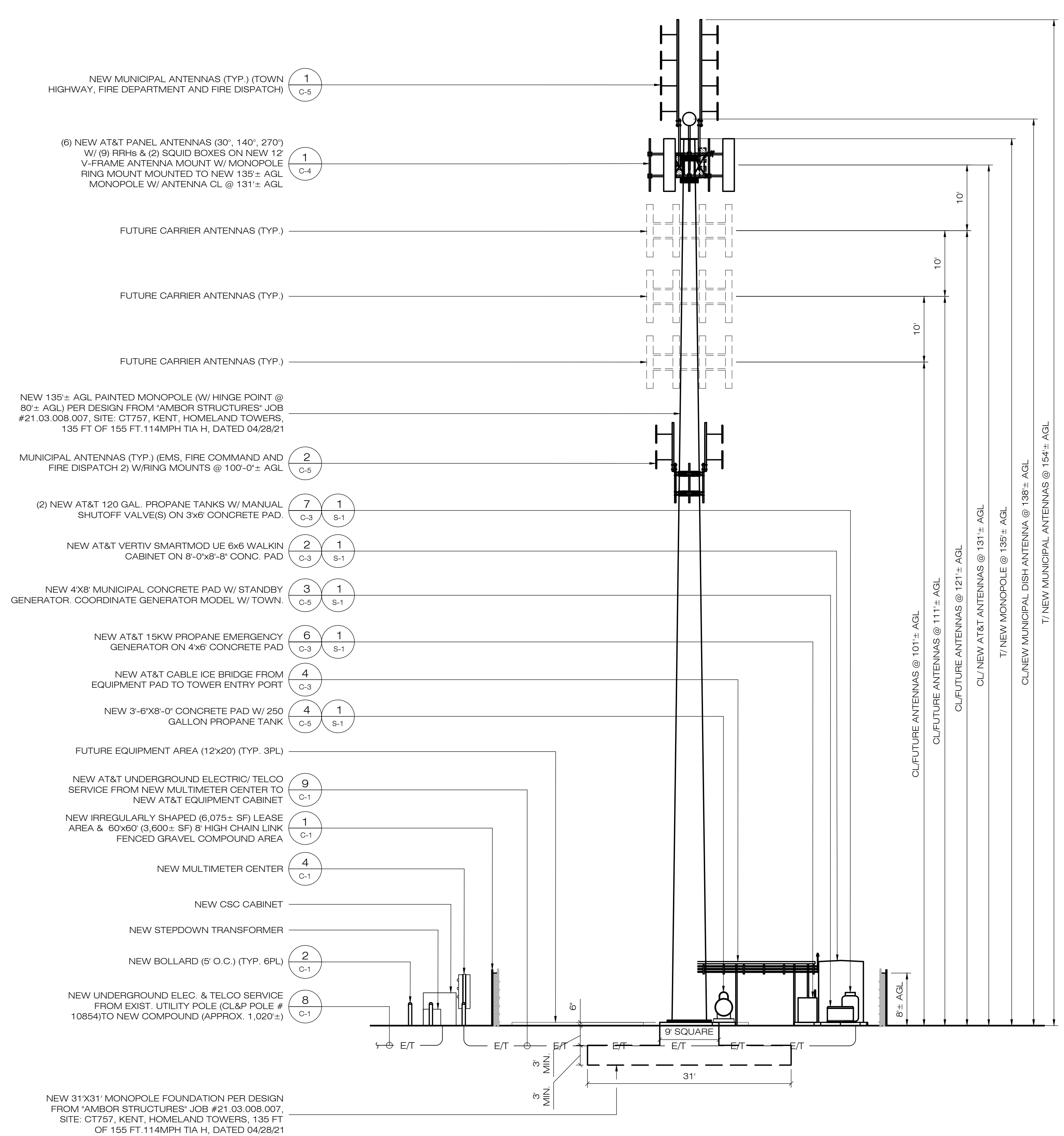
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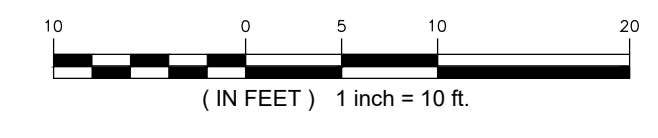
SHEET TITLE:
GRADING & LANDSCAPING PLANS

SHEET NUMBER:
GR-1



TOWER PAINTING NOTE:
 LOWER PORTION OF TOWER TO
 BE PAINTED A BROWN-GRAY
 COLOR AND THE UPPER
 PORTION A GRAY-BLUE COLOR.

1 **SOUTHEAST ELEVATION**
 A-1 SCALE : 1" = 10'-0"



H
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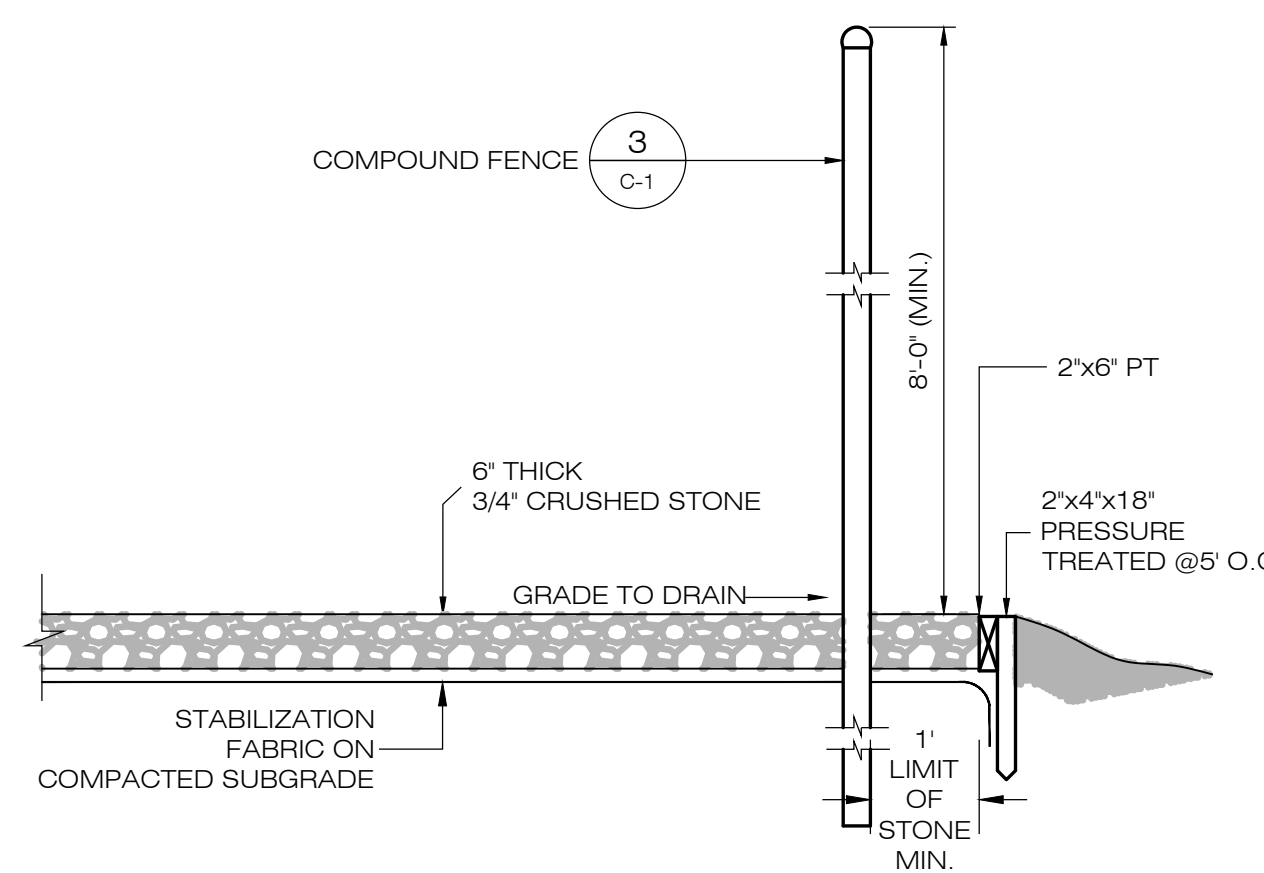
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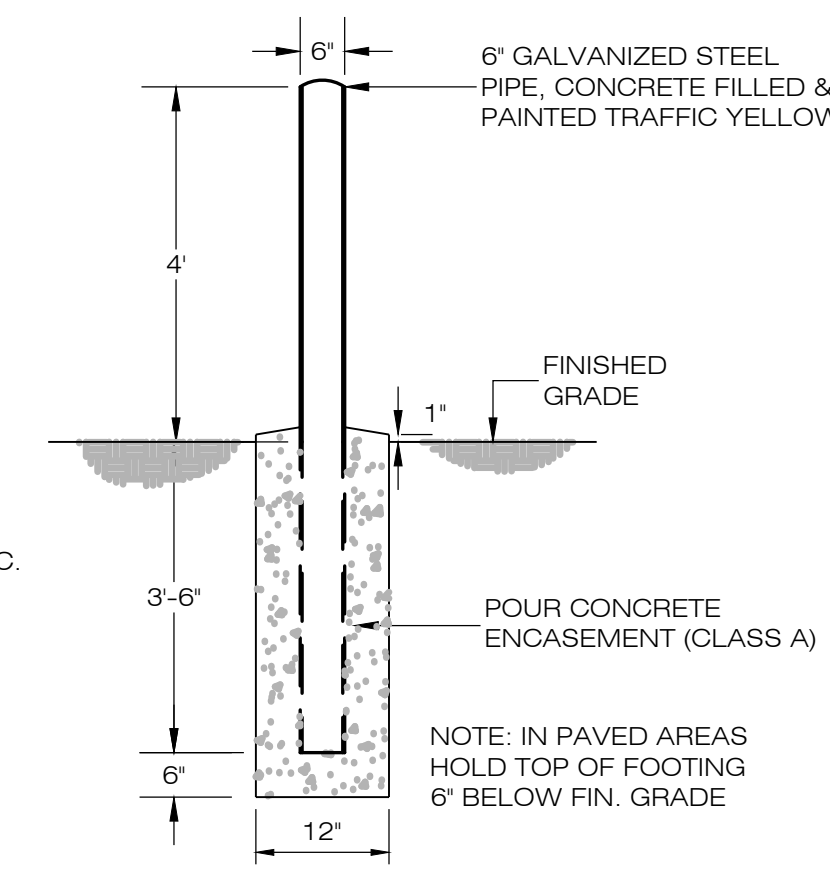
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SHEET TITLE:
TOWER ELEVATION

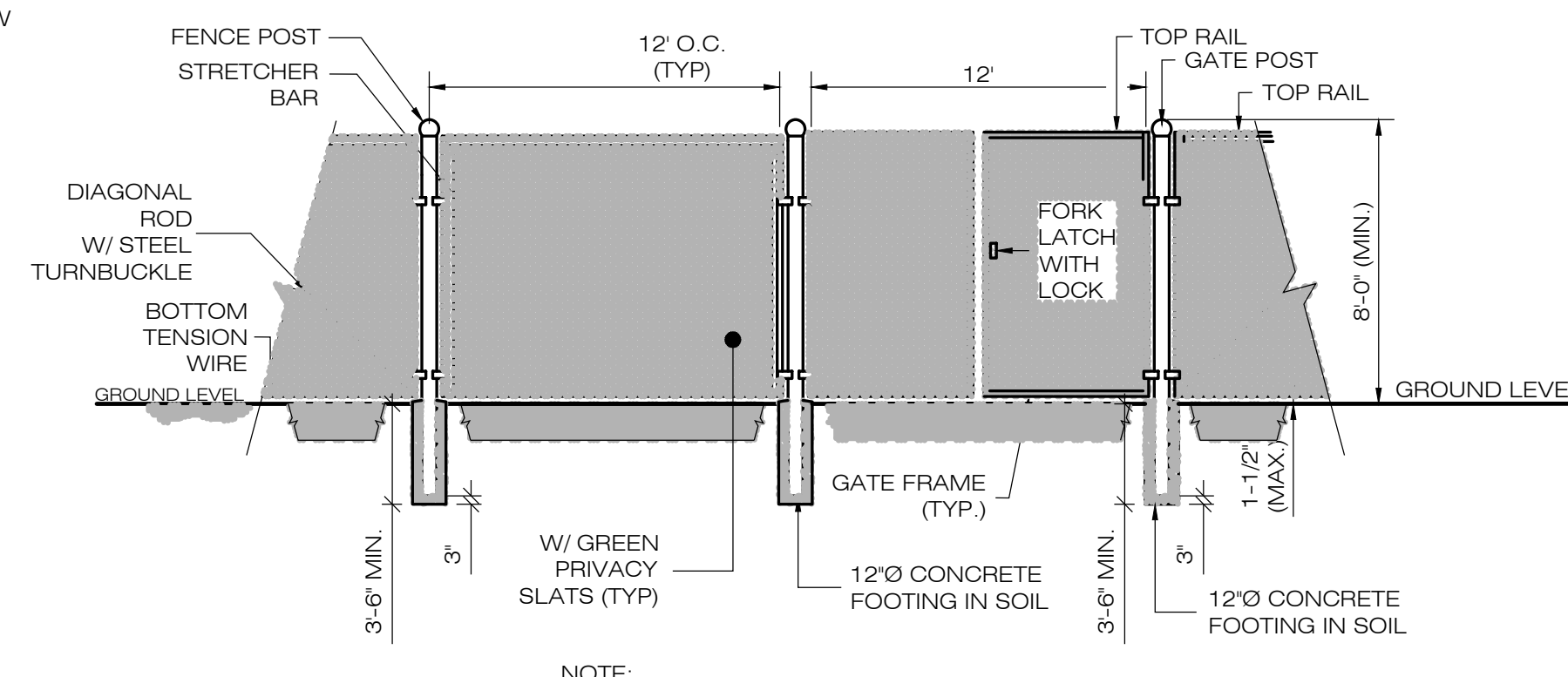
SHEET NUMBER:
A-1



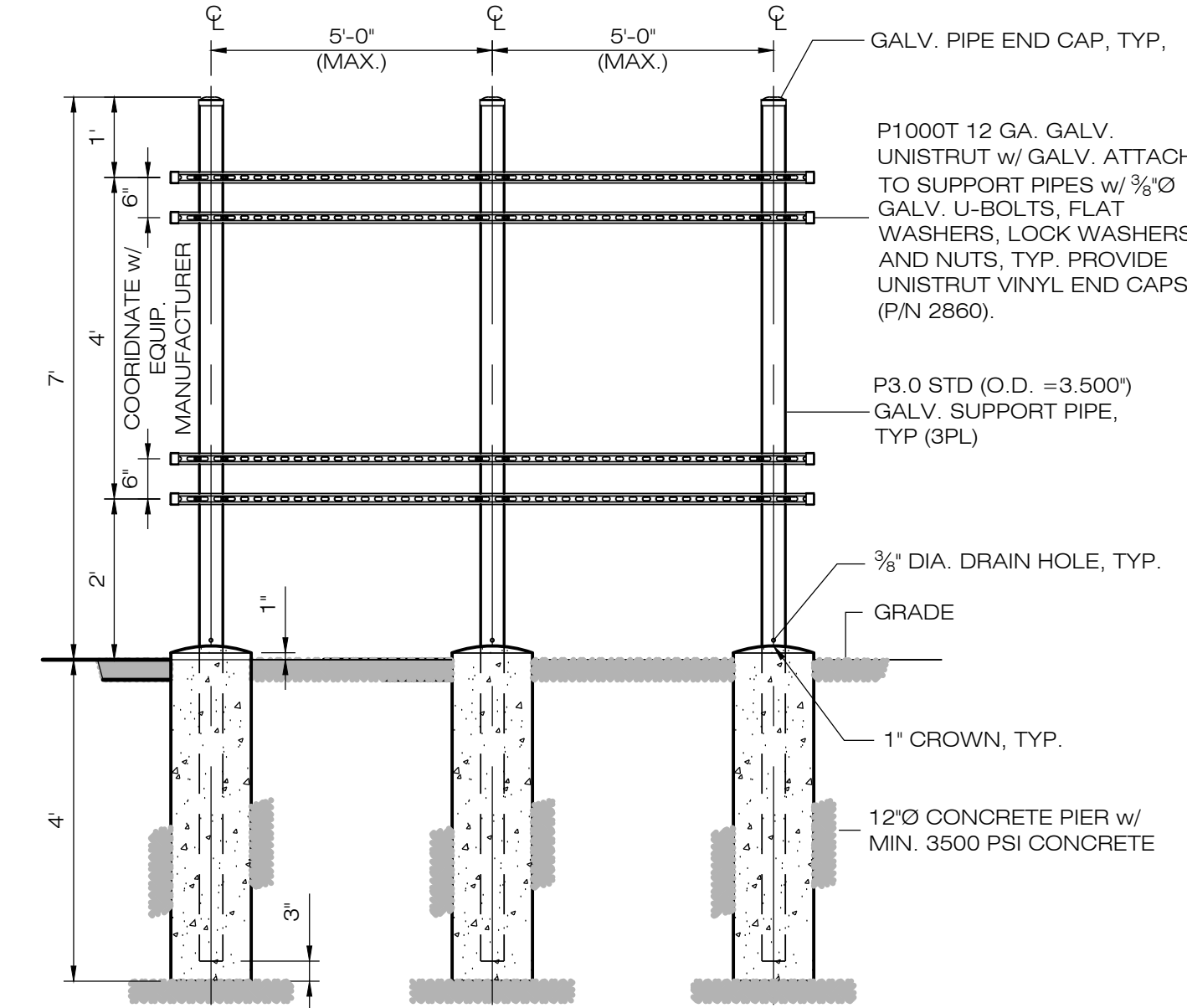
1 COMPOUND DETAIL
C-1 SCALE: N.T.S.



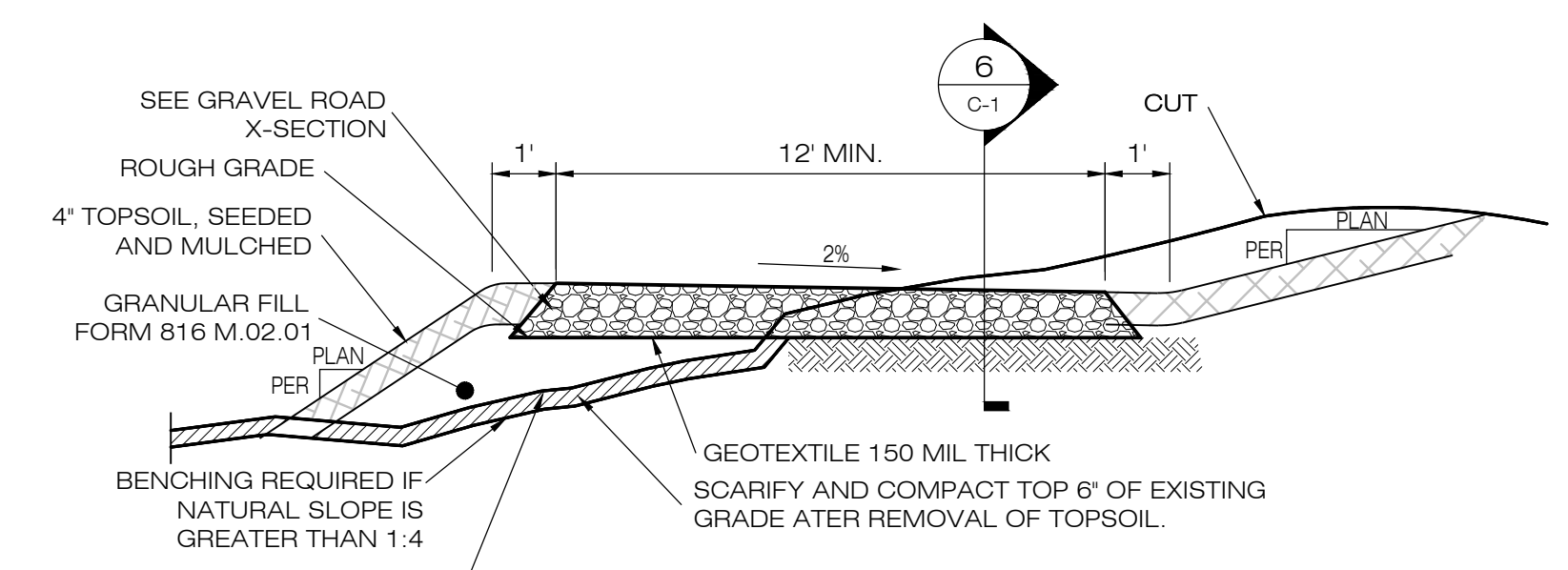
2 BOLLARD DETAIL
C-1 SCALE: N.T.S.



3 CHAIN-LINK FENCING & FENCE GATE DETAIL
C-1 SCALE: N.T.S.

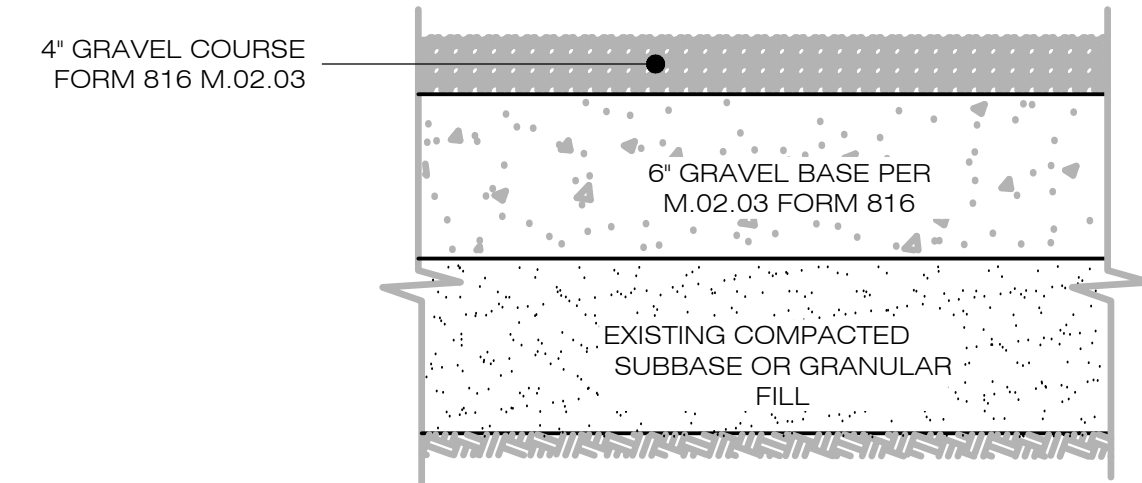


4 UTILITY BACKBOARD FRAME DETAIL
C-1 SCALE: N.T.S.

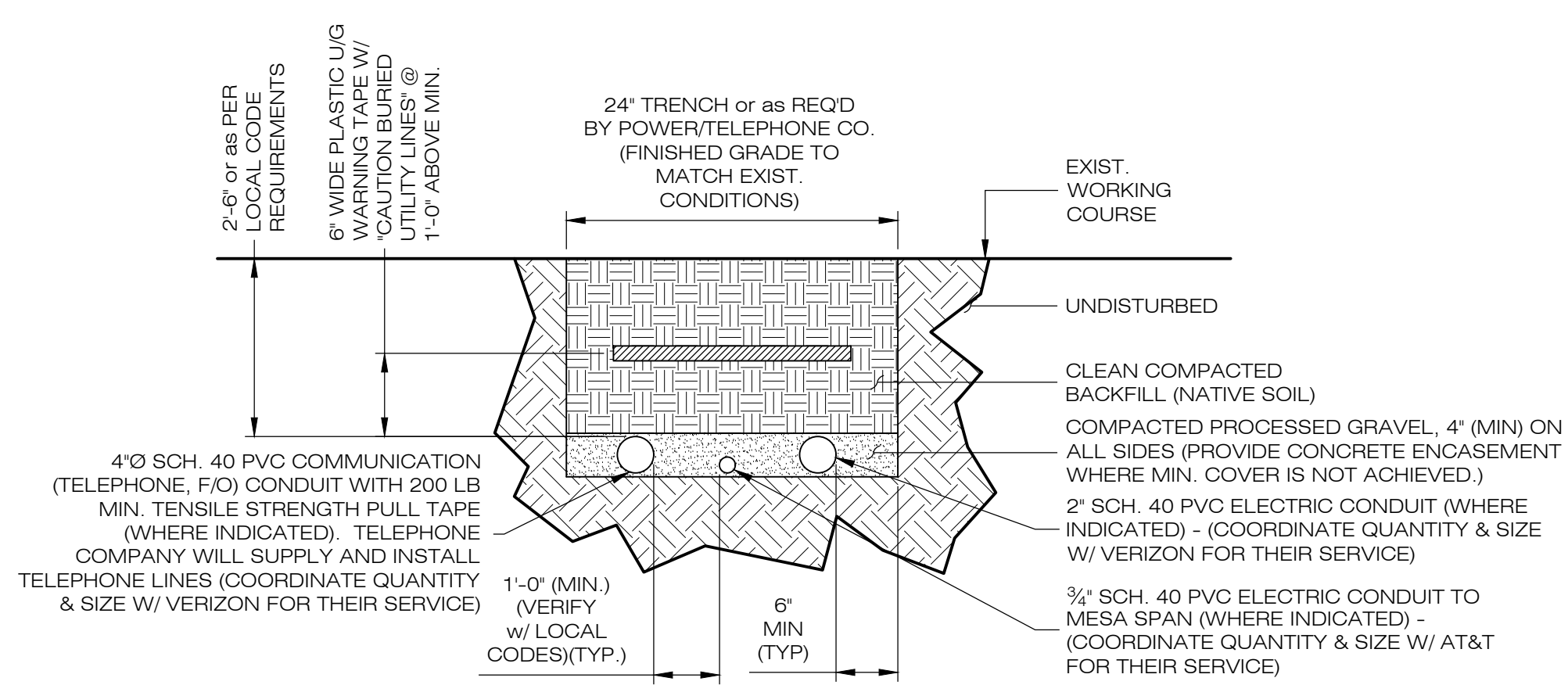


* CROSS SLOPE GRADE SHALL BE 1-2% AS SHOWN ON PROPOSED GRADING
* WHERE CUT OR FILL EMBANKMENTS ARE STEEPER THAN 3:1 USE A STAPLED IN PLACE, BIODEGRADABLE EROSION CONTROL BLANKET OR A BONDED FIBER MATRIX HYDROSEED APPLICATION.

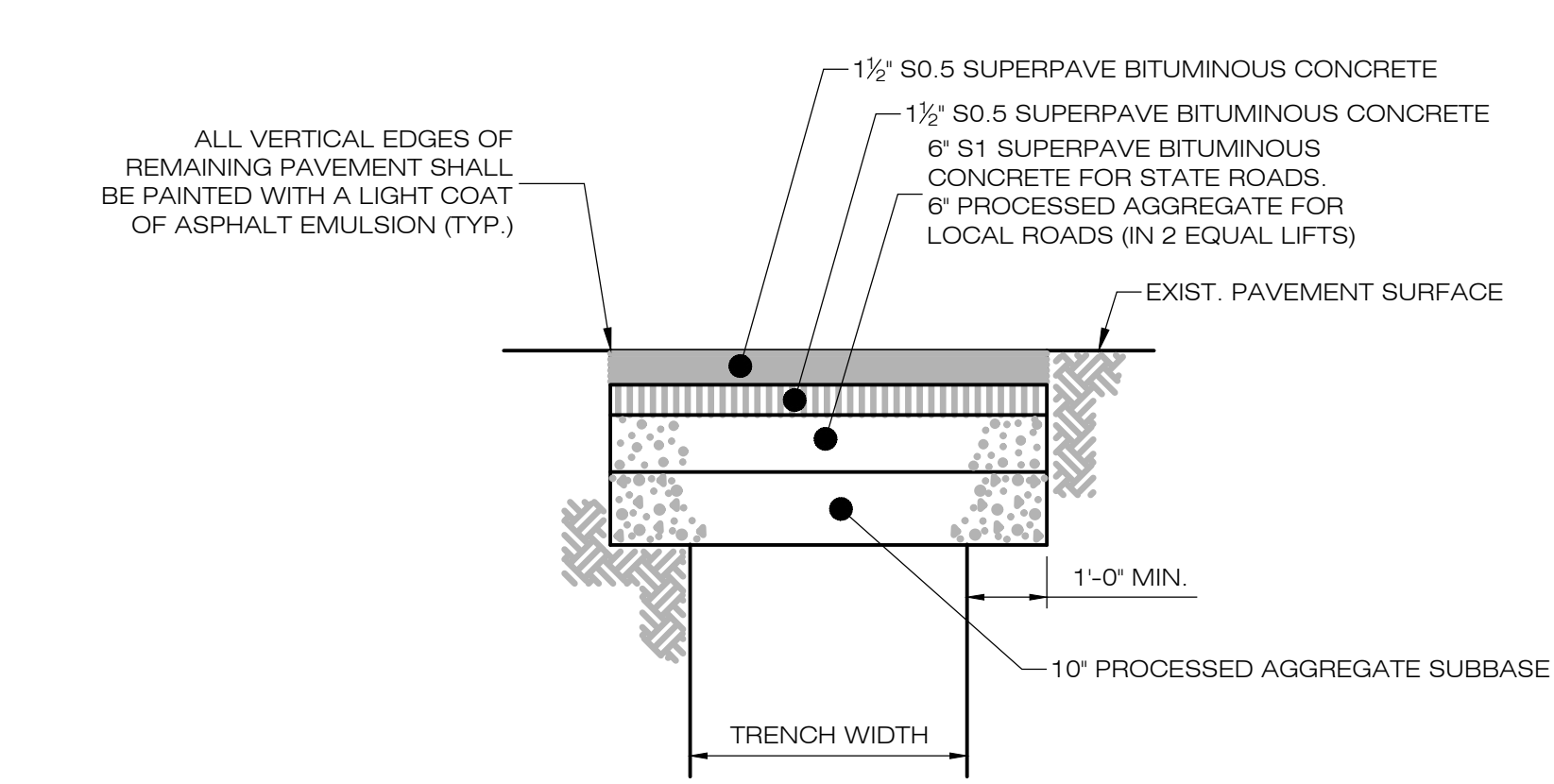
5 TYPICAL ROAD CROSS SECTION
C-1 SCALE: N.T.S.



6 GRAVEL ROAD & PARKING AREA SECTION
C-1 SCALE: N.T.S.

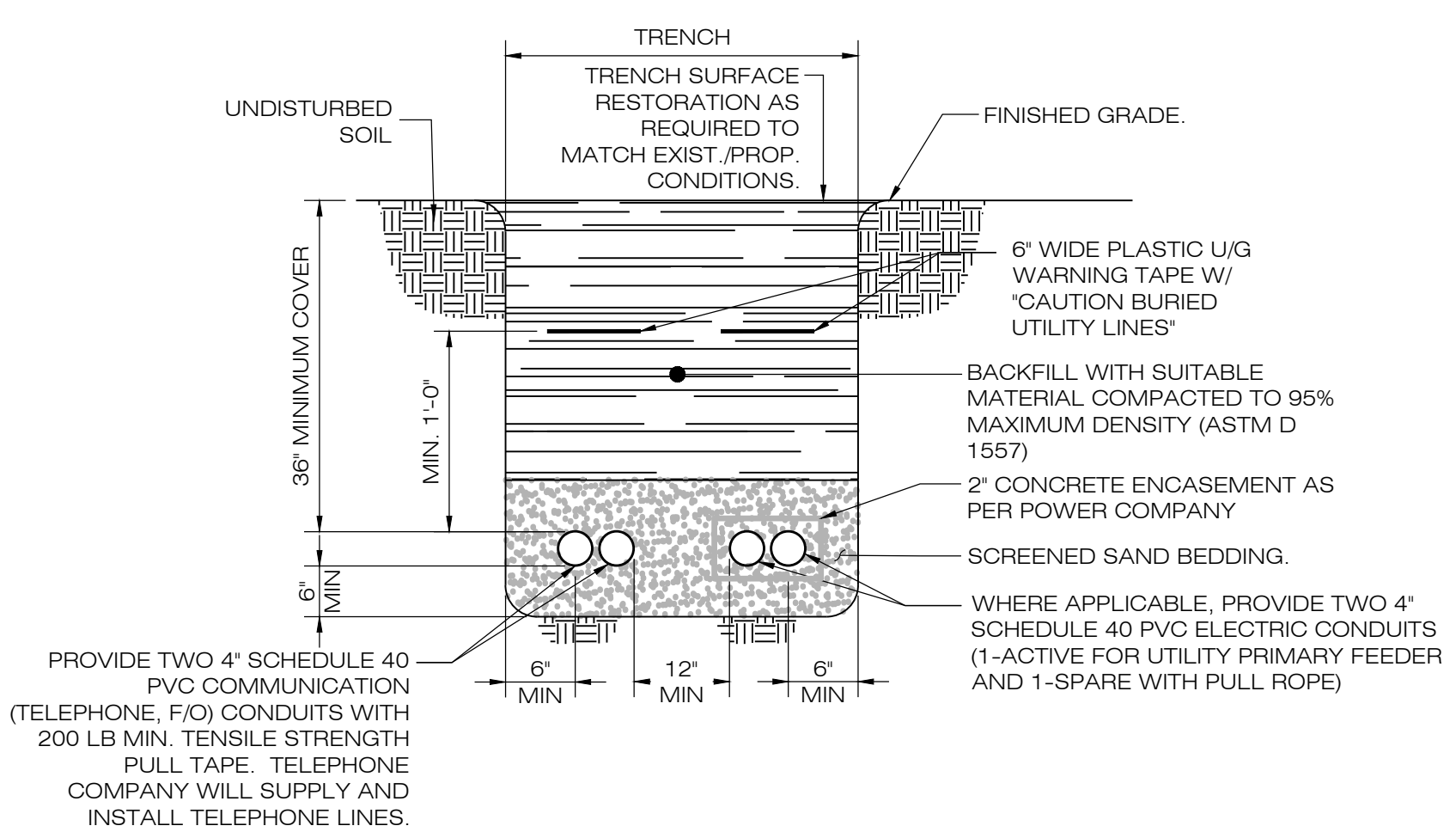


9 SECONDARY TRENCH DETAIL
C-1 SCALE: N.T.S.



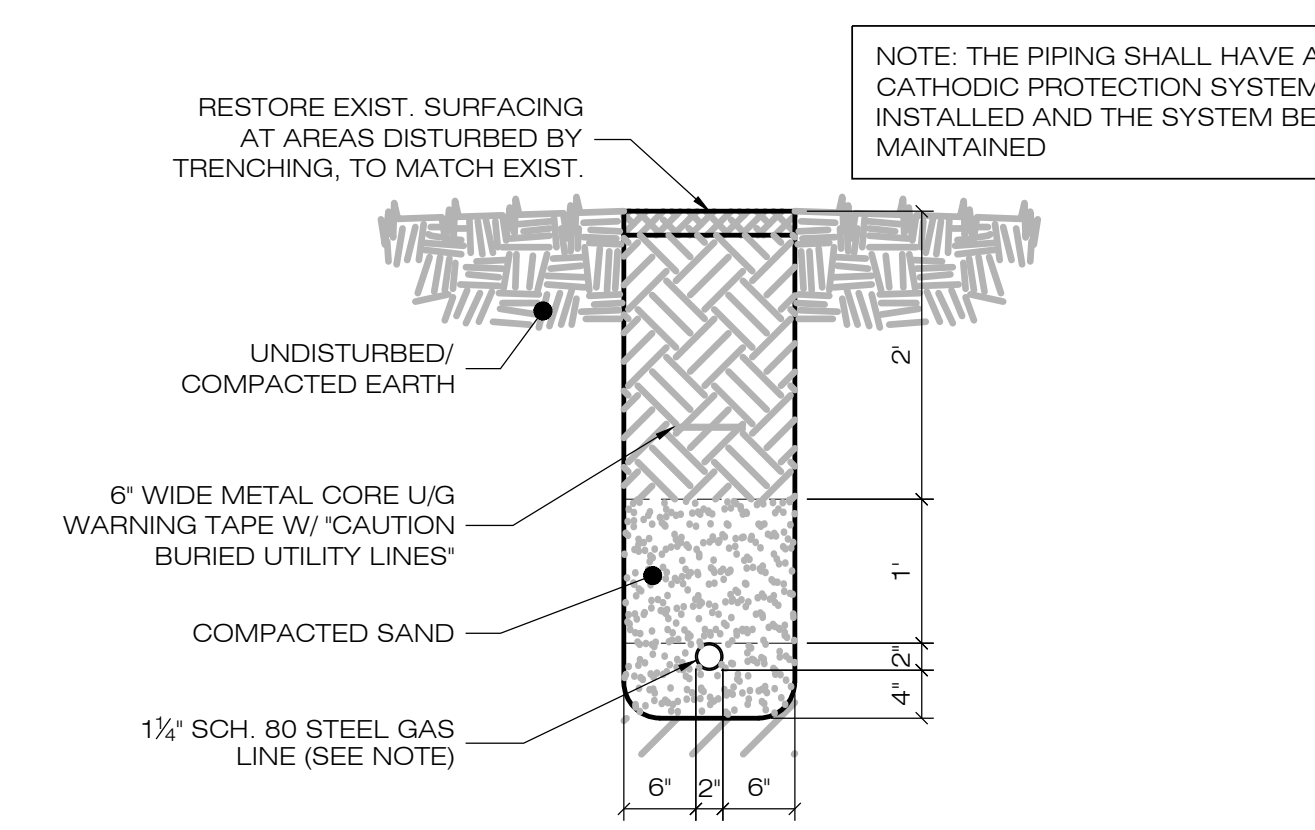
NOTE: REFER TO SECTION M.04 OF CTDOT FORM 817 FOR BITUMINOUS CONCRETE MATERIALS.

7 PAVEMENT REPAIR OVER TRENCH
C-1 SCALE: N.T.S.



NOTES:
1. THE CLEAN FILL SHALL PASS THROUGH A 3/8" MESH SCREEN AND SHALL NOT CONTAIN SHARP STONES. OTHER BACKFILL SHALL NOT CONTAIN ASHES, CINDERS, SHELLS, FROZEN MATERIAL, LOOSE DERBIES OR STONES LARGER THAN 2" IN MAXIMUM DIMENSION. WHERE EXISTING UTILITIES ARE LIKELY TO BE ENCOUNTERED.
2. CONTRACTOR SHALL HAND DIG AND PROTECT EXISTING UTILITIES.
3. EXISTING PAVEMENT SHALL BE SAW-CUT PRIOR TO TRENCH EXCAVATION

8 PRIMARY UTILITY TRENCH
C-1 SCALE: N.T.S.



NOTE: STEEL PIPE INSTALLED UNDERGROUND SHALL BE INSTALLED IN ACCORDANCE WITH NFPA54. UNDERGROUND PIPING SHALL COMPLY WITH ONE OR MORE OF THE FOLLOWING:
1. THE PIPING SHALL BE MADE OF CORROSION RESISTANT MATERIAL THAT IS SUITABLE FOR BURIAL.
2. PIPE SHALL HAVE A FACTORY APPLIED ELECTRICALLY INSULATING COATING. FITTINGS AND JOINTS BETWEEN SECTIONS OF COATED PIPE SHALL BE COATED IN ACCORDANCE WITH COATING MANUFACTURER'S INSTRUCTIONS.
3. SEE 7M-1 FOR PIPING STUB-UP LOCATIONS.

10 PROPANE GAS TRENCH
C-1 SCALE: N.T.S.

HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810
(203) 297-6345

at&t
340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION
567 VAUXHALL STREET EXTENSION - SUITE 311
WATERFORD, CT 06385
PH: (860) 663-1697
WWW.ALLPOINTSTECH.COM FAX: (860) 663-0935

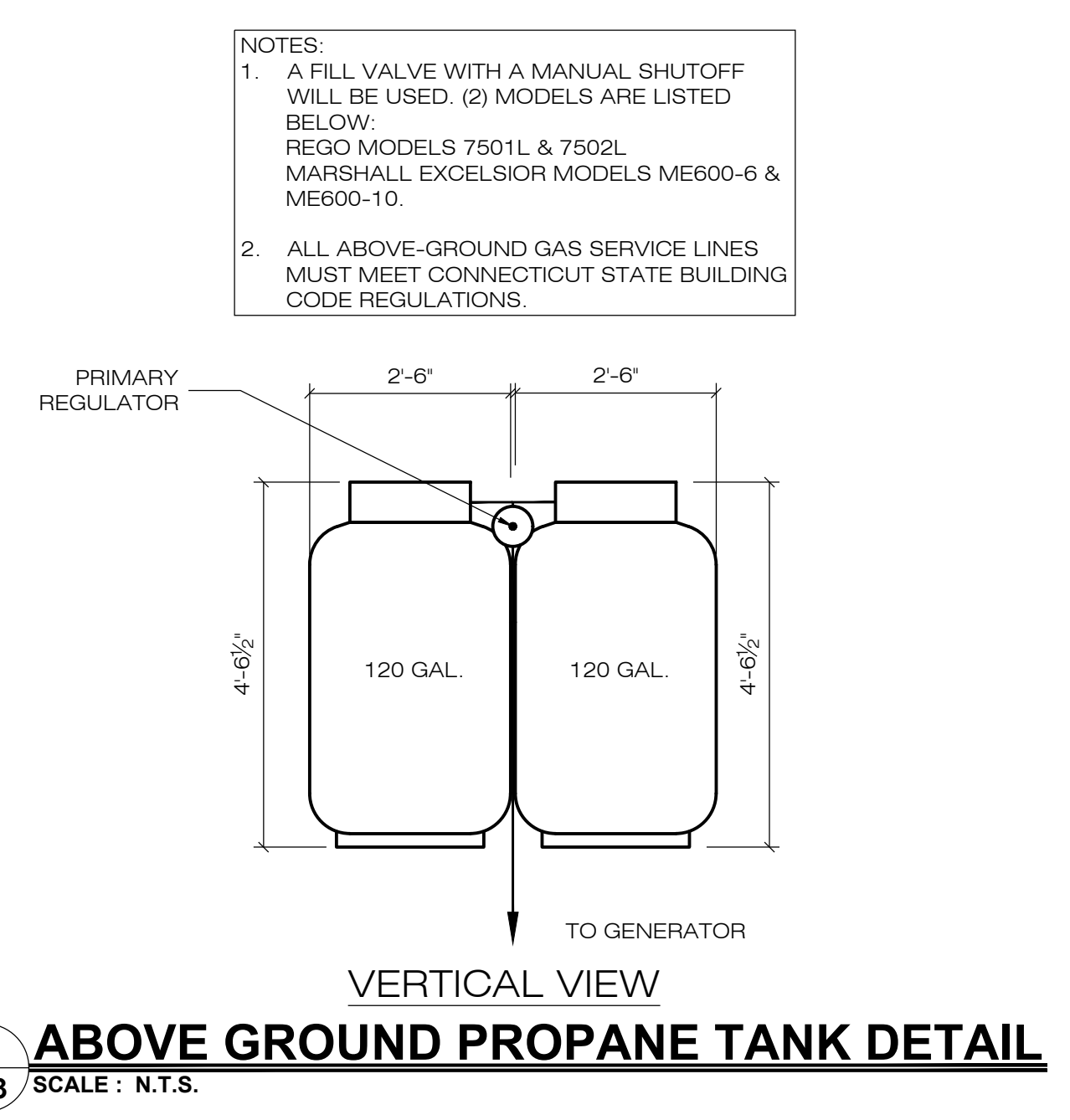
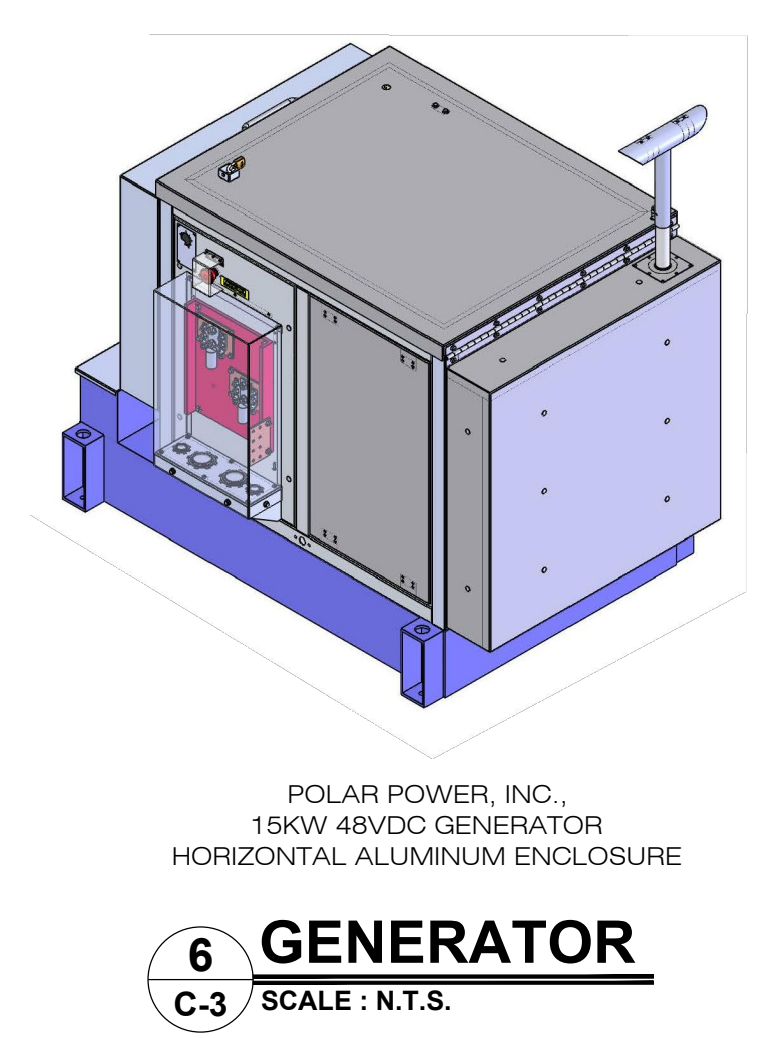
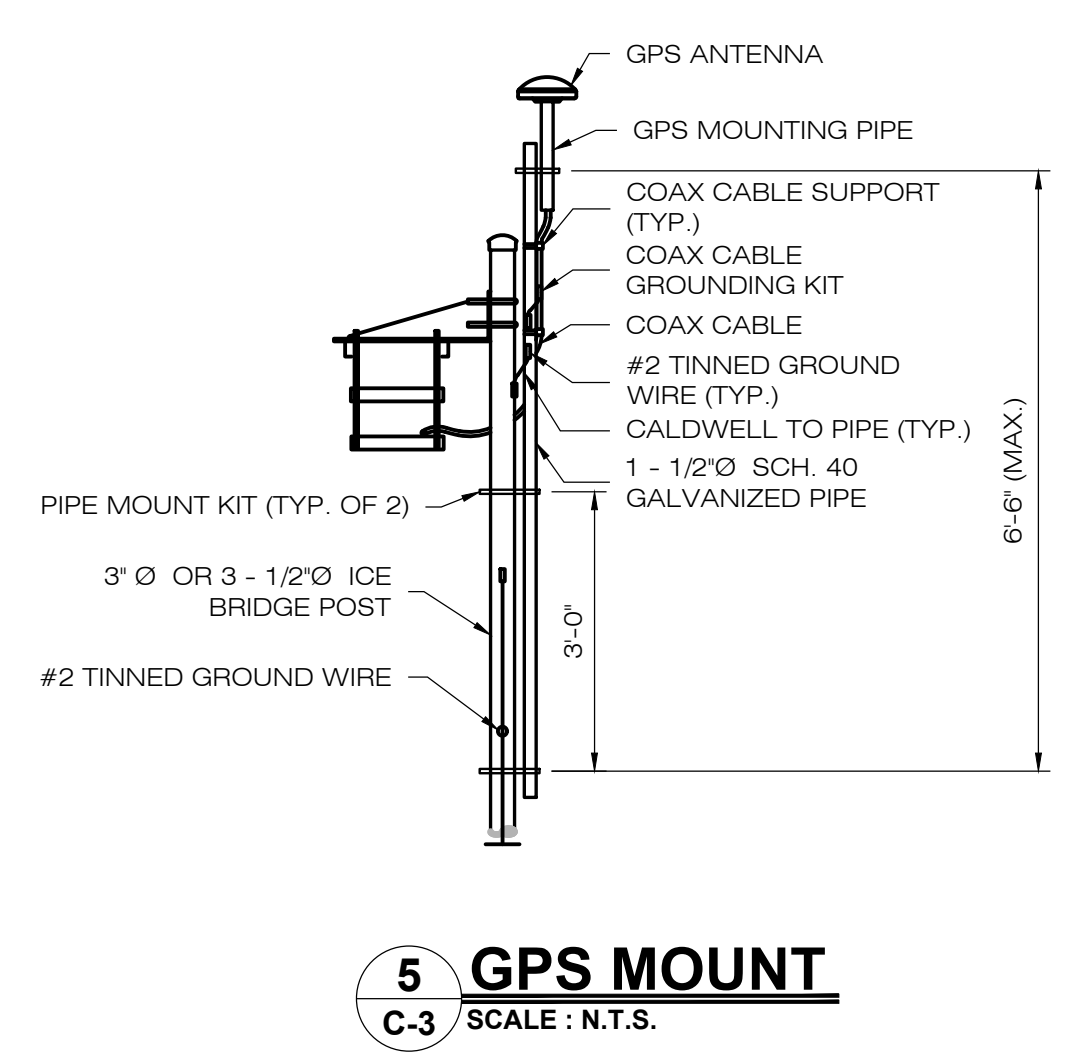
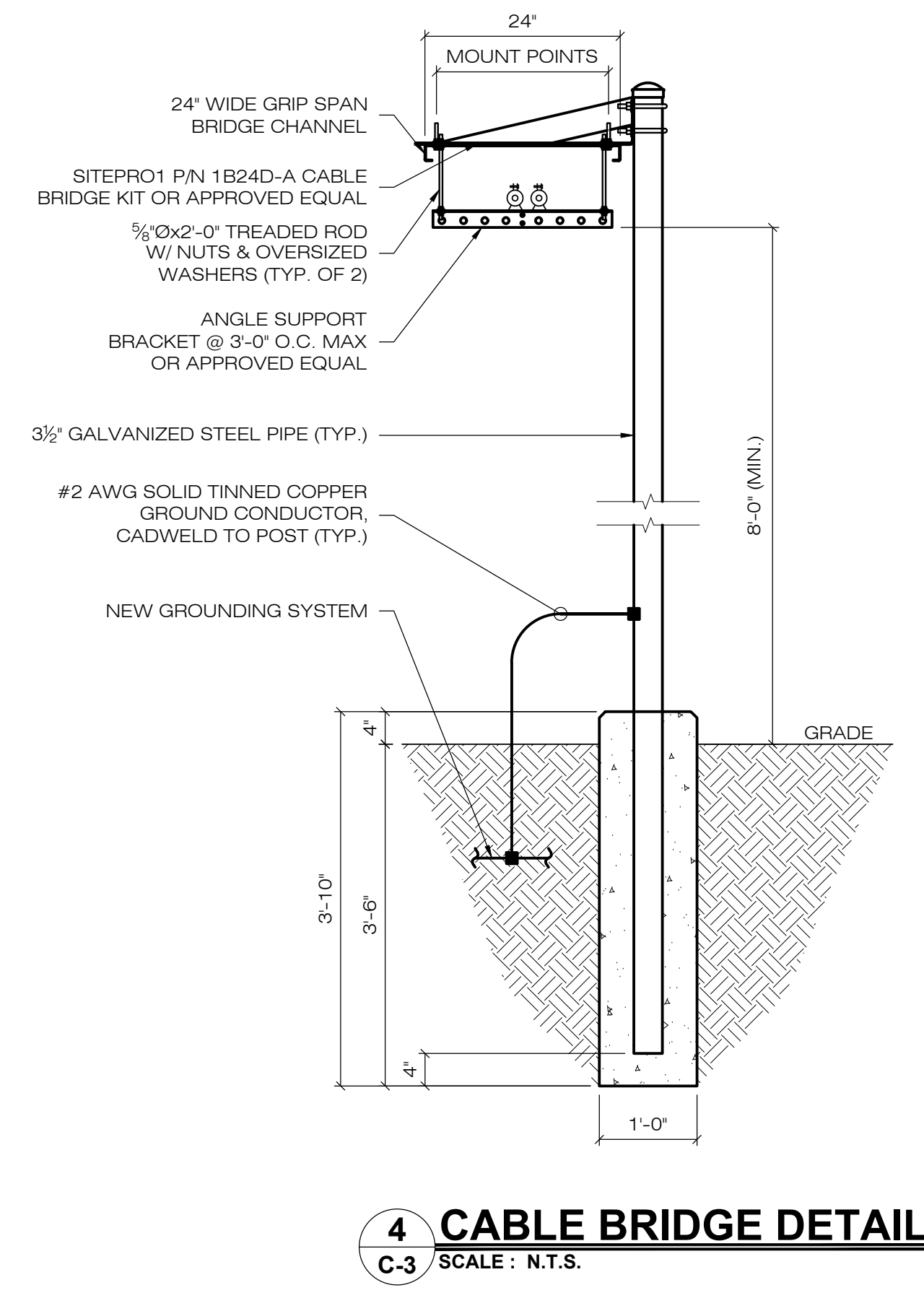
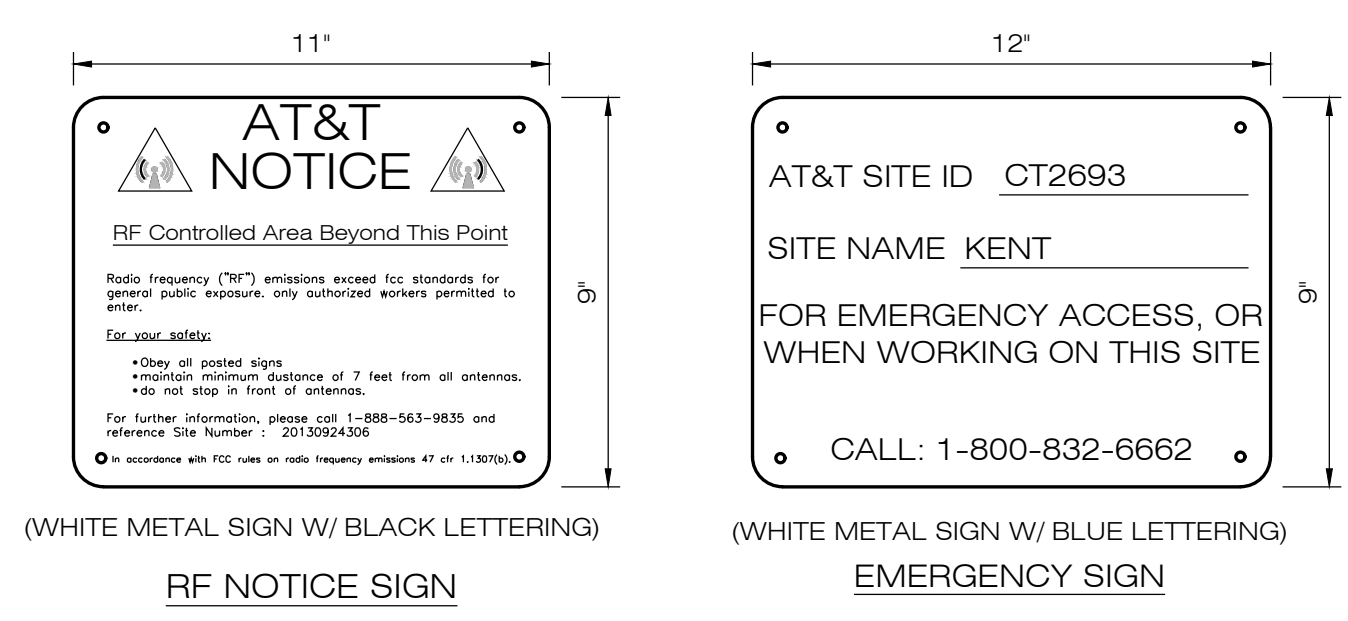
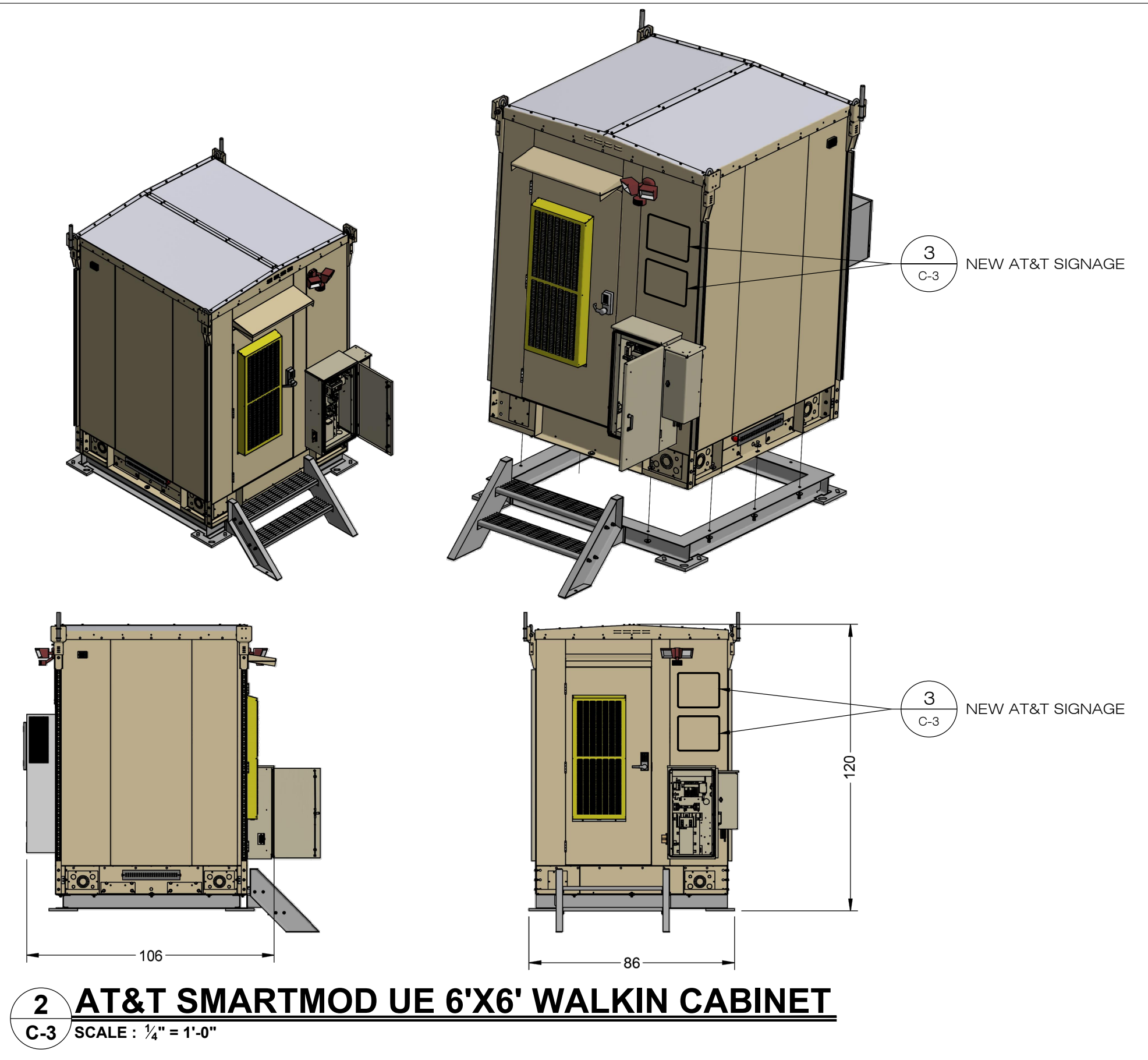
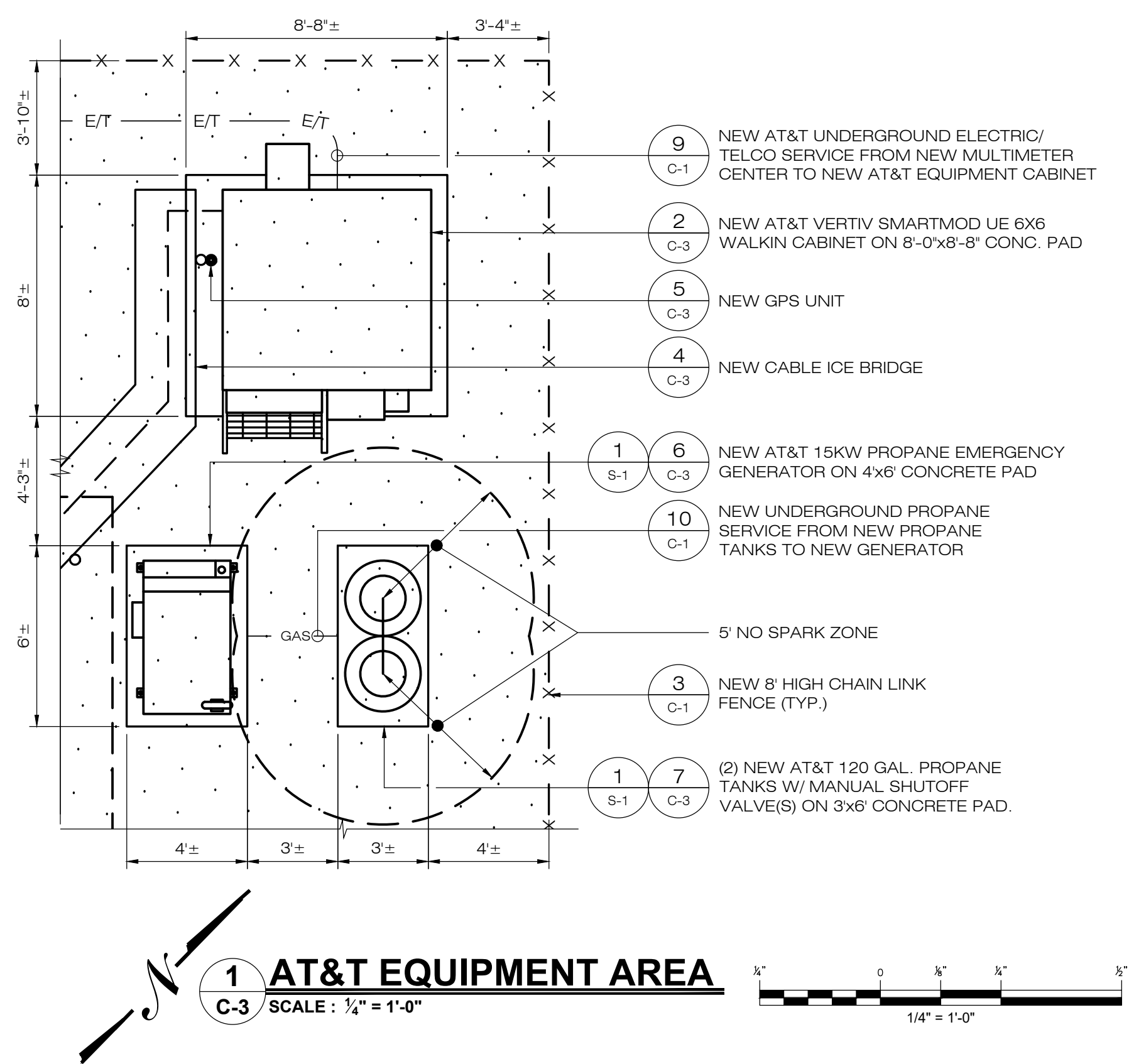
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DESIGN PROFESSIONALS OF RECORD
PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHAUL STREET
WATERFORD - SUITE 311
WATERFORD, CT 06385
DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810

HOMELAND TOWERS KENT
SITE ADDRESS: 93 RICHARDS ROAD
KENT, CT 06785
APT FILING NUMBER: CT283180
DATE: 05/18/21 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
SITE DETAILS

SHEET NUMBER:
C-1



HOMELAND TOWERS, LLC
9 HARMONY STREET
2ND FLOOR
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(203) 297-6345

at&t

340 MOUNT KEMBLE AVENUE
MORRISTOWN, NEW JERSEY 07960

ALL-POINTS TECHNOLOGY CORPORATION

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HOMELAND TOWERS KENT

SITE ADDRESS: 93 RICHARDS ROAD KENT, CT 06785

APT FILING NUMBER: CT283180

DATE: 05/18/21 DRAWN BY: CSH
CHECKED BY: RCB

SHEET TITLE:
AT&T EQUIPMENT PLAN & DETAILS

SHEET NUMBER:
C-3

STATE OF CONNECTICUT
ROBERT C. BURNS
P.E. 06785
20071
PROFESSIONAL ENGINEER

PAINTING NOTE:
ALL ANTENNAS, MOUNTING ASSEMBLIES & APPURTENANCES TO BE PAINTED THE SAME COLOR AS THE TOWER (GRAY-BLUE)

NEW THREE SECTOR V-FRAME ANTENNA MOUNT KIT (SITEPRO1 P/N VFA12-M3-WLL) SECURED TO NEW MONOPOLE (TYP.)

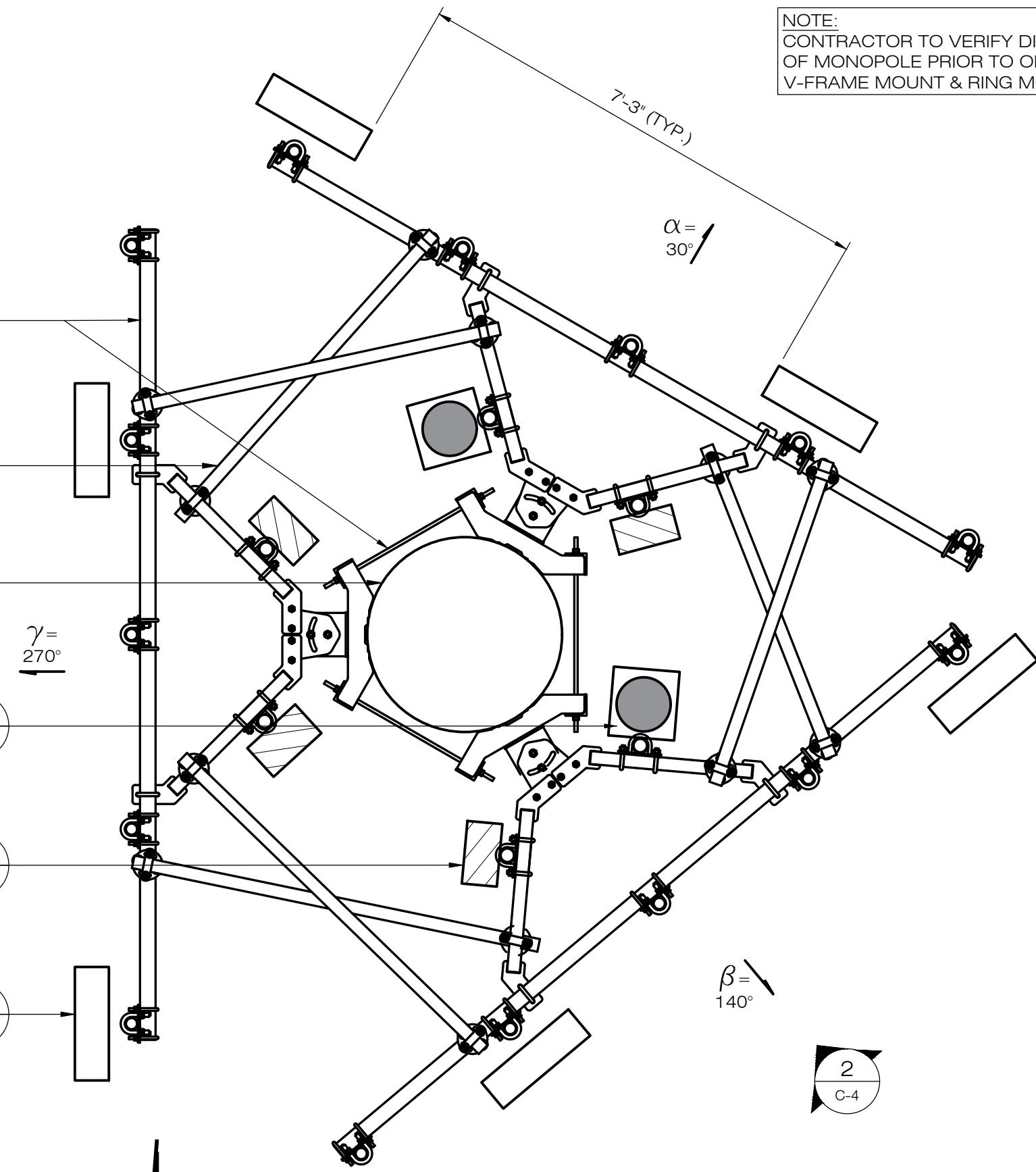
NEW STIFF ARM, 2 PER SECTOR, TOTAL OF 6

NEW 135'± AGL PAINTED MONOPOLE

NEW RAYCAP DC6-48-60-18-8C-EV SURGE SUPPRESSOR MOUNTED BACK-TO-BACK PIPE MOUNT, TOTAL OF (2) (ALPHA & BETA)

(3) NEW RRHs MOUNTED TO NEW BACK-TO-BACK PIPE MOUNT @ EA SECTOR, TOTAL OF (9)

NEW AT&T ANTENNA MOUNTED TO NEW ANTENNA MOUNT, (2) PER SECTOR, TOTAL OF (6)



1 ANTENNA PLAN
C-4 SCALE: 1/2" = 1'-0"

NOTE:
CONTRACTOR TO VERIFY DIAMETER OF MONOPOLE PRIOR TO ORDERING V-FRAME MOUNT & RING MOUNT

NEW RAYCAP DC6-48-60-18-8C-EV SURGE SUPPRESSOR MOUNTED BACK-TO-BACK PIPE MOUNT, TOTAL OF (2) (ALPHA & BETA)

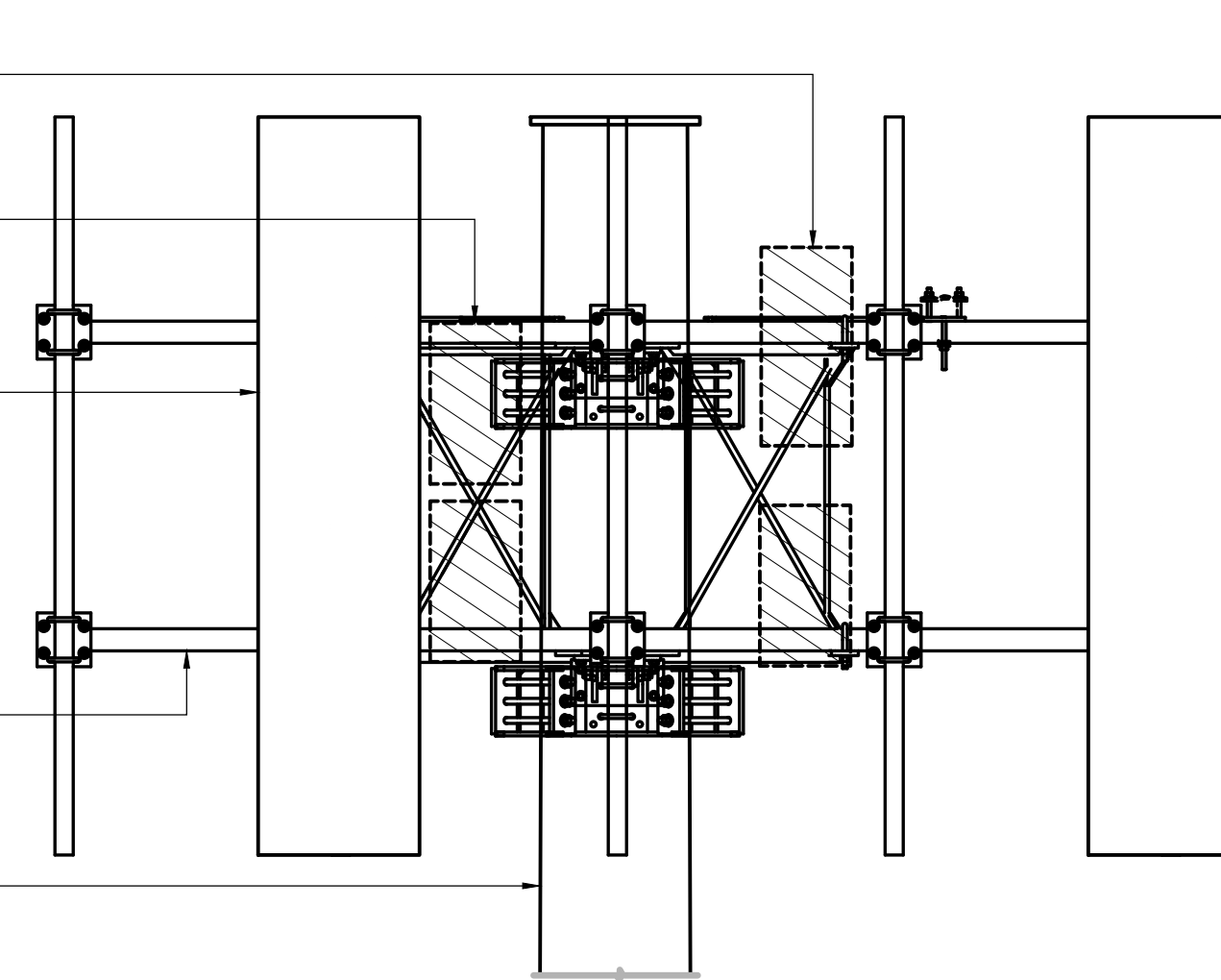
(3) NEW RRHs MOUNTED TO NEW BACK-TO-BACK PIPE MOUNT @ EA SECTOR, TOTAL OF (9)

(2) NEW AT&T ANTENNA MOUNTED TO NEW MOUNTING ASSEMBLY AT EACH SECTOR, TOTAL OF (6)

ANTENNA @ 131'-0"± AGL

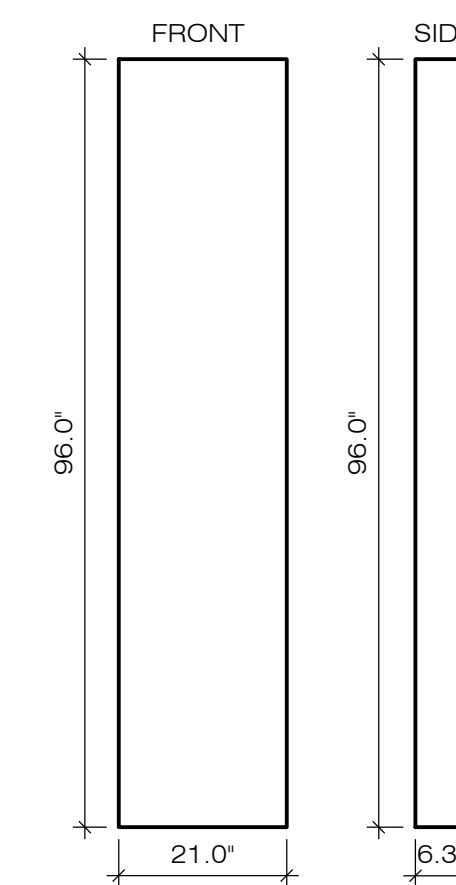
NEW THREE SECTOR V-FRAME ANTENNA MOUNT KIT (SITEPRO1 P/N VFA12-M3-WLL) FOR (6) NEW AT&T PANEL ANTENNAS CL @ 131'± AGL

NEW 135'± AGL PAINTED MONOPOLE



2 ANTENNA MOUNTING DETAIL
C-4 SCALE: 1/2" = 1'-0"

TOP
21.0'
K/MW
EPBQ-654L8H8-L2
86.0 LBS
14.0 SF

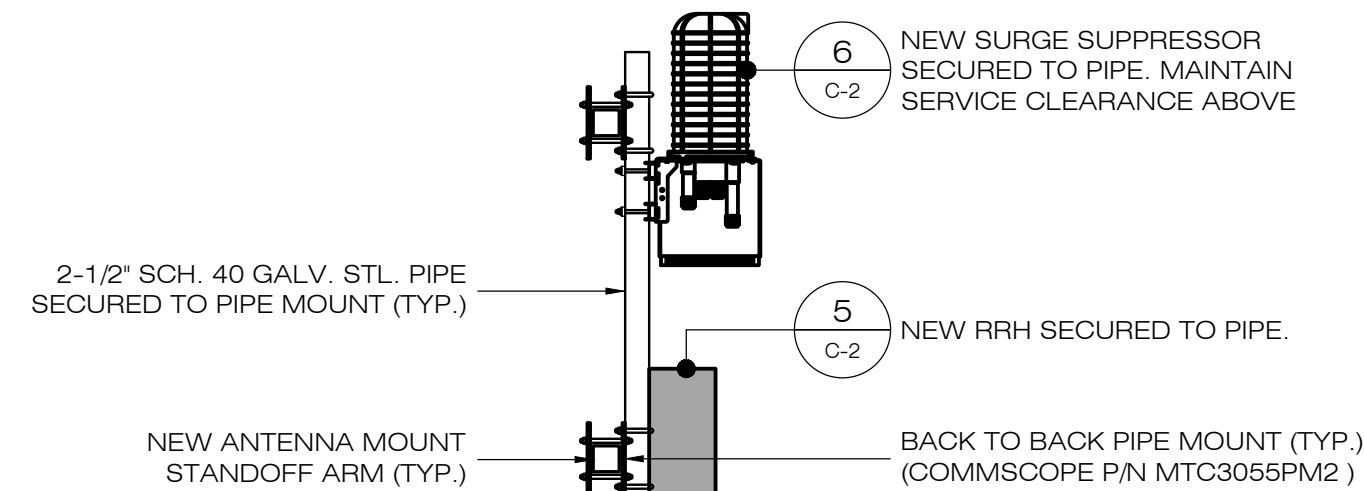


3 ANTENNA DETAIL
C-4 SCALE: 1/2" = 1'-0"

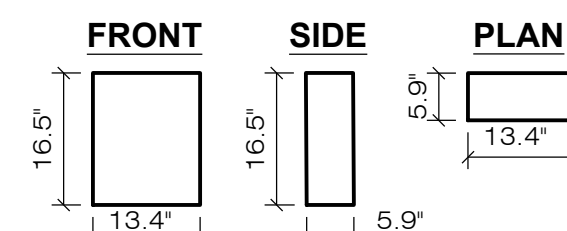
NEW SURGE SUPPRESSOR SECURED TO PIPE. MAINTAIN SERVICE CLEARANCE ABOVE

NEW RRH SECURED TO PIPE.

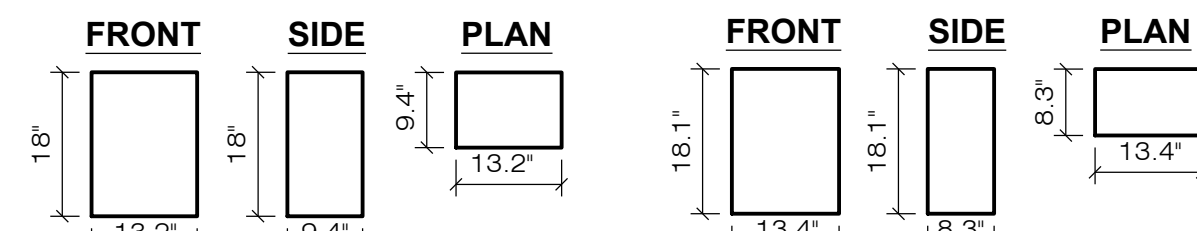
BACK TO BACK PIPE MOUNT (TYP.) (COMMSCOPE P/N MTC3055PM2)



4 MDB/RRH MOUNT
C-2 SCALE: 1/2" = 1'-0"



ERICSSON B30 4415 (OR EQUAL)
REMOTE RADIO UNIT (RRU)
WxDxH=16.5"x5.9"x13.4" (46.0Lbs)

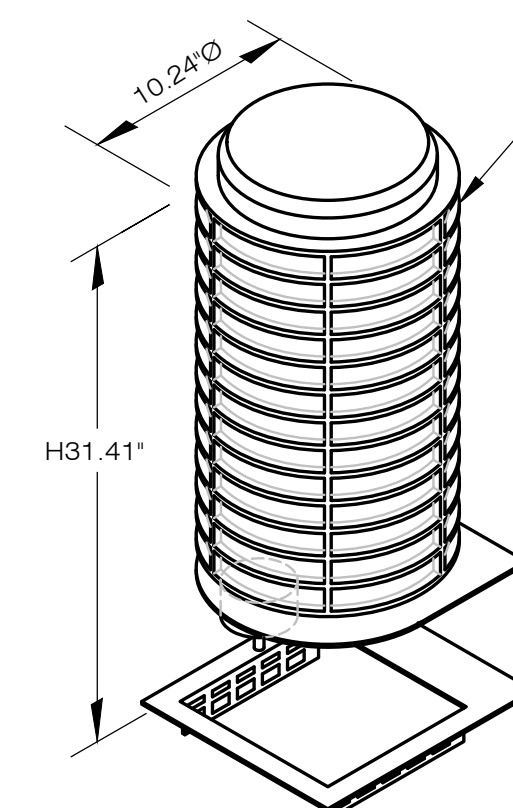


ERICSSON B5/B12 4449 (OR EQUAL)
REMOTE RADIO UNIT (RRU)
WxDxH=13.2"x9.4"x18.0" (75.0Lbs)

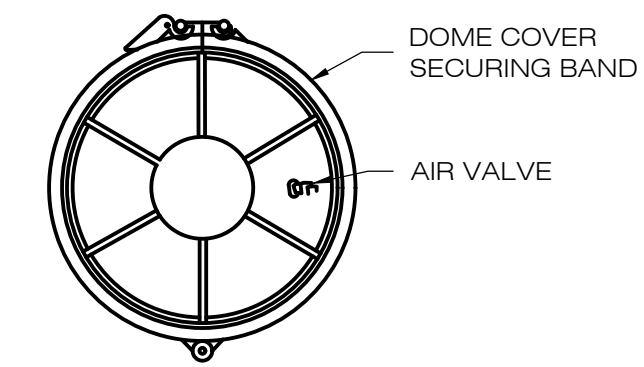
ERICSSON B14 4478 (OR EQUAL)
REMOTE RADIO UNIT (RRU)
WxDxH=13.4"x8.3"x18.1" (59.4Lbs)

NOTES:
1. DIMENSIONS SUBJECT TO CHANGE BASED UPON AVAILABILITY AT TIME OF CONSTRUCTION.
2. MANUFACTURER'S RECOMMENDED RRH CLEARANCES: FRONT: 36"; SIDES: 12"; BOTTOM: 24"
3. SFPs ARE PROTOCOL SPECIFIC. THE CONNECTIONS BETWEEN RRHs AND BBUs ARE CPRI CONNECTIONS, AND REQUIRE CPRI SFP (ON BOTH ENDS). THE CONNECTIONS BETWEEN BBUS AND 7705 ARE ETHERNET AND REQUIRE ETHERNET SFP (ON BOTH ENDS.)

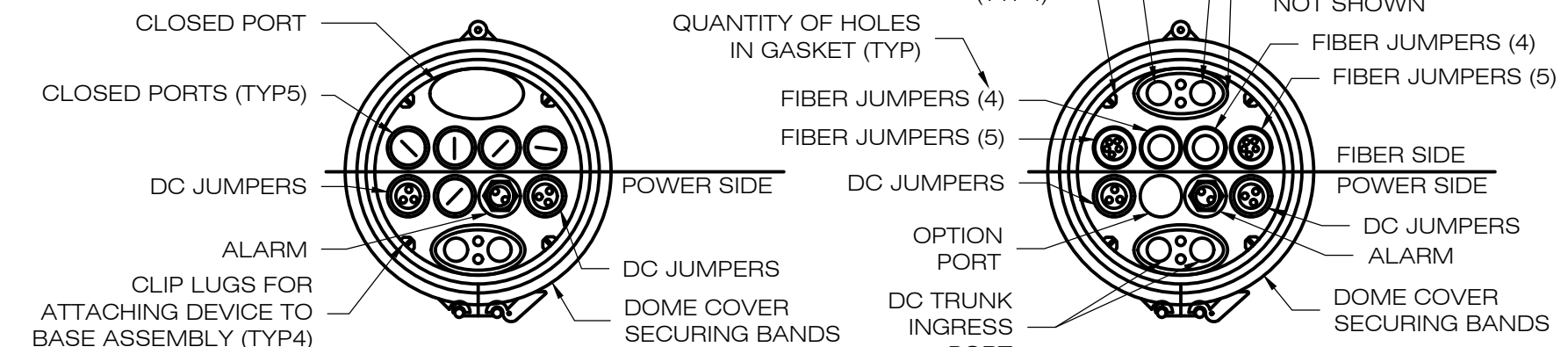
5 RRU EQUIPMENT
C-4 SCALE: 1/2" = 1'-0"



NEW SURGE SUPPRESSOR
MODEL NUMBER:
DC9-48-60-24-8C-EV
DIMENSIONS:
H31.41"x10.24"



TOP VIEW



BOTTOM VIEW

BOTTOM VIEW

RAYCAP DC9-48-60-24-8C-EV (SURGE SUPPRESSOR)
HxDia. = 31.41"x10.24" (28.2 Lbs)
(OR EQUAL)
COLOR: GRAY

NOTES:
1. MOUNT PER MANUFACTURER'S SPECIFICATIONS.
2. REMOVE CABLE SEALING GLAND AND INSTALL M32x1.5 METRIC TO 1" NPT ADAPTER (COOPER CROUSE-HINES P/N GAP 740 994 OR EQUIVALENT MFR) WHEN CONNECTING CONDUIT TO OVP

6 TYPICAL SURGE SUPPRESSOR
C-4 SCALE: N.T.S.

HOMELAND TOWERS, LLC
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WWW.ALLPOINTS TECH.COM FAX: (860)-663-0935

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DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHALL STREET EXTENSION - SUITE 311 WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET 2ND FLOOR DANBURY, CT 06810

HOMELAND TOWERS KENT

SITE ADDRESS: KENT, CT 06785

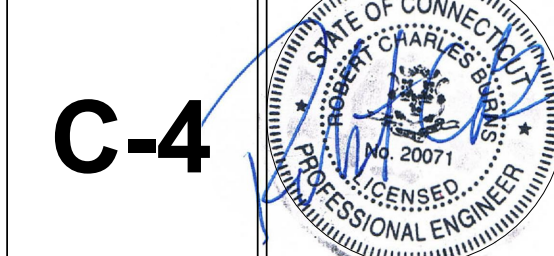
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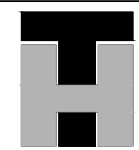
DATE: 05/18/21 DRAWN BY: CSH

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SHEET TITLE: AT&T ANTENNA PLAN & DETAILS

SHEET NUMBER: C-4





HOMELAND TOWERS, LLC
9 HARMONY STREET
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MORRISTOWN, NEW JERSEY 07960



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ADD: 567 VAUXHALL STREET
EXTENSION - SUITE 311
WATERFORD, CT 06385

DEVELOPER: HOMELAND TOWERS, LLC
ADDRESS: 9 HARMONY STREET
2ND FLOOR
DANBURY, CT 06810

HOMELAND TOWERS KENT

SITE ADDRESS: 93 RICHARDS ROAD
KENT, CT 06785

APT FILING NUMBER: CT283180

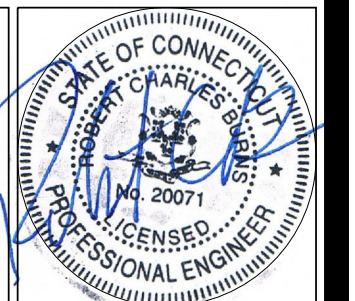
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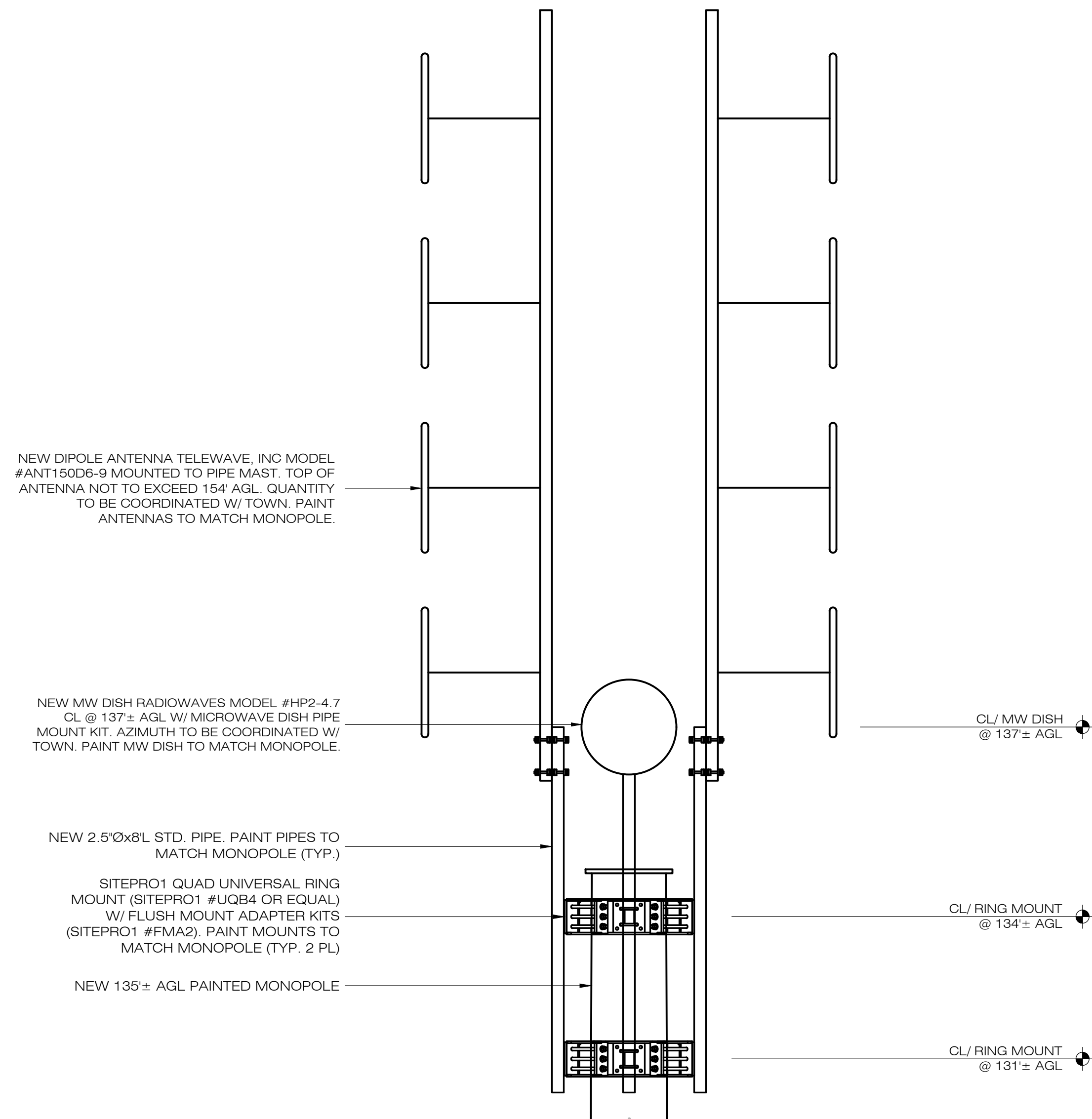
SHEET TITLE:
MUNICIPAL ANTENNA PLANS & DETAILS

SHEET NUMBER:

C-5

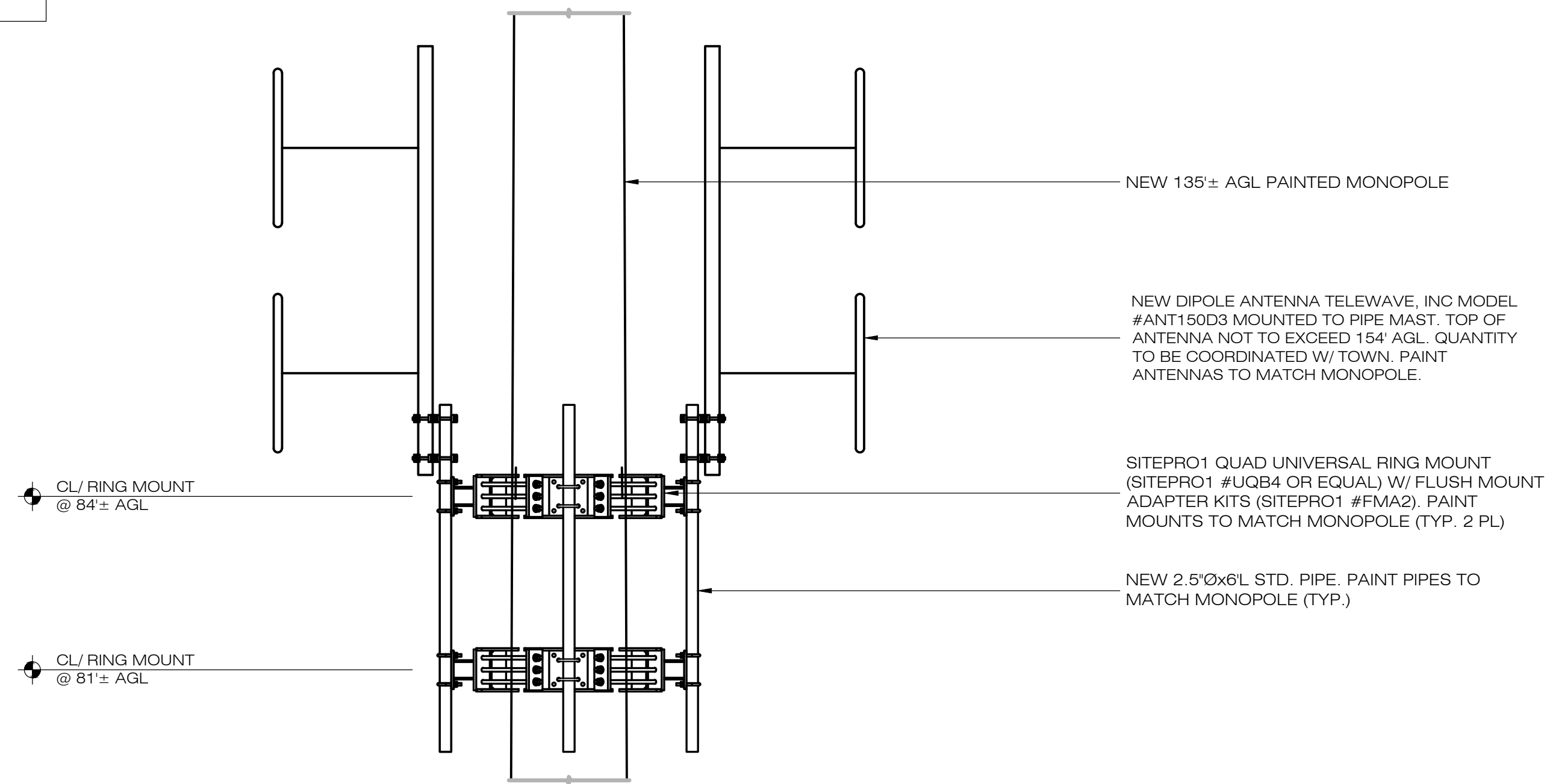


PAINTING NOTE:
ALL ANTENNAS, MOUNTING ASSEMBLIES & APPURTENANCES TO BE PAINTED THE SAME COLOR AS THE TOWER (GRAY-BLUE)

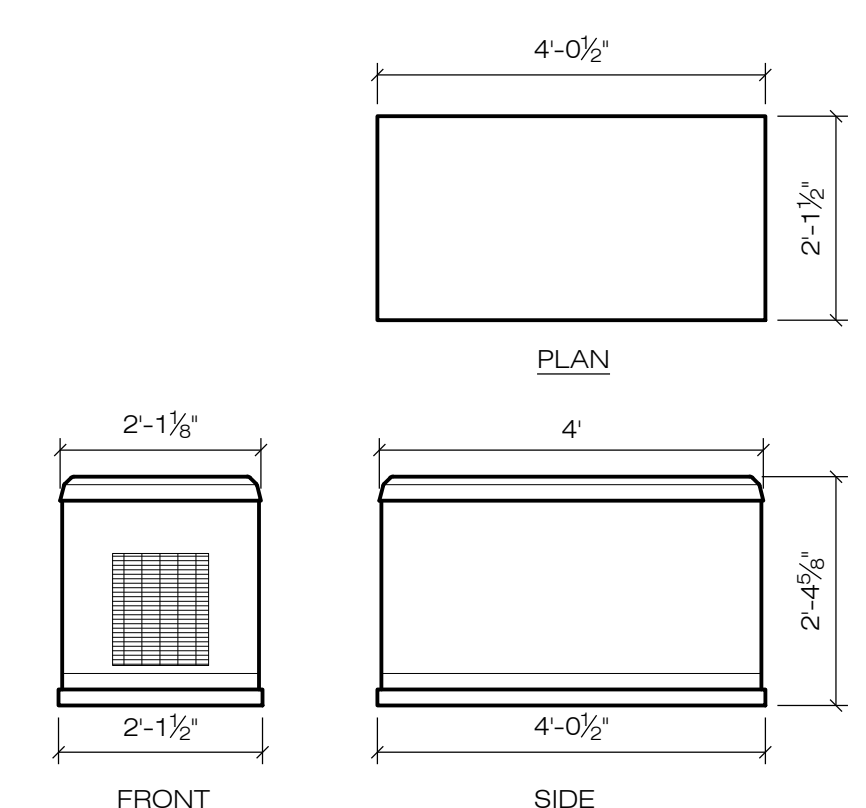


1 MUNICIPAL ANTENNA MOUNT (UPPER)
C-5 SCALE: 1/2" = 1'-0"

MUNICIPAL MOUNT NOTE:
THE MUNICIPAL RING MOUNTS TO BE ROTATED 60° TO THE AT&T ANTENNA MOUNT TO ALLOW THE VERTICAL PIPES TO PASS THROUGH THE AT&T ANTENNA MOUNT UNOBSTRUCTED.

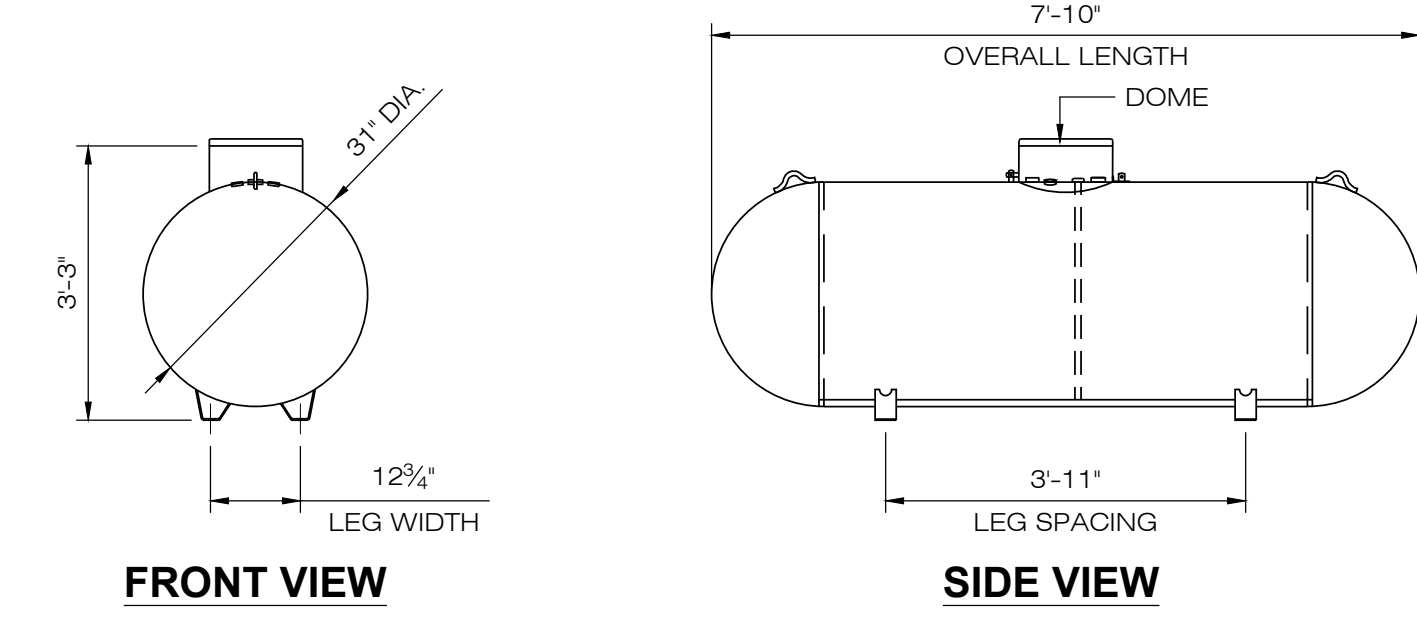


2 MUNICIPAL ANTENNA MOUNT (LOWER)
C-5 SCALE: 1/2" = 1'-0"



3 MUNICIPAL GENERATOR
C-5 SCALE: N.T.S.

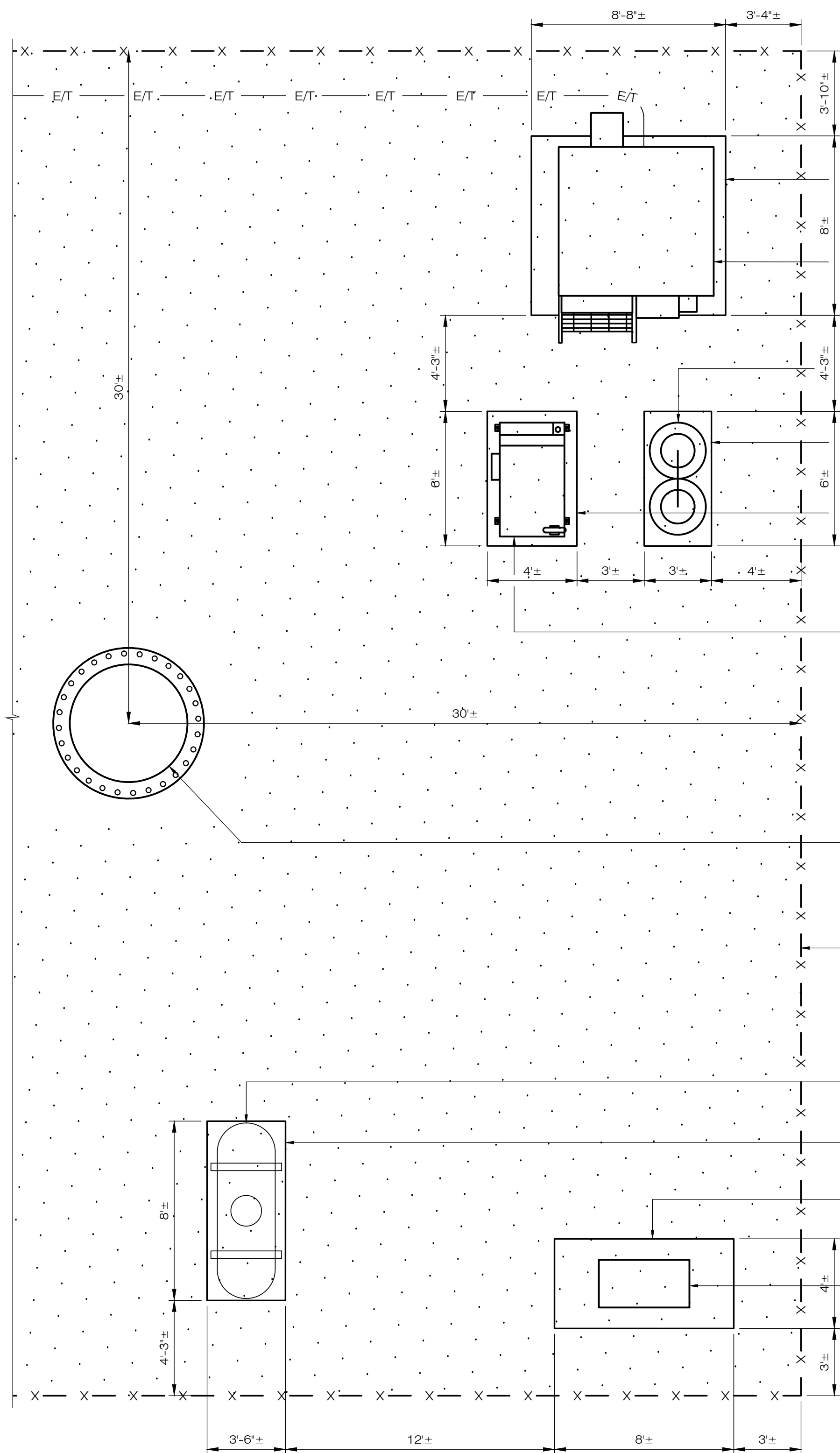
GENERAC GUARDIAN SERIES RESIDENTIAL STANDBY GENERATOR,
16/20/22 KW
W/ SOUND ENCLOSURE



- NOTES:**
- 250 USWG AMSE VIII, DIV. 1 ABOVE GROUND LPG TANK WEIGHT (EMPTY) = 1,729 lbs
 - LPG TANK TO BE BOLTED TO CONCRETE SLAB PER SUPPLIERS REQUIREMENTS.
 - PER NFPA 58 TABLE 5.9.4.1(B) FILLER VALVE REQUIRED ON ALL TANKS BUT MAY BE MANUAL OR BACKFLOW CHECK VALVE, NFPA 58 5.9.4.1(C)(7).
 - ALL ABOVE-GROUND GAS SERVICE LINES MUST MEET NYS CODE REGULATIONS.

4 MUNICIPAL 250 GALLON PROPANE TANK
C-5 SCALE: N.T.S.

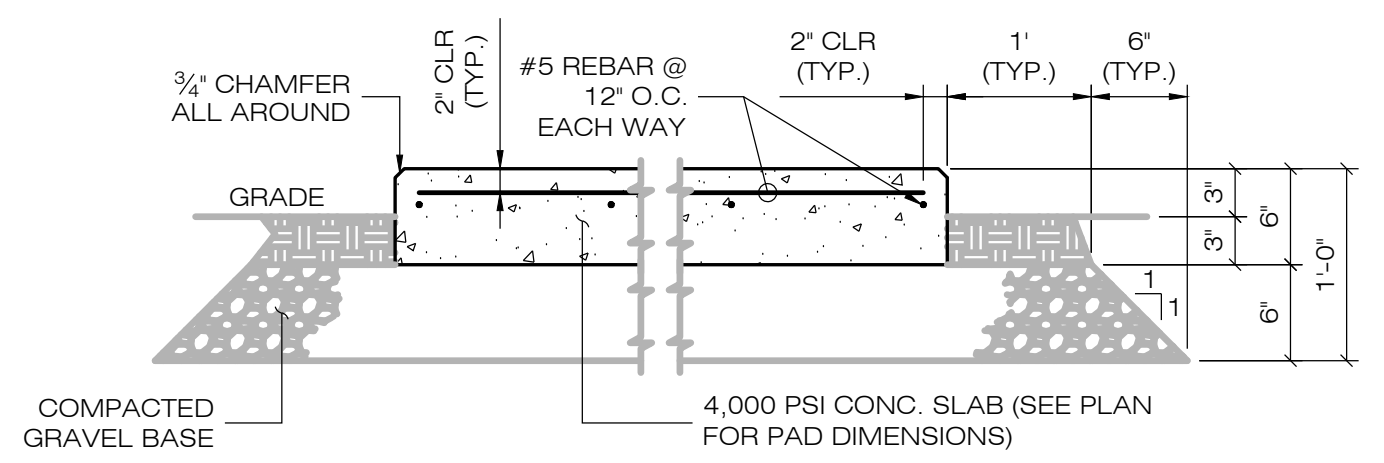
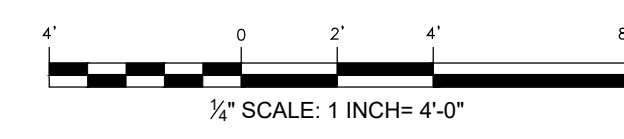
NOTE:
PROVIDE TANK MANUFACTURER SHOP DRAWING FOR REVIEW BY ENGINEER OF RECORD PRIOR TO PURCHASE



- 2
S-1 NEW 8'-0" x 8'-8" CONC. PAD
- 2
C-3 NEW AT&T WALKIN CABINET TO BE INSTALLED PER MANUFACTURERS SPECIFICATIONS. CABINET ANCHORS TO BE A MINIMUM OF 4" FROM THE EDGE OF THE SLAB.
- 7
C-3 (2) NEW AT&T 120 GAL. PROPANE TANKS W/ MANUAL SHUTOFF VALVE(S)
- 2
S-1 NEW 3'x6' CONC. PAD
- 2
S-1 NEW 4'x6' CONC. PAD
- 6
C-3 AT&T 15KW PROPANE POWERED DC GENERATOR INSTALLED PER MANUFACTURERS SPECIFICATIONS. GENERATOR ANCHORS TO BE A MINIMUM OF 4" FROM THE EDGE OF THE SLAB.

- NEW 135± AGL PAINTED MONOPOLE
- NEW 8' HIGH CHAIN LINK FENCE W/ GREEN PRIVACY SLATS (TYP.)
- 4
C-5 NEW MUNICIPAL 250 GAL. PROPANE TANKS W/ MANUAL SHUTOFF VALVE
- 2
S-1 NEW 3'-6"x8'-0" CONC. PAD
- 2
S-1 NEW 4'x8' CONC. PAD
- 3
C-5 MUNICIPAL PROPANE POWERED GENERATOR INSTALLED PER MANUFACTURERS SPECIFICATIONS. GENERATOR ANCHORS TO BE A MINIMUM OF 4" FROM THE EDGE OF THE SLAB.

1 PARTIAL COMPOUND PLAN
S-1 SCALE: 1/4" = 1'-0"



2 CONCRETE PAD
S-1 SCALE: N.T.S.

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SHEET TITLE:
STRUCTURAL PLAN & DETAILS

SHEET NUMBER:
S-1



EROSION CONTROL NOTES

EROSION AND SEDIMENT CONTROL PLAN NOTES

- THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, AND AS DIRECTED BY THE TOWN OF KENT, PERMITTEE, AND/OR SWPCP MONITOR. ALL PERIMETER SEDIMENTATION AND EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CLEARING AND GRUBBING AND DEMOLITION OPERATIONS.
- THESE DRAWINGS ARE ONLY INTENDED TO DESCRIBE THE SEDIMENT AND EROSION CONTROL MEASURES FOR THIS SITE. SEE CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHOWN ON THE EROSION & SEDIMENT CONTROL PLAN ARE SHOWN AS REQUIRED BY THE ENGINEER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT ALL EROSION CONTROL MEASURES ARE CONFIGURED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION OF SOILS AND PREVENT THE TRANSPORT OF SEDIMENTS AND OTHER POLLUTANTS TO STORM DRAINAGE SYSTEMS AND/OR WATERCOURSES. ACTUAL SITE CONDITIONS OR SEASONAL AND CLIMATIC CONDITIONS MAY WARRANT ADDITIONAL CONTROLS OR CONFIGURATIONS, AS REQUIRED, AND AS DIRECTED BY THE PERMITTEE AND/OR SWPCP MONITOR. REFER TO SITE PLAN FOR GENERAL INFORMATION AND OTHER CONTRACT PLANS FOR APPROPRIATE INFORMATION.
- A BOND OR LETTER OF CREDIT MAY BE REQUIRED TO BE POSTED WITH THE GOVERNING AUTHORITY FOR THE EROSION CONTROL INSTALLATION AND MAINTENANCE.
- THE CONTRACTOR SHALL APPLY THE MINIMUM EROSION & SEDIMENT CONTROL MEASURES SHOWN ON THE PLAN IN CONJUNCTION WITH CONSTRUCTION SEQUENCING, SUCH THAT ALL ACTIVE WORK ZONES ARE PROTECTED. ADDITIONAL AND/OR ALTERNATIVE SEDIMENT AND EROSION CONTROL MEASURES MAY BE INSTALLED DURING THE CONSTRUCTION PERIOD IF FOUND NECESSARY BY THE CONTRACTOR, OWNER, SITE ENGINEER, MUNICIPAL OFFICIALS, OR ANY GOVERNING AGENCY. THE CONTRACTOR SHALL CONTACT THE OWNER AND APPROPRIATE GOVERNING AGENCIES FOR APPROVAL IF ALTERNATIVE CONTROLS OTHER THAN THOSE SHOWN ON THE PLANS ARE PROPOSED BY THE CONTRACTOR.
- THE CONTRACTOR SHALL TAKE EXTREME CARE DURING CONSTRUCTION SO AS NOT TO DISTURB UNPROTECTED WETLAND AREAS OR INSTALLED SEDIMENTATION AND EROSION CONTROL MEASURES. THE CONTRACTOR SHALL INSPECT ALL SEDIMENT AND EROSION CONTROLS WEEKLY AND WITHIN 24 HOURS OF A STORM WITH A RAINFALL AMOUNT OF 0.25 INCHES OR GREATER TO VERIFY THAT THE CONTROLS ARE OPERATING PROPERLY AND MAKE REPAIRS AS NECESSARY IN A TIMELY MANNER.
- THE CONTRACTOR SHALL KEEP A SUPPLY OF EROSION CONTROL MATERIAL (SILT FENCE, COMPOST FILTER SOCK, EROSION CONTROL BLANKET, ETC.) ON-SITE FOR PERIODIC MAINTENANCE AND EMERGENCY REPAIRS.
- ALL FILL MATERIAL PLACED ADJACENT TO ANY WETLAND AREA SHALL BE GOOD QUALITY, WITH LESS THAN 5% FINES PASSING THROUGH A #200 SIEVE (BANK RUN), SHALL BE PLACED IN MAXIMUM ONE FOOT LIFTS, AND SHALL BE COMPACTED TO 95% MAX. DRY DENSITY MODIFIED PROCTOR OR AS SPECIFIED IN THE CONTRACT SPECIFICATIONS.
- PROTECT EXISTING TREES THAT ARE TO BE SAVED BY FENCING, ORANGE SAFETY FENCE, CONSTRUCTION TAPE, OR EQUIVALENT FENCING TAPE. ANY LIMB TRIMMING SHOULD BE DONE AFTER CONSULTATION WITH AN ARBORIST AND BEFORE CONSTRUCTION BEGINS IN THAT AREA; FENCING SHALL BE MAINTAINED AND REPAIRED DURING CONSTRUCTION.
- CONSTRUCTION ENTRANCES (ANTI-TRACKING PADS) SHALL BE INSTALLED PRIOR TO ANY SITE EXCAVATION OR CONSTRUCTION ACTIVITY AND SHALL BE MAINTAINED THROUGHOUT THE DURATION OF ALL CONSTRUCTION IF REQUIRED. THE LOCATION OF THE TRACKING PADS MAY CHANGE AS VARIOUS PHASES OF CONSTRUCTION ARE COMPLETED. CONTRACTOR SHALL ENSURE THAT ALL VEHICLES EXITING THE SITE ARE PASSING OVER THE ANTI-TRACKING PADS PRIOR TO EXISTING.
- ALL CONSTRUCTION SHALL BE CONTAINED WITHIN THE LIMIT OF DISTURBANCE, WHICH SHALL BE MARKED WITH SILT FENCE, SAFETY FENCE, HAY BALES, RIBBONS, OR OTHER MEANS PRIOR TO CLEARING. CONSTRUCTION ACTIVITY SHALL REMAIN ON THE UPHILL SIDE OF THE SEDIMENT BARRIER UNLESS WORK IS SPECIFICALLY CALLED FOR ON THE DOWNHILL SIDE OF THE BARRIER.
- NO CUT OR FILL SLOPES SHALL EXCEED 2:1 EXCEPT WHERE STABILIZED BY ROCK FACED EMBANKMENTS OR EROSION CONTROL BLANKETS. ALL SLOPES SHALL BE SEEDED AND BANKS WILL BE STABILIZED IMMEDIATELY UPON COMPLETION OF FINAL GRADING UNTIL TURF IS ESTABLISHED.
- DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE CONFORMING TO THE GUIDELINES WITHIN THE APPROVED LIMIT OF DISTURBANCE IF REQUIRED. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE PERMITTEE OR MUNICIPALITY.
- THE CONTRACTOR SHALL MAINTAIN A CLEAN CONSTRUCTION SITE AND SHALL NOT ALLOW THE ACCUMULATION OF RUBBISH OR CONSTRUCTION DEBRIS ON THE SITE. PROPER SANITARY DEVICES SHALL BE MAINTAINED ON-SITE AT ALL TIMES AND SECURED APPROPRIATELY. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID THE SPILLAGE OF FUEL OR OTHER POLLUTANTS ON THE CONSTRUCTION SITE AND SHALL ADHERE TO ALL APPLICABLE POLICIES AND REGULATIONS RELATED TO SPILL PREVENTION AND RESPONSE/CONTAINMENT.
- MINIMIZE LAND DISTURBANCES. SEED AND MULCH DISTURBED AREAS WITH TEMPORARY MIX AS SOON AS PRACTICABLE (2 WEEK MAXIMUM UNSTABILIZED PERIOD) USING PERENNIAL RYEGRASS AT 40 LBS PER ACRE. MULCH ALL CUT AND FILL SLOPES AND SWALES WITH LOOSE HAY AT A RATE OF 2 TONS PER ACRE. IF NECESSARY, REPLACE LOOSE HAY ON SLOPES WITH EROSION CONTROL BLANKETS OR JUTE CLOTH. MODERATELY GRADED AREAS, ISLANDS, AND TEMPORARY CONSTRUCTION STAGING AREAS MAY BE HYDROSEEDED WITH TACKIFIER.
- SWEEP AFFECTED PORTIONS OF OFF SITE ROADS ONE OR MORE TIMES A DAY (OR LESS FREQUENTLY IF TRACKING IS NOT A PROBLEM) DURING CONSTRUCTION. FOR DUST CONTROL, PERIODICALLY MOISTEN EXPOSED SOIL SURFACES WITH WATER ON UNPAVED TRAVELWAYS TO KEEP THE TRAVELWAYS DAMP. CALCIUM CHLORIDE MAY ALSO BE APPLIED TO ACCESS ROADS. DUMP TRUCK LOADS EXITING THE SITE SHALL BE COVERED.
- VEGETATIVE ESTABLISHMENT SHALL OCCUR ON ALL DISTURBED SOIL, UNLESS THE AREA IS UNDER ACTIVE CONSTRUCTION. IT IS COVERED IN STONE OR SCHEDULED FOR PAVING WITHIN 30 DAYS. TEMPORARY SEEDING OR NON-LIVING SOIL PROTECTION OF ALL EXPOSED SOILS AND SLOPES SHALL BE INITIATED WITHIN THE FIRST 7 DAYS OF SUSPENDING WORK IN AREAS TO BE LEFT LONGER THAN 30 DAYS.
- MAINTAIN ALL PERMANENT AND TEMPORARY SEDIMENT CONTROL DEVICES IN EFFECTIVE CONDITION THROUGHOUT THE CONSTRUCTION PERIOD. UPON COMPLETION OF WORK SWEEP CONCRETE PADS, CLEAN THE STORMWATER MANAGEMENT SYSTEMS AND REMOVE ALL TEMPORARY SEDIMENT CONTROLS ONCE THE SITE IS FULLY STABILIZED AND APPROVAL HAS BEEN RECEIVED FROM PERMITTEE OR THE MUNICIPALITY.
- SEEDING MIXTURES SHALL BE NEW ENGLAND SEMI-SHADE GRASS AND FORBS MIX (SEE SITE DETAILS SHEET DN-1), OR APPROVED EQUAL BY OWNER.

SEDIMENT & EROSION CONTROL NARRATIVE

- THE PROJECT INCLUDES THE INSTALLATION OF A 135'+ AGL PAINTED MONOPOLE WITH ASSOCIATED GROUND MOUNTED EQUIPMENT. ALL DISTURBED AREAS ARE TO BE SEEDED AND STABILIZED PRIOR TO THE INSTALLATION OF THE PROPOSED EQUIPMENT.

THE PROPOSED PROJECT INVOLVES THE FOLLOWING CONSTRUCTION:
A. CONSTRUCTION OF 135' MONOPOLE.
C. CONSTRUCTION OF 80x60' (3,600± SF) FENCED EQUIPMENT COMPOUND W/ GRAVEL SURFACE TREATMENT AND ASSOCIATED UTILITIES.
D. CONSTRUCTION OF 60'± 12' WIDE GRAVEL ACCESS DRIVE.
E. CONSTRUCTION OF 8'-0"x8'-8" CONCRETE EQUIPMENT PAD, 4x6' CONCRETE EQUIPMENT PAD, 3x6' CONCRETE EQUIPMENT PAD, 3'-6"x8'-0" CONCRETE EQUIPMENT PAD & 4x8' CONCRETE PAD WITH 250 GALLON PROPANE TANK.
F. THE STABILIZATION OF PERVIOUS DISTURBED AREAS WITH PERMANENT GRASS TREATMENTS.
- FOR THIS PROJECT, THERE ARE APPROXIMATELY 16,025± SF OF THE SITE BEING DISTURBED.
- A GEOTECHNICAL ENGINEERING REPORT HAS BEEN COMPLETED FOR THIS PROJECT AND WILL BE AVAILABLE UNDER SEPARATE COVER.
- IT IS ANTICIPATED THAT CONSTRUCTION WILL BE COMPLETED IN APPROXIMATELY 12 WEEKS.
- REFER TO THE CONSTRUCTION SEQUENCING AND EROSION AND SEDIMENTATION NOTES FOR INFORMATION REGARDING SEQUENCING OF MAJOR OPERATIONS IN THE ON-SITE CONSTRUCTION PHASES.
- MEASURES ARE BASED UPON ENGINEERING PRACTICE, JUDGEMENT AND THE APPLICABLE SECTIONS OF THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL.
- DETAILS FOR THE TYPICAL EROSION AND SEDIMENTATION MEASURES ARE SHOWN ON PLAN SHEET C-2 OR PROVIDED AS SEPARATE SUPPORT DOCUMENTATION FOR REVIEW IN THIS PLAN.
- CONSERVATION PRACTICES TO BE USED DURING CONSTRUCTION AREA:
A. STAGED CONSTRUCTION;
B. MINIMIZE THE DISTURBED AREAS DURING CONSTRUCTION;
C. STABILIZE DISTURBED AREAS AS SOON AS POSSIBLE WITH TEMPORARY OR PERMANENT MEASURES;
D. MINIMIZE IMPERVIOUS AREAS;
E. UTILIZE APPROPRIATE CONSTRUCTION EROSION AND SEDIMENTATION MEASURES.

SUGGESTED CONSTRUCTION SEQUENCE

THE FOLLOWING SUGGESTED SEQUENCE OF CONSTRUCTION ACTIVITIES IS PROJECTED BASED UPON ENGINEERING JUDGEMENT AND BEST MANAGEMENT PRACTICES. THE CONTRACTOR MAY ELECT TO ALTER THE SEQUENCING TO BEST MEET THE CONSTRUCTION SCHEDULE, THE EXISTING SITE ACTIVITIES AND WEATHER CONDITIONS. CONTRACTOR TO HIRE SURVEYOR FOR PROJECT STAKEOUT AS NEEDED THROUGHOUT CONSTRUCTION ACTIVITIES.

- CONTACT THE OWNER TO SCHEDULE A PRE-CONSTRUCTION MEETING. PHYSICALLY FLAG THE TREES TO BE REMOVED IN THE FIELD AS NECESSARY TO FACILITATE THE PRE-CONSTRUCTION MEETING.
- CONDUCT A PRE-CONSTRUCTION MEETING TO DISCUSS THE PROPOSED WORK AND EROSION AND SEDIMENTATION CONTROL MEASURES. THE MEETING SHOULD BE ATTENDED BY THE OWNER, THE OWNER REPRESENTATIVE(S), THE GENERAL CONTRACTOR, DESIGNATED SUB-CONTRACTORS AND THE PERSON, OR PERSONS, RESPONSIBLE FOR THE IMPLEMENTATION, OPERATION, MONITORING AND MAINTENANCE OF THE EROSION AND SEDIMENTATION MEASURES. THE CONSTRUCTION PROCEDURES FOR THE ENTIRE PROJECT SHALL BE REVIEWED AT THIS MEETING.
- NOTIFY THE OWNER AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY DEMOLITION, CONSTRUCTION OR REGULATED ACTIVITY ON THIS PROJECT. NOTIFY CALL BEFORE YOU DIG CONNECTICUT AT (800) 922-4455.
- CLEAR AND GRUB AS REQUIRED, TO INSTALL THE PERIMETER EROSION AND SEDIMENTATION CONTROL MEASURES AND, IF APPLICABLE, TREE PROTECTION.
- INSTALL CONSTRUCTION ENTRANCE.
- PERFORM THE REMAINING CLEARING AND GRUBBING AS NECESSARY. REMOVE CUT WOOD AND STUMPS. CHIP BRUSH AND STOCKPILE FOR FUTURE USE OR REMOVE OFF-SITE. REMOVE AND DISPOSE OF DEMOLITION DEBRIS OFF-SITE.
- TEMPORARILY SEED DISTURBED AREAS NOT UNDER CONSTRUCTION FOR THIRTY (30) DAYS OR MORE.
- EXCAVATE AND GRADE NEW ACCESS DRIVE.
- EXCAVATE AND ROUGH GRADE EQUIPMENT COMPOUND.
- EXCAVATE FOR TOWER FOUNDATION & EQUIPMENT PADS.
- FINALIZE ACCESS ROAD GRADES.
- PREPARE SUBGRADE AND INSTALL FORMS, STEEL REINFORCING, & CONCRETE FOR TOWER FOUNDATION & EQUIPMENT PADS.
- INSTALL BURIED GROUND RINGS, GROUND RODS, GROUND LEADS, UTILITY CONDUITS & UTILITY EQUIPMENT.
- BACKFILL TOWER FOUNDATION.
- ERECT MONOPOLE.
- INSTALL TELECOMMUNICATIONS EQUIPMENT ON TOWER & COMPOUND.
- INSTALL COMPOUND GRAVEL SURFACES.
- FINALIZE GRADES. INSTALL GRAVEL SURFACES. PAVE ACCESS DRIVE.
- INSTALL FENCING.
- CONNECT GROUNDING LEADS & LIGHTNING PROTECTION
- FINAL GRADE AROUND COMPOUND.
- LOAM & SEED DISTURBED AREAS OUTSIDE COMPOUND, AS REQUIRED.
- TEST ALL NEW EQUIPMENT.
- AFTER THE SITE IS STABILIZED AND WITH THE APPROVAL OF THE OWNER, REMOVE PERIMETER EROSION AND SEDIMENTATION CONTROLS.
- PERFORM FINAL PROJECT CLEANUP.

THE ESTIMATED TIME FOR THE COMPLETION OF THE WORK IS APPROXIMATELY TWELVE (12) WEEKS. THE EXACT PROCESS MAY VARY DEPENDING ON THE CONTRACTORS & SUBCONTRACTORS AVAILABILITY TO COMPLETE WORK & WEATHER DELAYS.

CONSTRUCTION OPERATION AND MAINTENANCE PLAN - BY CONTRACTOR

E&S MEASURE	INSPECTION SCHEDULE	MAINTENANCE REQUIRED
CONSTRUCTION ENTRANCE	DAILY	PLACE ADDITIONAL STONE, EXTEND THE LENGTH OR REMOVE AND REPLACE THE STONE. CLEAN PAVED SURFACES OF TRACKED SEDIMENT.
HAY BALES	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE BALE.
SILT FENCE	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FENCE.
COMPOST FILTER SOCKS	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE FILTER SOCK.
SILT SACKS	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/REPLACE WHEN FAILURE, OR OBSERVED DETERIORATION, IS OBSERVED. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE SACK.
TOPSOIL/BORROW STOCKPILES	DAILY	REPAIR/REPLACE SEDIMENT BARRIERS AS NECESSARY.
WATER BARS	DAILY	REPAIR/RESHAPE AS NECESSARY. REMOVE SILT WHEN IT REACHES 1/2 THE HEIGHT OF THE WATER BAR.
TEMPORARY DIVERSION DITCHES	DAILY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR/RESHAPE AS NECESSARY. REVIEW CONDITIONS IF REPETITIVE FAILURES OCCUR.
TEMPORARY SEDIMENT TRAPS/BASINS	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REMOVE SEDIMENT WHEN IT REACHES 1/2 OF THE MINIMUM REQUIRED WET STORAGE VOLUME.
TEMPORARY SOIL PROTECTION	WEEKLY & WITHIN 24 HOURS OF RAINFALL > 0.2"	REPAIR ERODED OR BARE AREAS IMMEDIATELY. RESEED AND MULCH.



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D&M DOCUMENTS		
NO	DATE	REVISION
0	05/18/21	FOR REVIEW: RCB
1	06/03/21	CLIENT REVS: RCB
2	06/09/21	CLIENT REVS: RCB
3	10/15/21	CLIENT REVS: RCB
4	10/26/21	CLIENT REVS: RCB
5		
6		
7		
8		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
COMP: ALL-POINTS TECHNOLOGY CORPORATION, P.C.
ADD: 567 VAUXHAUL STREET EXTENSION - SUITE311 WATERFORD, CT 06385

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HOMELAND TOWERS KENT

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APT FILING NUMBER: CT283180

DATE: 05/18/21 **DRAWN BY: CSH**

CHECKED BY: RCB

SHEET TITLE:

EROSION CONTROL NOTES

SHEET NUMBER:

EC-1



DESIGN BASIS:	
GOVERNING CODES/DESIGN STANDARDS: <ul style="list-style-type: none"> CONNECTICUT STATE BUILDING CODE, LATEST EDITION NATIONAL ELECTRIC CODE IA-222-H 	
DESIGN CRITERIA:	
RISK CATEGORY :	III (2018 CSBC TABLE 1604.5) (IA-222-H, TABLE 2-1)
SNOW LOAD:	
GROUND, P _g :	40 PSF (2018 CSBC APPENDIX N)
MINIMUM FLAT ROOF, P _{min} :	30 PSF (2018 CSBC SECT. 1608.1.1)
WIND LOADS:	
ULTIMATE BASIC WIND SPEED, V _{ULT} :	120 MPH (2018 CSBC APPENDIX N) (3-SECOND GUST)
EXPOSURE CATEGORY :	C (2015 IBC SECT. 1609.4)
ICE LOADS:	
ICE THICKNESS, t :	1.00 IN. (IA-222-H, ANNEX B)
ICE THICKNESS IMPORTANCE FACTOR, I _i :	1.15 IN. (IA-222-H, TABLE 2-3)
NOMINAL BASIC WIND SPEED W/ICE, V _i :	40 MPH (IA-222-H, ANNEX B) (3-SECOND GUST)
SEISMIC LOAD:	
REFER TO SECTION 1613 OF THE 2015 IBC/2018 CONNECTICUT STATE BUILDING CODE FOR SEISMIC CLASSIFICATION AND LOADING DETERMINATION.	
01 GENERAL:	
ABBREVIATIONS USED IN THESE SPECIFICATIONS INCLUDE THE FOLLOWING:	
ACI	AMERICAN CONCRETE INSTITUTE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AWS	AMERICAN WELDING SOCIETY
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS
ASTM	AMERICAN STANDARDS AND TESTING METHODS
CRSI	CONCRETE REINFORCING STEEL INSTITUTE
ICC-ES	INTERNATIONAL CODE COUNCIL EVALUATION SERVICE
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
UL	UNDERWRITERS LABORATORIES
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
EVERY INDIVIDUAL, TRADE, DISCIPLINE, AND CONTRACTOR SHALL INCLUDE THESE GENERAL SPECIFICATIONS.	
THE ENGINEER IS NOT RESPONSIBLE FOR NOR A GUARANTOR OF THE INSTALLATION OF CONDUCTORS WORK, ADEQUACY OF ANY SITE COMPONENT, SUPERVISION OF ANY WORK, AND SAFETY IN, ON, OR ABOUT THE WORK SITE.	
ANY REFERENCE HEREIN TO AN OR EQUAL ITEM, THAT EQUAL ITEM SHALL BE PRE-APPROVED BY THE CONSTRUCTION MANAGER BEFORE INSTALLATION.	
ALL TRADES SHALL COORDINATE THEIR WORK WITH ALL OTHER TRADES AND OTHER WORK AND CONDITIONS AS APPROPRIATE OR REQUIRED TO AVOID CONFLICTS. RESOLVE AND COORDINATE ALL CONFLICTS WITH ALL AFFECTED WORK AND SITE OPERATIONS. COORDINATION WITH THE SITE SHALL BE WITH THE OWNER, OR OWNERS SPECIFIED REPRESENTATIVE, FOR EVERYTHING RELATED TO THE INSTALLATION OF THIS PROJECT.	
ALL WORK SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE EDITIONS OF ALL APPLICABLE CODES AND SHALL BE ACCEPTABLE TO ALL AUTHORITIES HAVING JURISDICTION (AHJ), WHERE A CONFLICT EXISTS BETWEEN CODES, PLANS, SPECIFICATIONS, AND/OR AHJ, THE MORE STRINGENT AUTHORITY SHALL APPLY, WHERE CONFLICT EXISTS BETWEEN PLANS AND SPECIFICATIONS, PLANS SHALL APPLY, WHERE CONFLICT EXISTS BETWEEN PLAN SHEETS, CONSTRUCTION MANAGER SHALL BE CONSULTED PRIOR TO COMMENCING ANY WORK.	
CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE AND USABLE SYSTEM THROUGHOUT AND AS INDICATED ON THE DRAWINGS AND AS SPECIFIED HEREIN AND/OR OTHERWISE REQUIRED.	
CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, INSTALLATIONS, AND EQUIPMENT IN THE FIELD PRIOR TO BID, FABRICATION, AND INSTALLATION OF ANY WORK.	
CONTRACTORS SHALL VERIFY ALL DIMENSIONS AND	

CONDITIONS IN THE FIELD PRIOR TO FABRICATION AND ERECTION OF ANY MATERIAL. THE ENGINEER SHALL BE NOTIFIED FOR INSPECTIONS PRIOR TO CLOSING PENETRATIONS AND OF ANY CONDITIONS WHICH PRECLUDE COMPLETION OF THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.

CONTRACTOR SHALL VISIT THE SITE TO MANAGE AND GAIN APPROVAL FOR TENANT SAFETY DISRUPTIONS, POWER OUTAGES, WORK SCHEDULES, DEFINITION OF WORK AREA AND WORK STORAGE, PROPER BUILDING/SITE ACCESS, NOISE AND CLEANLINESS REQUIREMENTS WITH THE BUILDING/SITE MANAGEMENT PRIOR TO ALL WORK. ANY DISRUPTIONS SHALL BE KEPT TO A MINIMUM AND SHALL BE IMPLEMENTED ONLY UPON WRITTEN APPROVAL OF THE OWNER.

THE CONTRACTOR SHALL SAFEGUARD AGAINST CREATING ANY HAZARD AFFECTING TENANT EGRESS OR COMPROMISING SITE SECURITY MEASURES. PRIOR TO ALL BELOW-GRADE WORK AND ANY SURFACE WORK IN A NEW AREA FOR STRUCTURES OR VEHICLES, CONTRACTOR SHALL ENGAGE A MARKOUT SERVICE TO IDENTIFY ANY UNDERGROUND STRUCTURES, CONDUITS, AND PIPING, WATER, GAS, ELECTRIC, FIBER OPTIC, AND OTHER UNDERGROUND UTILITIES IDENTIFIED OR ENCOUNTERED, SHALL BE PROTECTED AT ALL TIMES. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN DIGGING OR EXCAVATING IN ANY MANNER AROUND OR NEAR SUCH UTILITIES. CONTRACTOR IS RESPONSIBLE FOR REPAIRS, REPLACEMENT, AND ALL DAMAGES DUE TO DAMAGE OF UTILITIES BY HIS OPERATIONS.

ALL EXISTING AND NEW EQUIPMENT AND MATERIAL LOCATIONS, ROUTING, ORIENTATION, MOUNTING, SPECIFICATIONS AND GENERAL INSTALLED CHARACTERISTICS SHALL BE CONSIDERED DIAGRAMMATIC ON THE PLANS. EXACT CONDITIONS SHALL BE DETERMINED IN THE FIELD PRIOR TO ANY INSTALLATION. ANY DIFFERENCES THAT MAY ARISE SCHEDULE, COST, OR QUALITY SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER OR ENGINEER PRIOR TO ANY WORK.

ALL REFERENCES HEREIN TO VERIFICATION OF ANY CONDITION OF THE FIELD, PLANS, AND SPECIFICATIONS PRIOR TO ANY WORK SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR. ANY AND ALL ADDITIONS, MODIFICATIONS, CHANGES, REPAIR, OR DEMOLITION AS A RESULT OF FAILURE TO BRING ANY EXISTING CONDITION PROPERLY TO THE ATTENTION OF THE OWNER OR ENGINEER SHALL BE THE FULL RESPONSIBILITY OF THE CONTRACTOR WITHOUT DELAY, COST, OR CHANGES IN QUALITY.

ALL NOTES THIS SHEET SHALL APPLY UNLESS SPECIFICALLY NOTED OTHERWISE. ALL NOTES INCLUDED DRAWINGS OR IN SEPARATE PROJECT SPECIFICATIONS AS APPLICABLE. ALL SPECIFICATIONS SHALL BE CONSIDERED REQUIRED UNLESS APPROVED EQUAL BY THE OWNER, CONSTRUCTION MANAGER, OR ENGINEER AS APPLICABLE.

THE WORDS "PROVIDE" OR "INSTALL" SHALL MEAN FURNISH AND INSTALL.

CONTRACTOR SHALL PROVIDE ALL CUTTING AND PATCHING AS REQUIRED FOR THE INSTALLATION OF HIS WORK. ANY PATCHING SHALL MATCH EXISTING SURROUNDING AREA IN ALL CONSPICUOUS AREAS. ALL REMOVED MATERIAL SHALL BE REMOVED FROM THE PREMISES DAILY IN AN APPROVED SAFE MANNER.

ALL SURPLUS MATERIAL SHALL BE REMOVED FROM THE SITE PROMPTLY WHEN DEEMED TO BE SURPLUS.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF HIS WORK AND NEWLY INSTALLED OR EXISTING WORK, INCLUDING PROTECTION OF THE SITE, ALL STRUCTURES, AND ALL OCCUPANTS. FURNISH, INSTALL, MAINTAIN, AND REMOVE AS APPROPRIATE, ALL APPROPRIATE BARRIERS, SAFETY GUARDS, SIGNAGE, AND SECURITY AS REQUIRED.

EVERY CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR RESPECTIVE FEES, PERMITS, INSPECTIONS, TESTING, CERTIFICATES, AND ALL MANAGEMENT OF SAME REQUIRED FOR COMPLETION OF AND LEGAL OCCUPANCY OF THE FINISHED PROJECT.

ALL CONTRACTORS SHALL PROVIDE ALL NECESSARY TOOLS, FIXTURES, SERVICES, MATERIALS, JOB AIDS, AND PERSONNEL REQUIRED FOR THE EXECUTION OF THEIR WORK.

EACH CONTRACTOR SHALL GUARANTEE ALL MATERIALS AND WORKMANSHIP BY THEM TO BE FREE OF DEFECTS AND MAINTAINED FOR A PERIOD OF ONE YEAR AFTER ACCEPTANCE OF THE INSTALLATION BY THE OWNER AND ENGINEER.

ALL WORK SHALL BE PERFORMED BY LICENSED CONTRACTORS IN THE TRADE HAVING JURISDICTION, ANY DEVIATION, MODIFICATION, ADDITION, OR CHANGE IN DESIGN SHALL NOT BE MADE WITHOUT WRITTEN APPROVAL OF THE OWNER OR ENGINEER.

ALL CONTRACTORS SHALL SUBMIT SHOP DRAWINGS OF ALL EQUIPMENT AND MATERIALS TO THE ENGINEER FOR APPROVAL PRIOR TO FABRICATION AND INSTALLATION, AND SHALL NOT PROCEED UNTIL ENGINEER APPROVAL IN WRITING IS RETURNED. EACH CONTRACTOR SHALL MAINTAIN ON JOB SITE A COMPLETE SET OF SHOP DRAWINGS WITH ANY DEVIATIONS FROM THE ORIGINAL DESIGN SHALL BE NOTED.

ALL MATERIALS AND EQUIPMENT SHALL BE NEW, WITHOUT BLEMISH OR DEFECT, AND SUITABLE AND LISTED FOR THE INSTALLATION AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS OR SPECIFICATIONS. ALL ITEMS OF EQUIPMENT OR MATERIAL THAT ARE OF ONE GENERIC TYPE SHALL BE ONE MANUFACTURER THROUGHOUT.

ALL MATERIALS, EQUIPMENT, TOOLS, AND ITEMS UNDER THE CONTRACTORS RESPONSIBILITY ON THE JOBSITE SHALL BE ADEQUATELY SECURED, MAINTAINED, AND PROTECTED, SO AS NOT TO BECOME DAMAGED OR CREATE ANY HAZARD TO PERSONNEL OR PROPERTY.

THE CONTRACTORS HOURS OF WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND ORDINANCES AND BE APPROVED BY THE OWNER.

CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR ALL OF HIS CREW AND INSURE THAT EVERY CREW MEMBER FOLLOWS SAVE WORK PRACTICES. SAFETY TRAINING SHALL INCLUDE, BUT NOT BE LIMITED TO, FALL PROTECTION, CONFINED SPACE ENTRY, ELECTRICAL SAFETY, AND TRENCHING/EXCAVATION SAFETY WHERE SUCH WORK IS EXECUTED OR ENCOUNTERED.

ALL TEMPORARY WORK REQUIRED OR SPECIFIED AS A PART OF THIS WORK, SHALL MEET ALL OF THE SAME REQUIREMENTS AS PERMANENT INSTALLATIONS. SHALL MEET ALL APPLICABLE CODE REQUIREMENTS, AND SHALL BE COMPLETELY REMOVED AFTER ITS PURPOSES HAVE BEEN SERVED.

ANY EXISTING UTILITY, SERVICE, STRUCTURE, EQUIPMENT, OR FIXTURE OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER.

IF ASBESTOS IS ENCOUNTERED DURING WORK EXECUTION, CONTRACTOR SHALL IMMEDIATELY NOTIFY THE CONSTRUCTION MANAGER AND CEASE ALL ACTIVITIES IN AFFECTED AREAS UNTIL NOTIFIED BY THE CONSTRUCTION TO RESUME OPERATIONS.

EXIST ELECTRICAL AND MECHANICAL FIXTURES, PIPING, WIRING AND EQUIPMENT OBSTRUCTING THE WORK SHALL BE REMOVED AND/OR RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. TEMPORARY SERVICE INTERRUPTIONS MUST BE COORDINATED WITH OWNER.

04 CONCRETE:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

ALL CONCRETE CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE AMERICAN CONCRETE INSTITUTE (ACI) CODES 301 & 318, LATEST REVISION.

ALL CONCRETE USED SHALL BE 4000 PSI (28 DAY COMP STRENGTH), THE CONCRETE MIX SHALL BE BASED ON USING THE FOLLOWING MATERIALS AND PARAMETERS:

PORTLAND CEMENT: ASTM C150, T1
AGGREGATE: ASTM C33, 1 INCH MAX
WATER: POTABLE
ADMIXTURE: NON-CHLORIDE
AIR: 6%
SLUMP: 4 INCH

*ALL CONCRETE EXPOSED TO FREEZING WEATHER SHALL CONTAIN ENTRAINED AIR PER ACI 211 TABLE 4.2.1 OF ACI 318-05.

ALL REINFORCING STEEL SHALL BE ASTM A615, GR 60 (DEFORMED), WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 WELDED STEEL WIRE FABRIC. SPLICES SHALL BE CLASS 3 AND ALL HOOKS SHALL BE AS STANDARD UNO. REINFORCING BARS SHALL BE COLD BENT WHERE REQUIRED AND TIED (NOT WELDED).

THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL:

- CONCRETE CAST AGAINST EARTH = 3 IN.
- CONCRETE EXPOSED TO EARTH OR WEATHER:

 - #6 AND LARGER = 2 IN.
 - #5 AND SMALLER = 1 1/2 IN.

- CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:

 - SLAB AND WALL = 3/4 IN.
 - BEAMS AND COLUMNS = 1 1/2 IN.

A 3/4 IN. CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

CONCRETE SHALL BE PLACED IN A UNIFORM MANNER AND CONSOLIDATED IN PLACE.

CONCRETE FOOTINGS SHALL BE CAST AGAINST LEVEL, COMPACTED, NON-FROZEN BASE SOIL FREE OF STANDING WATER.

05 ANCHORS:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

EXPANSION ANCHORS SHALL BE USED WHERE ATTACHING TO CONCRETE. MASONRY MOUNTS SHALL HAVE INJECTION ADHESIVE ANCHORING.

EXPANSION BOLTS SHALL BE HILTI KWIK BOLT 3 OR EQUAL. MINIMUM EMBEDMENT 4 INCHES.

INJECTION ADHESIVE ANCHORING IN MASONRY WITH VOIDS SHALL BE HILTI HIT HY-70 OR EQUAL WITH THREADED ROD AND SCREEN TUBES.

ANCHORING IN BRICKS WITH HOLES SHALL HAVE ANCHORS SPACED 2 COMPLETE BRICKS APART AND 1/2 INCH FROM FREE EDGES (WHICHEVER IS LESS), AND SHALL BE EMBEDDED 3-1/2 INCHES MINIMUM.

ANCHORING IN HOLLOW CONCRETE BLOCK SHALL USE 50% MORE ANCHORS THAN SHOWN. EACH SHALL LIMIT ONE ANCHOR MAXIMUM PER BLOCK CELL, SHALL MAINTAIN 12" SPACING FROM FREE EDGES, AND SHALL BE EMBEDDED THROUGH FACE.

INJECTION ADHESIVE ANCHORING IN SOLID MASONRY AND GROUT FILLED BLOCK SHALL BE HILTI HIT HY-200 OR EQUAL WITH THREADED ROD MAINTAIN 12 INCHES BETWEEN ANCHORS AND ALL FREE EDGES. MINIMUM SPACING BETWEEN ANCHORS IS 8 INCHES.

ANCHORS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND SHALL NOT BE INSTALLED IN MORTAR JOINTS.

GRATING SHALL BE ATTACHED USING FOUR GRATING CLAMPS OR 1/4 FILL WELDS PER SECTION.

05 POST-INSTALLED ANCHORS:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES AND INSTALLED IN ACCORDANCE WITH THEIR RESPECTIVE ICC-ES REPORT AND MANUFACTURERS PUBLISHED INSTALLATION INSTRUCTIONS:

APPLICATION	ANCHORING SYSTEM
CONCRETE	HILTI HY 200 ADHESIVE WITH SAFE SET (HOB)
REBAR DOWELING	HILTI RE 600V3 ADHESIVE WITH SAFE SET (HOB)
SOLID GROUTED	HILTI HY 70
MASONRY	ADHESIVE WITH SCREEN TUBE
HOLLOW / MULTI-WIDTH MASONRY	HILTI HY 70 ADHESIVE WITH SCREEN TUBE

ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE.

CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT INCLUDING AN ICC-ES REPORT SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE, SEISMIC USE, LOAD RESISTANCE, INSTALLATION CATEGORY, IN-SERVICE TEMPERATURE, INSTALLATION TEMPERATURE, ETC.

ADHESIVE ANCHORS INSTALLED IN A HORIZONTAL OR UPWARDLY INCLINED ORIENTATION INTO CONCRETE AND SUPPORTING A SUSTAINED TENSION LOAD SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER, PER SECTION 9.2.2 OF ACI-318-14. INSTALLER SHALL BE CERTIFIED LARGER OF 1/4" FILLET OR MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION". AT THE COMPLETION OF WELDING, ALL DAMAGE TO GALVANIZED COATING SHALL BE REPAIRED. SEE NOTE REGARDING DAMAGED GALVANIZED SURFACES.

ALL ARC AND GAS WELDING SHALL BE DONE BY A LICENSED AND CERTIFIED WELDER IN ACCORDANCE WITH AWS.

SEAL ALL PENETRATIONS AND SEAMS BETWEEN MASONRY AND STEEL WITH DOW CORNING 790 SILICONE BUILDING SEALANT OR EQUAL.

07 THERMAL & MOISTURE PROTECTION:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

FIRE-STOP ALL PENETRATIONS THROUGH BUILDING WALLS, FLOORS, AND CEILING, WITH LISTED AND ACCEPTED MATERIALS TO MAINTAIN THE FIRE RATING OF THE EXISTING ASSEMBLY. ALL FILL MATERIAL SHALL BE SHAPED, FITTED, AND PERMANENTLY SECURED IN PLACE. FIRESTOPPING SHALL BE INSTALLED IN ACCORDANCE WITH ASTM E814. HILTI CR620 FIRE FOAM OR 3M FIRE BARRIER PRODUCTS, OR EQUAL, SHALL BE USED TO FILL Voids AND CAVITIES AND SHALL BE APPLIED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND ASSOCIATED UL SYSTEM NUMBER.

FIRESTOPPING SHALL BE APPLIED AS SOON AS PRACTICABLE AFTER PENETRATIONS ARE MADE AND EQUIPMENT INSTALLED.

FIRESTOPPED PENETRATIONS SHALL BE LEFT EXPOSED AND MADE AVAILABLE FOR INSPECTION BEFORE APPLYING FINISHES THAT MAY CONCEAL SUCH PENETRATION. FIRESTOPPING MATERIAL CERTIFICATES SHALL BE MADE AVAILABLE AT THE TIME OF INSPECTION.

ANY BUILDING ROOF PENETRATION OR RESTORATION SHALL BE PERFORMED SO THAT ROOF WARRANTY IN PLACE IS NOT COMPROMISED.

CONTRACTOR SHALL ARRANGE FOR CONDUCTOR ROOFING CONTRACTOR TO PERFORM ANY AND ALL ROOFING WORK IF SO REQUIRED BY EXISTING ROOF WARRANTY. OTHERWISE, ROOF SHALL BE MADE WATERTIGHT WITH LIKE CONSTRUCTION AS SOON AS PRACTICABLE AND AT COMPLETION OF CONSTRUCTION.

ALL BUILDING CONNECTION POINTS TO BE CENTERED ON EXISTING STRUCTURAL BEARING POINTS AND THE LOCATIONS ARE TO BE VERIFIED IN FIELD PRIOR TO THE FABRICATION OF STEEL.

DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF AISC SPECIFICATION FOR "THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS":

NON-STRUCTURAL CONNECTIONS FOR STEEL GRATING MAY USE 5/8" DIAMETER GALVANIZED ASTM A 307 BOLTS UNLESS OTHERWISE NOTED.

ALL STEEL MATERIAL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIPPED GALVANIZED) COATINGS" ON IRON AND STEEL PRODUCTS WITH A COATING WEIGHT OF 0.55ZF.

ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE EXPOSED TO WEATHER SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE."

DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY TOUCHING UP ALL DAMAGED GALVANIZED STEEL WITH COLD ZINC, "GALVANOX", "DRY GALV", OR "ZINC" IT, IN ACCORDANCE WITH MANUFACTURERS GUIDELINES. TOUCH UP DAMAGED NON-GALVANIZED STEEL WITH SAME PAINT APPLIED IN SHOP OR FIELD.

THE ENGINEER SHALL BE NOTIFIED OF ANY INCORRECTLY FABRICATED, DAMAGED OR OTHERWISE MISFITTING OR NONCONFORMING MATERIALS OR CONDITIONS TO REMEDIAL OR CORRECTIVE ACTION. ANY SUCH ACTION SHALL REQUIRE ENGINEER REVIEW. FIELD CUTTING OF STRUCTURAL STEEL IS NOT PERMITTED EXCEPT WITH THE PRIOR APPROVAL OF THE ENGINEER.

CONTRACTOR TO REMOVE AND RE-INSTALL ALL FIRE PROOFING AS REQUIRED DURING

CONSTRUCTION.

THE STEEL STRUCTURE SHALL BE DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER COMPLETION. IT IS THE CONTRACTORS SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE AND TO INSURE THE SAFETY OF THE BUILDING AND ITS COMPONENT PARTS DURING ERECTION.

ALL STEEL ELEMENTS SHALL BE INSTALLED PLUMB AND LEVEL.

TOWER MANUFACTURERS DESIGNS SHALL PREVAIL FOR TOWER.

CONNECTIONS SHALL BE DESIGNED BY THE FABRICATOR AND CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE AISC "MANUAL OF STEEL CONSTRUCTION". CONNECTIONS SHALL BE PROVIDED TO CONFORM TO THE REQUIREMENTS OF TYPE 2 CONSTRUCTION.

STRUCTURAL CONNECTION BOLTS SHALL CONFORM TO ASTM A325. ALL BOLTS SHALL BE MINIMUM 3/4" DIAMETER AND EACH CONNECTION SHALL HAVE MINIMUM TWO BOLTS. LOCK WASHERS ARE NOT PERMITTED FOR A325 STEEL ASSEMBLIES. IF TENSION CONTROL BOLTS ARE USED, CONNECTIONS SHALL BE DESIGNED FOR SLIP CRITICAL BOLT ALLOWABLE LOAD VALUES.

DESIGN CONNECTIONS AT BEAM ENDS FOR 10 KIPS (MIN).

ALL U-BOLTED CONNECTIONS SHALL BE COMPLETED WITH DOUBLE NUTS OR A LOCK WASHER.

CONTRACTOR SHALL COMPLY WITH AWS CODE FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS STANDARD ALL EQUIPMENT ENCLOSURES, ETC. SHALL BE SUITABLE FOR THE INSTALLED ENVIRONMENT, MINIMUM NEMA 3R FOR ALL EXTERIOR INSTALLATIONS.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AND WIRING DEVICE COVER PLATES SHALL BE PLUMB WITH ENGRAVING AS SPECIFIED. COLOR SHALL BE WORK. ALL DEVICES AND COVER PLATES SHALL BE OF THE SAME MANUFACTURER.

ALL FIRE-RATED PENETRATIONS SHALL BE SEALED USING A SUITABLE AND LISTED FIRE SEALING DEVICE OR GROUT THAT WILL MAINTAIN THE FIRE RATING OF THE STRUCTURE PERMANENTLY.

PROVIDE PERMANENTLY AFFIXED ENGRAVED NAMEPLATES FOR ALL CODE REQUIRED LABELING AND ON ALL PANELS, METERING, DISCONNECTS, AND ELECTRICAL EQUIPMENT THAT IDENTIFIES EQUIPMENT SERVED, ELECTRICAL SOURCE WITH CIRCUIT IDENTIFICATION, AND VOLTAGES WITHIN ELECTRICAL EQUIPMENT. NAMEPLATES FOR ALL FIRE TERMINATIONS TO ALL EQUIPMENT.

ALL ELECTRICAL APPURTENANCES THAT ARE DISCONNECTED SHALL BE COMPLETELY REMOVED WITH EXISTING STRUCTURES TO REMAIN, REPAIRED, FINISHED, FILLED, PAINTED, ETC. ALL PANEL SCHEDULES, LABELING, AND COLOR SHALL BE VERIFIED AND PROPERLY COMPLETED TO MATCH THE INSTALLATION.

26 GROUNDING:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

GROUND ALL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH BEST INDUSTRY PRACTICE, THE REQUIREMENTS OF NFPA 70 NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

ALL GROUNDING ELECTRODES PRESENT AT EACH SERVICE LOCATION SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM.

ALL EQUIPMENT ENCLOSURES, DEVICES, AND CONDUITS SHALL BE GROUNDED BY THE INSTALLATION OF A SEPARATE GROUNDING CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS THAT IS SIZED PER CODE OR IS OF THE SIZE INDICATED ON THE DRAWINGS, SHALL BE CONDUIT SIZED LENGTH, AND SHALL BE BONDED TO EACH ENCLOSURE PASSED THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING WIRE OR CIRCUIT.

BOND ALL METALLIC CONDUITS TOGETHER THAT ARE CONNECTED TO NON-METALLIC ENCLOSURES, IN-GROUND BOXES, AND TO AN ENCLOSURE WHERE A GROUND BUS IS SPECIFIED OR SUPPLIED. ACCOMPLISH THIS BOND WITH GROUNDING CONDUCTORS MINIMUM SIZED TO THE LARGEST GROUNDING CONDUCTOR PRESENT IN THE ENCLOSURE CONNECTED TO A GROUNDING TYPE BUSHING EQUALLY SIZED OR MAXIMUM GROUND WIRE ACCOMMODATION AVAILABLE IN STANDARD MANUFACTURE FOR THE CONDUIT SIZE, WHICHEVER IS LESS.

EQUIPMENT GROUNDING AND LOAD SIDE BONDING CONDUCTORS SHALL BE SIZED PER THE CIRCUITS OVER-CURRENT PROTECTIVE DEVICE (OCPD) SIZE WHERE THE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE ABOVE THE STANDARD FOR THE CIRCUITS OCPD, INCREASE THE GROUNDING CONDUCTOR SIZE TO THE NEXT STANDARD CROSS-SECTIONAL AREA OF THE UNGROUNDED CONDUCTORS.

SERVICE MAIN BONDING JUMPERS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED AND INSTALLED PER THE MINIMUM OF ALL APPLICABLE REGULATIONS.

26 LIGHTNING PROTECTION:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS AND THE GROUNDING SPECIFICATIONS HEREIN.

THE LIGHTNING PROTECTION GROUNDING SYSTEM (LPGS) SHALL CONSIST OF BONDING ALL EQUIPMENT AND CONDUCTIVE STRUCTURES TO LOCALIZED SINGLE-POINT GROUNDING CONNECTIONS (TYPICALLY GROUND BARS) WHICH ARE BONDED TOGETHER AND TO AN IN-GROUND SYSTEM. IF THE LPGS IS ON A BUILDING, IT SHALL BE EFFECTIVELY BONDED TO THE ELECTRICAL SERVICE MAIN BONDING JUMPER AND TO ADDITIONAL GROUNDING ELECTRODES AS MAY BE REQUIRED OR INDICATED. IF THE LPGS IS ON A DEDICATED COMMUNICATION SITE, ALL EQUIPMENT

• RIGID GALVANIZED STEEL (RGS),

• ALL FITTINGS, CONNECTORS, AND COUPLINGS SHALL BE THREADED MADE UP WRENCH TIGHT.

• RIGID POLYVINYL CHLORIDE (PVC) SCHEDULE 40 OR SCHEDULE 80

• MAY BE USED FOR SERVICES, EXTERIOR, BELOW GRADE, AND WET LOCATIONS.

• SHALL NOT BE USED IN CONCRETE SLABS NOR EXPOSED WITHIN A BUILDING OR STRUCTURE.

• METAL-CLAD CABLE (MCC)

• CONCEALED INSTALLATIONS ONLY.

• WITHIN A DUCT WITH SMOOTH OR CORRUGATED METAL JACKET AND NO OUTER COVERING OVER THE METAL JACKET.

IN FINISHED SPACES, ALL CONDUITS SHALL BE CONCEALED EXCEPT TO MAKE A FINAL CONNECTION TO EQUIPMENT NOT MOUNTED IN OR AGAINST FINISH MATERIAL.

ALL FEEDER AND BRANCH CIRCUITS SHALL HAVE A SEPARATE PROPERLY SIZED AND MARKED GROUNDING CONDUCTOR, PER APPLICABLE CODES, THAT BONDS ALL ENCLOSURES, BOXES, ETC. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING CONDUCTOR.

IF EXISTING ELECTRIC SERVICE IS TO REMAIN, CONTRACTOR SHALL BE VERIFY THAT IT MEETS PROJECT REQUIREMENTS WITHOUT MODIFICATION. IF IT IS TO BE ADDED OR REPLACED AS A PART OF THIS WORK, CONTRACTOR SHALL ORDER FROM, COORDINATE WITH, AND GAIN APPROVAL FROM THE ELECTRICAL UTILITY. ALL ELECTRICAL EQUIPMENT SHALL BE SPECIFIED AND AS APPROVED BY THE LOCAL UTILITY WHERE APPLICABLE.

ALL EQUIPMENT ENCLOSURES, ETC. SHALL BE SUITABLE FOR THE INSTALLED ENVIRONMENT, MINIMUM NEMA 3R FOR ALL EXTERIOR INSTALLATIONS.

WIRING DEVICES SHALL BE SPECIFICATION GRADE AND WIRING DEVICE COVER PLATES SHALL BE PLUMB WITH ENGRAVING AS SPECIFIED. COLOR SHALL BE WORK. ALL DEVICES AND COVER PLATES SHALL BE OF THE SAME MANUFACTURER.

ALL FIRE-RATED PENETRATIONS SHALL BE SEALED USING A SUITABLE AND LISTED FIRE SEALING DEVICE OR GROUT THAT WILL MAINTAIN THE FIRE RATING OF THE STRUCTURE PERMANENTLY.

PROVIDE PERMANENTLY AFFIXED ENGRAVED NAMEPLATES FOR ALL CODE REQUIRED LABELING AND ON ALL PANELS, METERING, DISCONNECTS, AND ELECTRICAL EQUIPMENT THAT IDENTIFIES EQUIPMENT SERVED, ELECTRICAL SOURCE WITH CIRCUIT IDENTIFICATION, AND VOLTAGES WITHIN ELECTRICAL EQUIPMENT. NAMEPLATES FOR ALL FIRE TERMINATIONS TO ALL EQUIPMENT.

ALL ELECTRICAL APPURTENANCES THAT ARE DISCONNECTED SHALL BE COMPLETELY REMOVED WITH EXISTING STRUCTURES TO REMAIN, REPAIRED, FINISHED, FILLED, PAINTED, ETC. ALL PANEL SCHEDULES, LABELING, AND COLOR SHALL BE VERIFIED AND PROPERLY COMPLETED TO MATCH THE INSTALLATION.

26 GROUNDING:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

GROUND ALL SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH BEST INDUSTRY PRACTICE, THE REQUIREMENTS OF NFPA 70 NATIONAL ELECTRICAL CODE (NEC), AND ALL OTHER APPLICABLE CODES AND REGULATIONS.

ALL GROUNDING ELECTRODES PRESENT AT EACH SERVICE LOCATION SHALL BE BONDED TOGETHER TO FORM THE GROUNDING ELECTRODE SYSTEM.

ALL EQUIPMENT ENCLOSURES, DEVICES, AND CONDUITS SHALL BE GROUNDED BY THE INSTALLATION OF A SEPARATE GROUNDING CONDUCTOR FOR ALL FEEDER AND BRANCH CIRCUITS THAT IS SIZED PER CODE OR IS OF THE SIZE INDICATED ON THE DRAWINGS, SHALL BE CONDUIT SIZED LENGTH, AND SHALL BE BONDED TO EACH ENCLOSURE PASSED THROUGH. CONDUIT SHALL NOT BE USED AS A GROUNDING OR BONDING WIRE OR CIRCUIT.

BOND ALL METALLIC CONDUITS TOGETHER THAT ARE CONNECTED TO NON-METALLIC ENCLOSURES, IN-GROUND BOXES, AND TO AN ENCLOSURE WHERE A GROUND BUS IS SPECIFIED OR SUPPLIED. ACCOMPLISH THIS BOND WITH GROUNDING CONDUCTORS MINIMUM SIZED TO THE LARGEST GROUNDING CONDUCTOR PRESENT IN THE ENCLOSURE CONNECTED TO A GROUNDING TYPE BUSHING EQUALLY SIZED OR MAXIMUM GROUND WIRE ACCOMMODATION AVAILABLE IN STANDARD MANUFACTURE FOR THE CONDUIT SIZE, WHICHEVER IS LESS.

EQUIPMENT GROUNDING AND LOAD SIDE BONDING CONDUCTORS SHALL BE SIZED PER THE CIRCUITS OVER-CURRENT PROTECTIVE DEVICE (OCPD) SIZE WHERE THE UNGROUNDED CONDUCTORS ARE INCREASED IN SIZE ABOVE THE STANDARD FOR THE CIRCUITS OCPD, INCREASE THE GROUNDING CONDUCTOR SIZE TO THE NEXT STANDARD CROSS-SECTIONAL AREA OF THE UNGROUNDED CONDUCTORS.

SERVICE MAIN BONDING JUMPERS AND GROUNDING ELECTRODE CONDUCTORS SHALL BE SIZED AND INSTALLED PER THE MINIMUM OF ALL APPLICABLE REGULATIONS.

26 LIGHTNING PROTECTION:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS AND THE GROUNDING SPECIFICATIONS HEREIN.

THE LIGHTNING PROTECTION GROUNDING SYSTEM (LPGS) SHALL CONSIST OF BONDING ALL EQUIPMENT AND CONDUCTIVE STRUCTURES TO LOCALIZED SINGLE-POINT GROUNDING CONNECTIONS (TYPICALLY GROUND BARS) WHICH ARE BONDED TOGETHER AND TO AN IN-GROUND SYSTEM. IF THE LPGS IS ON A BUILDING, IT SHALL BE EFFECTIVELY BONDED TO THE ELECTRICAL SERVICE MAIN BONDING JUMPER AND TO ADDITIONAL GROUNDING ELECTRODES AS MAY BE REQUIRED OR INDICATED. IF THE LPGS IS ON A DEDICATED COMMUNICATION SITE, ALL EQUIPMENT

AREAS AND TOWERS SHALL EACH HAVE THEIR OWN IN-GROUND RING WITH EVERY RING BONDED TOGETHER, AND ALL CONDUCTIVE STRUCTURES IN CLOSE PROXIMITY (FENCES, ICE BRIDGES, ISOLATED EQUIPMENT, ETC.) ALSO BONDED TO PROVIDE A COMMON ELECTRICAL EQUIPMENTAL SYSTEM FOR ALL CONDUCTIVE ELEMENTS AND STRUCTURES.

CONDUCTORS:

- MIN #2 AWG SOLID BARE TINNED COPPER (SBTC) FOR ALL IN-GROUND CONDUCTORS.
- MIN #2 AWG COPPER GREEN STRANDED FOR BONDING STRUCTURES, AND FOR INTER-SYSTEM BONDING OF INDIVIDUAL ELEMENTS SUCH AS GROUND BAR TO GROUND BAR.
- MIN #6 AWG COPPER GREEN STRANDED OR ALL EQUIPMENT BONDING.
- INSTALL ALL IN-GROUND CONDUCTORS IN THE SAME HORIZONTAL PLANE OR IN A DOWNWARD DIRECTION AWAY FROM THE TOWER AND EQUIPMENT AREAS.
- AVOID LONG RUNS. MAKE DIRECT RUNS AS MUCH AS POSSIBLE.
- PLACE THROUGH NON-METALLIC SLEEVES WHEN PASSING THROUGH FLOORS, WALLS, CEILING, AND SIMILAR STRUCTURES.
- MAKE ALL CONNECTIONS IN CONTACT WITH EARTH WITH EXOTHERMIC WELDING. MAKE ALL OTHER CONNECTIONS WITH EXOTHERMIC WELDING, IRREVERSIBLE COMPRESSION WELDING, OR LISTED COMPRESSION TWO-HOLE LUGS.
- INSTALL ALL CONDUCTORS WITH A MINIMUM 18 INCH BEND RADIUS AND NO BEND LONGER THAN A 90 DEGREE ARC. ALL BENDS SHALL BE HORIZONTAL, OR DOWNWARD TOWARDS EARTH.
- ALL CONDUCTORS PASSING FROM ABOVE-GROUND TO IN-GROUND CONNECTIONS, WHERE EXPOSED, SHALL BE COVERED AND PROTECTED WITH A NON-METALLIC CONDUIT BEHIND AND AT BOTH ENDS.
- #2 OR MORE IN-GROUND CONDUCTORS ARE IN THE SAME PATH (2 RINGS OVERLAPPING, BONDING FOLLOWING ANOTHER RING OR RADIAL, OR SIMILAR), COMBINE WITH A SHARED BONDING POINT TO TOWER.
- EQUIPMENT AND TOWER GROUND RINGS SHALL BE:
 - BONDED TO ANY CONDUCTIVE OBJECT OR STRUCTURE WITHIN 5 FEET OF EQUIPMENT GROUND RINGS AND WITHIN 20 FEET OF TOWER GROUND RINGS.
 - INSTALLED MINIMUM 18 INCHES FROM FOUNDATIONS, FOOTINGS, AND SIMILAR.

INSTALL ALL IN-GROUND RINGS, RADIALS, BONDS CONNECTING THEM, AND ALL SIMILAR GROUNDING:

- MIN 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE, WHICHEVER IS GREATER DEPTH.
- MIN 2 FEET FROM FOUNDATIONS, FOOTINGS, AND SIMILAR.
- GROUNDING SYSTEMS, AND SIMILAR STRUCTURES, EXCEPT WHEN MAKING A BOND TO ANY OF THESE STRUCTURES. DO NOT BOND TO FOUNDATION INTERNAL REINFORCEMENT.

ALL EQUIPMENT GROUDED IN A COMMON AREA, COMPOUND, STRUCTURE, OR SIMILAR SHALL BE BONDED TO A SINGLE-POINT GROUND, PREFERABLY AN ISOLATED GROUND BAR. BOND THE GROUND BAR TO THE SYSTEM WITH MINIMUM SINGLE BONDING CONDUCTOR. IF BONDING TO AN IN-GROUND RING, INSTALL 2 BONDING CONDUCTORS MINIMUM WITH EACH CONDUCTOR INSTALLED DIRECTIONALLY AWAY FROM EACH OTHER AND PARALLEL TO THE IN-GROUND CONDUCTOR, WITH NO TEE CONNECTIONS.

TOWER GROUNDING:

- EACH TOWER LEG SHALL BE BONDED TO ITS RING. SINGLE-LEGGED TOWERS, OR MONOPOLTS, SHALL HAVE 2 BONDS ON OPPOSITE SIDES.
- BOND TO TOWER BASE, NOT TO VERTICAL TOWER STRUCTURE, AWAY FROM TOWER MOUNTING HARDWARE.
- EACH BOND SHALL HAVE A CORRESPONDING BOND TO THE EQUIPMENT GROUND RING WITH OTHER DIRECTIONS AWAY FROM EACH OTHER AND PARALLEL TO THE IN-GROUND CONDUCTOR, WITH NO TEE CONNECTIONS.
- EACH BOND SHALL CONSIST OF 2 CONDUCTORS FROM THE TOWER TO ITS RING WITH EACH CONDUCTOR DIRECTED IN OPPOSITE DIRECTIONS WITH A PARALLEL CONNECTION ON THE RING ON OPPOSITE SIDES OF THE GROUND ROD.

EQUIPMENT AREA GROUNDING:

- COMMUNICATION AREAS ON EARTH SHALL HAVE A GROUND RING.
- BOND ALL EQUIPMENT TO A SINGLE-POINT GROUND (GROUND BAR).
- BOND THE EQUIPMENT SINGLE-POINT GROUND TO THE EQUIPMENT GROUND RING WITH MINIMUM 2 CONDUCTORS DIRECTED IN OPPOSITE DIRECTIONS WITH PARALLEL CONNECTIONS ON THE RING.
- IF EQUIPMENT IS ENCLOSED IN A SHELTER.
- IF THE SHELTER IS CONSIDERED TO BE EXPOSED TO A DIRECT LIGHTNING STRIKE, INSTALL A BUILDING LIGHTNING PROTECTION SYSTEM PER APPLICABLE VERSION OF NFPA 780.
- BOND ALL FIXED CONDUCTIVE BUILDING COMPONENTS TOGETHER AND TO THE BUILDING PERIMETER GROUNDING SYSTEM. THIS IS TYPICALLY CALLED THE HALO GROUND, DO NOT BOND EQUIPMENT TO THE HALO GROUND.
- BOND ALL EQUIPMENT TOGETHER TO A SINGLE-POINT OR INTERIOR EQUIPMENT RING GROUND (IEGR). BOND THE SINGLE-POINT OR INTERIOR EQUIPMENT RING GROUND TO THE EXTERNAL EQUIPMENT RING GROUND.
- PLACE GROUND RODS AT THE EQUIPMENT GROUND RING CORNERS.

GROUND RODS:

- SEPARATION SPACE BETWEEN ANY 2 GROUND RODS SHALL BE NO CLOSER THAN THEIR DEPTH.
- ADJUSTABLE EQUIPMENT TO ALL RODS IN THE COMPLETE SYSTEM.
- DRIVE VERTICALLY IN UNDISTURBED SOIL WITH THE TOP AT SAME DEPTH AS THE IN-GROUND CONDUCTOR. IF NOT POSSIBLE TO INSTALL VERTICALLY, PLACE AS CLOSE TO VERTICAL AS

POSSIBLE AND IN A DIRECTION AWAY FROM THE TOWER AND EVERY RING BOND TOGETHER, AND ALL CONDUCTIVE STRUCTURES IN CLOSE PROXIMITY (FENCES, ICE BRIDGES, ISOLATED EQUIPMENT, ETC.) ALSO BONDED TO PROVIDE A COMMON ELECTRICAL EQUIPMENTAL SYSTEM FOR ALL CONDUCTIVE ELEMENTS AND STRUCTURES.

RADIALS (TYP. NEW DEDICATED COMMUNICATION SITES):

- WHERE FEASIBLE WITH ENOUGH SPACE AVAILABLE, INSTALL A MINIMUM OF 4, MAXIMUM 10 RING RADIALS.
- EACH RADIAL'S LENGTH SHALL BE MIN 20 FT, MAX 80 FT.
- EXTEND RADIALS PERPENDICULAR FROM RINGS IN AS STRAIGHT LINE AS POSSIBLE, AWAY FROM OTHER RING GROUNDS, RADIALS, BONDS, AND SIMILAR.
- A COMMON PRACTICE IS TO PLACE 4 RADIALS FROM THE TOWER RING TO THE 4 CORNERS OF THE AVAILABLE AREA.

AT A MINIMUM, BOND ALL COMPOUND CONDUCTIVE FENCE CORNER POSTS AND GATE POSTS TO THE LPGS. PREFERABLY, INSTALL A GROUND RING THAT FOLLOWS THE FENCE LINE, BONDING ALL POSTS TO THE RING.

27 ANTENNAS & CABLES:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL TRANSMISSION CABLES, JUMPERS, CONNECTORS, GROUNDING STRAPS, ANTENNAS, MOUNT AND HARDWARE. ALL MATERIALS SHALL BE INSPECTED BY THE CONTRACTOR FOR DAMAGE UPON DELIVERY. JUMPERS SHALL BE SUPPLIED AT ANTENNAS AND EQUIPMENT INSIDE SHELTER. COORDINATE LENGTH OF JUMPER CABLES WITH OWNER. COORDINATE AND VERIFY ALL OF THE MATERIALS AND USE LATEST TESTING PROCEDURES UPON SUBMITTING BID AND ORDERING MATERIALS.

AFTER INSTALLATION, THE TRANSMISSION LINE SYSTEM SHALL BE PIM / SWEEP TESTED FOR PROPER INSTALLATION AND DAMAGE WITH ANTENNAS CONNECTED. CONTRACTOR SHALL OBTAIN AND USE LATEST TESTING PROCEDURES FROM OWNER OR MANUFACTURER PRIOR TO BIDDING.

ANTENNA CABLES SHALL BE UNIQUELY COLOR-CODED AT THE ANTENNAS, BOTH SIDES OF EQUIPMENT SHELTER WALL, AND JUMPER CABLES AT THE EQUIPMENT.

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONNECTORS, ASSOCIATED CABLE MOUNTING AND GROUNDING HARDWARE, WALL MOUNTS, STANDOFFS, AND ALL ASSOCIATED HARDWARE TO INSTALL ALL CABLES AND ANTENNAS TO THE MANUFACTURERS AND OWNERS SPECIFICATIONS.

ANTENNA CABLES SHALL BE FOAM DIELECTRIC COAXIAL CABLES AS FOLLOWS:

- BASE STATION ANTENNAS:
 - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 100 FT.
 - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 100 FT.
- GPS ANTENNAS:
 - 7/8" DIAMETER FOR CABLE LENGTHS UP TO 200 FT.
 - 1-5/8" DIAMETER FOR CABLE LENGTHS GREATER THAN 200 FT.

MINIMUM BENDING RADIUS FOR COAXIAL CABLES SHALL BE:

- 15 FT FOR 7/8" COAXIAL CABLES.
- 25 FT FOR 1-5/8" COAXIAL CABLES.

CABLE SHALL BE INSTALLED WITH A MINIMUM NUMBER OF BENDS WHERE POSSIBLE. CABLE SHALL NOT BE LEFT UNTERMINATED AND SHALL BE SEALED IMMEDIATELY AFTER BEING INSTALLED.

ALL EXTERIOR CABLE CONNECTIONS SHALL BE COVERED WITH A WATERPROOF SPLICING KIT.

CONTRACTOR SHALL VERIFY EXACT LENGTH AND DIRECTION OF TRAVEL IN FIELD PRIOR TO CONSTRUCTION.

CABLE SHALL BE FURNISHED AND INSTALLED WITHOUT SPLICES AND WITH CONNECTORS AT EACH END.

27 CABLE TRAY:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

CABLE TRAY SHALL BE MADE OF EITHER CORROSION RESISTANT METAL OR WITH A CORROSION RESISTANT FINISH.



CABLE TRAY SHALL BE OF LADDER TRAY TYPE WITH FLAT COVER CLAMPED TO SIDE RAILS.

CABLE LADDER SHALL BE SIZED TO FIT ALL CABLES IN ACCORDANCE WITH NEC AND NEMA 11-15-84.

CABLE LADDER TRAYS SHALL BE NEMA CLASS 12A BY PW INDUSTRIES, INC. OR EQUAL.

CABLE LADDER TRAY SHALL BE SUPPORTED IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.

ALL WORKMANSHIP SHALL CONFORM TO THESE REQUIREMENTS AND ALL LOCAL CODES AND STANDARDS ENSURE SAFE AND ADEQUATE GROUNDING SYSTEM.

	
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D&M DOCUMENTS	
NO	DATE
0	05/18/21

31 EXCAVATION & FILL:

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

CONTRACTOR SHALL GRADE ONLY AREAS SHOWN TO BE MODIFIED AS A PART OF THIS WORK AND ONLY TO THE EXTENT REQUIRED TO SHED OVERLAND WATER FLOW AWAY FROM SITE. ALL MADE SLOPES SHALL NOT BE STEEPER THAN 3:1 (HORIZONTAL:VERTICAL). SEDIMENTATION AND EROSION CONTROLS SHOWN AND SPECIFIED SHALL BE ESTABLISHED BEFORE STRIPPING EXISTING VEGETATION.

ORGANIC MATERIAL AND DEBRIS SHALL BE STRIPPED AND STOCKPILED BEFORE ADDING FILL MATERIAL.

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.

ALL FILL SHALL BE PLACED IN ONE FOOT LIFTS AND COMPACTED IN PLACE. STRUCTURAL FILL SHALL BE COMPACTED TO 95% OF ITS MAXIMUM DRY UNIT WEIGHT TESTED IN ACCORDANCE WITH ASTM D1557.

EXCAVATIONS FOR FOOTINGS SHALL BE CUT LEVEL TO THE REQUIRED DEPTH AND TO UNDISTURBED SOIL. REPORT UNSUITABLE SOIL CONDITIONS TO THE CONSTRUCTION MANAGER.

TRENCH EXCAVATIONS SHALL BE BACKFILLED AT THE END OF EACH DAY.

TOWER FOUNDATION EXCAVATION, BACKFILL AND COMPACTION SHALL BE IN ACCORDANCE WITH TOWER MANUFACTURERS DESIGNS AND SPECIFICATIONS.

NATIVE GRAVEL MATERIAL MAY BE USED FOR TRENCH BACKFILL WHERE SELECT MATERIAL IS NOT SPECIFIED. GRAVEL MATERIAL FOR CONDUIT TRENCH BACKFILL SHALL NOT CONTAIN ROCK GREATER THAN 2 INCHES IN DIAMETER.

BANK OR CRUSHED GRAVEL SHALL CONSIST OF TOUGH, DURABLE PARTICLES OF CRUSHED OR UNCRUSHED GRAVEL FREE OF SOFT, THIN, ELONGATED OR LAMINATED PIECES AND MEET THE SPECIFIED GRADATION.

PROCESSED AGGREGATE BASE SHALL CONSIST OF COURSE AND FINE AGGREGATES COMBINED AND MIXED SO THAT THE RESULTING MATERIAL CONFORMS TO THE GRADATION. COURSE AGGREGATE SHALL BE EITHER GRAVEL OR BROKEN STONE AND FINE AGGREGATE SHALL CONSIST OF SAND.

BANK GRAVEL FILL SHALL PASS WITH THE FOLLOWING SIZE SQUARE MESH SIEVES:

- 25-60% WITH PASS 1/4"
- 15-45% WITH PASS #10
- 2-25% WITH PASS #40
- 0-10% WITH PASS #100
- 0-5% WITH PASS #200

BANK GRAVEL BASE SHALL PASS WITH THE FOLLOWING SIZE SQUARE MESH SIEVES:

- 100% WITH PASS 5"
- 100% WITH PASS 3-1/2"
- 100% WITH PASS 2-1/4"
- 95-100% WITH PASS 2"
- 55-100% WITH PASS 1-1/2"
- 25-60% WITH PASS 1/4"
- 15-45% WITH PASS #10
- 5-25% WITH PASS #40
- 0-10% WITH PASS #100
- 0-5% WITH PASS #200

PROCESSED AGG BASE SHALL PASS WITH THE FOLLOWING SIZE SQUARE MESH SIEVES:

- 90-100% WITH PASS 3-1/2"
- 55-95% WITH PASS 1-1/2"
- 50-75% WITH PASS 3/4"
- 25-45% WITH PASS 1/4"
- 5-20% WITH PASS #40
- 2-12% WITH PASS #100

FILL MATERIAL SHALL BE FREE OF ORGANIC MATERIAL, ICE, TRASH AND DEBRIS. REFER TO GEOTECHNICAL ENGINEERING AS APPLICABLE FOR ALL FILL MATERIAL REQUIREMENTS.

31 SEDIMENTATION & EROSION CONTROL:

THE CONTRACTOR SHALL CONSTRUCT ALL SEDIMENT AND EROSION CONTROLS IN ACCORDANCE WITH THE 2002 CONNECTICUT GUIDELINES FOR SOIL EROSION AND SEDIMENT CONTROL, LATEST EDITION, IN ACCORDANCE WITH THE CONTRACT DOCUMENTS AND AS DIRECTED BY THE TOWN OF PERMITTEE AND/OR SWPCP MONITOR. DIRECT ALL DEWATERING PUMP DISCHARGE TO A SEDIMENT CONTROL DEVICE SUCH AS TEMPORARY SEDIMENT TRAPS OR GRASS FILTERS WITHIN THE APPROVED LIMIT OF DISTURBANCE. DISCHARGE TO STORM DRAINS OR SURFACE WATERS FROM SEDIMENT CONTROLS SHALL BE CLEAR AND APPROVED BY THE ENGINEER.

THESE SPECIFICATIONS SHALL INCLUDE THE GENERAL SPECIFICATIONS HEREIN.

CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXIST. SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENTATION CONTROL.

LIMITS OF CLEARING AND GRUBBING SHALL BE CLEARLY MARKED BEFORE COMMENCING WITH SUCH WORK.

SEDIMENTATION AND EROSION CONTROL (SEC) MEASURES SHOWN SHALL BE INSTALLED PRIOR TO LAND CLEARING, EXCAVATION OR GRADING OPERATIONS. REQUIREMENTS OF LOCAL WETLAND AGENCY SHALL BE MET PRIOR TO EARTHWORK OPERATIONS.

IT IS THE CONTRACTORS RESPONSIBILITY TO MAINTAIN SEC MEASURES THROUGHOUT DURATION OF PROJECT UNTIL DISTURBED LAND IS THOROUGHLY VEGETATED.

FAILURE OF THE SEC SYSTEMS SHALL BE CORRECTED IMMEDIATELY AND SUPPLEMENTED WITH ADDITIONAL MEASURES AS NEEDED.

TOPSOIL SHALL BE SPREAD TO FINISH GRADES AND SEEDED AS SOON AS FINISHED GRADES ARE ESTABLISHED. STRAW MULCH, JUTE NETTING OR

MATS SHALL BE USED WHERE THE NEW SEED IS PLACED.

VEGETATIVE SEEDING:

- AREA TO BE SEEDED SHALL BE LOOSE AND FRIABLE TO A DEPTH OF 3". TOPSOIL SHALL BE LOOSENEED BY RAKING OR DISKING BEFORE SEEDING. APPLY 50 LBS. OF DOLOMITIC LIMESTONE AND 25 LBS. OF 10-10-10 FERTILIZER PER 1000 SF. HARROW LIME AND FERTILIZER INTO LOOSE SOIL.
- APPLY COMMON BERMUDA AND RYE GRASS AT 50 LBS PER ACRE. USE CYCLONE SEED DRILL, CULTIPACKER SEEDER OR HYDROSEEDER (SEED & FERTILIZER SLURRY) FOR STEEP SLOPES. IRRIGATE UNTIL VEGETATION IS COMPLETELY ESTABLISHED.



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D&M DOCUMENTS		
NO	DATE	REVISION
0	05/18/21	FOR REVIEW: RCB
1	06/03/21	CLIENT REVS: RCB
2	06/09/21	CLIENT REVS: RCB
3	10/15/21	CLIENT REVS: RCB
4	10/26/21	CLIENT REVS: RCB
5		
6		
7		
8		

DESIGN PROFESSIONALS OF RECORD

PROF: ROBERT C. BURNS P.E.
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APT FILING NUMBER: CT283180

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SHEET NUMBER:

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