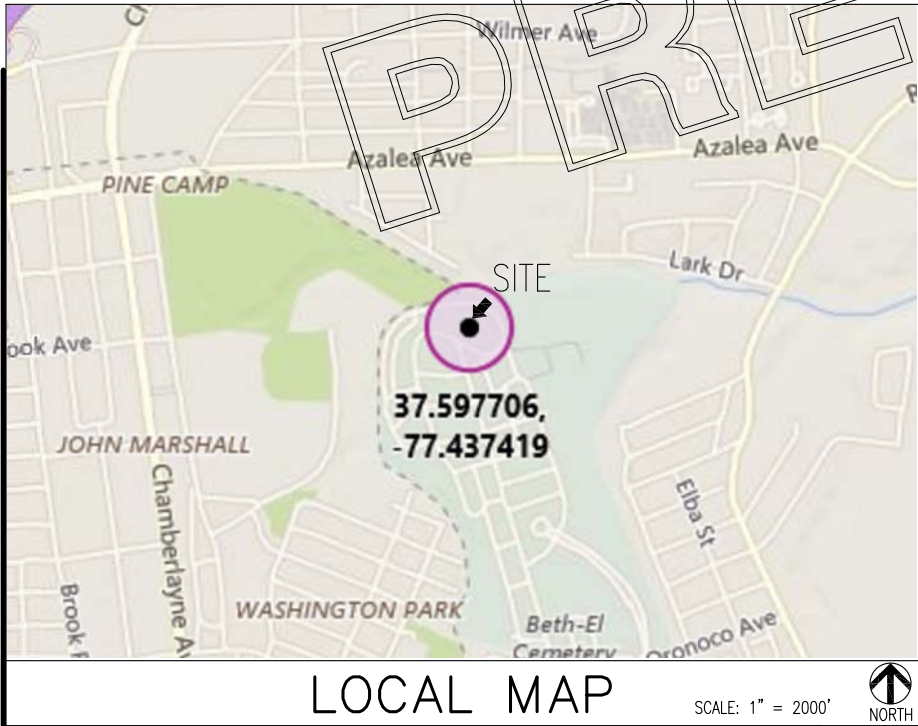
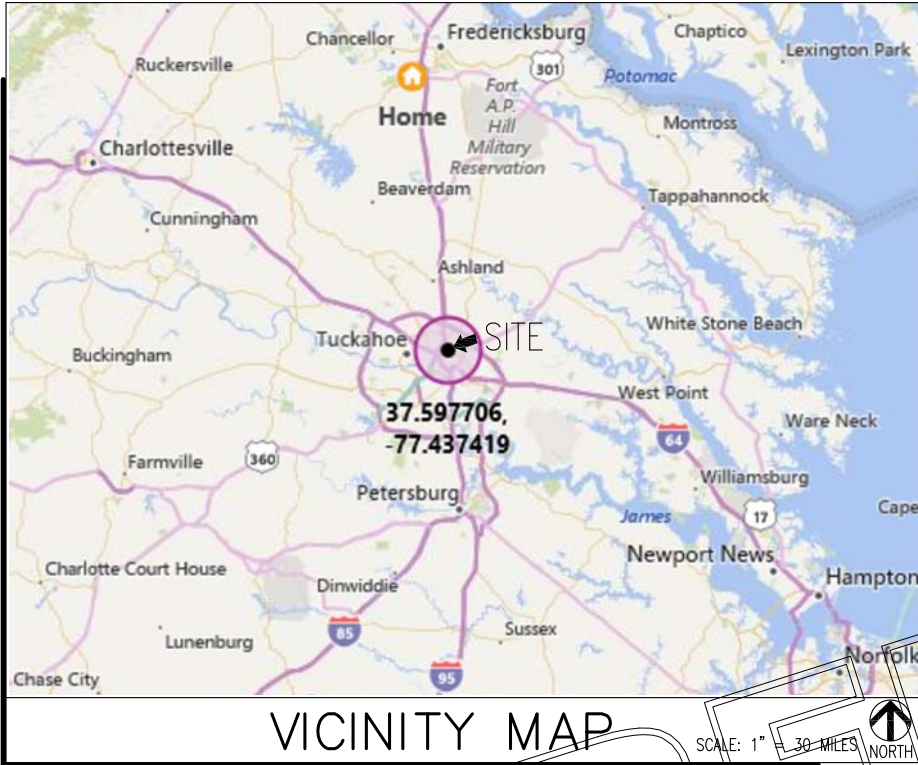


12-28-17 JGARC 10:39:26 Y:/Drawings - 2017/Parallel Infrastructures/VA-Henrico-Pine Camp - PVA037/_FZD'S - Rev 2 - 2017-12-27/T1.dwg

SITE NAME:
VA-HENRICO-PINE CAMP



DIRECTIONS TO SITE:

FROM I-95 S TAKE EXIT 78, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR BOULEVARD 0.3 MI. TURN LEFT ONTO VA-161 / N BOULEVARD 0.6 MI. TURN RIGHT ONTO VA-197 E / W LABURNUM AVE 1.5 MI. TURN LEFT ONTO ALMA AVE 0.2 MI. ROAD NAME CHANGES TO MYRTLE GROVE RD 0.7 MI. TURN RIGHT ONTO FOREST LAWN DR 98 FT. SITE ACCESS ENTRANCE WILL BE ON THE LEFT.

PROJECT DESCRIPTION:
PROPOSED 130' TAPERED MONOPOLE IN A
NEW FENCED COMPOUND

CALL BEFORE YOU DIG, DIAL 811
IN VIRGINIA OR 1-800-552-7001

EMERGENCY:
CALL 911

APPROVAL - LENDLEASE							
PROPERTY OWNER / OWNERS AGENT	PRINT	SIGNATURE	PHONE NUMBER	DATE			
CONSTRUCTION MGR.	PRINT	SIGNATURE	PHONE NUMBER	DATE			
ZONING MGR.	PRINT	SIGNATURE	PHONE NUMBER	DATE			
SITE ACQUISITION MGR.	PRINT	SIGNATURE	PHONE NUMBER	DATE			
APPROVAL - CARRIER							
REF MGR.	PRINT	SIGNATURE	PHONE NUMBER	DATE			
CONSTRUCTION MGR.	PRINT	SIGNATURE	PHONE NUMBER	DATE			
OTHER	PRINT	SIGNATURE	PHONE NUMBER	DATE			
REV. NO.	DESCRIPTION	BY	DATE	REV. NO.	DESCRIPTION	BY	DATE
1				5			
2				6			
3				7			
4				8			

ARCHITECTURAL & ENGINEERING FIRM:	
BC ARCHITECTS ENGINEERS, PLC 5659 COLUMBIA PIKE, SUITE 101 FALLS CHURCH, VA 22041-2868 TEL: (703) 671-6000 CONTACT: BRIAN QUINN FAX: (703) 671-6300	
SURVEYOR:	
CAUSEWAY CONSULTANTS, P.C. LAND SURVEYS P.O. BOX 15039 CHESAPEAKE, VA 23328 TEL: (757) 482-0474 CONTACT: ROBERT T. WILLIAMS, JR.	
CONSULTING TEAM:	
SITE DEVELOPMENT SERVICES INC. 875 CLINCH VIEW LANE WASHBURN, TN 37888 TEL: - CONTACT: KEVIN WILES TEL: (864) 907-6052	
UTILITIES:	
POWER COMPANY: COMPANY NAME: DOMINION VIRGINIA POWER CONTACT: CUSTOMER SERVICE TEL: (804) 862-6048 FAX: -	
TELEPHONE COMPANY:	
COMPANY NAME: VERIZON CONTACT: CUSTOMER SERVICE TEL: (800) 483-5000 FAX: -	
CONSULTING TEAM	

SITE NAME:	
VA-HENRICO-PINE CAMP	
SITE NUMBER:	
PVA037	
SITE ADDRESS:	
4000 PLOTS LN. HENRICO, VA 23222	
PROPERTY OWNER:	
PVD ACQUISITIONS LLC, A VA LLC C/O STONEMOR PARTNERS LP ATTN: JAMES K. FREEMAN, ESQ. 3600 HORIZON BOULEVARD, SUITE 100 TREVOSE, PENNSYLVANIA 19053 POC: MARC BING-ZAREMBA VP PROPERTY MANAGEMENT 215-499-4264	
APPLICANT BUILDING INFO:	
PI TOWER DEVELOPMENT LLC C/O LENDLEASE (US) TOWER HOLDINGS, LLC 909 LAKE CAROLYN PARKWAY, SUITE 260 IRVING, TX 75039 TEL: (904) 450-4833 CONTACT: ALEJANDRA STINSON TEL: (513) 259-3673	
PROJECT DESCRIPTION:	
AN UNMANNED RADIO TELECOMMUNICATIONS FACILITY CONSISTING OF A NEW 130' TAPERED MONOPOLE IN A NEW 50'x50' FENCED COMPOUND	
ADA COMPLIANCE:	
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION	
PROJECT DATA:	
ZONING:	A-1
PARCEL ID:	791-740-4089
LEASE AREA:	3,600 SQ. FT.
AREA OF DISTURBANCE:	130,802 SQ. FT.
ACREAGE:	198.67
JURISDICTION:	HENRICO COUNTY
GEOGRAPHIC COORDINATES:	
LATITUDE:	37° 35' 51.7422" N
LONGITUDE:	77° 26' 14.6560" W
GROUND ELEVATION:	178.2' AMSL
CODE COMPLIANCE:	
2012 VIRGINIA UNIFORM STATEWIDE BUILDING CODE (VUSBC) 2012 NATIONAL ELECTRIC CODE (NEC 2011)	
PROJECT SUMMARY	

SHEET NUMBER:	DESCRIPTION:
T-1	TITLE SHEET, VICINITY MAP AND GENERAL INFORMATION
1 OF 2	FINAL EASEMENT EXHIBIT
2 OF 2	FINAL EASEMENT EXHIBIT
A-0	SITE PLAN
A-1	ENLARGED SITE PLAN
A-2	TOWER ELEVATION
A-3	FENCE, GATE AND COMPOUND CROSS SECTION DETAIL
E&S-1	SILT FENCE LAYOUT PLAN
E&S-2	DETAILS
E-1	UTILITY & COMPOUND GROUNDING PLAN
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL DETAILS
E-4	ELECTRICAL DETAILS
E-5	ELECTRICAL DETAILS
E-6	ELECTRICAL NOTES
SP-1	SPECIFICATIONS
SP-2	SPECIFICATIONS
SP-3	SCOPE OF WORK
SP-4	SCOPE OF WORK
SHEET INDEX	



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C/O LENDLEASE (US) TOWER HOLDINGS, LLC
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IRVING, TX 75039

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FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			

SITE NAME:
VA-HENRICO-PINE CAMP

SITE ADDRESS:
4000 PLOTS LN.
HENRICO, VA 23222

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

TITLE SHEET,
VICINITY MAP
AND GENERAL
INFORMATION

SHEET NUMBER:	REV. #
T-1	A

01-10-18 JGARC 18:11:18 \10.27.189.8\BC Files\Drawings - 2017\Parallel Infrastructures\VA-Henrico-Pine Camp - PVA037\PCD's - Rev A - 2018-01-04 (Tower)\AO.dwg

LEGEND

NEW FENCE

EXIST. FENCE

SETBACK

EASEMENT

LEASE

PROPERTY LINE

EXIST. CONTOUR

NEW CONTOUR

TYP. BUILDING

TYP. ROAD

X

X

X

X

X

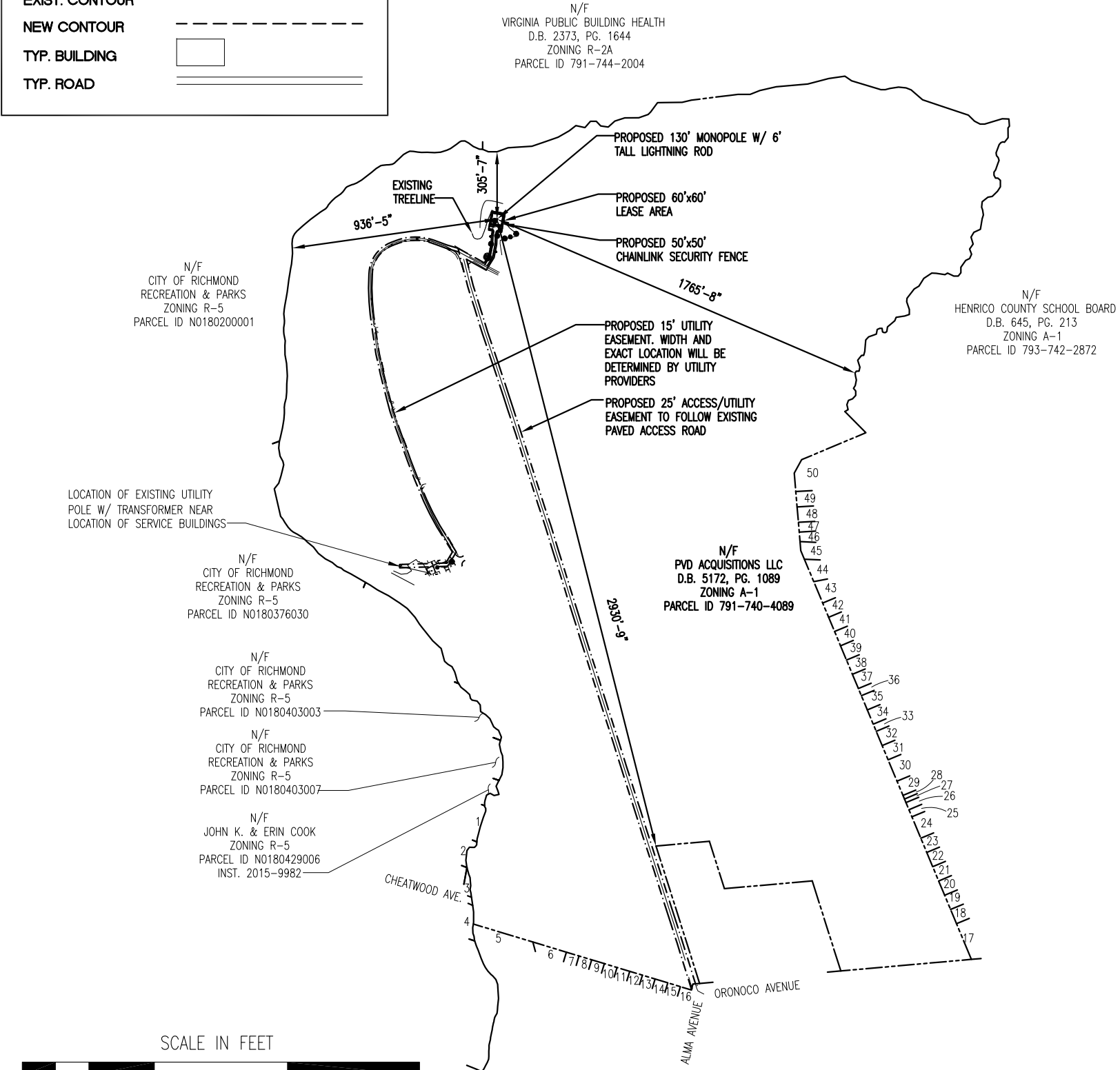
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X

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X

X



- 1- CITY OF RICHMOND RECREATION & PARKS ZONING R-5 PARCEL ID N180429016
- 2- CITY OF RICHMOND RECREATION & PARKS ZONING R-5 PARCEL ID N180455013
- 3- CITY OF RICHMOND RECREATION & PARKS ZONING R-5 PARCEL ID N180455014
- 4- REGINA L. GREENE ZONING R-5 PARCEL ID N0180481022
- 5- SCOTT J. REID ZONING R-4 PARCEL ID 790-739-8559 D.B. 3911, PG. 2388
- 6- DEJEUS MELENDEZ ZONING R-4 PARCEL ID 791-739-0055 D.B. 4238, PG. 1755
- 7- SHELIA M. ARCHER ZONING R-4 PARCEL ID 791-739-0852 D.B. 2110, PG. 419
- 8- ANDREW J. & FLORA M. BOYD ZONING R-4 PARCEL ID 791-739-1351 D.B. 5614, PG. 491
- 9- HYLAS PROPERTIES INC. ZONING R-4 PARCEL ID 791-739-1949 D.B. 2773, PG. 1410
- 10- JOAN L. & JAMES H. COPELAND ZONING R-4 PARCEL ID 791-739-2547 D.B. 4155, PG. 881
- 11- DORETHA C. & SHERNETTE HALL ZONING R-4 PARCEL ID 791-739-3045 D.B. 2763, PG. 338
- 12- MARATHON REAL ESTATE MGMT. GROUP LLC ZONING R-4 PARCEL ID 791-739-3643 D.B. 5618, PG. 2336
- 13- INTERMONT 2 LLC ZONING R-4 PARCEL ID 791-739-4141 D.B. 5227, PG. 1345
- 14- TRACY Y. HALL ZONING R-4 PARCEL ID 791-739-4740 D.B. 2649, PG. 2130
- 15- RASTUS, JR. & M. J. COMBS ZONING R-4 PARCEL ID 791-739-5339 D.B. 1341, PG. 207
- 16- CHARLIE H. POINDEXTER JR. & ANNE R. VEILLETTE ZONING R-4 PARCEL ID 791-739-5937 D.B. 5581, PG. 378
- 17- ROBERT C. & FRANCES BROWN ZONING R-3 PARCEL ID 792-739-9468 D.B. 1784, PG. 581
- 18- SHARON H. POLLARD ZONING R-3 PARCEL ID 792-739-8978 D.B. 5191, PG. 1420
- 19- JOSEPH K. SMITH & S.F. & J.R.H. MOLINELLI ZONING R-3 PARCEL ID 792-739-8785 D.B. 5140, PG. 1831
- 20- QUENTIN T. SR. & MERCEDES TERRY ZONING R-3 PARCEL ID 792-739-8491 D.B. 2217, PG. 500
- 21- ISAAH & M.H. GIBBS ZONING R-3 PARCEL ID 792-739-8197 D.B. 1442, PG. 80
- 22- BETTY J. COSBY ZONING R-3 PARCEL ID 792-740-7804 D.B. 4740, PG. 2573
- 23- GINETTE OUELLETTE ZONING R-3 PARCEL ID 792-740-7611 D.B. 4815, PG. 420
- 24- CALVIN SHAW ZONING R-3 PARCEL ID 792-740-7218 D.B. 3813, PG. 1666
- 25- JOSEPHINE A.P. JONES & V.A.J. DOBBINS EST ZONING R-3 PARCEL ID 792-740-7025 W.B. 176, PG. 459
- 26- JOSEPHINE A.P. JONES ZONING R-3 PARCEL ID 792-740-6927 W.B. 163, PG. 344
- 27- JOSEPHINE A.P. JONES ZONING R-3 PARCEL ID 792-740-6929 W.B. 163, PG. 344
- 28- HENRICO LAND CORP ZONING R-3 PARCEL ID 792-740-6632
- 29- CARMEL Y. JONES ZONING R-3 PARCEL ID 792-740-6539 D.B. 4462, PG. 2122
- 30- ECO MARBLE & GRANITE INC ZONING R-3 PARCEL ID 792-740-6244 D.B. 5587, PG. 95
- 31- JACKIE L. SUTTON ZONING R-3 PARCEL ID 792-740-5953 D.B. 3483, PG. 2212
- 32- BRENDA L. ARMSTEAD ZONING R-3 PARCEL ID 792-740-5759 D.B. 3967, PG. 1857
- 33- BRENDA L. ARMSTEAD ZONING R-3 PARCEL ID 792-740-5464 D.B. 4699, PG. 1309
- 34- BRENDA ROYSTER ZONING R-3 PARCEL ID 792-740-5269 D.B. 3997, PG. 766
- 35- CHRISTOPHER E. HARRISON ZONING R-3 PARCEL ID 792-740-4975 D.B. 2076, PG. 715
- 36- CHRISTOPHER E. HARRISON ZONING R-3 PARCEL ID 792-740-4680 D.B. 2098, PG. 1901
- 37- DONALD R. CONE ZONING R-3 PARCEL ID 792-740-4585 D.B. 3085, PG. 258
- 38- ERLINE H. GOODWYN ZONING R-3 PARCEL ID 792-740-4291 D.B. 1839, PG. 1380
- 39- LYNETTE E. RIDDICK ZONING R-3 PARCEL ID 792-740-3998 D.B. 2125, PG. 1935
- 40- A. GREGORY, K. DANDRIDGE & M. DANDRIDGE ZONING R-3 PARCEL ID 792-741-3705
- 41- HENRY W. & L.B. ROBINSON ZONING R-3 PARCEL ID 792-741-3512 D.B. 1718, PG. 2040
- 42- MILDRED C. & B.T.O. ANYANGO ZONING R-3 PARCEL ID 792-741-3118 D.B. 4078, PG. 364
- 43- RICKY T. & CAROL D. ROGERS ZONING R-3 PARCEL ID 792-741-2824 D.B. 2010, PG. 5
- 44- RICHARD J. & MAY L. HAYES ZONING R-3 PARCEL ID 792-741-2533 D.B. 1514, PG. 71
- 45- JOHN E. JR. & VERA B. DAVIS ZONING R-3 PARCEL ID 792-741-2341 D.B. 1514, PG. 83
- 46- ILE PROPERTIES LLC ZONING R-3 PARCEL ID 792-741-2447 D.B. 4877, PG. 783
- 47- ALFRED M. & LESLIE E. FOX ZONING R-3 PARCEL ID 792-741-2554 D.B. 2514, PG. 1388
- 48- INDU B. & VISHWA M. BHARGAVA ZONING R-3 PARCEL ID 792-741-2460 D.B. 5303, PG. 1003
- 49- JOHN WRIGHT JR. ZONING R-3 PARCEL ID 792-741-2267 D.B. 3871, PG. 708
- 50- ERIC L. MCPHERSON ZONING R-3 PARCEL ID 792-741-2178 D.B. 4550, PG. 2253



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C/O LENDLEASE (US) TOWER HOLDINGS, LLC
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architects
engineers

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FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1			
2			
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6			

SITE NAME:
VA-HENRICO-PINE CAMP

SITE ADDRESS:
4000 PLOTS LN.
HENRICO, VA 23222

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

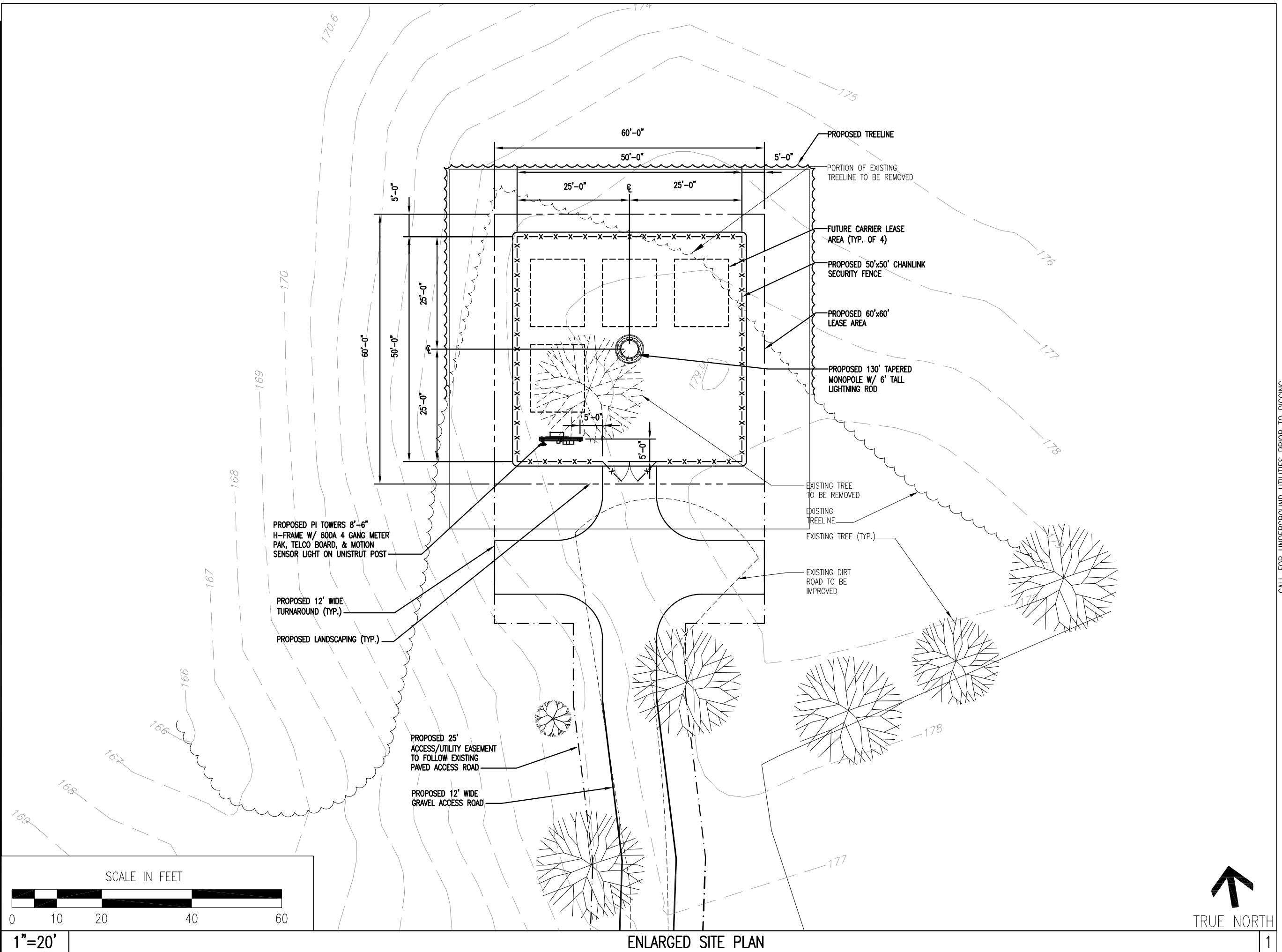
SITE PLAN

SHEET NUMBER:	REV. #
A-0	A



SITE PLAN

1



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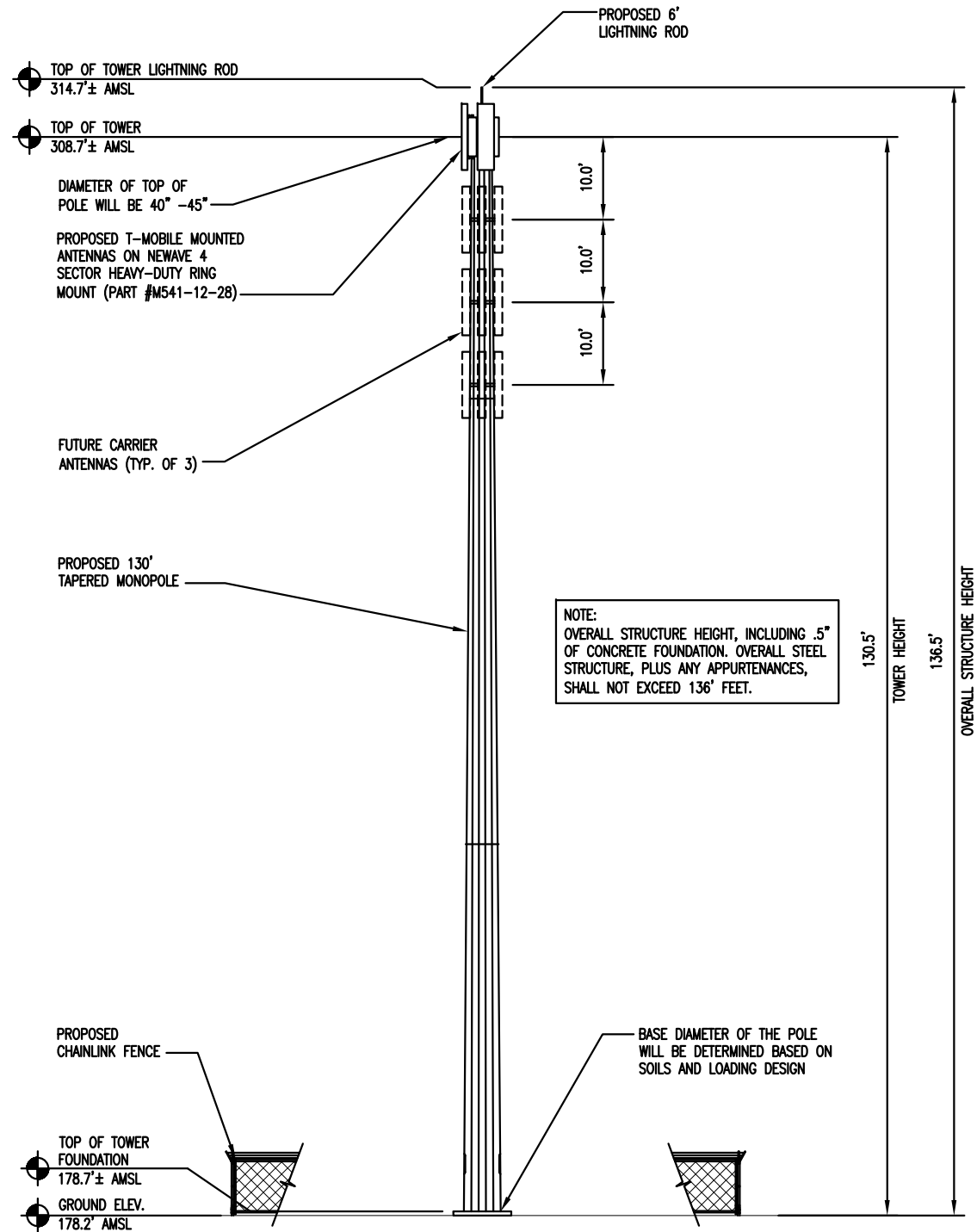
ENLARGED
SITE PLAN

SHEET NUMBER:	REV. #
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A-1

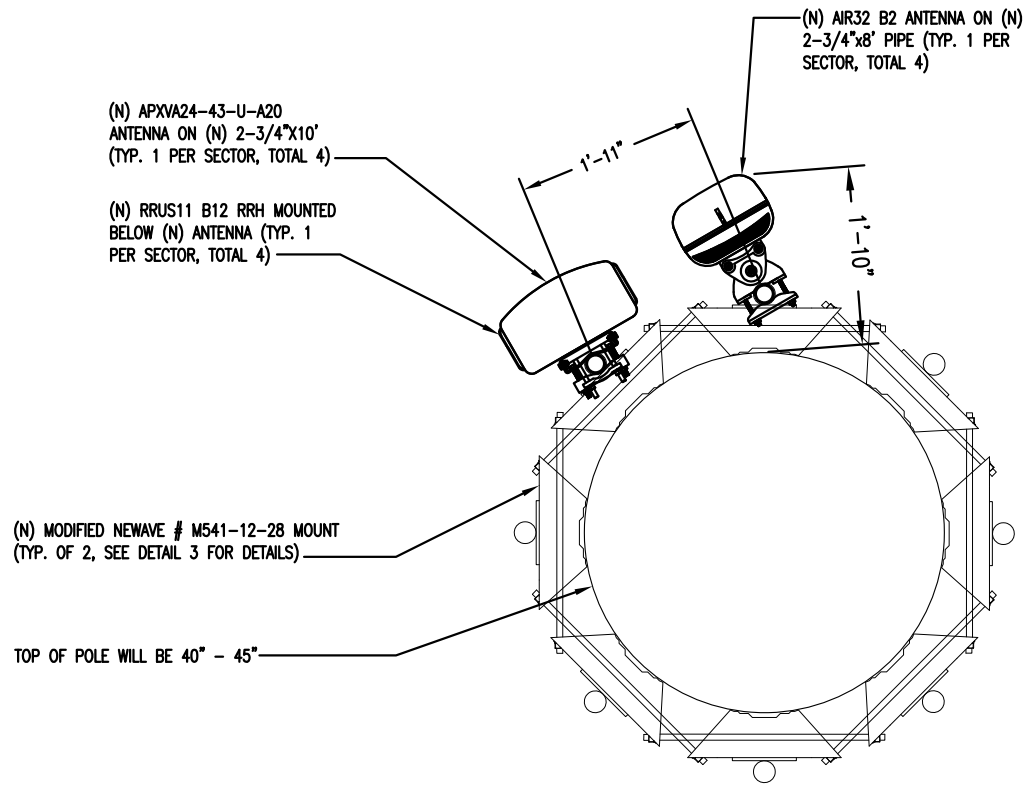
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12-28-17 JGARC 10:43:05 Y:/Drawings - 2017/Parallel Infrastructures/VA-Henrico-Pine Camp - PVA037/_FZD'S - Rev 2 - 2017-12-27/A2.dwg

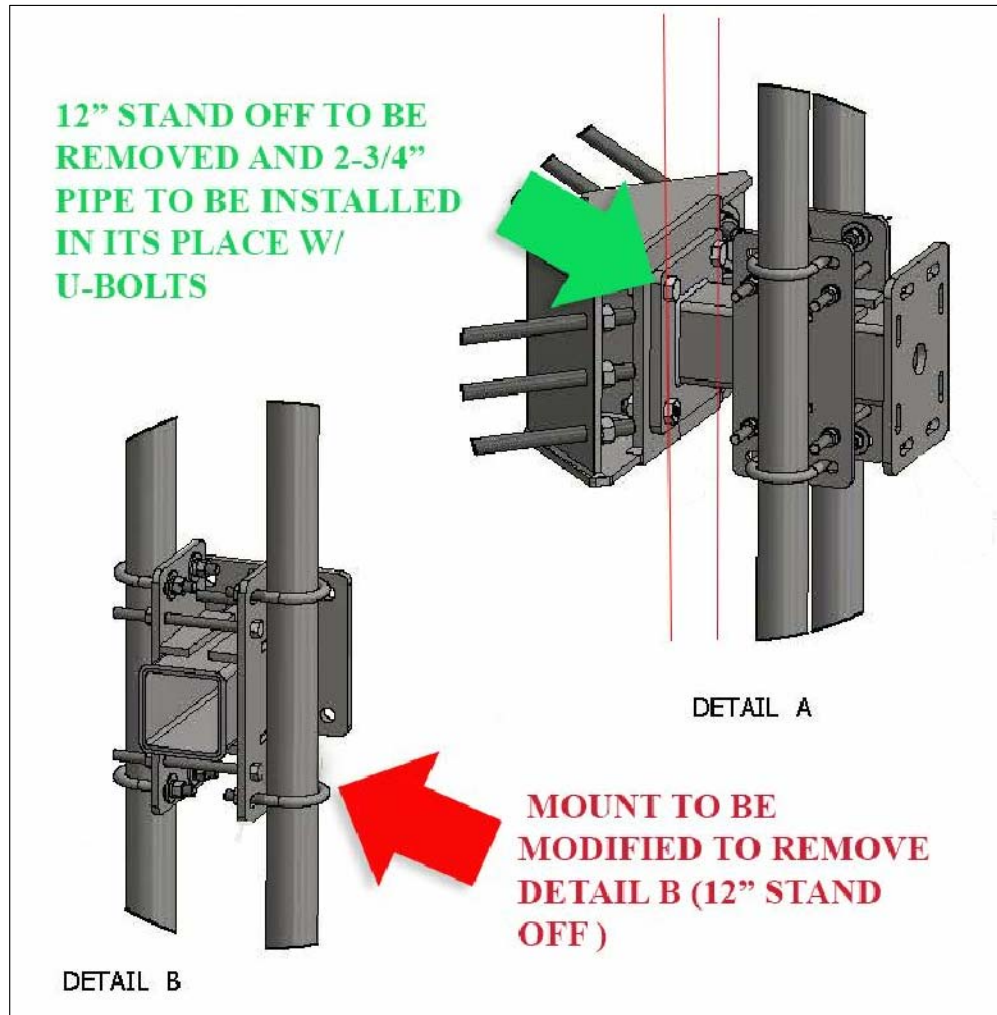


1"=20' TOWER ELEVATION

1 N.T.S



N.T.S NEWAVE 4 SECTOR HEAVY-DUTY RING MOUNT KIT (PART #M541-12-28) 2



MOUNT DETAIL

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING



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BC

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FAX: (703) 671-6300

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VA-HENRICO-PINE CAMP

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**4000 PLOTS LN.
HENRICO, VA 23222**

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CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

TOWER ELEVATION

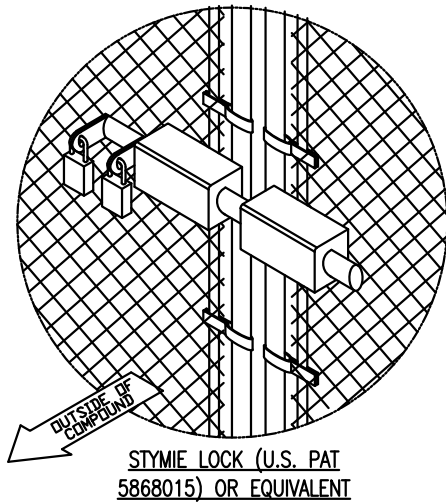
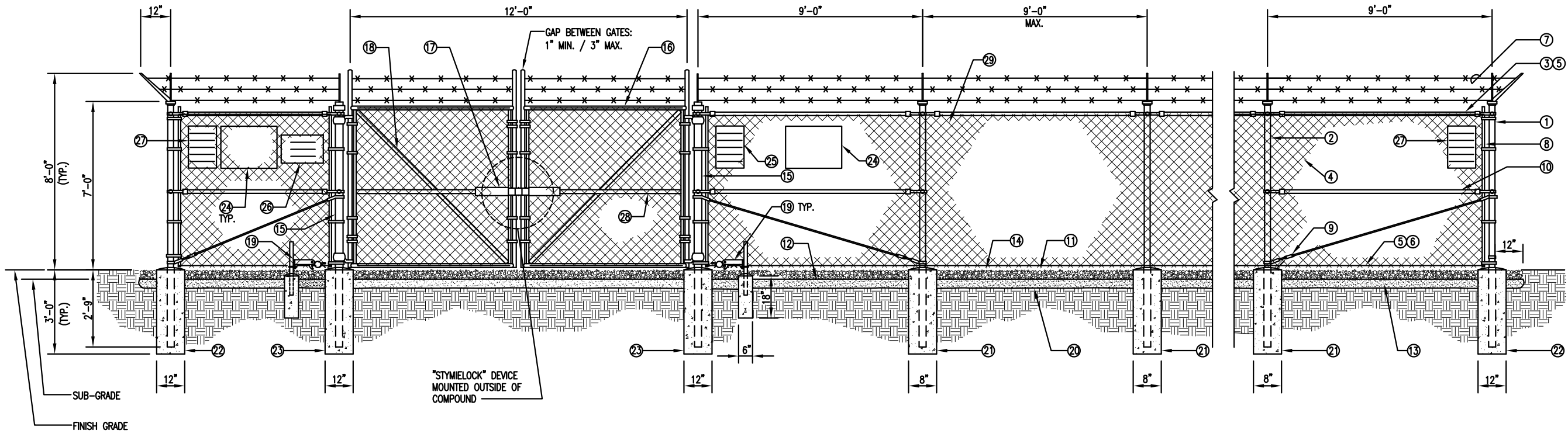
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3

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REFERENCE NOTES:

- 1 CORNER, END OR PULL POST 4" SCHEDULE 40 PIPE.
- 2 LINE POST: 2 1/2" SCHEDULE 40 PIPE, PER ASTM-F1083.
LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 8'-0" O.C.
- 3 TOP RAIL & BRACE RAIL: 1 1/2" PIPE, PER ASTM-F1083.
- 4 FABRIC: 9 GA CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392.
- 5 TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL AT POSTS AND RAILS
A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG
RINGS SPACED MAX. 24" INTERVALS.
- 6 TENSION WIRE: 9 GA. GALVANIZED STEEL.
- 7 BARBED WIRE: DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH
WITH FABRIC 14 GA, 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.
- 8 STRETCHER BAR.
- 9 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE
OR DIAGONAL THREADED ROD.
- 10 FENCE CORNER POST BRACE: 1 5/8" DIA. EACH CORNER EACH WAY.
- 11 1 1/2" MAXIMUM CLEARANCE FROM GRADE.
- 12 2" FINISH OR AS DETERMINED BY CONSTRUCTION
MANAGER DURING BID WALK.
- 13 4" COMPACTED 95% BASE MATERIAL OR AS DETERMINED BY CONSTRUCTION
MANAGER DURING BID WALK.
- 14 FINISH GRADE SHALL BE UNIFORM AND LEVEL.
- 15 GATE POST 4". SCHEDULE 40 PIPE, FOR GATE
WIDTHS UP THRU 10 FEET OR 20 FEET FOR
DOUBLE SWING GATE, PER ASTM-F1083.
- 16 GATE FRAME: 1 1/2" PIPE SCH. 40, PER ASTM-F1083.
- 17 "STYMILOCK" OR EQUIVALENT
- 18 GATE DIAGONAL GALVANIZED STEEL 1 1/2" PIPE.
- 19 DUCK BILL OPEN GATE HOLDER. VERIFY LOCATION
IN FIELD PRIOR TO INSTALLATION.
- 20 GEOTEXTILE FABRIC.
- 21 LINE POST: CONCRETE FOUNDATION (3000 PSI).
- 22 CORNER POST: CONCRETE FOUNDATION (3000 PSI).
- 23 GATE POST: CONCRETE FOUNDATION (3000 PSI).
- 24 18" x 24" PI TOWER DEVELOPMENT, LLC SIGN. W/
CONTACT INFO. AND TOWER IDENTIFICATION
- 25 12" x 18" YELLOW CAUTION SIGN.
- 26 12" x 18" EMPLOYEE NOTICE SIGN.
- 27 12" x 18" DANGER NO TRESPASSING SIGN
(1) ON EACH SIDE OF COMPOUND.
- 28 GATE FRAME BRACE: 1 5/8" DIAMETER.
- 29 EARTH-TONED COLORED, VINYL-COATED STEEL SECURITY FENCING

GENERAL NOTES:

1. INSTALL FENCING PER ASTM F-567
2. INSTALL SWING GATES PER ASTM F- 900
3. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT
SHALL BE COMPLIED IF REQUIRED.
4. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS.
ALL PIPE TO BE 1 1/2" GALV.
(HOT DIP, ASTM A120 GRADE "A" STEEL).
ALL GATE FRAMES SHALL BE WELDED.
ALL WELDING SHALL BE COATED WITH (3) COATS
OF COLD GALV. (OR EQUAL).
5. ALL OPEN POSTS SHALL HAVE END-CAPS.
6. USE GALVANIZED HOG-RING WIRE TO MOUNT ALL SIGNS.
7. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC.

STORE EXTRA PARTS OF STYMILOCK
DEVICE IN TELCO CABINET.

NO PLUNGER OR MUSHROOM HEAD REQUIRED.



PI TOWER DEVELOPMENT LLC
C/O LENDLEASE (US) TOWER HOLDINGS, LLC
909 LAKE CAROLYN PARKWAY, SUITE 260
IRVING, TX 75039

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PLANS AND/OR SPECIFICATIONS SHALL REMAIN
WITH PI TOWERS WITHOUT PREJUDICE AND VISUAL
CONTACT WITH THEM SHALL CONSTITUTE PRIMA
FACIE EVIDENCE OF ACCEPTANCE OF THESE
RESTRICTIONS.

BC

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engineers

5661 COLUMBIA PIKE, SUITE 200
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			
6			

SITE NAME:

**VA-HENRICO-
PINE CAMP**

SITE ADDRESS:

**4000 PLOTS LN.
HENRICO, VA 23222**

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

**FENCE, GATE AND
COMPOUND CROSS
SECTION DETAIL**

SHEET NUMBER: REV. #

A-3

A

N.T.S.

FENCE, GATE AND COMPOUND CROSS SECTION DETAIL

1

Y:/Drawings - 2017/Parallel Infrastructures/VA-Richmond-City Jail-PIVA038/_PCD's - Rev A - 2017-12-11/A4.dwg 12-11-17 GWOLO 11:56:39

SITE ID:
PIVA038

SITE NAME:
VA-RICHMOND-CITY JAIL

SITE ADDRESS:
711 HOSPITAL ST.
RICHMOND, VA 23219

FCC REGISTRATION #



LEASING CONTACT
TOWERS@LENDLEASE.COM

EMERGENCY NOCC # 1 800 821 5825



DANGER



PRIVATE
PROPERTY

NO TRESPASSING
VIOLATORS WILL
BE PROSECUTED.

THE ABOVE SIGNAGE WILL BE SUPPLIED BY LENDLEASE
AND TO BE INSTALLED BY THE CONTRACTOR.

WARNING

- AUTHORIZED PERSONNEL ONLY
- HARD HATS REQUIRED
- WATCH FOR FALLING MATERIALS
- WATCH FOR TRIPPING HAZARDS
- WATCH FOR UNEVEN SURFACES
- IN THE EVENT OF T-STORM, VACATE THE
COMPOUND



PI TOWER DEVELOPMENT LLC
C/O LENDLEASE (US) TOWER HOLDINGS, LLC
909 LAKE CAROLYN PARKWAY, SUITE 260
IRVING, TX 75039

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SITE ADDRESS:
4000 PLOTS LN.
HENRICO, VA 23222

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

SIGNAGE

SHEET NUMBER:	REV. #
A-4	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING


$$1'' = 10'$$

ENLARGED SITE PLAN

1



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BC

a r c h i t e c t s
e n g i n e e r s

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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1			
2			
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4			
5			
6			

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VA-HENRICO-
PINE CAMP

SITE ADDRESS:

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HENRICO, VA 23222

STAMP HERE:

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CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

SILT FENCE LAYOUT PLAN

SHEET NUMBER:

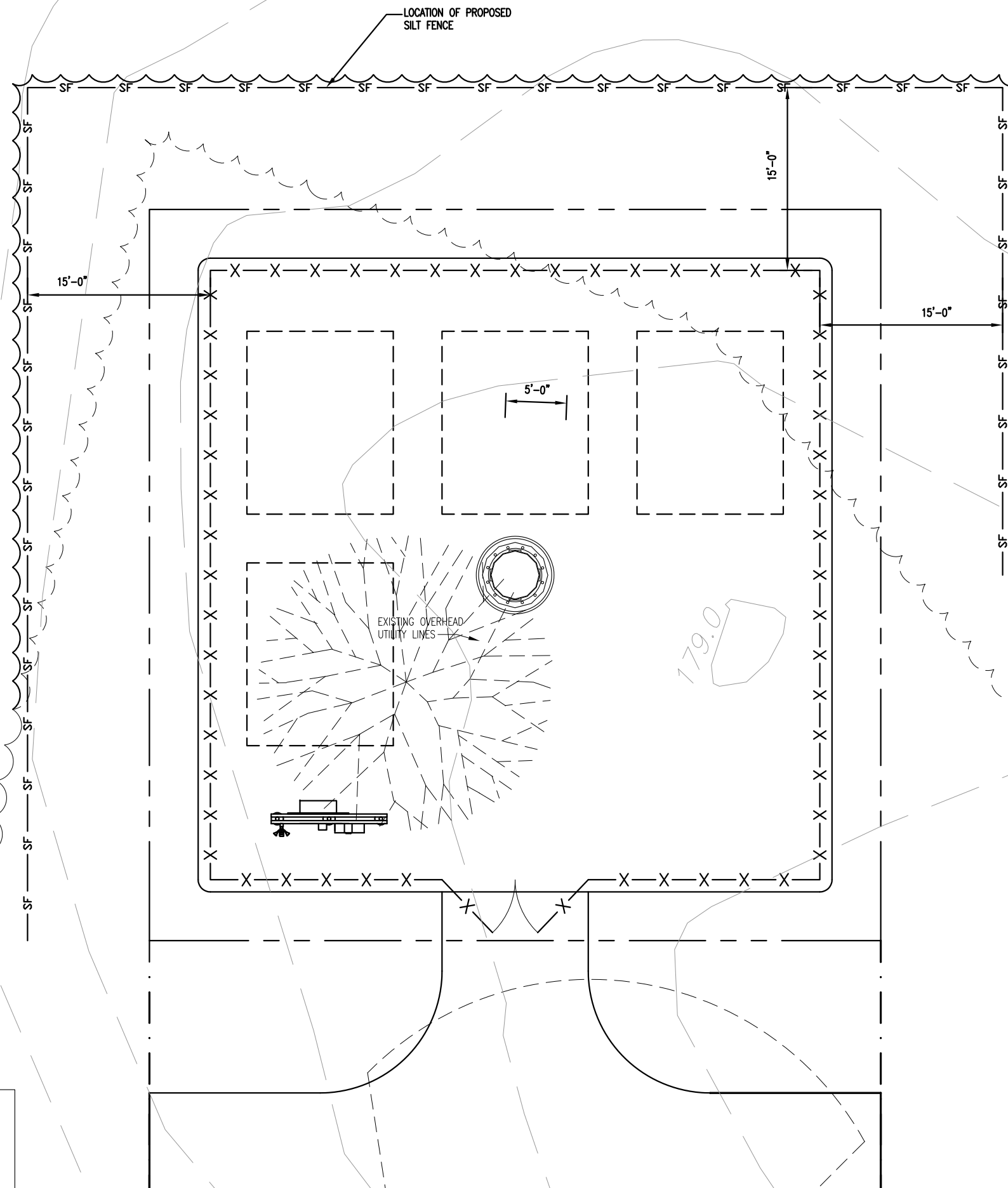
E&S-1

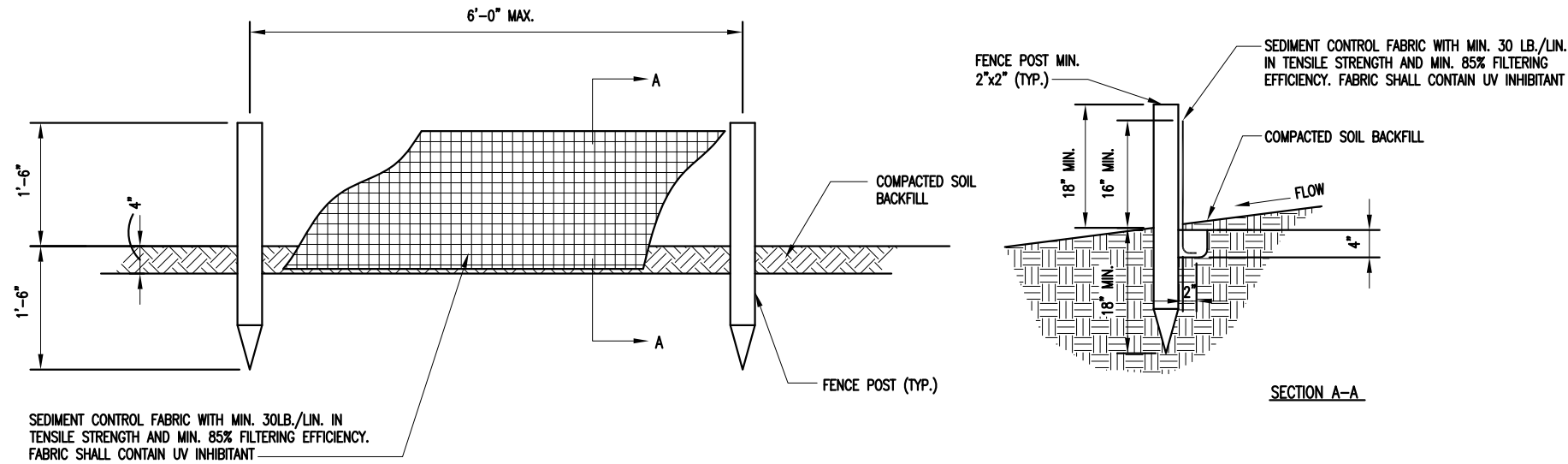
REV. #

A



TRUE NORTH





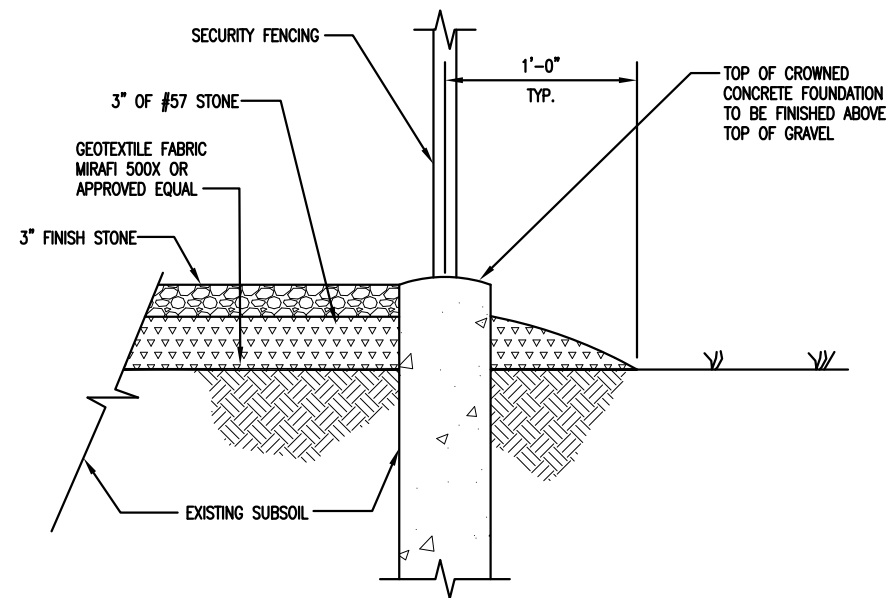
SILT FENCE DETAIL NOTE:

1. CONTRACTOR SHALL PROVIDE SILT FENCES IN CONFORMANCE WITH APPLICABLE STATE AND LOCAL CODE REQUIREMENTS FOR SOIL EROSION CONTROL

N.T.S.

SILT FENCE DETAIL

1



N.T.S.

APRON DETAIL

2



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SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

DETAILS

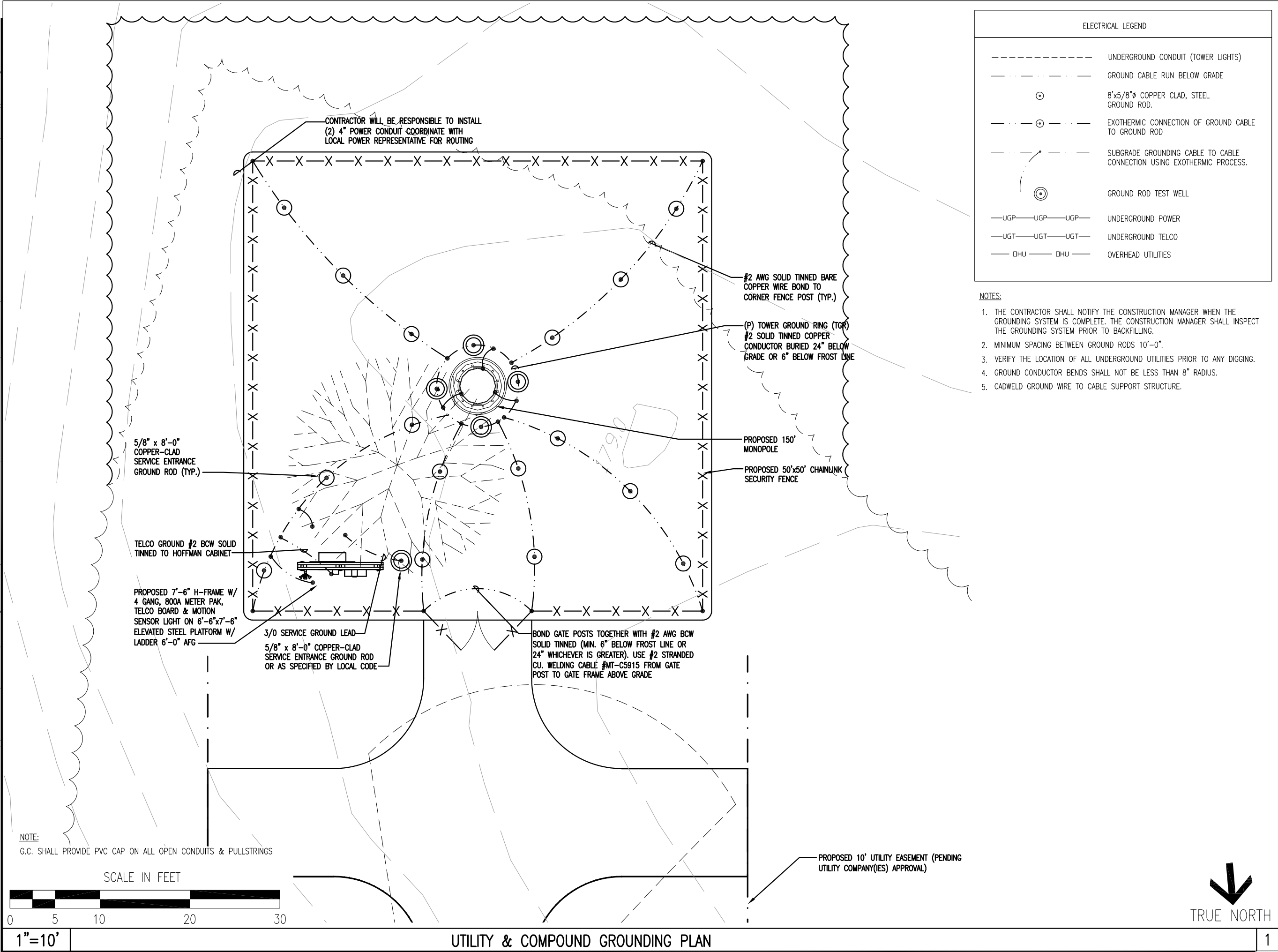
SHEET NUMBER: REV. #

E&S-2

A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

10-10-18 JGARC 18:10:25 10.27.189.8/BC Files/Drawings - 2017/Parallel Infrastructures/VA-Henrico-Pine Camp - PVA037/_PCD's - Rev A - 2018-01-04 (Tower)/E1.dwg



ELECTRICAL LEGEND	
	UNDERGROUND CONDUIT (TOWER LIGHTS)
	GROUND CABLE RUN BELOW GRADE
	8"x5/8"Ø COPPER CLAD, STEEL GROUND ROD.
	EXOTHERMIC CONNECTION OF GROUND CABLE TO GROUND ROD
	SUBGRADE GROUNDING CABLE TO CABLE CONNECTION USING EXOTHERMIC PROCESS.
	GROUND ROD TEST WELL
	UNDERGROUND POWER
	UNDERGROUND TELCO
	OVERHEAD UTILITIES

- NOTES:
1. THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHEN THE GROUNDING SYSTEM IS COMPLETE. THE CONSTRUCTION MANAGER SHALL INSPECT THE GROUNDING SYSTEM PRIOR TO BACKFILLING.
 2. MINIMUM SPACING BETWEEN GROUND RODS 10'-0".
 3. VERIFY THE LOCATION OF ALL UNDERGROUND UTILITIES PRIOR TO ANY DIGGING.
 4. GROUND CONDUCTOR BENDS SHALL NOT BE LESS THAN 8" RADIUS.
 5. CADWELD GROUND WIRE TO CABLE SUPPORT STRUCTURE.

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SHEET REVISION			
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2			
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4			
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SITE NAME:
VA-HENRICO-PINE CAMP

SITE ADDRESS:
**4000 PLOTS LN.
HENRICO, VA 23222**

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

**UTILITY & COMPOUND
GROUNDING PLAN**

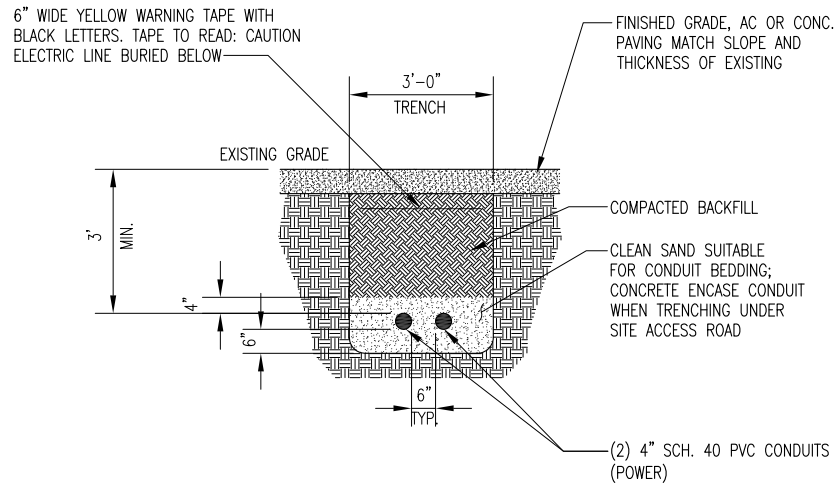
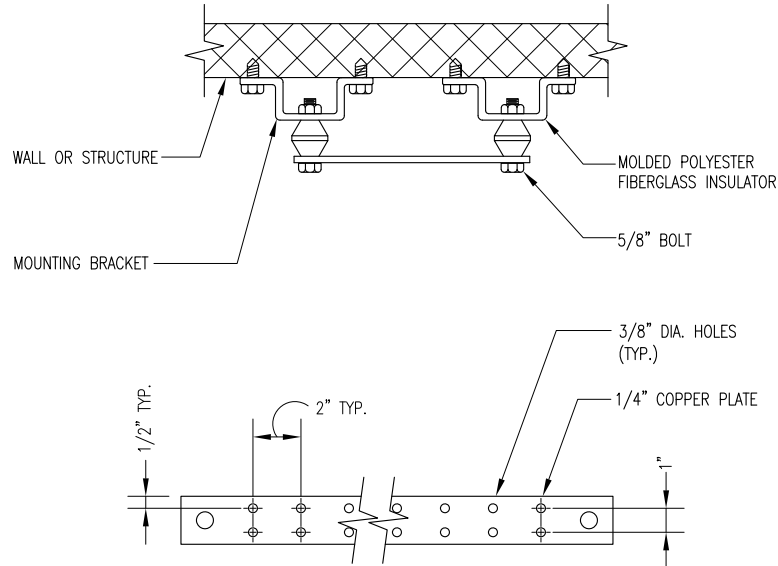
SHEET NUMBER:	REV. #
E-1	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

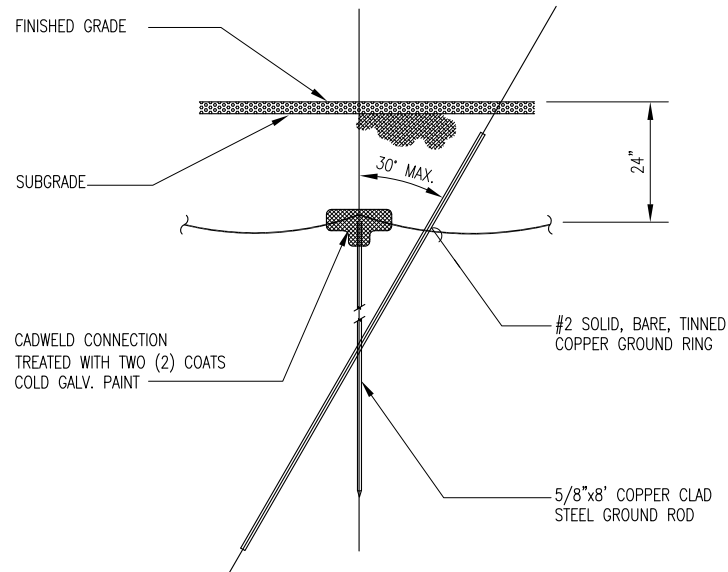
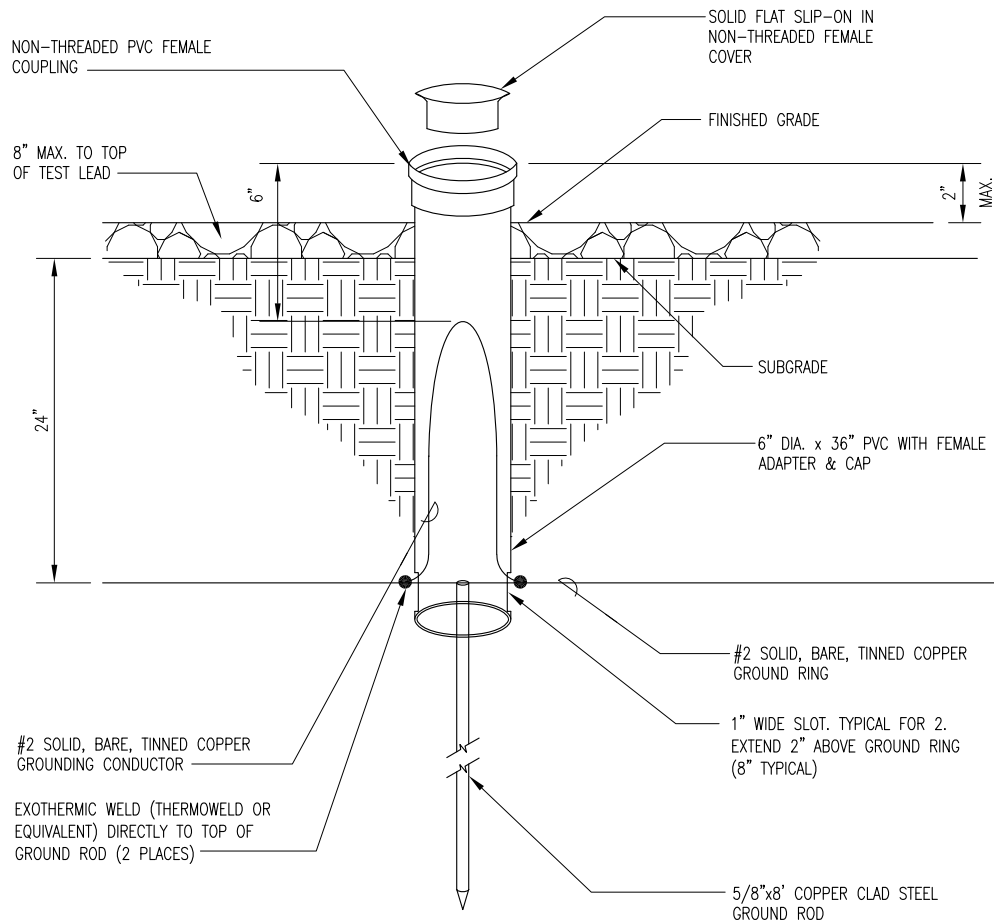


TRUE NORTH

01-10-18 JGARC 18:05:55 \\10.27.189.8\BC_Files\Drawings - 2017\Parallel Infrastructures\VA-Henrico-Pine Camp - PIVAO37\PCD's - Rev A - 2018-01-04 (Tower)\E2.dwg



NOTE: THIS DETAIL SHALL BE APPLIED TO PROPOSED CONDUIT ROUTE FROM PROPOSED H-FRAME INSIDE COMPOUND UP TO 5' OUTSIDE OF COMPOUND. CONDUITS SHALL THEN BE STUBBED UP USING 90° SWEEPING ELBOWS.



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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1			
2			
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4			
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6			

SITE NAME:

**VA-HENRICO-
PINE CAMP**

SITE ADDRESS:

**4000 PLOTS LN.
HENRICO, VA 23222**

STAMP HERE:

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CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

**ELECTRICAL
DETAILS**

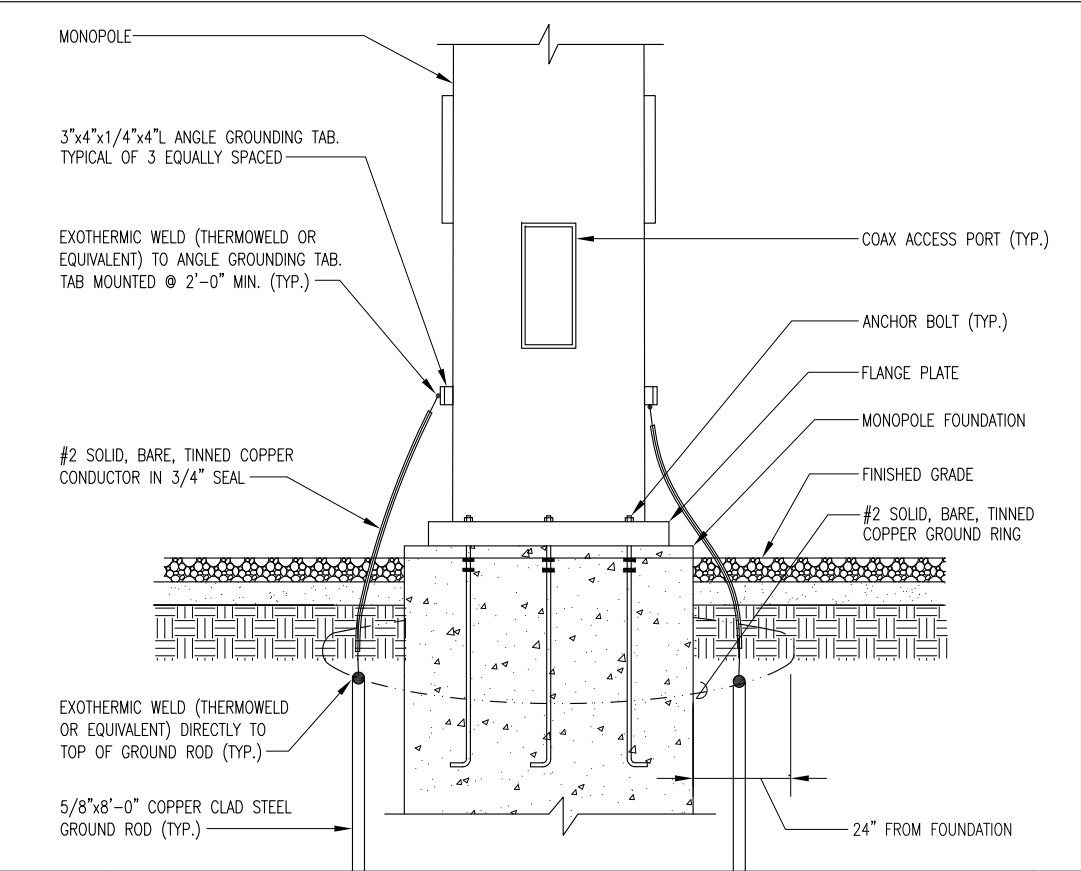
SHEET NUMBER: REV. #

E-2

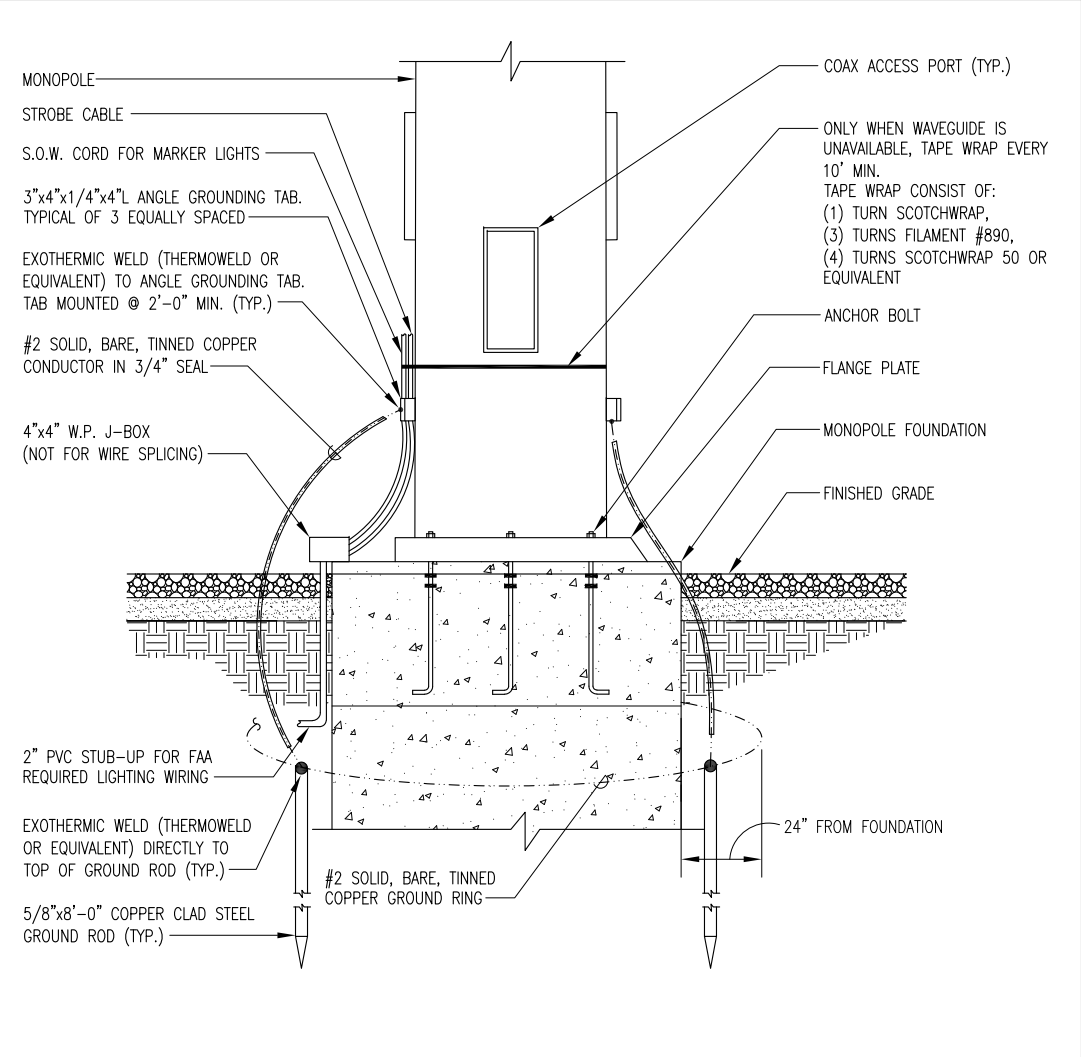
A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

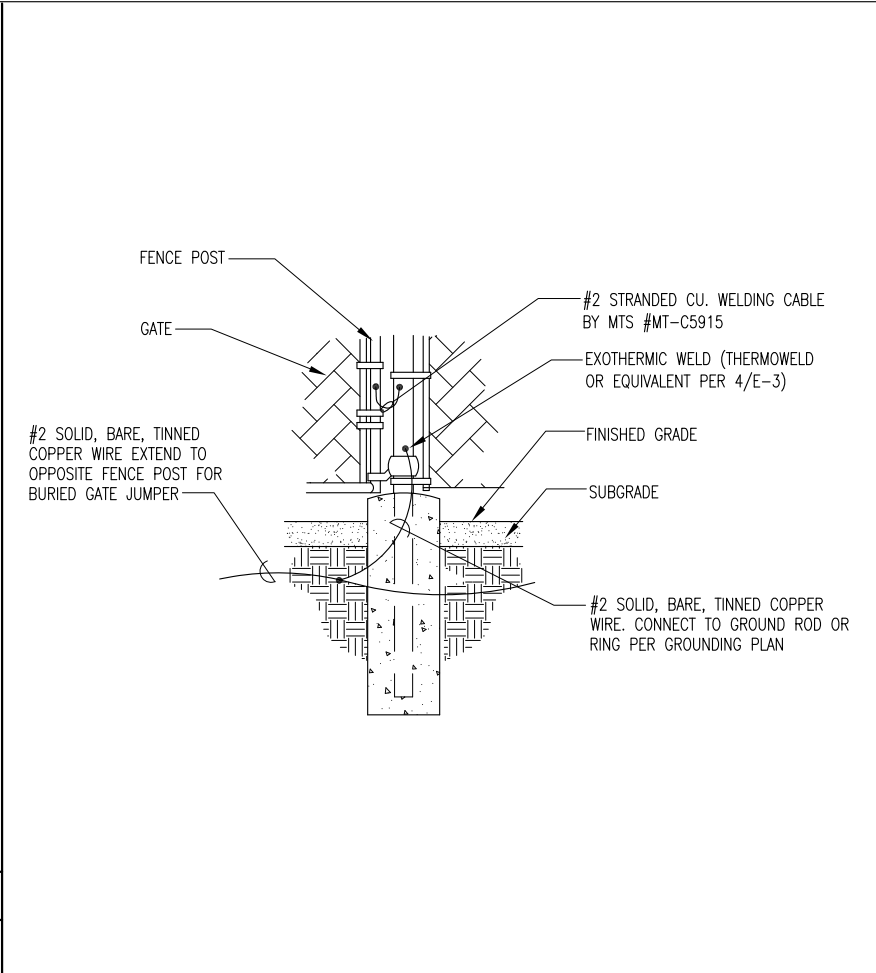
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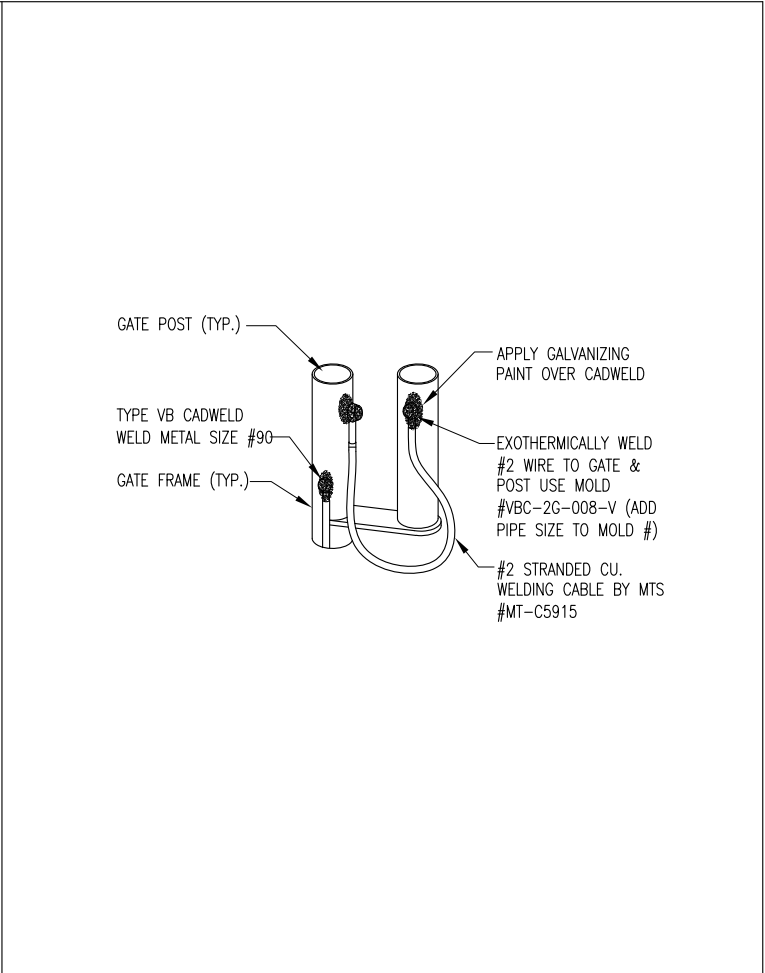
N.T.S. TOWER GROUNDING DETAIL WITH FOOTING 1



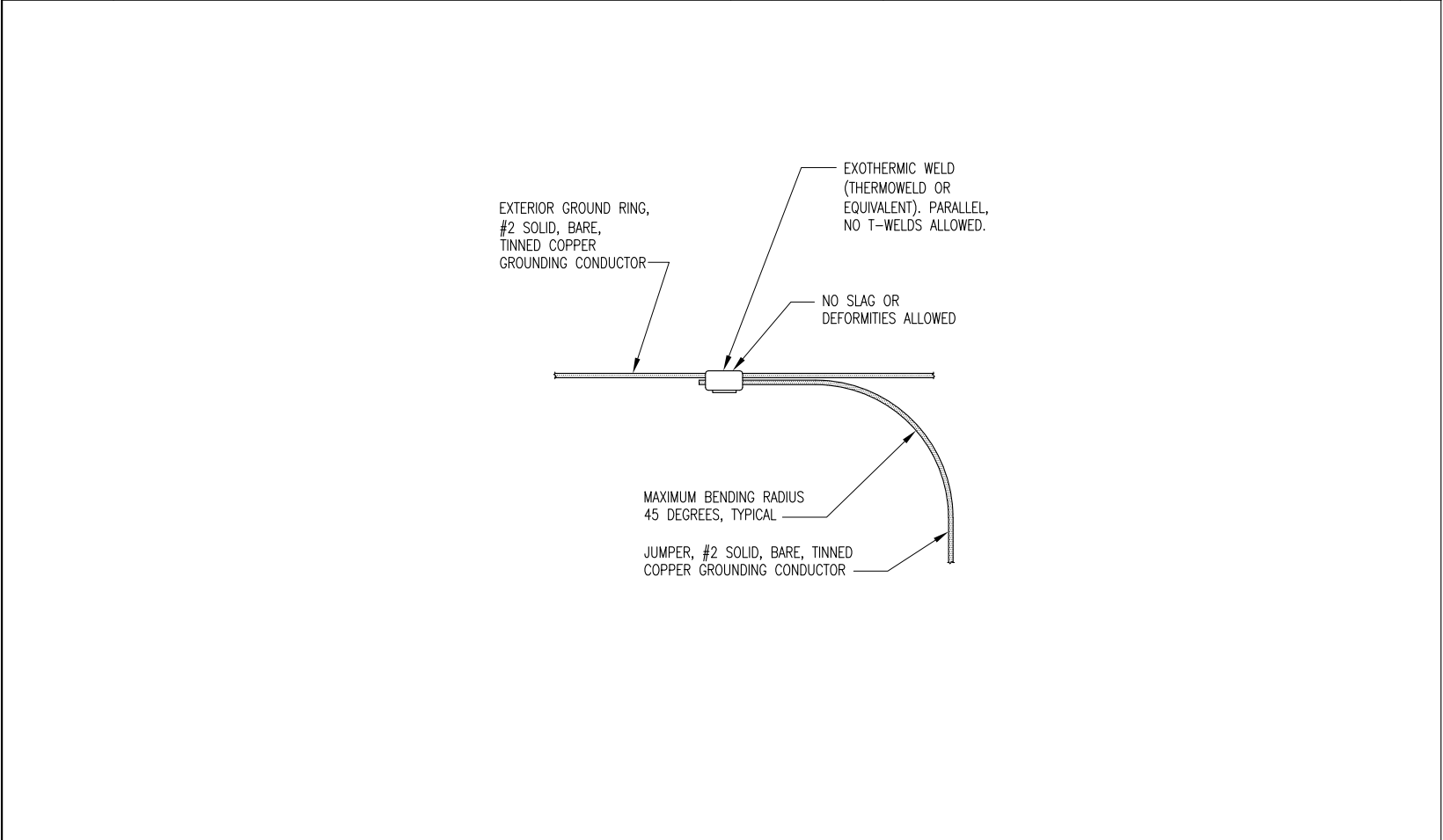
N.T.S. TOWER GROUNDING WITH POURED IN PLACE FOUNDATION 2



N.T.S. GATE GROUNDING DETAIL 3



N.T.S. GATE BONDING DETAIL 4



N.T.S. GROUND RING DETAIL 5

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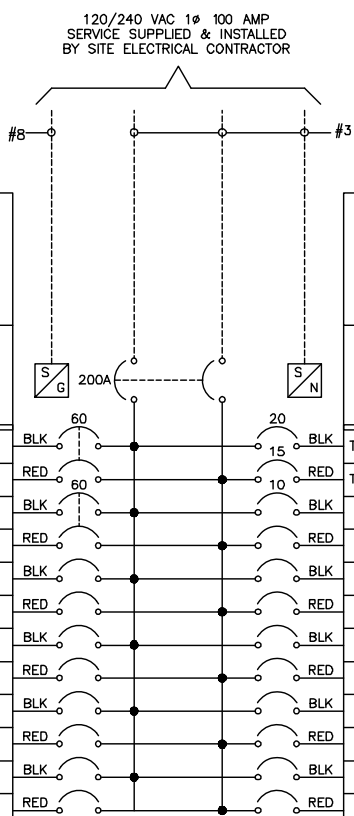
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DETAILS**

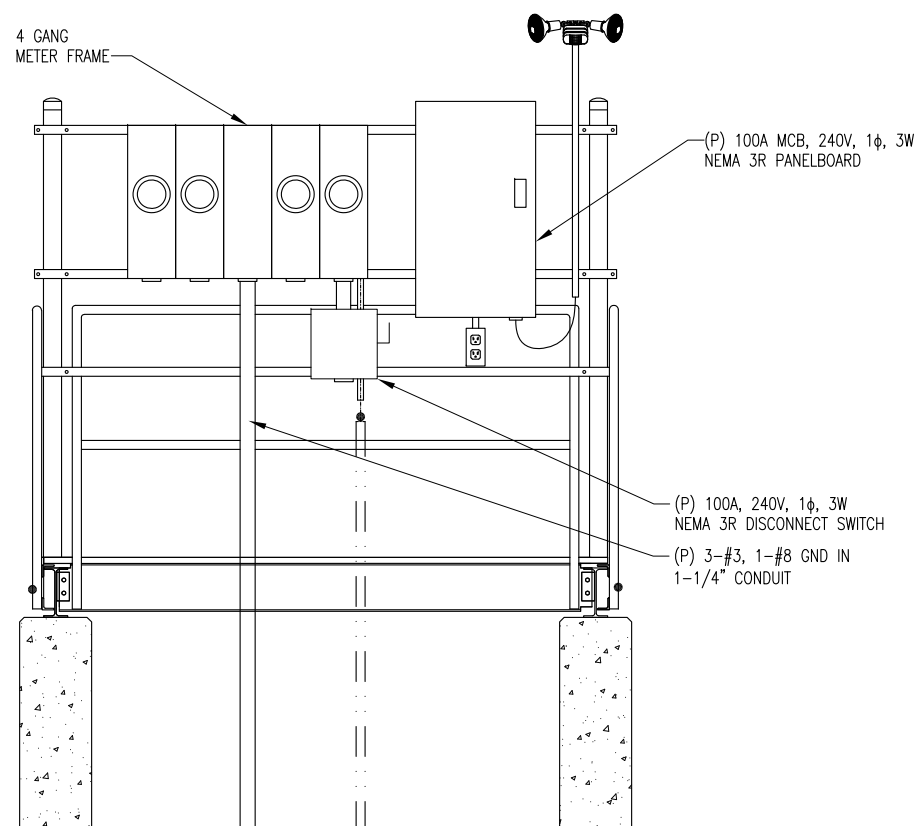
SHEET NUMBER:	REV. #
E-3	A



SERVICE: 120/240 VAC												
DESIGNATION: N/A												
LOCATION: N/A												
WIRE TYPE	A.I.C.	WIRE SIZE	POLES	TRIP	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	LOAD PER PHASE (VA)		LOAD			
							PHASE		UNIT V.A.	QTY.	DESCRIPTION	
							A	B				
THHN	10,000	12	1	20	X		435		435	1	FLOOD LIGHT	2
THHN	10,000	12	1	15	X			180	180	1	GFI RECEPTACLE	4
									-	-	SPACE	6
									-	-	SPACE	8
							-		-	-	SPACE	10
									-	-	SPACE	12
							-		-	-		14
									-	-		16
							-		-	-		18
									-	-		20
							-		-	-		22
									-	-		24
							435	-	SUBTOTAL CONTINUOUS		TOTAL KVA CONTINUOUS + 1.25	5.44
							-	180	SUBTOTAL NON-CONTINUOUS		TOTAL KVA NON-CONTINUOUS	1.80
MANUFACTURER: TRANSECTOR										TOTAL KVA		7.24
MODEL NUMBER: TTOR-200-24-CC-08										TOTAL AMPS		3.02
NO EQUAL: ☐ APPROVED EQUAL: ☒												
MOUNTING: SURFACE: ☒ FLUSH: ☐												

1	CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING
---	---

1



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SHEET REVISION

NO.	DESCRIPTION	BY	DATE
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1	_____	_____	_____
2	_____	_____	_____
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4	_____	_____	_____
5	_____	_____	_____
6	_____	_____	_____

SITE NAME:

VA-HENRICO-
PINE CAMP

SITE ADDRESS:

4000 PLOTS LN.
HENRICO, VA 23222

STAMP HERE:

SHEET TITLE:

ELECTRICAL DETAILS

SHEET NUMBER:	REV. #
---------------	--------

E-5

A

SYMBOLS LIST

- (SYMBOLS SHOWN MAY NOT BE USED ON THIS PROJECT)
-  CONDUIT RISER UP.
-  CONDUIT RISER DOWN.
-  GROUNDING CONDUCTOR.
-  INDICATES CIRCUIT CONTINUATION.
-  ENCLOSED CIRCUIT BREAKER. SIZE AS SHOWN.
-  FUSED DISCONNECT SWITCH. SIZE AS SHOWN.
-  RECEPTACLE PANELBOARD, 120/240 VOLT.
-  NOTES: REFERENCE SYMBOLS:
DENOTES "SEE NOTE NO. 1."
-  +18" INDICATES MOUNTING HEIGHT AFF.
-  EXISTING ELEC EQUIPMENT TO REMAIN.
(E)

ABBREVIATIONS

A, AMP	AMPERE	KVA	KILOVOLT AMPS
AFF	ABOVE FINISHED FLOOR	KWH	KILOWATT HOURS
AN	ANTENNA	L	LENGTH
AWG	AMERICAN GAUGE WIRE	LB	POUND
		MAX	MAXIMUM
		M.L.O.	MAIN LUG ONLY
C	CONDUIT	N	NEUTRAL
CAB	CABINET	NEC	NATIONAL ELECTRICAL CODE
C/B	CIRCUIT BREAKER		
CKT	CIRCUIT	NO.	NUMBER
COAX	COAXIAL	NTS	NOT TO SCALE
CO	COMPANY		
CONTR	CONTRACTOR	O.C.	ON CENTER
		P	POLE
D	DEPTH		
db	DECIBEL	R.G.S.	RIGID
DEG	DEGREE		GALVANIZED STEEL
DESCRIP	DESCRIPTION		
DIA	DIAMETER	SCH	SCHEDULE
DWG	DRAWING	SWBD	SWITCHBOARD
ECB	ENCLOSED CIRCUIT BREAKER	TEL	TELEPHONE
		(TYP)	TYPICAL
ELEC	ELECTRICAL	UL	UNDERWRITER'S LABORATORY
(E)	EXISTING	V	VOLT
FT	FEET	W	WIDTH OR WIRE
G	GROUND	XFMR	TRANSFORMER
IN	INCH		

ELECTRICAL SPECIFICATION

- FURNISH ALL LABOR, MATERIALS, TOOLS, EQUIPMENT SERVICES FOR ALL ELECTRICAL WORK AS INDICATED IN ACCORD WITH PROVISIONS OF CONTRACT DOCUMENTS. COORDINATE WITH WORK OF ALL OTHER TRADES. FURNISH AND INSTALL ALL SUPPLEMENTARY OR MISCELLANEOUS ITEMS AND DEVICES TO SECURE AND COMPLETE INSTALLATION.
- FOR EXACT LOCATIONS OF BUILDING ELEMENTS, REFER TO ARCHITECTURAL DWG'S. FIELD VERIFY LOCATIONS AND ARRANGEMENT OF ALL EXISTING SYSTEMS AND EQUIPMENT.
- ALL EXTERIOR DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF, NEMA-3R.
- PERFORM ALL WORK IN ACCORD WITH FOLLOWING CODES:
 - FEDERAL, STATE AND LOCAL CODES, REGULATIONS AND ORDINANCES.
 - NATIONAL ELECTRICAL CODE (NEC).
 - ALL AUTHORITIES HAVING JURISDICTION.
- USE UL LABELED ELECTRICAL MATERIALS WHERE LISTING HAS BEEN ESTABLISHED FOR MATERIALS OR DEVICES IN QUESTION.
- SAFETY SWITCH: HEAVY DUTY TYPE IN NEMA-1 ENCLOSURE, NEMA-3R IN DAMP OR WET LOCATIONS.
- CONDUIT: ALL ELECTRIC METALLIC TUBING CONNECTORS SHALL BE COMPRESSION TYPE (NO POT-METAL AND SET SCREW), MIN. 3/4". USE FLEXIBLE METAL (STEEL) CONDUIT FOR CONNECTION TO ALL VIBRATING EQUIPMENT AND CASEWORK.
- WIRE IN CONDUIT SIZES #10 AWG AND SMALLER SHALL BE SOLID COPPER WITH TYPE THWN/THHN 600 VOLT INSULATION. THE MIN. CONDUCTOR SIZE SHALL BE NO. 12 AWG. CONTROL WIRING MAY BE NO. 14 AWG. A GROUND WIRE SHALL BE INSTALLED IN ALL CIRCUITS. WIRE OF SIZES 8 AWG AND LARGER SHALL BE STRANDED COPPER WITH TYPE XHHW, THW OR THHN 600 VOLT INSULATION. SPLICES FOR WIRE SIZES #10 AWG AND SMALLER SHALL BE CONICAL SPRING TYPE DEVICES. WIRE SIZES OF #8 AWG AND LARGER SHALL HAVE SPLIT-BOLT CONNECTORS WITH SUFFICIENT LAYERS OF TAPE TO EQUAL INSULATION OF WIRE BEING SPLICED.
- PROVIDE NAMEPLATES ON ALL PIECES OF ELECTRICAL EQUIPMENT, SUCH AS, CIRCUIT BREAKERS, DISCONNECT SWITCHES, PANELBOARDS, ALL PULL BOXES. NAMEPLATES SHALL BE ENGRAVED WITH WHITE LETTERS ON A BLUE FIELD, 2-1/2"x3/4" WITH 1/4" HIGH (MIN.) LETTERS. PLATE MATERIAL SHALL BE TOUGH MULTI-LAYERED ACRYLIC (1/8" THICK MIN.) "SETONFLEX" TO WITHSTAND EXTREME INDOOR AND OUTDOOR TEMPERATURES. PLATE SHALL HAVE PRESSURE SENSITIVE ADHESIVE BACKING SUITABLE FOR OUTDOORS.
- THE EQUIPMENT SHALL BE PROVIDED BY AS A PREFABRICATED PACKAGED UNIT. THE CONTRACTOR IS TO PROVIDE ALL OTHER EQUIPMENT, CONDUIT AND CABLING FOR A COMPLETE JOB.
- ALL TERMINATIONS SHALL BE LISTED AND IDENTIFIED FOR USE WITH 75°C RATED CONDUCTORS.
- POWER COMPANY OR THE CONTRACTOR WHERE REQUIRED BY THE POWER COMPANY, SHALL TERMINATE THE POWER CABLES (SUPPLIED BY THE POWER CO.) AT THE UTILITY METER.
- CONDUIT LINES SHALL HAVE A CONTINUOUS SLOPE DOWNWARD AND AWAY FROM THE SHELTER TO THE PROPERTY LINE SO THAT WATER WILL FLOW AWAY FROM THE SHELTER. TRENCHES SHALL BE EXCAVATED ALONG STRAIGHT LINES BEFORE CONDUITS ARE LAID SO THE ELEVATION CAN BE ADJUSTED, IF NECESSARY, TO AVOID UNSEEN OBSTRUCTIONS. MANUFACTURED BENDS SHALL HAVE A MIN. RAD. 36" FOR CONDUITS.
- BENDS SHALL HAVE A MINIMUM RADIUS 36" FOR CONDUITS. ALL CONDUITS ENTERING THE SHELTER SHALL BE SEALED WITH SEALANTS THAT ARE IDENTIFIED FOR USE WITH THE CABLE INSULATION, SHIELD, OR OTHER COMPONENTS. A BEAD OF SILICONE SHALL BE PLACED AROUND ALL CONDUIT PENETRATIONS INTO THE SHELTER.

- METER SOCKET TO BE SUPPLIED BY OR AS PER POWER COMPANY REQUIREMENTS.
- GROUND FAULT PROTECTION IS REQUIRED FOR ANY UTILITY RECEPTACLES.
- WHITE/NEUTRAL, GREEN/GROUND, SHALL BE MAINTAINED THROUGHOUT THE SITE ELECTRICAL SYSTEM.

CABLE WORKS GENERAL NOTES

- ALL COAX CABLE SHALL BE INSTALLED WITH A "DRIP LOOP" WHEN TURNING FROM VERTICAL TO HORIZONTAL. JUMPER LENGTH SHALL NOT EXCEED 6' ON EACH SIDE OF FEEDER.
- ALL CABLE SHALL BE ANDREWS LDF SERIES. ALL CONNECTORS TO BE 7/16 DIN FEMALE CAPTIVATED. ALL JUMPERS SHALL BE LDF SERIES (NO SUPERFLEX) 7/16 MALE DIN TO 7/16 MALE DIN AND SHALL BE 6' LONG MAX. (UNLESS IMPOSSIBLE). ALL EXTERIOR CONNECTIONS SHALL BE WATERPROOF TAPED
- ALL ANTENNA MOUNTS MUST BE GROUNDED. ALL COAX FEEDER CABLE MUST BE GROUNDED WITHIN 10' MAX. (PREFERRED WITH 2"-0") OF CONNECTOR. PROVIDE GROUND BAR AT EACH SECTOR. GRIPSTRUT SHALL BE GROUNDED AT EQUIPMENT END AND ANTENNA END TO GROUND BARS. GRIPSTRUT SHALL BE JUMPED BETWEEN SECTIONS. PROVIDE GROUND KIT AT SHELTER.
- FOR MONOPOLES - ALL CABLES SHALL RUN ON INSIDE OF MONOPOLE, CABLE LADDER OR STANDOFFS. PROVIDE CABLE SUPPORTS EVERY 4' FOR 1-5/8" CABLE; EVERY 4' FOR 7/8" CABLE. GROUNDING AS FOLLOWS:
 - KIT AT TOP PRIOR TO TURN DOWN
 - KIT AT BOTTOM BEFORE HORIZONTAL TURN
 - KIT AT EQUIPMENT
 - BOND ICEBRIDGE (TOWER AND EQUIPMENT SIDE)
- ALL SHELTER & ASSOCIATED EQUIPMENT SHALL BE GROUNDED BY EQUIPMENT MANUFACTURER REPRESENTATIVE.

GENERAL NOTES TO ELECTRICAL CONTRACTOR

- THE CONTRACTOR SHALL PROVIDE (FURNISH AND INSTALL) ALL NECESSARY CONDUITS, WIRING AND OUTLET BOXES TO SUPPORT THE PI TOWER DEVELOPMENT LLC'S FURNISHED ITEMS.
- PROVIDE WIRING IN CONDUIT IN ACCORDANCE WITH MANUFACTURER'S RECOM-MENDATION AND N.E.C.
- FOR LOCATION OF NEW EQUIPMENT SHELTER & ANTENNAS. SEE ARCHITECTURAL DWG'S.
- COORDINATE IN ADVANCE ALL WORK TO BE DONE WITH POWER UTILITY CO.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL CONNECTIONS AND MAKING A COMPLETE OPERATIONAL SYSTEM AS APPROVED BY A PI TOWER DEVELOPMENT LLC REPRESENTATIVE.
- THE CONTRACTOR SHALL CONFER, COORDINATE, AND COMPLY WITH RECOMMENDATIONS MADE BY THE NEW EQUIPMENT SHELTER MANUFACTURER'S REPRESENTATIVE
- ELECTRICAL CONTRACTOR TO INCLUDE THE FINAL CONNECTION WORK AND REQUIRED PERMITTING AND INSPECTIONS TO COMPLETE THE POWER AND TELEPHONE CON-NECTION TO EQUIPMENT SHELTER. COORDINATE WITH THE GENERAL CONTRACTOR FOR EQUIPMENT SHELTER.
- PRIOR TO ANY WORK OR ORDERING OF ANY MATERIALS, THE CONTRACTOR SHALL VERIFY THAT THE EXISTING SERVICE VOLTAGE IS THE SAME VOLTAGE AS SHOWN FOR THE NEW EQUIPMENT. IF THE VOLTAGES ARE THE SAME THE CONTRACTOR MAY PROCEED, IF DIFFERENT, THE CONTRACTOR SHALL NOTIFY PI TOWER DEVELOPMENT LLC'S MANAGER IMMEDIATELY AND OBTAIN FURTHER DIRECTION.



PI TOWER DEVELOPMENT LLC
C/O LENDLEASE (US) TOWER HOLDINGS, LLC
909 LAKE CAROLYN PARKWAY, SUITE 260
IRVING, TX 75039

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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
			
			
			
			
			

SITE NAME:

VA-HENRICO-PINE CAMP

SITE ADDRESS:

4000 PLOTS LN.
HENRICO, VA 23222

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DRAWN BY:	JG
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DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

ELECTRICAL NOTES

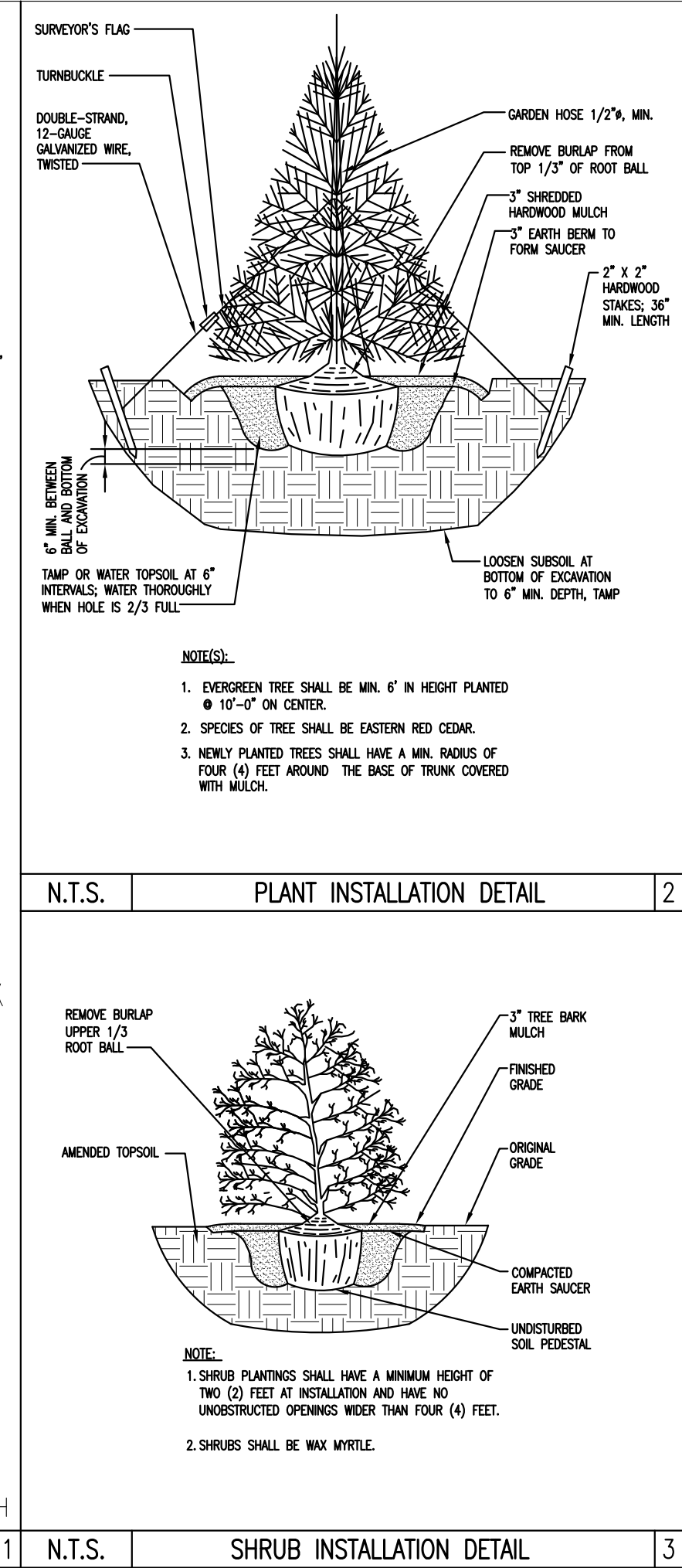
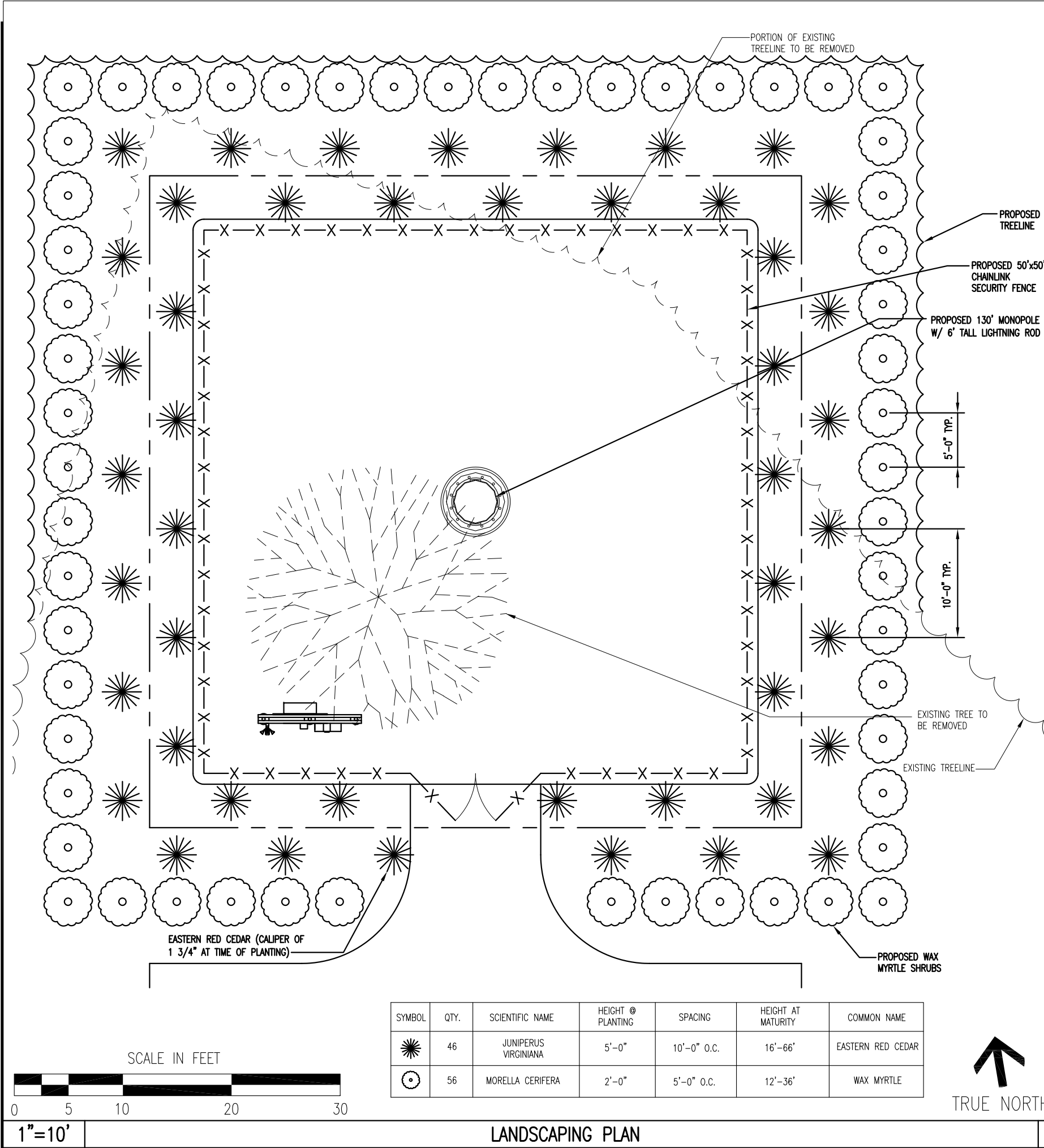
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E-6

A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

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SHEET TITLE:
LANDSCAPING PLAN

SHEET NUMBER: L-1	REV. # A
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CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

- 1.1 PURPOSE AND INTENT
- 1.2 CONFLICTS
- 1.3 CLEANING
- 1.4 CODES
- 1.5 LICENSING
- 1.6 OSHA
- 1.7 PHOTOS
- 1.8 BUILDING PERMITS
- 1.9 ZONING REGULATIONS AND CONDITIONAL USE PERMITS
- 1.10 FAA PERMIT AND TOWER LIGHTING
- 1.11 TOWER SECURITY
- 1.12 SITE CONTROL

- 2.1 SCOPE OF WORK
- 2.2 PRODUCT AND MATERIALS

- 3.1 SCOPE OF WORK
- 3.2 QUALITY ASSURANCE
- 3.3 PRODUCTS AND MATERIALS
- 3.4 CLEARING AND GRUBBING
- 3.5 STRIPPING
- 3.6 COMMON EXCAVATION
- 3.7 EMBANKMENT
- 3.8 SITE GRADING
- 3.9 SUBGRADE PREPARATION
- 3.10 GEOTEXTILE FABRIC
- 3.11 GRAVEL SURFACING

- 4.1 MATERIALS
- 4.2 PIPE DETECTION AND IDENTIFICATION
- 4.3 TRENCH EXCAVATION
- 4.4 TRENCH PROTECTION
- 4.5 BACKFILLING
- 4.6 COMPACTION

- 5.1 GENERAL
- 5.2 PRODUCTS AND MATERIALS

1.1 PURPOSE AND INTENT

- A. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY, HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED, OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH. SHOULD THERE BE ANY DISCREPANCIES BETWEEN REQUIREMENTS SHOWN IN BOTH, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.
- B. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.

1.2 CONFLICTS

- A. VERIFY ALL MEASUREMENTS AT THE SITE BEFORE ORDERING MATERIAL OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION WILL BE ALLOWED DUE TO DIFFERENCES BETWEEN ACTUAL DIMENSIONS OR DIMENSIONS SHOWN ON PLANS. SUBMIT NOTICE OF ANY DISCREPANCY IN DIMENSIONS OR OTHERWISE TO PEGASUS TOWER CO. FOR RESOLUTION BEFORE PROCEEDING WITH THE WORK.
- B. NO PLEA OF IGNORANCE OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OF CONDITIONS THAT MAY BE ENCOUNTERED, OR OF ANY OTHER RELEVANT MATTER CONCERNING THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS GOVERNING THE WORK.

1.3 CLEANING

- KEEP THE SITE FREE FROM ACCUMULATION OF WASTE AND RUBBISH CAUSED BY EMPLOYEES. AT THE COMPLETION OF THE WORK, REMOVE ALL WASTE AND NON-CONSTRUCTION MATERIAL, INCLUDING ALL CONTRACTOR TOOLS, SCAFFOLDING, AND SURPLUS MATERIAL AND LEAVE SITE CLEAN AND READY FOR USE.

1.4 CODES

- CONTRACTOR SHALL BE RESPONSIBLE FOR FOLLOWING ALL LAWS, REGULATIONS, AND RULES PROMULGATED BY FEDERAL STATE AND LOCAL AUTHORITIES WITH JURISDICTION OVER THE SITE. THIS RESPONSIBILITY IS IN EFFECT REGARDLESS OF WHETHER THE LAW, ORDINANCE, REGULATION OR RULE IS MENTIONED IN THESE SPECIFICATIONS.

1.5 LICENSING

- HAVE AND MAINTAIN A VALID CONTRACTOR'S LICENSE FOR THE LOCATION IN WHICH THE WORK IS TO BE PERFORMED. FOR JURISDICTIONS THAT LICENSE INDIVIDUAL TRADES, THE TRADESMAN OR SUBCONTRACTOR'S PERFORMING THOSE TRADES SHALL BE LICENSED. RESEARCH AND COMPLY WITH LICENSING LAWS, PAY LICENSE FEES, AND SELECT AND INFORM SUBCONTRACTORS REGARDING THESE LAWS.

1.6 OSHA

- FOLLOW ALL APPLICABLE RULES AND REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATIONS, AND STATE LAWS BASED IN THE FEDERAL OCCUPATIONAL SAFETY AND HEALTH ACT. THESE REGULATIONS INCLUDE, BUT ARE NOT LIMITED TO, REGULATIONS DEALING WITH TOWER CONSTRUCTION AND SAFETY, EXCAVATIONS AND TRENCHING, AND WORK IN CONFINED SPACES. ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES DURING CONSTRUCTION.

1.7 PHOTOS

- PROVIDE PHOTOGRAPHIC EVIDENCE OF ALL FOUNDATION INSTALLATION, GROUNDING, AND TRENCHING AFTER PLACEMENT OF UTILITIES PRIOR TO BACKFILL.

1.8 BUILDING PERMITS

- LENdlease WILL SUBMIT CONSTRUCTION DOCUMENTS TO THE JURISDICTIONAL AUTHORITY FOR PLAN CHECK AND REVIEW. CONTRACTOR WILL SUBMIT LICENSING AND WORKMAN'S COMPENSATION INFORMATION TO THE JURISDICTION AS REQUIRED TO OBTAIN THE BUILDING PERMIT. CONTRACTOR SHALL COORDINATE AND SCHEDULE REQUIRED INSPECTIONS AND POST REQUIRED PERMITS AT THE JOB SITE. COMPLY WITH SPECIFIC PROJECT-RELATED REQUESTS AND SUGGESTIONS MADE BY BUILDING INSPECTOR, AND INFORM CONSTRUCTION MANAGER OF ANY SUCH WORK THAT MAY BE BEYOND THE SCOPE OF THE CONTRACT OR DEVIATE FROM THE CONSTRUCTION DOCUMENTS. LENdlease WILL REIMBURSE THE CONTRACTOR FOR FEES, FOR PLAN REVIEW, BUILDING PERMIT, CONNECTIONS, AND INSPECTION.

1.9 ZONING REGULATIONS AND CONDITIONAL USE PERMITS

- LENdlease WILL SUBMIT FOR AND OBTAIN ALL ZONING AND CONDITIONAL USE PERMITS. SOME USE PERMITS MAY HAVE SPECIFIC REQUIREMENTS FOR THE SITE RELATED TO CONSTRUCTION, SUCH AS NOISE REGULATIONS, HOURS OF WORK, ACCESS LIMITATIONS, ETC. THE CONSTRUCTION MANAGER WILL INFORM THE CONTRACTOR OF THESE REQUIREMENTS AT THE PRE-BID MEETING OR AS SHOWN IN CONSTRUCTION DOCUMENTS.

1.10 FAA PERMIT AND TOWER LIGHTING

- REFER TO CONSTRUCTION DOCUMENTS AND CONSTRUCTION MANAGER FOR FAA AND STATE LIGHTING REQUIREMENTS. CONTRACTOR SHALL PROVIDE TEMPORARY FAA APPROVED LIGHTING UNTIL PERMANENT LIGHTING IS OPERATIONAL.

1.11 TOWER SECURITY

- TOWER MUST BE FENCED, TEMPORARILY OR PERMANENTLY WITHIN 24 HOURS OF ERECTION. DO NOT ALLOW THE GATE ACCESSING THE TOWER AREA TO REMAIN OPEN OR UNATTENDED AT ANY TIME FOR ANY REASON. KEEP THE GATE CLOSED AND LOCKED WHEN NOT IN USE.

1.12 SITE CONTROL

- A. THE CONTRACTOR IS COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION AT THE SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO LENdlease.
- B. THE CONTRACTOR IS TO MAINTAIN ADEQUATE DRAINAGE AT ALL TIMES. DO NOT ALLOW WATER TO STAND OR POND. ANY DAMAGE TO STRUCTURES OR WORK ON THE SITE CAUSED BY INADEQUATE MAINTENANCE OF DRAINAGE PROVISIONS WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR'S EXPENSE.
- C. ALL WASTE MATERIAL SHALL BE PROPERLY DISPOSED OF OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.

2.1 SCOPE OF WORK INCLUDES:

- A. PROTECTION OF EXISTING TREES, VEGETATION AND LANDSCAPING MATERIALS WHICH MIGHT BE DAMAGED BY CONSTRUCTION ACTIVITIES.
- B. TRIMMING OF EXISTING TREES AND VEGETATION AS REQUIRED FOR PROTECTION DURING CONSTRUCTION ACTIVITIES.
- C. CLEARING AND GRUBBING OF STUMPS, VEGETATION, DEBRIS, RUBBISH, DESIGNATED TREES, AND SITE IMPROVEMENTS.
- D. TOPSOIL STRIPPING AND STOCKPILING.
- E. TEMPORARY EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL CONFORMING TO LOCAL REQUIREMENTS AS APPLICABLE.
- F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.
- G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND RE-INSTALLATION OF EXISTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.
- H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.

2.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)

- A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION CONTROL, AND DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.

3.1 SCOPE OF WORK INCLUDES:

- A. EXCAVATION, TRENCHING, FILLING, COMPACTION, AND GRADING FOR STRUCTURES, SITE IMPROVEMENTS, AND UTILITIES.
- B. MATERIALS FOR SUB-BASE, DRAINAGE FILL, FILL, BACKFILL, AND GRAVEL FOR SLABS, PAVEMENTS, AND IMPROVEMENTS.
- C. ROCK EXCAVATION WITHOUT BLASTING.
- D. SUPPLY OF ADDITIONAL MATERIALS FROM OFFSITE AS REQUIRED.
- E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED.

3.2 QUALITY ASSURANCE

- A. COMPACTION:

1. UNDER STRUCTURES, BUILDING SLABS, PAVEMENTS, AND WALKWAYS WILL OBTAIN A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- B. GRADING TOLERANCES OUTSIDE BUILDING LINES:

1. LAWNS, UNPAVED AREAS, AND WALKS, PLUS OR MINUS 1 INCH.

2. UNDER PAVEMENTS, PLUS OR MINUS 1/2 INCH.
- C. GRADING TOLERANCE FOR FILL UNDER ALL CONCRETE APPLICATIONS: PLUS OR MINUS 1/2 INCH MEASURED WITH 10 FOOT STRAIGHTEDGE.

3.3 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS NOTED IN CONSTRUCTION DOCUMENTS.)

- A. SUBBASE MATERIAL: GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG, AND NATURAL SAND.
- B. WASHED MATERIAL, EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 95 PERCENT PASSING A 11/2 INCH SIEVE.
- C. GRADING MATERIAL WILL CONSIST OF: SATISFACTORY NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION. DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS WILL NOT BE ALLOWED FOR USE. IMPORTED MATERIALS SHALL HAVE A CLAY CONTENT NO MORE THAN 5 PERCENT.
- D. BACKFILL MATERIALS WILL CONSIST OF: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, ROCK OR GRAVEL NOT LARGER THAN 4 INCHES IN ANY DIMENSION, DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A CLAY CONTENT OF NO MORE THAN 5 PERCENT.
- E. GRAVEL MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 95 PERCENT PASSING A 11/2 INCH SIEVE.
- F. GEOTEXTILE FABRIC: AS PER CONSTRUCTION DOCUMENTS.

3.4 CLEARING AND GRUBBING

- REMOVE ALL VEGETATION AND MATERIALS AS REQUIRED. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.

3.5 STRIPPING

- STRIP NOT LESS THAN 3 INCHES OF SOD AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL, PAVEMENT, NEW STRUCTURES, OR NEW EMBANKMENTS. STOCKPILE STRIPPING ON-SITE FOR RE-USE IN FINAL LANDSCAPING.

3.6 COMMON EXCAVATION

1. EXCAVATE TO DEPTH, LINES, AND GRADES SHOWN ON THE PLANS OR AS OTHERWISE SPECIFIED.

2. TEMPORARILY STOCKPILE ON-SITE EXCAVATION AT AN APPROVED LOCATION WITHIN THE WORK AREA UNTIL SITE GRADING IS COMPLETE. STOCKPILE SHALL NOT EXCEED 15 FEET IN HEIGHT.

3. LEGALLY DISPOSE OF EXCESS COMMON EXCAVATION OFF-SITE.

3.7 EMBANKMENT

- A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADE SHOWN ON THE DRAWINGS.
- B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS WHEN SUITABLE. USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.
- C. CONSTRUCT IN LIFTS OF NOT MORE THAN 12 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.
- D. MATERIAL SHALL NOT BE PLACED IN LAYERS AND SHALL BE NEAR OPTIMUM MOISTURE CONTENT BEFORE ROLLING TO OBTAIN THE PRESCRIBED COMPACTION. WETTING OR DRYING OF THE MATERIAL AND MANIPULATION TO SECURE A UNIFORM MOISTURE CONTENT THROUGHOUT THE LAYER MAY BE REQUIRED. SUCH OPERATIONS SHALL BE INCLUDED IN THE APPROPRIATE BID ITEM. SHOULD THE MATERIAL BE TOO WET TO PERMIT PROPER COMPACTION, IT IS THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.
- E. DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT, AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.
- F. CONTRACTOR SHALL BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND THE REPLACEMENT OF ANY PORTION WHICH HAS BECOME DISPLACED DUE TO THE CONTRACTOR'S OPERATIONS.
- G. START LAYERS IN THE DEEPEST PORTION OF THE FILL, AND AS PLACEMENT PROGRESSES, CONSTRUCT LAYERS APPROXIMATELY PARALLEL TO THE FINISHED GRADE LINE.
- H. ROUTE EQUIPMENT, BOTH LOADED AND EMPTY, OVER THE FULL WIDTH OF EMBANKMENT TO ENSURE UNIFORMITY OF MATERIAL PLACEMENT.
- I. COMPACT EMBANKMENT UNDERLYING NEW GRAVEL PAVING, FLOOR SLABS, AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90% OF ASTM D-1557.

3.8 SITE GRADING

- A. USING ON-SITE EXCAVATION MATERIALS, SHAPE, TRIM, FINISH, AND COMPACT SURFACE AREAS TO CONFORM TO THE LINES, GRADES, AND CROSS SECTIONS SHOWN ON THE DRAWINGS OR AS DESIGNATED BY THE CONSTRUCTION MANAGER.
- B. GRADE SURFACES TO DRAIN AND ELIMINATE ANY PONDING OR EROSION.
- C. ELIMINATE WHEEL RUTS BY REGRAIDING.
- D. COMPACT AREAS UNDERLYING NEW GRAVEL, PAVING, FLOOR SLABS, AND STRUCTURES TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- E. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE.

3.9 SUBGRADE PREPARATION

- A. SHAPE TOP OF SUBGRADE TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.
- B. MAINTAIN TOP OF SUBGRADE IN A FREE-DRAINING CONDITION.
- C. DO NOT STOCKPILE MATERIALS ON TOP OF SUBGRADE UNLESS AUTHORIZED BY CONSTRUCTION MANAGER.
- D. COMPACT THE TOP 12 INCHES OF SUBGRADE TO A 95% COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- E. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH OF ESTABLISHED GRADE AND CROSS-SECTION.

3.10 GEOTEXTILE FABRIC

- A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN THE COMPOUND AREA AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS TO A MINIMUM OF 36 INCHES.

3.11 GRAVEL SURFACING

- A. CONSTRUCT GRAVEL SURFACING AREAS USING CRUSHED AGGREGATE BASE AND FINISH COURSES AS SPECIFIED BY CONSTRUCTION MANAGER OR CONSTRUCTION DOCUMENTS.
- B. SPREAD GRAVEL AND RAKE TO OBTAIN A UNIFORM SURFACE AREA.

4.1 MATERIALS

- FILL MATERIAL SHALL BE OBTAINED, WHEN POSSIBLE, FROM MATERIALS EXCAVATED FROM TRENCHS ON-SITE. STRUCTURAL FILL, SAND OR SLURRY SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTIONS AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL CONTAIN NO ORGANIC MATERIAL OR ROCKS, NOR SHALL CONTAIN OBJECTIONABLE MATERIALS AND/OR MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA). THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL. COMPACTION OF BACKFILL OR BORROW SOIL SHALL BE PLACED IN 12 INCH LOOSE LIFTS WHEN UTILIZING HEAVY COMPACTION EQUIPMENT OR 6 INCH LOOSE LIFTS WHEN UTILIZING HAND OPERATED TAMPERS.



PI TOWER DEVELOPMENT LLC
C/O LENdlease (US) TOWER HOLDINGS, LLC
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SHEET TITLE:

SPECIFICATIONS

SHEET NUMBER:	REV. #
SP-1	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

4.2 PIPE DETECTION AND IDENTIFICATION

- A. UTILIZING WARNING TAPE: ALL ELECTRIC SERVICE TRENCHES SHALL BE MARKED WITH WARNING TAPE.

4.3 TRENCH EXCAVATION

- A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.
- B. TRENCH LENGTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.
- C. DISPOSE OF EXCESS AND UNSUITABLE EXCAVATION MATERIAL PROPERLY, AS DIRECTED BY CONSTRUCTION MANAGER.
- D. USE HAND METHODS FOR EXCAVATION THAT CANNOT BE ACCOMPLISHED WITHOUT ENDANGERING EXISTING OR NEW STRUCTURES OR OTHER FACILITIES.

4.4 TRENCH PROTECTION

- A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.
- B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

4.5 BACKFILLING

- A. NOTIFY THE CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF BACKFILLING.
- B. BACKFILL TRENCH WITH LIFTS UP TO 12 INCHES, LOOSE MEASURE.
- C. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT, OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. DO NOT FREE FALL BACKFILL INTO TRENCH UNTIL AT LEAST 12 INCHES OF COVER IS OVER THE CONDUIT.

4.6 COMPACTION

- A. COMPACT BACKFILL TO A 95 PERCENT COMPACTION AT A MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 OR WITHIN PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.
- B. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RECOMPACT AS SPECIFIED.
- C. ANY SUBSEQUENT SETTLEMENT OF TRENCH OR STRUCTURE BACKFILL DURING MAINTENANCE PERIOD SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

5.0 CHAIN LINK FENCES AND GATES

5.1 GENERAL

- A. PROVIDE CHAIN LINK FENCES AND GATES AS COMPLETE UNITS BY A SINGLE SUPPLY SOURCE INCLUDING NECESSARY ERECTION ACCESSORIES, FITTINGS, AND FASTENERS.

5.2 PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN CONSTRUCTION DOCUMENTS.)

- A. COMPOUND FABRIC 72 INCHES HIGH AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER.
- B. STEEL FABRIC:
- COMPLY WITH CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL. FURNISH ONE PIECE OF FABRIC WIDTHS. WIRE SIZE INCLUDES ZINC OR ALUMINUM COATING.
1. SIZE: 2-INCH MESH, 9 GAUGE (0.148-INCH DIAMETER) WIRE.
2. GALVANIZED STEEL FINISH: ASTM A 392, CLASS 2, WITH A MINIMUM 2.0 OZ. ZINC PER SQ. FT. OF UNCOATED WIRE SURFACE.
- C. FRAMEWORK AND ACCESSORIES:
1. GENERAL REQUIREMENTS: EXCEPT AS INDICATED OTHERWISE, CONFORM TO THE CHAIN LINK FENCE MANUFACTURERS INSTITUTE (CLFMI) PRODUCT MANUAL, INDUSTRIAL STEEL GUIDE FOR FENCE RAILS, POSTS, GATES AND ACCESSORIES, INCLUDING TABLE II.
2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F 669.
3. TYPE 1 PIPE: HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F 1083, PLANE ENDS, STANDARD WEIGHT (SCHEDULE 40) WITH NOT LESS THAN 1.8 OZ. ZINC PER SQ. FT. OF SURFACE AREA COATED.
4. FITTINGS: COMPLY WITH ASTM F 626. MILL FINISHED ALUMINUM OR GALVANIZED IRON STEEL, TO SUIT MANUFACTURER'S STANDARDS.
5. TOP RAIL: MANUFACTURER'S LONGEST LENGTHS, WITH EXPANSION TYPE COUPLINGS, APPROXIMATELY 6 INCHES LONG, FOR EACH JOINT. PROVIDE MEANS FOR ATTACHING TOP RAIL SECURELY TO EACH GATE CORNER, PULL AND END POST.
- A. GALVANIZED STEEL: 11/4 INCH NPS (1.66 INCH OD) TYPE I OR II STEEL PIPE OR 1.625 INCH X 1.25 INCH ROLL-FORMED C SECTIONS WEIGHTING 1.35 LBS. PER FT.
- D. SWING GATES:
- COMPLY WITH ASTM F 9000. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE, GALVANIZED PER ASTM A 153, AND IN ACCORDANCE WITH THE FOLLOWING:
1. HINGES: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEG. GATE OPENING.
2. LATCH: MTS "MULTI-LOCKING DEVICE" #C-6477 OR APPROVED EQUAL.

3. KEEPER: PROVIDE KEEPER FOR VEHICLE GATES, WHICH AUTOMATICALLY ENGAGES GATE LEAF AND HOLDS IT IN OPEN POSITION UNTIL MANUALLY RELEASED.

4. GATE STOPS: PROVIDE GATE STOPS FOR DOUBLE GATES, CONSISTING OF MUSHROOM TYPE FLUSH PLATE WITH ANCHORS, SET IN CONCRETE, AND DESIGNED TO ENGAGE BOTTOM RAIL.

E. CONCRETE:

PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C 150, AGGREGATES ASTM C 33, AND CLEAN WATER. MIX MATERIALS TO OBTAIN CONCRETE WITH A MINIMUM OF 28-DAY COMPRESSIVE STRENGTH OF 3000 PSI.

6.0 LANDSCAPING

- A. FURNISH, INSTALL AND MAINTAIN LANDSCAPE WORK AS SHOWN AND OR REQUIRED WITHIN THE CONSTRUCTION DOCUMENTS OR AS SPECIFIED IN THE LENDLEASE CONSTRUCTION SPECIFICATIONS.

7.0 CONCRETE FORMWORK

- A. FORMS: SMOOTH AND FREE OF SURFACE IRREGULARITIES. UTILIZE FORM RELEASE AGENTS.
- B. CHAMFER: EXPOSED EDGES OF ALL TOWER FOUNDATIONS SHALL RECEIVE A 3/4" BY 3/4", 45 DEGREE CHAMFER. OTHER EXPOSED EDGES SHALL RECEIVE A TOOLED RADIUS FINISH.
- C. UPON COMPLETION, REMOVE ALL FORMS, INCLUDING THOSE CONCEALED OR BURIED.
- D. REFER TO STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

8.0 CONCRETE REINFORMENT

REFER TO STRUCTURAL DRAWINGS FOR ALL REQUIREMENTS.

9.0 CAST-IN PLACE CONCRETE

FOR STRUCTURAL CONCRETE (FOOTINGS, FOUNDATIONS, ETC.), REFER TO STRUCTURAL DRAWINGS FOR REQUIREMENTS. FOR ANY MISCELLANEOUS CONCRETE, REFER TO SPECIFICATION BOOK OR OBTAIN REQUIREMENTS FROM CONSTRUCTION MANAGER.

- A. ALL CONCRETE SHALL COMPLY WITH ASTM C94 UNLESS NOTED OTHERWISE.
- B. MINIMUM COMPRESSIVE STRENGTH (F'C) AT 28 DAYS: 4000 PSI FOR TOWER FOUNDATION, AND 3500 PSI FOR ALL OTHER CONCRETE UNLESS SPECIFIED IN CONSTRUCTION DOCUMENTS.
- C. AIR ENTRAINMENT: PROVIDE 4 TO 8% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE-THAW CYCLE.
- D. CONCRETE TESTING: ALL FOUNDATION CONCRETE SHALL BE TESTED BY AN INDEPENDENT TESTING AGENCY APPROVED BY THE CONSTRUCTION MANAGER. ALL STRUCTURAL TOWER FOUNDATION CONCRETE MUST BE TESTED. EQUIPMENT OR BUILDING PADS ARE NOT REQUIRED TO BE TESTED, UNLESS OTHERWISE NOTED BY CONSTRUCTION MANAGER. PROVIDE A MINIMUM OF 5 CYLINDERS (2-7-DAY, 2-28-DAY, 1-SPARE) FOR EACH DAYS POUR, OR FOR EVERY 50 YARDS PLACED - WHICHEVER IS GREATER. ADDITIONAL TESTS OR CYLINDERS MAY BE REQUIRED BY CONSTRUCTION MANAGER. A SLUMP, AIR, AND TEMPERATURE TEST SHALL BE PERFORMED FOR EACH SET OF CYLINDERS CAST. PREFERABLY, TESTS SHALL BE PERFORMED AT THE LOCATION OF ANCHOR BOLTS (PIERS - FOR MAT & PIERS, CAISSONS - TOP 1/3 OF CAISSON). TESTS SHALL ALSO BE REQUIRED FOR CONCRETE CONSIDERED BEING LESS THAN DESIRABLE BY CONCRETE SPECIFICATION STANDARDS. THE TESTING AGENCY HAS THE AUTHORITY TO NOT ACCEPT CONCRETE MEETING THESE SPECIFICATIONS FOR PEGASUS. THE CONTRACTOR IS RESPONSIBLE FOR ANY CONCRETE NOT MEETING THESE STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF THE TESTING AGENCY A MINIMUM OF 24 HOURS IN ADVANCE OF EACH FOUNDATION POUR.
- E. VIBRATE ALL CONCRETE USING SUFFICIENT HIGH FREQUENCY, LOW AMPLITUDE MECHANICAL IMMERSION TYPE VIBRATORS. INSERTVIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE. MECHANICAL IMMERSION TYPE VIBRATORS. INSERT VIBRATORS IN CONCRETE AT REGULAR INTERVALS AND OVER ENTIRE SURFACE TO SOLIDLY FILL CONCRETE AROUND AND BETWEEN REINFORCEMENT BARS AND INTO CORNERS AND IRREGULARITIES. VIBRATE THOROUGHLY THROUGH EACH LIFT TO THE PREVIOUS LIFT. REVIBRATION AS LATE AS THE RUNNING VIBRATOR WILL SINK THROUGH UPPER LAYERS OF ITS WEIGHT, IS RECOMMENDED. DISCONTINUE VIBRATION WHEN RISING ENTRAPPED AIR BUBBLES STOP BREAKING THE LEVELING SURFACE. DO NOT OVERVIBRATE AS THIS MAY CAUSE SEGREGATION.

F. FINISHING EXPOSED CONCRETE SURFACES:

1. THESE PROVISIONS APPLY TO ALL EXPOSED AND ALL FORMED CONCRETE, EXTERIOR OR INTERIOR, UNLESS SPECIFICALLY DETAILED OTHERWISE. PERFORM PROCEDURES PRIOR TO APPLICATION OF ANY CURING COMPOUNDS.
2. ALL SURFACES: THOROUGHLY CLEAN OF ALL STAINS, SPATTER AND LOOSE MATERIAL.
3. FINS, RIDGES, HIGH SPOTS: HONE SMOOTH WITH ABRASIVE POWER GRINDERS WHILE CONCRETE IS GREEN, IMMEDIATELY AFTER FORM REMOVAL.
4. FORM TIE HOLES AND DEEP DEPRESSIONS: FLUSH THOROUGHLY WITH CLEAN WATER AND TAMP TO OVERFULL WITH DRYPACK. CURE 10 DAYS AND HONE FLUSH AND SMOOTH.
5. ROCK POCKETS, HONEYCOMB, SAND STREAKS, DEBRIS AND VOIDS: CUT OUT AT LEAST 1 INCH DEEP WITH SIDES PERPENDICULAR TO SURFACE. FLUSH OUT WITH CLEAN WATER, COAT SURFACE WITH NEAT CEMENT PASTE AND TAMP TO OVERFULL WITH DRYPACK IN AT LEAST TWO LAYERS. CURE FOR 10 DAYS AND HONE FLUSHED AND SMOOTH.

- G. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS OF ALL ELECTRICAL OPENINGS AND EQUIPMENT/BUILDING PADS WITH THE ELECTRICAL DRAWINGS AND SHOP DRAWINGS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL OPENINGS AND SLEEVES FOR PROPER DISTRIBUTION FOR ALL UTILITIES.

CONTRACTOR SHALL REFER TO DRAWINGS OF OTHER TRADES AND VENDOR DRAWINGS FOR EMBEDDED ITEMS AND RECESSES NOT SHOWN ON STRUCTURAL DRAWINGS.

PRIOR TO POURING CONCRETE THE INDEPENDENT TESTING AGENCY SHALL INSPECT ALL FOUNDATION STEEL AND FOUNDATION SUBGRADE

10.0 STRUCTURAL STEEL

MEET OR EXCEED MANUFACTURER'S RECOMMENDATIONS.

- A. UNLESS OTHERWISE NOTED, ALL DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL CONFORM TO THE MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES (ACI 315).
- B. ALL REINFORCING STEEL SHALL BE NEW BILLET STEEL, CONFORMING TO ASTM A-615, GRADE 60, DEFORMED.
- C. HEATING AND WELDING OF BARS IS PROHIBITED WITH THE EXCEPTION OF WRITTEN APPROVAL BY THE STRUCTURAL ENGINEER.
- D. ALL REINFORCEMENT BARS TO BE FREE FROM LOOSE RUST AND
- E. UNLESS OTHERWISE NOTED, ALL REINFORCEMENT SHALL HAVE A MINIMUM CONCRETE COVERAGE OF 3 INCHES. THIS MAY REQUIRE SPACERS AND CHAIRS AS REQUIRED BY TESTING AGENCY OR CONSTRUCTION MANAGER.
- F. SPLICES IN REINFORCEMENT STEEL ARE PROHIBITED, UNLESS APPROVED BY CONSTRUCTION MANAGER. ALL SPLICES MUST THEN MEET ALL APPLICABLE ASTM STANDARDS FOR SPLICING.

11.0 GROUNDING

MEET ALL APPLICABLE CODES, REQUIREMENTS OF THE CONSTRUCTION DOCUMENTS, AND PEGASUS TOWER CO. CONSTRUCTION SPECIFICATIONS.



PI TOWER DEVELOPMENT LLC
C/O LENDLEASE (US) TOWER HOLDINGS, LLC
909 LAKE CAROLYN PARKWAY, SUITE 260
IRVING, TX 75039

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SHEET REVISION			
NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			

SITE NAME:

VA-HENRICO-PINE CAMP

SITE ADDRESS:

4000 PLOTS LN.
HENRICO, VA 23222

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

SPECIFICATIONS

SHEET NUMBER:	REV. #
SP-2	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

12-14-17 GWOLO 16:07:13 Y:/Drawings - 2017/Parallel Infrastructures/VA-Richmond-City Jail-PIVA038/_PCD's - Rev A - 2017-12-14 (Tower)/SP3.dwg

SITE SPECIFIC SCOPE OF WORK: RAWLAND TEMPLATE

SITE NUMBER: PIVA038
SITE NAME: VA-RICHMOND-CITY JAIL

GENERAL CONTRACTOR TO PERFORM THE FOLLOWING:

GENERAL

1. ENSURE SITE AREA IS CLEAN AND FREE OF CONSTRUCTION DEBRIS DAILY
2. KEEP ALL APPLICABLE PERMITS, APPROVED PLANS, SCOPE OF WORK, AND CONSTRUCTION DRAWINGS ON SITE DURING CONSTRUCTION.
3. JOB BOARD WILL BE POSTED NEAREST TO THE BEST PLACE WHERE ALL ENTERING A LENDLEASE JOB SITE CAN SEE AND READ THE POSTS. EXAMPLE IN THE BACK
4. CALL AND COORDINATE ALL NECESSARY INSPECTIONS WITH THE PROPER MUNICIPAL AUTHORITY
5. NOTIFY PM/CM/FE WHEN ALL INSPECTIONS ARE TO TAKE PLACE AT LEAST 24 HOURS IN ADVANCE. NOTIFY THE PM/CM IN WRITING ABOUT THE STATUS OF ALL INSPECTIONS, PROVIDING A COPY OF THE SAME WITHIN 24 HOURS OF SAID INSPECTION.
6. READ AND CONFORM TO THE FOLLOWING: CONSTRUCTION DRAWINGS, SCOPE OF WORK, AND ANY OTHER CONTRACT TERMS AND CONDITIONS SPECIFIED BY THE CONSTRUCTION MANAGER.
7. NOTIFY LANDLORD 5 DAYS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION
8. PRIOR TO CONSTRUCTION START, THE GC IS TO TAKE PRE-EXISTING CONDITIONS PHOTOS WHERE THE ACCESS IS TO BE INSTALLED, THE AREA OF THE COMPOUND AND THE POWER AND TELCO ROUTE. IF THERE ARE PARTICULAR CONDITIONS THAT POSE A RISK OR CHALLENGE, GC IS TO TAKE PHOTOS OF THOSE CONDITIONS AND INCLUDE IN THE COP.
9. PRIOR TO CONSTRUCTION, SET UP A PRE-CONSTRUCTION MEETING WITH THE PM/CM (AT THIS TIME A CONSTRUCTION SCHEDULE NEEDS TO BE PROVIDED TO THE PM/CM)
10. THE FOLLOWING ARE DUE AT THE PRE-CONSTRUCTION MEETING OR PRIOR TO THE CONSTRUCTION START ACCORDING TO WRITTEN APPROVAL FROM THE LENDLEASE PM/CM
 - a. ALL GC CREW CLIMB CERTIFICATION AND OTHER TELECOM CERTS THEY MAY HAVE
 - i) CLIMB AND RESCUE
 - ii) FIRST AID/CPR
 - b. CREWS WILL DEMONSTRATE BOTH CLIMBER AND COMPETENT PERSON CAPABILITY
 - c. FALL PROTECTION PLAN - TO INCLUDE A CONTROLLED DECENT PLAN IF ROPE ASCENDING OR DESCENDING IS REQUIRED
 - d. EXCAVATION PLAN
 - e. CRANE PLAN - CRANE COMPANY CAN SUPPLY
 - f. EMERGENCY MEDICAL PLAN
 - g. RIGGING PLAN IF AT ANY TIME
11. ANY DAMAGE TO THE SITE AREA CAUSED BY THE CONTRACTOR DURING THE CONSTRUCTION OR DELIVERY SHALL BE REPAIRED WITHIN ONE WEEK AFTER PROJECT COMPLETION, OR IN ACCORDANCE WITH THE EXPECTATIONS OF THE LANDLORD.
12. GENERAL CONTRACTOR WILL REQUIRE THAT ALL APPLICABLE SUBCONTRACTORS WILL BE LICENSED FOR WORK
13. GENERAL CONTRACTOR WILL COMPLY WITH ALL APPLICABLE OSHA REGULATIONS/STANDARD, AND IN PARTICULAR ALL REGULATIONS REGARDING 100% FALL PROTECTION.
14. GENERAL CONTRACTOR WILL COMPLY WITH ALL APPLICABLE LOCAL, STATE AND NEC STANDARDS FOR ELECTRICAL INSTALLATION
15. GENERAL CONTRACTOR WARRANTEES ALL ASPECTS OF THE INSTALLATION QUALITY AND THE MATERIALS PURCHASED FOR THE INSTALLATION FOR THE PERIOD OF ONE YEAR IN ACCORDANCE WITH THE MASTER CONSTRUCTION AGREEMENT
16. GENERAL CONTRACTOR TO SUPPLY ALL TOOLS NECESSARY TO COMPLETE ALL ASPECTS THE CONSTRUCTION INSTALLATION
17. GENERAL CONTRACTORS ARE RESPONSIBLE FOR REPORTING THE TOTAL MAN-HOURS SPENT ON SITE EACH DAY TO THE CONSTRUCTION MANAGER VIA AN EXCEL SPREADSHEET. THE SHEET WILL CAPTURE TRADE, COMPANY NAME, PERSON'S NAME AND NUMBER OF HOURS.
18. GENERAL CONTRACTOR SHALL UPDATE THE PM/CM OF THE CONSTRUCTION STATUS BY 5PM DAILY VIA PHONE AND AN E-MAIL SHOULD FOLLOW THE NEXT MORNING.
19. FROM TIME TO TIME THE GENERAL CONTRACTOR MAY BE REQUIRED TO CONDUCT VIRTUAL SITE WALKS
20. RED LINE THE CURRENT DRAWINGS AND PROVIDE TO THE PM/CM AS FORMAL AS-BUILTS DOCUMENTS WITHIN 24 HOURS OF COMPLETION OF CONSTRUCTION AND QUALITY ASSURANCE INSPECTION.
21. IN THE EVENT CONTRACTOR IS EXPECTED TO INSTALL PHASE ONE ELECTRICAL, ALL APPLICABLE RED LINES, TEST RESULTS AND INSPECTION RESULTS WILL BE PROVIDED TO THE PM/CM WITHIN 24 HOURS OF COMPLETION OF WORK OR WITHIN 24 HOURS OF INSPECTION OF SITE BY PM/CM, WHICHEVER IS DEEMED APPROPRIATE BY PM/CM.

22. CONTRACTOR TO PROVIDE A TWO OR THREE MAN CREW THE DAY OF THE QA WALK. THIS CREW WILL MAKE CORRECTIONS TO THE SITE DEFICIENCIES. IF THE CONTRACTOR FAILS TO PROVIDE A CREW THEN ANOTHER TEAM WILL BE PUT IN PLACE FOR THE QA AND LENDLEASE WILL DEDUCT TIME AND MATERIALS NECESSARY FOR THE COMPLETION OF THE QA WORK FROM THE CONTRACTOR'S INVOICE.
23. CLOSEOUT DOCUMENTS WILL BE PROVIDED WITHIN 5 BUSINESS DAYS OF THE FINAL QC WALK APPROVED. COP CONTENTS DEFINED IN THIS DOC APPENDIX. DEVIATION FROM THIS TIMELINE MUCH BE SUBMITTED IN WRITING BY THE GC, NEEDS TO BE APPROVED BY THE LENDLEASE AUTHORIZED CM AND DOCUMENTED IN THE DATABASE FOR FOLLOW UP.
24. CONTRACTOR WILL NOT BE ALLOWED TO INVOICE FOR FINAL PAYMENT UNTIL ALL CORRECTIONS ARE MADE AND THE SITE IS CONSIDERED QA FINAL AND THE COP HAS BEEN SUBMITTED AND APPROVED.
25. UPON RECEIPT OF ALL MATERIALS AND A NOTICE TO PROCEED, THE GENERAL CONTRACTOR IS TO ENSURE THAT ALL NECESSARY MATERIALS ARE CORRECT AS ISSUED IN ORDER TO DEPLOY THE SITE ON TIME
26. IF THE SITE FAILS THE SECOND QA INSPECTION, LENDLEASE WILL ASSIGN A CREW TO PERFORM ALL REMEDIAL WORK WHICH LENDLEASE DEEMS NECESSARY TO CORRECT ANY AND ALL DEFICIENCIES AT THE SITE. LENDLEASE WILL BE SOLE ARBITER OF THE NATURE AND SCOPE OF WORK, TIME AND/OR MATERIALS NECESSARY TO BRING THE SITE INTO COMPLIANCE WITH ALL QA GUIDELINES. LENDLEASE WILL DEDUCT FROM THE CONTRACTOR'S INVOICE FOR PAYMENT ANY AND ALL COSTS ASSOCIATED WITH THE CORRECTION OF ANY AND ALL DEFICIENCIES IN THE SITE.
27. ALL TOOLS AND MATERIALS WILL BE TETHERED USING INDUSTRY APPROVED TETHERING GEAR
28. CONTRACTOR TO COORDINATE AND PAY FOR SPECIAL INSPECTIONS AS REQUIRED BY HAMPTON ROADS REGIONAL SPECIAL INSPECTIONS.

EH&S

1. CREWS ARE REQUIRED TO COMPLETE THE ONLINE GMR TRAINING PRIOR TO START OF CONSTRUCTION
2. EXCLUSION ZONES ARE REQUIRED WHERE THERE IS ANY CHANCE OF A PERSON COMING INTO ACCIDENTAL CONTACT WITH EQUIPMENT OR COULD ADVERSELY AFFECTED IN WAY BY WORK BEING CONDUCTED ON A LENDLEASE PROJECT
3. EXCLUSION ZONE BARRIERS WILL BE CLEARLY MARKED AND SUFFICIENT TO KEEP UNAUTHORIZED PERSONNEL FROM ENTERING THE ZONE REFERENCE EH&S MANUAL
4. THE GC WILL ESCALATE ANY SITE RELATED ISSUES PERTAINING TO SAFETY AT ANY TIME BEFORE AND DURING CONSTRUCTION

WRITTEN DESCRIPTION OF THE PROJECT:
CM TO DESCRIBE THE OVERALL PROJECT INCLUDING A REFERENCE TO THE CDS AND VERSION NUMBER

TOWERS

1. CONTRACTOR WILL INSTALL TOWER FOUNDATION AND ASSOCIATED REINFORCEMENTS AND ANCHORS PER DRAWINGS
 2. ALL INSTALLATION CONNECTION BOLTS WILL BE TORQUED TO MANUFACTURERS SPECIFICATIONS AND BE MARKED WITH PERMANENT MARKER TO SO THAT IT'S EASY TO SEE IF THERE HAS BEEN ANY MOVEMENT
 3. CONTRACTOR WILL ERECT TOWER PER MANUFACTURERS SPECIFICATIONS
 4. TOWER GROUNDING WILL BE PER DRAWINGS
 5. ALL LOCATIONS WHERE GROUNDING IS ATTACHED TO THE TOWER THROUGH A CAD WELD CONNECTION, THE ENTIRE AREA MUST PAINTED WITH COLD GALVANIZED PAINT
 6. INSTALLATION OF LIGHTNING ROD AND LIGHTNING ARREST SYSTEM WILL BE PER DRAWINGS
 7. IF LIGHTING IS REQUIRED ON THE TOWER, THE LIGHTING KIT WILL BE INSTALLED ACCORDING THE MANUFACTURERS STANDARDS AND NEC ELECTRICAL CODES
 8. ALL MECHANICAL CONNECTIONS WILL IMPLEMENT SOME FORM OF LOCKING MECHANISM AND WILL BE TORQUED ACCORDING THE MANUFACTURES SPECIFICATIONS
- CIVILS
1. VERIFY LOCATION OF UNDERGROUND PIPES/CONDUITS USING AN INDEPENDENT UNDERGROUND LOCATOR SERVICE
 2. ALL DIGGING TO BE DONE WITH CARE TO AVOID DAMAGING UNDERGROUND PIPES/CONDUITS. ANY DAMAGE DONE TO UNDERGROUND UTILITIES WILL BE CORRECTED IMMEDIATELY AFTER DAMAGE AND MONITORED UNTIL NECESSARY REPAIRS ARE MADE. UPON SUCH AN INCIDENT, A WRITTEN REPORT OF THE INCIDENT WILL BE SUBMITTED TO THE LENDLEASE PM/CM WITHIN 24 HOURS
 3. GROUNDING SYSTEM TO BE INSTALLED ACCORDING TO LENDLEASE STANDARDS. COORDINATE PM/CM TO VERIFY ALL GROUND LEADS ARE IN PLACE BEFORE COVERING IT. PHOTOS WILL BE SUFFICIENT (CAD WELD CONNECTIONS BELOW GRADE)

4. CONCRETE COMPRESSION TEST TO BE COMPLETED WITHIN 7 DAYS OF THE POUR. A STRUCTURAL ENGINEER STAMPED LETTER TO BE SUBMITTED WITHIN 48 HOURS OF THE POUR STATING THAT THE FOUNDATION WAS INSTALLED AS DESIGNED
5. INSTALL FENCE AROUND LENDLEASE COMPOUND AS INDICATED IN THE CONSTRUCTION DRAWINGS
6. 8' CHAIN LINK TEMPORARY FENCE IS REQUIRED TO BE INSTALLED AROUND THE WORK AREA UNTIL THE SITE COMPOUND PERMANENT FENCE IS COMPLETED
7. CLEAR AND GRUB, SITE COMPOUND, TOWER FOUNDATIONS OR CARRIER PADS ACCESS ROAD TO BE INSTALLED PER CONSTRUCTION DRAWINGS AND IN ACCORDANCE WITH ANY SPECIFIC INSTRUCTIONS DICTATED BY THE JURISDICTION
8. ANY EQUIPMENT RENTED FOR USE ON LENDLEASE JOB LOCATIONS WILL HAVE AN UPDATED INSPECTION LOG AND THE OPERATORS WILL BE REQUIRED TO SHOW A CERTIFICATION TO OPERATE THE EQUIPMENT WHERE REQUIRED. CM TO APPROVE.

GROUNDING

1. TYPICAL GROUNDING WILL BE CAD WELD AS PER THE CONSTRUCTION DRAWINGS
2. ATTACH GROUND LEADS TO FENCE POSTS AT EACH CORNER AND EITHER SIDE OF GATE. FENCE GATES WILL BE GROUNDED VIA JUMPERS TO GATE POSTS PER CDS
3. ROUTE GROUND LEADS TO ALL GROUND BARS AND ATTACH THE LEADS USING APPROVED MECHANICAL CONNECTIONS
4. APPLY OXIDE-INHIBITING COMPOUND TO ALL CONNECTIONS WHERE LUGS ARE ATTACHED TO BUS BARS OR STEEL IMPLEMENTS
5. SECURE GROUND LEADS FROM BEING A TRIP HAZARD VIA A PM/CM APPROVED METHOD IN ACCORDANCE TO TYPICAL GROUNDING PROCEDURES AND SO THAT THE APPLICATION IS AESTHETICALLY PLEASING
6. ATTACH GROUND LEADS TO ALL BUSS BARS AS REQUIRED IN THE CDS
7. MEG TEST AFTER ALL ATTACHMENTS HAVE BEEN MADE TO THE NEW CARRIER PCS AND PROVIDE READINGS TO THE LENDLEASE PM/CM WITHIN 24 HOURS OF COMPLETION OF THE TESTING

ELECTRICAL AND TELCO

1. APPLY FOR ELECTRICAL PERMIT WITH LOCAL MUNICIPALITY AND CLOSE AS REQUIRED BY THAT JURISDICTION
2. OBTAIN ALL REQUIRED POWER AND TELCO INSPECTIONS
3. COORDINATE THE BUILD OF SERVICE FROM THE ELECTRICAL AUTHORITY SOURCE TO THE PPC
4. PROVIDE AND INSTALL MATERIALS NECESSARY TO MAKE EXISTING METER BANK POWER READY
5. ALL ELECTRICAL INSTALLATION ITEMS MUST BE DONE ACCORDING TO THE NEC AND LOCAL ELECTRICAL CODES
6. INSTALL POWER PROTECTION CABINET AND TELCO CABINET ONTO SLAB PLATFORM OR OTHER EQUIPMENT LOCATION AS SHOWN IN THE CONSTRUCTION DRAWINGS
7. PROVIDE AND INSTALL ALL TRENCHING TO ROUTE ONE 2" POWER CONDUIT FROM THE PPC TO THE METER LOOP POLE/SOURCE
8. PROVIDE AND INSTALL ALL TRENCHING TO ROUTE TWO 3" CONDUITS FROM TELCO CABINET TO TELCO BOX
9. PROVIDE AND INSTALL 400A METER AND ELECTRICAL SERVICE AS DIRECTED BY THE PM/CM. INCLUDE COORDINATION, TRACKING AND REPORTING OF ELECTRICAL DATES TO CM IN DESIGNATED FORMAL
10. CONDUITS TO BE COVERED WITH SAND AND COMPACTED. COVER SAND WITH ORIGINAL SOIL AND COMPACT TO BRING COMPOUND BACK TO ITS ORIGINAL GRADE
11. INSTALL METALLIC WARNING TAPE ABOVE ALL CONDUITS IN THE TRECHES APPROXIMATELY 1' BELOW GRADE
12. BACK FILL TRENCHES USING JURISDICTIONAL CODES FOR COMPACTION LIFTS
13. ALL DISTURBED SURFACES MUST BE RESTORED TO THEIR ORIGINAL CONDITIONS USING LIKE MATERIALS
14. CONTRACTOR TO SAW CUT ACROSS ASPHALT IN A STRAIGHT LINE WITH NO JAGGED EDGES.
15. CONTRACTOR TO FILL AND COMPACT TRENCHED AREA IN ASPHALT WITH LIKE MATERIAL TO MATCH EXISTING.
16. ANY SAW CUT SURFACES MUST BE RESTORED TO THEIR ORIGINAL CONDITIONS USING LIKE MATERIALS.
17. PROVIDE AND INSTALL ALL ELECTRICAL WIRING AND TELCO PULL STRINGS FROM SOURCE/METER LOOP POLE TO PPC
18. CONNECT ELECTRICAL CIRCUITS FROM POWER PANEL TO TELCO PANEL
19. LABEL ALL WIRING PER MUNICIPALITY, NEC OR LENDLEASE STANDARDS

20. ALL HOLES MUST BE SEALED AND BREAKERS LABELED ACCORDING TO PM/CM AND OR DRAWING SPECIFICATIONS (ALL LABEL TO BE PRINTED WITH A LABEL MAKER)
21. LABEL DISCONNECT "LENDLEASE" ON THE COVER. LABEL ALL BREAKERS WITHIN USING A LABEL MAKER AS REQUIRED IN THE CDS .
22. OBTAIN ALL FINAL ELECTRICAL INSPECTIONS AND CLOSE OUT DOCUMENTS FOR ELECTRICAL PORTION OF THE WORK
23. VERIFY ELECTRICAL SERVICE APPLICATIONS ARE COMPLETE AND PERMITS OBTAINED
24. COORDINATE WITH ELECTRICAL AUTHORITY FOR ALL INSPECTIONS AND NOTIFY PM/CM OF INSPECTIONS 24 HOURS IN ADVANCE.

CLOSE OUT PACKAGE REQUIREMENTS		
INSTALLATION COP REQUIREMENTS	GC	CM
PERMIT	X	X
TOWER DESIGN DRAWINGS		X
FOUNDATION DRAWINGS		X
PERMITTED CDS	X	X
CD FINAL REDLINES / AS BUILTS	X	
PHOTOS ACCORDING TO THE PHOTO CHECKLIST	X	
NSB FINAL PUNCH WALK CHECKLIST WITH DEFECTS		X
FINAL DEFECT AND CORRECTION PHOTOS	X	X
ALL SIGNED JSAS FOR EVERY ON SITE ACTIVITY	X	
GC AND SUBCONTRACTORS RELEASE OF LIEN	X	
CONCRETE BREAK TESTS	X	
ELECTRICAL INSPECTIONS	X	
FOUNDATION INSPECTIONS	X	
HEIGHT VERIFICATION FORM	X	
CERTIFICATE OF OCCUPANCY OR EQUIVALENT LETTER/EMAIL FROM JURISDICTION	X	



PI TOWER DEVELOPMENT LLC
C/O LENDLEASE (US) TOWER HOLDINGS, LLC
909 LAKE CAROLYN PARKWAY, SUITE 260
IRVING, TX 75039

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5661 COLUMBIA PIKE, SUITE 200
FALLS CHURCH, VA 22041-2868
TEL: (703) 671-6000
FAX: (703) 671-6300

SHEET REVISION

NO.	DESCRIPTION	BY	DATE
1			
2			
3			
4			
5			

SITE NAME:
VA-HENRICO-PINE CAMP

SITE ADDRESS:
**4000 PLOTS LN.
HENRICO, VA 23222**

STAMP HERE:

DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

SCOPE OF WORK

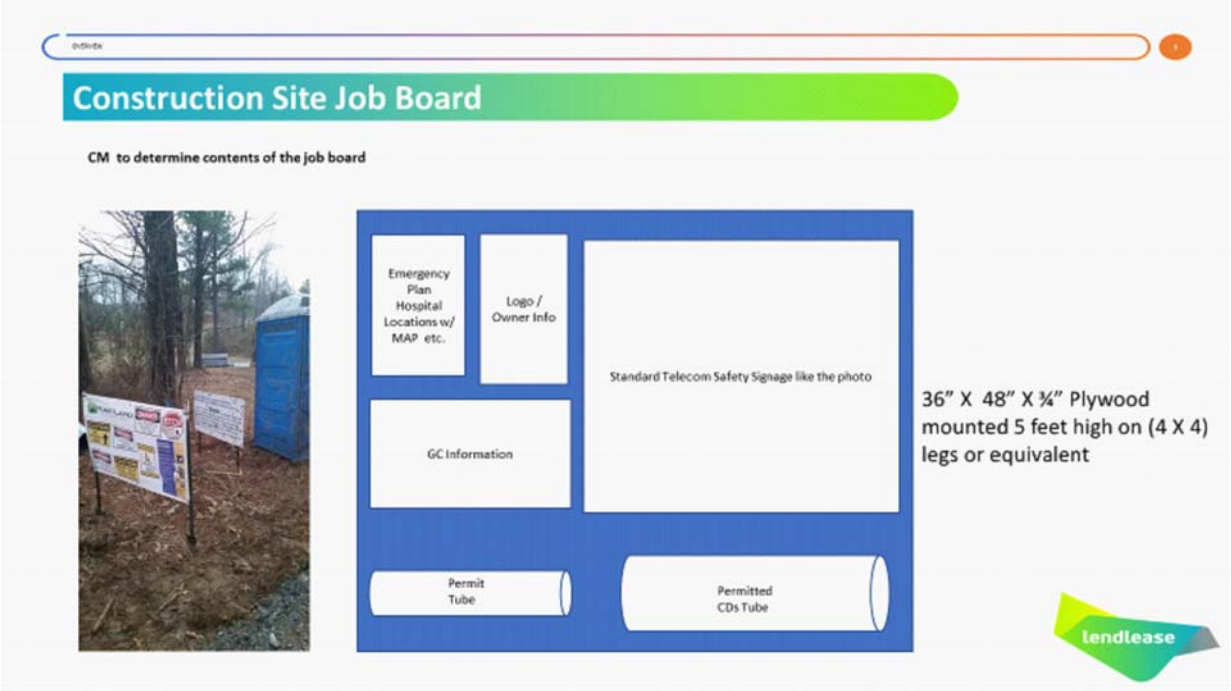
SHEET NUMBER:	REV. #
SP-3	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING

CLOSE OUT PACKAGE PHOTO CHECKLIST

COP PHOTO CHECKLIST	YES	NO	IF NO -COMMENT REQUIRED
SITE CLEARING			
START -JOB BOARD INSTALLED			
DURING			
COMPLETE			
EQUIPMENT			
CREW AT WORK			
SPOILS REMOVAL ACTIVITY			
COMPOUND			
START			
DURING			
GRADING			
FABRIC			
ROCK			
COMPLETE			
EQUIPMENT			
CREW AT WORK			
MATERIALS DELIVERY			
ROAD			
ACCESS TO THE ROAD FROM THE PUBLIC			
THOROUGHFARE			
START			
DURING			
GRADING			
FABRIC			
ROCK			
COMPLETE			
EQUIPMENT			
CREW AT WORK			
MATERIALS DELIVERY			
ELECTRICAL			
RACK			
CREW AT WORK			
START			
DURING			
COMPLETE			
TRENCHES OPEN W/ TAPE MEASURE DEPTH			
CONDUITS IN THE TRENCH			

JOB BOARD EXAMPLE



COP PHOTO CHECKLIST CONTINUED	YES	NO	IF NO - COMMENT REQUI	RED
GROUNDING				
GROUND RESISTIVITY - MACHINE READING				
TRENCHES OPEN W/ TAPE MEASURE DEPTH				
GROUND RING COPPER W/ IN THE GROUND				
CAD WELD JOINTS (A FEW FROM AROUND THE SITE)				
ANCHOR TENANT STINGERS				
FOUNDATION				
START				
REBAR CAGE BEFORE SET				
REBAR CAGE AFTER SET				
FINAL FORM BEFORE POUR				
DURING POUR				
POUR COMPLETE				
EQUIPMENT				
CREW AT WORK				
SPOILS REMOVAL ACTIVITY				
FOUNDATION COMPLETE				
TOWER				
MATERIALS DELIVERY				
CRANE				
START				
DURING				
COMPLETE				
EQUIPMENT				
CREW AT WORK				
HEIGHT VERIFICATION FORM				
TAP DROP				
FENCE				
CREW AT WORK				
START				
DURING				
COMPLETE				
POSTS				
GATES				
SIGNAGE				



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IRVING, TX 75039

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DRAWN BY:	JG
CHECKED BY:	NB
DATE DRAWN:	01-04-18
SUBMISSION:	PRELIMINARY CD'S

SHEET TITLE:

**SCOPE
OF
WORK**

SHEET NUMBER:	REV. #
SP-4	A

CALL FOR UNDERGROUND UTILITIES PRIOR TO DIGGING