



US DEPARTMENT OF THE INTERIOR
SITE# 68271
RAWLAND

SITE INFORMATION

VZW SITE NAME: US DEPARTMENT OF THE INTERIOR
VZW PROJECT NUMBER: #68271
SITE ADDRESS: 40001 SR-93363
HOMESTEAD, FL 33034
COUNTY: MIAMI-DADE COUNTY
JURISDICTION: MIAMI-DADE
SITE COORDINATES: **N25° 23' 26.592" (LAT)**
W80° 40' 53.752" (LONG)
SITE TYPE: RAW LAND
STRUCTURE TYPE: SELF-SUPPORT TOWER
OVERALL STRUCTURE HEIGHT: 274'-0" AGL
TOWER HEIGHT: 250'-0" AGL
VZW ANTENNA C.L. HEIGHT: 230'-0" AGL
PROPERTY OWNER NAME: EVERGLADES & DRY TORTUGAS
NATIONAL PARKS
PROPERTY OWNER ADDRESS: 400001 SR-9336
HOMESTEAD, FL 33034
KIMLEY-HORN AND ASSOCIATES PROJECT MANAGER: CARRIE REINHART
POWER COMPANY: FPL - GEORGE QUINTANILLA
(305) 387 6623
TELEPHONE COMPANY: AT&T - FARIBORZ FAKHRALSHOARA
(305) 971 2591
VERIZON WIRELESS CONTACT: MARK BAESCH
(561) 995 5723

PROJECT SCOPE OF WORK:

THIS PROJECT CONSISTS OF A 250' SELF SUPPORT TOWER WITH FOUNDATION (REFER TO TOWER DRAWINGS PROVIDED BY TOWER MANUFACTURER), SITE WORK, THE INSTALLATION OF (9) NEW LINES AND (9) ANTENNAS, (2) NEW UNMANNED EQUIPMENT SHELTERS, OUTDOOR GENERATOR, 1000 GALLON PROPANE TANK, AND ALL ASSOCIATED WORK.

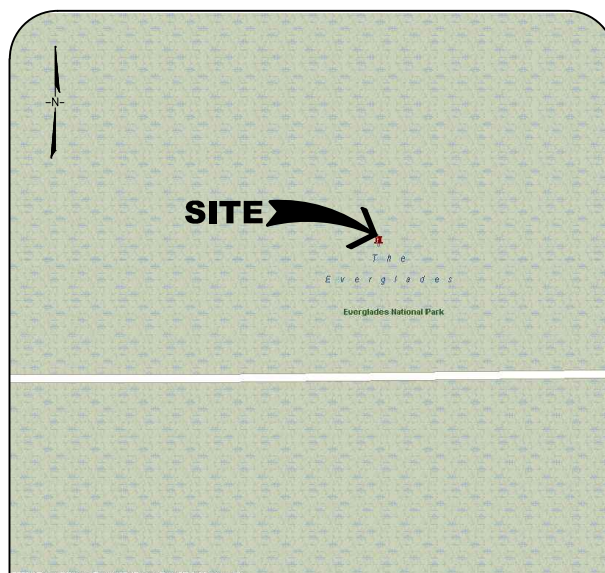
DIRECTIONS:

BEGINNING FROM VERIZON'S BOCA RATON, FL OFFICE LOCATED AT 777 YAMATO RD. SUITE 600, TAKE I-95S AND PROCEED FOR ±44.3 MILES. TAKE EXIT 3A FOR FL-836 WEST/NORTHWEST AND MERGE ONTO FL-836 WEST. PROCEED FOR ±7 MILES. TAKE THE EXIT ON THE LEFT ONTO FL-826 SOUTH TOWARD CORAL WAY AND PROCEED FOR ±3.8 MILES. CONTINUE INTO FL-874 SOUTH (SIGNS FOR TOLL RD./HOMESTEAD) PARTIAL TOLL ROAD AND PROCEED FOR ±7.3 MILES. MERGE ONTO FLORIDA 821 TOLL SOUTH/HOMESTEAD EXTENSION OF FLORIDA'S TURNPIKE PARTIAL TOLL ROAD AND PROCEED FOR ±17 MILES. EXIT ONTO US-1 SOUTH/NE 1ST AVE. TOWARD KEY WEST PARTIAL TOLL ROAD AND PROCEED FOR ±0.6 MILE. TURN RIGHT AT SOUTHWEST 344TH ST./EAST PALM DR. AND CONTINUE TO FOLLOW 344TH ST. FOR ±1.5 MILE. TURN LEFT AT TOWER RD. AND PROCEED FOR ±2 MILES. TURN RIGHT AT INGRAHAM HWY/STATE HWY 9336 AND CONTINUE TO FOLLOW ±7.8 MILES. TURN LEFT ON ROYAL PALM RD. AND PROCEED FOR ±0.8 MILE. TAKE A SLIGHT RIGHT TOWARD SR 9336/LONG PINE KEY RD. AND PROCEED FOR ±0.5 MILE. TAKE THE FIRST RIGHT ONTO SR 9336/LONG PINE KEY RD. AND PROCEED FOR 3.7 MILES. DESTINATION WILL BE ON RIGHT.

THE CONTRACTOR MUST VERIFY ALL FIELD MEASUREMENTS AND CONDITIONS PRIOR TO BID AND TO COMMENCEMENT OF CONSTRUCTION.



KEY MAP



AREA MAP

SHEET INDEX

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GN-2	GENERAL NOTES
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SP-2	NOTES & SPECIFICATIONS
SP-3	ELECTRICAL SPECIFICATIONS
LS-1	LAND SURVEY
LS-2	LAND SURVEY
LS-3	LAND SURVEY
D-1	DEMOLITION PLAN
D-2	SOIL MOUND LOCATION PLAN
C-1	OVERALL SITE PLAN
C-2	ENLARGED SITE PLAN
C-3	GRADING PLAN
C-4	ROAD, FENCE AND COMPOUND DETAILS
S-1	TOWER ELEVATION AND DETAILS
S-2	ANTENNA SCHEDULE
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S-4	FOUNDATION DETAILS AND NOTES
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E-3	GENERATOR INSTALLATION
E-4	LIGHT CONTROL PANEL
GR-1	GROUNDING PLAN
GR-2	ENLARGED GROUNDING PLAN
GR-3	GROUNDING DETAILS
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE NOTES AND DETAILS

VERIZON WIRELESS DEPARTMENTAL APPROVALS

SIGNED: _____ DATE: _____
RF ENGINEER
SIGNED: _____ DATE: _____
OPERATIONS MANAGER
SIGNED: _____ DATE: _____
CONSTRUCTION ENGINEER
SIGNED: _____ DATE: _____
CONSTRUCTION MANAGER
SIGNED: _____ DATE: _____
REAL ESTATE MANAGER

LESSOR / LICENSOR APPROVAL

SIGNED: _____ DATE: _____
PRINTED NAME: _____
PLEASE CHECK: ☐ NO CHANGES ☐ CHANGES NEEDED (SEE PLANS)



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

REV.	DATE	DESCRIPTION	BY
11	11/24/15	REVISED PER COMMENTS	JPH
10	11/10/15	REVISED PER COMMENTS	CAR
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0	11/05/10	ISSUED FOR REVIEW	JL

DRAWN BY: _____ CHECKED BY: _____

JPH CAR

KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 0000696

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US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

TITLE
SHEET

SHEET NUMBER:

T-1

GENERAL NOTES

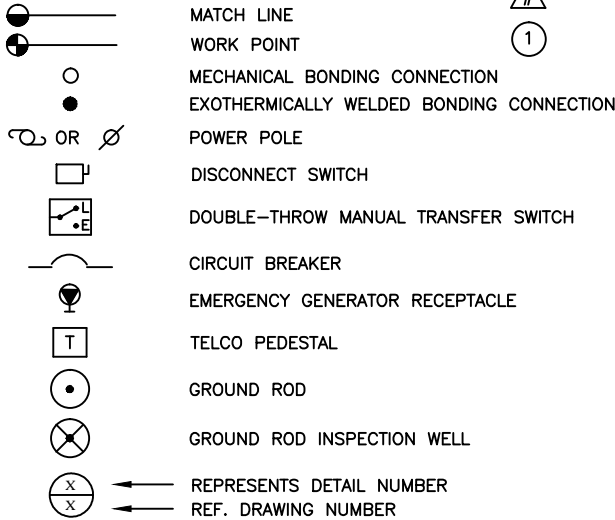
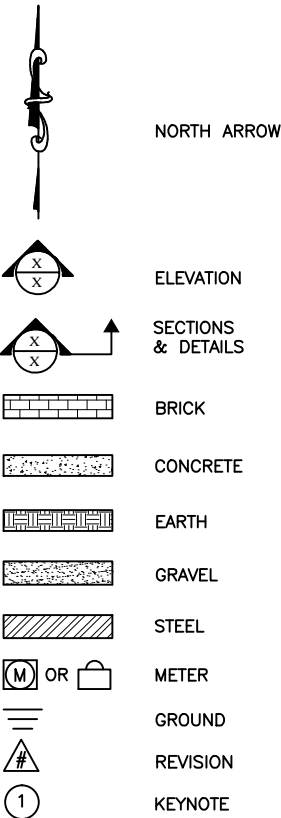
1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR’S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
4. THE CONTRACTOR’S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, AND LABOR REQUIRED TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THE PROJECT REQUIREMENTS.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWING/CONTRACT DOCUMENTS.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER’S/VENDOR’S SPECIFICATION UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE. CONTRACTOR SHALL PROVIDE SERVICES FOR OFF LOADING AND PLACEMENT OF SHELTER IN ACCORDANCE WITH MANUFACTURER’S LIFTING PROCEDURES.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS AVAILABLE FOR USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT. REDLINED AS–BUILTS ARE TO BE DELIVERED TO THE CLIENT AT CLOSEOUT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE JOB.
15. FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION (HANDICAPPED ACCESS NOT REQUIRED).
16. FACILITY HAS NO PLUMBING.
17. PRIOR TO OR UPON ENTERING INTO THE SITE COMPOUND, THE PERSONNEL ENTERING THE SITE AND THE SHELTER ARE TO CONTACT THE SWITCH AND THE CLIENT NOC INFORMING THEM OF THE FOLLOWING INFORMATION: WHO IS ENTERING THE SHELTER AND WHAT COMPANY THEY ARE WITH, WHY THEY ARE ENTERING THE SHELTER AND HOW LONG THEY PLAN TO BE AT THE SHELTER.
18. UPON LEAVING THE SHELTER, THE "SITE" PERSONNEL ARE TO CONTACT THE SWITCH AND CLIENT NOC INFORMING THEM OF DEPARTURE.
19. SHOULD THE SHELTER ACCESS OCCUR WHILE THE SWITCH IS UNMANNED, THEN AT MINIMUM THE CLIENT NOC WILL BE NOTIFIED OF THE ABOVE INFORMATION.
20. ALL INSTALLATION DEBRIS AND TRASH SHALL BE REMOVED FROM THE SITE ON A DAILY BASIS. ANY EXPENSE THAT IS INCURRED BY CLIENT FOR TRASH REMOVAL WILL BE BACK–CHARGED TO THE SUBCONTRACTOR.
21. THE CONTRACTOR SHALL NOTIFY ENGINEER, WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL CONFLICT IS RESOLVED BY THE CONSTRUCTION MANAGER.
22. ALL ANTENNA OUTAGES MUST BE PLANNED AT A MINIMUM OF 24 HOURS IN ADVANCE. CONTRACTOR MUST CONTACT THE SWITCH AND THE NOC TO COORDINATE. IF THIS POLICY IS NOT ADHERED TO, THE CONTRACTOR WILL BE REMOVED FROM THE BIDDER’S LIST AND ANY OPPORTUNITY FOR FUTURE WORK.


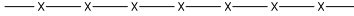














A/C
ADJ.
AFF
APPROX.
ASTM
ATS
AWG
A
BTS
BLDG.
BLK.
B/S
CIGBE
CLG
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CONC.
CONST.
CONT.
C.F.C.I.
DBL.
DIA., ∅
DIAG.
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EL., ELEV.
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GALV.
GC
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HT.
HVAC
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INFO
INSUL.
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KVA
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LB(S)
MGB
MAX.
MECH.
MFR.
MGR.
MIN.
MISC.
MTD.
MTS
NEC
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N
NA
NIC
NOC
NPS
N.T.S.
O.F.C.I.
OC, o/c
OPP
OD
OHP
OHT
OHU
PLYWD.
PR
PH
PVC
PROJ
PROP

AIR CONDITIONING
ADJUSTABLE
ABOVE FINISH FLOOR
APPROXIMATELY
AMERICAN SOCIETY FOR TESTING AND MATERIALS
AUTOMATIC TRANSFER SWITCH
AMERICAN WIRE GAUGE
AMPERE
BASE TRANSMISSION STATION
BUILDING
BLOCK
BUILDING STANDARD
GROUND BAR
CEILING
CLEAR
CONCRETE
CONSTRUCTION
CONTINUOUS
CONTRACTOR FURNISHED CONTRACTOR INSTALLED
DOUBLE
DIAMETER
DIAGONAL
DIMENSION
DOWN
DETAIL
DRAWING
EAST
EACH
ELEVATION
ELECTRICAL
ELECTRICAL METALLIC TUBING
EQUAL
EQUIPMENT
EACH WAY
EXISTING
EXTERIOR
FINISH
FLOOR
FOOT
GALVANIZED RIGID CONDUIT
GROUND
GAUGE
GALVANIZED
GENERAL CONTRACTOR
GENERATOR
HORIZONTAL
HOUR
HEIGHT
HEATING, VENTILATING AND AIR CONDITIONING
INSIDE DIA.
INCH
INFORMATION
INSULATION
INTERIOR
KILOVOLTS–AMPERE
KILOWATT
POUND(S)
MASTER GROUND BAR
MAXIMUM
MECHANICAL
MANUFACTURER
MANAGER
MINIMUM
MISCELLANEOUS
MOUNTED
MANUAL TRANSFER SWITCH
NATIONAL ELECTRICAL CODE
NEUTRAL
NORTH
NOT APPLICABLE
NOT IN CONTRACT
NETWORK OPERATIONS CENTER
NOMINAL PIPE SIZE
NOT TO SCALE
OWNER FURNISHED CONTRACTOR INSTALLED
ON CENTER
OPPOSITE
OUTSIDE DIAMETER
OVERHEAD POWER
OVERHEAD TELEPHONE
OVERHEAD UTILITY LINES
PLYWOOD
PAIR
PHASE
POLYVINYL CHLORIDE
PROJECT
PROPERTY

PT
RECPT.
REQ'D
RGS
R.O.
R.O.W.
S
S.O.
SHT
SIM.
SPEC.
XXX.XX'
SQ.
SF
SS
STL.
STRUCT.
THRU
T.O.C.
T.O.M.
TYP
UBC
VERT.
VIF
V
W
W/
W/O
W.P.
XFMR

PRESSURE TREATED
RECEPTACLE
REQUIRED
RIGID GALVANIZED STEEL
ROUGH OPENING
RIGHT–OF–WAY
SOUTH
SERVICE GRADE OIL RESISTANT
SHEET
SIMILAR
SPECIFICATION
SPOT ELEVATION
SQUARE
SQUARE FOOT
STAINLESS STEEL
STEEL
STRUCTURAL
THROUGH
TOP OF CONCRETE
TOP OF MASONRY
TYPICAL
UNIFORM BUILDING CODE
VERTICAL
VERIFY IN FIELD
VOLT
WEST
WITH
WITHOUT
WEATHERPROOF
TRANSFORMER



LEGEND	
	EXISTING CONTOUR LINE
	EXISTING CHAIN LINK FENCE
	EXISTING PROPERTY LINE
	EXISTING OVERHEAD UTILITIES
	EXISTING SANITARY SEWER LINE
	EXISTING STORM DRAIN LINE
	PROPOSED CONTOUR LINE
	PROPOSED CHAIN LINK FENCE
	PROPOSED LEASE AREA
	PROPOSED OVERHEAD UTILITIES
	PROPOSED UNDERGROUND TELCO
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED EASEMENT
	PROPOSED SILT FENCE
	PROPOSED GROUNDING
	FUTURE FEATURES



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620–1460
WWW.KIMLEY–HORN.COM

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JPH	CAR

KHA PROJECT NUMBER:
148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 0000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

GENERAL NOTES
& ABBREVIATIONS

SHEET NUMBER:

GN-1

GENERAL NOTES:

1. FENCED SITE AREA SHALL BE CLEARED AND GRUBBED. REMOVE UNSUITABLE SOFT OR LOOSE SOILS, ORGANIC MATERIAL AND OR RUBBLE TO FIRM SUBGRADE. FILL UNDERCUT UP TO 6 INCHES BELOW FINISH GRADE.

2. IF ANY ARCHAEOLOGICAL MATERIALS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL STOP WORK IMMEDIATELY AND NOTIFY THE PARK'S CHIEF OF CULTURAL RESOURCE IN ORDER TO ACCESS THE SITUATION.

3. IN ADDITION TO PROVIDING THEM IN THE CLOSE-OUT PACKAGE, THE CONTRACTOR SHALL LEAVE A COPY OF THE AS-BUILT DRAWINGS, MEG TEST, AND SWEEP TEST IN THE SHELTER AFTER CONSTRUCTION.

4. THE CONTRACTOR MUST CONTACT THE SURVEYOR TO STAKE OUT THE EASEMENTS AND LEASE AREA PRIOR TO CONSTRUCTION. ALL FEES ARE THE RESPONSIBILITY OF THE CONTRACTOR.

5. THE CONTRACTOR IS TO ENSURE THAT NO DAMAGE OR DEBRIS OCCURS ON THE ADJACENT PROPERTIES.

6. THE CONTRACTOR SHALL SEED ALL DISTURBED AREAS WITH LOW MAINTENANCE NATIVE GRASS TO PREVENT EROSION.

7. UNTIL THE COMPOUND IS SURROUNDED BY A PERMANENT FENCE, THE CONTRACTOR MUST ERECT A TEMPORARY FENCE AROUND THE TOWER AND POST A "NO TRESPASSING" SIGN. ALL CLIMBING PEGS MUST BE REMOVED UP TO 20' UNTIL A PERMANENT FENCE IS INSTALLED.

8. THE CONTRACTOR MUST ENSURE THAT ALL DELIVERY TRUCKS WILL BE ABLE TO DELIVER THE MATERIAL TO THE COMPOUND. IF THE DELIVERY TRUCKS CAN NOT ACCESS THE COMPOUND THEN THE CONTRACTOR MUST MAKE OTHER ARRANGEMENTS TO GET THE MATERIAL TO THE COMPOUND. IF THIS IS REQUIRED THE CONTRACTOR MUST CONTACT KIMLEY-HORN IMMEDIATELY. NO ADDITIONAL FEES WILL BE PASSED ON TO KIMLEY-HORN OR THE CLIENT.

9. PROPOSED TOWER AND FOUNDATION TO BE INSTALLED IN ACCORDANCE WITH THE TOWER MANUFACTURER PLANS PROVIDED BY CLIENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE UNLOADING OF TOWER MATERIALS DELIVERED TO SITE BY THE TOWER MANUFACTURER.

10. CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR ALL COMPACTED FILL RECOMMENDATIONS. IF THE GEOTECH REPORT CONFLICTS WITH THE CONSTRUCTION DRAWINGS THEN STOP WORK AND CONTACT THE CLIENT AS SOON AS POSSIBLE.

11. IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ALL DOT AND/OR COUNTY SPECIFICATIONS PRIOR TO BID AND CONSTRUCTION. IF THE SPECIFICATIONS DIFFER FROM THE CONSTRUCTION DRAWINGS, THEN THE SPECIFICATIONS WILL GOVERN. NO ADDITIONAL COSTS FOR ADHERING TO THE SPECIFICATIONS WILL BE ALLOWED AFTER THE BID HAS BEEN ISSUED AND ACCEPTED NOR WILL PROJECT DELAYS BE TOLERATED.

12. THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

13. PROPOSED LIGHTNING ROD IS TO BE INSTALLED A MINIMUM OF 3' ABOVE HIGHEST APPURTENANCE.

14. IF THE OVERALL HEIGHT OF THE STRUCTURE INCLUDING APPURTENANCES EXCEEDS THE HEIGHT SHOWN ON THE DRAWINGS THEN CONTACT CLIENT IMMEDIATELY.

15. ANTENNA LOADING AND LOCATION BASED ON TOWER MANUFACTURER DRAWINGS.

16. THE TOWER ANCHOR BOLTS WILL BE PRE-SHIPED AND THE CONTRACTOR MUST COORDINATE DELIVERY WITH CLIENT.

17. CONTRACTOR MUST PROVIDE TEMPORARY TOWER LIGHTING ONCE THE TOWER HAS REACHED 200' UNTIL THE PERMANENT LIGHTING IS INSTALLED.

18. CONTRACTOR SHALL INSTALL BEACON EXTENSION MOUNT PER MANUFACTURERS SPECIFICATIONS.

19. WHEN TOWER LIGHTING IS REQUIRED, THE CONTRACTOR MUST VISUALLY MONITOR THE TOWER LIGHTING AT LEAST ONCE A DAY UNTIL THE LIGHTING IS ELECTRONICALLY MONITORED. IF ANY PROBLEMS OCCUR, THE CONTRACTOR MUST CONTACT CLIENT IMMEDIATELY.
20. PRIOR TO PERFORMING THE WORK, IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE STRUCTURAL CAPACITY OF THE TOWER TO RESIST THE WIND/GRAVITY LOADS FROM THE PROPOSED ANTENNAS.

21. IF ANY WORK IS PERFORMED AT THIS SITE THAT REQUIRES THE SITE TO BE OFF AIR OR TURNED DOWN, THE SWITCH IS TO BE NOTIFIED 48 HOURS PRIOR TO CONSTRUCTION.

22. INSTALLATION SHALL BE CONDUCTED BY FIELD CREWS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES. ANTENNA WORK TO BE INSTALLED PER THE REQUIREMENTS OF THE TOWER MANUFACTURER'S SPECIFICATION.

23. CONTRACTOR TO PROVIDE THE PROPER COAX JUMPER SUPPORT ATTACHMENTS TO THE TOWER AND ANTENNA MOUNT.

24. CONTRACTOR MUST CALL LOCAL UNDERGROUND UTILITY LOCATING SERVICE BEFORE ANY EXCAVATION OR TRENCHING IS PERFORMED TO FLAG ALL UNDERGROUND UTILITIES. CONTRACTOR MUST HAND DIG ALL TRENCHES & EXCAVATIONS AROUND EXISTING UNDERGROUND UTILITIES IN WORK AREA.

25. CONTRACTOR MUST VERIFY AND COORDINATE ALL POWER AND TELCO DESIGN INFORMATION PRIOR TO CONSTRUCTION WITH LOCAL UTILITY COMPANIES.

26. ENTRY LOCATIONS ON SHELTERS MAY VARY. VERIFY EXACT LOCATION ONCE SHELTER HAS ARRIVED.

27. CONTRACTOR TO COORDINATE THE EXACT LOCATION OF THE NEW TELCO PEDESTAL AND POWER POLE WITH LOCAL UTILITY COMPANIES.

28. IF CONDUIT RUNS HAVE MORE THEN (3)-90° TURNS THEN THE CONTRACTOR MUST INSTALL PULL BOXES AS NEEDED.

29. CONTRACTOR SHALL CORE DRILL THROUGH SHELTER WALL AND PROVIDE WEATHERPROOFING FOR ALL CONDUITS THAT DON'T HAVE A PENETRATION.

30. ALL EQUIPMENT INSTALLED ON THE H-FRAMES SHALL MAINTAIN A MINIMUM OF 3' CLEARANCE TO ALL FENCES.

31. ALL CONDUIT ABOVE GROUND SHALL BE RIGID.

32. ALL CONDUIT INSTALLED IN FRONT OF THE GATE SHALL BE ENCLOSED IN CONCRETE.

33. FOR EQUIPMENT SHELTER INTERNAL WIRING REFER TO SHELTER SHOP DRAWINGS.

34. A RESISTANCE TO GROUND OF THREE (3) OHMS OR LESS IS THE OBJECTIVE FOR THE EARTH GROUND SYSTEMS AT CELL SITES.

35. ALL UNDERGROUND GROUND WIRE TO BE BURIED 30" DEEP OR 6" BELOW THE FROST LINE, WHICHEVER IS DEEPER.

36. ALL BURIED GROUND CONNECTIONS WILL BE MADE USING THE EXOTHERMIC WELD PROCESS.

37. ALL GROUND WIRES SHALL BE CONNECTED TO GROUND BARS USING TWO-HOLE CRIMP/COMPRESSION CONNECTORS.

38. AN APPROVED ANTIOXIDATION COMPOUND SHALL BE USED ON ALL EXTERNAL CONNECTIONS, EXCLUDING EXOTHERMIC WELDS, AND ON ALL EXTERNAL GROUND BARS. COAT ALL CONDUCTORS AND SURFACES PRIOR TO CONNECTION.

39. REFER TO SHELTER MANUFACTURER AND CLIENT SPECS FOR INTERNAL GROUNDING DETAILS.
40. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH A 6" MINIMUM RADIUS FOR CONDUCTORS UP TO #6, A 12" MINIMUM RADIUS FOR CONDUCTORS FROM #6 UP TO #4/0, A 24" MINIMUM RADIUS FOR #4/0 CONDUCTORS AND UP.
41. IF GROUNDED METALLIC OBJECTS ARE LESS THAN 6' FROM A FENCE POST, THEN THE POST SHOULD BE GROUNDED TO THE GROUND RING.
42. ALL GROUND WIRES THAT ARE ROUTED ABOVE GROUND SHOULD BE INSTALLED IN 3/4"Ø PVC, MINIMUM 12" BELOW GRADE TO 6" FROM ABOVE GROUND CONNECTION POINT.
43. AT THE TIME THE CONSTRUCTION DRAWINGS WERE CREATED, KIMLEY-HORN DID NOT HAVE A COPY OF THE PROPOSED TOWER MANUFACTURER DRAWINGS THUS WE DO NOT KNOW THE EXACT SIZE OF THE OVERALL TOWER FOOTPRINT. THE CONTRACTOR MUST COMPARE THE CONSTRUCTION DRAWINGS WITH THE TOWER DRAWINGS PRIOR TO BID AND/OR CONSTRUCTION AND IF THEY FIND ANY DISCREPANCIES OR POSSIBLE ISSUES THEY MUST NOTIFY THE CLIENT IMMEDIATELY.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

REV:	DATE:	DESCRIPTION:	BY:
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DRAWN BY:	CHECKED BY:
JPH	CAR

KHA PROJECT NUMBER:
148415004

ENGINEER SEAL:
<div></div> <div>NATHANIEL ROBERT LINDEN, PE FL PROFESSIONAL ENGINEER LIC. # 72985 FL CERTIFICATE OF AUTHORIZATION # 0000696</div>

PROJECT INFORMATION:
US DEPARTMENT OF THE INTERIOR SITE #68271 40001 SR-93363 HOMESTEAD, FL 33034 MIAMI-DADE COUNTY

SHEET TITLE:
GENERAL NOTES

SHEET NUMBER:
GN-2

GENERAL NOTES:

1. ZONING REGULATIONS AND CONDITIONAL USE PERMITS:

A. CLIENT 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.

2. FAA PERMIT AND TOWER LIGHTING:

A. 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.

3. TOWER SECURITY:

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

4. CONTRACTOR SHALL BE RESPONSIBLE FOR RECEIVING, UNLOADING, AND INSTALLATION FOR PLACEMENT OF NEW CONCRETE SHELTER BUILDING OR CABINETS AND ERECTION OF TOWER.

5. 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 THE CONSTRUCTION MANAGER 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 WORK TO BE PERFORMED IN 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 CONTRACT DOCUMENTS GOVERNING THE WORK.

6. PHOTOS:

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

SITE PREPARATION:

1. CONTRACTOR’S SCOPE OF WORK:

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 AND STATE REQUIREMENTS AS APPLICABLE.

F. TEMPORARY PROTECTION OF ADJACENT PROPERTY, STRUCTURES, BENCHMARKS, AND MONUMENTS.

G. PROTECTION AND TEMPORARY RELOCATION, STORAGE AND REINSTALLATION OF EXISTING FENCING AND OTHER SITE IMPROVEMENTS SCHEDULED FOR REUSE.

H. REMOVAL AND LEGAL DISPOSAL OF CLEARED MATERIALS.

2. CONTRACTOR’S QUALITY ASSURANCE:

A. CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR CONTAINMENT OF SEDIMENT AND CONTROL OF EROSION ON SITE. ANY DAMAGE TO ADJACENT OR DOWNSTREAM PROPERTIES WILL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO THE OWNER.

B. CONTRACTOR SHALL 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 WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ANY COST ASSOCIATED WITH REPAIRS FOR SUCH DAMAGE WILL BE AT THE CONTRACTOR’S EXPENSE.

C. CONTRACTOR SHALL PROPERLY DISPOSE ALL WASTE MATERIAL OFF-SITE OR AS DIRECTED BY THE CONSTRUCTION MANAGER AND IN ACCORDANCE WITH JURISDICTIONAL AUTHORITIES.

3. PRODUCTS AND MATERIALS (AS APPROVED BY CONSTRUCTION MANAGER OR AS WITHIN THE CONSTRUCTION DOCUMENTS):

A. MATERIALS USED FOR TREE PROTECTION, EROSION CONTROL, SILTATION.

B. MATERIALS USED FOR DUST CONTROL AS SUITABLE FOR SPECIFIC SITE CONDITIONS.

CIVIL SPECIFICATION NOTES

EARTHWORK:

1. CONTRACTOR’S SCOPE OF WORK:

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 OFF-SITE AS REQUIRED.

E. REMOVAL AND LEGAL DISPOSAL OF EXCAVATED MATERIALS AS REQUIRED.

F. SITE GRADING.

G. PLACEMENT AND COMPACTION OF FILL, SUBGRADE AND GRAVEL SURFACING.

H. WHEN REQUIRED, CONSTRUCTION OF COMPOUND, ACCESS ROADS, FENCING AND ALL FOUNDATIONS.

2. CONTRACTOR’S QUALITY ASSURANCE:

A. COMPACTION: UNDER STRUCTURES, FOUNDATIONS, BUILDING SLABS, PAVEMENTS AND WALKWAYS 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT.

B. GRADING TOLERANCES OUTSIDE BUILDING LINES: LAWNS, UNPAVED AREAS AND WALKS, PLUS OR MINUS 1 INCH. 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.

D. CONTRACTOR MUST REFER TO THE GEOTECH REPORT FOR ALL COMPACTED FILL RECOMMENDATIONS. IF THE GEOTECH REPORT CONFLICTS WITH THE CONSTRUCTION DRAWINGS THEN STOP WORK AND CONTACT THE CLIENT AS SOON AS POSSIBLE.

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

A. SUB BASE MATERIAL: GRADED MIXTURE OF NATURAL OR CRUSHED GRAVEL, CRUSHED STONE OR SLAG AND NATURAL OR CRUSHED SAND.

B. WASHED MATERIAL: UNIFORMLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.

C. GRADING MATERIAL: SATISFACTORY NATIVE OR IMPORTED MATERIALS CONTAINING ROCK OR GRAVEL NOT LARGER THAN 2 INCHES IN ANY DIMENSION. GRADING MATERIAL SHALL NOT INCLUDE DEBRIS, WASTE, FROZEN MATERIALS, AND OTHER UNSUITABLE MATERIALS. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.

D. BACKFILL MATERIALS: SATISFACTORY NON-COHESIVE NATIVE OR IMPORTED SOIL MATERIALS FREE OF CLAY, DEBRIS, WASTE, AND OTHER UNSUITABLE MATERIALS. ROCK OR GRAVEL SHALL NOT EXCEED 4 INCHES IN ANY DIMENSION. IMPORTED MATERIAL SHALL HAVE A FINES CONTENT OF NO MORE THAN 5 PERCENT.

E. GRAVEL MATERIAL: EVENLY GRADED MIXTURE OF CRUSHED STONE OR GRAVEL, WITH 100 PERCENT PASSING A 1-1/2 INCH SIEVE AND NOT MORE THAN 5 PERCENT PASSING A NO. 4 SIEVE.

F. GEOTEXTILE FABRIC: TYPAR 3401 OR EQUIVALENT

4. CLEARING AND GRUBBING:

A. REMOVE ALL VEGETATION AND MATERIALS TO A MINIMUM DEPTH OF 6 INCHES. REMOVE STUMPS COMPLETELY UNDER FOUNDATIONS AND ROADWAY. DISPOSE OF CLEARING AND GRUBBING OFF-SITE, OR IN AN ON-SITE LOCATION APPROVED BY CONSTRUCTION MANAGER.

5. STRIPPING:

A. STRIP NOT LESS THAN 3 INCHES OF VEGETATION AND TOPSOIL FROM AREAS THAT WILL UNDERLAY GRAVEL, PAVEMENT, NEW STRUCTURES, OR NEW EMBANKMENTS. STOCKPILE STRIPPED TOPSOIL ON-SITE FOR REUSE IN FINAL LANDSCAPING.

6. COMMON WEEDING:

A. STERILIZE COMPOUND AREA WITH WEED KILLER/DEFOLIANT. THEN TREAT AREA WITH AN HERBICIDE SUCH AS PARQUET OR EQUIVALENT.

7. COMMON EXCAVATION:

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

B. 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.

C. DISPOSE OF EXCESS EXCAVATION OFF-SITE. MATERIALS REMOVED FROM SITE MUST BE DISPOSED OF IN A LEGAL MANNER.

D. IF DEWATERING OF FOUNDATION HOLES ARE REQUIRED, INCLUSION OF WHAT WILL BE DONE WITH THE WATER AND HOW POTENTIAL IMPACTS TO ADJACENT WETLANDS WILL BE MITIGATED.

8. EMBANKMENT:

A. CONSTRUCT EMBANKMENT TO THE LINES AND GRADES SHOWN ON THE DRAWINGS.

B. CONSTRUCT EMBANKMENT FROM ON-SITE EXCAVATION MATERIALS. USE IMPORTED BACKFILL ONLY AFTER AVAILABLE ON-SITE EXCAVATION MATERIALS HAVE BEEN USED.

C. CONSTRUCT IN LIFTS OF NOT MORE THAN 9 INCHES IN LOOSE DEPTH. THE FULL WIDTH OF THE CROSS SECTION SHALL BE BROUGHT UP UNIFORMLY.

D. MATERIAL SHALL 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, REMOVE AND REPLACE FILL WITH MATERIAL IN CONFORMANCE WITH THESE SPECIFICATIONS. IT IS THE CONTRACTOR’S RESPONSIBILITY TO PROVIDE MATERIAL WITH AN ACCEPTABLE MOISTURE CONTENT.

E. WHEN APPLICABLE, DO NOT PLACE FROZEN MATERIAL IN THE EMBANKMENT, AND DO NOT PLACE EMBANKMENT MATERIAL UPON FROZEN MATERIAL.

F. BE RESPONSIBLE FOR THE STABILITY OF EMBANKMENTS AND REPLACE 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 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557 WITH PLUS OR MINUS 3 PERCENT OF OPTIMUM MOISTURE CONTENT. COMPACT NON-STRUCTURAL AREA EMBANKMENTS TO A MINIMUM OF 90 PERCENT OF ASTM D-1557.

9. 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 REGRADING.

D. CONSTRUCT FINISHED SURFACE OF SITE GRADING AREAS WITHIN ONE INCH FROM SPECIFIED GRADE.

10. 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 6 INCHES OF SUBGRADE TO A 95 PERCENT MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.

E. REMOVE AND REPLACE SOFT SOILS ON AREAS THAT "PUMP" OR DEFORM UNDER WEIGHT OF COMPACTION EQUIPMENT.

F. CONSTRUCT TOP OF SUBGRADE WITHIN ONE INCH OF ESTABLISHED GRADE AND CROSS-SECTION.

11. GEOTEXTILE FABRIC:

A. LAY GEOTEXTILE FABRIC OVER COMPACTED SUBGRADE AS PER CONSTRUCTION DOCUMENTS IN COMPOUND AND UNDER LENGTH OF ROAD (WHEN REQUIRED). LAP ALL JOINTS A MINIMUM OF 12 INCHES.

12. 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 A UNIFORM SURFACE.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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DRAWN BY: CHECKED BY:

JPH	CAR
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KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

NOTES &
SPECIFICATIONS

SHEET NUMBER:

SP-1

TRENCHING:

CONTRACTOR MUST NOTIFY "ONE-CALL" UTILITY LOCATING SERVICE THREE DAYS PRIOR TO CONSTRUCTION TO FLAG ALL UNDERGROUND UTILITIES.

1. MATERIALS:

A. FILL MATERIAL SHALL BE OBTAINED, TO THE MAXIMUM EXTENT POSSIBLE, FROM EXCAVATIONS ON-SITE. THE STRUCTURAL FILL SHOULD BE SAND AND SHALL BE APPROVED BY THE CONSTRUCTION MANAGER AND SHALL CONFORM TO LOCAL GOVERNING JURISDICTION AND UTILITY COMPANY REQUIREMENTS. THE FILL MATERIAL SHALL BE FREE FROM PERCEPTIBLE AMOUNTS OF WOOD, DEBRIS OR TOPSOIL AND SHALL NOT CONTAIN MARBLE OR OTHER ELEMENTS, WHICH TEND TO KEEP IT IN A PLASTIC STATE. MATERIALS DESIGNATED AS HAZARDOUS OR INDUSTRIAL BY THE ENVIRONMENTAL PROTECTION AGENCY (EPA) ARE TO BE AVOIDED. THE FILL MATERIAL SHALL CONTAIN FINES SUFFICIENT TO FILL ALL VOIDS IN THE MATERIAL.

2. PIPE DETECTION AND IDENTIFICATION:

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

3. TRENCH EXCAVATION:

A. DIG TRENCH TO LINES AND GRADES SHOWN ON THE PLANS OR AS DIRECTED BY CONSTRUCTION MANAGER.

B. TRENCH WIDTH SHALL BE SUFFICIENT TO ALLOW FOR SATISFACTORY CONSTRUCTION AND INSPECTION OF THE PROJECT, WITHOUT ENDANGERING OTHER CONSTRUCTION WORK OR ADJACENT FACILITIES.

C. DISPOSAL 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. TRENCH PROTECTION:

A. PROVIDE MATERIALS, LABOR, AND EQUIPMENT NECESSARY TO PROTECT TRENCHES AT ALL TIMES.

B. SHEETING AND BRACING: MEET OR EXCEED OSHA REQUIREMENTS.

5. BACKFILLING:

A. A PRELIMINARY EARTH RESISTIVITY TEST SHALL BE PERFORMED PRIOR TO BACKFILLING.

B. BACKFILL AND/OR BEDDING SHALL NOT BE PLACED IN A TRENCH UNTIL THE TRENCH WORK AND BACKFILL HAS BEEN INSPECTED AND APPROVED BY THE CLIENT. CONTRACTOR TO NOTIFY CLIENT'S CONSTRUCTION MANAGER AT LEAST 24 HOURS IN ADVANCE OF EXPECTED BACKFILL.

C. IF BACKFILL MATERIAL IS NOT SUITABLE (CONTAINS DEBRIS OR ROCK), REPLACE WITH A LOW RESISTANCE GROUND ENHANCEMENT MATERIAL.

D. WHENEVER CLIENT REQUIRES THE REMOVAL OF WET OR OTHERWISE UNSTABLE SUBGRADE FROM THE FILL MATERIAL PREVIOUSLY PLACED BY THE CONTRACTOR, THE CONTRACTOR SHALL BEAR THE COST OF ALL REMOVAL OF UNSTABLE SOIL AND WITH BACKFILLING OF THE TRENCH.

E. BACKFILL SHALL BE PLACED AND PACKED DOWN TIGHTLY TO ACHIEVE 95 PERCENT MAXIMUM DRY DENSITY AS OBTAINED THROUGH THE STANDARD PROCTOR METHOD (ASTM D-698).

F. FOLLOWING AN APPROVED INSPECTION, BACKFILL MATERIAL SHALL BE DEPOSITED IN THE TRENCH WITH HAND SHOVELS (NOT BY MEANS OF WHEELBARROWS, CARTS, TRUCKS, BULLDOZERS, OR SIMILAR EQUIPMENT) IN 4" LAYERS AND COMPACTED BY MECHANICAL TAMPERS UNTIL THE CONDUCTOR OR PIPE HAS A COVER OF NOT LESS THAN 12" THE REMAINDER OF THE BACKFILL MATERIAL SHALL THEN BE DEPOSITED IN THE TRENCH IN 8" LAYERS AND MECHANICALLY COMPACTED.

G. PROTECT CONDUIT FROM LATERAL MOVEMENT, DAMAGE FROM IMPACT OR UNBALANCED LOADING TO AVOID DISPLACEMENT OF CONDUIT AND/OR STRUCTURES. ANY SUBSEQUENT SETTLEMENT SHALL BE CONSIDERED THE RESULT OF IMPROPER COMPACTION AND SHALL BE PROMPTLY CORRECTED.

H. IF REQUIRED COMPACTION DENSITY HAS NOT BEEN OBTAINED, REMOVE THE BACKFILL FROM THE TRENCH OR STRUCTURE, REPLACE WITH APPROVED BACKFILL, AND RECOMPACT AS SPECIFIED.

ELECTRICAL NOTES:

1. OBTAIN PERMITS AND PAY FEES RELATED TO ELECTRICAL WORK PERFORMED ON THIS PROJECT. DELIVER COPIES OF ALL PERMITS TO CLIENT REPRESENTATIVE.

2. SCHEDULE AND ATTEND INSPECTIONS RELATED TO ELECTRICAL WORK REQUIRED BY JURISDICTION HAVING AUTHORITY. CORRECT AND PAY FOR ANY WORK REQUIRED TO PASS ANY FAILED INSPECTION.

3. ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM APPROVED BY CLIENT TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED 3 OHMS TO GROUND. THE COMPLETED SITE SHALL BE TESTED AND A REPORT SENT TO CLIENT REPRESENTATIVE. A COPY IS TO BE PROVIDED TO NPS.

4. REDLINED AS-BUILTS ARE TO BE DELIVERED TO CLIENT REPRESENTATIVE.

5. PROVIDE TWO COPIES OF OPERATION AND MAINTENANCE MANUALS IN THREE-RING BINDER.

6. FURNISH AND INSTALL THE COMPLETE ELECTRICAL SERVICE, CABLE TRAY, TELCO CONDUIT AND GROUNDING SYSTEMS.

7. ALL WORK SHALL BE PERFORMED IN STRICT ACCORDANCE WITH ALL APPLICABLE BUILDING CODES AND LOCAL ORDINANCES, INSTALLED IN A NEAT MANNER, AND SHALL BE SUBJECT TO APPROVAL BY CLIENT REPRESENTATIVE.

8. CONDUCT A PRE-CONSTRUCTION SITE VISIT AND VERIFY EXISTING SITE CONDITIONS AFFECTING THIS WORK. REPORT ANY OMISSIONS OR DISCREPANCIES FOR CLARIFICATION PRIOR TO THE START OF CONSTRUCTION.

9. PROTECT ADJACENT STRUCTURES AND FINISHES FROM DAMAGE. REPAIR TO ORIGINAL CONDITION ANY DAMAGED AREA.

10. REMOVE DEBRIS ON A DAILY BASIS. DEBRIS NOT REMOVED IN A TIMELY FASHION WILL BE REMOVED BY OTHERS AND THE RESPONSIBLE SUBCONTRACTOR SHALL BE CHARGED ACCORDINGLY. REMOVAL OF DEBRIS SHALL BE COORDINATED WITH THE CLIENT'S REPRESENTATIVE. DEBRIS SHALL BE REMOVED FROM THE PROPERTY AND DISPOSED OF LEGALLY. USE OF THE PROPERTY'S DUMPSTER IS PROHIBITED.

11. UPON COMPLETION OF WORK, THE SHELTER SHALL BE CLEAN AND FREE OF DUST AND FINGERPRINTS.

12. ALL CONSTRUCTION SHALL BE INSPECTED AND APPROVED BY LOCAL AUTHORITIES.

13. WIRING DEVICES AND EQUIPMENT SHALL BE UL LISTED AND SPECIFICATION GRADE.

14. FUSES IN SERVICE SWITCHES SHALL BE CLASS "J" CURRENT LIMITING TYPE, 200,000 A.I.C. DISCONNECT SWITCHES TO HAVE REJECTION CLIPS.

15. MATERIALS SHALL BE NEW AND CONFORM TO THE APPLICABLE STANDARDS ESTABLISHED FOR EACH ITEM BY THE ORGANIZATIONS LISTED BELOW:

- AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)
- UNDERWRITER'S LABORATORY (UL)
- NATIONAL ELECTRICAL MANUFACTURING ASSOCIATION (NEMA)
- AMERICAN STANDARDS ASSOCIATION (ASA)
- NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)

16. INSTALLATION OF MATERIALS SHALL COMPLY WITH REGULATIONS OF:

- THE NATIONAL ELECTRICAL CODE (NFPA 70)
- THE NATIONAL ELECTRICAL SAFETY CODE (ANSI C-2)
- THE LIFE SAFETY CODE (NFPA 101)
- LIQUEFIED PETROLEUM GAS (NFPA58)
- LOCAL CODES

17. ALL CONDUITS SHALL BE SUPPORTED AS PER 2008 N.E.C (NFPA70).

GROUNDING NOTES:

1. PROVIDE GROUNDING AND BONDING IN ACCORDANCE WITH VERIZON WIRELESS NETWORK STANDARD NSTD46 "CELL SITE AND MICROWAVE RADIO STATION PROTECTION", LATEST EDITION UNLESS DIRECTED OTHERWISE BY DRAWINGS, NATIONAL ELECTRICAL CODE, MOTOROLA R56 STANDARDS AND GUIDELINES FOR COMMUNICATION SITES 68P81089E50-A, OR AUTHORITIES HAVING JURISDICTION. THE ABOVE REFERENCED SPECIFICATIONS ARE AN INTEGRAL PART OF THE DESIGN DOCUMENTS AND MUST BE STRICTLY ADHERED TO. WHERE CONFLICTS BETWEEN THIS SPECIFICATION, CODES, AND AUTHORITIES HAVING JURISDICTION ARISE, THE MOST STRINGENT SHALL GOVERN. BUSS CONNECTORS SHALL BE 2-HOLE LONG BARREL TYPE COMPRESSION LUGS.

2. LUGS SHALL BE ATTACHED TO BUSES USING BOLTS, NUTS AND STAR AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.

3. SURFACE CONNECTIONS SHALL BE MADE TO BARE METAL. PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. APPLY NON-OXIDIZING AGENT TO CONNECTIONS.

4. COPPER BUSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.

5. GROUND CONDUCTOR RUNS SHALL BE STRAIGHT AS POSSIBLE, WITH A 6" MINIMUM RADIUS FOR CONDUCTORS UP TO #6, A 12" MINIMUM RADIUS FOR CONDUCTORS FROM #6 UP TO #4/0, A 24" MINIMUM RADIUS FOR #4/0 CONDUCTORS AND UP.

6. HARDWARE (I.E., NUTS BOLTS, WASHERS, ETC.) IS TO BE STAINLESS STEEL.

7. GROUND COAXIAL CABLES AT POINTS SHOWN ON GROUNDING RISER DIAGRAM WITH MANUFACTURER'S GROUNDING KITS.

8. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE (CADWELD) TO GROUND RING AND GROUND RODS. REMAINING GROUNDING CONNECTIONS SHALL BE MECHANICAL CONNECTIONS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.

9. GROUND RING COMPRISED OF #2 SOLID BARE TINNED COPPER CONDUCTOR SHALL HAVE A MINIMUM DISTANCE OF 36" FROM THE STRUCTURE AND BE BURIED A MINIMUM OF 30" BELOW GRADE OR 6" BELOW FROST LINE, WHICHEVER IS DEEPER.

10. CADWELD GROUND RODS TO GROUND RING. RODS TO BE MINIMUM 5/8" x 8'-0" GALVANIZED STEEL. THE TOP OF GROUND ROD SHALL EXTEND NO MORE THAN 6 INCHES ABOVE THE BOTTOM OF THE TRENCH.

11. INTERCONNECT SHELTER GROUND RING AND TOWER GROUND RING WITH EXOTHERMIC WELD.

12. INSTALL GROUNDING KIT. BOND COAXIAL CABLE OUTER CONDUCTOR TO GROUNDING CONDUCTOR.

13. INSTALL GROUND RODS ON EXTERNAL GROUND RING AT 10' MIN. INTERVALS, 15' MAX. BOND EXTERNAL GROUND RING TO FENCE POSTS AT 20' INTERVALS, MAXIMUM.

14. ALL ELECTRICAL GROUNDING SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC) AND THE LATEST EDITION OF NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780, APPROVED BY LOCAL AUTHORITY.

15. ALL GROUNDING CONNECTIONS SHALL BE COATED WITH AN ANTI-CORROSIVE AGENT SUCH AS "T&B KOPR SHIELD", "NO-OXY", "NOALOX" OR "PENETROX". VERIFY PRODUCT WITH CONSTRUCTION ENGINEER.

16. GROUND WIRES SHALL BE #2 SOLID BARE TINNED COPPER FROM CONDUCTOR FOR BONDING CONNECTIONS UNLESS OTHERWISE NOTED ON PLANS.

17. DOCUMENT GROUND RING INSTALLATION AND CONNECTIONS WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PRESENT PHOTO ARCHIVE AT SITE "PUNCH LIST" WALK TO CLIENT REPRESENTATIVE.

18. THE ENTIRE SYSTEM SHALL BE SOLIDLY GROUNDED USING LOCKNUTS AND BONDING NUTS ON CONDUITS AND PROPERLY BONDED GROUND CONDUCTORS. RECEPTACLES AND EQUIPMENT BRANCH CIRCUITS SHALL BE GROUNDED WITH A FULL-SIZED EQUIPMENT GROUNDING CONDUCTOR RUN IN THE CIRCUIT'S CONDUIT.

19. GROUNDING SYSTEM SHALL BE INSPECTED DURING CONSTRUCTION AND BEFORE BACKFILLING. REFER TO VERIZON WIRELESS STANDARD NSTD46 FOR ADDITIONAL REQUIREMENTS.

20. MAKE BONDING CONNECTIONS TO ELEMENTS UNDER TENSION (SUCH AS DOWN GUYS) USING COMPRESSION FITTINGS.

21. PERMANENT CONNECTIONS SHALL BE EITHER EXOTHERMIC WELDS OR IRREVERSIBLE COMPRESSION CONNECTIONS. GROUND CONNECTIONS THAT WILL BE REMOVED DURING TESTING SHALL BE MECHANICAL TYPE FITTINGS.

22. WHEN THE METALLIC FENCING RAILS SPAN FROM POST TO POST CREATING A CONDUCTIVE PATH, CONNECTION POINTS ALONG FENCE SHALL NOT EXCEED 20'. IF RAILS ARE NOT PRESENT, EACH FENCE POST MUST BE BONDED TO GROUND RING.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

REV: DATE: DESCRIPTION: BY:

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JPH	CAR
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KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 0000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

NOTES &
SPECIFICATIONS

SHEET NUMBER:

SP-2

CHAIN LINK FENCES AND GATES

1. GENERAL:

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

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

A. REFER TO DRAWINGS FOR FABRIC HEIGHT AND OVER WITH 2-INCH MESH SHALL BE KNUCKLED AT ONE SELVAGE AND TWISTED AT THE OTHER; ALL MESHES 60 INCHES HIGH AND UNDER SHALL BE KNUCKLED AT BOTH SELVAGES.

B. STEEL FABRIC:

COMPLY WITH CHAIN LINK FENCE MANUFACTURER’S 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 A392, 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.

2. STRENGTH REQUIREMENTS FOR POSTS AND RAILS CONFORMING TO ASTM F1043.

3. TYPE 1 PIPE: HOT-DIPPED GALVANIZED STEEL PIPE CONFORMING TO ASTM F1083, PLAN 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 F626. MILL FINISHED ALUMINUM OR GALVANIZED 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: 1–1/4 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 F900. PROVIDE HARDWARE AND ACCESSORIES FOR EACH GATE, GALVANIZED PER ASTM A153, AND IN ACCORDANCE WITH THE FOLLOWING:

1. HINGES: NON–LIFT–OFF TYPE, OFFSET TO PERMIT 180 DEG. GATE OPENING.
2. LATCH: FORKED TYPE OR PLUNGER–BAR TYPE TO PERMIT OPERATION FROM EITHER SIDE OF GATE, WITH PADLOCK EYE AS INTEGRAL PART OF LATCH.
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 2" O.D. x 12" LONG PIPE GATE KEEPER, EMBEDDED IN CONCRETE, AND DESIGNED TO ENGAGE CENTER DROP ROD OR PLUNGER BAR. INCLUDE LOCKING DEVICE AND PADLOCK EYES AS INTEGRAL PART OF LATCH, PERMITTING BOTH GATE LEAVES TO BE LOCKED WITH SINGLE PADLOCK.

E. CONCRETE:

PROVIDE CONCRETE CONSISTING OF PORTLAND CEMENT, ASTM C150, AGGREGATES ASTM C33, AND CLEAN WATER.

FAA NOTES:

1. THE FLASHING STROBE LIGHTS, MARKER LIGHTS, FAA LIGHTING CONTROL PANEL AND MOUNTING DETAIL, ALL REQUIRED WIRING (INCLUDING CONDUITS AND WIRES AS SHOWN ON THE DRAWINGS) AND PHOTOCELL UNIT SHALL BE SUPPLIED BY THE TOWER MANUFACTURER.

2. THE STROBE LIGHTS, MARKER LIGHTS, PHOTOCELL UNIT AND FAA LIGHTING CONTROL PANEL AND ALL NECESSARY ACCESSORIES FOR MOUNTING AND WIRING SHALL BE INSTALLED AS SHOWN ON DRAWINGS AND IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS. INSTALLATION BY CONTRACTOR.

3. THE PHOTO SENSOR MUST BE MOUNTED OUTSIDE FACING THE UNOBSTRUCTED NORTHERN SKY AND AWAY FROM ALL ARTIFICIAL LIGHTS.

4. RELAY CONTACTS FOR THE ALARM ACTUATED BY:

- A. POWER FAILURE.
- B. OBSTRUCTION MARKER LIGHT FAILURE

5. RELAY CONTACTS FOR MARKER ACTUATED BY:

- A. POWER FAILURE
- B. MISSED ALARM FLASHES FOR RED AND WHITE
- C. INCORRECT INTENSITY
- D. PHOTOELECTRIC CELL FAILURE
- E. MODE STATUS CHANGE

6. THE FAA LIGHTING CONTROL PANEL SHALL BE INSTALLED AT THE BASE OF THE TOWER OR AT A CONVENIENT LOCATION IN ACCORDANCE WITH THE TOWER SUPPLIER DESIGN AND IN ACCORDANCE WITH THE NFPA 37 & 58 REQUIREMENTS. CONTROL PANELS SHALL BE LOCATED AT A DISTANCE OF 15’ (MIN.) AWAY FROM ANY FUEL TANK.

7. ALL WIRING FROM THE FAA LIGHTING CONTROL PANEL TO THE STROBE LIGHTS, MARKER LIGHTS, AND PHOTOCELL UNIT SHALL BE PERFORMED IN ACCORDANCE WITH MANUFACTURER INSTALLATION STANDARDS. INSTALLATION BY CONTRACTOR.

8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH FAA, FCC REGULATIONS, NEC AND CODES THAT ARE ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

9. CONTRACTOR SHALL REFER TO NSTD46 SECTION 11.9 IN THE CLIENT GROUNDING SPECIFICATIONS FOR FURTHER INFORMATION.

10. CONTRACTOR SHALL REFER TO LIGHTING MANUFACTURERS SPECIFICATIONS FOR FURTHER INFORMATION.

11. CONTRACTOR SHALL SUPPORT AND SECURE S.O. CORD TO TOWER AT LEAST EVERY 100’ OR PER THE LIGHTING MANUFACTURERS SPECIFICATIONS.



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655 NORTH FRANKLIN STREET, SUITE 150
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WWW.KIMLEY–HORN.COM

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KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

<div>NATHANIEL ROBERT LINDEN, PE FL PROFESSIONAL ENGINEER LIC. # 72985 FL CERTIFICATE OF AUTHORIZATION # 00000696</div>

PROJECT INFORMATION:

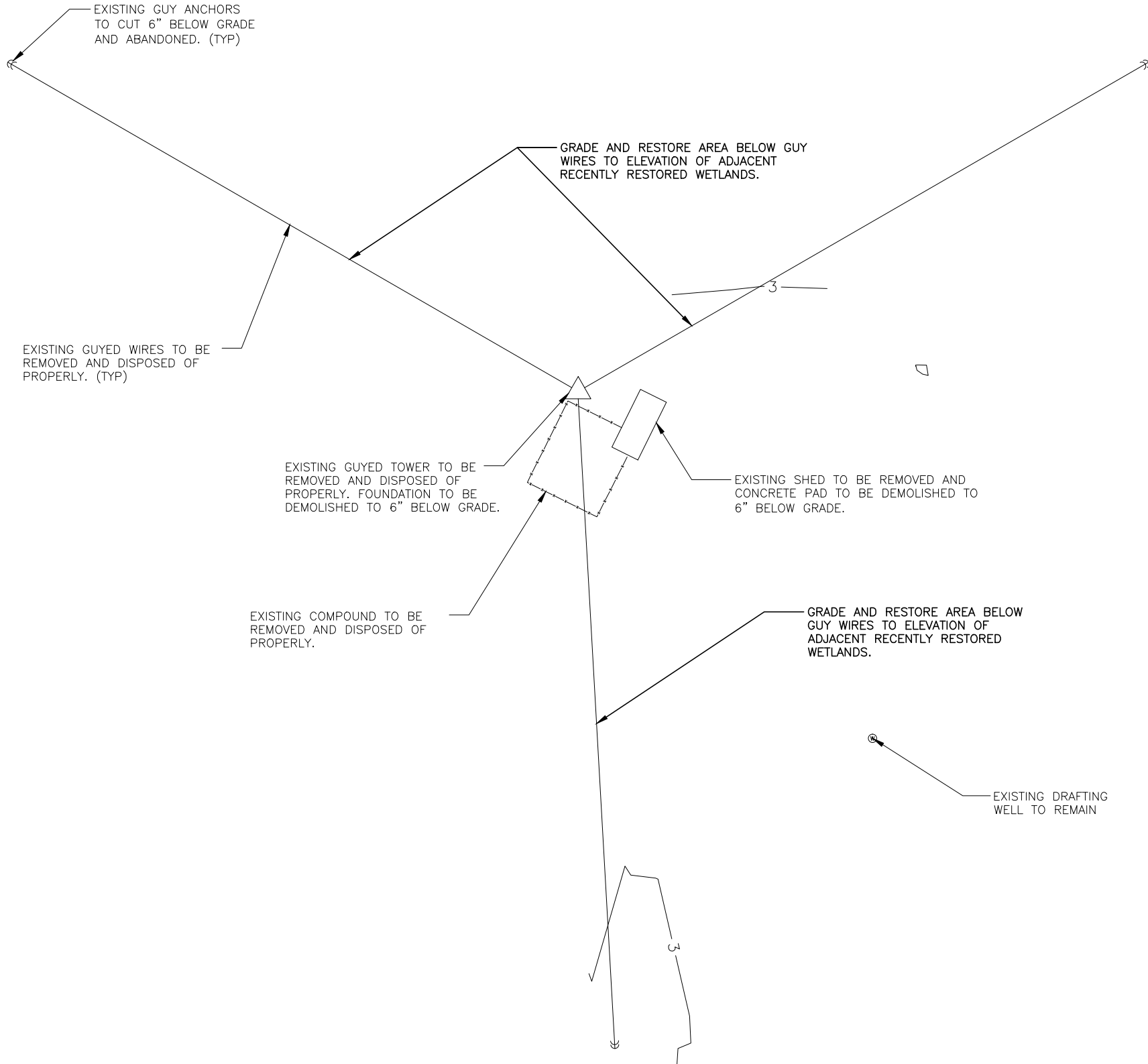
US DEPARTMENT OF THE INTERIOR SITE #68271 40001 SR-93363 HOMESTEAD, FL 33034 MIAMI-DADE COUNTY

SHEET TITLE:

ELECTRICAL SPECIFICATIONS

SHEET NUMBER:

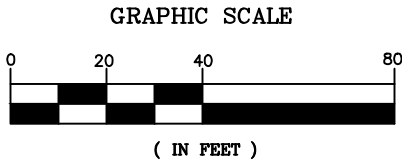
SP-3



- NOTES:**
1. FILL MATERIAL WILL BE TRANSPORTED TO THE EXISTING HID SOIL MOUND FOR DISPOSAL.
 2. REFER TO SHEET D-2 FOR SOIL MOUND LOCATION.

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

1
D-1
DEMOLITION PLAN
SCALE: 1"=40'
SCALE BASED ON 11"x17" ONLY



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40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

DEMOLITION
PLAN

SHEET NUMBER:

D-1



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40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

SOIL MOUND
LOCATION PLAN

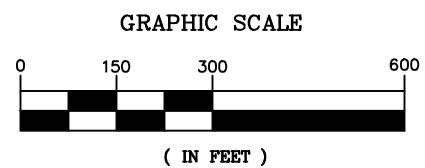
SHEET NUMBER:

D-2



THE CONTRACTOR MUST FIELD VERIFY
ALL MEASUREMENTS AND FIELD
CONDITIONS PRIOR TO THE
COMMENCEMENT OF CONSTRUCTION.

SOIL MOUND LOCATION PLAN
SCALE: 1" = 300'
SCALE BASED ON 11"x17" ONLY



THE CONTRACTOR MUST FIELD VERIFY
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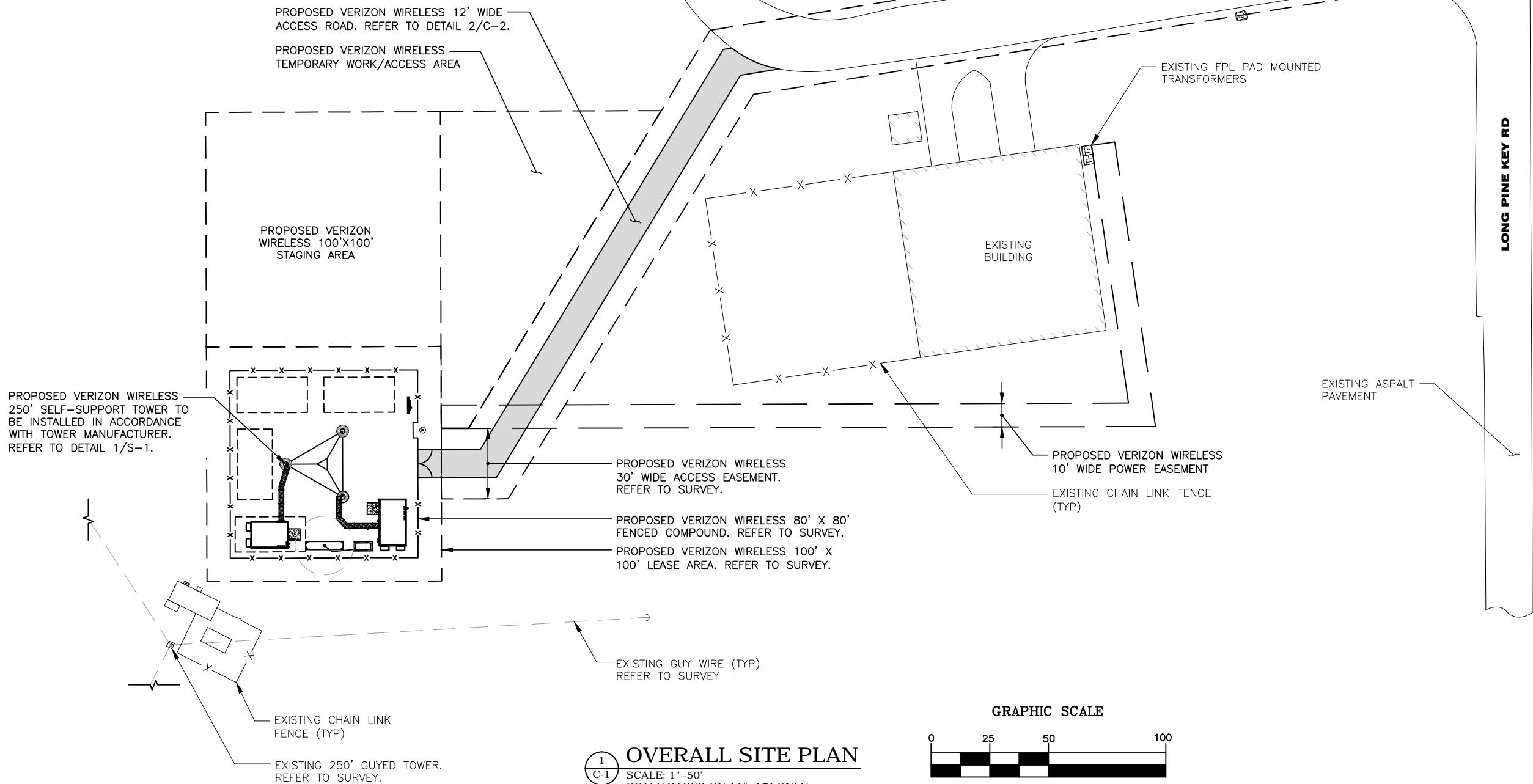
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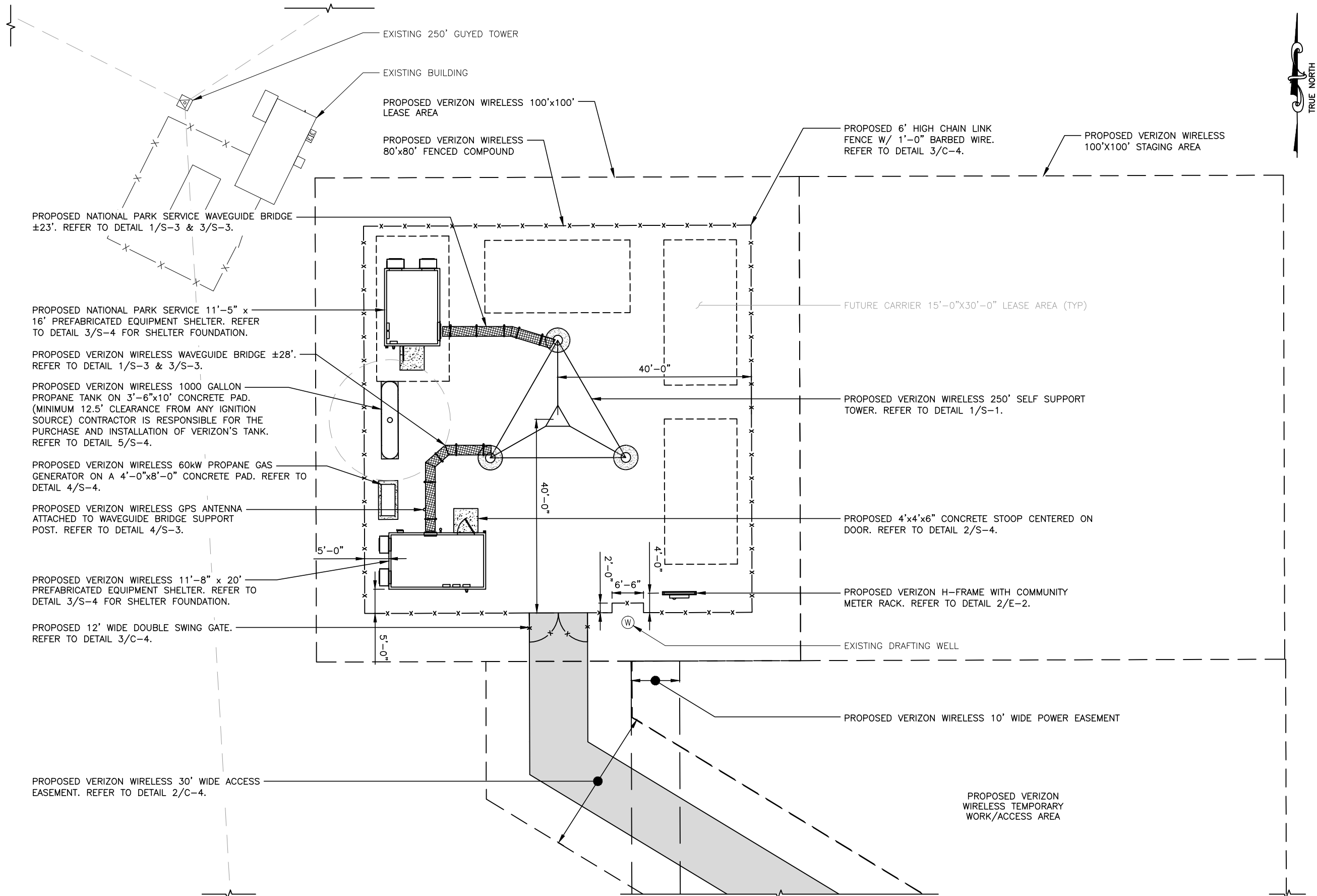
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OVERALL
SITE PLAN

SHEET NUMBER:

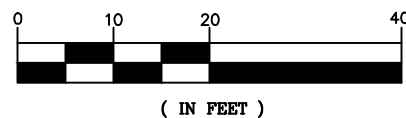
C-1





THE CONTRACTOR MUST FIELD VERIFY
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1
C-2
ENLARGED SITE PLAN
SCALE: 1"=20'
SCALE BASED ON 11"x17" ONLY



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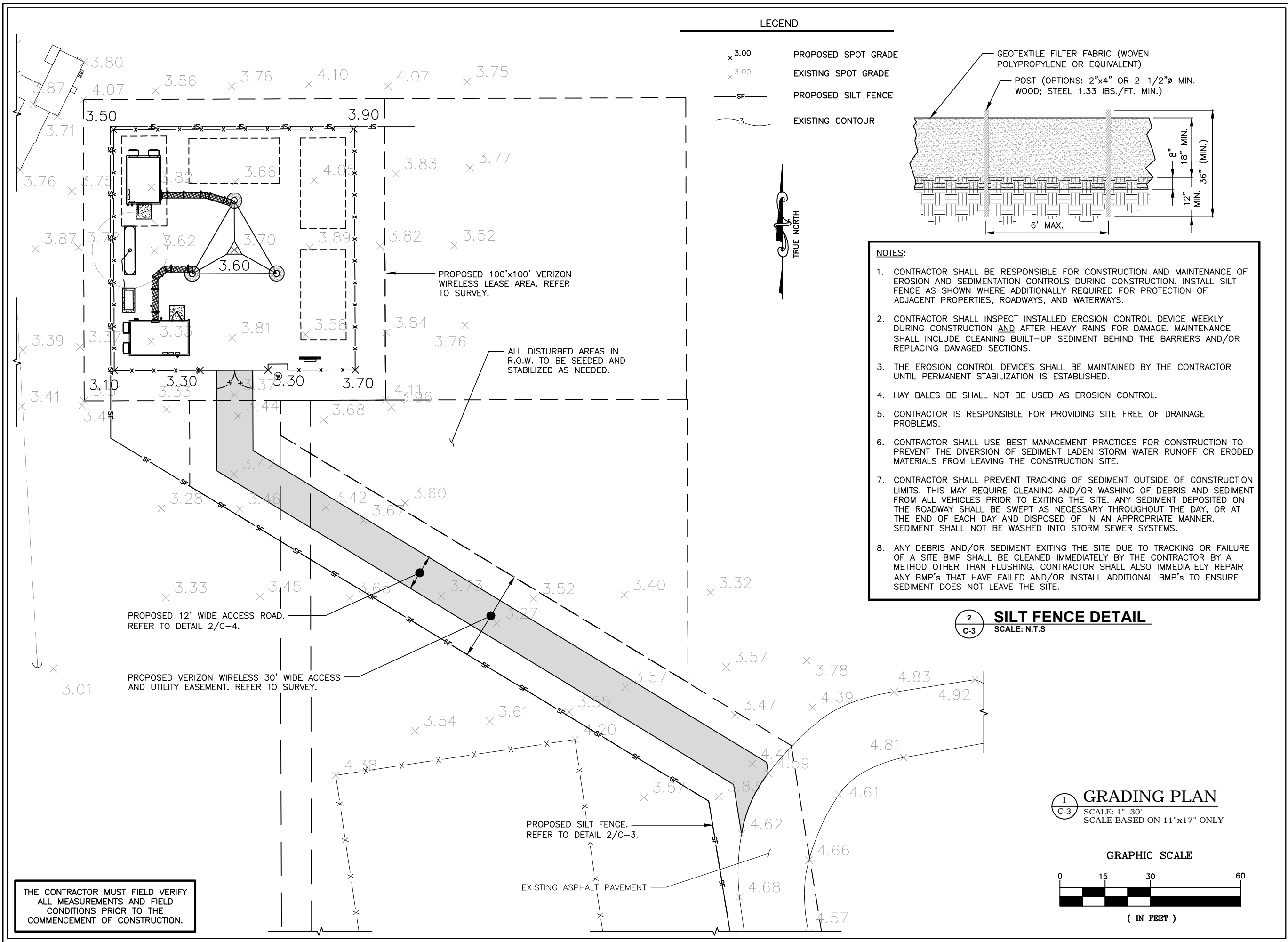
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MIAMI-DADE COUNTY


SHEET TITLE:

**ENLARGED
SITE PLAN**

SHEET NUMBER:


C-2





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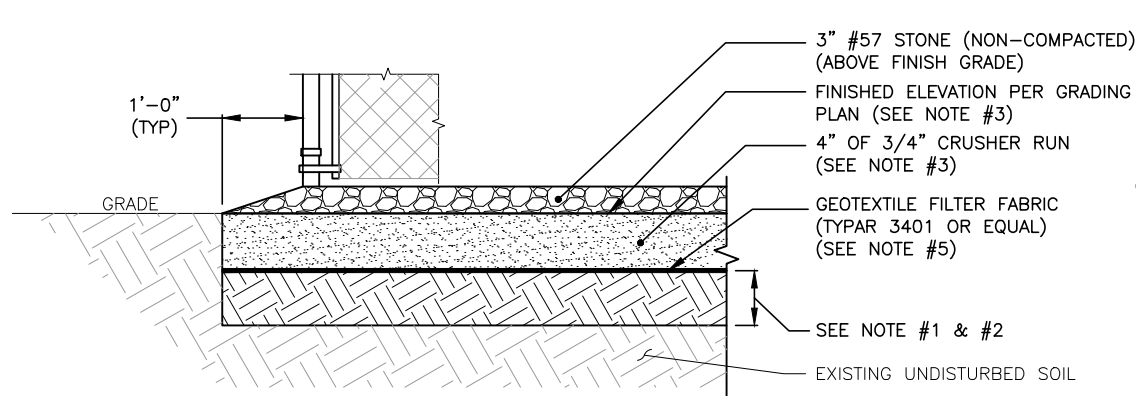
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MIAMI-DADE COUNTY

SHEET TITLE:

GRADING PLAN

SHEET NUMBER:

C-3

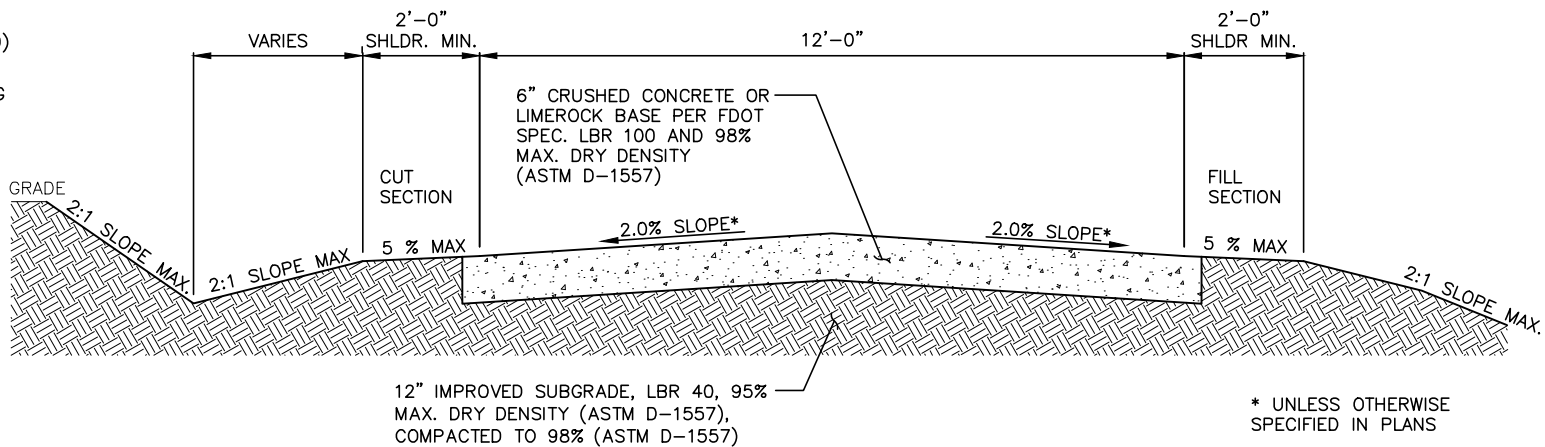


NOTES:

- EXCAVATE TOP 4" OF SOIL. CLEAR & GRUB 6" BELOW EXCAVATED 4". PROOF ROLL TO DETERMINE SUITABILITY & REPLACE AS REQUIRED W/ STRUCTURAL FILL. COMPACT TO 95% OF MAXIMUM DENSITY, AS DETERMINED PER ASTM D1557, TO A MINIMUM DEPTH OF 6".
- DEPTH OF FILL TO BE ADJUSTED AS REQUIRED TO MEET FINAL ELEVATION SHOWN ON GRADING PLAN. STRUCTURAL FILL SHALL BE GRANULAR FREE-DRAINING MATERIAL FREE OF DEBRIS, ORGANICS, REFUSE AND OTHERWISE DELETERIOUS MATERIALS. MATERIAL SHALL BE PLACED IN LIFTS NO GREATER THAN 12" IN DEPTH AND COMPACTED TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557.
- INSTALL 4" OF 3/4" CRUSHER RUN. COMPACT TO 95% OF MAXIMUM DENSITY AS DETERMINED PER ASTM D1557. TOP OF CRUSHER RUN CONSIDERED FINISH GRADE AND IS TO BE SLOPED PER GRADING PLAN
- PRIOR APPROVAL FROM REGIONAL INTEGRATED PEST MANAGEMENT COORDINATOR IS REQUIRED FOR THE APPLICATION OF PESTICIDES IN THE EVERGLADES NATIONAL PARK. A PESTICIDE USE PROPOSAL MUST BE SUBMITTED TO THE COORDINATOR FOR REVIEW AND APPROVAL.
- LAY GEOTEXTILE FABRIC OVER COMPACTED SOIL AND LAP ALL JOINTS A MINIMUM OF 12 INCHES.
- SITE WILL BE GRADED TO ALLOW DRAINAGE AWAY FROM TOWER AND SHELTER.
- AFTER PROJECT COMPLETION ALL DISTURBED AREAS OUTSIDE OF COMPOUND MUST BE SEEDED WITH LOW MAINTENANCE GRASS. THE LOW MAINTENANCE GRASS SPECIES SHOULD BE REVIEWED AND APPROVED BY THE LANDOWNER, NATIONAL PARK SERVICE.

1 TYPICAL COMPOUND DETAIL

SCALE: N.T.S.

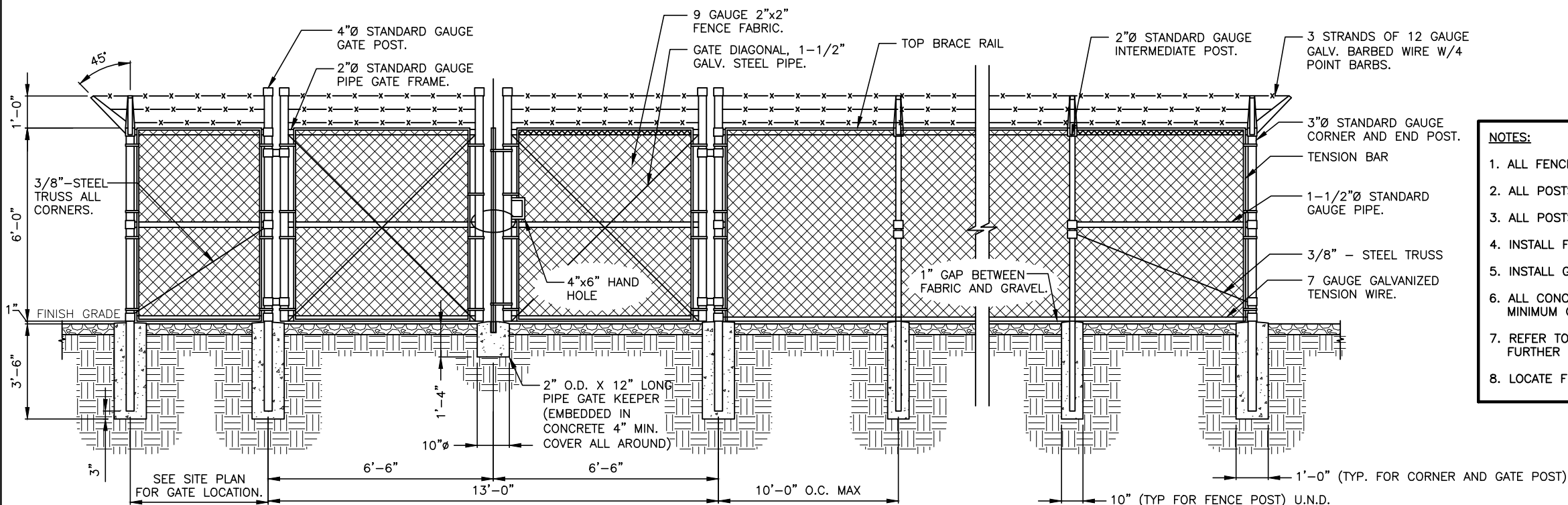


NOTES:

- STONE SHALL BE COMPACTED 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-1557.
- PRIOR APPROVAL FROM REGIONAL INTEGRATED PEST MANAGEMENT COORDINATOR IS REQUIRED FOR THE APPLICATION OF PESTICIDES IN THE EVERGLADES NATIONAL PARK. A PESTICIDE USE PROPOSAL MUST BE SUBMITTED TO THE COORDINATOR FOR REVIEW AND APPROVAL.
- A MINIMUM TURNING RADIUS OF THE ACCESS ROAD SHALL BE 55 DEGREES FOR THE SHELTER DELIVERY.
- THE MAXIMUM LONGITUDINAL SLOPE OF THE ACCESS ROAD SHALL NOT EXCEED 10%.
- CONTRACTOR, AT MINIMUM, MUST REMOVE OR TRIM ALL TREES THAT ARE WITHIN 3' OF THE ACCESS ROAD ON BOTH SIDES.

2 ACCESS ROAD SECTION DETAIL

SCALE: N.T.S.



NOTES:

- ALL FENCING MATERIAL MUST BE GALVANIZED.
- ALL POSTS MUST HAVE STEEL CAPS.
- ALL POSTS AND BRACING MUST BE SCH. 40
- INSTALL FENCING PER ASTM F-567
- INSTALL GATES PER ASTM F-900
- ALL CONCRETE FOUNDATIONS TO HAVE A MINIMUM OF 4000 PSI.
- REFER TO FENCE SPECIFICATIONS FOR FURTHER INFORMATION.
- LOCATE FENCE AS SHOWN ON SITE PLAN.

3 CHAIN LINK FENCE DETAIL

SCALE: N.T.S.



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3	04/28/11	REVISED PER COMMENTS	JL
2	03/15/11	REVISED PER COMMENTS	JL
1	11/10/10	REVISED PER COMMENTS	JL
0	11/05/10	ISSUED FOR REVIEW	JL

DRAWN BY: CHECKED BY:

JPH CAR

KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 0000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

ROAD, FENCE, AND
COMPOUND DETAILS

SHEET NUMBER:

C-4

PROPOSED LIGHTNING ROD TO BE PROVIDED BY VERIZON WIRELESS AND INSTALLED BY CONTRACTOR PER TOWER MANUFACTURER'S SPECS. THE OVERALL STRUCTURE HEIGHT NEEDS TO BE KEPT BELOW 275' AGL.

PROPOSED BEACON LIGHT (PROVIDED BY TOWER MANUFACTURER)

PROPOSED SIDE MARKER LIGHTS & MOUNTING PLATE PER FAA REQUIREMENTS (PROVIDED BY VERIZON AND INSTALLED BY CONTRACTOR)

PROPOSED VERIZON WIRELESS 250'-0" SELF SUPPORT TOWER (DESIGNED BY OTHERS).

PROPOSED VERIZON WIRELESS WAVEGUIDE BRIDGE (BEYOND). REFER TO DETAILS 1/S-3 AND 3/S-3.

PROPOSED VERIZON WIRELESS 11'-8" x 20' PRE-FABRICATED EQUIPMENT SHELTER.

PROPOSED CHAINLINK FENCE. REFER TO DETAIL 3/C-4.

OVERALL STRUCTURE HEIGHT @ 274'-0" AGL

TOP OF PROPOSED TOWER @ 250'-0" AGL

PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 250'-0" A.G.L.

PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 240'-0" A.G.L.

6 OF PROPOSED VERIZON WIRELESS ANTENNAS @ 230'-0" A.G.L.

6 OF FUTURE CARRIER ANTENNAS @ 215'-0" A.G.L.

6 OF FUTURE CARRIER MICROWAVE DISH @ 207'-6" A.G.L.

6 OF FUTURE CARRIER ANTENNAS @ 200'-0" A.G.L.

6 OF FUTURE CARRIER MICROWAVE DISH @ 192'-6" A.G.L.

6 OF PROPOSED VERIZON WIRELESS MICROWAVE DISH @ 175'-0" A.G.L.

PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 170'-0" A.G.L.

6 OF FUTURE CARRIER ANTENNAS @ 155'-0" A.G.L.

6 OF FUTURE CARRIER MICROWAVE DISH @ 147'-6" A.G.L.

CENTER OF PROPOSED SIDE MARKERS @ 140'-0" AGL

6 OF PROPOSED VERIZON WIRELESS MICROWAVE DISH @ 130'-0" A.G.L.

PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 100'-0" A.G.L.

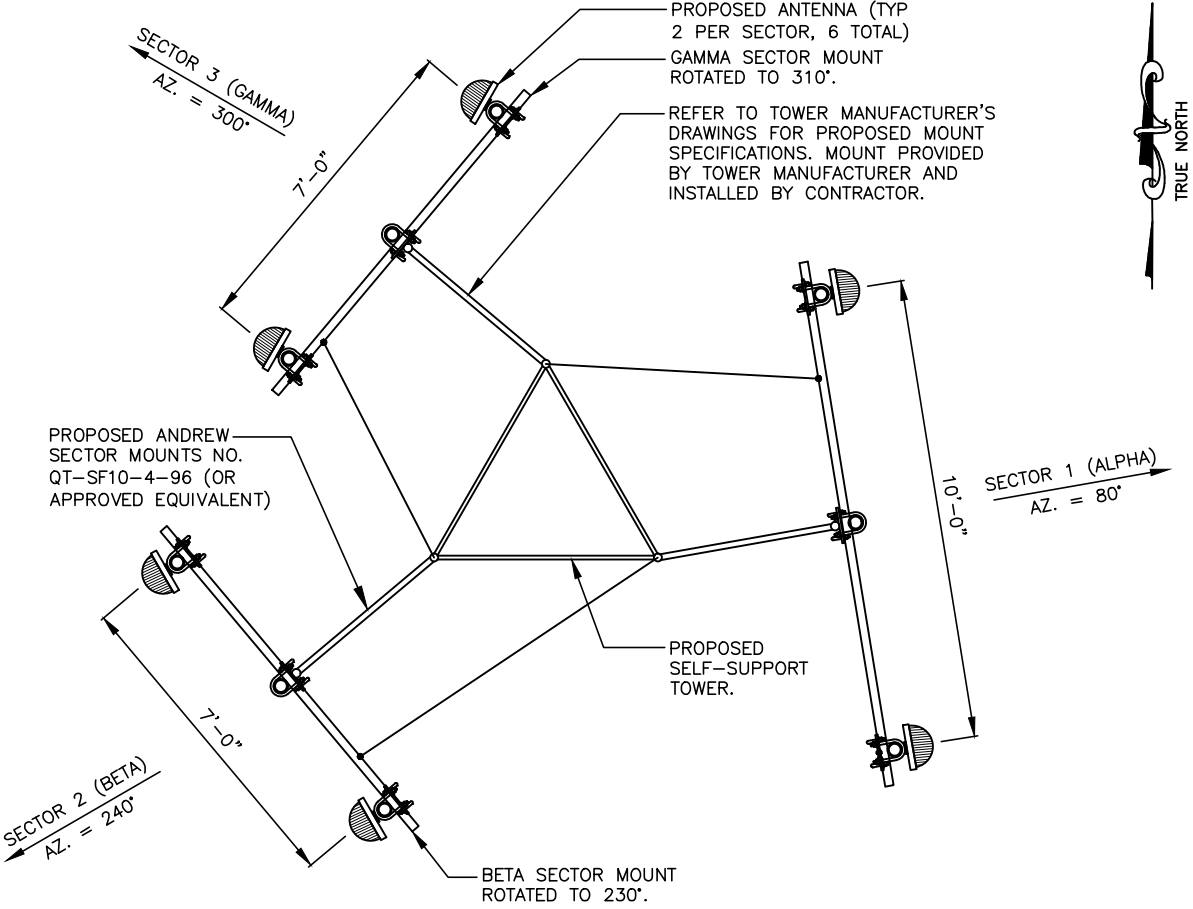
PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 80'-0" A.G.L.

PROPOSED NATIONAL PARK SERVICE ANTENNAS @ 60'-0" A.G.L.

PROPOSED TOWER FOUNDATION. REFER TO FOUNDATION DRAWINGS PROVIDED BY TOWER MANUFACTURER.

TOWER ELEVATION

SCALE: N.T.S.

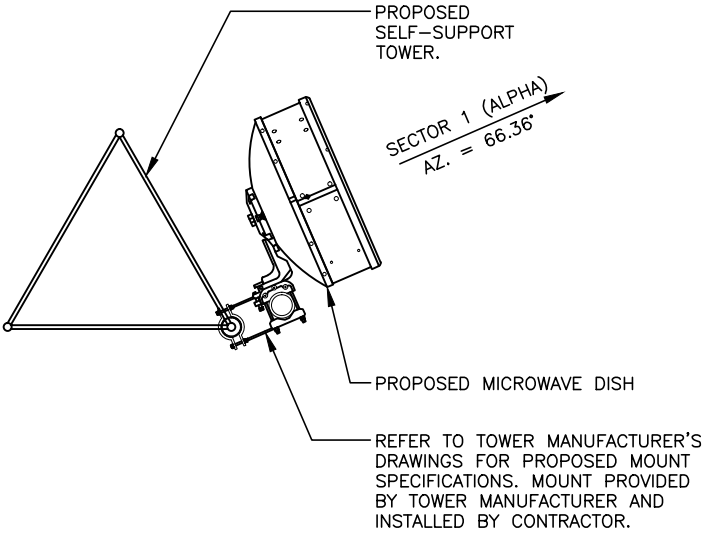


NOTES:

1. REFER TO SHEET S-2 FOR ANTENNA SCHEDULE
2. ADJUST ANTENNA MOUNTS AS REQUIRED TO ACHIEVE THE AZIMUTHS SPECIFIED AND LIMIT RF SHADOWING.

ANTENNA CONFIGURATION DETAIL

SCALE: N.T.S.



MW DISH CONFIGURATION DETAIL

SCALE: N.T.S.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

TOWER ELEVATION
AND DETAILS

SHEET NUMBER:

S-1

Proposed Config PROPOSED CONFIGURATION				148369
RF ENGINEERING ANTENNA SPECIFICATION SHEET				
CELLULAR 800 MHz ANTENNA CONFIGURATIONS				
No CDMA Service		ALPHA	BETA	GAMMA
Antenna Quantity				
Antenna Model				
Antenna Orientation				
Antenna Centerline (feet AGL)				
Mechanical Down-Tilt (Deg.)				
Diplexed Antenna				
Diplexer Model	Qty:			
TMA Model	Qty:			
Coaxial Type				
Coaxial Quantity				
Cell Site Number & PNs				
PCS 1900MHz ANTENNA CONFIGURATIONS				
No PCS Service		ALPHA	BETA	GAMMA
Antenna Quantity		1	1	1
Antenna Model		CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0
Antenna Orientation		80	240	300
Antenna Centerline (feet AGL)		230	230	230
Electrical Down-Tilt (Deg.)		2	2	2
Diplexed Antenna				
Diplexer Model	Qty:			
TMA Model	Qty:			
Coaxial Type		1 5/8 "	1 5/8 "	1 5/8 "
Coaxial Quantity		2	2	2
PCS Site Number & PNs				
LTE 700MHz ANTENNA CONFIGURATIONS				
Other - Describe in Comment Section		ALPHA	BETA	GAMMA
Antenna Quantity		1	1	1
Antenna Model		CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0
Antenna Orientation		80	240	300
Antenna Centerline (feet AGL)		230	230	230
Electrical Down-Tilt (Deg.)		4	4	4
Diplexed Antenna				
Diplexer Model	Qty:			
TMA Model	Qty:			
Coaxial Type		1 5/8 "	1 5/8 "	1 5/8 "
Coaxial Quantity		4	4	4
DUL Quantity	Qty:			
LTE Site Number & PNs				
LTE 2100MHz (AWS) ANTENNA CONFIGURATIONS				
Other - Describe in Comment Section		ALPHA	BETA	GAMMA
Antenna Quantity				
Antenna Model				
Antenna Orientation				
Antenna Centerline (feet AGL)				
Electrical Down-Tilt (Deg.)				
Diplexed Antenna				
Diplexer Model	Qty:			
TMA Model	Qty:			
Coaxial Type				
Coaxial Quantity				
DUL Quantity	Qty:			
AWS Site Number & PNs				
TECH TYPE: LTE 700/CDMA 1900				
ANTENNA: Add 6 X7CQAP Model Antennas				
COAX: 18				
DIPLEXER:				
COMMENTS:				
EQUIPMENT SUMMARY				
Total Number of Antennas:	0	CELLULAR (850MHz)	Total Number of Coaxial:	0
Total Number of Antennas:	3	PCS (1900MHz)	Total Number of Coaxial:	6
Total Number of Antennas:	3	LTE (700MHz)	Total Number of Coaxial:	12
Total Number of Antennas:	3	AWS (2100MHz)	Total Number of Coaxial:	0
TOTAL ANTENNA COUNT:	6	TOTAL	TOTAL COAXIAL COUNT:	18
Cellular Diplexed:	0	CELLULAR (850MHz)	Cellular Coaxial Size:	0
PCS Diplexed:	0	PCS (1900MHz)	PCS Coaxial Size:	1 5/8 "
LTE Diplexed:	0	LTE (700MHz)	LTE Coaxial Size:	1 5/8 "
AWS Diplexed:	0	AWS (2100MHz)	AWS Coaxial Size:	0
TOTAL DIPLEXER COUNT:	0	COMBINER SET NEEDED AT BTS:		N/A

1
S-2

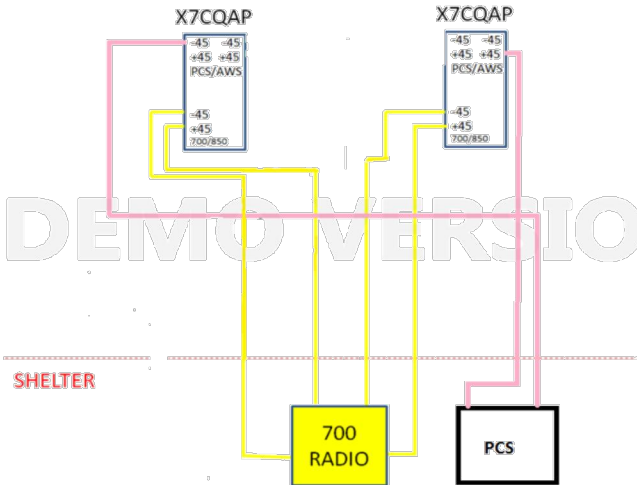
PROPOSED VZW RFDS
SCALE: N.T.S.

ITEM DESCRIPTION	ALPHA SECTOR		BETA SECTOR		GAMMA SECTOR	
ANTENNA NUMBER	A-1	A-2	B-1	B-2	C-1	C-2
ANTENNA MODEL	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0	CSS X7CQAP-665-VR0
ANTENNA CENTERLINE	230'	230'	230'	230'	230'	230'
MAIN COAX SIZE (QTY.)	1 5/8"Ø (2)	1 5/8"Ø (4)	1 5/8"Ø (2)	1 5/8"Ø (4)	1 5/8"Ø (2)	1 5/8"Ø (4)
MECHANICAL DOWN-TILT	2'	4'	2'	4'	2'	4'

3
S-2

PROPOSED VZW ANTENNA SCHEDULE
SCALE: N.T.S.

ANTENNA LAYOUT	148369
	68271



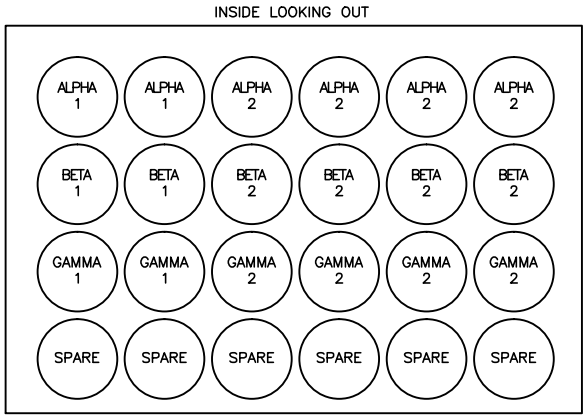
2
S-2

ANTENNA PLUMBING DIAGRAM
SCALE: N.T.S.

NPS – EVERGLADES NATIONAL PARK ANTENNA SCHEDULE						
QUANTITY	1	1	1	1	1	1
ANTENNA MODEL	DB264-A	DB264-A	DB264-A	DB264-A	DB264-A	DB264-A
ANTENNA HEIGHT	60'	80'	100'	170'	240'	250'
MAIN COAX SIZE (QTY.)	7/8"Ø	7/8"Ø	7/8"Ø	7/8"Ø	7/8"Ø	7/8"Ø

4
S-2

PROPOSED NPS ANTENNA SCHEDULE
SCALE: N.T.S.



5
S-2

COAX CABLE ENTRY PORT DETAIL
SCALE: N.T.S.



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BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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DRAWN BY: CHECKED BY:

JPH	CAR
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KHA PROJECT NUMBER:

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ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

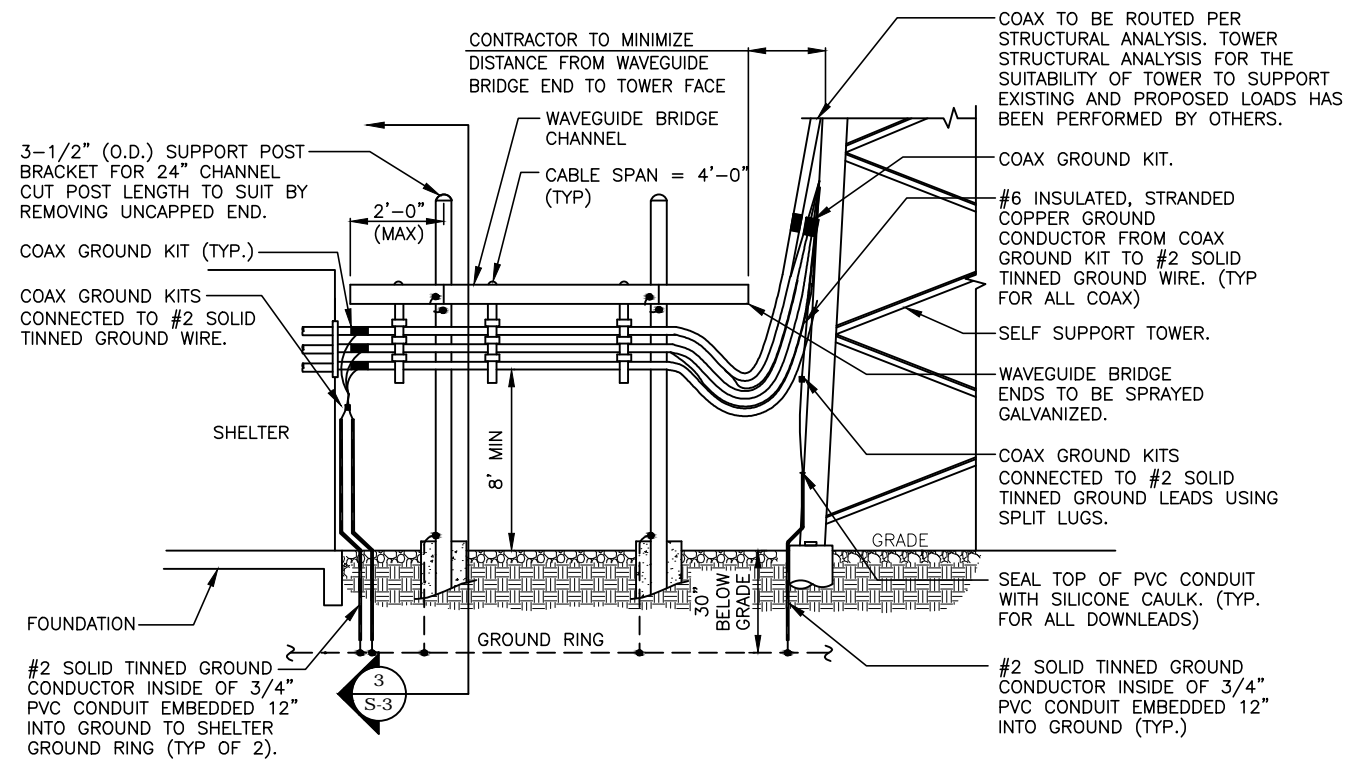
40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

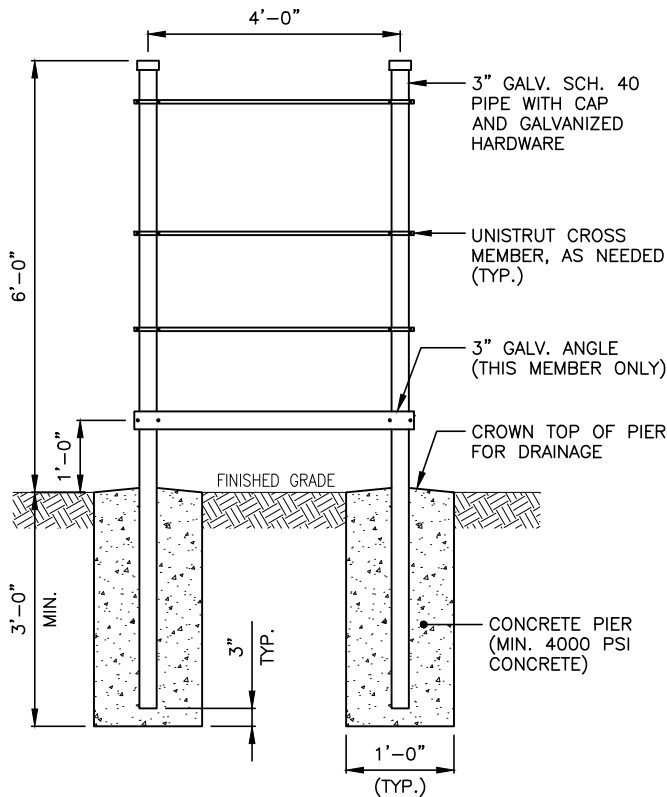
**ANTENNA
SCHEDULE**

SHEET NUMBER:

S-2

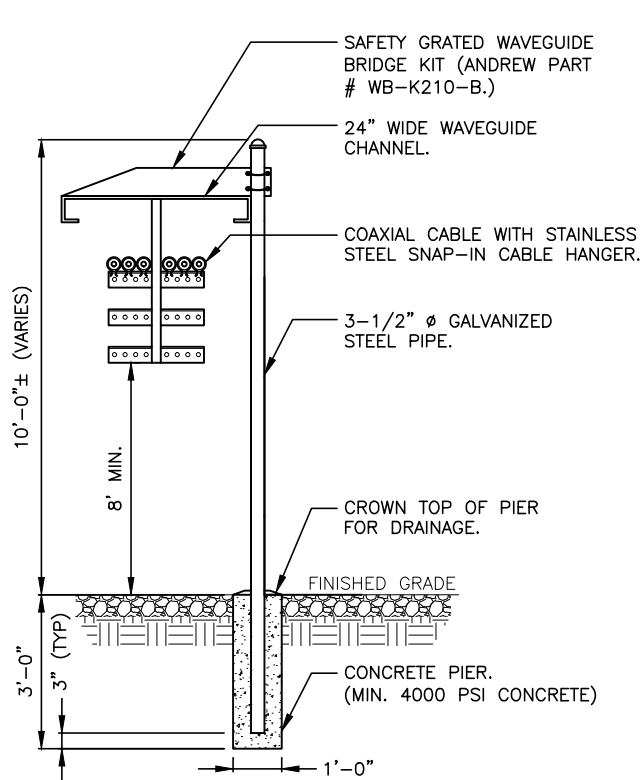


- NOTES:**
1. MAXIMUM ALLOWABLE SPAN BETWEEN SUPPORTS ON A CONTINUOUS SINGLE SECTION OF BRIDGE CHANNEL SHALL BE 10'
 2. WHEN SPLICING BRIDGE CHANNEL SECTIONS, THE SPLICE SHOULD BE PROVIDED AT THE SUPPORT, IF POSSIBLE, OR AT A MAXIMUM OF 2 FEET FROM THE SUPPORT.
 3. SUPPORT SHOULD BE PROVIDED AS CLOSE AS POSSIBLE TO THE ENDS OF WAVEGUIDE BRIDGES, WITH A MAXIMUM CANTILEVER DISTANCE OF 2 FEET FROM THE SUPPORT TO THE FREE END OF THE WAVEGUIDE BRIDGE.
 4. CUT BRIDGE CHANNEL SECTIONS SHALL HAVE RAW EDGES PAINTED WITH 3 COATS OF ZINC RICH PAINT.
 5. DEVIATIONS FROM STANDARDS FOR COMPONENT INSTALLATIONS ARE PERMITTED WITH THE RESPECTIVE MANUFACTURER'S APPROVAL.
 6. DEVIATIONS FROM WAVEGUIDE BRIDGE FOUNDATIONS SHOWN ON SITE SPECIFIC DRAWINGS OR STANDARD DETAILS REQUIRE ENGINEERING APPROVAL.
 7. ALL COAXIAL CABLE CONNECTIONS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.



- NOTES:**
1. ALL MATERIALS FURNISHED BY CONTRACTOR UNLESS OTHERWISE NOTED.
 2. GROUNDING NOT SHOWN FOR CLARITY.

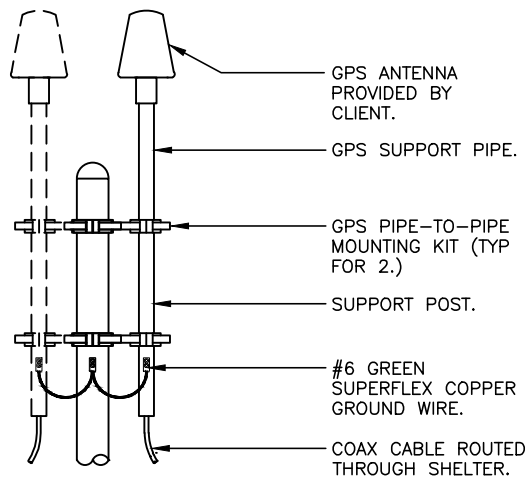
2 **UTILITY RACK DETAIL**
SCALE: N.T.S.



- NOTES:**
1. ALL SUPPORT POSTS MUST BE GROUNDED.
 2. GROUNDING NOT SHOWN FOR CLARITY.
 3. COAX CABLE QTY. AND LOCATION MAY VARY.

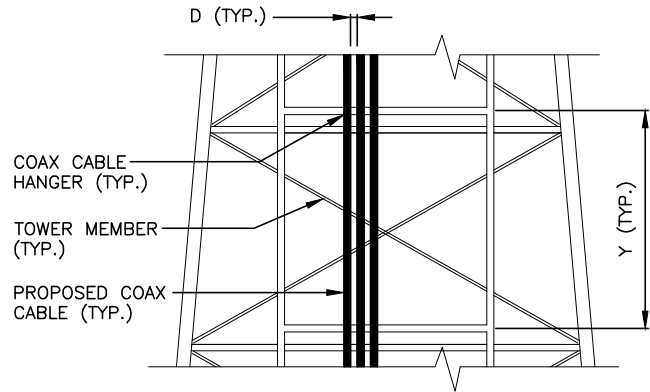
3 **WAVEGUIDE BRIDGE SECTION DETAIL**
SCALE: N.T.S.

1 **WAVEGUIDE BRIDGE ELEVATION**
SCALE: N.T.S.



- NOTES:**
1. CONTRACTOR TO SUPPLY ALL MATERIAL UNLESS OTHERWISE NOTED.
 2. GPS ANTENNA MUST BE IN A LOCATION TO BE ABLE TO RECEIVE CLEAR SIGNALS FROM A MINIMUM OF 4 SATELLITES.
 3. LOCATION OF ANTENNA MUST BE IN CLEAR VIEW OF THE SKY, WITHOUT ANY OBSTRUCTION OR BLOCKAGE EXCEEDING 25% OF THE SURFACE AREA OF A HEMISPHERE AROUND THE GPS ANTENNA.

4 **GPS UNIT MOUNT DETAIL**
SCALE: N.T.S.



- NOTES:**
1. INSTALL HOIST GRIPS AT ANTENNAS AND EVERY 200'.
 2. QTY. OF COAX MAY VARY.

COAXIAL CABLE RFS CAT. No.	HOIST GRIP	NOMINAL CABLE SIZE	HANGER RFS CAT. No.	CABLE TO CABLE SPACING (D)	MAXIMUM HANGER SPACING (Y)
LCF12-50J	HOIST1-12L	1/2"	SNAP-12	1/2"	3'-0"
LCF78-50JA-A0	HOIST1-78L	7/8"	SNAP-78	1/2"	3'-0"
LCFS114-50JA-A0	HOIST1-114L	1-1/4"	SNAP-114	1/2"	4'-0"
LCF158-50JA-A0	HOIST1-158L	1-5/8"	SNAP-158	1/2"	4'-0"

5 **COAX INSTALLATION DETAIL**
SCALE: N.T.S.

verizonwireless

777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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0	11/05/10	ISSUED FOR REVIEW	JL

DRAWN BY: JPH CHECKED BY: CAR

KHA PROJECT NUMBER: 148415004

ENGINEER SEAL:

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FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE: **MISCELLANEOUS DETAILS**

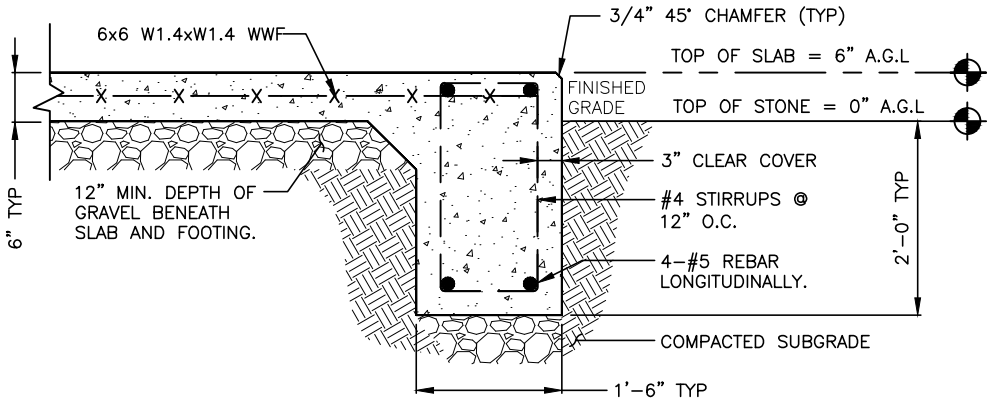
SHEET NUMBER: **S-3**

STRUCTURAL NOTES:

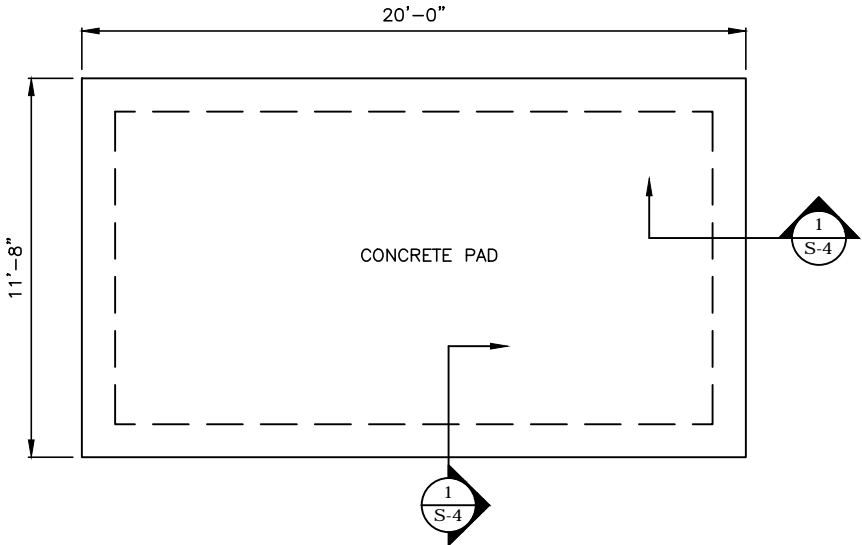
1. INFORMATION SHOWN ON THESE DRAWINGS WAS OBTAINED BY FIELD MEASUREMENT. THE GENERAL CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS AND NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
2. THE GENERAL CONTRACTOR AND HIS SUB CONSULTANTS SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK.
3. STRUCTURAL STEEL SHALL CONFORM TO SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, AISC 360-05 INCLUDING THE COMMENTARY AND THE AISC CODE OF STANDARD PRACTICE.
4. STRUCTURAL STEEL PLATES, ANGLES, AND CHANNELS SHALL CONFORM TO ASTM A36. STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B. STRUCTURAL STEEL BEAMS SHALL CONFORM TO ASTM A992, GRADE 50. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRADE B. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED-ASTM A123 AFTER FABRICATION. FIELD TOUCH UP WITH 3 COATS OF ZINC RICH PAINT ALL RAW EDGES AND/OR AREAS WHERE THE GALVANIZED FINISH HAS BEEN DISTURBED (ALL EXISTING AND NEW AREAS).
5. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS 01.1). STRUCTURAL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX. FIELD TOUCH UP WITH ZINC RICH PAINT (ALL EXISTING AND NEW AREAS) AFTER WELDING IS COMPLETE.
6. ALL THREADED STRUCTURAL FASTENERS FOR ANTENNA SUPPORT ASSEMBLIES SHALL CONFORM TO ASTM A307 OR ASTM A36. ALL STRUCTURAL FASTENERS FOR STRUCTURAL STEEL FRAMING SHALL CONFORM TO ASTM A325. FASTENERS SHALL BE 5/8 INCH MIN. UNLESS NOTED OTHERWISE, DIAMETER BEARING TYPE CONNECTIONS WITH THREADS EXCLUDED IN THE SHEAR PLANE. ALL EXPOSED FASTENERS, NUTS AND WASHERS SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. CONCRETE EXPANSION ANCHORS SHALL BE HILTI KWIK BOLTS UNLESS OTHERWISE NOTED. ALL ANCHORS INTO CONCRETE SHALL BE STAINLESS STEEL.
7. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 60, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.
8. CONCRETE FOR THE FOUNDATION PAD SHALL BE 4000 PSI NORMAL WEIGHT CONCRETE. CONCRETE STRENGTH SHALL BE VERIFIED BY CONCRETE CYLINDER TESTS (A MINIMUM SET OF FOUR CYLINDERS). PROVIDE 4 TO 6% AIR ENTRAINMENT FOR ALL CONCRETE SUBJECT TO FREEZE - THAW CYCLE.
9. MINIMUM CONCRETE COVER REINFORCEMENT SHALL BE 2" UNLESS NOTED OTHERWISE. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH SHALL HAVE A MINIMUM CONCRETE COVER OF 3".
10. CONTRACTOR SHALL COORDINATE ALL PENETRATIONS, CONDUIT, CHAMFERS, AND EMBEDDED ITEMS PRIOR TO CONCRETE PLACEMENT AND/OR STEEL ERECTION. CONTRACTOR SHALL VERIFY ALL SIZES AND LOCATIONS.
11. DO NOT IMPOSE SERVICE LOAD (i.e. FLOOR DEAD AND LIVE LOADS, BACKFILL, ETC.) UNTIL THE CONCRETE HAS REACHED ITS SPECIFIED MINIMUM COMPRESSIVE STRENGTH.
12. BACKFILL SHALL BE CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.
13. SOIL SHALL BE COMPACTED TO 95% OF THE MODIFIED PROCTOR MAXIMUM DRY DENSITY TO A MINIMUM OF 2 FEET BELOW THE BOTTOM OF THE FOOTINGS, AND SHALL OBTAIN A 2000 PSF MINIMUM ALLOWABLE BEARING CAPACITY.

IT IS THE CLIENT'S RESPONSIBILITY TO VERIFY THE STRUCTURAL CAPACITY OF THE PROPOSED TOWER AND ITS FOUNDATION TO RESIST THE WIND/GRAVITY LOADS FROM THE PROPOSED STRUCTURES.

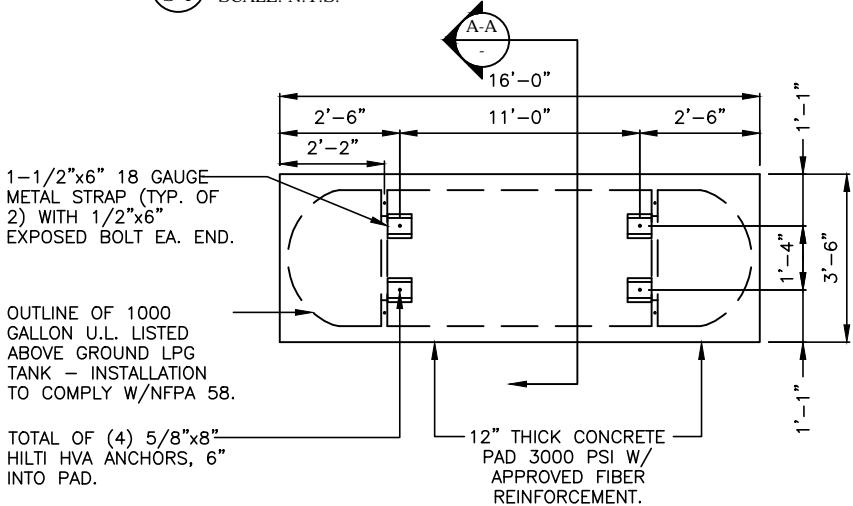
PRIOR TO CONSTRUCTION IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM WHICH SHELTER FOUNDATION DESIGN IS REQUIRED.



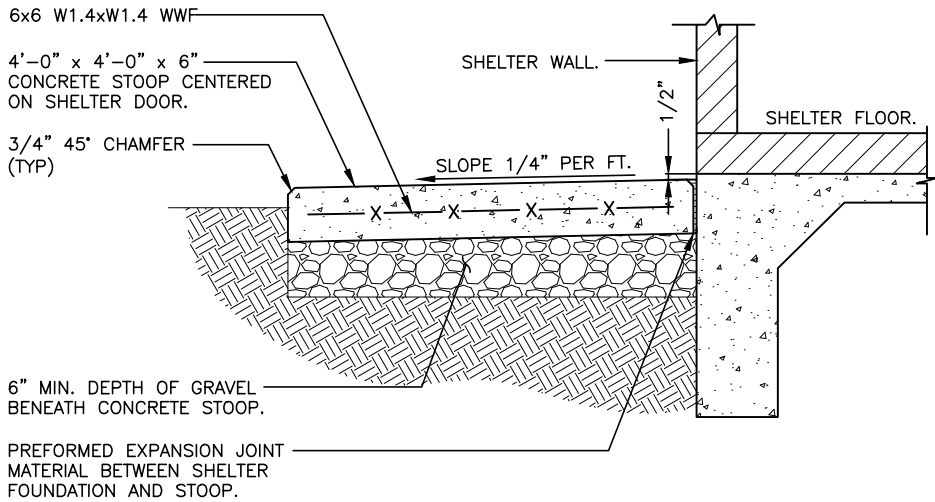
1 SHELTER FOUNDATION DETAIL
SCALE: N.T.S.



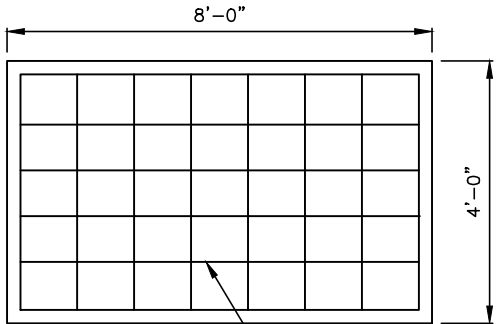
3 SHELTER FOUNDATION PLAN
SCALE: N.T.S.



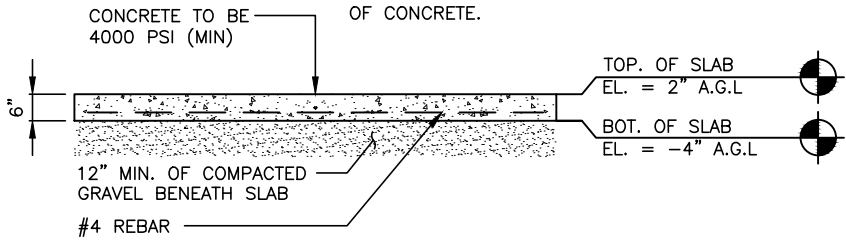
5 PROPANE TANK FOUNDATION DETAIL
SCALE: N.T.S.



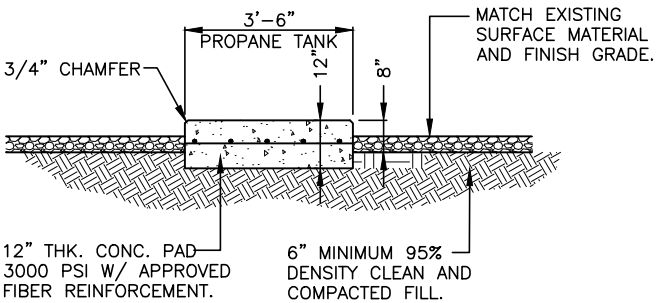
2 SHELTER STOOP DETAIL
SCALE: N.T.S.



- NOTES:
1. ATTACH GENERATOR TO CONCRETE PAD PER MANUFACTURER'S SPECIFICATIONS.
 2. PRIOR TO INSTALLING THE GENERATOR PAD, THE CONTRACTOR SHALL CONFIRM GENERATOR DIMENSIONS IN ORDER TO ENSURE PROPER FIT.



4 GENERATOR FOUNDATION DETAIL
SCALE: N.T.S.



SECTION A-A
SCALE: N.T.S.



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TAMPA, FL 33602
PHONE (813) 620-1460
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2	03/15/11	REVISED PER COMMENTS	JL
1	11/10/10	REVISED PER COMMENTS	JL
0	11/05/10	ISSUED FOR REVIEW	JL

DRAWN BY:	CHECKED BY:
JPH	CAR

KHA PROJECT NUMBER:
148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

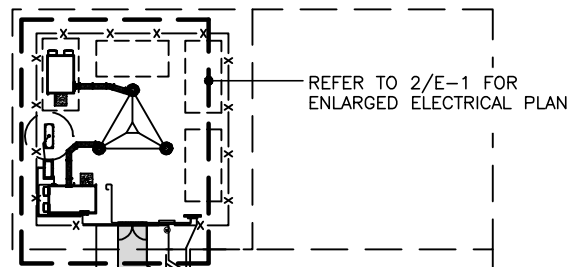
40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

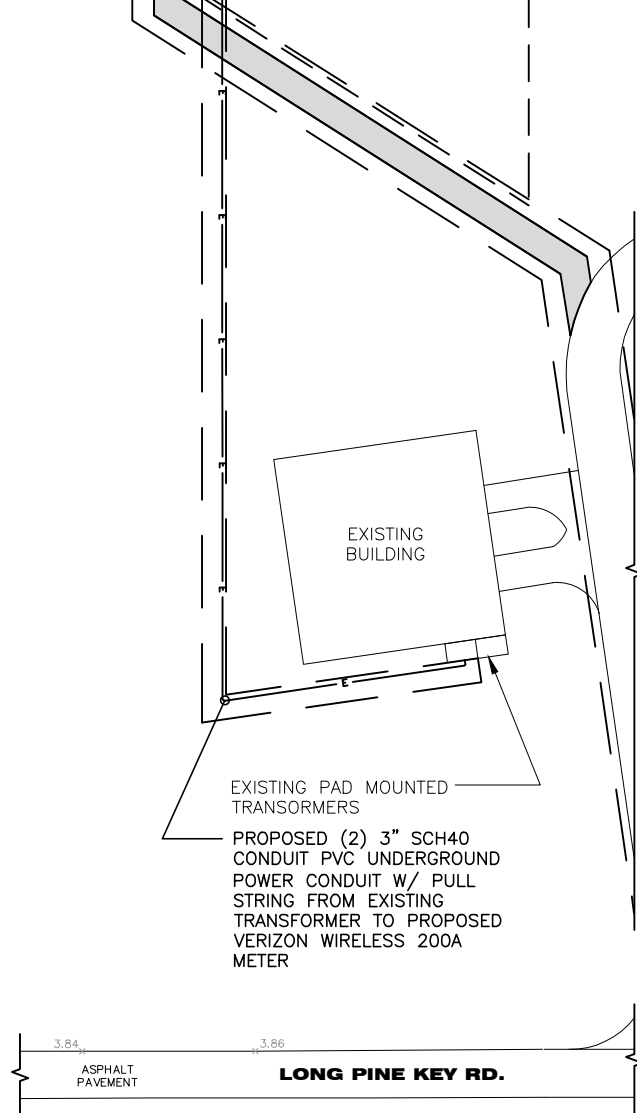
FOUNDATION DETAILS
AND NOTES

SHEET NUMBER:

S-4



REFER TO 2/E-1 FOR ENLARGED ELECTRICAL PLAN



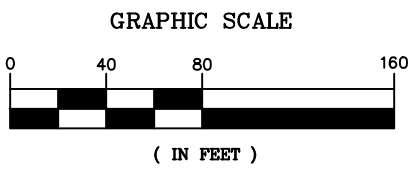
EXISTING BUILDING

EXISTING PAD MOUNTED TRANSFORMERS

PROPOSED (2) 3" SCH40 CONDUIT PVC UNDERGROUND POWER CONDUIT W/ PULL STRING FROM EXISTING TRANSFORMER TO PROPOSED VERIZON WIRELESS 200A METER

3.84' 3.66' ASPHALT PAVEMENT LONG PINE KEY RD.

1 OVERALL ELECTRICAL PLAN
E-1 SCALE: 1"=80'
SCALE BASED ON 11"x17" ONLY



GRAPHIC SCALE

(IN FEET)

PROPOSED NATIONAL PARK SERVICE 200AMP PANEL
PROPOSED AUTOMATIC TRANSFER SWITCH FURNISHED AND INSTALLED BY SHELTER MANUFACTURER.

PROPOSED NATIONAL PARK SERVICE 2-1/2" PVC UNDERGROUND POWER CONDUIT FROM PROPOSED NPS CIRCUIT BREAKER TO PANEL INSIDE SHELTER

PROPOSED MANUAL TRANSFER SWITCH FURNISHED AND INSTALLED BY SHELTER MANUFACTURER.

PROPOSED GENERATOR RECEPTACLE FURNISHED AND INSTALLED BY SHELTER MANUFACTURER.

PROPOSED 2" SCH40 PVC CONDUIT TO MTS FROM GENERATOR MAIN DISTRIBUTION PANEL.

PROPOSED 1" SCH40 PVC CONDUIT TO GENERATOR MAIN DISTRIBUTION PANEL (ALARM/RUN/START)

PROPOSED VERIZON WIRELESS 1000 GALLON PROPANE TANK ON 3'-6"x10' CONCRETE PAD. (MINIMUM 12.5' CLEARANCE FROM ANY IGNITION SOURCE) CONTRACTOR IS RESPONSIBLE FOR THE PURCHASE AND INSTALLATION OF VERIZON'S TANK. REFER TO DETAIL 5/S-4.

PROPOSED 3/4" PROPANE GAS LINE. (PIPE RUN LENGTH ±15') REFER TO DETAIL 2/E-3.

PROPOSED 1" SCH40 PVC CONDUIT TO GENERATOR MAIN DISTRIBUTION PANEL (ENGINE BLOCK HEATER/BATTERY CHARGER)

PROPOSED VERIZON WIRELESS 60KW PROPANE GAS GENERATOR. REFER TO DETAIL 4/S-4.

PROPOSED 400A, 120/240V 22KAIC GENERATOR MAIN DISTRIBUTION ELECTRICAL PANEL

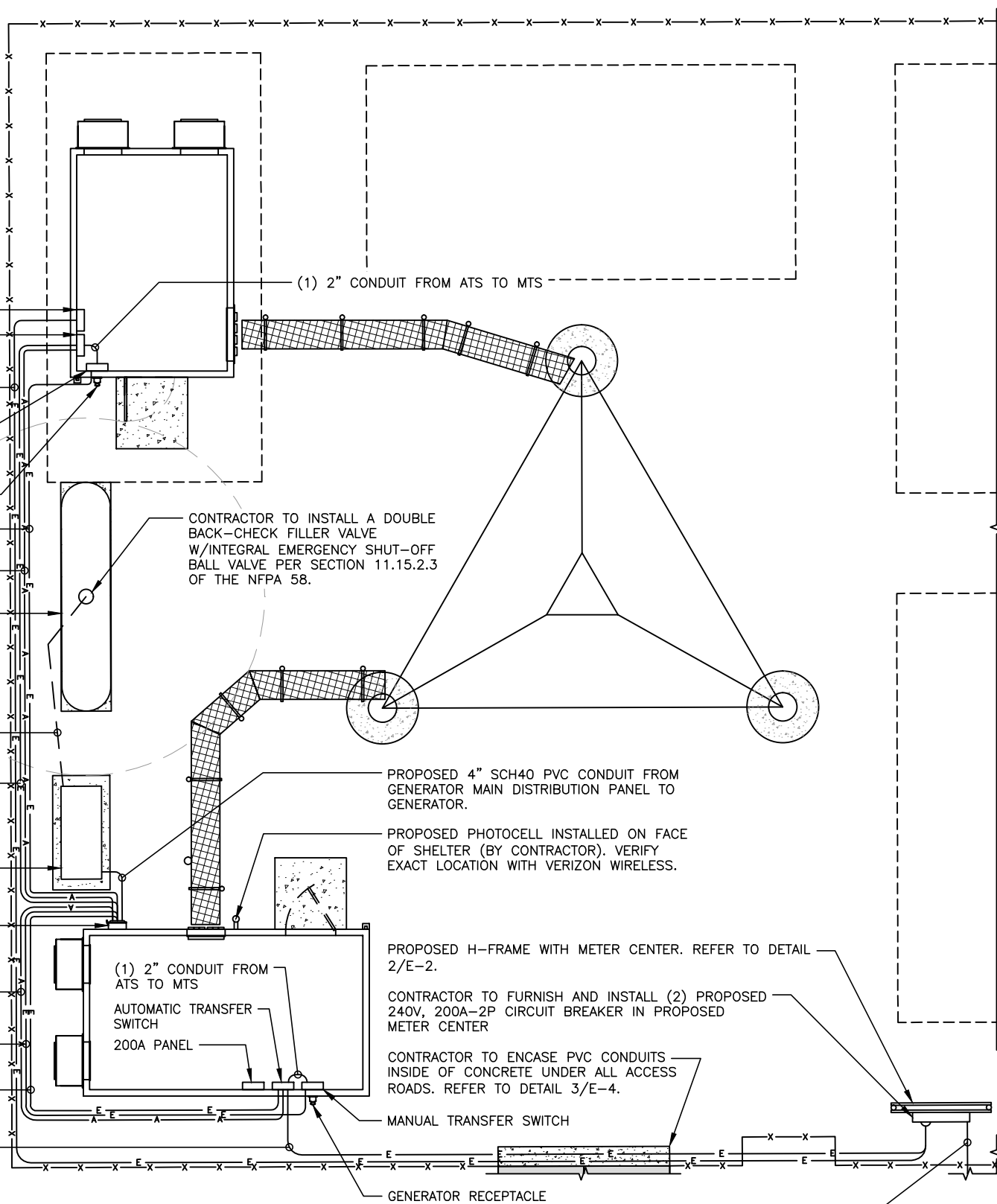
PROPOSED 1" SCH40 PVC CONDUIT TO GENERATOR MAIN DISTRIBUTION PANEL (ALARM/RUN/START)

PROPOSED 2" SCH40 PVC CONDUIT TO MTS FROM GENERATOR MAIN DISTRIBUTION PANEL.

PROPOSED 1" SCH40 PVC CONDUIT TO GENERATOR MAIN DISTRIBUTION PANEL (ENGINE BLOCK HEATER/BATTERY CHARGER)

PROPOSED 2 1/2" PVC UNDERGROUND POWER CONDUIT FROM PROPOSED VERIZON WIRELESS CIRCUIT BREAKER TO SHELTER

2 ENLARGED ELECTRICAL PLAN
E-1 SCALE: 1"=10'
SCALE BASED ON 11"x17" ONLY



(1) 2" CONDUIT FROM ATS TO MTS

CONTRACTOR TO INSTALL A DOUBLE BACK-CHECK FILLER VALVE W/INTEGRAL EMERGENCY SHUT-OFF BALL VALVE PER SECTION 11.15.2.3 OF THE NFPA 58.

PROPOSED 4" SCH40 PVC CONDUIT FROM GENERATOR MAIN DISTRIBUTION PANEL TO GENERATOR.

PROPOSED PHOTOCELL INSTALLED ON FACE OF SHELTER (BY CONTRACTOR). VERIFY EXACT LOCATION WITH VERIZON WIRELESS.

PROPOSED H-FRAME WITH METER CENTER. REFER TO DETAIL 2/E-2.

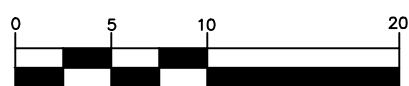
CONTRACTOR TO FURNISH AND INSTALL (2) PROPOSED 240V, 200A-2P CIRCUIT BREAKER IN PROPOSED METER CENTER

CONTRACTOR TO ENCASE PVC CONDUITS INSIDE OF CONCRETE UNDER ALL ACCESS ROADS. REFER TO DETAIL 3/E-4.

MANUAL TRANSFER SWITCH

GENERATOR RECEPTACLE

PROPOSED (2) 3" SCH40 CONDUIT PVC UNDERGROUND POWER CONDUIT W/PULL STRING FROM EXISTING TRANSFORMER TO PROPOSED VERIZON WIRELESS 200A METER



GRAPHIC SCALE

(IN FEET)

THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:



655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

REV: DATE: DESCRIPTION: BY:

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DRAWN BY: CHECKED BY:

JPH CAR

KHA PROJECT NUMBER:

148415004

ENGINEER SEAL:

NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00000696

PROJECT INFORMATION:

US DEPARTMENT OF
THE INTERIOR
SITE #68271

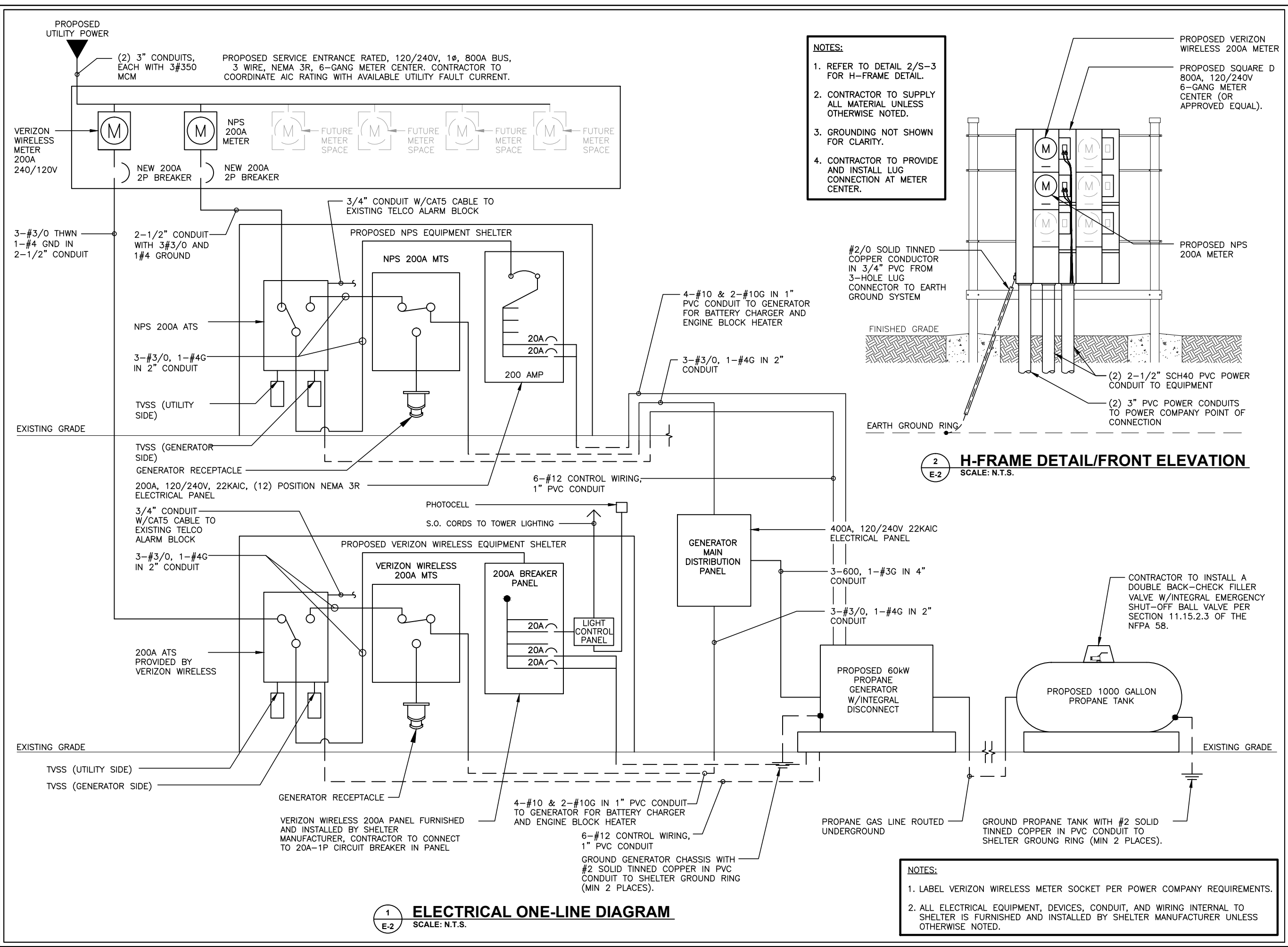
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HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

ELECTRICAL
PLAN

SHEET NUMBER:

E-1



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

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655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
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NATHANIEL ROBERT LINDEN, PE
FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 00006896

PROJECT INFORMATION:

US DEPARTMENT OF THE INTERIOR
SITE #68271

40001 SR-93363
HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

ONE-LINE AND UTILITY RACK

SHEET NUMBER:

E-2

INSTALLATION SHALL COMPLY WITH THE 2010 FLORIDA BUILDING CODE FUEL GAS CODE.

FOR OTHER THAN BLACK STEEL PIPE, EXPOSED GAS PIPING SHALL BE IDENTIFIED BY A YELLOW LABEL MARKED "GAS" IN BLACK LETTERS. THE MARKING SHALL BE SPACED AT INTERVALS NOT EXCEEDING 5 FEET (1524mm). THE MARKING SHALL NOT BE REQUIRED ON PIPE LOCATED IN THE SAME ROOM AS THE EQUIPMENT SERVED.

STEEL AND WROUGHT-IRON PIPE SHALL BE AT LEAST OF STANDARD WEIGHT (SCHEDULE 40) AND SHALL COMPLY WITH ONE OF THE FOLLOWING STANDARDS:

1. ASME B 36.10, 10M
2. ASTM A 53
3. ASTM A 106

CORRUGATED STAINLESS STEEL TUBING SHALL BE TESTED AND LISTED IN COMPLIANCE WITH THE CONSTRUCTION, INSTALLATION AND PERFORMANCE REQUIREMENTS OF ANSI LC 1/CSA 6.26.

PLASTIC PIPE, TUBING AND FITTINGS SHALL BE USED OUTSIDE, UNDERGROUND, ONLY, AND SHALL CONFORM TO ASTM D 2513. PIPE SHALL BE MARKED "GAS" AND "ASTM D 2513."

WHERE IN CONTACT WITH MATERIAL OR ATMOSPHERE EXERTING A CORROSIVE ACTION, METALLIC PIPING AND FITTINGS COATED WITH A CORROSION-RESISTANT MATERIAL SHALL BE USED. EXTERNAL OR INTERNAL COATINGS OR LININGS USED ON PIPING OR COMPONENTS SHALL NOT BE CONSIDERED AS ADDING STRENGTH.

PIPE JOINTS SHALL BE THREADED, FLANGED, BRAZED OR WELDED. WHERE NONFERROUS PIPE IS BRAZED, THE BRAZING MATERIALS SHALL HAVE A MELTING POINT IN EXCESS OF 1,000°F (538°C). BRAZING ALLOYS SHALL NOT CONTAIN MORE THAN 0.05-PERCENT PHOSPHORUS.

1. THREADED FITTINGS IN SIZES LARGER THAN 4 INCHES (102 MM) SHALL NOT BE USED EXCEPT WHERE APPROVED.

PLASTIC PIPE, TUBING AND FITTINGS SHALL BE JOINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. SUCH JOINT SHALL COMPLY WITH THE FOLLOWING:

- METALLIC PIPE OR TUBING EXPOSED TO CORROSIVE ACTION, SUCH AS SOIL
CONDITION OR MOISTURE, SHALL BE PROTECTED IN AN APPROVED MANNER.
ZINC COATINGS (GALVANIZING) SHALL NOT BE DEEMED ADEQUATE PROTECTION
FOR GAS PIPING UNDERGROUND. FERROUS METAL EXPOSED IN EXTERIOR

ALL PIPING INSTALLED OUTDOORS SHALL BE ELEVATED NOT LESS THAN 3½ INCHES (152 MM) ABOVE GROUND AND WHERE INSTALLED ACROSS ROOF SURFACES, SHALL BE ELEVATED NOT LESS THAN 3½ INCHES (152 MM) ABOVE THE ROOF SURFACE. PIPING INSTALLED ABOVE GROUND, OUTDOORS, AND INSTALLED ACROSS THE SURFACE OF ROOFS SHALL BE SECURELY SUPPORTED AND LOCATED WHERE IT WILL BE PROTECTED FROM PHYSICAL DAMAGE. WHERE PASSING THROUGH AN OUTSIDE WALL, THE PIPING SHALL ALSO BE PROTECTED AGAINST CORROSION BY COATING OR WRAPPING WITH AN INERT MATERIAL. WHERE PIPING IS ENCASED IN A PROTECTIVE PIPE SLEEVE, THE ANNULAR SPACE BETWEEN THE PIPING AND THE SLEEVE SHALL BE SEALED.

PLASTIC PIPE SHALL BE INSTALLED OUTSIDE UNDERGROUND ONLY. PLASTIC PIPE SHALL NOT BE USED WITHIN OR UNDER ANY BUILDING OR SLAB OR BE OPERATED AT PRESSURES GREATER THAN 100 PSIG (689 KPA) FOR NATURAL GAS OR 30 PSIG (207 KPA) FOR LP-GAS.

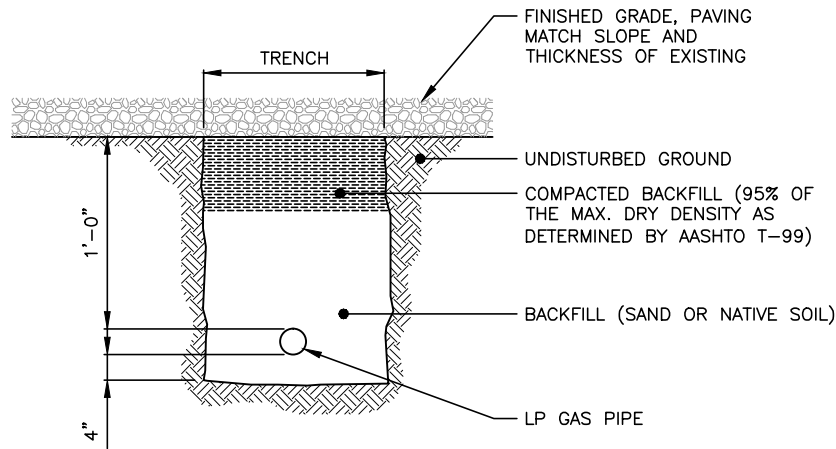
MP PRESSURE REGULATORS SHALL COMPLY WITH THE FOLLOWING:

1. THE MP REGULATOR SHALL BE APPROVED AND SHALL BE SUITABLE FOR THE INLET AND OUTLET GAS PRESSURES FOR THE APPLICATION.
2. THE MP REGULATOR SHALL MAINTAIN A REDUCED OUTLET PRESSURE UNDER LOCKUP (NO-FLOW) CONDITIONS.
3. THE CAPACITY OF THE MP REGULATOR, DETERMINED BY PUBLISHED RATINGS OF ITS MANUFACTURER, SHALL BE ADEQUATE TO SUPPLY THE APPLIANCES SERVED.
4. THE MP PRESSURE REGULATOR SHALL BE PROVIDED WITH ACCESS. WHERE LOCATED INDOORS, THE REGULATOR SHALL BE VENTED TO THE OUTDOORS OR SHALL BE EQUIPPED WITH A LEAK-LIMITING DEVICE, IN EITHER CASE COMPLYING WITH SECTION.
5. A TEE FITTING WITH ONE OPENING CAPPED OR PLUGGED SHALL BE INSTALLED BETWEEN THE MP REGULATOR AND ITS UPSTREAM SHUTOFF VALVE. SUCH TEE FITTING SHALL BE POSITIONED TO ALLOW CONNECTION OF A PRESSURE-MEASURING INSTRUMENT AND TO SERVE AS A SEDIMENT TRAP.
6. A TEE FITTING WITH ONE OPENING CAPPED OR PLUGGED SHALL BE INSTALLED NOT LESS THAN 10 PIPE DIAMETERS DOWNSTREAM OF THE MP REGULATOR OUTLET. SUCH TEE FITTING SHALL BE POSITIONED TO ALLOW CONNECTION OF A PRESSURE-MEASURING INSTRUMENT.

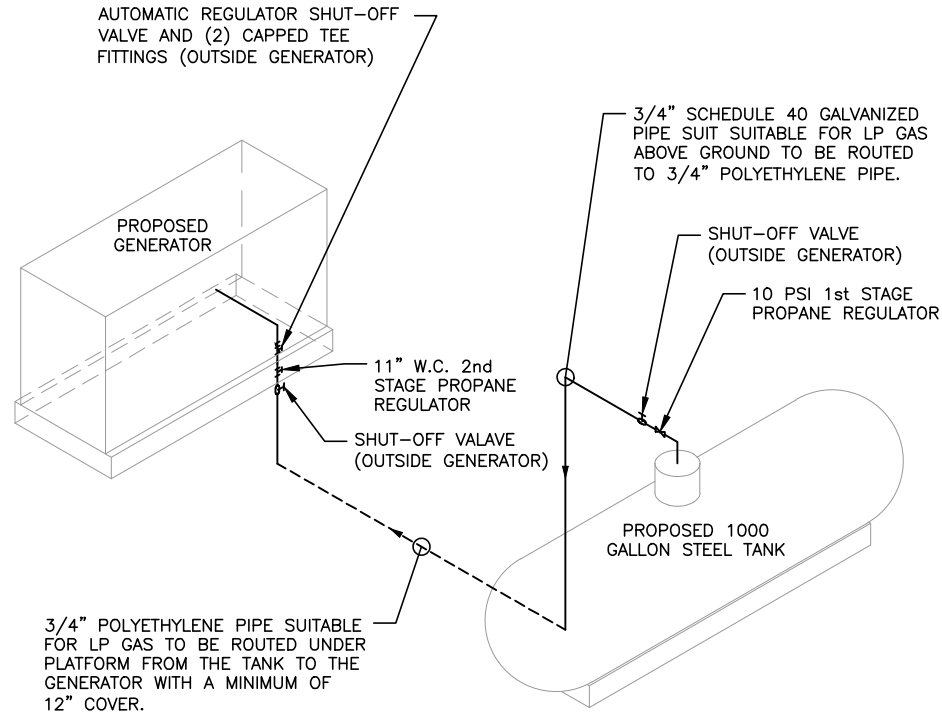
TEST PRESSURE.
THE TEST PRESSURE TO BE USED SHALL BE NO LESS THAN ONE AND A HALF TIMES THE PROPOSED MAXIMUM WORKING PRESSURE, BUT NOT LESS THAN 3 PSIG (20 KPA GAUGE), IRRESPECTIVE OF DESIGN PRESSURE. WHERE THE TEST PRESSURE EXCEEDS 125 PSIG (862 KPA GAUGE), THE TEST PRESSURE SHALL NOT EXCEED A VALUE THAT PRODUCES A HOOP STRESS IN THE PIPING GREATER THAN 50 PERCENT OF THE SPECIFIED MINIMUM YIELD STRENGTH OF THE PIPE.

TEST DURATION.
TEST DURATION SHALL BE NOT LESS THAN ½ HOUR FOR EACH 500 CUBIC FEET (14 CUBIC METERS) OF PIPE VOLUME OR FRACTION THEREOF. WHEN TESTING A SYSTEM HAVING A VOLUME LESS THAN 10 CUBIC FEET (0.28 CUBIC METERS) OR A SYSTEM IN A SINGLE-FAMILY DWELLING, THE TEST DURATION SHALL BE NOT LESS THAN 10 MINUTES. THE DURATION OF THE TEST SHALL NOT BE REQUIRED TO EXCEED 24 HOURS.

ANY REDUCTION OF TEST PRESSURES AS INDICATED BY PRESSURE GAUGES SHALL BE DEEMED TO INDICATE THE PRESENCE OF A LEAK UNLESS SUCH REDUCTION CAN BE READILY ATTRIBUTED TO SOME OTHER CAUSE.



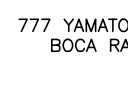

1 GAS LINE TRENCH DETAIL
E-3 NOT TO SCALE

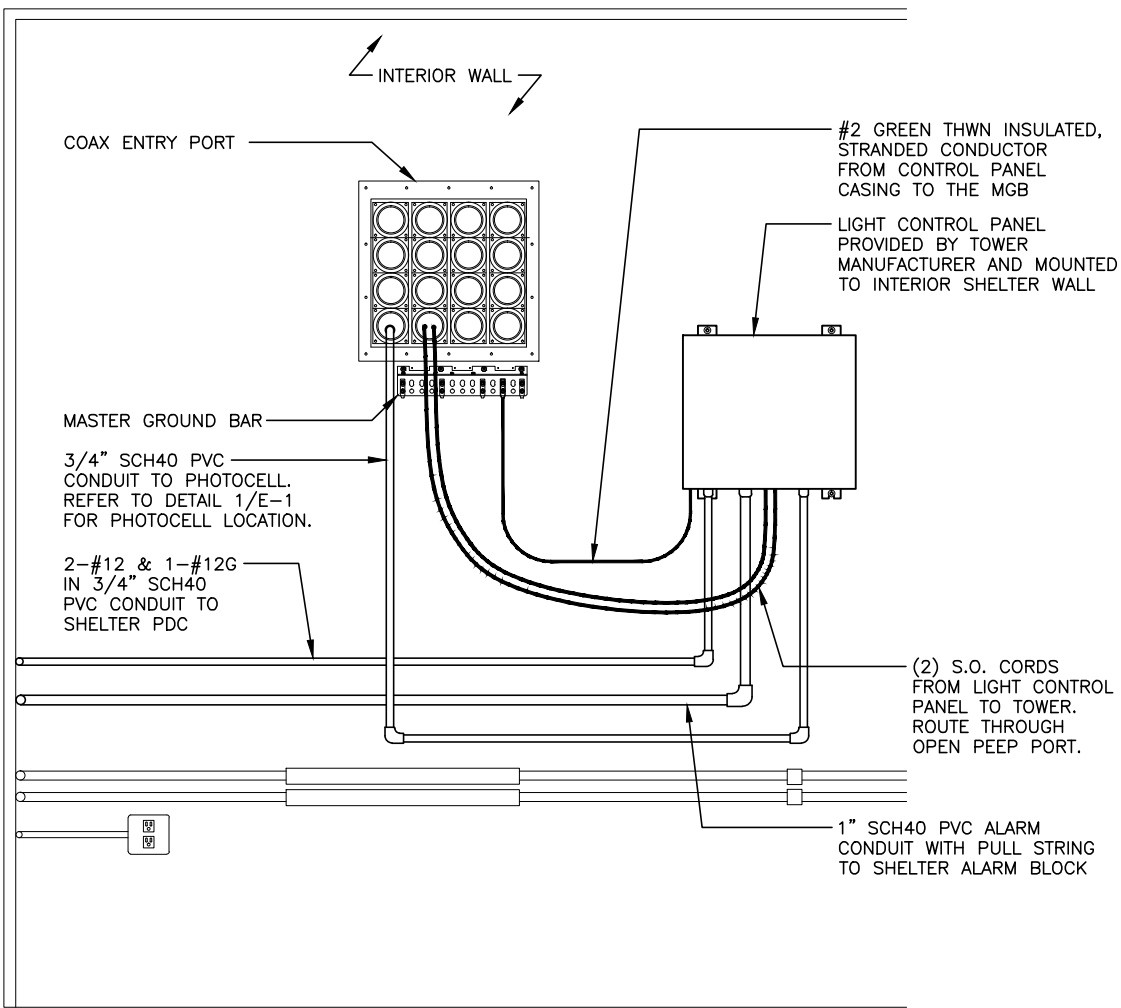


2 FUEL RISER DIAGRAM

DESIGN	
HIGH PRESSURE REGULATOR EXIT PRESSURE	8–12 PSI
PIPE RUN	15'±*
DESIGN FLOWRATE (100% LOAD)	7.86 GAL/Hr
GENERATOR OPERATING PRESSURE	5"–14" H2O

NOTE:
* – EQUIVALENT PIPE LENGTH

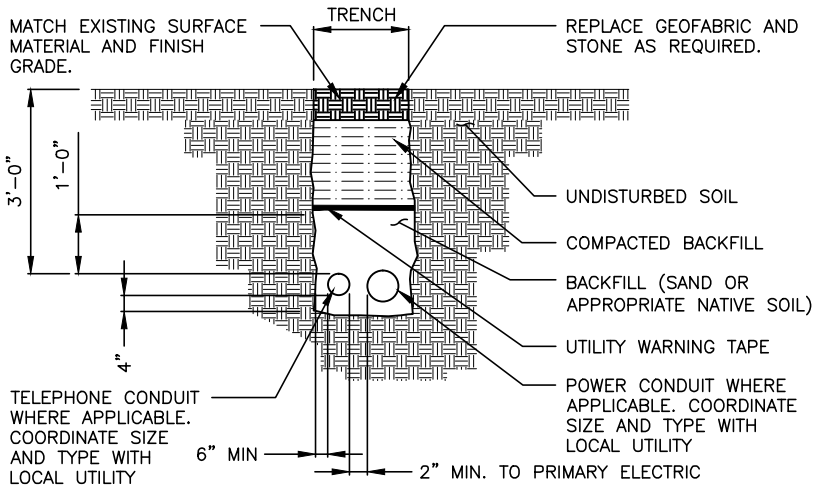
 777 YAMATO ROAD, SUITE 600 BOCA RATON, FL 33431			
PLANS PREPARED BY: _____			
 655 NORTH FRANKLIN STREET, SUITE 150 TAMPA, FL 33602 PHONE (813) 620-1460 WWW.KIMLEY-HORN.COM			
REV: _____ DATE: _____ DESCRIPTION: _____ BY: _____			
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DRAWN BY: _____ CHECKED BY: _____			
JPH		CAR	
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148415004			
ENGINEER SEAL: _____			
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PROJECT INFORMATION: _____			
US DEPARTMENT OF THE INTERIOR SITE #68271 40001 SR-93363 HOMESTEAD, FL 33034 MIAMI-DADE COUNTY			
SHEET TITLE: _____			
GENERATOR INSTALLATION			
SHEET NUMBER: _____			
E-3			



NOTES:

1. THE TOWER LIGHT CONTROLLER SHALL BE POWERED FROM THE SHELTER PDC AND ACCORDING TO NEC AND MANUFACTURERS INSTRUCTIONS.
2. LIGHT CONTROL PANEL SHALL BE ISOLATED FROM THE MOUNTING SURFACE WITH ISOLATOR PADS OR CHERRY ISOLATORS.
3. TAKE CAUTION WHEN MOUNTING THE CONTROLLER TO THE SHELTER WALL.
4. SURGE PROTECTION UNIT SHALL BE INSTALLED AS CLOSE AS POSSIBLE TO THE CONTROL PANEL.
5. POSITION AND MOUNT THE CONTROLLER ALLOWING A 3' MIN. WORKING CLEARANCE FOR OPENING THE DOOR AND SERVICING. IF MINIMUM CLEARANCE ISN'T POSSIBLE, CONTRACTOR SHALL CONTACT VERIZON IMMEDIATELY.
6. LIGHT CONTROL PANEL MAY HAVE TO BE MOVED BASED ON EXISTING CONDITIONS OF INTERIOR SHELTER WALL. VERIFY WITH CONSTRUCTION MANAGER BEFORE PLACEMENT.

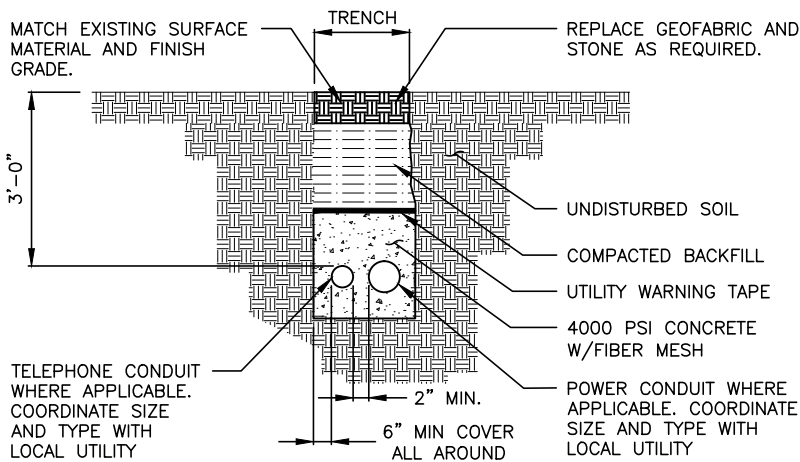
1 TOWER LIGHT CONTROL INSTALLATION DETAIL
E-4 SCALE: N.T.S.



NOTES:

1. CONTRACTOR TO HAND DIG ALL NEW TRENCHES INSIDE COMPOUND.
2. SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS.

2 UTILITY TRENCH DETAIL
E-4 SCALE: N.T.S.



NOTES:

1. ENCASE ALL PVC CONDUITS/PIPES IN CONCRETE WHEN INSTALLED UNDER ACCESS ROADS OR HIGH TRAFFIC AREAS.

3 UTILITY TRENCH DETAIL - CONCRETE ENCASED
E-4 SCALE: N.T.S.



777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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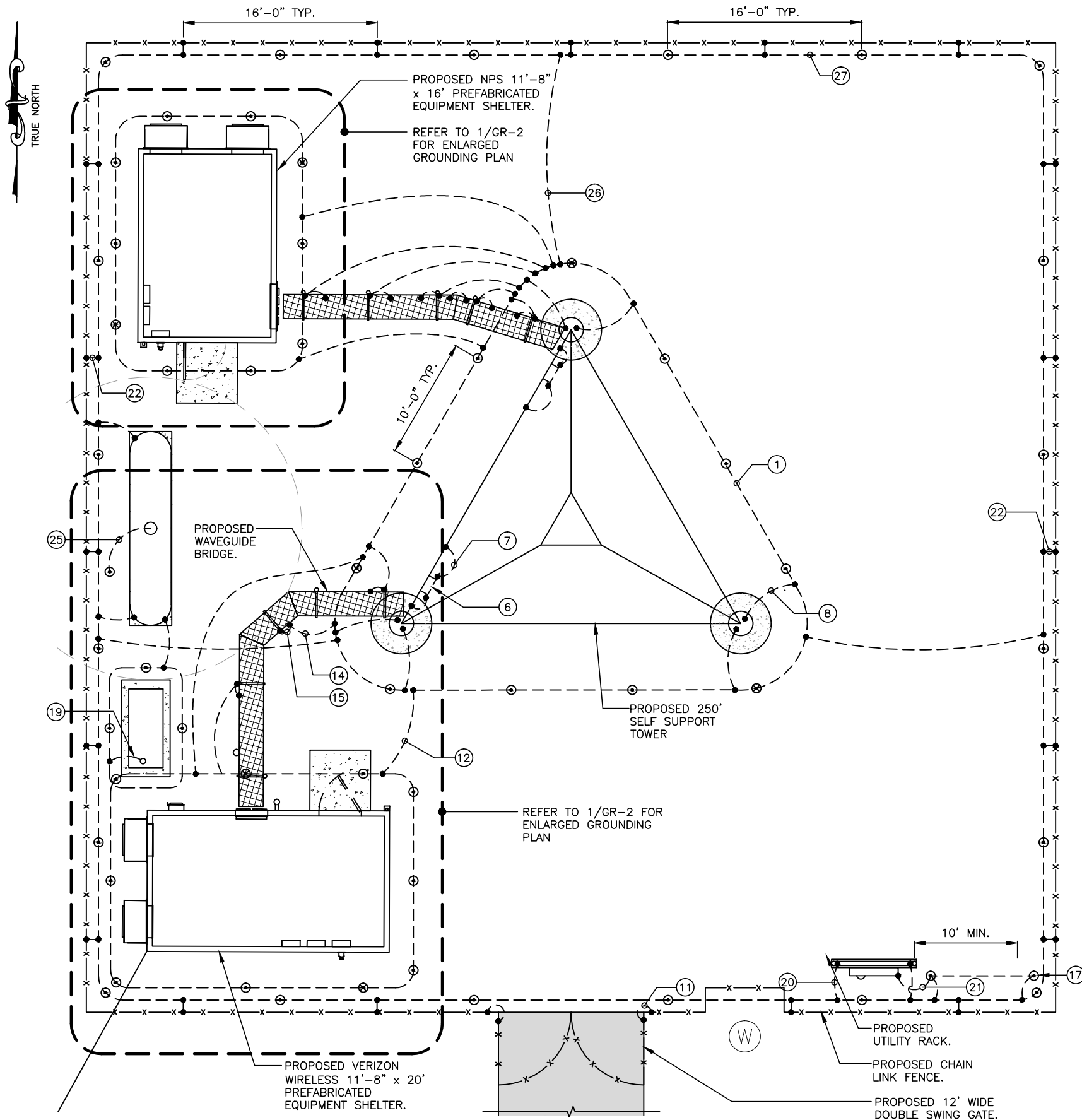
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HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

SHEET TITLE:

LIGHT CONTROL
PANEL

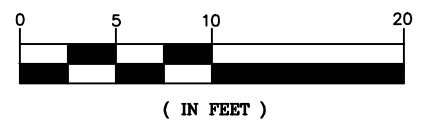
SHEET NUMBER:

E-4



THE CONTRACTOR MUST FIELD VERIFY ALL MEASUREMENTS AND FIELD CONDITIONS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.

1 GR-1
GROUNDING PLAN
SCALE: 1"=10'
SCALE BASED ON 11"x17" ONLY



- KEY NOTES:**
- ① #2 AWG, SOLID, BARE, TINNED, COPPER TOWER GROUND RING INSTALLED MIN. 4 GROUND RODS SPACED MIN. 10' APART. MAINTAIN 3' FROM TOWER FOUNDATION.
 - ② #2 AWG SOLID, BARE, TINNED, COPPER SHELTER GROUND RING. BOND TO EXTERNAL GROUND RING WITH #2 AWG, SOLID, BARE, TINNED, COPPER WIRE (TYP). STAY 2' AWAY FROM SHELTER FOUNDATION.
 - ③ SHELTER GROUND BAR (M.G.B.) REFER TO DETAIL 3/GR-3.
 - ④ 5/8"Ø x 8' LONG COPPER GROUND ROD (TYP). REFER TO DETAIL 4/GR-4.
 - ⑤ 5/8"Ø x 8' LONG COPPER GROUND ROD WITH TEST WELL (TYP). REFER TO DETAIL 2/GR-4.
 - ⑥ TOWER BOTTOM GROUND BAR. TOWER GROUND BARS SHALL BE GALVANIZED STEEL. REFER TO DETAIL 2/GR-4.
 - ⑦ #2 AWG SOLID, BARE, TINNED, COPPER WIRE FROM TOWER GROUND BAR TO TOWER FRAME STEEL. BOND BY MEANS OF EXOTHERMIC WELD OR UL APPROVED CLAMP.
 - ⑧ (2)#2 AWG SOLID, BARE, TINNED, COPPER WIRES FROM TOWER STEEL TO TOWER GROUND RING IN DIFFERENT DIRECTIONS (TYP. FOR 3 LEGS)
 - ⑨ BOND SHELTER GROUND RING TO INTERIOR SHELTER GROUND HALO THROUGH SHELTER PENETRATIONS PROVIDED AND SEAL WITH SILICONE CAULK. (TYP FOR 6).
 - ⑩ #2 SOLID, BARE, TINNED, COPPER GROUND WIRE FROM HVAC EQUIPMENT TO SHELTER GROUND RING BY MEANS OF A MECHANICAL CONNECTION (TYP FOR 2).
 - ⑪ #2 AWG SOLID, BARE, TINNED, COPPER INSULATED WELDING CONDUCTOR WITH APPROVED SLEEVE. EXOTHERMICALLY WELDED FROM FENCE POST TO GATE POST. (TYP. OF 2).
 - ⑫ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM SHELTER GROUND RING TO TOWER GROUND RING. (MIN. 2 PLACES)
 - ⑬ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM EXTERIOR SHELTER GROUND BAR TO SHELTER GROUND RING. (MIN. 2 PLACES)
 - ⑭ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM WAVEGUIDE SUPPORT POST TO TOWER/SHELTER GROUND RING (TYP. FOR ALL POSTS).
 - ⑮ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE GROUNDING JUMPER FROM WAVEGUIDE BRIDGE STEEL TO SUPPORT POST. (TYP. FOR ALL POSTS)
 - ⑯ CONTRACTOR TO GROUND BUILDING REINFORCEMENT STEEL TO EXTERNAL GROUND RING PRIOR TO INSTALLING CONCRETE FOUNDATION (TYP FOR 3).
 - ⑰ 5/8"Ø x 8' COPPER GROUND RODS USED FOR UTILITY SERVICE INSTALLED PER UTILITY COMPANY REQUIREMENTS. INSTALL MIN. 8" BELOW GRADE. DO NOT BOND TO ANY EXTERNAL GROUND RING.
 - ⑱ #2 SOLID, BARE, TINNED, COPPER WIRE FROM INTERIOR MASTER GROUND BAR (M.G.B.) TO SHELTER GROUND RING THROUGH SHELTER PENETRATIONS PROVIDED AND SEAL WITH SILICONE CAULK. (TYP FOR 2).
 - ⑲ GENERATOR TO BE BONDED TO A 5/8" x 8' GALVANIZED STEEL GROUND ROD WITH #2 TINNED SOLID COPPER GROUND WIRE THROUGH A COVERED SECTION OF PVC THAT IS A MIN. OF 24" INTO THE EARTH. BOND TO GENERATOR PER MANUFACTURERS RECOMMENDATIONS.
 - ⑳ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM H-FRAME SUPPORT POSTS TO PROPOSED EXTERNAL GROUND RING. (TYP FOR 2 PLACES)
 - ㉑ #2 BARE TINNED SOLID COPPER GROUND WIRE IN 3/4" PVC FROM 2-HOLE LUG CONNECTOR AT DISCONNECT TO EARTH GROUND SYSTEM, BONDED WITH A 5/8" x 8' COPPER CLAD GROUND RODS. CONTRACTOR TO SUPPLY LUG CONNECTION.
 - ㉒ #2 BARE, TINNED, SOLID, COPPER GROUND WIRE FROM THE FENCE CORNER POSTS AND GATE POSTS TO EXTERNAL GROUND RING.
 - ㉓ #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM GENERATOR DISCONNECT TO SHELTER GROUND RING.
 - ㉔ #2 BARE TINNED SOLID COPPER GROUND WIRE FROM THE FENCE POSTS TO SHELTER GROUND RING. (TYP. FOR 2)
 - ㉕ PROPANE TANK TO BE BONDED TO A 5/8" x 8' GALVANIZED STEEL GROUND ROD WITH #2 TINNED SOLID COPPER GROUND WIRE THROUGH A COVERED SECTION OF PVC THAT IS A MIN. OF 24" INTO THE EARTH. BOND TO TANK PER MANUFACTURERS RECOMMENDATIONS.
 - ㉖ #2 BARE, TINNED, SOLID, COPPER GROUND WIRE FROM THE TOWER GROUND RING TO EXTERNAL GROUND RING. (TYP. 3 PLACES)
 - ㉗ #2 SOLID, BARE, TINNED, COPPER EXTERNAL SITE GROUND RING. INSTALL MIN. 4 GROUND RODS (ONE AT EACH CORNER) SPACED 10' MIN. APART. BURIED AT 30" MIN.

verizonwireless

777 YAMATO ROAD, SUITE 600
BOCA RATON, FL 33431

PLANS PREPARED BY:

Kimley»Horn

655 NORTH FRANKLIN STREET, SUITE 150
TAMPA, FL 33602
PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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KHA PROJECT NUMBER:
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ENGINEER SEAL:

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FL PROFESSIONAL ENGINEER LIC. # 72985
FL CERTIFICATE OF AUTHORIZATION # 0000696

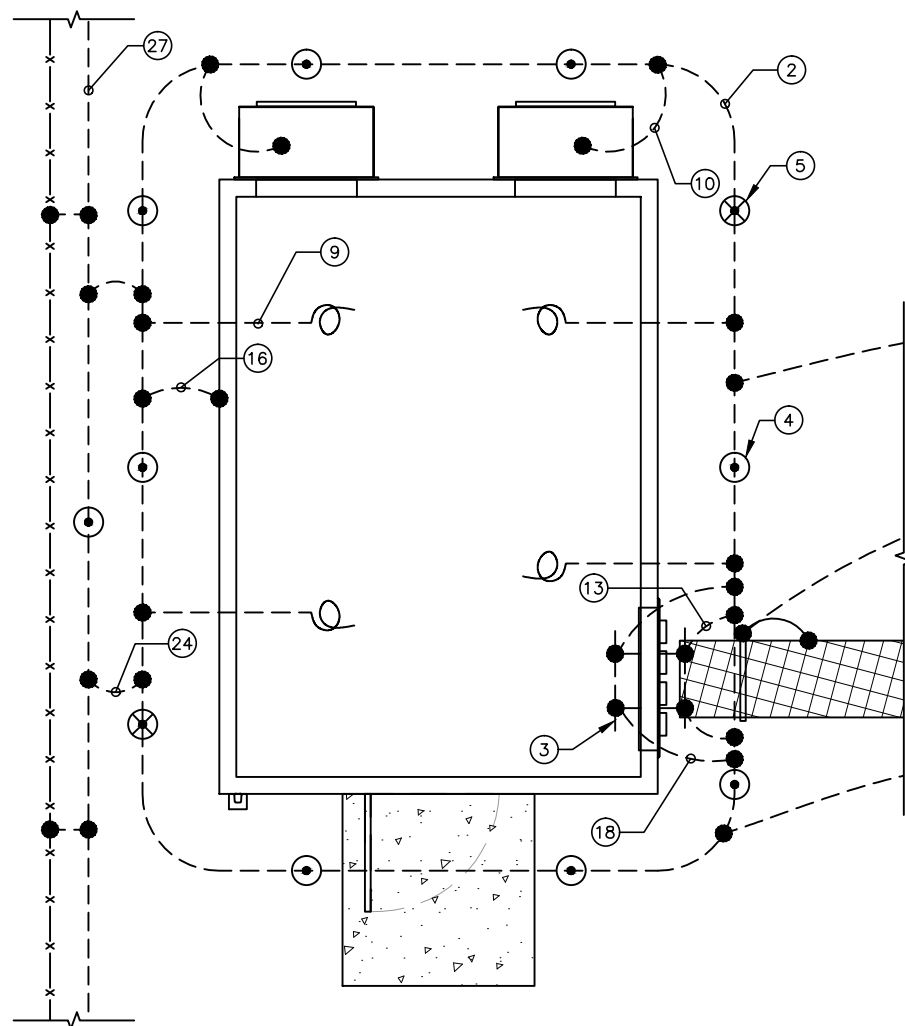
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**US DEPARTMENT OF
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SITE #68271**

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HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

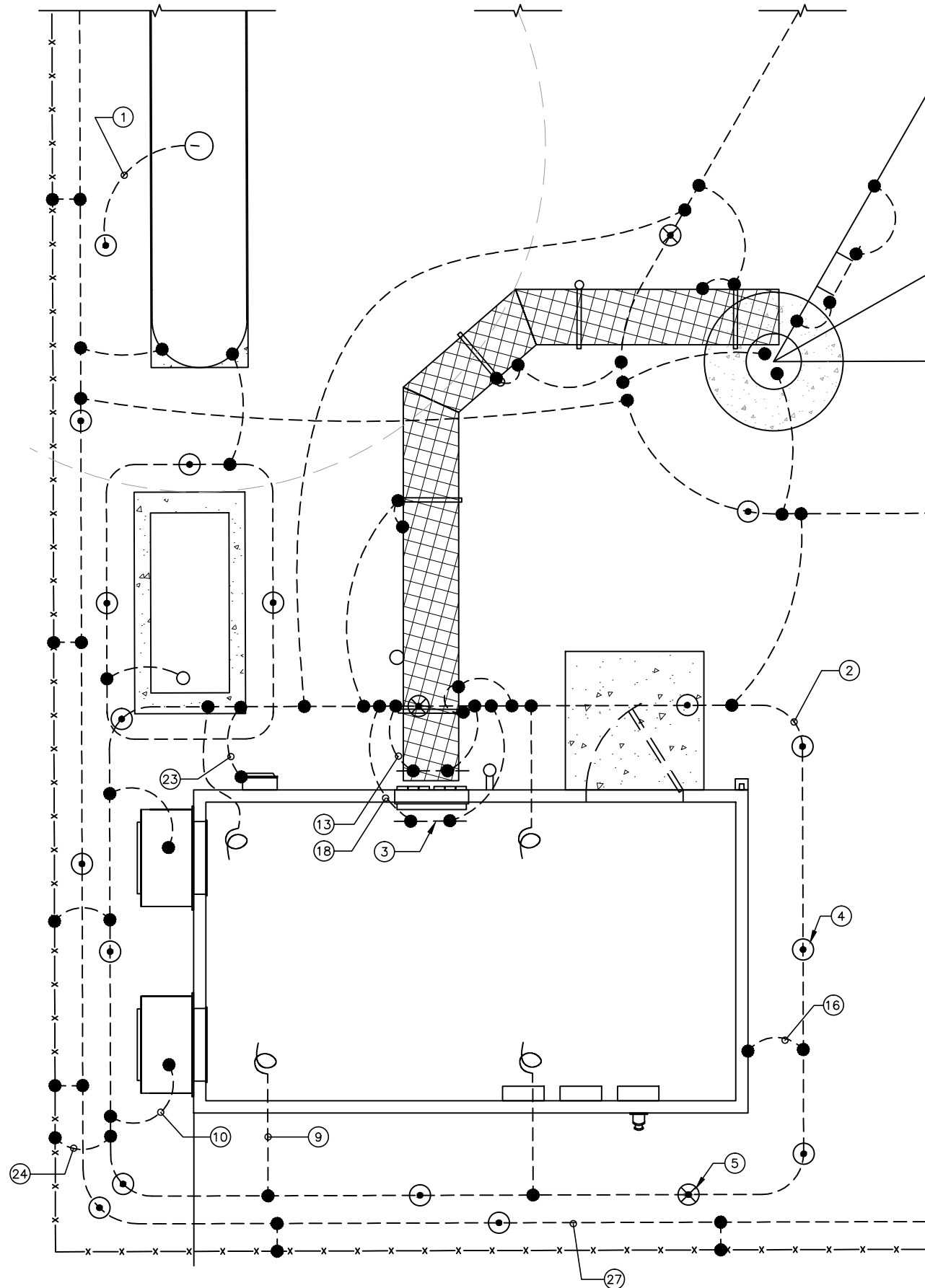
SHEET TITLE:
**GROUNDING
PLAN**

SHEET NUMBER:
GR-1



KEY NOTES:

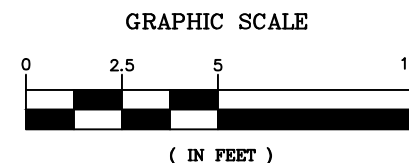
- (2) #2 AWG SOLID, BARE, TINNED, COPPER SHELTER GROUND RING. BOND TO EXTERNAL GROUND RING WITH #2 AWG, SOLID, BARE, TINNED, COPPER WIRE (TYP). STAY 3' AWAY FROM SHELTER FOUNDATION.
- (3) SHELTER GROUND BAR (M.G.B.) REFER TO DETAIL 3/GR-3.
- (4) 5/8"Ø x 8' LONG COPPER GROUND ROD (TYP). REFER TO DETAIL 4/GR-4.
- (5) 5/8"Ø x 8' LONG COPPER GROUND ROD WITH TEST WELL (TYP). REFER TO DETAIL 2/GR-4.
- (9) BOND SHELTER GROUND RING TO INTERIOR SHELTER GROUND HALO THROUGH SHELTER PENETRATIONS PROVIDED AND SEAL WITH SILICONE CAULK. (TYP FOR 6).
- (10) #2 SOLID, BARE, TINNED, COPPER GROUND WIRE FROM HVAC EQUIPMENT TO SHELTER GROUND RING BY MEANS OF A MECHANICAL CONNECTION (TYP FOR 2).
- (13) #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM EXTERIOR SHELTER GROUND BAR TO SHELTER GROUND RING. (MIN. 2 PLACES)
- (16) CONTRACTOR TO GROUND BUILDING REINFORCEMENT STEEL TO EXTERNAL GROUND RING PRIOR TO INSTALLING CONCRETE FOUNDATION (TYP FOR 3).
- (18) #2 SOLID, BARE, TINNED, COPPER WIRE FROM INTERIOR MASTER GROUND BAR (M.G.B.) TO SHELTER GROUND RING THROUGH SHELTER PENETRATIONS PROVIDED AND SEAL WITH SILICONE CAULK. (TYP FOR 2).
- (23) #2 AWG, SOLID, BARE, TINNED, COPPER WIRE FROM GENERATOR DISCONNECT TO SHELTER GROUND RING.
- (24) #2 BARE TINNED SOLID COPPER GROUND WIRE FROM THE FENCE POSTS TO SHELTER GROUND RING. (TYP. FOR 2)
- (27) #2 SOLID, BARE, TINNED, COPPER EXTERNAL SITE GROUND RING. INSTALL MIN. 4 GROUND RODS (ONE AT EACH CORNER) SPACED 10' MIN. APART. BURIED AT 30" MIN.



1
GR-2

ENLARGED GROUNDING PLAN

SCALE: 1"=5'
SCALE BASED ON 11"x17" ONLY



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PHONE (813) 620-1460
WWW.KIMLEY-HORN.COM

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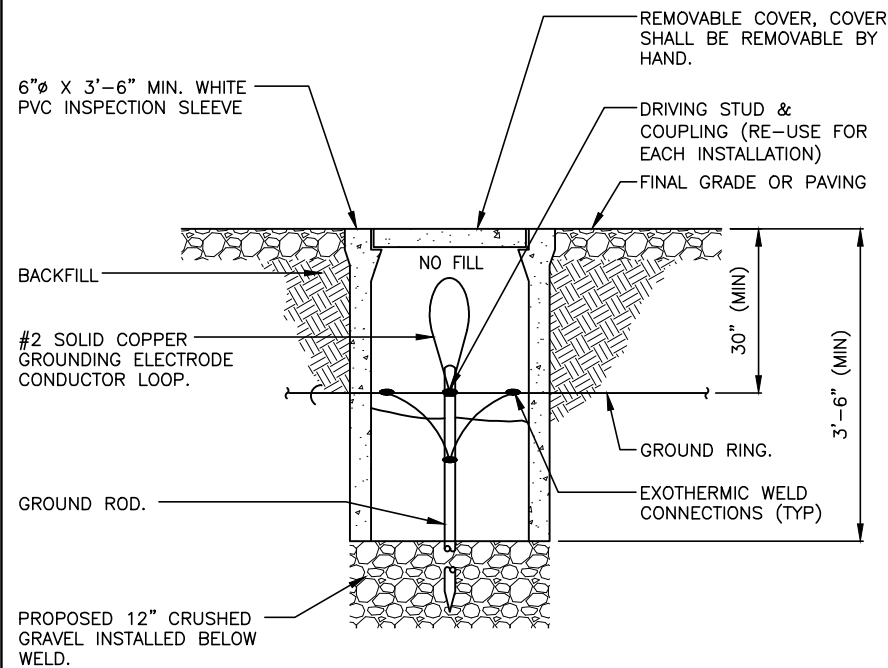
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HOMESTEAD, FL 33034
MIAMI-DADE COUNTY

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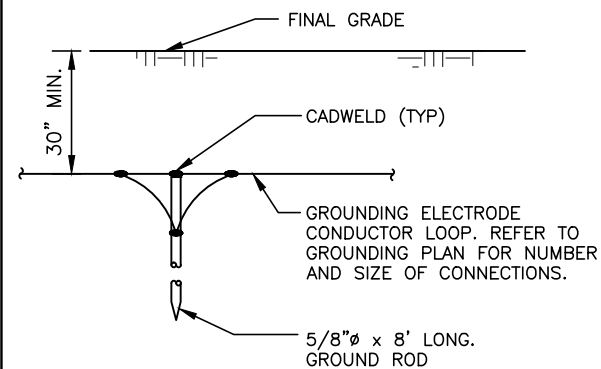
ENLARGED
GROUNDING PLAN

SHEET NUMBER:

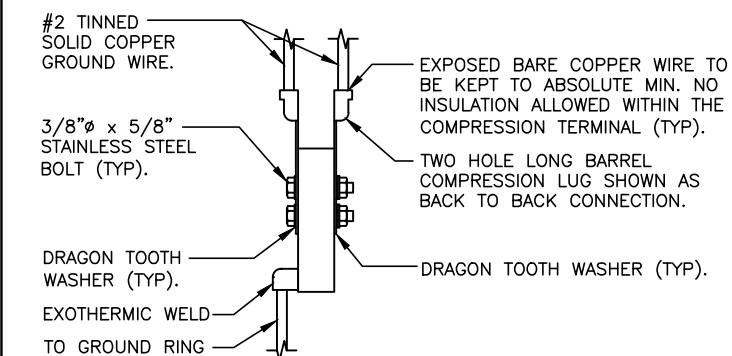
GR-2



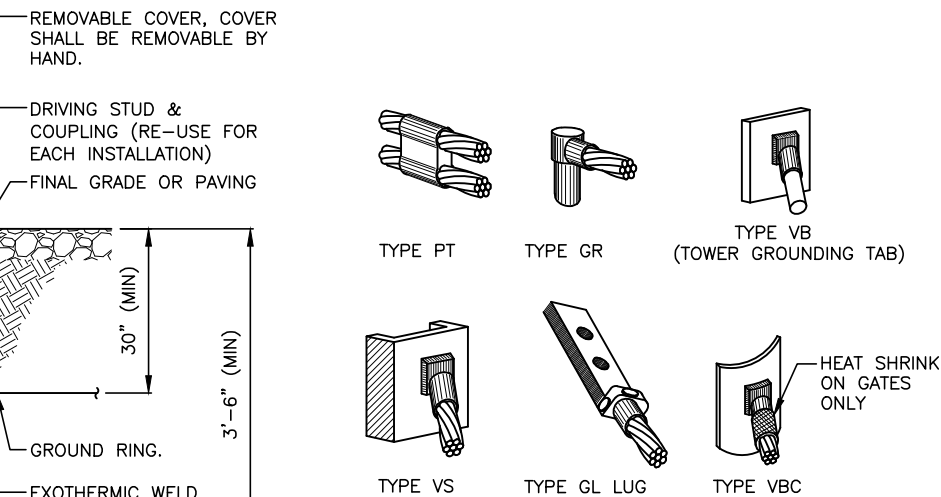
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GR-3
INSPECTION SLEEVE DETAIL
SCALE: N.T.S.



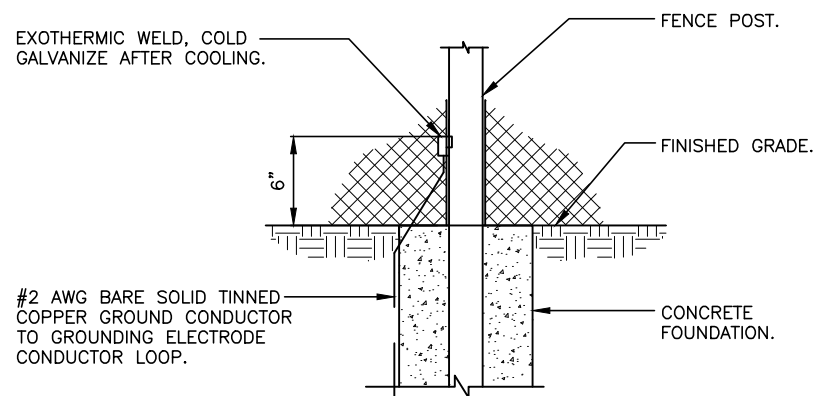
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GR-3
GROUND ROD DETAIL
SCALE: N.T.S.



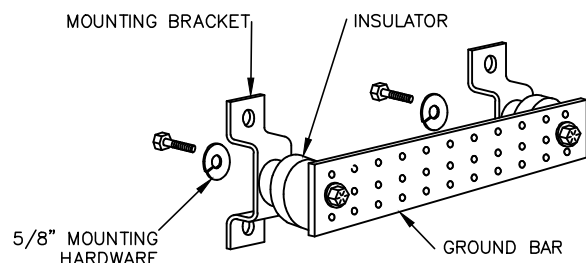
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GR-3
TYPICAL GROUND BAR CONNECTION
SCALE: N.T.S.



2
GR-3
TYPICAL CAD WELDS
SCALE: N.T.S.

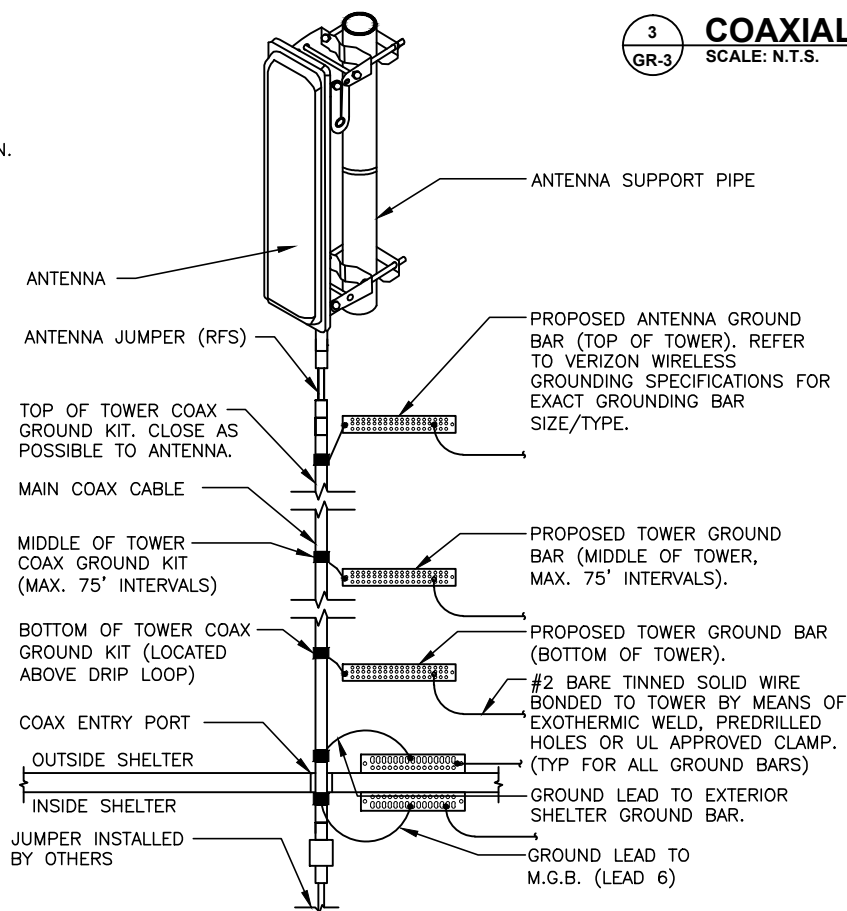


5
GR-3
TYPICAL FENCE BONDING DETAIL
SCALE: N.T.S.

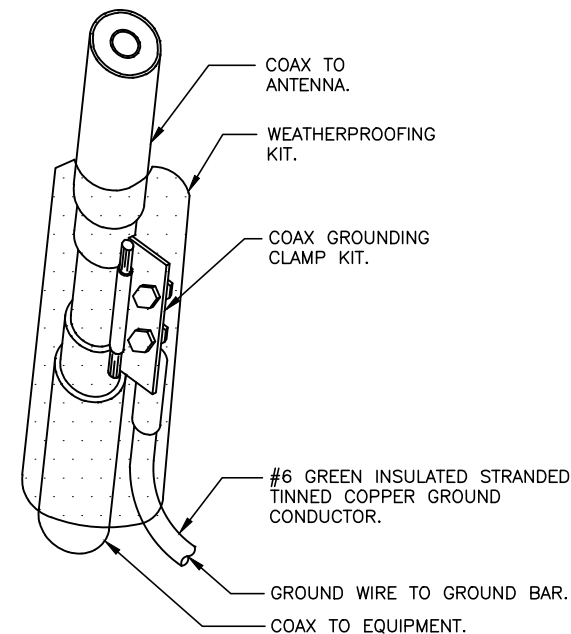


- NOTES:
- 1/4" THICK COPPER GROUND BR TIN PLATED AFTER FABRICATION (.0003 THICK).
 - HOLES TO HAVE 1/16" COUNTERSINK ON EACH SIDE.
 - INSULATORS ARE NOT REQUIRED FOR UPPER AND LOWER TOWER GROUND BARS.

7
GR-3
TYPICAL GROUND BAR DETAIL
SCALE: N.T.S.



8
GR-3
ANTENNA GROUNDING DETAIL
SCALE: N.T.S.



- NOTES:
- DO NOT INSTALL CABLE GROUND KIT AT A BEND IN CABLE.
 - ALWAYS DIRECT GROUND WIRE DOWN TO GROUND BAR.
 - 2-1/2" MAX FOR TX/RX ANTENNA CABLES.
 - 1-1/4" MAX FOR GPS ANTENNA CABLES.
 - INSTALL IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.

3
GR-3
COAXIAL CABLE GROUNDING DETAIL
SCALE: N.T.S.

- NOTES:
- EACH TRANSMISSION LINE SHALL BE LABELED WITH BRASS "TOE TAGS", GRANGER PART #1F035-8, STAMPED WITH 1/4" LETTER/NUMBER STAMPS, GRANGER PART #3W639. THE LABELS SHALL BE ATTACHED WITH A SEMI-PERMANENT METHOD. THE TAGS SHALL BE PLACED SO THEY DON'T CONTACT THE CONNECTOR ON THE LINE AND THE METAL OF THE TOWER. LINES SHALL BE LABELED AT THE TOP AND BOTTOM OF TOWER AND IN THE INTERIOR OF THE EQUIPMENT SHELTER.
 - EACH LINE SHALL BE LABELED AT THE LIGHTNING/SURGE PROTECTOR MOUNTING PLATE WITH A PRINTABLE LABEL MAKER TO INDICATE LINE NUMBER AND FUNCTION, SIMILAR TO TOE TAG.
 - THE TAG LABELING EQUIPMENT SHALL BE AS DESIGNATED IN THE ANTENNA KEY. FOR LUCENT USE A-ALPHA, B-BETA, G-GAMMA.
 - COAX LENGTHS INDICATED IN THE ANTENNA KEY ARE APPROXIMATE. CONTRACTOR WILL VERIFY ACTUAL LENGTH BEFORE ORDERING.
 - CONTRACTOR SHALL INSTALL DOWN TILT BRACKETS AND ALL HARDWARE FOR ALL ANTENNAS AND SHALL BE ACCORDANCE WITH THE TOWER MANUFACTURER'S STANDARD DETAILS.
 - CONTRACTOR SHALL FIELD VERIFY ALL RF INFORMATION AND THE EXACT TMA'S TO BE INSTALLED PER THE RF ENGINEER. (IF APPLICABLE)
 - INFORMATION PROVIDED BY OTHERS



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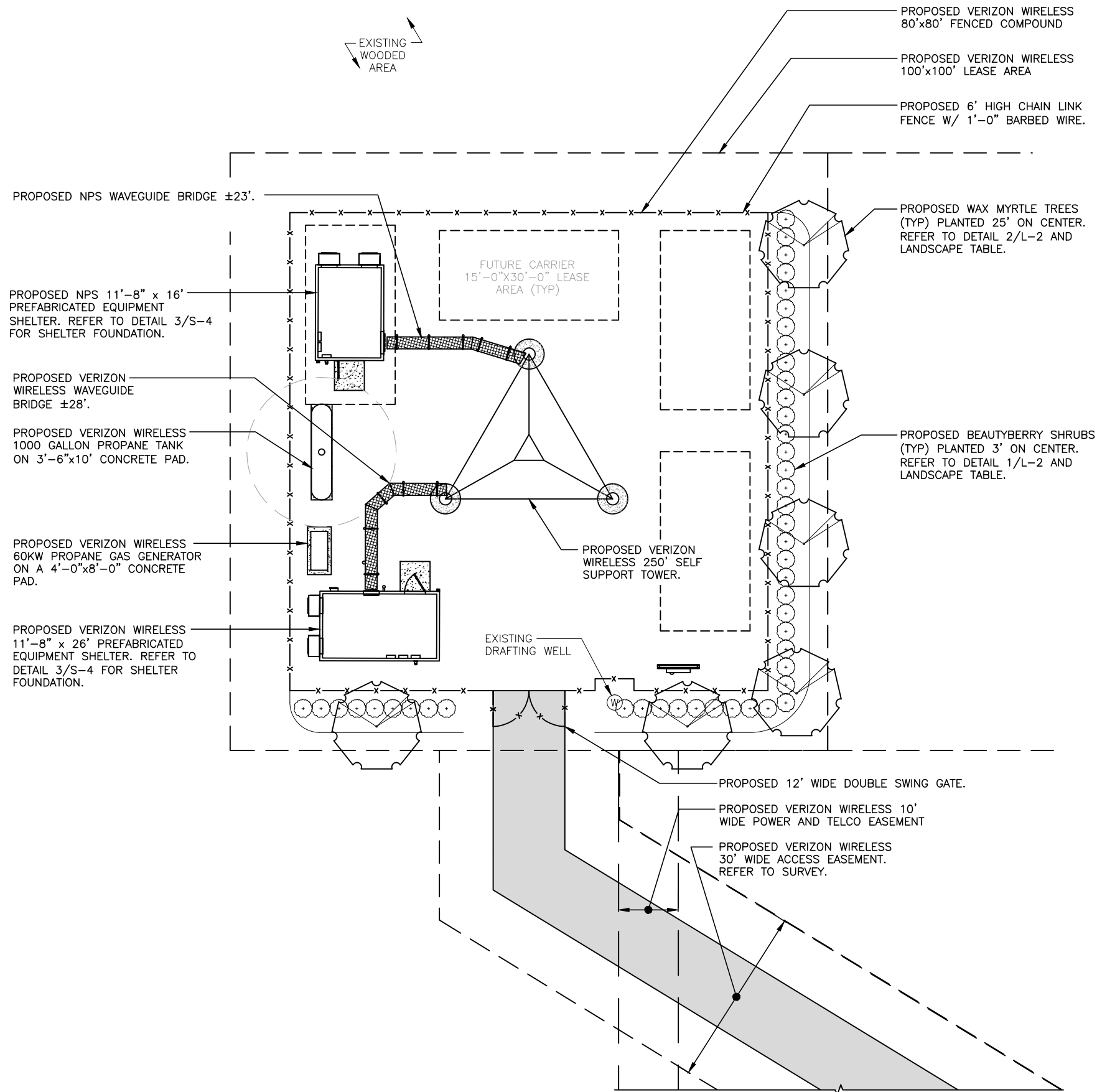
40001 SR-93363
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MIAMI-DADE COUNTY



SHEET TITLE:

GROUNDING
DETAILS

SHEET NUMBER:

GR-3



LANDSCAPE TABLE		
SYMBOL		
QTY	46 EA	6 EA
COMMON NAME	BEAUTYBERRY (OR SIMILAR NATIVE)	WAX MYRTLE (OR SIMILAR NATIVE)
BOTANICAL NAME	CALLICARPA AMERICANA	MYRICA CERIFERA
SPECIFICATIONS	24" HT X 36" O.C., FL #1	2" CAL., 10' HT X 25' O.C., FL #1

CONTRACTOR SHOULD SUBMIT A WRITTEN REQUEST FOR PLANT SUBSTITUTIONS FOR REVIEW AND APPROVAL PRIOR TO INSTALLATION.


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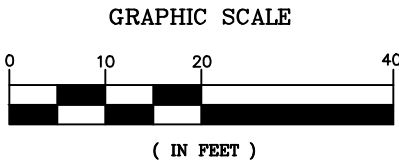
LANDSCAPE
PLAN

SHEET NUMBER:

L-1

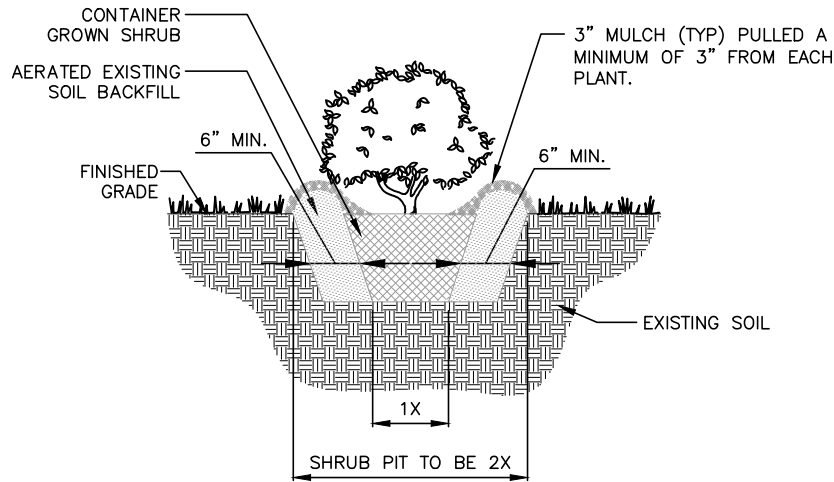
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LANDSCAPE PLAN
SCALE: 1"=20'
SCALE BASED ON 11"x17" ONLY



LANDSCAPE INSTALLATION NOTES:

1. ALL PLANT MATERIALS SHALL BE GRADE FLORIDA #1 OR BETTER AS GIVEN IN, GRADES AND STANDARDS FOR NURSERY PLANTS, FEBRUARY 1998 EDITION, PUBLISHED BY THE FLORIDA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES.
2. SIZES SPECIFIED IN THE PLANT LIST ARE MINIMUM SIZES TO WHICH THE PLANTS ARE TO BE INSTALLED. TRUNK CALIPER IS MEASURED SIX INCHES ABOVE THE GROUND ON TREES.
3. ALL LANDSCAPING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH MIAMI-DADE COUNTY STANDARDS AND IN ACCORDANCE WITH CURRENT INDUSTRY STANDARDS IN A NEAT, HEALTHY, AND WEED FREE CONDITION.
4. IT IS THE LANDSCAPE CONTRACTORS RESPONSIBILITY TO INSURE THAT ALL PLANT BED AREAS HAVE PROPER DRAINAGE FOR OPTIMUM GROWTH OF LANDSCAPE MATERIAL BEFORE INSTALLATION BEGINS.
5. THE CONTRACTOR SHALL ENSURE THAT ALL PLANTING ISLANDS AND OTHER AREAS SHALL BE CLEAN OF TRASH, CONSTRUCTION DEBRIS OTHER WASTE MATERIALS TO A DEPTH OF 24" PRIOR TO LANDSCAPE INSTALLATION.
6. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL UNDERGROUND AND OVERHEAD UTILITIES. PLANT MATERIAL IS TO BE LOCATED SUCH THAT IT WILL NOT INTERFERE WITH ANY UNDERGROUND OR OVERHEAD UTILITIES.
7. ALL PLANT BEDS AND TREE RINGS SHALL BE TOP-DRESSED WITH 3" DEEP PINE BARK MULCH. ALL NEW TREES SHALL HAVE A TREE RING WITH A MINIMUM 24" RADIUS, ALL NEW TREES AND PALMS SHALL BE STAKED.
8. TREES, SHRUBS, AND GROUND COVER SHALL BE INSTALLED USING THE FOLLOWING PROCEDURE: PLANT PITS SHALL BE EXCAVATED TO TWICE THE DIAMETER OF THE PLANT ROOT BALL. AERATE EXISTING SOIL BEFORE BACKFILLING PIT, AND THEN TOP-DRESS WITH 3" DEEP PINE BARK MULCH.
9. TREE INSTALLATION: ALL REQUIRED TREES SHALL BE INSTALLED 1" – 2" ABOVE FINISH GRADE. TREES INSTALLED OR BURIED TOO DEEP SHALL BE RESET TO THIS STANDARD. REMOVE THE TOP 1/3 OF THE WIRE BASKETS ON ALL B & B STOCK.
10. THE CONTRACTOR MUST MAINTAIN THE LANDSCAPING FOR 1 YEAR FROM THE DATE OF CONSTRUCTION COMPLETION. THIS INCLUDES BUT IS NOT LIMITED TO WATERING AND INSURING THAT THE LANDSCAPING DOES NOT DIE. IF ANY OF THE LANDSCAPING DIES WITHIN THE 1 YEAR TIME FRAME, THE CONTRACTOR MUST REPLACE IT WITH EQUIVALENT LANDSCAPING. LOCAL JURISDICTION WATERING GUIDELINES SHALL BE FOLLOWED THOROUGHLY.
11. IF EXISTING TREES REMAIN, LOCATION/SPACING OF NEW TREES MAY BE MODIFIED TO AVOID CONFLICT.
12. PRIOR APPROVAL FROM REGIONAL INTEGRATED PEST MANAGEMENT COORDINATOR IS REQUIRED FOR THE APPLICATION OF PESTICIDES IN THE EVERGLADES NATIONAL PARK. A PESTICIDE USE PROPOSAL MUST BE SUBMITTED TO THE COORDINATOR FOR REVIEW AND APPROVAL.



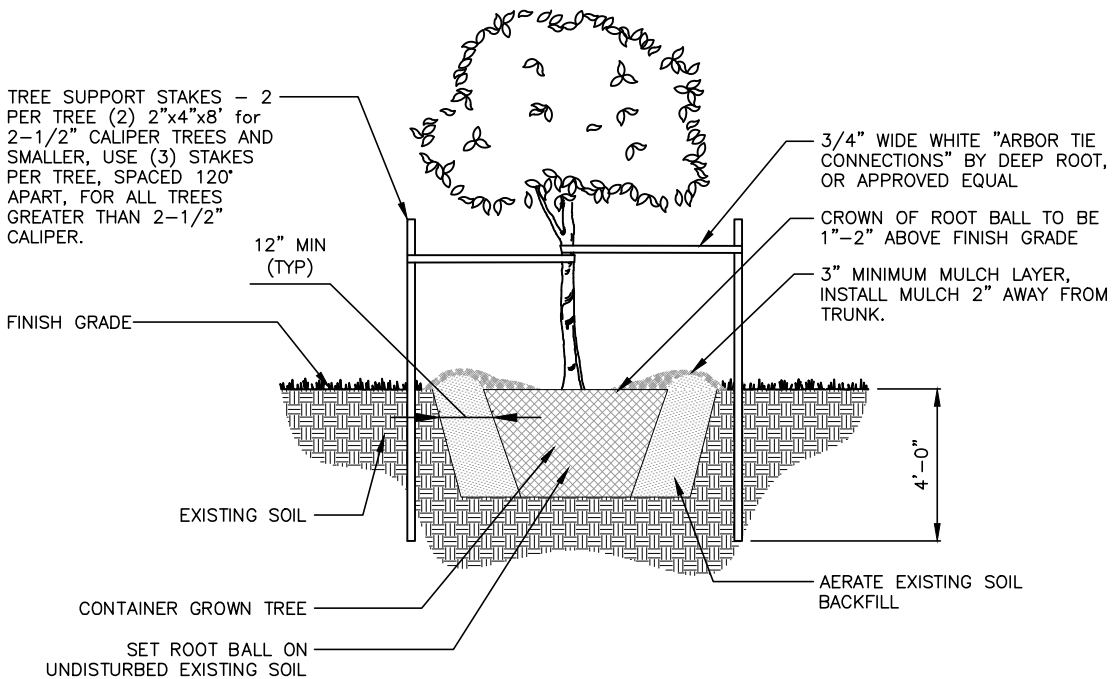
NOTES:

1. WATER SHRUBS THOROUGHLY SUBSEQUENT TO INSTALLATION, UNTIL PLANT MATERIAL IS SUFFICIENTLY ESTABLISHED.

1
L-2

SHRUB PLANTING DETAIL

SCALE: N.T.S.



NOTES:

1. 4" SAUCER RIM WITH 3" MULCH ON TOP (WHEN NECESSARY). SAUCER SHALL BE UNIFORM AND NEATLY CONSTRUCTED.
2. CONTRACTOR SHALL REMOVE STAKING AND GUYING MATERIALS AFTER ONE GROWING SEASON.
3. WATER TREE THOROUGHLY SUBSEQUENT TO INSTALLATION, UNTIL PLANT MATERIAL IS SUFFICIENTLY ESTABLISHED.

2
L-2

TREE PLANTING DETAIL

SCALE: N.T.S.



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LANDSCAPE NOTES
AND DETAILS

SHEET NUMBER:

L-2