

SITE USE PERMIT SET

1320 S STREET, ANDOVER, MA 01810
12MW/48MWh KWDC ENERGY STORAGE SYSTEM

THIS DOCUMENT IS PROVIDED BY NEW LEAF ENERGY, INC. TO FACILITATE THE SALE OF THE RENEWABLE ENERGY PROJECT REPRESENTED HEREIN. REPRODUCTION, RELEASE OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.

new leaf energy

55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (988) 808-4273
FAX: (988) 843-6778
WWW.NEWLEAFENERGY.COM

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

1320 S STREET
ANDOVER, MA 01810

PROJECT NUMBER:
120-0345

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	SITE USE PERMIT SET	RESPONSE TO PEER REVIEW	COMMENTS
1	4/12/22	CS	BS	BS	BS	BS	
2	6/14/22	CS	CS	BS	BS	BS	
3	9/13/22	CS	CS	BS	BS	BS	
4	11/29/22	CS	CS	BS	BS	BS	

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" x 36"

T-1
TITLE PAGE

GENERAL NOTES

- AS CONTAINED HEREIN, "CONTRACTOR" IS ASSUMED TO BE THE EPC PROVIDER HIRED BY THE SYSTEM/PROJECT OWNER.
- WHEN THERE IS A CONFLICT BETWEEN THESE GENERAL NOTES AND THE DRAWINGS, THE DRAWINGS SHALL GOVERN.
- ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING: LOCAL BUILDING CODE, LOCAL ELECTRICAL CODE, ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER ANY PORTION OF THE WORK AND THOSE CODES AND STANDARDS LISTED IN THESE DRAWINGS.
- THESE DRAWINGS SHALL NOT BE USED FOR CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEVELOPING A CONSTRUCTION LEVEL DESIGN AND ASSOCIATED DRAWINGS AND DETAILS.
- COORDINATE THESE DRAWINGS WITH SPECIFICATIONS AND MANUFACTURER INSTALLATION AND OPERATION MANUALS.
- UNLESS OTHERWISE NOTED, THE DESIGN REPRESENTED ON THESE PLANS IS BASED ON THE INFORMATION AND CRITERIA LISTED IN THE "BASIS OF DESIGN" SECTION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY SUCH INFORMATION IN PREPARATION OF THE CONSTRUCTION DESIGN.
- THE EXISTING CONDITIONS REPRESENTED ON THESE PLANS ARE BASED ON PUBLICLY AVAILABLE INFORMATION AND THE SITE DISCOVERY SUMMARIZED IN THESE DRAWINGS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE ACCURACY OF SUCH INFORMATION AND SUPPLEMENT WITH ANY ADDITIONAL REQUIRED INFORMATION.
- UNLESS INDICATED AS EXISTING (E), ALL PROPOSED MATERIALS AND EQUIPMENT SHALL BE CONSIDERED TO BE NEW.
- ALL EQUIPMENT AND COMPONENTS SHALL BE MOUNTED IN COMPLIANCE WITH THE MANUFACTURER'S REQUIREMENTS, CONSTRUCTION DETAILS, AND/OR PRUDENT INDUSTRY STANDARDS.
- TO THE EXTENT THAT TRESS AND OTHER FEATURES AFFECT THE SYSTEM'S PRODUCTION, SUCH PRODUCTION MODELING IS BASED ON THE EXISTING APPROXIMATE HEIGHTS AND LOCATIONS RELATIVE TO THE SYSTEM AND MAY BE IMPACTED AS TREES GROW AND OTHER FEATURES CHANGE.

PROJECT SCOPE

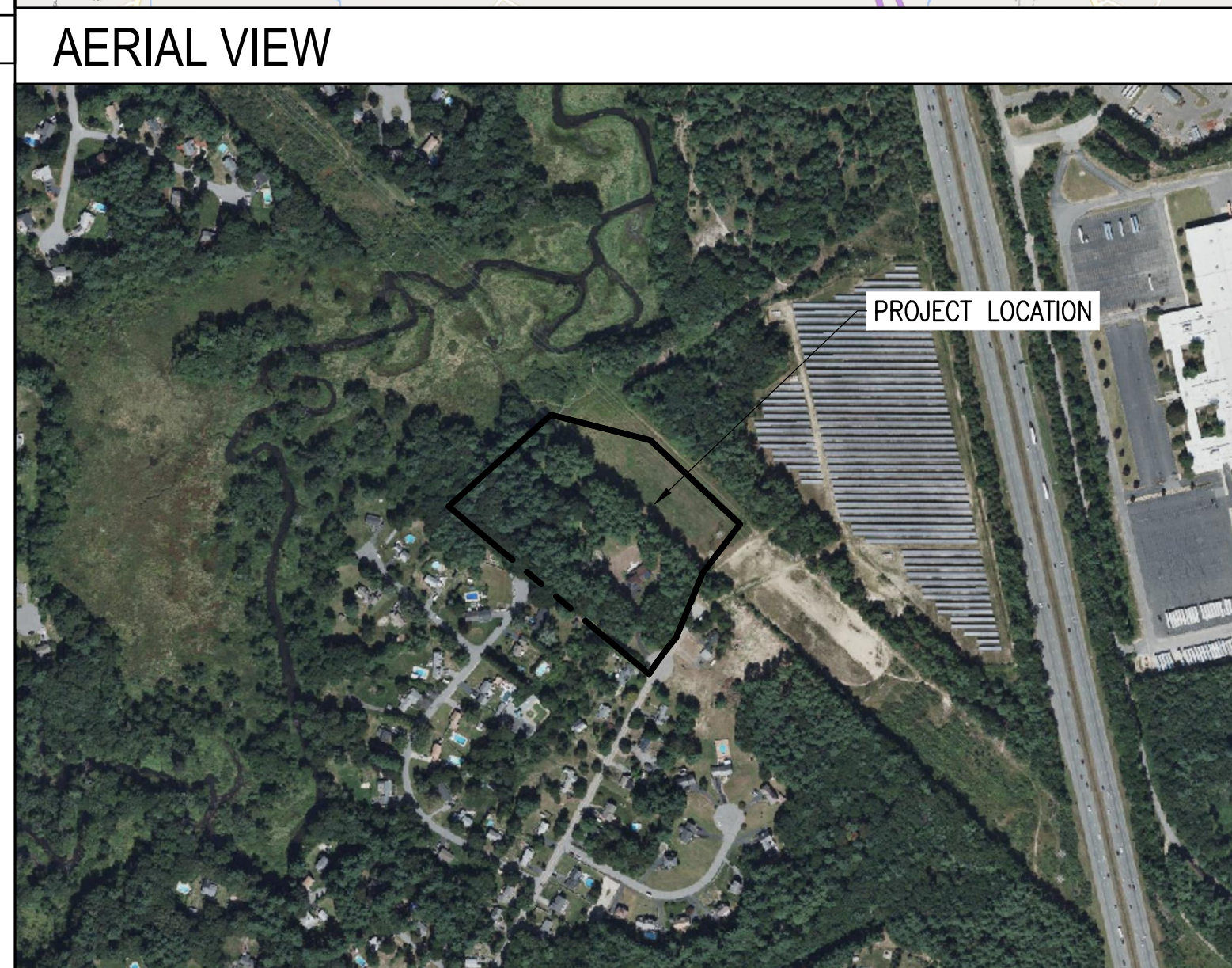
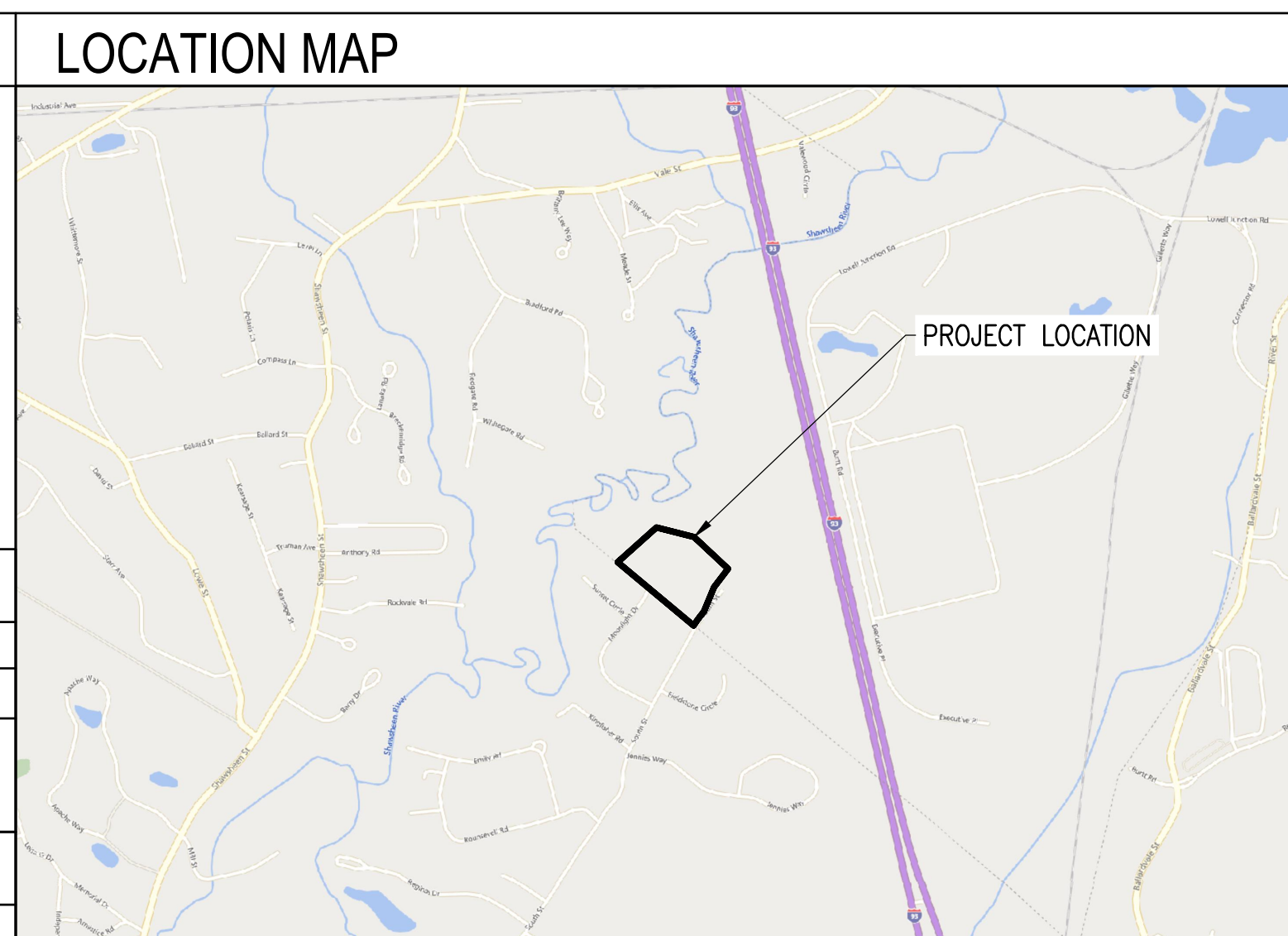
THIS PROJECT CONSISTS OF THE INSTALLATION OF ENERGY STORAGE EQUIPMENT, PER THE SYSTEM DESCRIPTION BELOW. BATTERY MODULES WILL BE INSTALLED IN PURPOSE-BUILT ENERGY STORAGE SEGMENTS WITH INTEGRATED FIRE SUPPRESSION SYSTEMS. BATTERY MODULES WILL BE WIRED IN SERIES STRINGS AND CONNECTED THROUGH DC/DC CONVERTERS, WHICH WILL CONVERT DC TO AC WHILE THE BATTERIES ARE DISCHARGING.

ENERGY STORAGE SYSTEM DESCRIPTION

SYSTEM POWER CAPACITY	12000 KWAC
SYSTEM ENERGY CAPACITY	48,000 KWH
POWER CONVERSION SYSTEM / INVERTER	(4) SMA SUNNY CENTRAL STORAGE 3950 UP-XT-US

TOTAL SYSTEM DESCRIPTION

MAXIMUM EXPORT TO UTILITY	12000 KWAC
STORAGE CHARGING MODE	GRID ONLY



APPLICABLE CODES AND STANDARDS

2020 MASSACHUSETTS ELECTRICAL CODE 527 CMR12.00
MASSACHUSETTS BUILDING CODE 9TH EDITION
UL-1703 - SOLAR MODULES
UL-1741 - INVERTERS, COMBINER BOXES
UL-2703 - RACKING MOUNTING SYSTEMS AND CLAMPING DEVICES FOR PV MODULES
UL-1642 - STANDARD FOR LITHIUM BATTERIES
UL-1973 - STANDARD FOR BATTERIES FOR USE IN LIGHT ELECTRIC RAIL (LER) APPLICATIONS AND STATIONARY APPLICATION
UL-9540 - STANDARD FOR ENERGY STORAGE SYSTEM AND EQUIPMENT

PROJECT DIRECTORY

LAND OWNER / HOST TES MERCEDAT 1320 SOUTH STREET TEWKSBURY, MA 01876 617-699-6315	CIVIL ENGINEER FIRM: BORREGO SOLAR SYSTEMS, INC. CONTACT: BRANDON SMITH, P.E. PHONE: 978-221-3093
AUTHORITY HAVING JURISDICTION TOWN OF ANDOVER 36 BARTLET STREET ANDOVER, MA 01810 978-623-8650	ELECTRICAL ENGINEER FIRM: BORREGO SOLAR SYSTEMS, INC CONTACT: AHARON WRIGHT, P.E. PHONE: 978-221-3081
UTILITY NATIONAL GRID	DESIGN ENGINEER FIRM: BORREGO SOLAR SYSTEMS, INC CONTACT: STEVEN RIGGALL PHONE: 518-309-7837

GENERAL ABBREVIATIONS

(E) EXISTING	NS NORTH-SOUTH
AHJ AUTHORITY HAVING JURISDICTION	NTS NOT TO SCALE
AL ALUMINUM	OAE OR APPROVED EQUAL
APPROX APPROXIMATE	OC ON CENTER
ARY ARRAY	OD OUTSIDE DIAMETER
BLDG BUILDING	OF/CI OWNER FURNISHED CONTRACTOR INSTALLED
BSS BORREGO SOLAR SYSTEM	PV PHOTOVOLTAIC
CL CENTERLINE	PVC POLY VINYL CHLORIDE
DAS DATA ACQUISITION SYSTEM	SCH SCHEDULE
DIA DIAMETER	SS STAINLESS STEEL
DO DITTO	SSS SOLAR SUPPORT STRUCTURE
EW EAST-WEST	STC STANDARD TEST CONDITIONS
FBO FURNISHED BY OTHERS	TBD TO BE DETERMINED
FF FORWARD FACING	TP TAMPER PROOF
GALV GALVANIZED	TYP TYPICAL
HDG HOT DIP GALVANIZED	UON UNLESS OTHERWISE NOTED
HVAC HEATING VENTILATION AND AIR CONDITIONING	VIF VERIFY IN FIELD
ID INSIDE DIAMETER	WP WEATHER PROOF
MFR MANUFACTURER	
MOD SOLAR MODULE	

REV 1.0

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

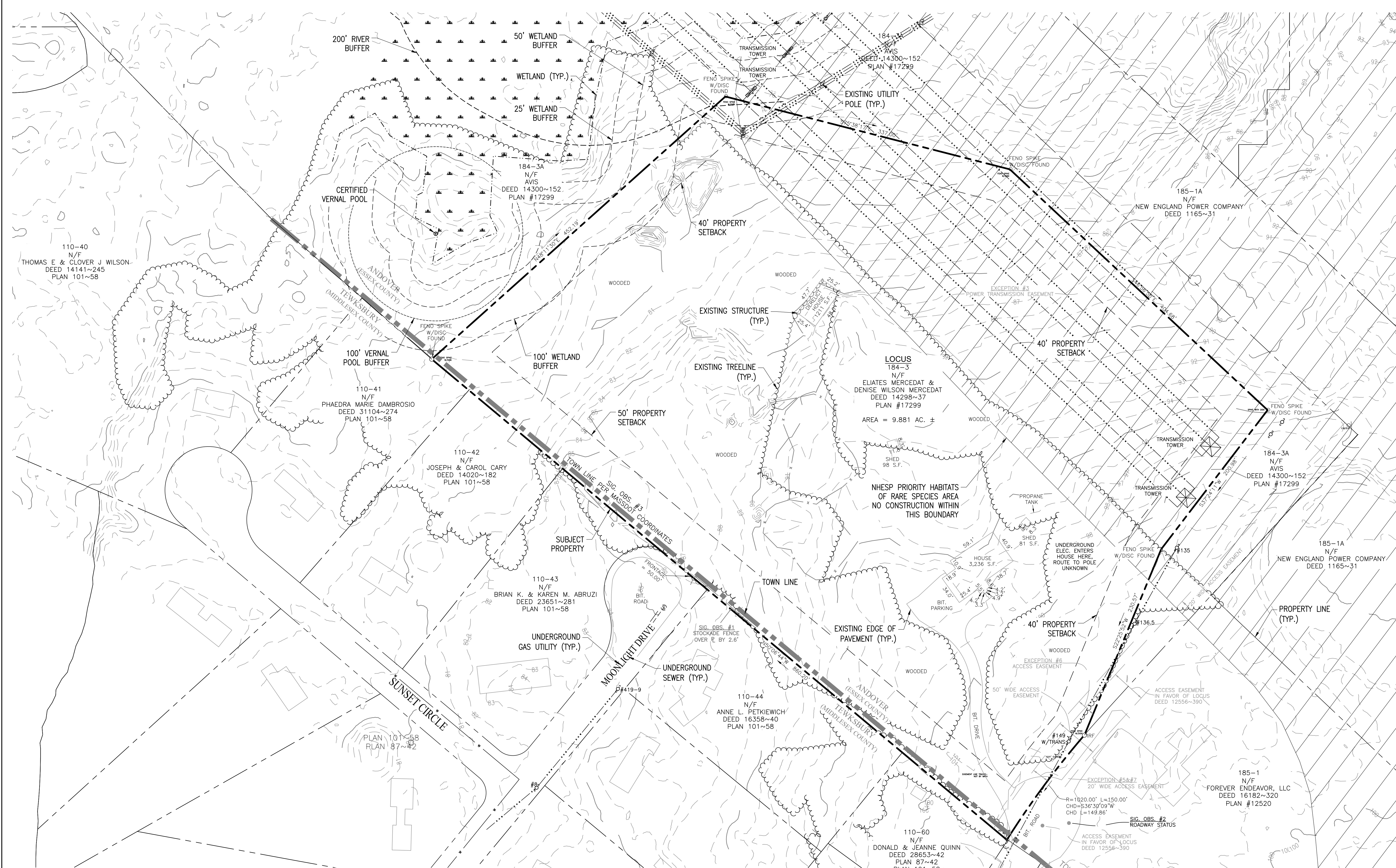
1320 S STREET
ANDOVER, MA 01810

PROJECT NUMBER:
120-0345

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	SITE USE PERMIT SET	RESPONSE TO PEER REVIEW	COMMENTS
1	4/12/22	CS	BS	BS	BS		
2	6/14/22	CS	BS	BS	BS		
3	9/13/22	CS	BS	BS	BS		
4	11/29/22	CS	BS	BS	BS		

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-1.0
EXISTING CONDITIONS PLAN



110-40
N/F
THOMAS E & CLOVER J WILSON
DEED 14141~245
PLAN 101~58

200' RIVER BUFFER
50' WETLAND BUFFER
WETLAND (TYP.)
25' WETLAND BUFFER
184-3A
N/F
AVIS
DEED 14300~152
PLAN #17299

110-41
N/F
PHAEDRA MARIE DAMBROSIO
DEED 31104~274
PLAN 101~58

110-42
N/F
JOSEPH & CAROL CARY
DEED 14020~182
PLAN 101~58

110-43
N/F
BRIAN K. & KAREN M. ABRUZI
DEED 23651~281
PLAN 101~58

110-44
N/F
ANNE L. PETKIEWICH
DEED 16358~40
PLAN 101~58

110-60
N/F
DONALD & JEANNE QUINN
DEED 28653~42
PLAN 87~42

LOCUS
184-3
N/F
ELIATES MERCEDAT &
DENISE WILSON MERCEDAT
DEED 14298~37
PLAN #17299
AREA = 9.881 AC. ±

NHEP PRIORITY HABITATS
OF RARE SPECIES AREA
NO CONSTRUCTION WITHIN
THIS BOUNDARY

185-1
N/F
FOREVER ENDEAVOR, LLC
DEED 16182~320
PLAN #12520

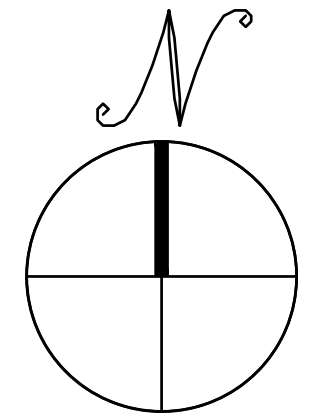
185-1A
N/F
NEW ENGLAND POWER COMPANY
DEED 1165~31

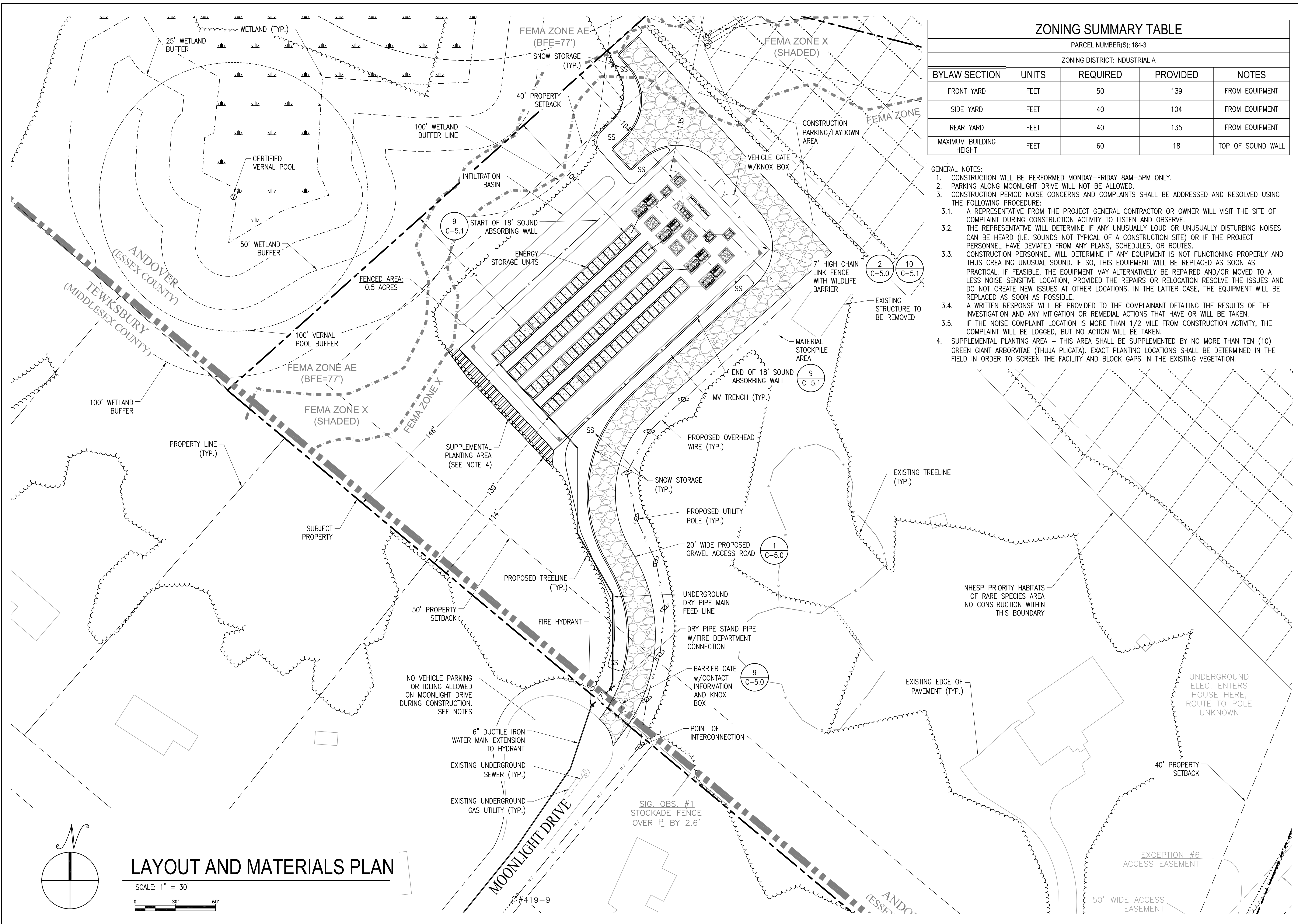
185-1A
N/F
NEW ENGLAND POWER COMPANY
DEED 1165~31

184-3A
N/F
AVIS
DEED 14300~152
PLAN #17299

EXISTING CONDITIONS PLAN

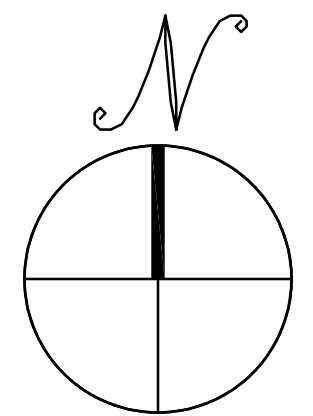
SCALE: 1" = 50'
0 50' 100'





LAYOUT AND MATERIALS PLAN

SCALE: 1" = 30'



ZONING SUMMARY TABLE

PARCEL NUMBER(S): 184-3
ZONING DISTRICT: INDUSTRIAL A

BYLAW SECTION	UNITS	REQUIRED	PROVIDED	NOTES
FRONT YARD	FEET	50	139	FROM EQUIPMENT
SIDE YARD	FEET	40	104	FROM EQUIPMENT
REAR YARD	FEET	40	135	FROM EQUIPMENT
MAXIMUM BUILDING HEIGHT	FEET	60	18	TOP OF SOUND WALL

- GENERAL NOTES:
- CONSTRUCTION WILL BE PERFORMED MONDAY-FRIDAY 8AM-5PM ONLY.
 - PARKING ALONG MOONLIGHT DRIVE WILL NOT BE ALLOWED.
 - CONSTRUCTION PERIOD NOISE CONCERNS AND COMPLAINTS SHALL BE ADDRESSED AND RESOLVED USING THE FOLLOWING PROCEDURE:
 - A REPRESENTATIVE FROM THE PROJECT GENERAL CONTRACTOR OR OWNER WILL VISIT THE SITE OF COMPLAINT DURING CONSTRUCTION ACTIVITY TO LISTEN AND OBSERVE.
 - THE REPRESENTATIVE WILL DETERMINE IF ANY UNUSUALLY LOUD OR UNUSUALLY DISTURBING NOISES CAN BE HEARD (I.E. SOUNDS NOT TYPICAL OF A CONSTRUCTION SITE) OR IF THE PROJECT PERSONNEL HAVE DEVIATED FROM ANY PLANS, SCHEDULES, OR ROUTES.
 - CONSTRUCTION PERSONNEL WILL DETERMINE IF ANY EQUIPMENT IS NOT FUNCTIONING PROPERLY AND THUS CREATING UNUSUAL SOUND. IF SO, THIS EQUIPMENT WILL BE REPLACED AS SOON AS PRACTICAL. IF FEASIBLE, THE EQUIPMENT MAY ALTERNATIVELY BE REPAIRED AND/OR MOVED TO A LESS NOISE SENSITIVE LOCATION, PROVIDED THE REPAIRS OR RELOCATION RESOLVE THE ISSUES AND DO NOT CREATE NEW ISSUES AT OTHER LOCATIONS. IN THE LATTER CASE, THE EQUIPMENT WILL BE REPLACED AS SOON AS POSSIBLE.
 - A WRITTEN RESPONSE WILL BE PROVIDED TO THE COMPLAINANT DETAILING THE RESULTS OF THE INVESTIGATION AND ANY MITIGATION OR REMEDIAL ACTIONS THAT HAVE OR WILL BE TAKEN.
 - IF THE NOISE COMPLAINT LOCATION IS MORE THAN 1/2 MILE FROM CONSTRUCTION ACTIVITY, THE COMPLAINT WILL BE LOGGED, BUT NO ACTION WILL BE TAKEN.
 - SUPPLEMENTAL PLANTING AREA - THIS AREA SHALL BE SUPPLEMENTED BY NO MORE THAN TEN (10) GREEN GIANT ARBORVITAE (THUJA PLICATA). EXACT PLANTING LOCATIONS SHALL BE DETERMINED IN THE FIELD IN ORDER TO SCREEN THE FACILITY AND BLOCK GAPS IN THE EXISTING VEGETATION.

THIS DOCUMENT IS PROVIDED BY NEW LEAF ENERGY, INC. TO FACILITATE THE SALE OF THE RENEWABLE ENERGY PROJECT REPRESENTED HEREIN. REPRODUCTION, RELEASE, OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.

55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (985) 898-6273
FAX: (985) 843-6778
WWW.NEWEAFENERGY.COM

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

1320 S STREET
ANDOVER, MA 01810

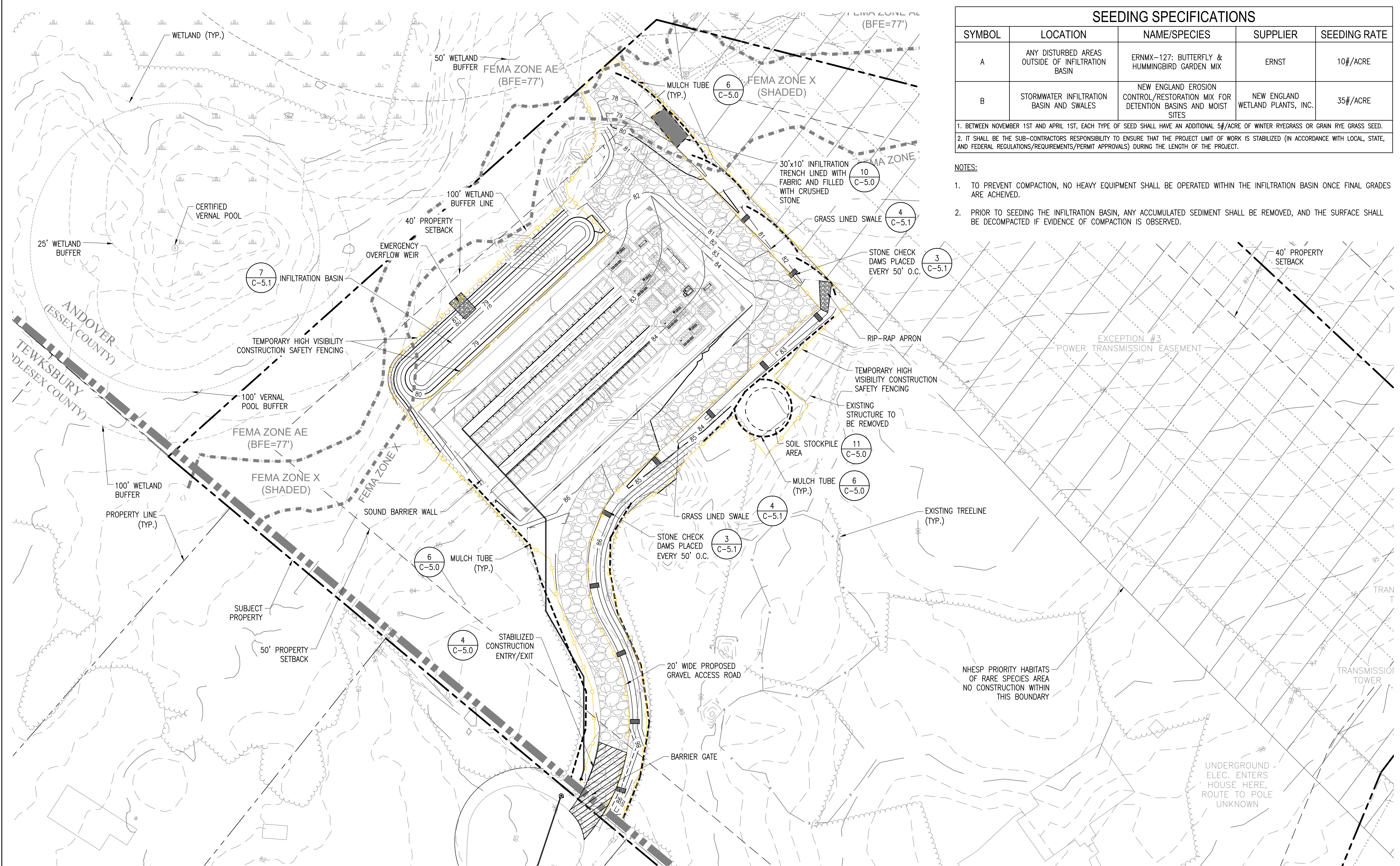
PROJECT NUMBER:
120-0345

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	DESCRIPTION
1	4/12/22	CS	BS	SITE USE PERMIT SET	
2	6/14/22	CS	BS	RESPONSE TO PEER REVIEW	
3	9/13/22	CS	BS	RESPONSE TO COMMENTS	
4	11/29/22	CS	BS	RESPONSE TO COMMENTS	

SCALES SHOWN ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-3.0

LAYOUT AND MATERIALS PLAN



SEEDING SPECIFICATIONS

SYMBOL	LOCATION	NAME/SPECIES	SUPPLIER	SEEDING RATE
A	ANY DISTURBED AREAS OUTSIDE OF INFILTRATION BASIN	ERNMX-127: BUTTERFLY & HUMMINGBIRD GARDEN MIX	ERNST	10#/ACRE
B	STORMWATER INFILTRATION BASIN AND SWALES	NEW ENGLAND EROSION CONTROL/RESTORATION MIX FOR DETENTION BASINS AND MOIST SITES	NEW ENGLAND WETLAND PLANTS, INC.	35#/ACRE

1. BETWEEN NOVEMBER 1ST AND APRIL 1ST, EACH TYPE OF SEED SHALL HAVE AN ADDITIONAL 5#/ACRE OF WINTER RYEGRASS OR GRAIN RYE GRASS SEED.
 2. IT SHALL BE THE SUB-CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE PROJECT LIMIT OF WORK IS STABILIZED (IN ACCORDANCE WITH LOCAL, STATE, AND FEDERAL REGULATIONS/REQUIREMENTS/PERMIT APPROVALS) DURING THE LENGTH OF THE PROJECT.

- NOTES:**
- TO PREVENT COMPACTION, NO HEAVY EQUIPMENT SHALL BE OPERATED WITHIN THE INFILTRATION BASIN ONCE FINAL GRADES ARE ACHIEVED.
 - PRIOR TO SEEDING THE INFILTRATION BASIN, ANY ACCUMULATED SEDIMENT SHALL BE REMOVED, AND THE SURFACE SHALL BE DECOMPACTED IF EVIDENCE OF COMPACTION IS OBSERVED.

THIS DOCUMENT IS PROVIDED BY NEW LEAF ENERGY, INC. TO FACILITATE THE SALE OF THE RENEWABLE ENERGY PROJECT REPRESENTED HEREIN. REPRODUCTION, RELEASE OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.

55 TECHNOLOGY DRIVE, SUITE 102
 LOWELL, MA 01851
 PHONE: (978) 898-4273
 FAX: (978) 843-6778
 WWW.NEWLEAFENERGY.COM

NOT FOR CONSTRUCTION

BRANDON L. SMITH
 CIVIL ENGINEER
 PROFESSIONAL REG. NO. 55327
 11/29/2022

IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

1320 S STREET
 ANDOVER, MA 01810

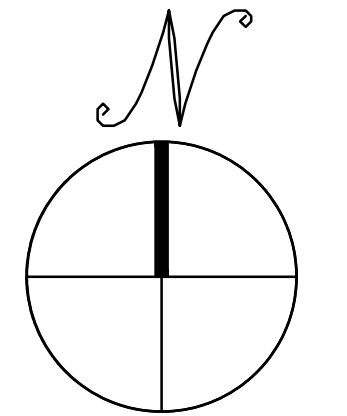
PROJECT NUMBER:
 120-0345

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	DESCRIPTION
1	4/12/22	CS	BS	SITE USE PERMIT SET	
2	6/14/22	CS	BS	RESPONSE TO PEER REVIEW	
3	9/13/22	CS	BS	RESPONSE TO COMMENTS	
4	11/29/22	CS	BS	RESPONSE TO COMMENTS	

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

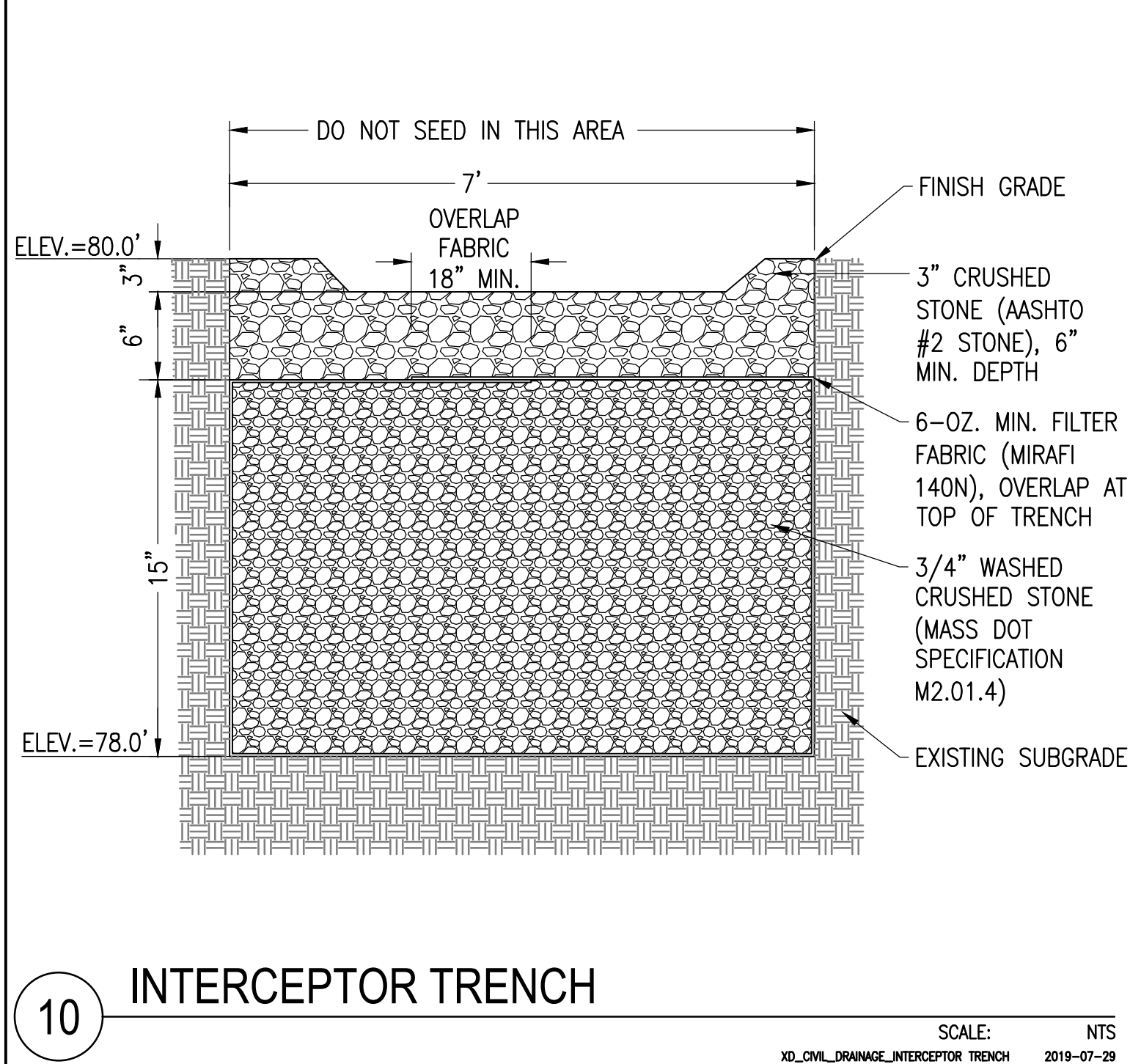
C-4.0

GRADING AND EROSION CONTROL PLAN



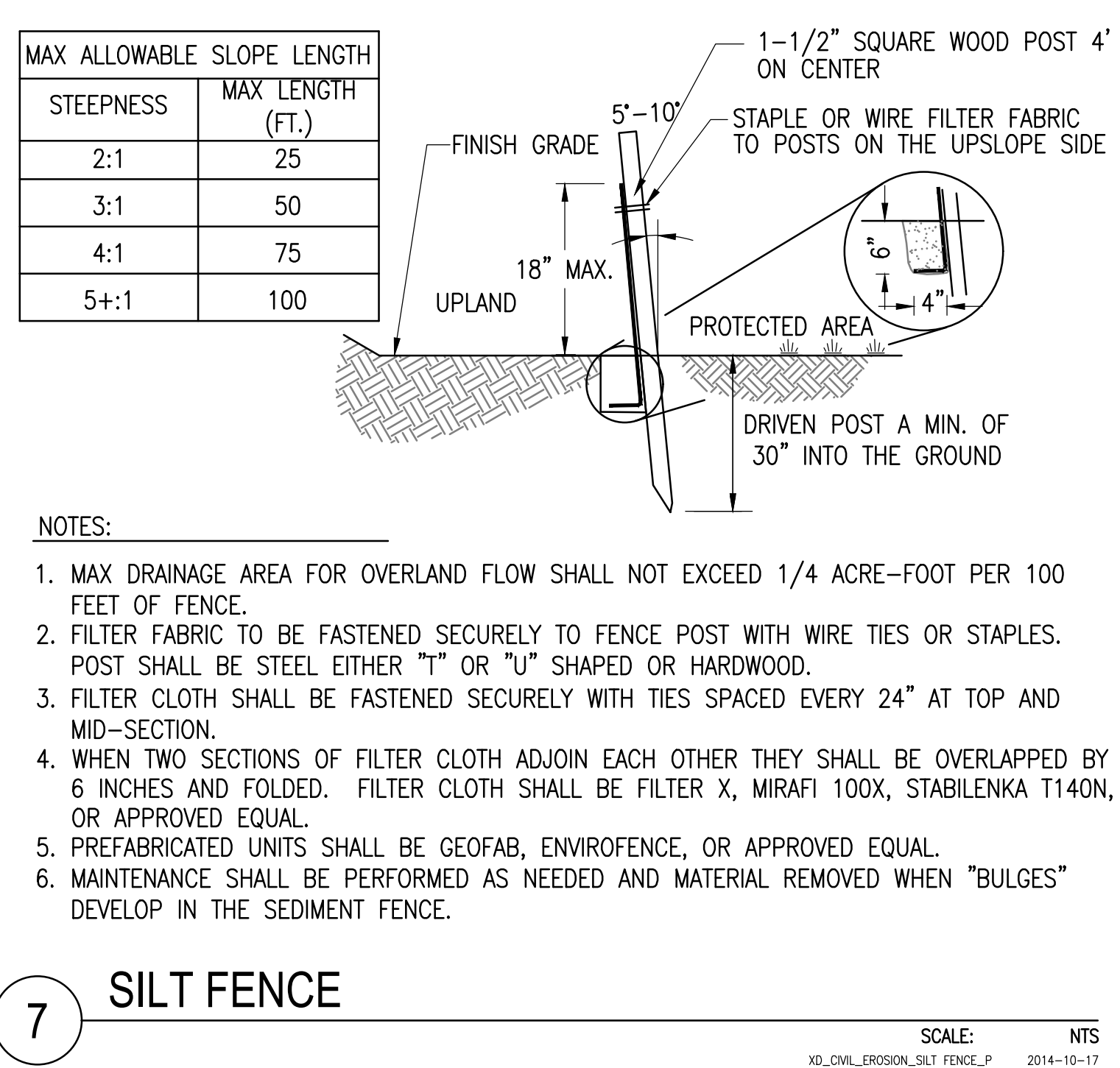
GRADING AND EROSION CONTROL PLAN

SCALE: 1" = 30'



10 INTERCEPTOR TRENCH

SCALE: NTS
XD_CIVIL_DRAWING_INTERCEPTOR_TRENCH 2019-07-29

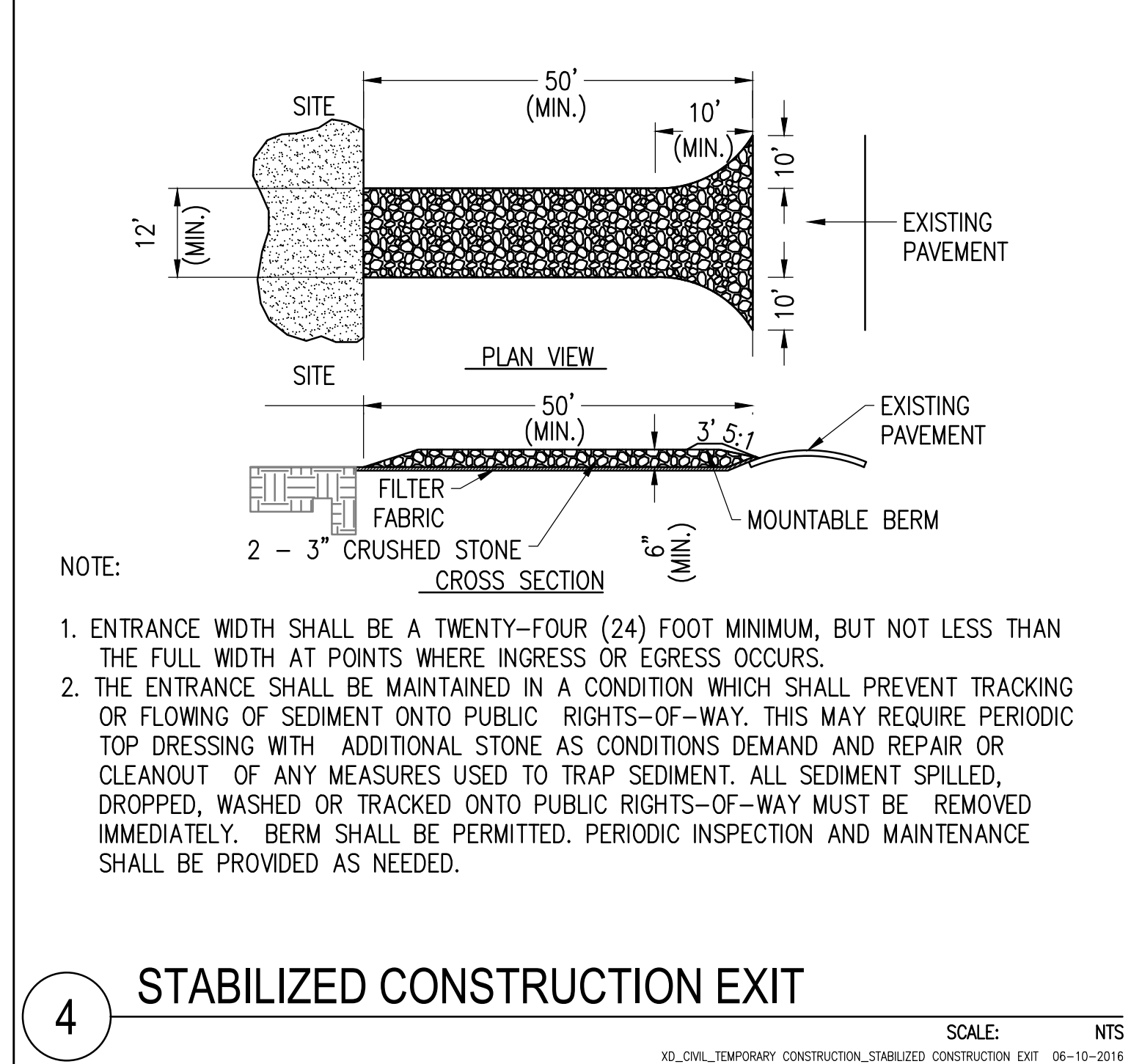


7 SILT FENCE

SCALE: NTS
XD_CIVIL_EROSION_SILT_FENCE_P 2014-10-17

- NOTES:
1. MAX DRAINAGE AREA FOR OVERLAND FLOW SHALL NOT EXCEED 1/4 ACRE-FOOT PER 100 FEET OF FENCE.
 2. FILTER FABRIC TO BE FASTENED SECURELY TO FENCE POST WITH WIRE TIES OR STAPLES. POST SHALL BE STEEL EITHER "I" OR "U" SHAPED OR HARDWOOD.
 3. FILTER CLOTH SHALL BE FASTENED SECURELY WITH TIES SPACED EVERY 24" AT TOP AND MID-SECTION.
 4. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 6 INCHES AND FOLDED. FILTER CLOTH SHALL BE FILTER X, MIRAFI 100X, STABILENKA T140N, OR APPROVED EQUAL.
 5. PREFABRICATED UNITS SHALL BE GEOFAB, ENVIROFENCE, OR APPROVED EQUAL.
 6. MAINTENANCE SHALL BE PERFORMED AS NEEDED AND MATERIAL REMOVED WHEN "BULGES" DEVELOP IN THE SEDIMENT FENCE.

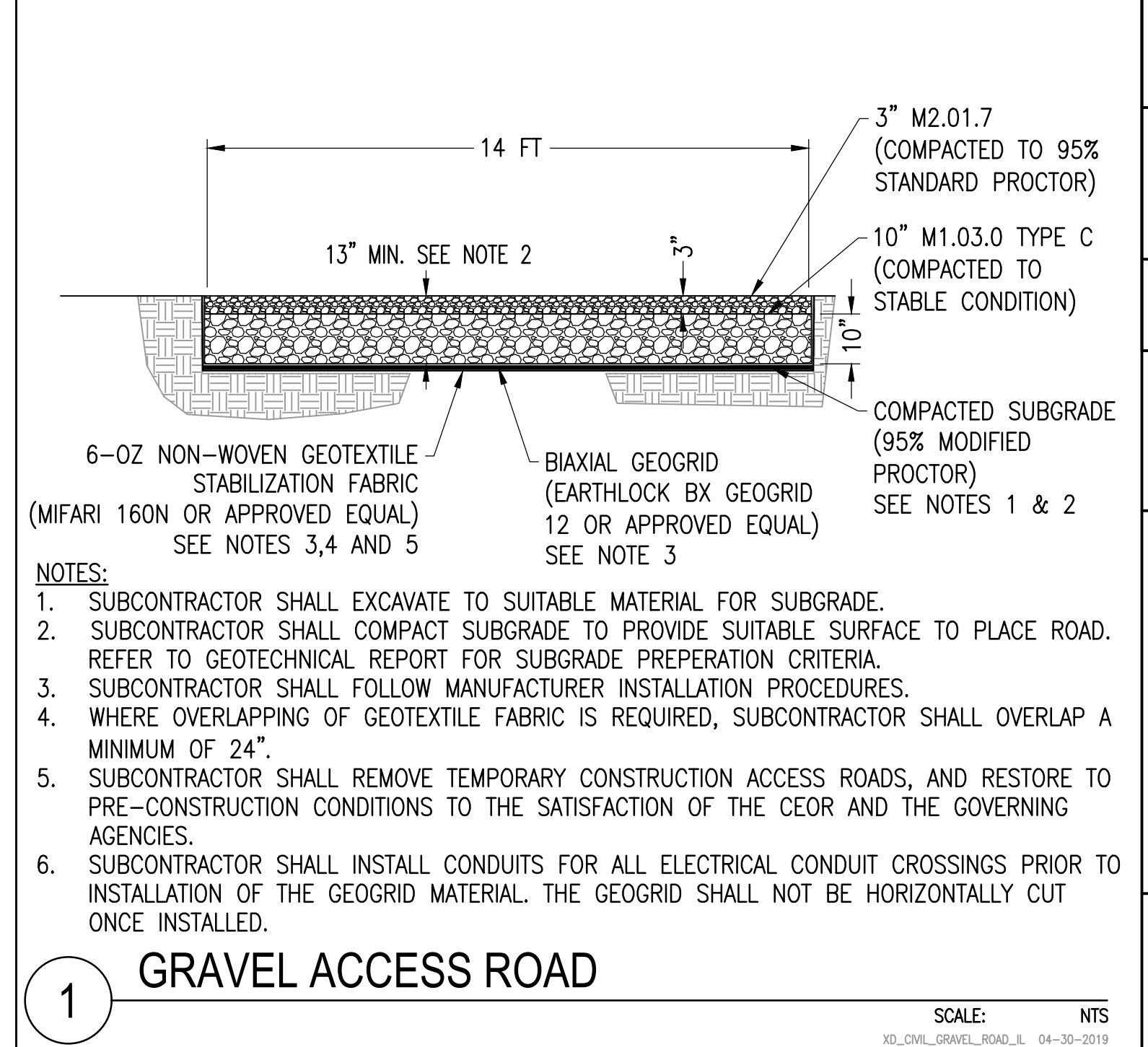
STEEPNESS	MAX LENGTH (FT.)
2:1	25
3:1	50
4:1	75
5+:1	100



4 STABILIZED CONSTRUCTION EXIT

SCALE: NTS
XD_CIVIL_TEMPORARY_CONSTRUCTION_STABILIZED_CONSTRUCTION_EXIT 06-10-2016

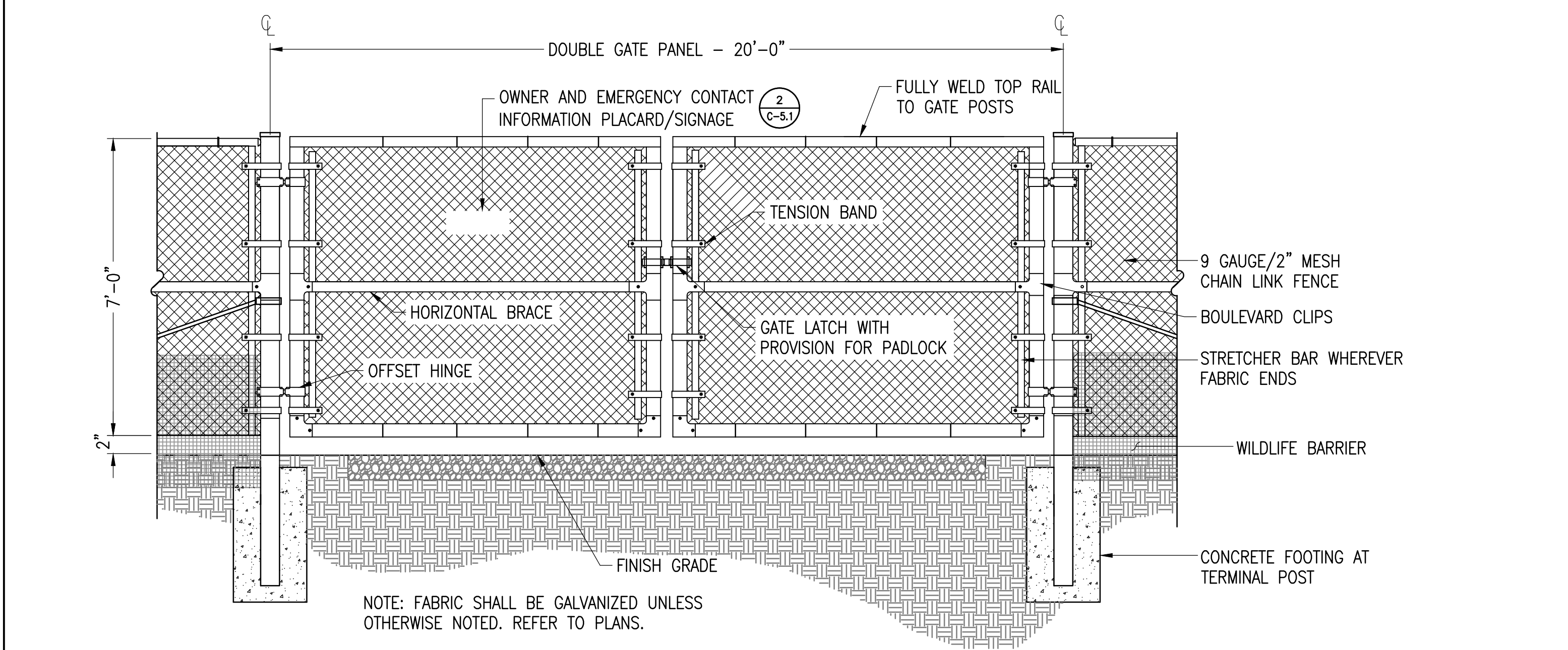
- NOTE:
1. ENTRANCE WIDTH SHALL BE A TWENTY-FOUR (24) FOOT MINIMUM, BUT NOT LESS THAN THE FULL WIDTH AT POINTS WHERE INGRESS OR EGRESS OCCURS.
 2. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH SHALL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY. BERM SHALL BE PERMITTED. PERIODIC INSPECTION AND MAINTENANCE SHALL BE PROVIDED AS NEEDED.



1 GRAVEL ACCESS ROAD

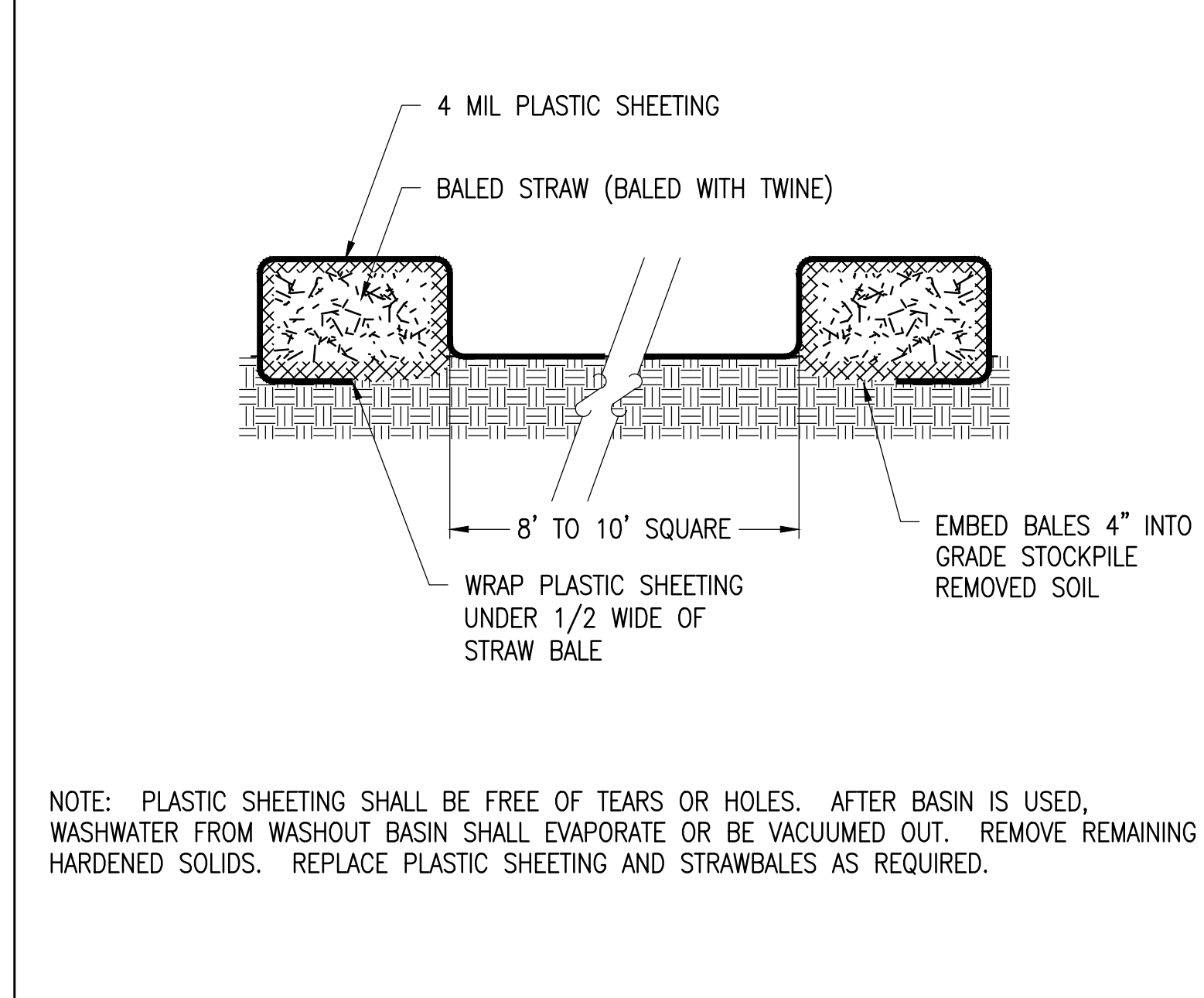
SCALE: NTS
XD_CIVIL_GRAVEL_ROAD_LI 04-30-2019

- NOTES:
1. SUBCONTRACTOR SHALL EXCAVATE TO SUITABLE MATERIAL FOR SUBGRADE.
 2. SUBCONTRACTOR SHALL COMPACT SUBGRADE TO PROVIDE SUITABLE SURFACE TO PLACE ROAD. REFER TO GEOTECHNICAL REPORT FOR SUBGRADE PREPARATION CRITERIA.
 3. SUBCONTRACTOR SHALL FOLLOW MANUFACTURER INSTALLATION PROCEDURES.
 4. WHERE OVERLAPPING OF GEOTEXTILE FABRIC IS REQUIRED, SUBCONTRACTOR SHALL OVERLAP A MINIMUM OF 24".
 5. SUBCONTRACTOR SHALL REMOVE TEMPORARY CONSTRUCTION ACCESS ROADS, AND RESTORE TO PRE-CONSTRUCTION CONDITIONS TO THE SATISFACTION OF THE CEOR AND THE GOVERNING AGENCIES.
 6. SUBCONTRACTOR SHALL INSTALL CONDUITS FOR ALL ELECTRICAL CONDUIT CROSSINGS PRIOR TO INSTALLATION OF THE GEOGRID MATERIAL. THE GEOGRID SHALL NOT BE HORIZONTALLY CUT ONCE INSTALLED.



8 VEHICLE GATE

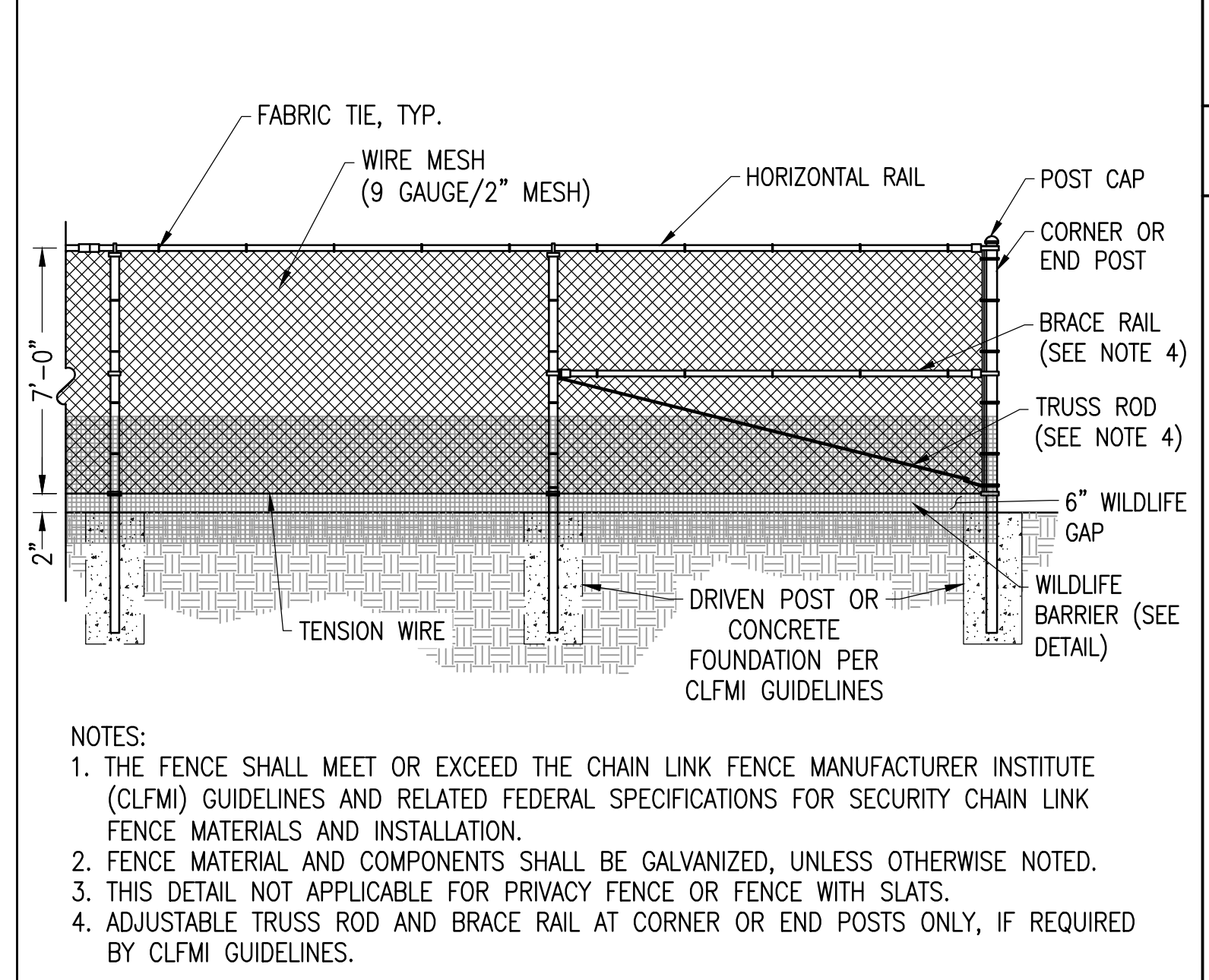
SCALE: NTS
XD_CIVIL_FENCE_VEHICLE_GATE_7 07-02-2020



5 CONCRETE WASHOUT BASINS

SCALE: NTS
XD_CIVIL_CONCRETE_WASHOUT_BASINS 07-24-2017

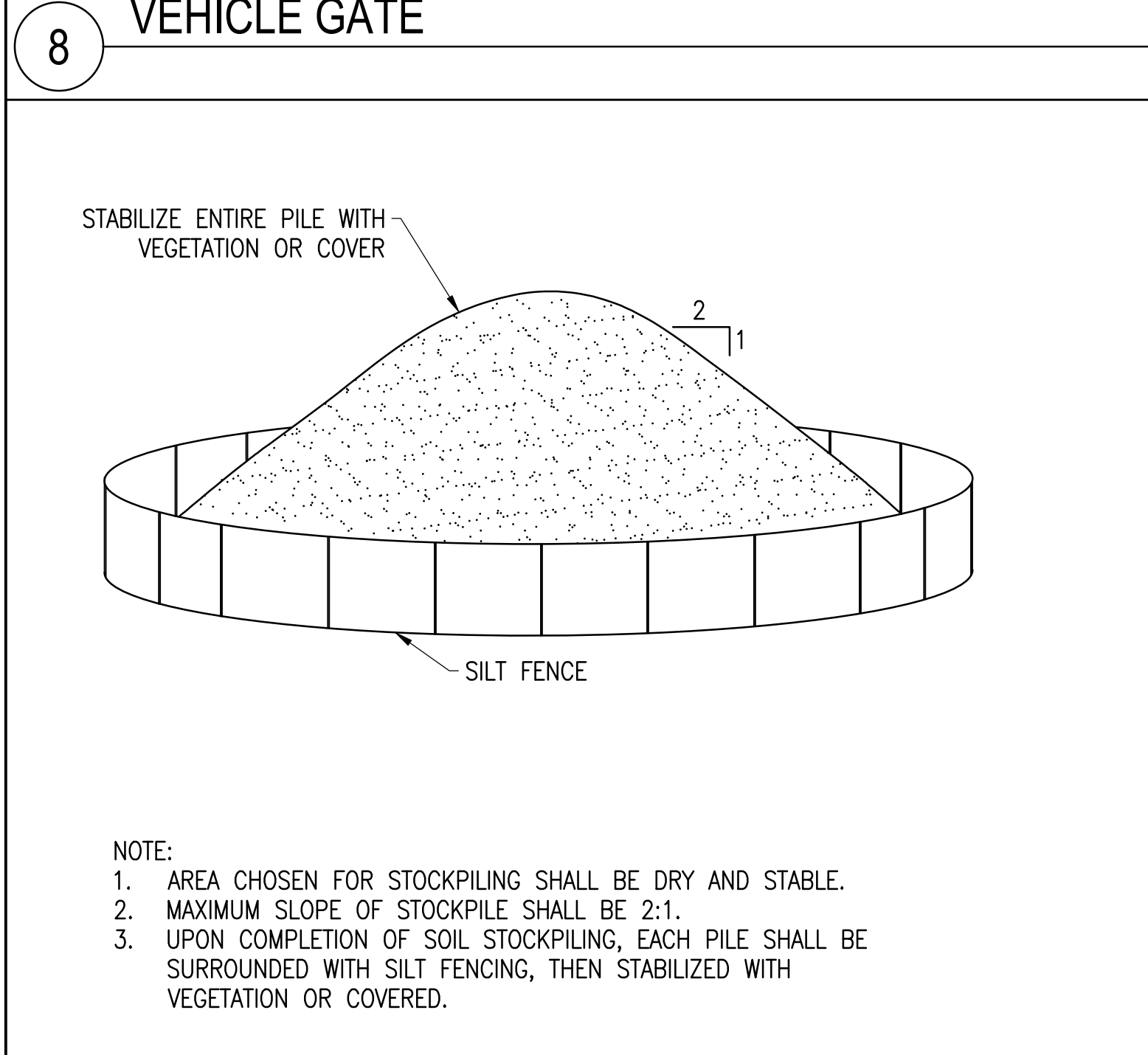
- NOTE: PLASTIC SHEETING SHALL BE FREE OF TEARS OR HOLES. AFTER BASIN IS USED, WASHWATER FROM WASHOUT BASIN SHALL EVAPORATE OR BE VACUUMED OUT. REMOVE REMAINING HARDENED SOLIDS. REPLACE PLASTIC SHEETING AND STRAWBALES AS REQUIRED.



2 CHAIN LINK FENCE

SCALE: NTS
XD_CIVIL_FENCE_7_CHAIN_LINK_WILDLIFE_GAP 07-02-2020

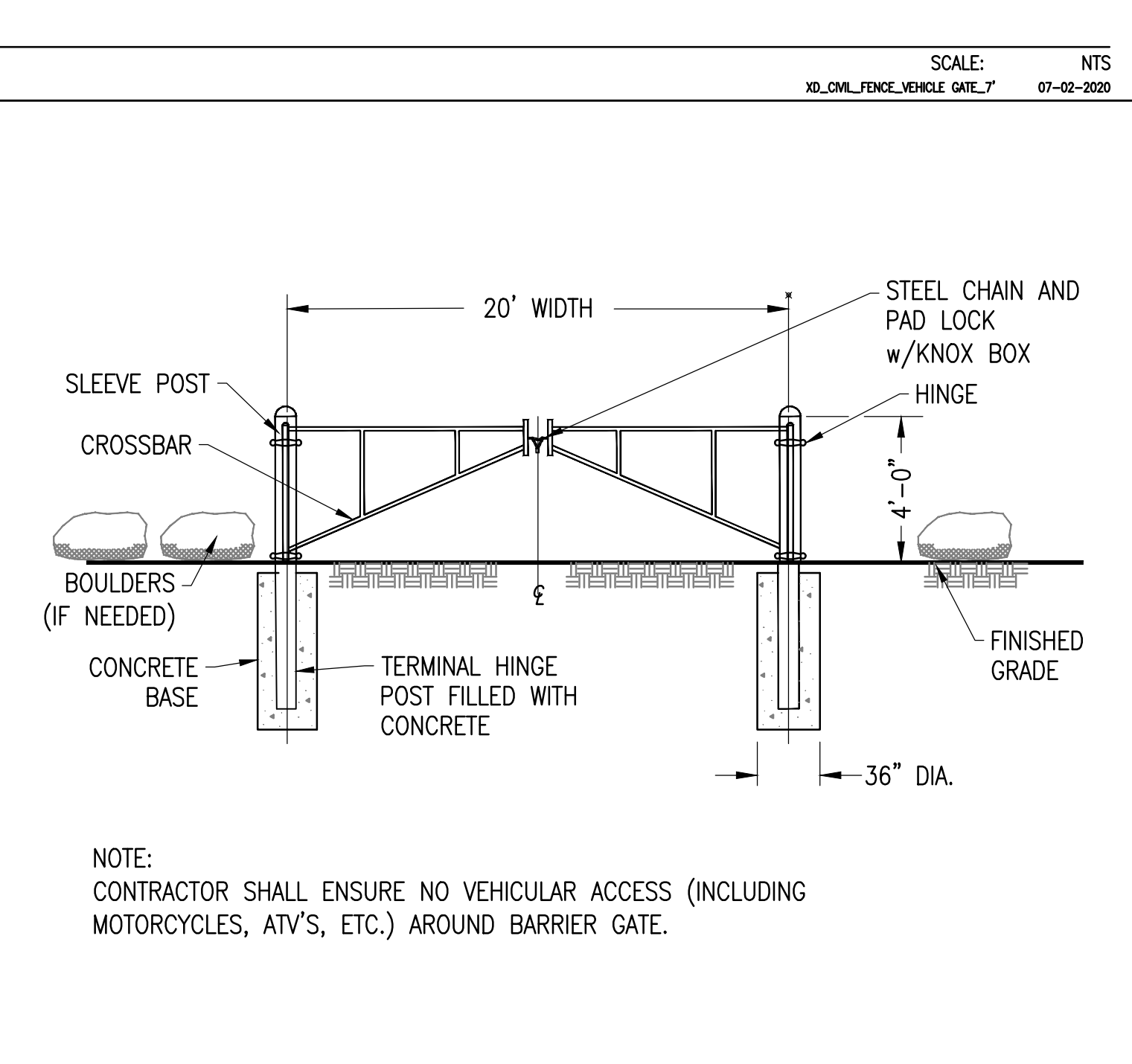
- NOTES:
1. THE FENCE SHALL MEET OR EXCEED THE CHAIN LINK FENCE MANUFACTURER INSTITUTE (CLFMI) GUIDELINES AND RELATED FEDERAL SPECIFICATIONS FOR SECURITY CHAIN LINK FENCE MATERIALS AND INSTALLATION.
 2. FENCE MATERIAL AND COMPONENTS SHALL BE GALVANIZED, UNLESS OTHERWISE NOTED.
 3. THIS DETAIL NOT APPLICABLE FOR PRIVACY FENCE OR FENCE WITH SLATS.
 4. ADJUSTABLE TRUSS ROD AND BRACE RAIL AT CORNER OR END POSTS ONLY, IF REQUIRED BY CLFMI GUIDELINES.



11 STOCKPILE EROSION AND SEDIMENT CONTROL

SCALE: NTS

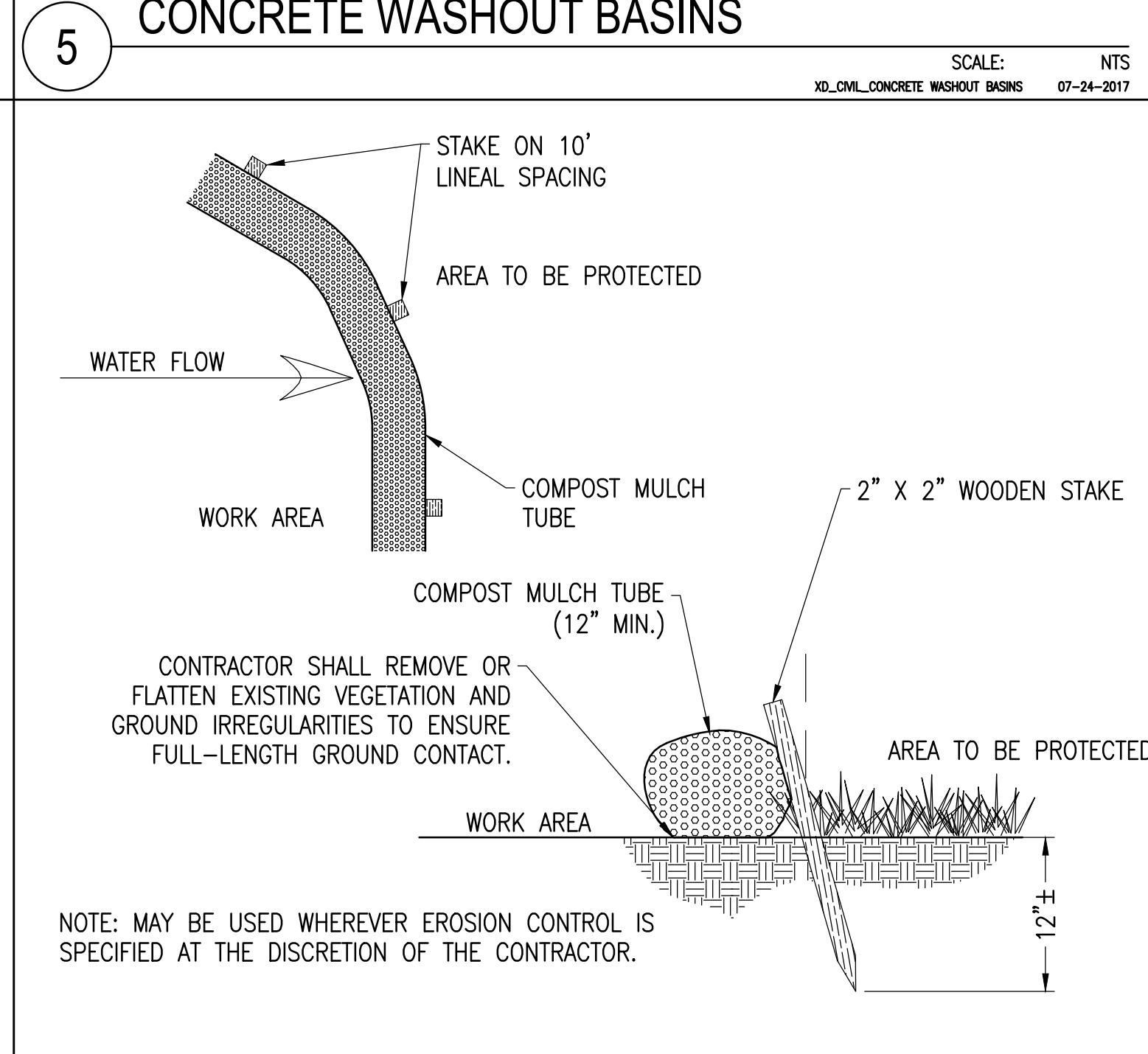
- NOTE:
1. AREA CHOSEN FOR STOCKPILING SHALL BE DRY AND STABLE.
 2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 2:1.
 3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH SILT FENCING, THEN STABILIZED WITH VEGETATION OR COVERED.



9 BARRIER GATE

SCALE: NTS
XD_CIVIL_ACCESS_BARRIER_GATE 10-24-2018

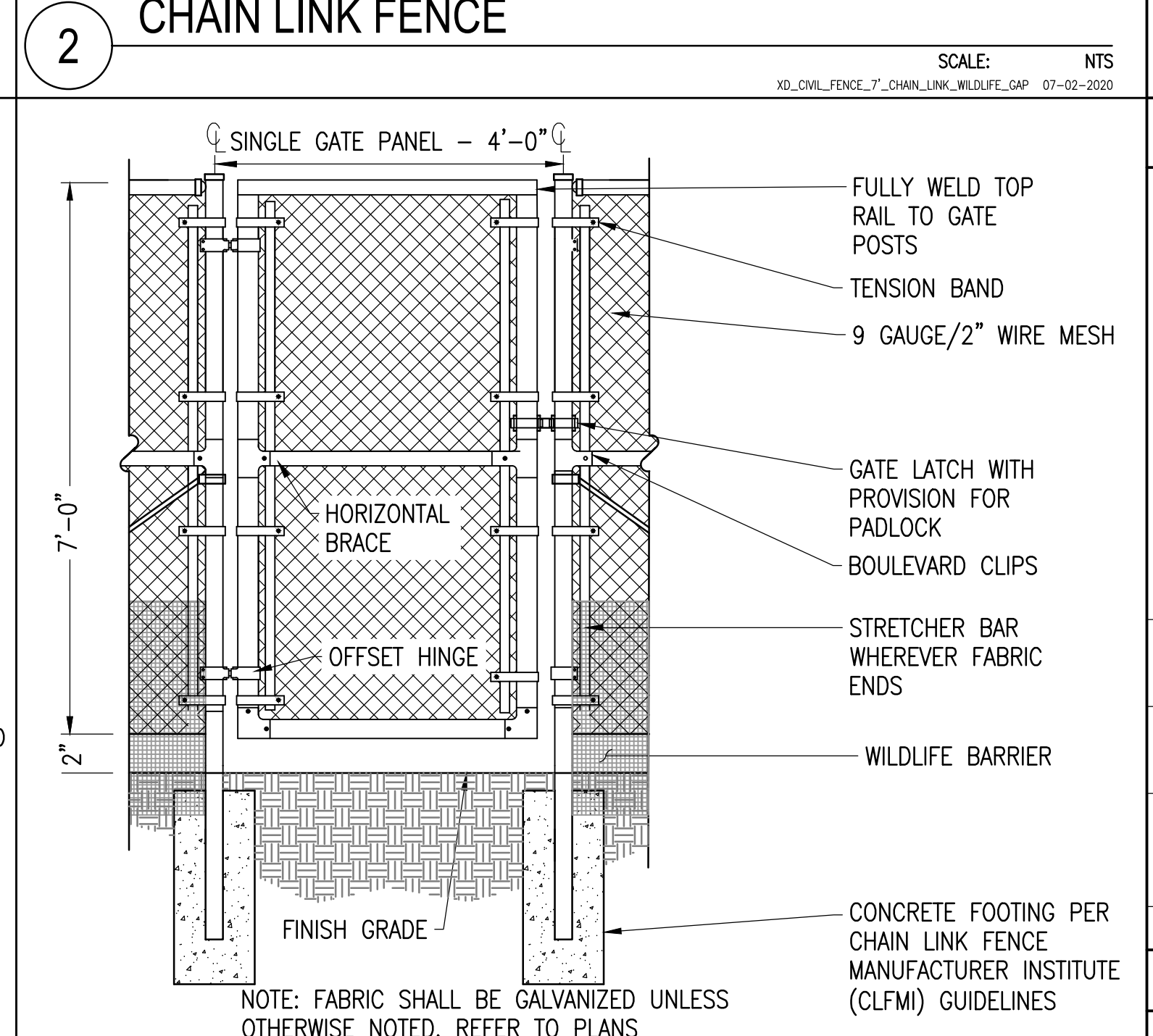
- NOTE: CONTRACTOR SHALL ENSURE NO VEHICULAR ACCESS (INCLUDING MOTORCYCLES, ATVs, ETC.) AROUND BARRIER GATE.



6 MULCH TUBE

SCALE: NTS

- NOTE: MAY BE USED WHEREVER EROSION CONTROL IS SPECIFIED AT THE DISCRETION OF THE CONTRACTOR.



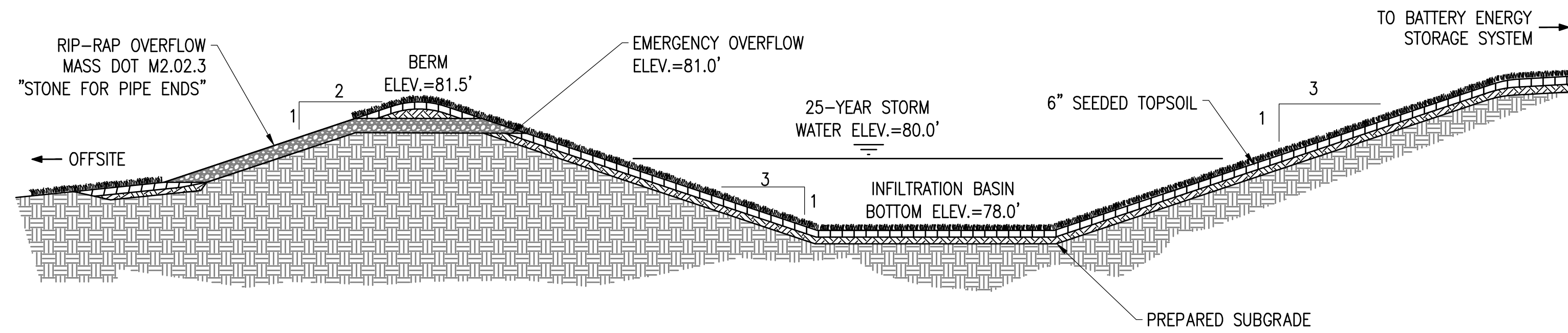
3 4' ACCESS GATE

SCALE: NTS
XD_CIVIL_SITE_CONSTRUCTION_4_WALK_THROUGH_GATE 07-25-2017

- NOTE: FABRIC SHALL BE GALVANIZED UNLESS OTHERWISE NOTED. REFER TO PLANS

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	DESCRIPTION
1	4/12/22	CS	BS	BS	SITE USE PERMIT SET
2	6/14/22	CS	BS	BS	RESPONSE TO PEER REVIEW COMMENTS
3	9/13/22	CS	BS	BS	RESPONSE TO COMMENTS
4	11/29/22	CS	BS	BS	RESPONSE TO COMMENTS

NOTES:
1. ALL DIMENSIONS TO BE COORDINATED WITH PLANS

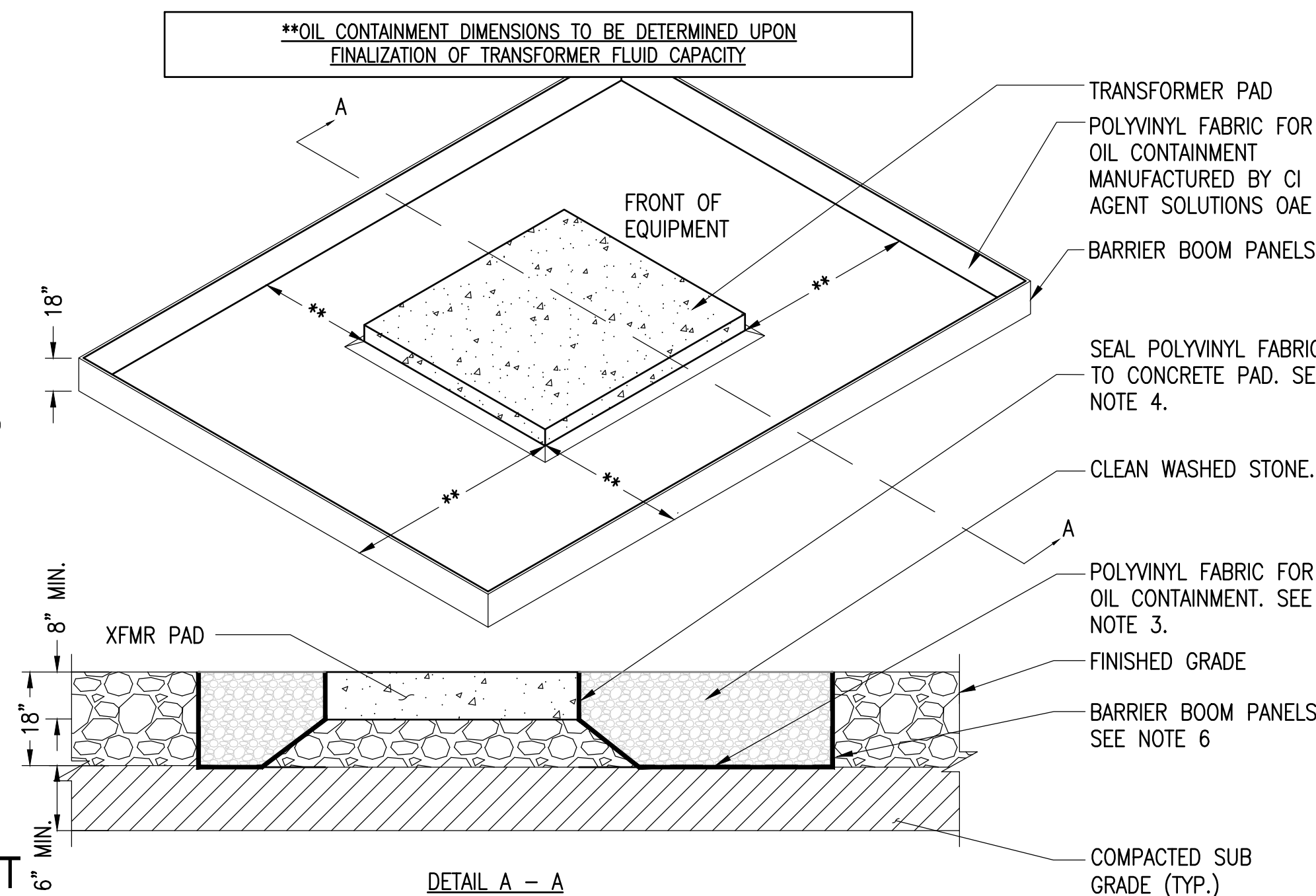


7 INFILTRATION BASIN

SCALE: NTS
XD_CIVIL_DRAINAGE_INFILTRATION_BASIN_NO PIPE 12-08-2020

- NOTES:
1. PRIOR TO INSTALLATION, SUBCONTRACTOR SHALL CONTACT CONTAINMENT DISTRIBUTOR, SO THAT A REPRESENTATIVE CAN BE ON SITE DURING CONSTRUCTION. DOCUMENTING INSTALLATION IS REQUIRED TO VALIDATE OIL CONTAINMENT PROTECTION POLICY.
 2. EXCAVATION AREA TO BE MINIMUM OF 1' LARGER THAN SIZE OF CONTAINMENT UNIT AND MINIMUM OF 6" DEEPER THAN THE FLOOR OF THE CONTAINMENT UNIT.
 3. CONTRACTOR SHALL SEAM POLYVINYL FABRIC WITH ADHESIVE AND INSTALL IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
 4. AFTER ALL FLOOR SEAMING IS COMPLETE, SUBCONTRACTOR SHALL SEAL POLYVINYL LINER TO CONCRETE PAD USING BENTONITE GRANULAR CLAY IN ACCORDANCE WITH MANUFACTURERS SPECIFICATIONS.
 5. SUBCONTRACTOR SHALL SEAL ALL CONDUIT PENETRATIONS WITH FIELD CONSTRUCTED POLYVINYL BOOTS AND BRIMS PER MANUFACTURERS SPECIFICATIONS. A SINGLE BOOT SHALL BE PLACED AROUND GROUPS OF CONDUIT.
 6. SUBCONTRACTOR SHALL PROVIDE 2" WOODEN STAKES TO SUPPORT THE CONTAINMENT WALLS. INSTALLATION OF OUTSIDE BARRIER BOOM USING STAKES SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
 7. PRIOR TO BACKFILLING THE FABRIC THE CONTRACTOR SHALL NOTIFY THE BORREGO SOLAR CIVIL ENGINEER AND PROVIDE SUBMITTAL FOR BACKFILL MATERIAL. PROVIDE A MINIMUM OF 48 HOURS NOTICE.

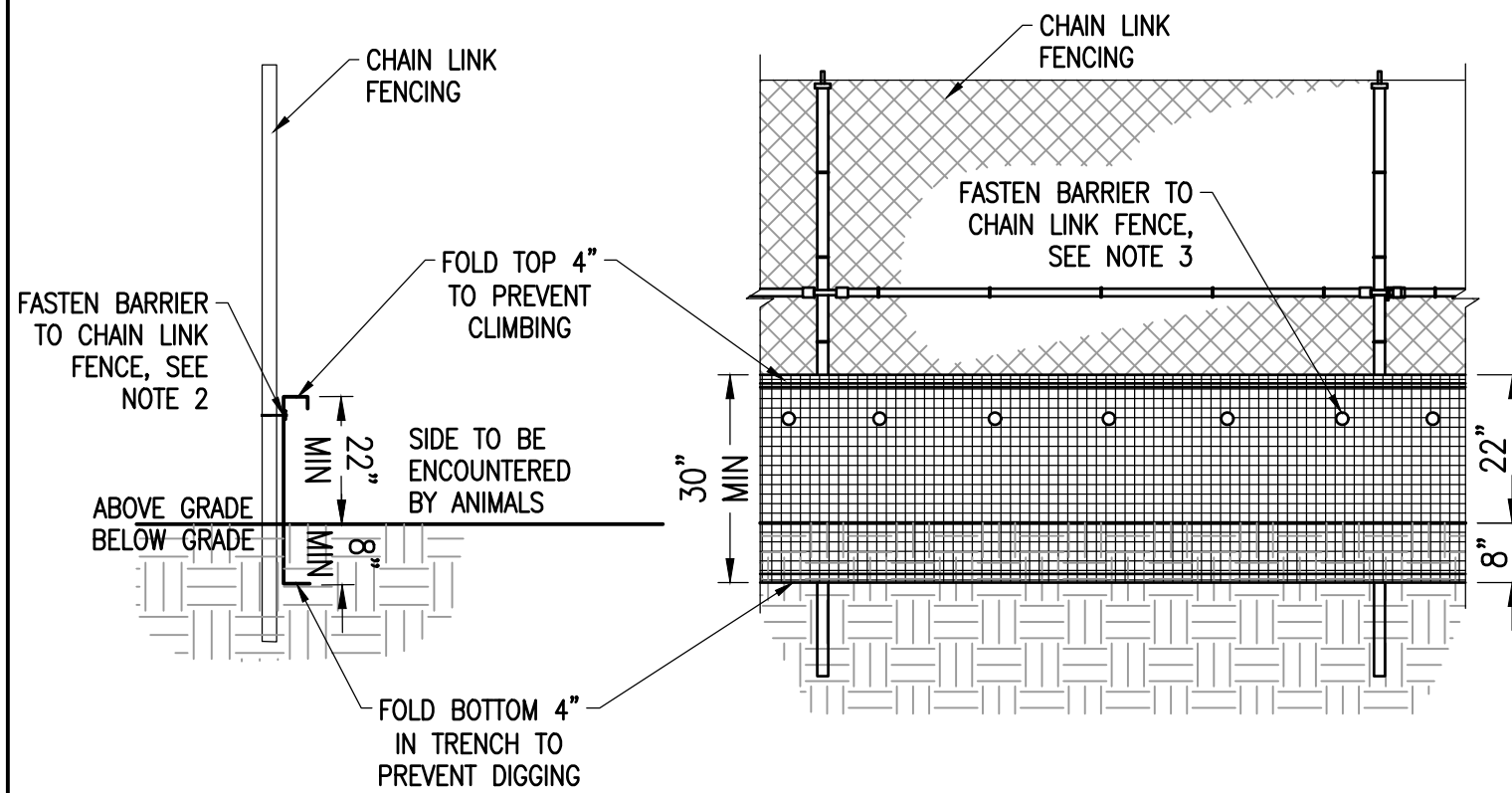
SECONDARY CONTAINMENT IS ONE METHOD FOR COMPLIANCE WITH SPCC REGULATIONS (40 CFR PART 112). ALTERNATIVE MEASURES AND SELF-CERTIFICATION OF THE SPCC PLAN MAY BE AVAILABLE UNDER SECTION 112.7(k)



8 SECONDARY SPILL CONTAINMENT

SCALE: NTS
XD_ELEC_TRANSFORMER OIL CONTAINMENT SINGLE LARGE 2020-7-1

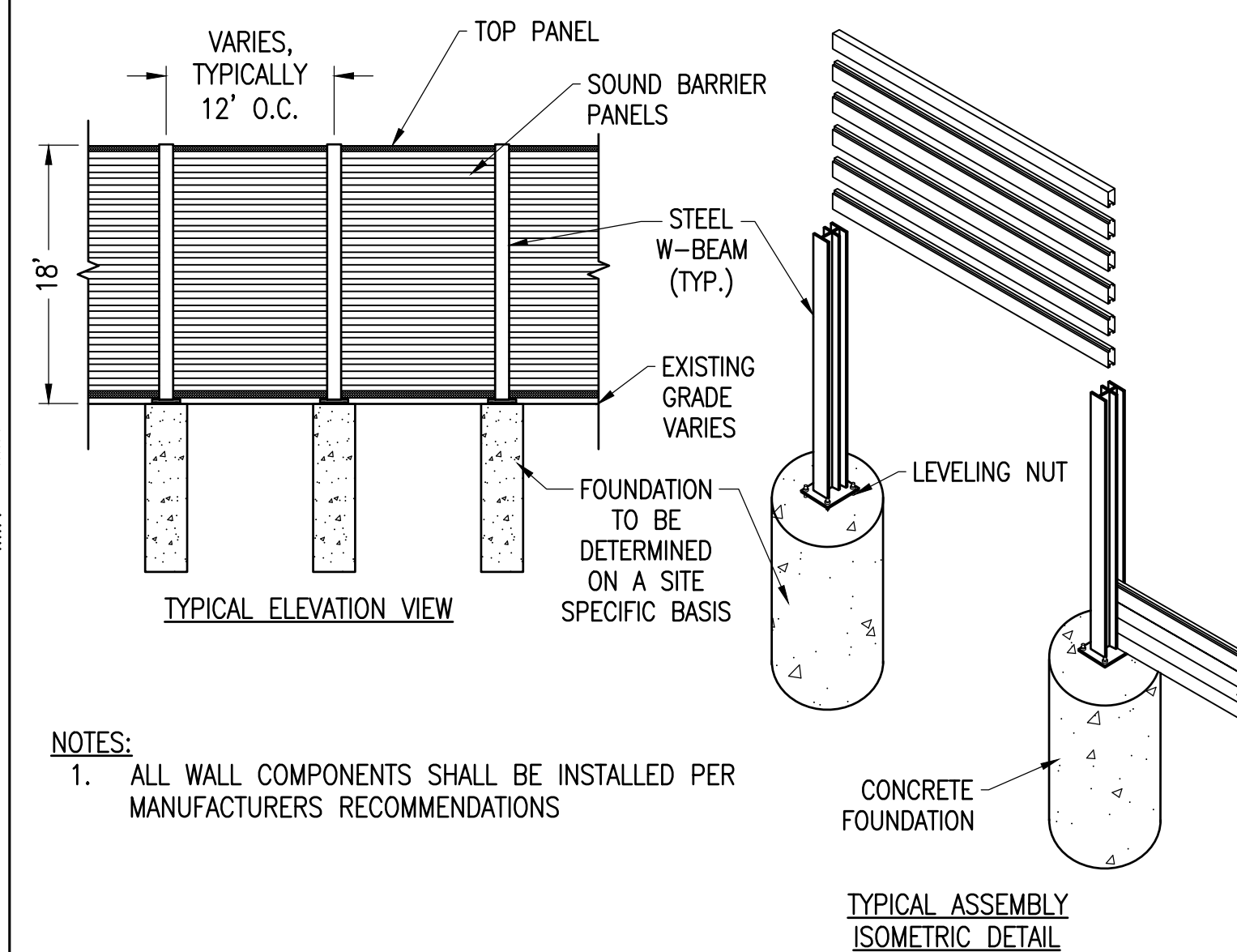
LARGE



- NOTES:
1. BARRIER SHALL BE ANIMEX AMX 40, GALVANIZED HARDWARE CLOTH, OR APPROVED EQUAL.
 2. BARRIER MATERIAL OPENINGS SHALL BE 1/4" OR SMALLER
 3. FOR PROPRIETARY BARRIERS (ANIMEX AMX 40), FASTEN BARRIER TO FENCE PER MANUFACTURERS RECOMMENDATIONS. HARDWARE CLOTH SHALL BE FASTENED EVERY 12" USING GALVANIZED, STAINLESS STEEL OR UV-RATED ZIP TIES OR WIRE FASTENERS.

10 WILDLIFE BARRIER

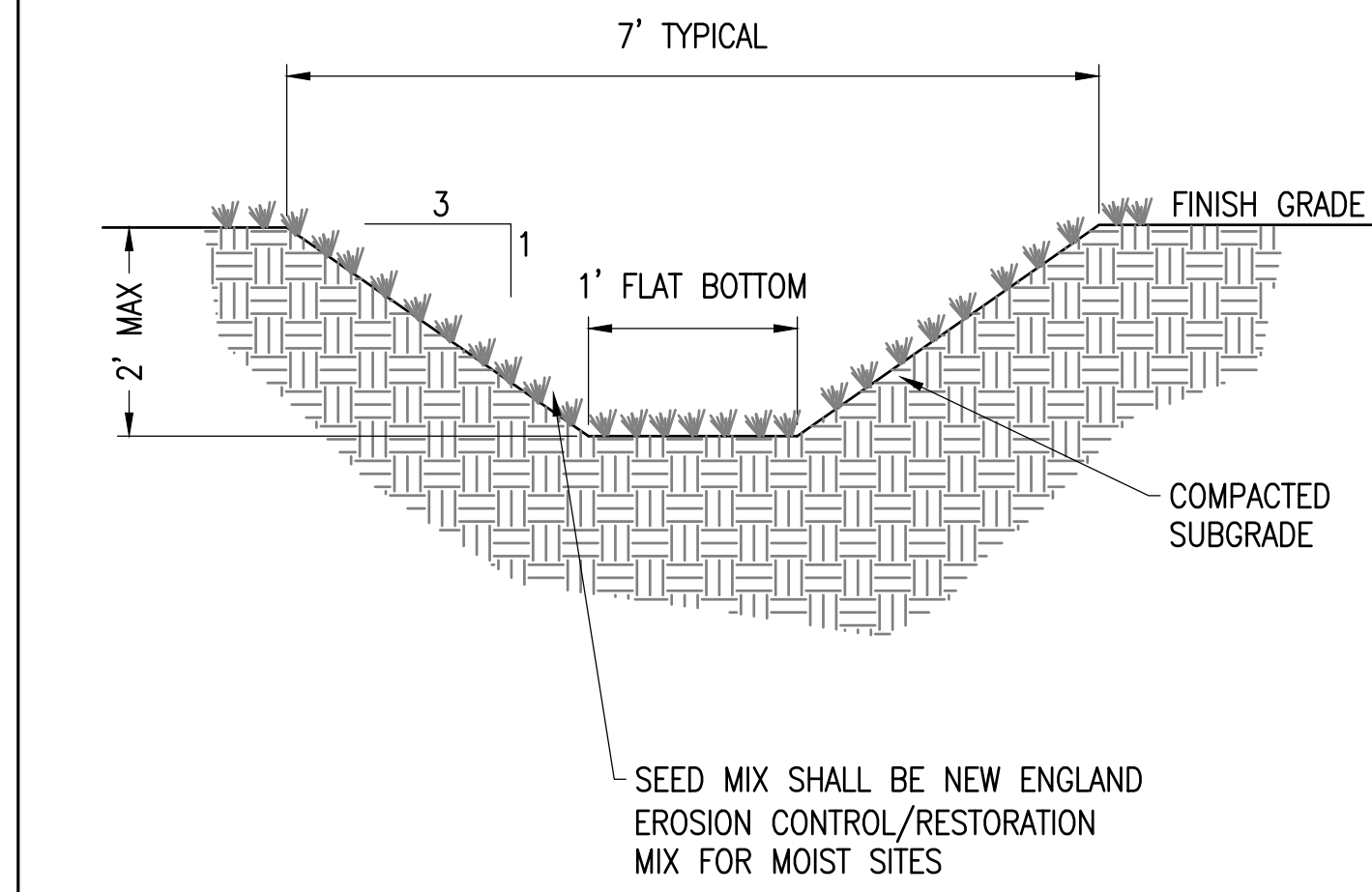
SCALE: NTS



- NOTES:
1. ALL WALL COMPONENTS SHALL BE INSTALLED PER MANUFACTURERS RECOMMENDATIONS

9 SOUND BARRIER WALL

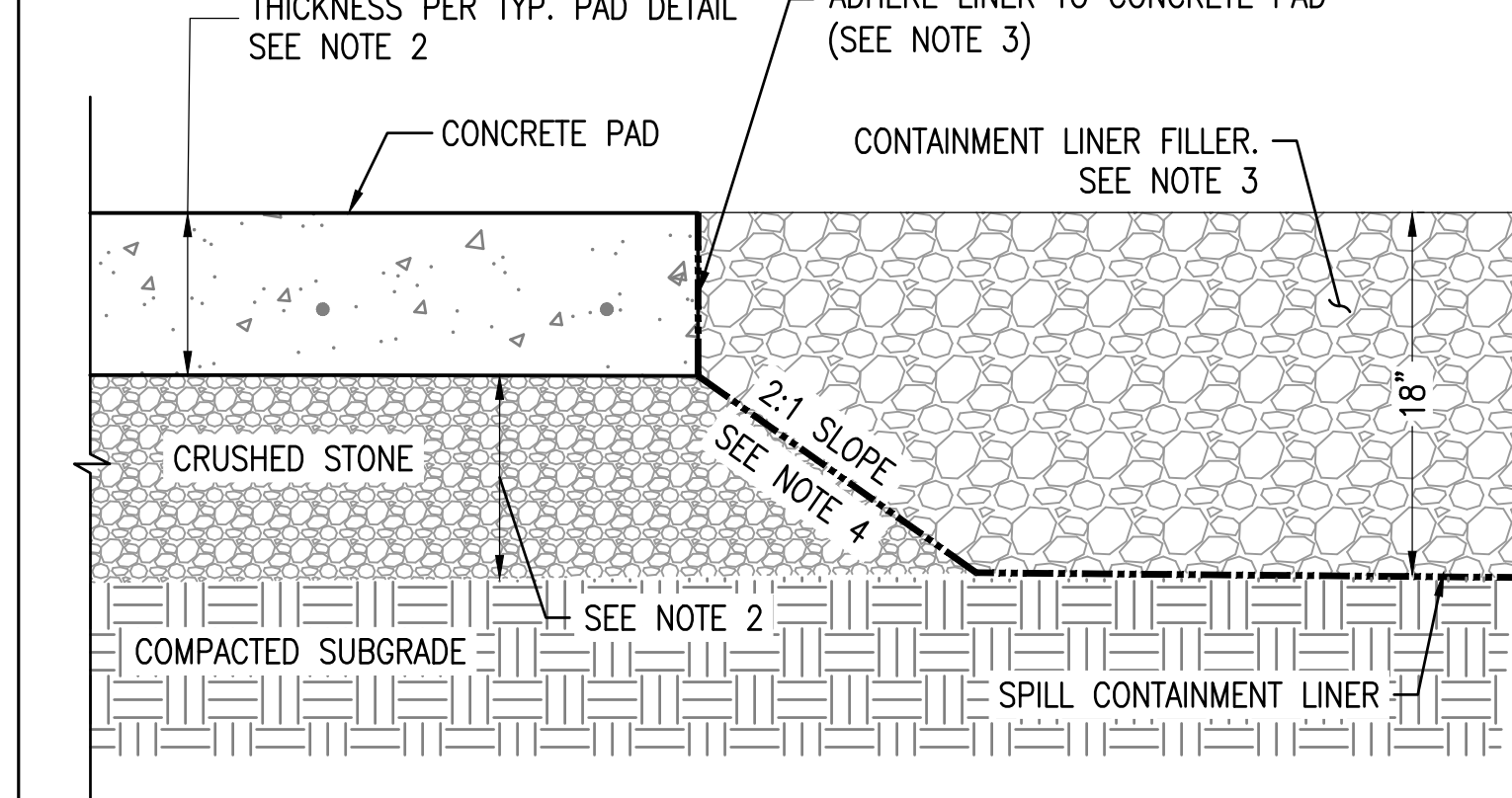
SCALE: NTS



4 GRASS LINED SWALE

SCALE: NTS
XD_CIVIL_DRAINAGE_GRASS_SWALE 07-12-21

SECONDARY CONTAINMENT IS ONE METHOD FOR COMPLIANCE WITH SPCC REGULATIONS (40 CFR PART 112). ALTERNATIVE MEASURES AND SELF-CERTIFICATION OF THE SPCC PLAN MAY BE AVAILABLE UNDER SECTION 112.7(k).

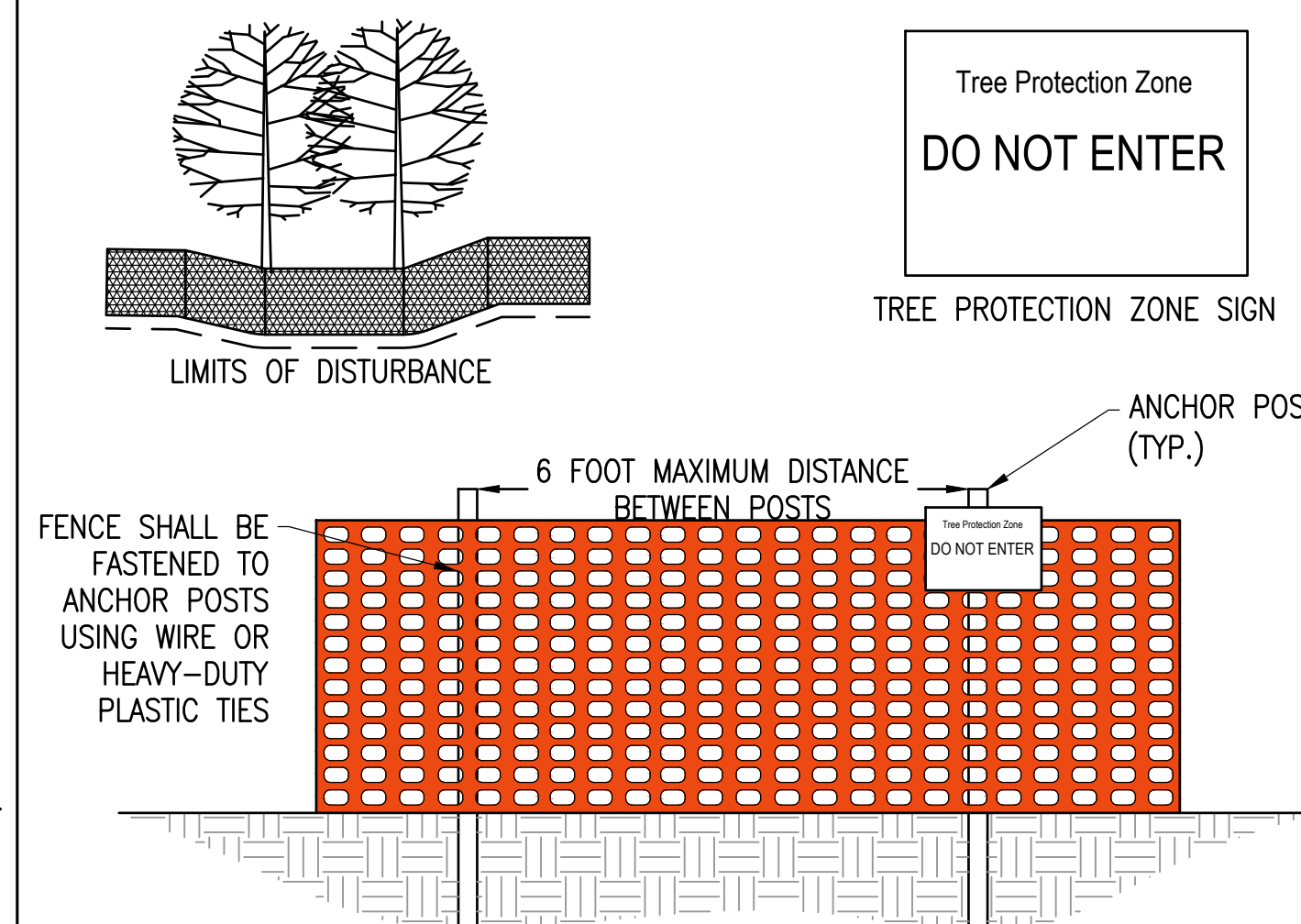


- NOTES:
1. THIS DETAIL APPLICABLE AT EQUIPMENT PADS WITH SPILL CONTAINMENT ONLY.
 2. REFER TO CONCRETE EQUIPMENT PAD SECTION FOR ADDITIONAL INFORMATION.
 3. REFER TO SPILL CONTAINMENT DETAIL(S) ON DRAWINGS BY OTHERS FOR ADDITIONAL INFORMATION.
 4. EXCAVATE OUT FROM THE CONCRETE PAD AT A 2:1 (HORIZONTAL TO VERTICAL) SLOPE TO AVOID UNDERMINING EQUIPMENT PAD.

5 SECONDARY SPILL CONTAINMENT LINER

SCALE: NTS
XD_STRUCT_EQUIPMENT_PAD_SPILL_CONTAINMENT 2019-12-13

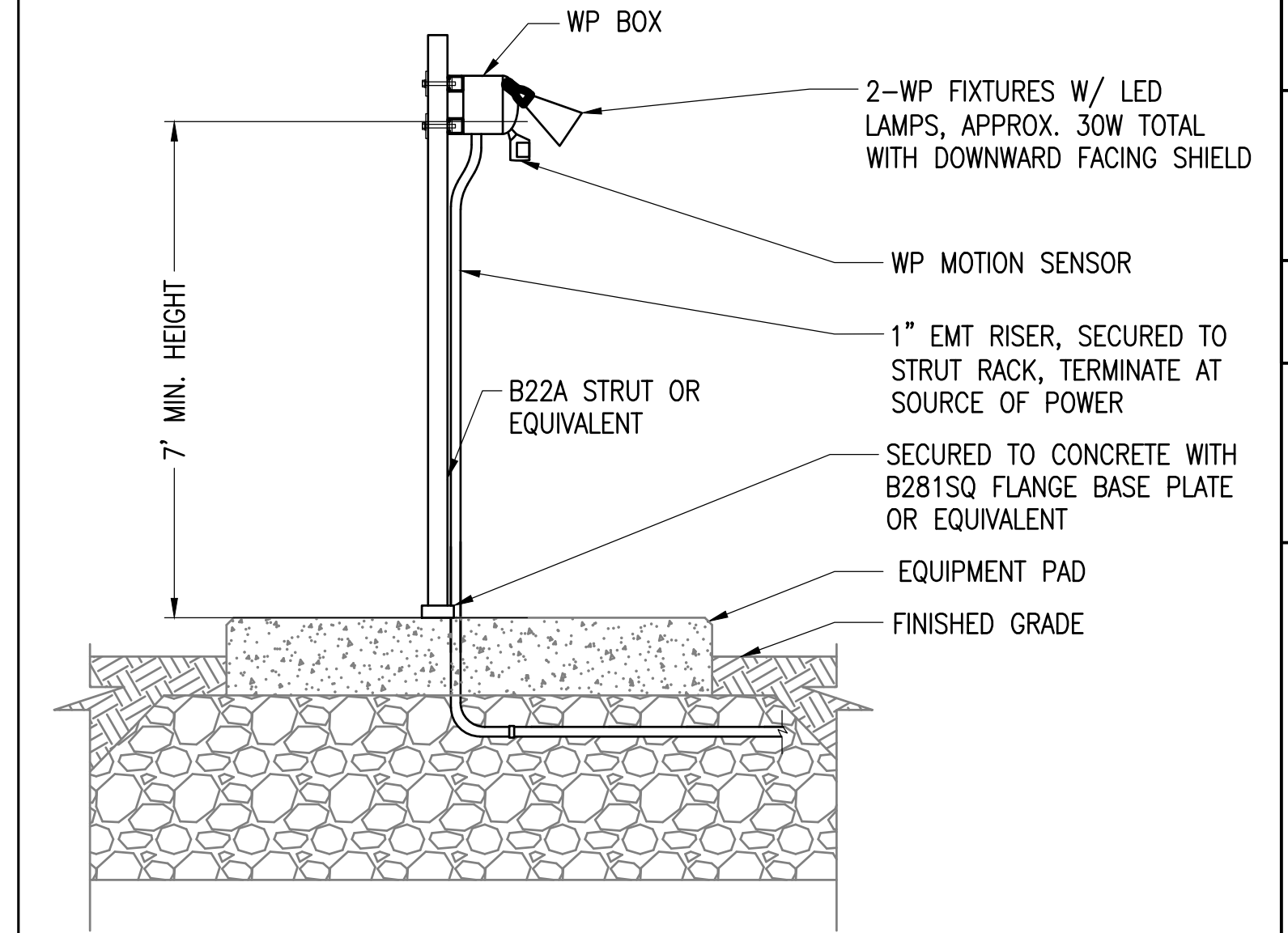
LARGE



- NOTES:
1. FENCING MATERIAL SHALL NOT BE FASTENED OR NAILED TO TREES.
 2. FENCE MATERIAL SHALL BE POLYETHYLENE ORANGE, RED, OR YELLOW COLORED HEAVY DUTY WARNING BARRIER FENCE, WITH UV STABILIZER AND MINIMUM OF 5000 P.S.I TENSILE STRENGTH
 3. ONE TREE PROTECTION ZONE SIGN SHALL BE POSTED FOR EVERY 25 LINEAR FEET OF TREE PROTECTION FENCE. SIGNS SHALL BE MOUNTED TO ANCHOR POSTS.

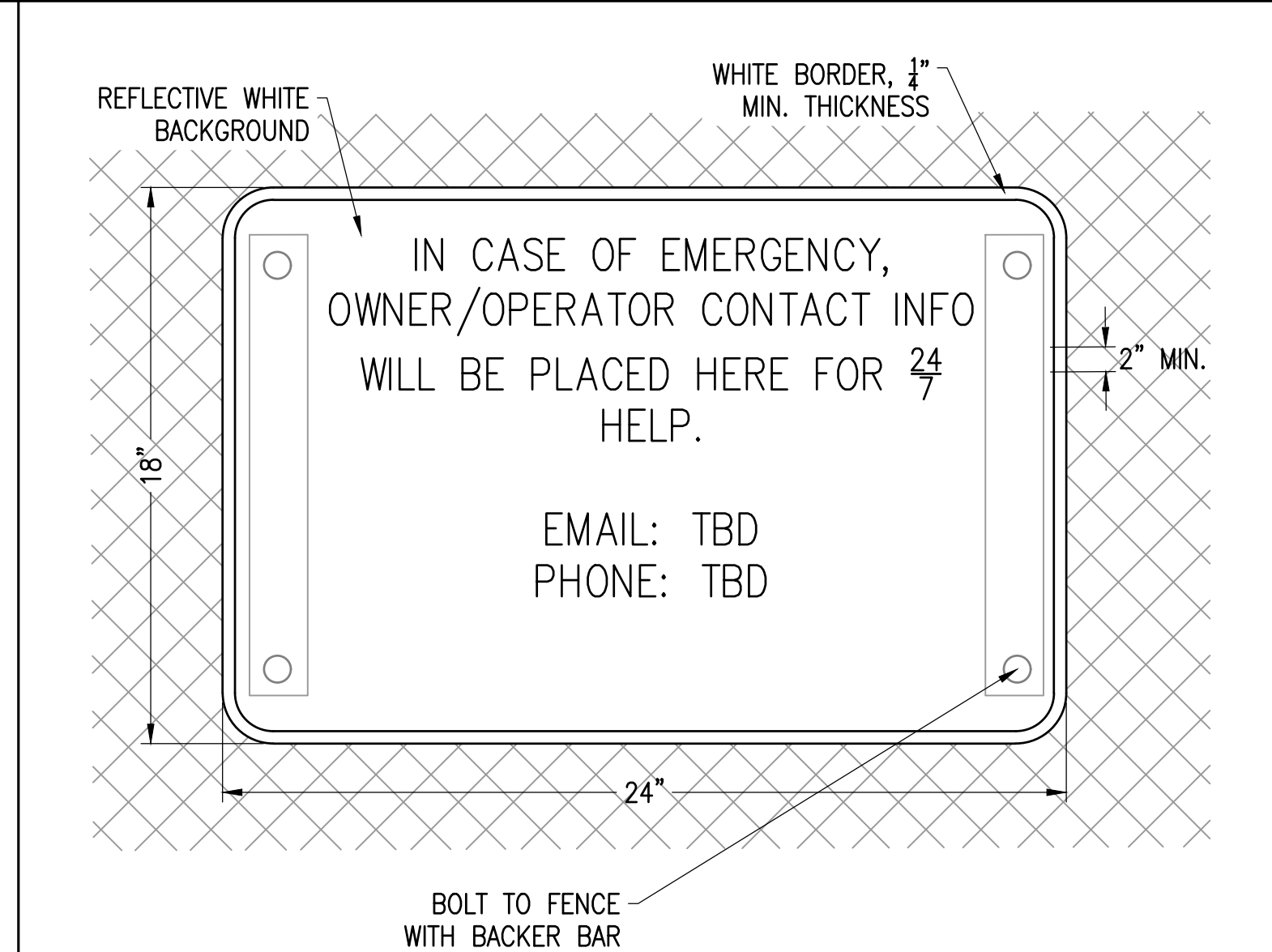
6 TREE PROTECTION FENCING DETAIL

SCALE: N.T.S.



1 STAND ALONE LIGHT MOUNTING

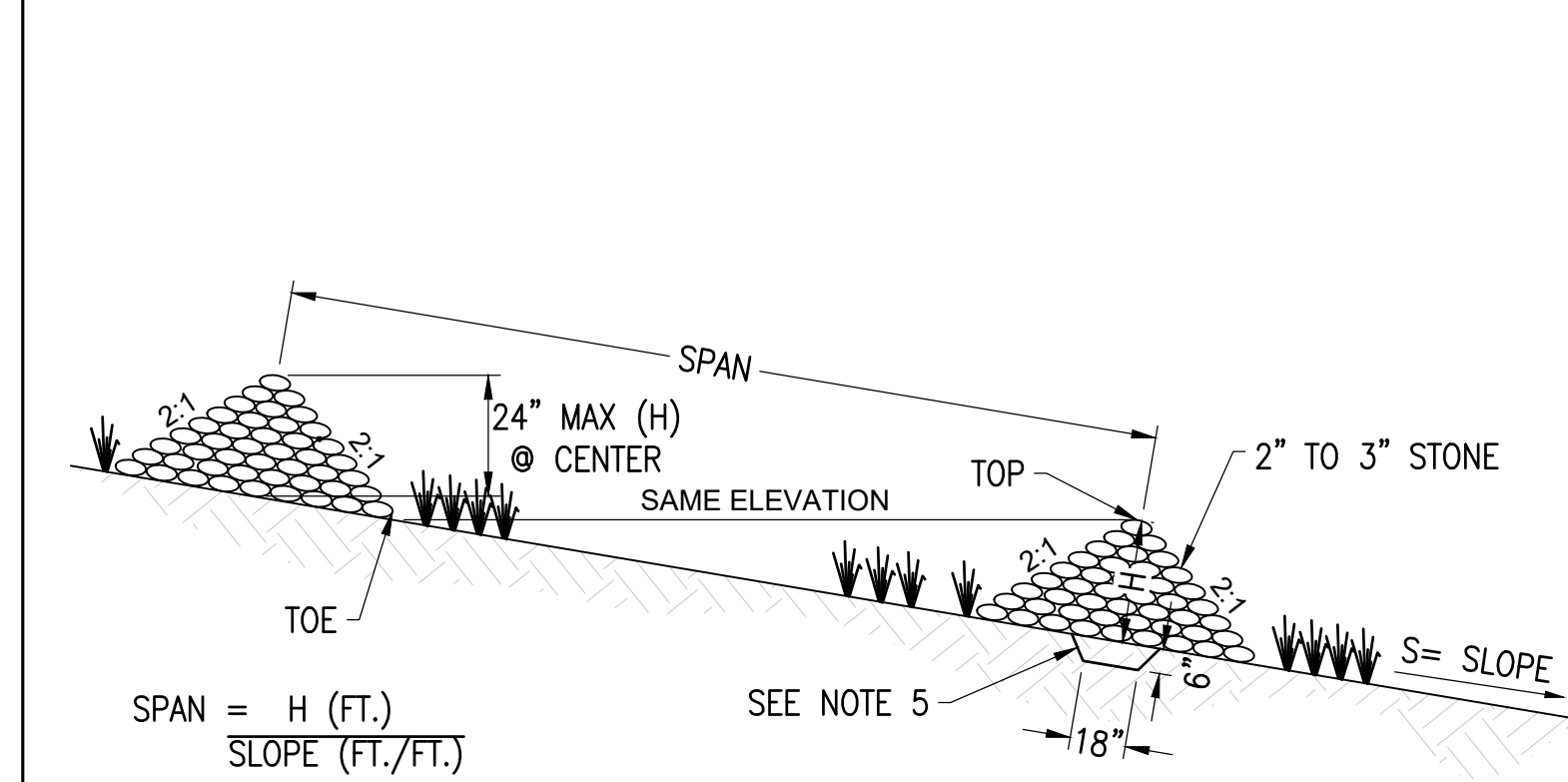
SCALE: NTS
XD_ELEC_STAND_ALONE_LIGHT_MOUNTING 2016-10-17



2 EMERGENCY CONTACT SIGN

SCALE: NTS
XD_CIVIL_SIGNAGE_EMERGENCY 2019-2-22

LOCATED AT VEHICLE GATES



- NOTES:
1. MAXIMUM DRAINAGE AREA ≤ 2 ACRES
 2. USE MA DOT M.2.01.1 CRUSHED STONE
 3. H=24" MAX @ CENTER
 4. STONE SHALL BE PLACED ON A FILTER FABRIC FOUNDATION
 5. INSTALL 6" DEEP CUT-OFF TRENCH BELOW
 6. EXTEND THE STONE A MINIMUM OF 1.5' BEYOND THE DITCH BANKS TO PREVENT CUTTING AROUND THE DAM

3 STONE CHECK DAM

SCALE: N.T.S.
XD_CIVIL_CHECK_DAM 08-15-2016

THIS DOCUMENT IS PROVIDED BY NEW LEAF ENERGY, INC. TO FACILITATE THE SALE OF THE RENEWABLE ENERGY PROJECT REPRESENTED HEREIN. REPRODUCTION, RELEASE OR UTILIZATION FOR ANY OTHER PURPOSE, WITHOUT PRIOR WRITTEN CONSENT IS STRICTLY PROHIBITED.

new leaf energy
55 TECHNOLOGY DRIVE, SUITE 102
LOWELL, MA 01851
PHONE: (988) 808-4273
FAX: (988) 843-6778
WWW.NEWLEAFENERGY.COM

NOT FOR CONSTRUCTION



IT IS A VIOLATION OF LAW FOR ANY PERSON TO ALTER ANY DOCUMENT WHICH BEARS THE SEAL OF A PROFESSIONAL ENGINEER, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER.

1320 S STREET
ANDOVER, MA 01810

PROJECT NUMBER:
120-0345

REV	DATE	DRAWN	CHECKED	RELEASE LEVEL	COMMENTS
1	4/12/22	CS	BS	BS	SITE USE PERMIT SET
2	6/14/22	CS	BS	BS	RESPONSE TO PEER REVIEW
3	9/13/22	CS	BS	BS	RESPONSE TO COMMENTS
4	11/29/22	CS	BS	BS	RESPONSE TO COMMENTS

SCALES STATED ON DRAWINGS ARE VALID ONLY WHEN PLOTTED ARCH D 24" X 36"

C-5.1
CIVIL DETAILS