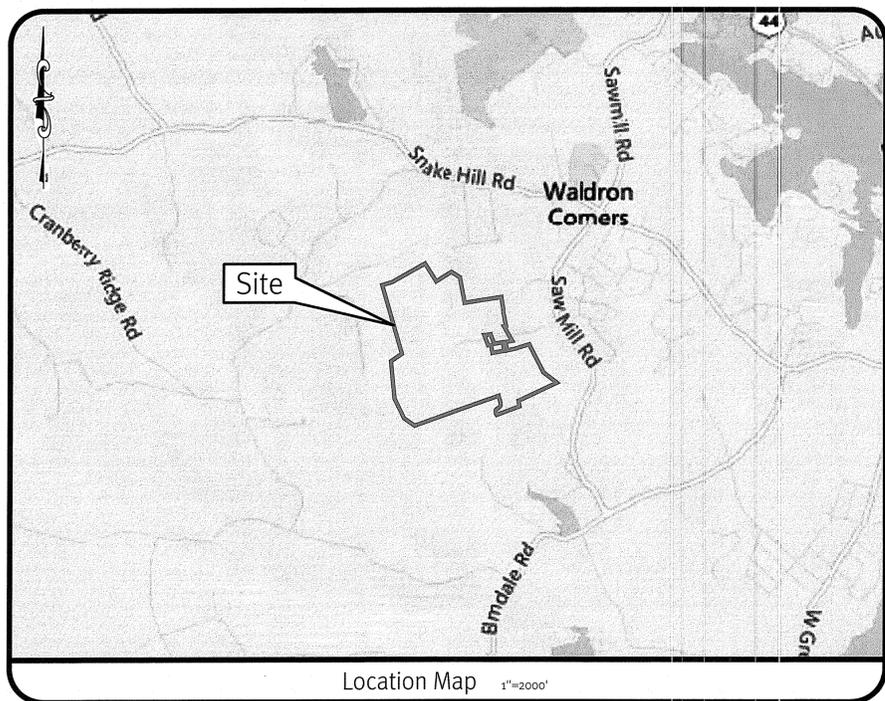


RIDEM Preliminary Determination Submission

Howard Lane Solar

97 Howard Lane
Glocester, Rhode Island

Assessor's Plat 18 Lot 164



Sheet List Table

- 1 Cover Sheet
- 2 Half Mile Radius Aerial & USGS Map
- 3 General Notes and Legend
- 4 Existing Conditions Plan
- 5 Soil Erosion and Sediment Control Plan
- 6 Overall Site Plan
- 7 Site Development Plan
- 8 BMP Details A & B
- 9 BMP Details C & G
- 10 BMP Details D & E
- 11 BMP Details F & Swales
- 12 Detail Sheet

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 18 2019 FILE # 19-0109
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

SESC / O&M
The Soil Erosion and Sediment Control Plan (SESC) and Operations and Maintenance Plan (O&M) are required documents with this plan set and must be maintained by the contractor and owner on site.

Diprete Engineering
Two Stafford Court, Cranston, RI 02920
tel 402-943-1000 fax 402-64-6006 www.diprete-eng.com
Boston • Providence • Newport

KEVIN DEMERS
REGISTERED PROFESSIONAL ENGINEER
CIVIL

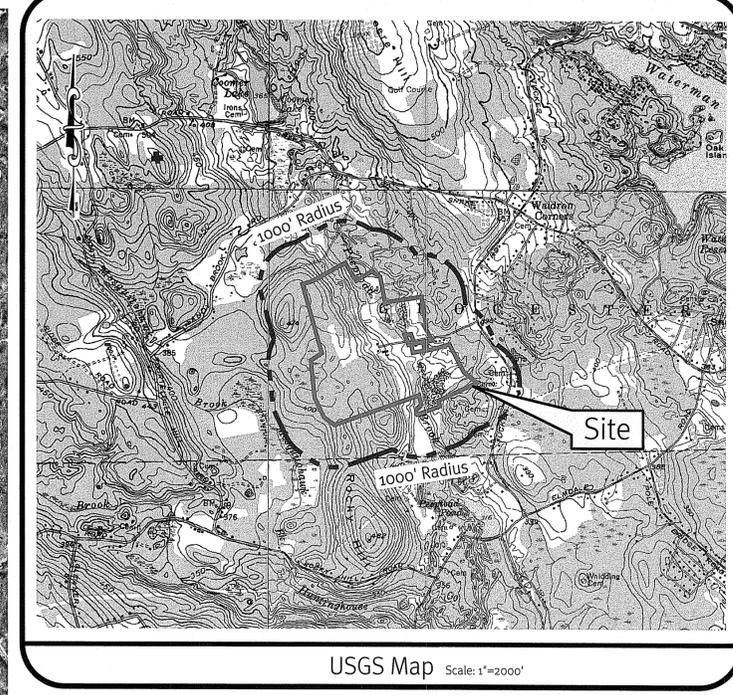
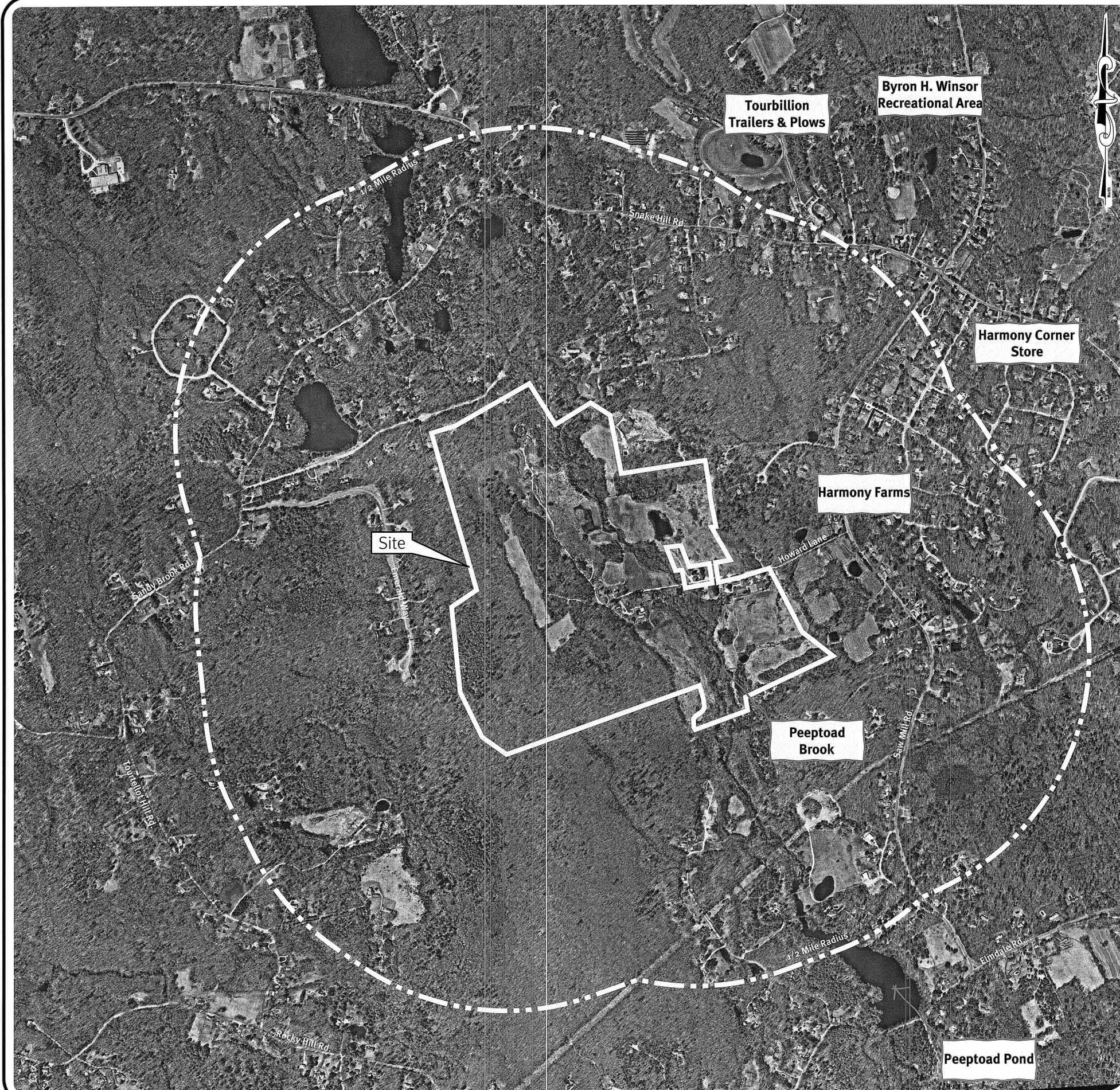
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The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	Drawn By: S.D.M.	Design By: K.E.D.
1	7-22-2019	Response to RIDEM Comments	S.D.M.	
2	8-2-2019	RIDEM PS Submission	S.D.M.	

Cover Sheet
Howard Lane Solar
Glocester, Rhode Island
Assessor's Plat 18 Lot 164
Permit
Econox Renewables, Inc.
PO BOX 808
Winchester, MA 01890

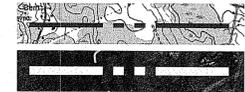
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Legend

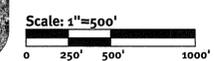
- 1000' RADIUS LINE
- HALF MILE RADIUS LINE



Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PFD GRAM
 APPROVED WITH CONDITIONS
 AS SPECIFIED IN THE LETTER OF APPROVAL
 DATED SEP. 18 2019 FILE # 19-0109
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Photo Obtained from Nearmap



DIPrete Engineering
 Two Stafford Court Cranston, RI 02920
 tel: 401-943-1000 fax: 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport

KEVIN DEMERS

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 CIVIL

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No.	Date	Description	S.D.M.	S.D.M.	Dr.
1	7-22-2019	Response to BUREAU Comments			
0	7-23-2019	Final PFD Submission			

Drawn By: S.D.M. Design By: K.E.D.

Half Mile Radius Aerial & USGS Map
Howard Lane Solar
 Gloucester, Rhode Island
 Assessor's Plat 18 Lot 164
 Applicant
Econox Renewables, Inc.
 PO BOX 808
 Winchester, MA 01890

SHEET 2 OF 12

General Notes:

- THE SITE IS LOCATED ON THE TOWN OF GLOCESTER, RHODE ISLAND ASSESSOR'S PLAT 18 LOT 164.
- THE SITE IS APPROXIMATELY 197.96± ACRES AND IS ZONED A-4.
- THE OWNER OF AP 18 LOT 164 IS: ROBERT L. JENNIFER M., & MARK R. HOWARD 97 HOWARD LANE NORTH SCITUATE, RI 02857
- THIS SITE IS LOCATED IN FEMA FLOOD ZONE X UNSHADED AND ZONE A. ZONE X UNSHADED AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOOD PLAIN. ZONE A ARE AREAS OF 100-YEAR FLOOD; BASE FLOOD ELEVATIONS AND FLOOD HAZARD FACTORS NOT DETERMINED. REFERENCE FEMA FLOOD INSURANCE RATE MAP 44007C02606, MAP REVISED MARCH 2, 2009.
- THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS IV STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
- SOIL MAPPING OBTAINED FROM WEBSOIL SURVEY OF RHODE ISLAND, PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
- THE SITE IS NOT WITHIN A: GROUNDWATER PROTECTION AREA (RIDEM) COMMUNITY WELLHEAD PROTECTION AREA (RIDEM) NATURAL HERITAGE AREA (RIDEM)
- THE SITE CONTAINS A 0.4 AC CEMETERY AND NO OTHER HISTORICALLY SIGNIFICANT SITES OR STRUCTURES; STATE OR LOCAL HISTORIC SITES, DISTRICTS, OR LANDSCAPES; ARCHAEOLOGICALLY SIGNIFICANT SITES; OR STATE DESIGNATED SCENIC AREAS. THIS WAS DETERMINED THROUGH FILE REVIEW AND SITE WALK COMPLETED BY DIPRETE ENGINEERING 4/19/2017 AND IS CORRECT TO THE BEST OF OUR BELIEF.
- WETLAND FLAGGING WITHIN THE VICINITY OF THE SOLAR PROJECT WAS PERFORMED BY DIPRETE ENGINEERING ON MAY 1, 2018.
- THE FOLLOWING DOCUMENTS ARE CONSIDERED PART OF THE PROJECT PLANS AND THE CONTRACTOR/ OWNER MUST MAINTAIN THESE DOCUMENTS AS PART OF A FULL PLAN SET: SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC). THE SESC CONTAINS THE FOLLOWING:
 - EROSION CONTROL MEASURES
 - SHORT TERM MAINTENANCE
 - ESTABLISHMENT OF VEGETATIVE COVER
 - CONSTRUCTION POLLUTION PREVENTION
 - SEQUENCE OF CONSTRUCTION
 OPERATION AND MAINTENANCE PLAN (O&M). THE O&M CONTAINS:
 - LONG TERM MAINTENANCE
 - LONG TERM POLLUTION PREVENTION
- THE STORMWATER MANAGEMENT SYSTEM MEETS THE RIDEM BEST MANAGEMENT PRACTICES.
- TEST PITS AND SOIL EVALUATIONS WERE COMPLETED BY DIPRETE ENGINEERING ON FEBRUARY 5-6, 2019.
- WETLANDS FLAGGED BY DIPRETE ENGINEERING ON 4/18/2018 AND 9/5/2018.
- PROPOSED PERMEABLE ACCESS DRIVES ARE TO BE 20' WIDE.
- THE SITE DOES NOT REQUIRE WATER OR SEWER SERVICE.
- ANY PROPRIETARY PRODUCTS REFERENCED IN THIS PLAN SET ARE REPRESENTATIVE OF THE MINIMUM DESIGN REQUIREMENTS FOR THE PURPOSE IT PROPOSES TO SERVE. ALTERNATIVES TO ANY PROPRIETARY PRODUCT MAY BE SUBMITTED TO THE ENGINEER OF RECORD FOR CONSIDERATION, WHICH MUST BE ACCOMPANIED BY APPROPRIATE SPECIFICATION SHEETS/ DESIGN CALCULATIONS THAT DEMONSTRATE THE ALTERNATIVES MEET THE MINIMUM DESIGN PARAMETERS OF THE PRODUCT SHOWN ON THE PLANS. NO ALTERNATIVES MAY BE USED WITHOUT THE WRITTEN APPROVAL OF THE ENGINEER OF RECORD.

Soil Information:

(REFERENCE: USDA NATURAL RESOURCES CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
CdB	CANTON AND CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ChB	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ChD	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 15 TO 25 PERCENT SLOPES
CkC	CANTON AND CHARLTON EXTREMELY STONY FINE SANDY LOAMS, 3 TO 15 PERCENT SLOPES
ChC	GLOUCESTER-HINCKLEY VERY STONY SANDY LOAMS, ROLLING
Rf	RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS

Demolition Notes:

- ALL EXISTING UTILITIES SHOWN ARE FROM VISIBLE INFORMATION, PLANS OF RECORD, DRAWINGS FROM OTHERS, OR INFORMATION PROVIDED TO DIPRETE ENGINEERING AND ARE SUBJECT TO CHANGE. THE LOCATIONS OF UNDERGROUND PIPES AND CONDUITS HAVE BEEN DETERMINED FROM AFORMENTIONED SOURCES AND ARE APPROXIMATE ONLY. PRIOR TO CONSTRUCTION, THE PROPER UTILITY ENGINEERING DEPARTMENTS MUST BE CONTACTED AND THE ACTUAL LOCATION OF SUBSURFACE STRUCTURES MUST BE DETERMINED IN THE FIELD BY THE CONTRACTOR. CALL THE DIG SAFE CENTER TOLL FREE AT 1-888-344-7233 IN MA, ME, NH, RI & VT; CALL 1-800-922-4455 IN CT 72 HOURS (48 HOURS IN VT AND CT) PRIOR TO EXCAVATION. NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO EXCAVATION. ANY DAMAGE TO UTILITIES WHICH ARE SHOWN ON THE PLANS OR DETAILED BY DIG SAFE ARE THE SITE CONTRACTORS RESPONSIBILITY.
- CONTRACTOR TO OBTAIN ALL FEDERAL, STATE, AND MUNICIPAL APPROVALS PRIOR TO THE START OF CONSTRUCTION.
- CONTRACTOR TO PERFORM DAILY SWEEPING AT CONSTRUCTION ENTRANCE DURING DEMOLITION AND CONSTRUCTION TO MINIMIZE SEDIMENTS ON EXTERNAL STREETS.
- ANY EXISTING BUILDING(S) AND PROPERTY PROPOSED TO REMAIN WHICH ARE DAMAGED BY THE CONTRACTOR MUST BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR IS RESPONSIBLE FOR REMOVING AND LEGALLY DISPOSING (H&D) ALL MATERIALS INDICATED ON THE PLANS UNLESS SPECIFIED OTHERWISE HERE IN. R&D MATERIALS MUST INCLUDE BUT ARE NOT LIMITED TO PAVEMENT, GRAVEL, CATCH BASINS, MANHOLES, GRATES/FRAMES/COVERS, AND ANY EXCESS SOIL THAT IS NOT INCORPORATED INTO THE WORK.
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS WITHIN THE LIMIT OF WORK MUST BE RESTORED TO MATCH THE DESIGN PLANS.

Traffic Notes:

- ALL TRAFFIC CONTROL MUST CONFORM TO THE MUTCD CONTROL DEVICES CURRENT EDITION.
- DURING CONSTRUCTION, TRAFFIC CONES ARE TO BE USED FOR SEPARATION OF ACTIVE TRAFFIC FROM WORK ZONE PER MUTCD REQUIREMENTS.
- DURING CONSTRUCTION FLAGGERS MUST BE EMPLOYED TO ENSURE SAFETY FOR INTERACTION OF CONSTRUCTION VEHICLES AND ACTIVE TRAFFIC.
- ALL SIGNS, FLAGGERS, TRAFFIC CONTROL DEVICES, AND TEMPORARY TRAFFIC ZONE ACTIVITIES MUST MEET THE REQUIREMENTS OF THE MANUAL ON UNIFORM TRAFFIC (MUTCD) LATEST EDITION AND SUBSEQUENT ADDENDA.
- TEMPORARY CONSTRUCTION SIGNS MUST BE MOUNTED ON RIDOT APPROVED SUPPORTS AND MUST BE REMOVED OR COVERED WHEN NOT APPLICABLE.

Layout and Materials:

- SYMBOLS AND LEGENDS OF PROJECT FEATURES ARE GRAPHIC REPRESENTATIONS AND ARE NOT NECESSARILY SCALED TO THEIR ACTUAL DIMENSIONS OR LOCATIONS ON THE DRAWINGS. THE CONTRACTOR MUST REFER TO THE DETAIL SHEET DIMENSIONS, MANUFACTURERS' LITERATURE, SHOP DRAWINGS AND FIELD MEASUREMENTS OF SUPPLIED PRODUCTS FOR LAYOUT OF THE PROJECT FEATURES.
- SEE SOLAR DESIGN DRAWINGS FOR EXACT SOLAR STRUCTURE DIMENSIONS AND DETAILS CONTIGUOUS TO THE BUILDING, INCLUDING SIDEWALKS, RAMPS, BUILDING ENTRANCES, STAIRWAYS, UTILITY PENETRATIONS, CONCRETE DOOR PADS, COMPACTOR PAD, LOADING DOCKS, BOLLARDS, ETC.
- PROPOSED BOUNDS AND ANY EXISTING PROPERTY LINE MONUMENTATION DISTURBED DURING CONSTRUCTION MUST BE SET OR RESET BY A PROFESSIONAL LICENSED SURVEYOR.
- CONTRACTOR MUST NOT RELY SOLELY ON ELECTRONIC VERSIONS OF PLANS, SPECIFICATIONS, AND DATA FILES THAT ARE OBTAINED FROM THE DESIGNERS. CONTRACTOR MUST VERIFY LOCATION OF PROJECT FEATURES IN ACCORDANCE WITH THE STAMPED PAPER COPIES OF THE PLANS AND SPECIFICATIONS THAT ARE SUPPLIED AS PART OF THE CONTRACT DOCUMENTS.

Grading and Utility Notes:

- CONSTRUCTION TO COMMENCE SUMMER 2019 OR UPON RECEIPT OF ALL NECESSARY APPROVALS.
- ALL WORK PERFORMED HEREIN IS TO BE GOVERNED BY CURRENT EDITIONS OF THE RHODE ISLAND STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION AND TOWN OF GLOUCESTER STANDARD SPECIFICATIONS AND DETAILS.
- THE CONTRACTOR MUST COORDINATE WITH ALL OF THE APPROPRIATE UTILITY COMPANIES FOR AGREEMENTS TO SERVE THE PROPOSED BUILDING. THIS MUST BE DONE PRIOR TO CONSTRUCTION. NO REPRESENTATIONS ARE MADE BY DIPRETE ENGINEERING THAT UTILITY SERVICE IS AVAILABLE.
- THE CONTRACTOR IS RESPONSIBLE FOR DETERMINING FINISH GRADING AND DRAINAGE AROUND THE STRUCTURES TO ENSURE SURFACE WATER AND/OR GROUNDWATER ARE DIRECTED AWAY FROM THE STRUCTURES.
- PRIOR TO START OF CONSTRUCTION, CONTRACTOR MUST VERIFY EXISTING GROUND ELEVATIONS ADJACENT TO DRAINAGE OUTLETS TO ASSURE PROPER TRANSITIONS BETWEEN EXISTING AND PROPOSED FACILITIES. CONTRACTOR MUST NOTIFY DESIGN ENGINEER OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.
- ALL PROPOSED UNDERGROUND UTILITIES SERVING THE SITE AND BUILDINGS TO BE COORDINATED WITH APPLICANT, SOLAR ENGINEER, AND SITE ENGINEER PRIOR TO INSTALLATION.
- ALL RETAINING WALLS AND STEEP SLOPES ARE SHOWN SCHEMATICALLY ONLY AND DIPRETE ENGINEERING IS NOT PROVIDING THE DESIGN OF THESE ITEMS. THE ACTUAL WALLS AND SLOPES ARE TO BE DESIGNED AND BUILT UNDER THE DIRECTION OF A PROFESSIONAL GEOTECHNICAL ENGINEER AND CERTIFIED TO THE OWNER PRIOR TO THE COMPLETION OF THE PROJECT. SHOP DRAWINGS TO BE SUBMITTED PRIOR TO CONSTRUCTION.
- ALL CUT AND FILL AREAS ARE TO BE DONE UNDER THE DIRECTION OF A PROFESSIONAL GEOTECHNICAL ENGINEER WITH TESTING AND CERTIFICATION TO BE PROVIDED TO THE APPLICANT AT THE COMPLETION OF THE PROJECT. DIPRETE ENGINEERING IS NOT PROVIDING THE FILL SPECIFICATION, GEOTECHNICAL ENGINEERING, STRUCTURAL ENGINEERING SERVICES, OR SUPERVISION AS PART OF THESE DRAWINGS.
- NO STOCKPILING OF MATERIAL TO BE LOCATED IN THE RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT.
- ALL LOAM IN DISTURBED AREAS TO BE STOCKPILED FOR FUTURE USE.
- ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, MUST BE DISCARDED OFF SITE IN AN ACCEPTABLE MANNER AT AN APPROVED LOCATION. STUMPS MUST BE GROUND ON SITE OR REMOVED.
- NO STUMP DUMPS ARE PROPOSED ONSITE.

DRAINAGE

ALL DRAINAGE PIPING TO BE HIGH-DENSITY POLYETHYLENE (HDPE) WITH WATERTIGHT JOINTS WHERE INSTALLED WITHIN THE SEASONAL HIGH GROUNDWATER, UNLESS NOTED OTHERWISE ON THE PLANS OR IN THE SPECIFICATIONS. THE LEVEL OF DETAIL SHOWN DOES NOT INCLUDE ALL JOINTS THAT MAY BE REQUIRED FOR CONSTRUCTION. ALL FITTINGS & PIPE SLOPES TO BE FIELD FIT BY CONTRACTOR.

ELECTRIC

PROPOSED ELECTRIC UTILITIES ARE SHOWN SCHEMATICALLY AND ARE PROPOSED TO BE PRIMARILY UNDERGROUND. OWNER AND CONTRACTOR TO COORDINATE FINAL DESIGN WITH APPROPRIATE UTILITY COMPANIES. ALL WORK TO BE IN ACCORDANCE WITH EACH UTILITY COMPANY'S STANDARDS AND DETAILS AS WELL AS LOCAL AND FEDERAL REGULATIONS. THIS INCLUDES BUT IS NOT LIMITED TO, POLES, TRANSFORMERS, PULL BOXES, CONCRETE PADS, CONCRETE ENCASEMENTS AND CONDUITS. CONNECTION POINTS FOR ELECTRIC AND TELECOM UTILITIES, AT THE EXISTING INFRASTRUCTURE, ARE CURRENTLY SHOWN AS UNDERGROUND UTILITIES. THESE UTILITIES MAY BE UNDERGROUND OR OVERHEAD AND WILL BE COORDINATED WITH NATIONAL GRID PRIOR TO CONSTRUCTION.

SITE LIGHTING

SITE LIGHTING (TEMPORARY AND PERMANENT) MUST BE DIRECTED AWAY FROM AND SHIELDED FROM ENVIRONMENTALLY SENSITIVE AREAS AND ABUTTING LANDS. EXACT LOCATIONS OF LIGHT POLE TO BE COORDINATED WITH OTHER UTILITIES AND TO BE LOCATED WITHIN THE STREET RIGHTS OF WAY. FINAL LIGHTING AND CONDUIT LOCATIONS BY OTHERS.

Abbreviations Legend

ADA AMERICANS WITH DISABILITY ACT	OHV OVERHEAD WIRE
AP ASSESSOR'S PLAT	PE POLYETHYLENE
BC BOTTOM OF CURB	R PROPERTY LINE
BT BOTTOM OF TESTHOLE	PR PROPOSED
BIT BITUMINOUS (BERM)	PVC POLYVINYL CHLORIDE
BIO BIORETENTION	R RADIUS
BS BASEMENT SLAB ELEVATION	R&D REMOVE AND DISPOSE
BW FINISHED GRADE AT BOTTOM OF WALL	RCP REINFORCED CONCRETE PIPE
CB CATCH BASIN	RIBH RHODE ISLAND
(C) CALCULATED	RH HIGHWAY BOUND
CL CENTERLINE	RL ROOF LEADER
(CA) CHORD ANGLE	ROW RIGHT OF WAY
CLDIP CONCRETE LINED DUCTILE IRON PIPE	S SLOPE
CO CLEAN OUT	SD SUBDRAIN
CONC CONCRETE	SED SEDIMENT FOREBAY
(D) DEED	SF SQUARE FOOT
DCB DOUBLE CATCH BASIN	SFL STATE FREEWAY LINE
DI DROP INLET	SFM SEWER FORCE MAIN
DMH DRAINAGE MANHOLE	SG SLAB ON GRADE ELEVATION
DP DETENTION POND	SHL STATE HIGHWAY LINE
EOP EDGE OF PAVEMENT	SMH SEWER MANHOLE
ESC EROSION AND SEDIMENT CONTROL	SNDF SAND FILTER
EX EXISTING	SS SIDE SLOPE
FES FLARED END SECTION	STA STATION
FFE FINISH FLOOR ELEVATION	TC TOP OF CURB
GS GARAGE SLAB ELEVATION	TD TRENCH DRAIN
GWT GROUND WATER TABLE	TF TOP OF FOUNDATION
HW HEADWALL	TRANS TRANSITION
HC HIGH CAPACITY CATCH BASIN GRATE	TW TOP OF WALL (FINISHED)
HOPE HIGH DENSITY POLYETHYLENE	GRADE AT TOP OF WALL)
ID INLINE DRAIN	TYP TYPICAL
INV INVERT	UDS UNDERGROUND
IP INFILTRATION POND	DETENTION SYSTEM
LF LINEAR FEET	UIS UNDERGROUND
LOD LIMIT OF DISTURBANCE	INFILTRATION SYSTEM
LP LIGHT POLE	UP UTILITY POLE
(M) MEASURED	WO WALKOUT ELEVATION
N/F NOW OR FORMERLY	WQ WATER QUALITY

Existing Legend

(AS SHOWN ON PROPOSED PLANS)

NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS

	PROPERTY LINE		NAIL FOUND/SET
	ASSESSORS LINE		DRILL HOLE FOUND/SET
	BUILDING		BOUND FOUND/SET
	BRUSHLINE		SIGN
	TREE LINE		BOLLARD
	GUARDRAIL		SOIL EVALUATION
	FENCE		CATCH BASIN
	RETAINING WALL		DOUBLE CATCH BASIN
	STONE WALL		DRAINAGE MANHOLE
	MINOR CONTOUR LINE		FLARED END SECTION
	MAJOR CONTOUR LINE		GUY POLE
	WATER LINE		ELECTRIC MANHOLE
	SEWER LINE		UTILITY/POWER POLE
	SEWER FORCE MAIN		LIGHTPOST
	GAS LINE		SEWER/SEPTIC MANHOLE
	ELECTRIC LINE		SEWER VALVE
	OVERHEAD WIRES		CLEANOUT
	DRAINAGE LINE		HYDRANT
	SOILS LINES		IRRIGATION VALVE
	50' PERIMETER WETLAND		WATER VALVE
	100' RIVERBANK WETLAND		WELL
	200' RIVERBANK WETLAND		MONITORING WELL
	FEMA BOUNDARY		UNKNOWN MANHOLE
	STREAM		GAS VALVE
	WETLAND LINE & FLAG		BENCH MARK
			STREAM FLOW DIRECTION

Proposed Legend

NOT ALL ITEMS SHOWN WILL

	PROPERTY LINE		DRAINAGE LINE
	BUILDING SETBACKS		PERFORATED SUBDRAIN
	TREE LINE		SWALE
	CHAINLINK FENCE		SEWER FORCE MAIN
	GUARDRAIL (RIDOT STD 34.2.0, 34.4.0 OR APPROVED EQUAL)		GAS LINE
	RETAINING WALL		WATER LINE
	MINOR CONTOUR LINE		HYDRANT ASSEMBLY
	MAJOR CONTOUR LINE		WATER SHUT OFF
	SPOT ELEVATION		WATER VALVE
	EDGE OF PAVEMENT		THRUST BLOCK
	BITUMINOUS BERM (RIDOT STD 7.5.1)		SEWER LINE
	CONCRETE CURB (RIDOT STD 7.1.0)		OVERHEAD WIRE
	BUILDING FOOTPRINT		ELECTRIC, TELEPHONE, CABLE LINE
	BUILDING OVERHANG		LIMIT OF DISTURBANCE - NO EROSION CONTROL
	ASPHALT PAVEMENT		STRAW WATTLE SILT FENCE (RIDOT STD 9.2.0) OR APPROVED EQUAL AT LIMIT OF DISTURBANCE
	HEAVY DUTY ASPHALT PAVEMENT		2:1 OR 1:1 SLOPES
	HEAVY DUTY CONCRETE		UNDERGROUND INFILTRATION OUTLINE
	CONCRETE SIDEWALK		POND ACCESS
	ASPHALT SIDEWALK		RIP RAP
	SAWCUT LINE		SAND FILTER
	SIGN (RIDOT STD 24.6.2 AS APPLICABLE)		BIO RETENTION
	SINGLE LIGHT		CATCH BASIN
	DOUBLE LIGHT		DOUBLE CATCH BASIN
	OVERHANGING LIGHT		MANHOLE
	ACCESSIBLE PARKING SPACE SYMBOLS		FLARED END SECTION
			HEAD WALL

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPLICANT WITH CHANGATIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 18 2019 FILE # 19-0109
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

General Notes And Legend
Howard Lane Solar
Glocester, Rhode Island
Assessor's Plat of Lot 164
Applicant
Econox Renewables, Inc.
PO BOX 808
Winchester, MA 01890

Diprete Engineering
Two Stafford Court Cranston, RI 02920
Tel: 401-943-1000 Fax: 401-464-6006 www.diprete-eng.com
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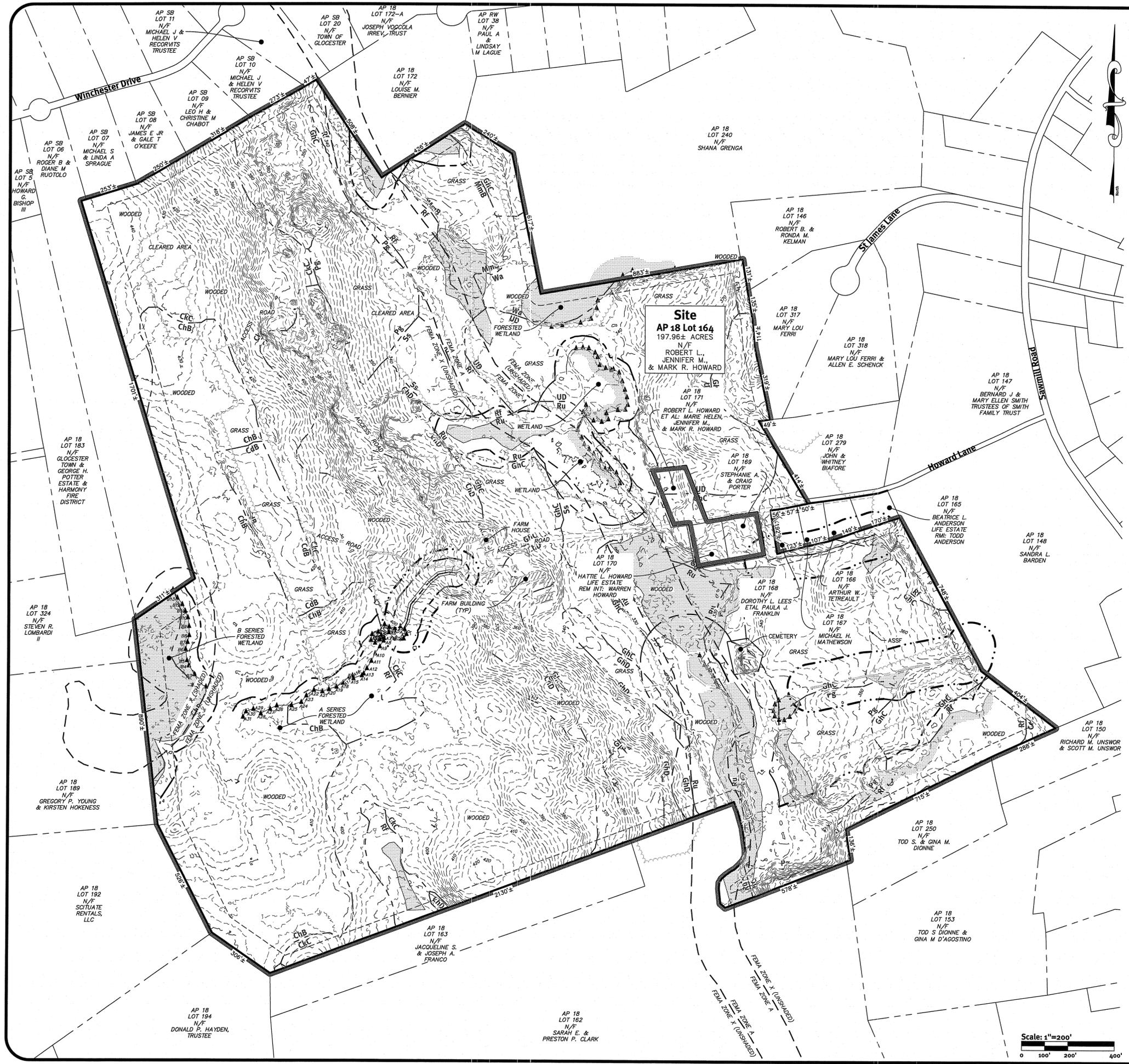
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No.	Date	Description	By
1	7-22-2019	RESPONSE TO RIDEM COMMENTS	S.D.M.
2	8-15-2019	RIDOT PD Submission	S.D.M.
3			

Drawn By: S.D.M. Design By: K.E.D.

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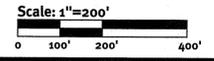


Site
AP 18 Lot 164
 197.96± ACRES
 N/F
 ROBERT L. JENNIFER M. & MARK R. HOWARD

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

STEEP SLOPES TABLE

SLOPE	COLOR
1	>15.00%



DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 tel.401-943-1000 fax.401-464-6006 www.diprete-eng.com

KEVIN DEMERS

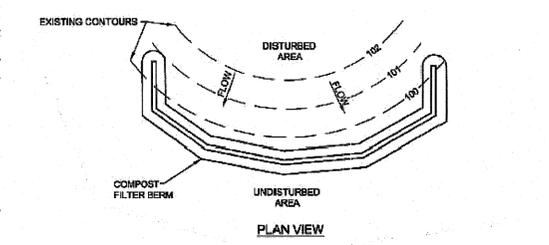
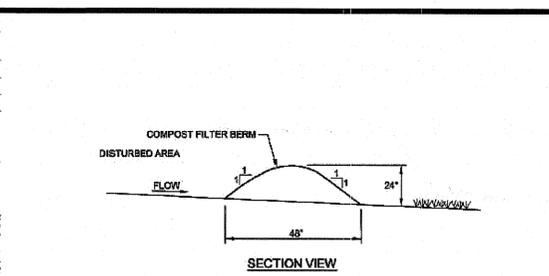
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No.	Date	Description	Design By: K.E.D.
1	7/29/2019	ISSUANCE TO BORROW COMMENTS	
2	7/29/2019	ISSUANCE TO BORROW COMMENTS	

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
 REVIEWED WITH CONDITIONS
 AS SPECIFIED BY THE LETTER OF APPROVAL
 DATED SEP 18 2019 FILE # 19-0109
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

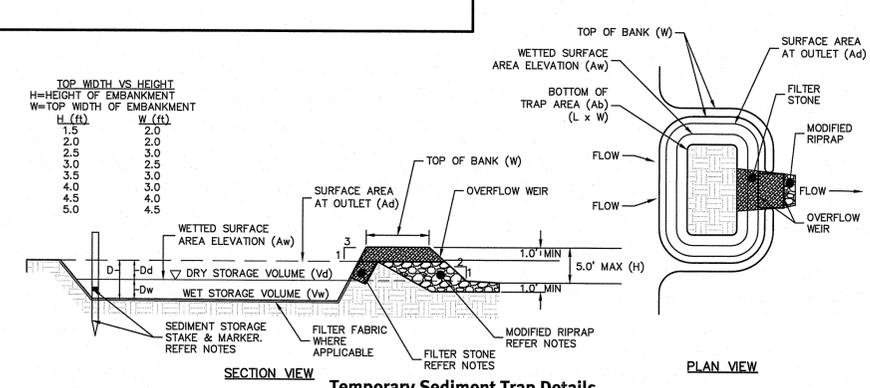
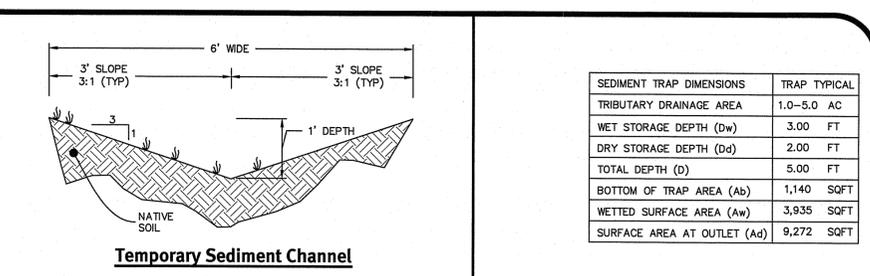
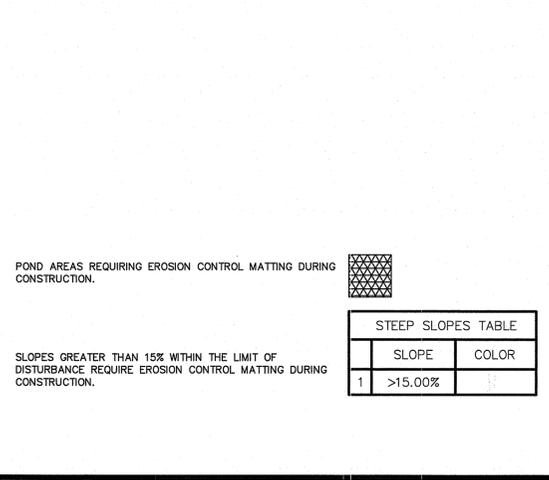
Existing Conditions Plan
Howard Lane Solar
 Gloucester, Rhode Island
 Assessor's Plat 18 Lot 164
Econox Renewables, Inc.
 PO BOX 808
 Winchester, MA 01890



- Notes:**
- WOOD CHIPS CAN BE USED TO CONSTRUCT THE FILTER BERM.
 - FILTER BERMS SHALL BE USED ON SIGNIFICANT FLOW PATHS AND PLACED PARALLEL TO THE SLOPE OF THE FLOW BASED ON THE COMPOST FILTER SOCK/FIBER ROLL REQUIREMENTS IN THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (2014).
 - TALL GRASSES SHALL BE CUT PRIOR TO INSTALLATION TO MINIMIZE POTENTIAL FOR UNDERCUTTING. BERM SHALL BE NETTED OR OTHERWISE ANCHORED AFTER INSTALLATION.
 - SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE ABOVE GROUND HEIGHT OF THE BERM.
 - ANY SECTION COMPOST FILTER BERM WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED. CONCENTRATED FLOWS SHALL NOT BE DIRECTED TOWARDS ANY COMPOST FILTER BERM.
 - CONTRACTOR SHALL FIELD ADJUST FILTER BERMS AS NECESSARY. CERTAIN AREAS MAY BE OMITTED AS NECESSARY OR ADDITIONAL MEASURES ADDED BASED ON FIELD CONDITIONS.
 - FILTER BERMS MAY BE SUBSTITUTED WITH COMPOST FILTER SOCKS PER THE RI SOIL EROSION AND SEDIMENT CONTROL HANDBOOK OF 2014.
 - CONTRACTOR TO MODIFY BERM CONDITIONS AS SITE GRADING IS REVISED. BERMS MUST BE IN PLACE WHEN A RAINFALL GREATER THAN 0.25" IS EXPECTED.

Erosion Control SESC Trap Disturbance Area Notes:

- THE FOLLOWING 2 STEPS MUST BE FOLLOWED WHEN CLEARING AND STUMPING THE 5 ACRE MAX SESC TRAP DISTURBANCE AREAS:
- STEP 1: TREE CLEARING AND EARTHWORK**
- TREE CLEARING WILL COMMENCE LEAVING ALL STUMPS IN PLACE WITHIN THE LOD.
 - THE ENTIRETY OF ALL PHASE 1 & 2 EROSION CONTROLS MUST BE INSTALLED (SEE PLANS).
 - STUMPING SHALL BE PERFORMED WITHIN THE 5 ACRE APPROXIMATE DISTURBANCE AREA LINES (SEE PLANS) AND DIVERSION CHANNELS (ALONG WITH PERMANENT SWALES) AND LINED TRAPS MUST BE INSTALLED BEFORE MOVING TO THE NEXT STUMPING AREA.
 - ONCE TRAPS ARE IN PLACE FILTER BERMS SHALL BE INSTALLED AS SHOWN IN THE DETAILS AND NOTES ON THIS SHEET.
 - NEXT THE CONTRACTOR CAN MOVE TO THE NEXT 5 ACRE MAX SESC TRAP TRIBUTARY AREA AND REPEAT STEPS 1-5.
- STEP 2: PANEL MOUNTING AND PERMANENT BMP DEVELOPMENT**
- ONCE ALL EARTHWORK, TREE CLEARING, STUMPING AND ROUGH BMP CREATION HAS OCCURRED THE CONTRACTOR SHALL PROPERLY CLOSE LINED SEDIMENT TRAPS AND DIVERSION CHANNELS. THIS CAN BE ACCOMPLISHED BY REMOVING AND PROPERLY DISPOSING OF SEDIMENT THE LINED TRAP HAS GATHERED AND FILLING IN THE TRAP AVAILABLE LOAM, TOPSOIL, OR OTHER MATERIAL APPROVED BY THE ENGINEER OF RECORD.
 - ONCE REMOVED THE CONTRACTOR SHALL SCARIFY THE BOTTOM OF THE LINED TRAP UNDER THE SUPERVISION OF THE ENGINEER OF RECORD TO ENSURE INFILTRATION CAN OCCUR IN BMP AREAS REQUIRING SUCH.



- Legend:**
- DIVERSION CHANNEL/BERM
 - SILT FENCE OR APPROVED EQUAL EROSION CONTROL MEASURE
 - STRAW WATTLE (SEE SHEET 12)
 - APPROXIMATE SESC TRAP TRIBUTARY AREA LINE (5 ACRE MAX)
 - LIMIT OF DISTURBANCE (NO EROSION CONTROL)
 - TEMPORARY SEDIMENT TRAPS (UNLINED)
 - TEMPORARY SEDIMENT TRAPS (LINED)
 - PERMANENT BMP EXTENT LINE

Erosion Control Notes:

- THE CONTRACTOR IS RESPONSIBLE FOR ALL SOIL EROSION AND SEDIMENT CONTROL MEASURES ON SITE, WHICH MUST BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE APPLICABLE REGULATIONS AND AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD, THE GLOUCESTER DIRECTOR OF PUBLIC WORKS, AND THE RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. THE CONTRACTOR SHALL MAINTAIN SESC PLAN DOCUMENTATION ON-SITE THROUGHOUT THE DURATION OF THE PROJECT.
- ALL EROSION CONTROL, TEMPORARY SWALES, TEMPORARY SEDIMENT TRAPS, ETC. SHALL BE INSTALLED PER THE RHODE ISLAND SOIL EROSION AND SEDIMENT CONTROL HANDBOOK (LATEST EDITION) AND THIS SOIL EROSION AND SEDIMENT CONTROL PLAN (SESC).
- SEE SECTION 2.2 OF THE SESC PLAN BY DIPRETE ENGINEERING, LATEST REVISION, FOR PROJECT PHASING & SEQUENCE OF CONSTRUCTION ACTIVITY. CONTRACTOR MAY MODIFY SEQUENCE OF CONSTRUCTION WITH APPROVAL OF ENGINEER OF RECORD AND OWNER.
- CONSTRUCTION STAGING AREAS MAY BE RELOCATED WITH APPROVAL FROM THE ENGINEER OF RECORD AND THE GENERAL CONTRACTOR.
- TEMPORARY SWALES SHALL BE USED TO CONTROL RUNOFF DURING CONSTRUCTION, AND SHALL BE VEGETATED AFTER CONSTRUCTION. EROSION CONTROL MATS ARE TO BE INSTALLED, IF NECESSARY, TO PREVENT EROSION AND SUPPORT VEGETATION. AFTER CONSTRUCTION IS COMPLETE AND TRIBUTARY AREAS TO THE SWALES HAVE BEEN STABILIZED, THE TEMPORARY SWALES SHALL BE CLEARED AND FINAL CONDITIONS (INCLUDING INSTALLATION OF THE GRASS) SHALL BE PER THE DESIGN PLANS.
- SITE CONTRACTOR SHALL STAKEOUT AND PROTECT ANY PROPOSED INFILTRATION AREAS PRIOR TO CONSTRUCTION. CONSTRUCTION TRAFFIC SHALL AVOID INFILTRATION AREAS. THIS INCLUDES WQ INFILTRATION BASINS A, D, E, F AND G. AREAS SHALL BE PROTECTED FROM RUNOFF DURING CONSTRUCTION AND SHALL BE AVOIDED AS TEMPORARY SEDIMENTATION AREAS DURING CONSTRUCTION TO THE EXTENT PRACTICABLE. SILT FENCE OR EQUAL SHALL BE USED TO PROTECT INFILTRATION AREAS FROM RUNOFF. CONSTRUCTION FENCING MAY BE USED TO PROTECT AREAS FROM CONSTRUCTION TRAFFIC.
- APPROXIMATE PHASE LINES AND SEDIMENT TRAP LOCATIONS ARE SHOWN. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD FIT AND DETERMINE ACTUAL SEDIMENT TRAP SIZES ALONG WITH ALL NECESSARY DIVERSION BERMS, SWALES, SILT FENCES OR OTHER APPROPRIATE SEDIMENT CONTROL MEASURES. EACH PROPOSED TEMPORARY SEDIMENT TRAP SHOWN SHALL BE DESIGNED TO ACCOMMODATE DRAINAGE FROM TRIBUTARY AREAS RANGING FROM 1 TO 5 ACRES.
- CONTRACTOR SHALL STABILIZE AREAS PER THE SESC PLAN. AREAS MAY BE STABILIZED WITH SEEDING, STONE, JUTE MESH, SOILTAC, OR APPROVED EQUAL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR DUST CONTROL. DUST CONTROL TREATMENTS SHALL BE APPLIED AS NECESSARY TO CONTROL AND REDUCE THE AMOUNT OF DUST THAT MAY CAUSE OFF SITE DAMAGE, BE A HEALTH HAZARD TO HUMANS, WILDLIFE AND PLANT LIFE, OR POSE A HAZARD TO TRAFFIC SAFETY. DUST CONTROL TREATMENTS SHALL BE CONSISTENT WITH RIDEEM BEST MANAGEMENT PRACTICES.
- CLEARING AND GRUBBING SHALL NOT EXTEND BEYOND THE LIMIT OF DISTURBANCE.
- ALL LOAM IN DISTURBED AREAS SHALL BE STOCKPILED FOR FUTURE USE.
- STUMPS SHALL BE GROUND AND USED ONSITE OR REMOVED. NO STUMP DUMPS ARE ALLOWED ONSITE.
- STOCKPILE AND CONCRETE WASHOUT LOCATIONS TO BE DETERMINED BY CIVIL ENGINEER, AND SITE CONTRACTOR PRIOR TO CONSTRUCTION. NO STOCKPILING OF MATERIAL TO BE LOCATED IN RIGHT OF WAY AND NO OPEN TRENCHES ARE TO BE LEFT OVERNIGHT. ALL EXCESS SOIL, TREES, ROCKS, BOULDERS, AND OTHER REFUSE, SHALL BE DISCARDED OFF SITE AS DIRECTED BY THE OWNER. IF CONCRETE TRUCKS ARE WASHED OUT ON SITE, ALL WASHOUTS MUST BE PERFORMED IN THE DESIGNATED CONCRETE WASHOUT AREA.
- ONCE THE SEDIMENTATION TRAPS ARE NO LONGER REQUIRED AND ALL TRIBUTARY AREAS HAVE BEEN STABILIZED, THE TEMPORARY SEDIMENTATION TRAPS SHALL BE CLEARED AND BROUGHT TO FINAL DESIGN CONDITIONS.
- IN ADDITION TO THOSE AREAS SPECIFICALLY DESIGNATED ON THE PLANS, ALL DISTURBED AREAS INCLUDING THE CONTRACTOR'S STOCKPILE AND STAGING AREAS SHALL BE RESTORED TO MATCH THE DESIGN PLANS OR PRE-CONSTRUCTION CONDITIONS.

Kindly be advised that this Permit is not equivalent to a verification of the type or extent of freshwater wetlands on site.

DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
FRESHWATER WETLANDS PROGRAM
APPROVED WITH CONDITIONS
AS SPECIFIED IN THE LETTER OF APPROVAL
DATED SEP 18 2019 FILE # 19-0109
NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
APPROVED PLANS MUST BE AT CONSTRUCTION SITE

Diprete Engineering
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-644-6006 www.diprete-eng.com

KEVIN DEMERS
No. 8557
REGISTERED PROFESSIONAL ENGINEER CIVIL

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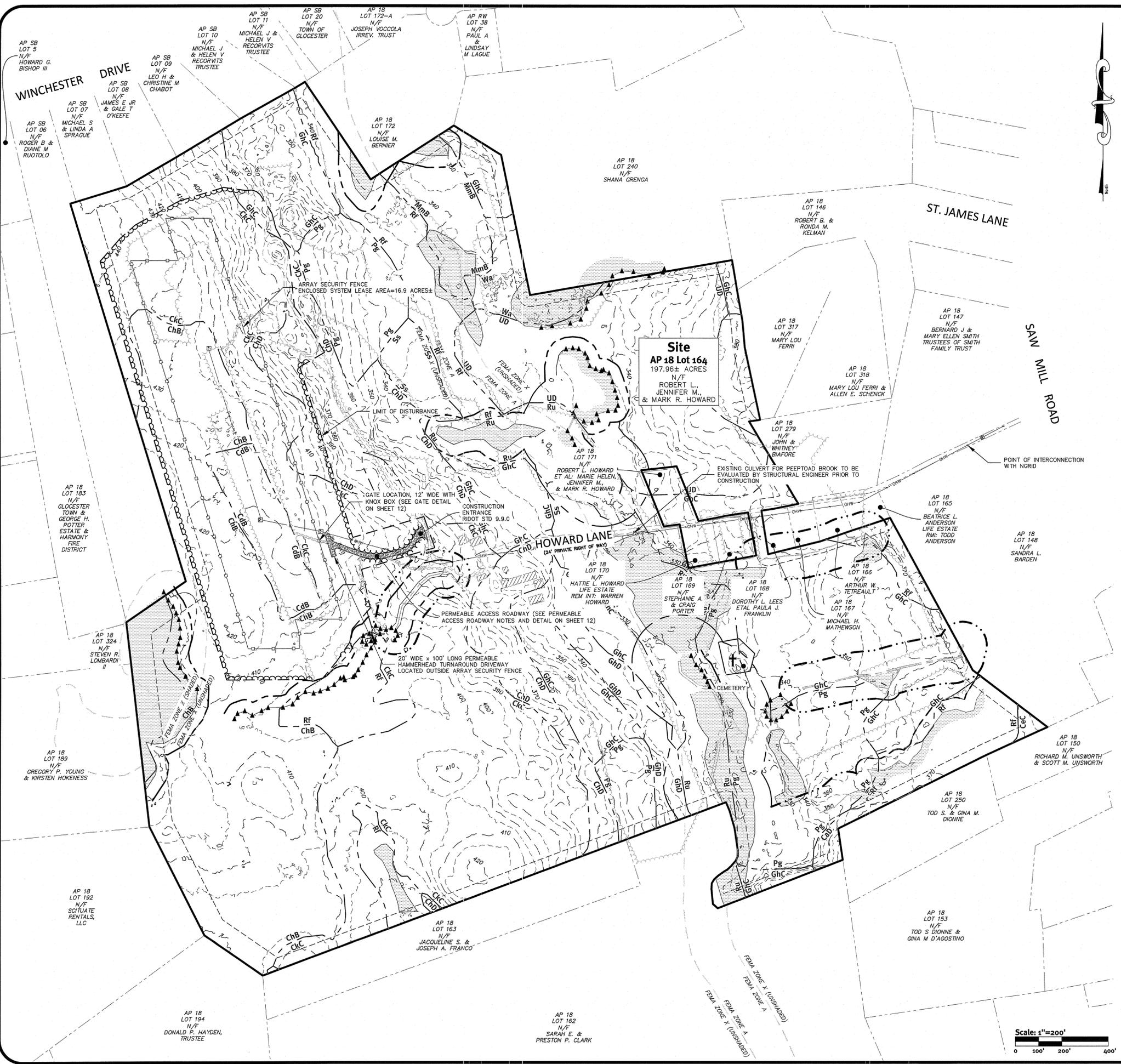
The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA compliance in the implementation of this plan and design.

No.	Date	Description	By
1	7-22-2019	ISSUED FOR CONSTRUCTION	KEVIN DEMERS

Drawn By: S.D.M. Design By: K.E.D.

Soil Erosion And Sediment Control Plan
Howard Lane Solar
Glocester, Rhode Island
Assessors: Plat-18 Lot-164
Applicant: **Econox Renewables, Inc.**
PO BOX 606
Windsor, MA 01890

z:\klemm\projects\2612-002-howard lane 97\autocad drawings\2612-002-site.dwg Plotter: 7/25/2019



General Notes:

1. THE SITE IS LOCATED ON THE TOWN OF GLOUCESTER, RHODE ISLAND ASSESSOR'S PLAT 18 LOT 164.
 2. THE SITE IS APPROXIMATELY 197.96± ACRES AND IS ZONED A-4.
 3. THE OWNER OF AP 18 LOT 164 IS: ROBERT L. JENNIFER M., & MARK R. HOWARD
97 HOWARD LANE
NORTH SCITUATE, RI 02857
 4. THIS SITE IS LOCATED IN FEMA FLOOD ZONE X UNSHADDED AND ZONE A.
- REFERENCE FEMA FLOOD INSURANCE RATE MAP 44007C0260G, MAP REVISED MARCH 2, 2009.
5. THIS PLAN IS SUBSTANTIALLY CORRECT IN ACCORDANCE WITH A CLASS IV STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS. THIS PLAN IS NOT TO BE CONSTRUED AS AN ACCURATE BOUNDARY SURVEY AND MAY BE SUBJECT TO SUCH CHANGES AS AN ACCURATE BOUNDARY SURVEY MAY DISCLOSE.
 6. SOIL MAPPING OBTAINED FROM WEBSOIL SURVEY OF RHODE ISLAND, PREPARED BY U.S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE.
 7. THE SITE NOT WITHIN A:
GROUNDWATER PROTECTION AREA (RIDEM)
COMMUNITY WELLHEAD PROTECTION AREA (RIDEM)
NATURAL HERITAGE AREA (RIDEM)
 8. THE SITE CONTAINS A 0.4 AC CEMETERY AND NO OTHER HISTORICALLY SIGNIFICANT SITES OR STRUCTURES, STATE OR LOCAL, HISTORIC SITES, DISTRICTS, OR LANDSCAPES, ARCHAEOLOGICALLY SIGNIFICANT SITES, OR STATE DESIGNATED SCENIC AREAS. THIS WAS DETERMINED THROUGH FILE REVIEW AND SITEWALK COMPLETED BY DIPRETE ENGINEERING 4/19/2017 AND IS CORRECT TO THE BEST OF OUR BELIEF.
 9. WETLAND FLAGGING WITHIN THE VICINITY OF THE SOLAR PROJECT WAS PERFORMED BY DIPRETE ENGINEERING ON MAY 1, 2018.

Lidar Note:

CONTOUR DATA SHOWN ON THIS PLAN CONFORMS TO A T-4 TOPOGRAPHICAL SURVEY STANDARD AS ADOPTED BY THE RHODE ISLAND BOARD OF REGISTRATION FOR PROFESSIONAL LAND SURVEYORS; SAID DATA IS BASED ON ELEVATION INFORMATION THAT WAS COLLECTED WITH AIRBORNE LIDAR TECHNOLOGY FOR THE ENTIRE AREA OF RHODE ISLAND BETWEEN APRIL 22 AND MAY 6, 2011 AS PART OF THE NORTHEAST LIDAR PROJECT. THIS DATA'S POSITIONAL ACCURACY AND RELIABILITY HAS NOT BEEN VERIFIED BY DIPRETE ENGINEERING AND IS SUBJECT TO CHANGES AN AUTHORITY FIELD SURVEY MAY DISCLOSE.

Abbreviations:

EXISTING	EX
PROPOSED	PR
TYPICAL	TYP
ASSESSOR'S PLAT	AP
NOW OR FORMERLY	N/F
AREA SUBJECT TO STORM FLOW	ASSF

Existing Legend:

(NOT ALL ITEMS SHOWN WILL APPEAR ON PLANS)

PROPERTY LINE	—————
ASSESSOR LINE	-----
SETBACK	-----
MINOR CONTOUR LINE	----- 2
MAJOR CONTOUR LINE	----- 10
TREELINE	~~~~~
SOIL BOUNDARY LINE	----- HkC ----- CaD
FEMA BOUNDARY	----- FEMA ZONE X
GIS WETLAND LINE	-----
WETLAND EDGE AND FLAG	-----
WETLAND HATCH	-----
50' PERIMETER WETLAND	-----
100' RIVERBANK WETLAND	-----
200' RIVERBANK WETLAND	-----
STREAM	-----

Proposed Legend

—————	SOLAR ARRAY
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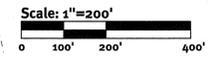
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Soil Information:

(REFERENCE: WEBSOIL SURVEY OF RHODE ISLAND, USDA NATURAL RESOURCES CONSERVATION SERVICE)

SOIL NAME	DESCRIPTION
CaD	CANTON-CHARLTON-ROCK OUTCROP COMPLEX, 15 TO 35 PERCENT SLOPES
CeC	CANTON AND CHARLTON FINE SANDY LOAMS, VERY ROCKY, 3 TO 15 PERCENT SLOPES
CdB	CANTON AND CHARLTON FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ChB	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 3 TO 8 PERCENT SLOPES
ChD	CANTON AND CHARLTON VERY STONY FINE SANDY LOAMS, 15 TO 25 PERCENT SLOPES
CkC	CANTON AND CHARLTON EXTREMELY STONY FINE SANDY LOAMS, 3 TO 15 PERCENT SLOPES
GhC	GLOUCESTER-HINCKLEY VERY STONY SANDY LOAMS, ROLLING
GhD	GLOUCESTER-HINCKLEY VERY STONY SANDY LOAMS, HILLY
MmB	MERRIMAC SANDY LOAM, 3 TO 8 PERCENT SLOPES
Pg	PITS, GRAVEL
Rf	RIDGEBURY, WHITMAN, AND LEICESTER EXTREMELY STONY FINE SANDY LOAMS
Ru	RUMNEY FINE SANDY LOAM
Sa	SUDBURY SANDY LOAM
UD	UDORTHENTS-URBAN LAND COMPLEX
Wo	WALPOLE SANDY LOAM

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Diprete Engineering
Two Stafford Court, Cranston, RI 02920
tel: 401-943-1000 fax: 401-164-6006 www.diprete-eng.com

KEVIN DEMERS
REGISTERED PROFESSIONAL ENGINEER
CIVIL

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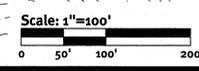
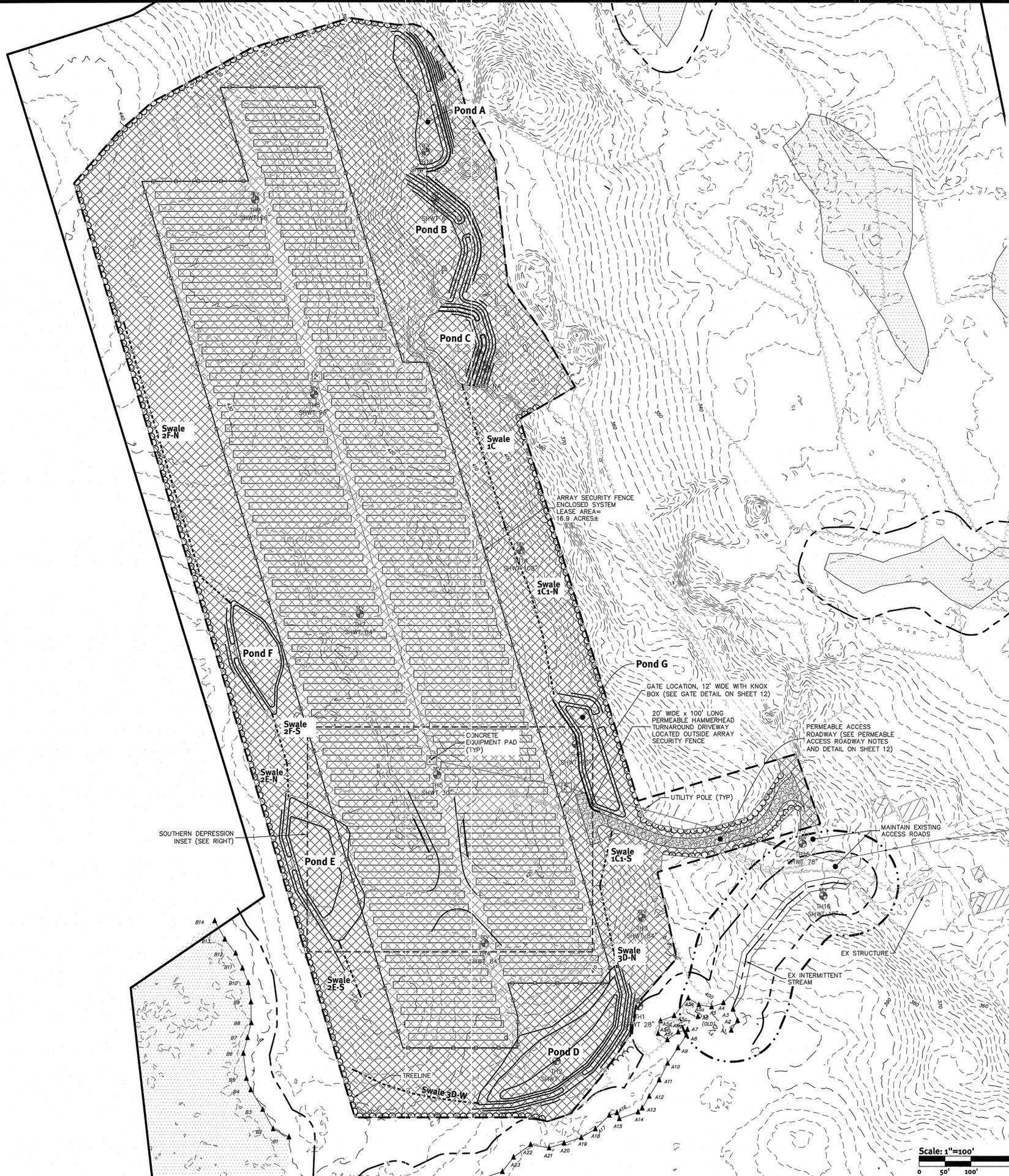
No.	Date	Description	Design By: S.D.M.
1	7-23-2019	Submittal to RIDEM Comments	
2	8-1-2019	Revisions to RIDEM Comments	
3	8-1-2019	Revisions to RIDEM Comments	

Overall Site Plan
Howard Lane Solar
Gloicester, Rhode Island
Assessor's Plat 18 Lot 164

Econox Renewables, Inc.
P.O. BOX 606
Winchester, MA 01890

SHEET 6 OF 12

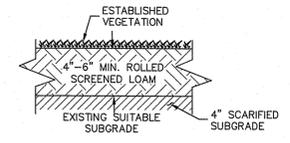
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- Notes:**
1. WILDFLOWER/POLLINATOR MEADOW SEED SHALL BE SHOWY NORTHEAST NATIVE WILDFLOWER & GRASS MIX-ERNMX-153 AVAILABLE AT ERNST CONSERVATION SEEDS IN MEADVILLE, PA (WWW.ERNSTSEED.COM) OR EQUAL.
 2. UNMANAGED AREAS BRUSH AREAS SHALL BE ALLOWED TO REVEGETATE NATURALLY.

Legend

Pollinator Meadow	
Unmanaged Brush	
Conservation Seed Mix	

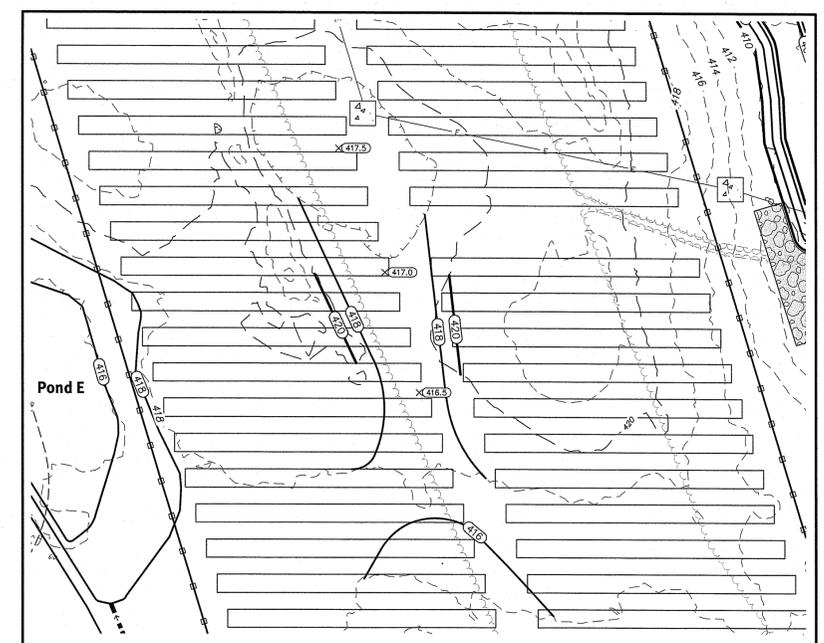


NOTE:
 1) ALL DISTURBED AREAS TO BE LOAMED WITH A MINIMUM OF 4 TO 6-INCHES OF SCREENED LOAM IN ACCORDANCE WITH RHODE ISLAND DEPARTMENT OF TRANSPORTATION (RIDOT) STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION LATEST EDITION SECTIONS L.01 AND M.18.

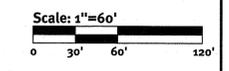
Loam Detail
 NOT TO SCALE

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
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Southern Depression Inset



Diprete Engineering

Two Stafford Court, Cranston, RI 02920
 Tel: 401-943-1000 Fax: 401-464-6006 www.diprete-eng.com

Boston • Providence • Newport

KEVIN DEMERS

 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

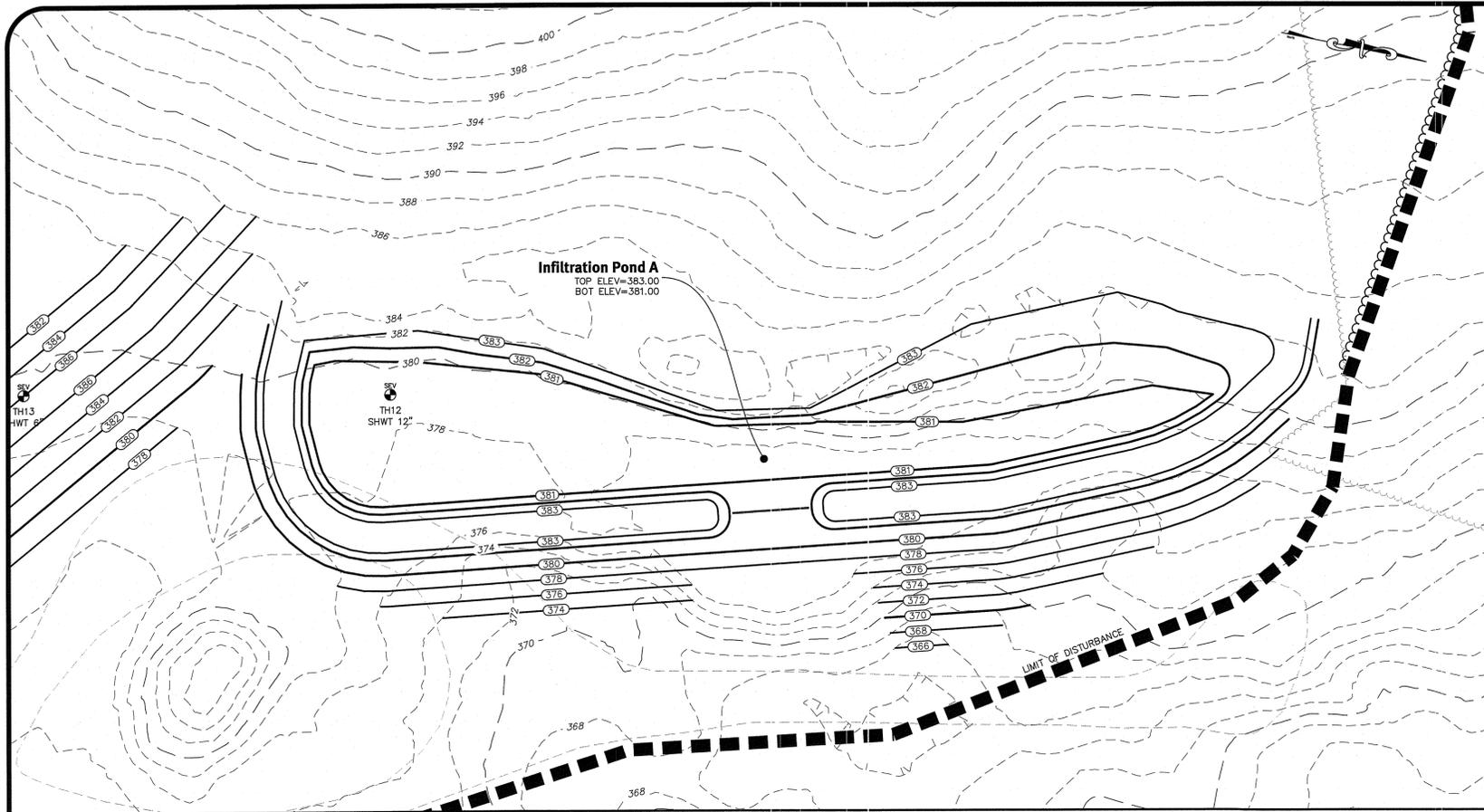
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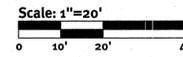
No.	Date	Description	By:
1	7-22-2019	RESPONSE TO RIDEM COMMENTS	S.D.M.
2	8-15-2019	RIDEM PD SUBMISSION	S.D.M.

Site Development Plan
Howard Lane Solar
 Gloucester, Rhode Island
 Assessor's Plat 18 Lot 164

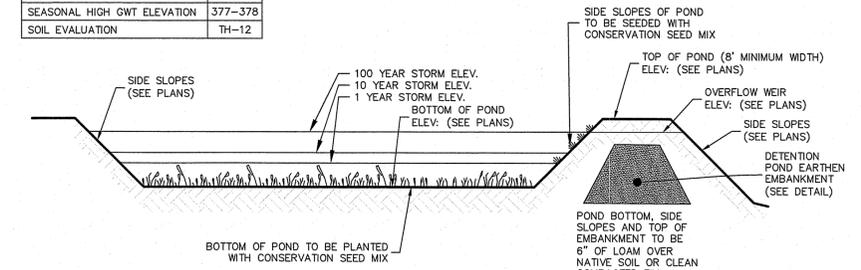
Applicant:
Econox Renewables, Inc.
 PO BOX 808
 Winchester, MA 01890



Infiltration Pond A



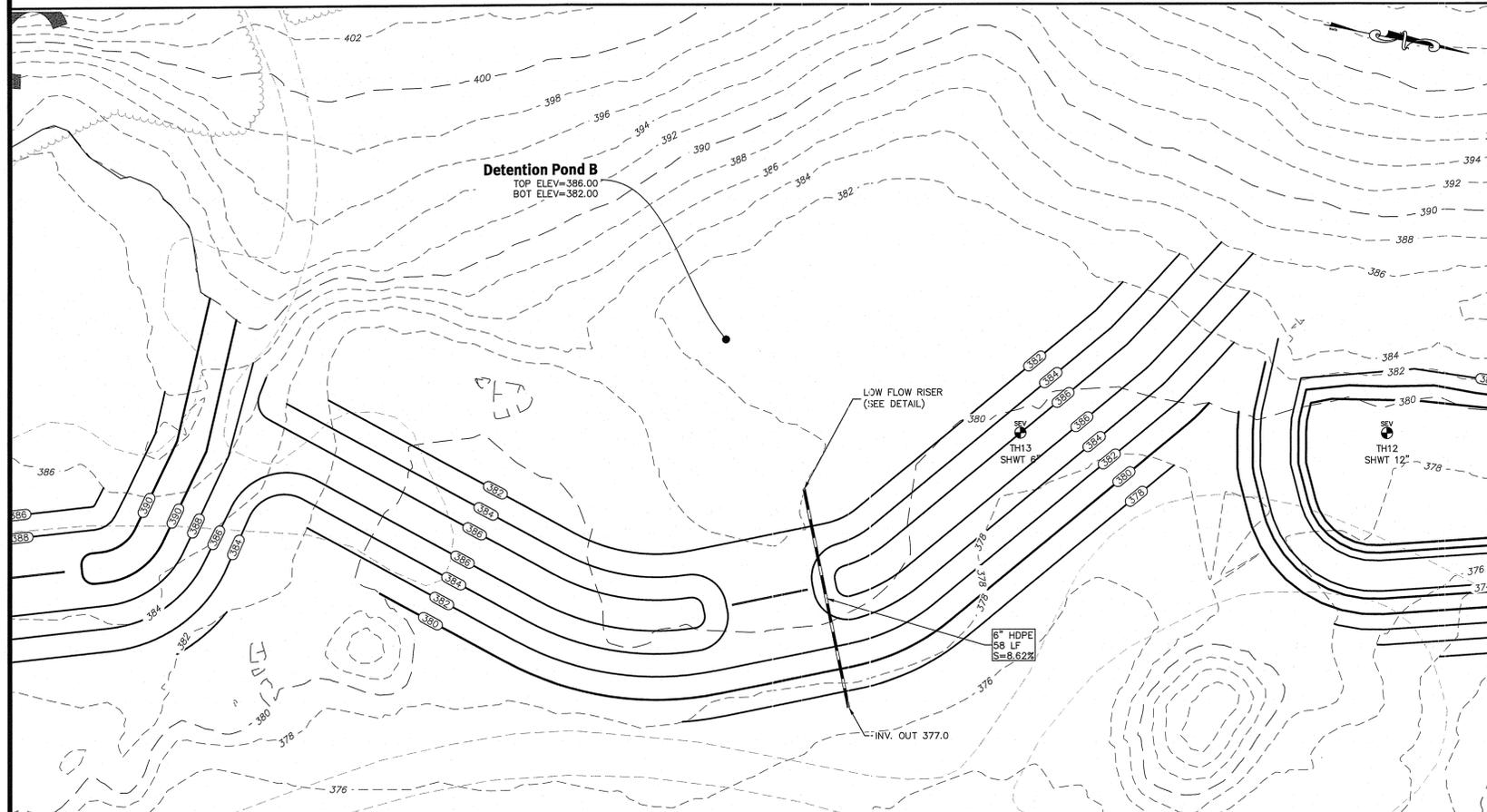
DESCRIPTION	POND A
TOP OF POND ELEVATION	383.00
100 YEAR STORM ELEVATION	381.97
10 YEAR STORM ELEVATION	381.32
1 YEAR STORM ELEVATION	381.00
BOTTOM OF POND ELEVATION	381.00
SEASONAL HIGH GWT ELEVATION	377-378
SOIL EVALUATION	TH-12



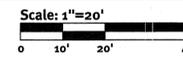
NOTE:

- FOR INFILTRATION AREAS WITH BOTTOMS ABOVE EXISTING GRADE, EXISTING TOPSOIL MUST BE STRIPPED AND ENTIRE BASE OF POND MUST BE BACKFILLED USING WELL-GRADED PROCESSED GRAVEL.

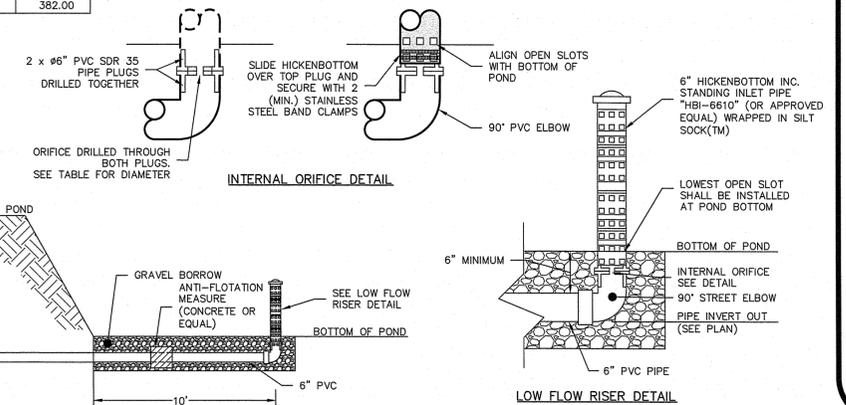
INFILTRATION POND A
NOT TO SCALE



Detention Pond B

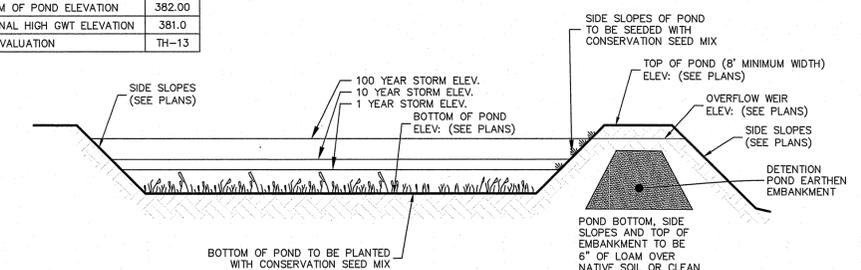


INTERNAL ORIFICE SCHEDULE		
LOCATION	DIAMETER	INVERT
POND B	2.25"	382.00



Low Flow (CPv) Outlet (Without Outlet Structure)
NOT TO SCALE

DESCRIPTION	POND B
TOP OF POND ELEVATION	386.00
100 YEAR STORM ELEVATION	383.88
10 YEAR STORM ELEVATION	383.51
1 YEAR STORM ELEVATION	382.21
BOTTOM OF POND ELEVATION	382.00
SEASONAL HIGH GWT ELEVATION	381.0
SOIL EVALUATION	TH-13



DETENTION POND B
NOT TO SCALE

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF WATER RESOURCES
OFFICE OF FRESHWATER WETLANDS PROGRAM
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Kevin Demers

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
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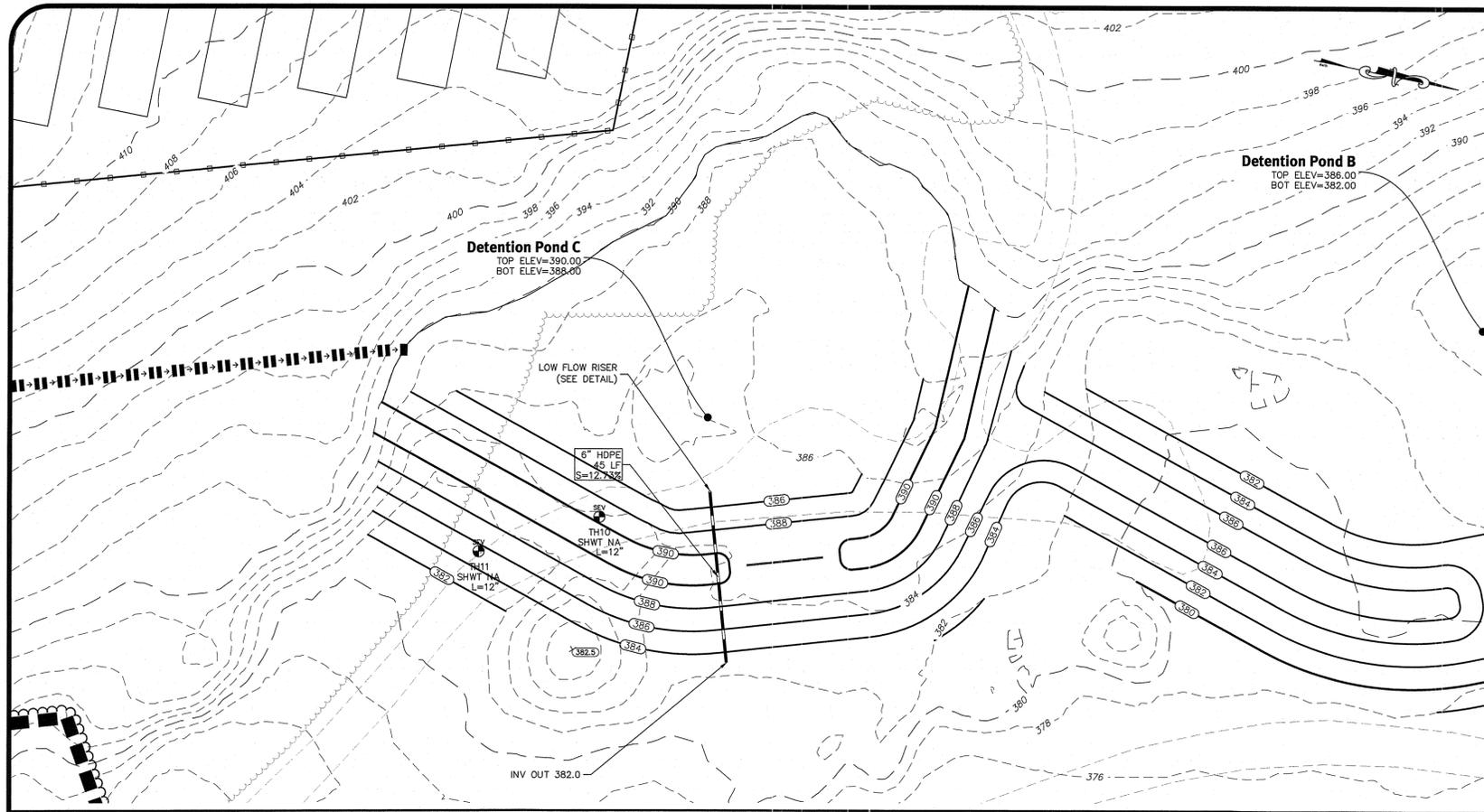
KEVIN DEMERS
REGISTERED PROFESSIONAL ENGINEER
CIVIL

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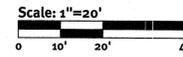
S.D.M.	DATE	DESCRIPTION	DESIGN BY
	2-22-2019	RESPONSE TO BUREAU COMMENTS	K.E.D.
	4-13-2019	REVISION TO SUBMISSION	By:
			Drawn By: S.D.M.

BMP Details A & B
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Glocester, Rhode Island
Assessor's Plat 18 Lot 164
Applicant
Econox Renewables, Inc.
PO BOX 808
Winchester, MA 01890

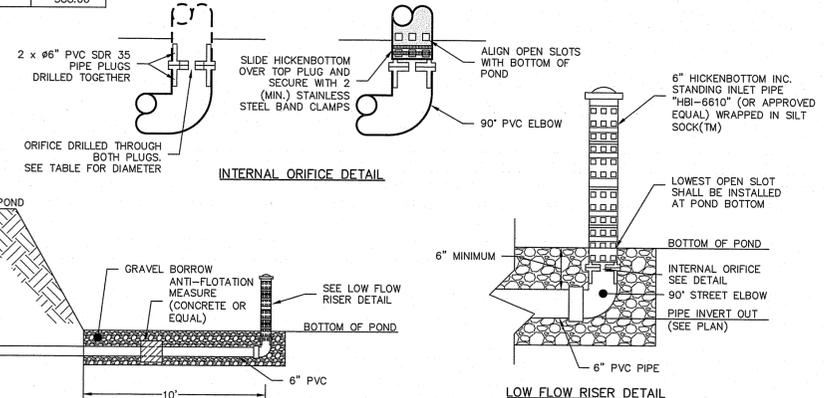
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Detention Pond C



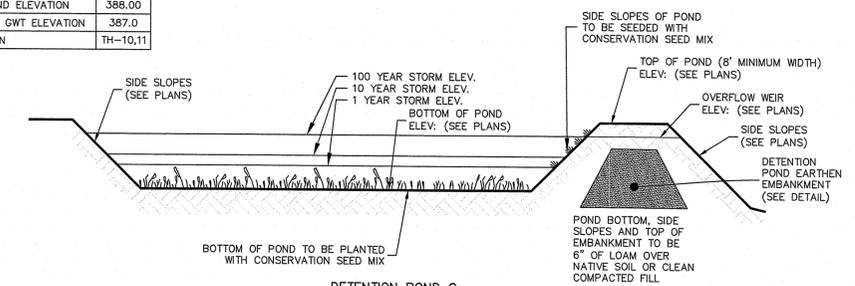
LOCATION	DIAMETER	INVERT
POND C	2.00"	388.00



Low Flow (CP) Outlet (Without Outlet Structure)

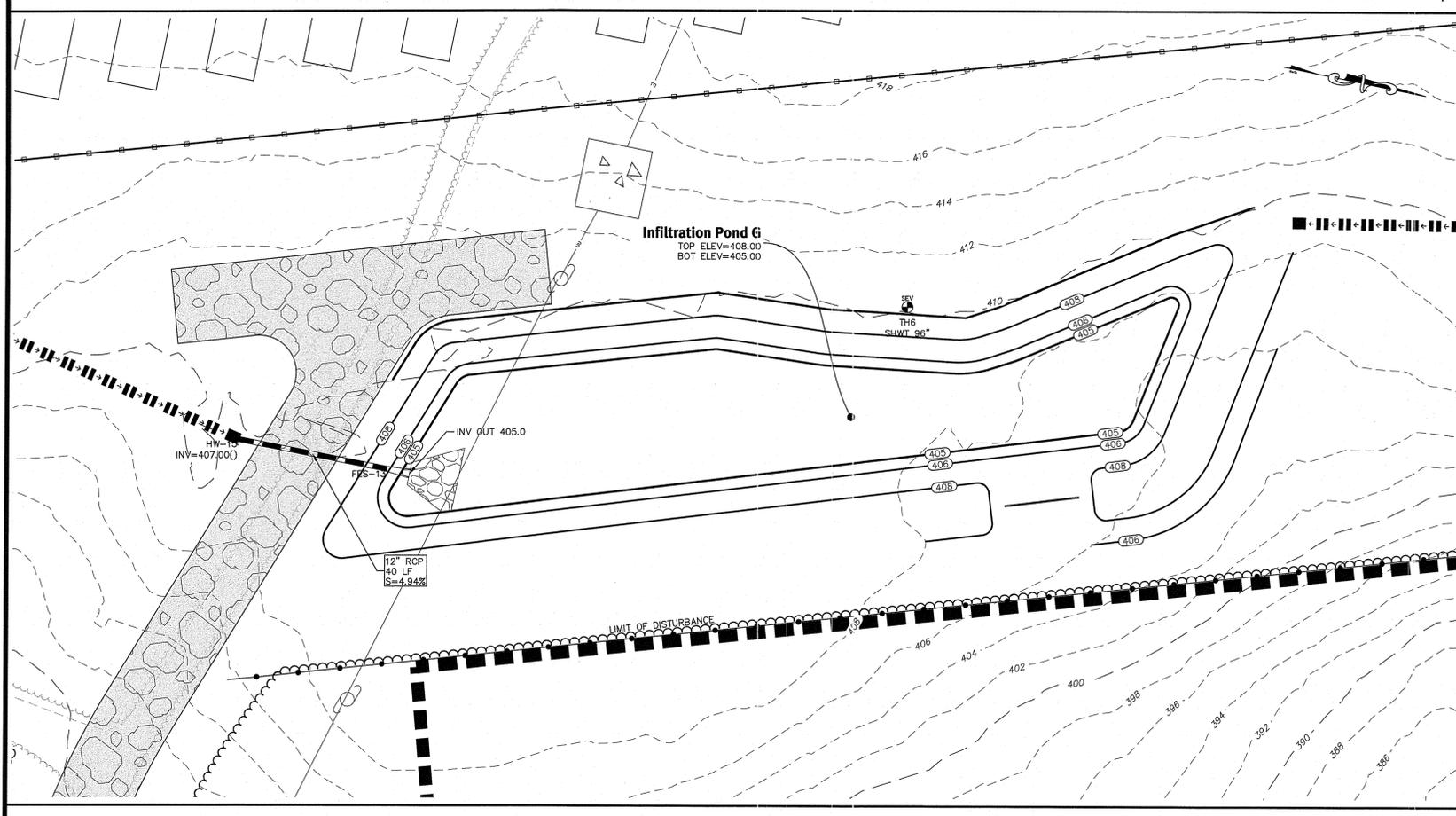
NOT TO SCALE

DESCRIPTION	POND C
TOP OF POND ELEVATION	390.00
100 YEAR STORM ELEVATION	388.93
10 YEAR STORM ELEVATION	388.65
1 YEAR STORM ELEVATION	388.31
BOTTOM OF POND ELEVATION	388.00
SEASONAL HIGH GWT ELEVATION	387.0
SOIL EVALUATION	TH-10,11

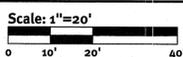


DETENTION POND C

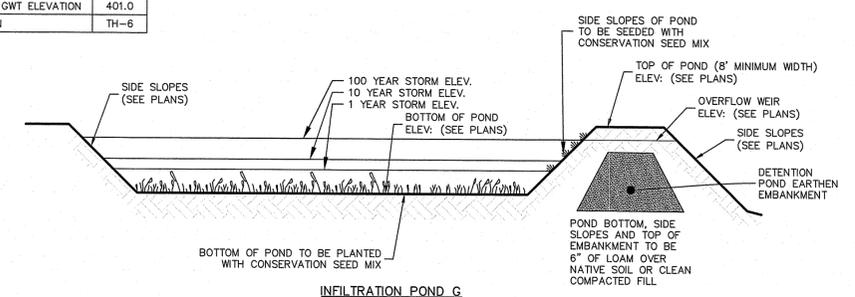
NOT TO SCALE



Infiltration Basin G



DESCRIPTION	POND G
TOP OF POND ELEVATION	408.00
100 YEAR STORM ELEVATION	406.93
10 YEAR STORM ELEVATION	405.84
1 YEAR STORM ELEVATION	405.04
BOTTOM OF POND ELEVATION	405.00
SEASONAL HIGH GWT ELEVATION	401.0
SOIL EVALUATION	TH-6



INFILTRATION POND G

NOT TO SCALE

NOTE:

- FOR INFILTRATION AREAS WITH BOTTOMS ABOVE EXISTING GRADE, EXISTING TOPSOIL MUST BE STRIPPED AND ENTIRE BASE OF POND MUST BE BACKFILLED USING WELL-GRADED PROCESSED GRAVEL.

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DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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 DATED SEP 18 2019 FILE # 19-0109
 NO CHANGES ALLOWED WITHOUT PRIOR APPROVAL
 APPROVED PLANS MUST BE AT CONSTRUCTION SITE

DiPrete Engineering
 Two Stafford Court Cranston, RI 02920
 tel 401-943-1000 fax 401-664-6006 www.diprete-eng.com
 Boston • Providence • Newport

KEVIN DEMERS
 REGISTERED PROFESSIONAL ENGINEER
 CIVIL

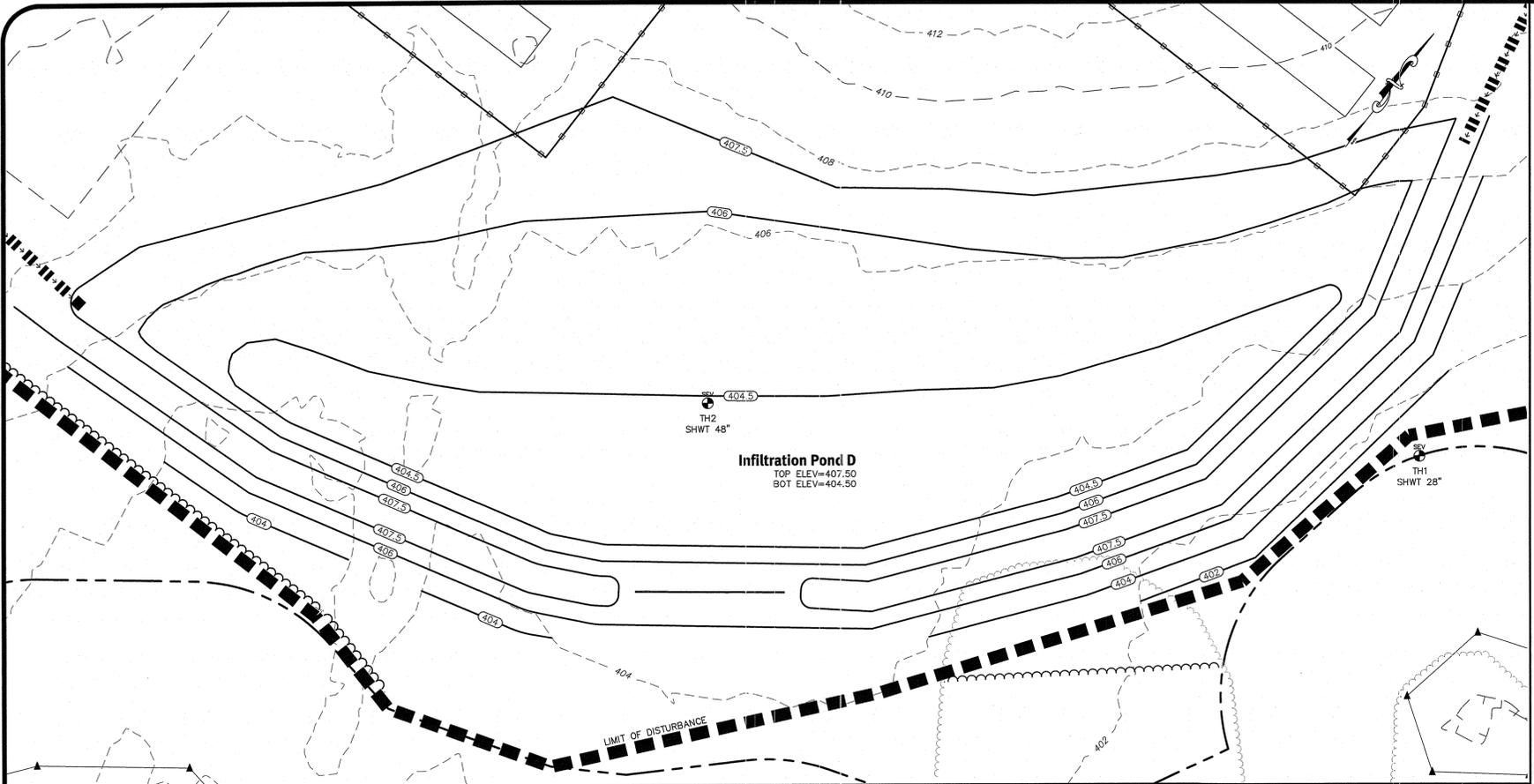
This regulatory submission set shall not be used for construction purposes unless stamped 'Issued for Construction' and signed by a DiPrete Engineering representative.
 The contractor is responsible for all of the means, methods, safety precautions and requirements, and OSHA conformance in the implementation of this plan and design.

No.	Date	Description	S.D.M.	By:
1	7-22-2019	Preparation of BID/RFI Comments		
2	7-22-2019	Response to BID/RFI Comments		
3	7-22-2019	Revision		
4	7-22-2019	Final		

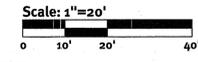
Drawn By: S.D.M. Design By: K.E.D.

BMP Details C & G
Howard Lane Solar
 Gloucester, Rhode Island
 Assessor's Plat 18 Lot 164
Econox Renewables, Inc.
 P.O. Box 868
 Winterset, MA 01890

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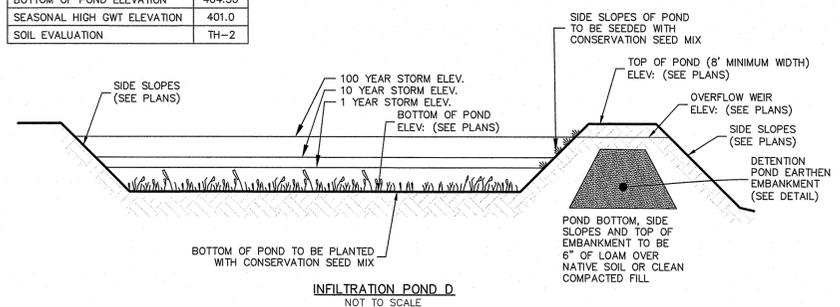


Infiltration Pond D
 TOP ELEV=407.50
 BOT ELEV=404.50

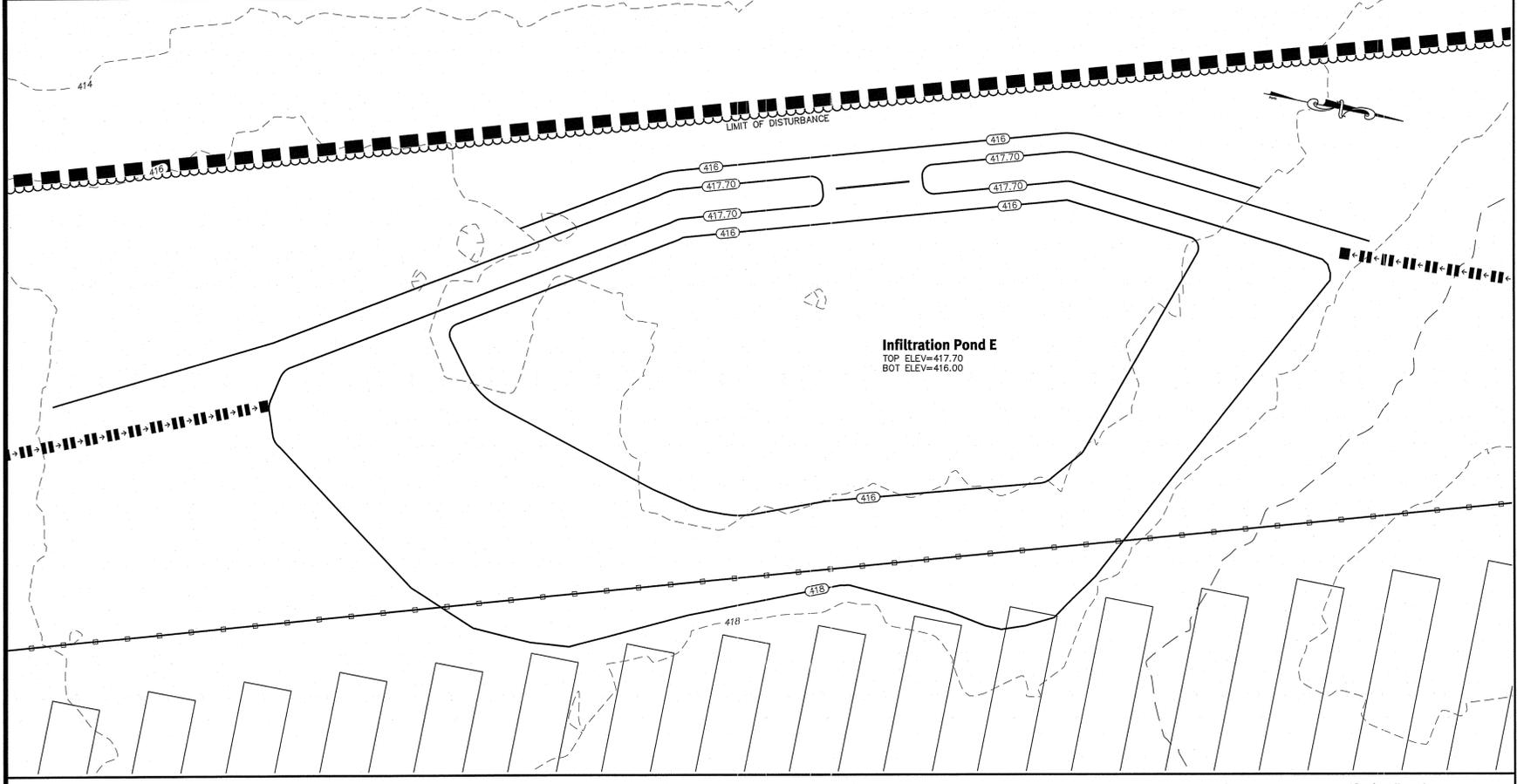


Infiltration Pond D

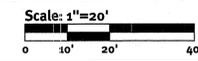
DESCRIPTION	POND D
TOP OF POND ELEVATION	407.50
100 YEAR STORM ELEVATION	406.61
10 YEAR STORM ELEVATION	405.96
1 YEAR STORM ELEVATION	404.70
BOTTOM OF POND ELEVATION	404.50
SEASONAL HIGH GWT ELEVATION	401.0
SOIL EVALUATION	TH-2



- NOTE:**
- FOR INFILTRATION AREAS WITH BOTTOMS ABOVE EXISTING GRADE, EXISTING TOPSOIL MUST BE STRIPPED AND ENTIRE BASE OF POND MUST BE BACKFILLED USING WELL-GRADED PROCESSED GRAVEL.

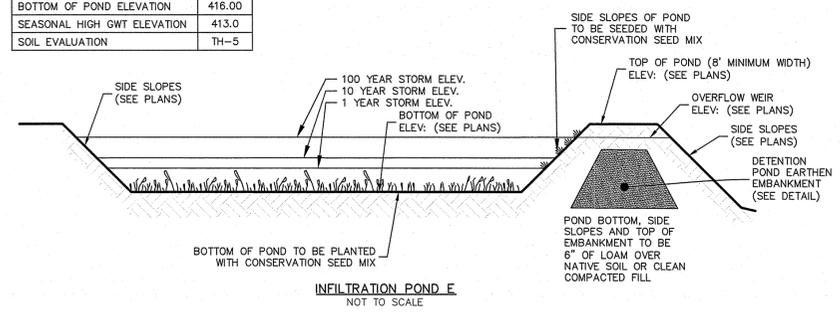


Infiltration Pond E
 TOP ELEV=417.70
 BOT ELEV=416.00



Infiltration Pond E

DESCRIPTION	POND E
TOP OF POND ELEVATION	417.70
100 YEAR STORM ELEVATION	416.66
10 YEAR STORM ELEVATION	416.33
1 YEAR STORM ELEVATION	416.04
BOTTOM OF POND ELEVATION	416.00
SEASONAL HIGH GWT ELEVATION	413.0
SOIL EVALUATION	TH-5



- NOTE:**
- FOR INFILTRATION AREAS WITH BOTTOMS ABOVE EXISTING GRADE, EXISTING TOPSOIL MUST BE STRIPPED AND ENTIRE BASE OF POND MUST BE BACKFILLED USING WELL-GRADED PROCESSED GRAVEL.

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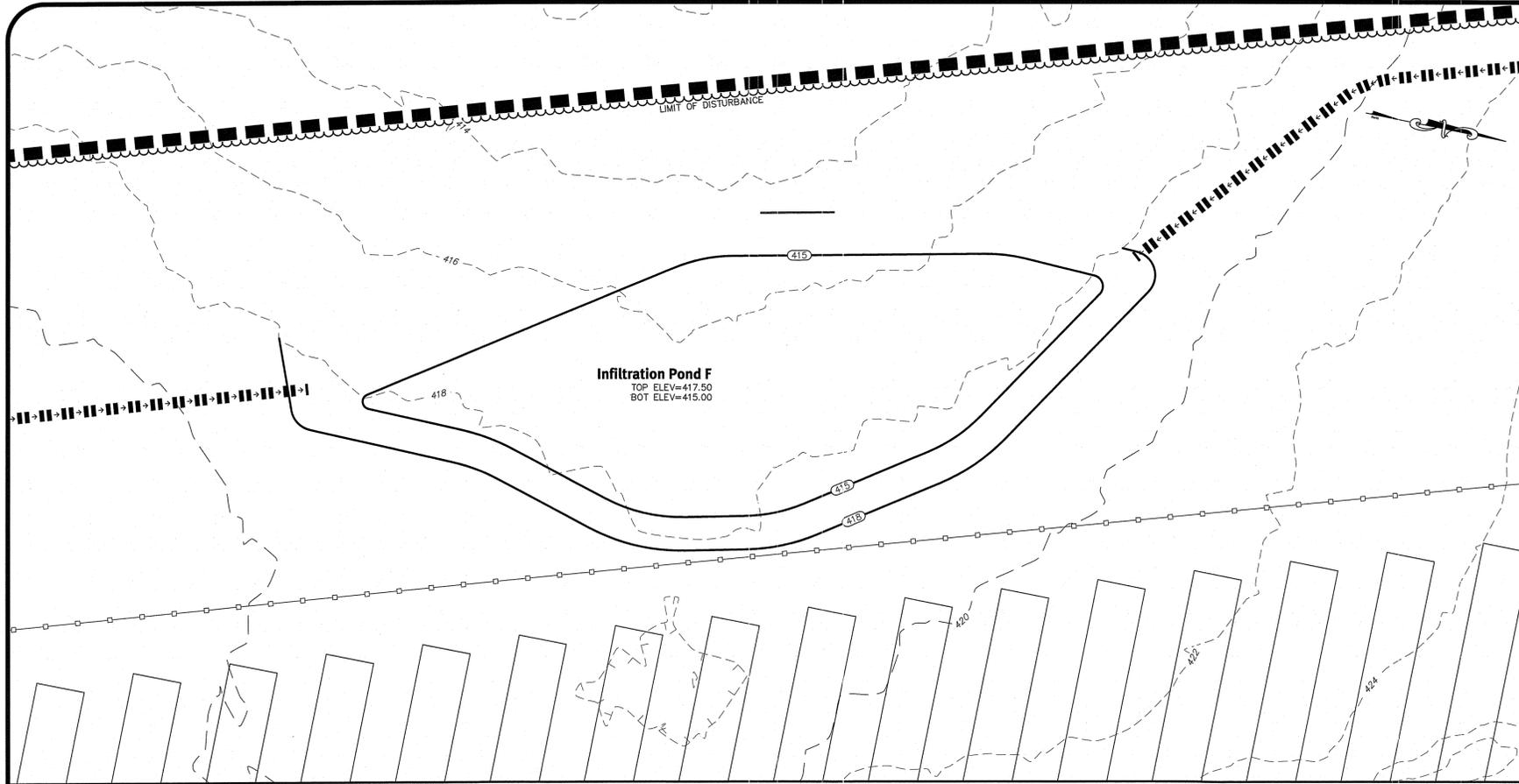
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
 OFFICE OF WATER RESOURCES
 FRESHWATER WETLANDS PROGRAM
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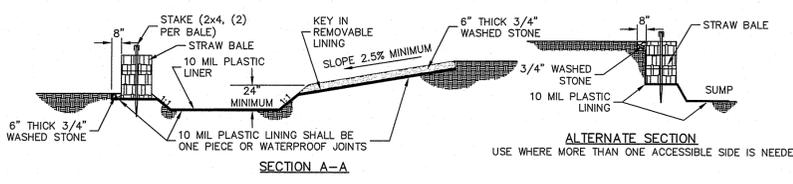
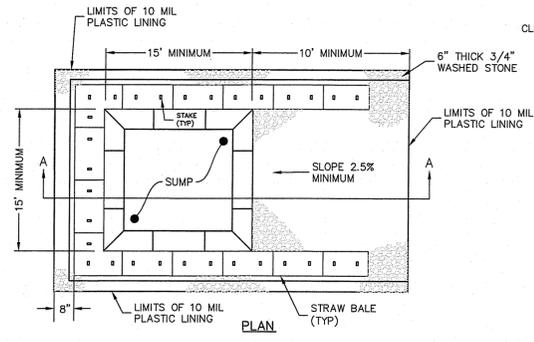
Signature

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No.	Date	Description	Drawn By: S.D.M.	Design By: K.E.D.
1	2-22-2019	Response to BUREAU Comments		
0	4-26-09	RFI/PTP Submission		

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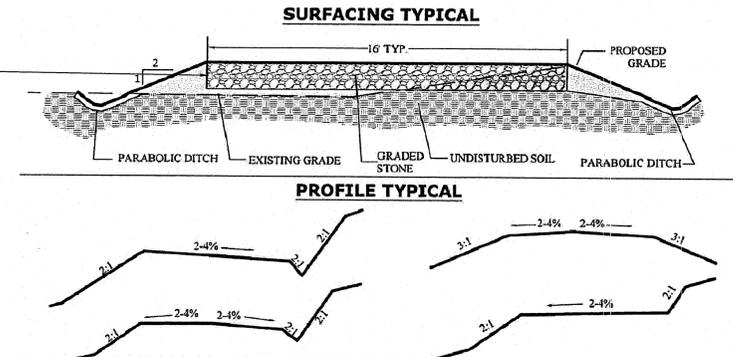




- NOTES:**
- PIT IS SPECIFICALLY DESIGNATED, DIKED AND IMPERVIOUS CONTAINMENT TO PREVENT CONTACT BETWEEN CONCRETE WASH AND STORMWATER.
 - WASH WATER SHALL NOT BE ALLOWED TO FLOW TO SURFACE WATER.
 - FACILITY MUST HOLD SUFFICIENT VOLUME TO CONTAIN CONCRETE WASTE WITH A MINIMUM FREEBOARD OF 12\".
 - FACILITY SHALL NOT BE FILLED BEYOND 95% CAPACITY UNLESS A NEW FACILITY IS CONSTRUCTED.
 - SAWCUT PORTLAND CEMENT CONCRETE, RESIDUE FROM SAWCUT AND GRINDING TO BE DISPOSED OF IN THE PIT.
 - CONCRETE WASHOUTS SHALL BE LOCATED A MINIMUM OF 100' FROM DRAINAGE WAYS, INLETS, AND SURFACE WATERS.
 - MANUFACTURED CONCRETE WASHOUT DEVICES MAY BE USED IF REMOVED FROM THE SITE WHEN 95% FULL CAPACITY.



Concrete Washout Area
(NOT TO SCALE)



SURFACING SPECIFICATIONS

Conditions:	Road Thickness	Stone Size	Fines
Base Layer with Geotextile Fabric (not excessively wet)	4' Min.	3-3 1/2	0-6%
Base Layer with Geotextile Fabric (wet conditions)	6' Min.	3-3 1/2	0-6%

MATERIAL SPECIFICATIONS

Sieve Designation	Percentage by Mass (Weight) Passing Square Mesh Sieves
90mm (3.5 inch)	100
75 mm (3 inch)	90-100
50 mm (2 inch)	75-100
25 mm (1 inch)	50-80
12.5mm (1/2 inch)	30-60
4.75 mm (No. 4)	15-40
75um (No. 200)	0-6

CONSTRUCTION NOTES:

- CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER AS TO MINIMIZE POTENTIAL EROSION AND WATER QUALITY DEGRADATION.
- FIXED EROSION CONTROLS AND SITE STABILIZATION SHALL BE CONDUCTED IN ACCORDANCE WITH APPROVED BMPs, OR PURSUANT TO PROJECT SPECIFIC PERMITS.
- TREES, STUMPS, ROOTS, BRUSH AND WEEDS SHALL BE REMOVED FROM THE WORK AREA IF DETERMINED NECESSARY TO SAFELY CONSTRUCT ROADWAY.
- ON WEAK BEARING SOILS SUCH AS LOESS, ALLUVIAL, OR WETLANDS SOILS, SURFACE TREATMENTS SHOULD BE UNDERTAKEN WITH WOODY GEOTEXTILES.
- AT MINIMUM, ROADSIDE DITCHES SHALL BE 1-FT BELOW ROAD SURFACE.
- DISCHARGE PTS. FOR DITCHES SHALL NOT BE NEAR WETLANDS OR STREAMS, AND OR BE LOCATED AT THE DIRECTION OF THE EPSCL.

SOURCES:

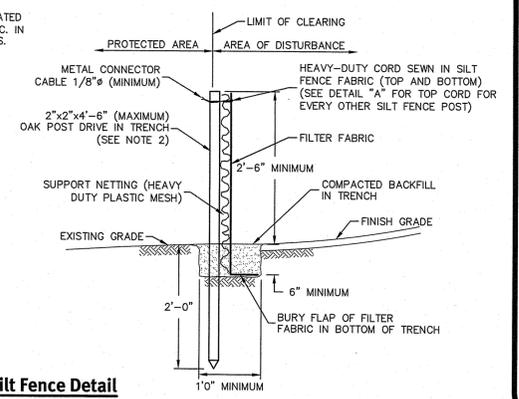
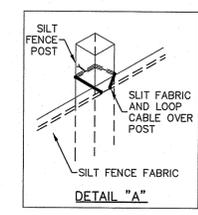
- Surfacing Typical and Surfacing Specs. Derived from USDA NRCS drawing "Access Road; NE-ENG-AR1"
- Profile Typical. Derived from USDA Forest Service Publication "Forest Road Construction and Maintenance"
- Material Specs. Derived from VTrans 704.06 Subbase

NOTE:

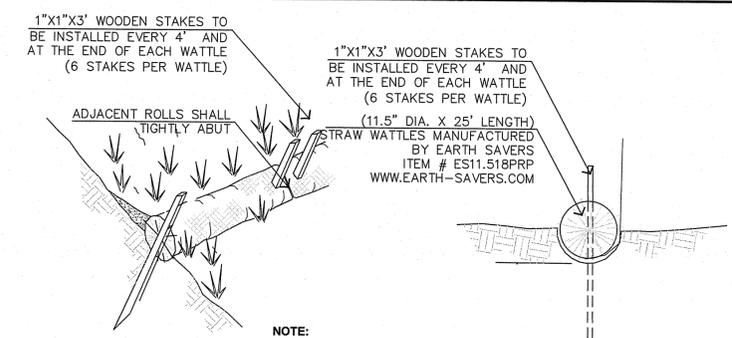
- CLEAN WASHED STONE IS REQUIRED FOR THE PERMEABLE ACCESS ROAD TO PROMOTE INFILTRATION.

Permeable Access Drive
(NOT TO SCALE)

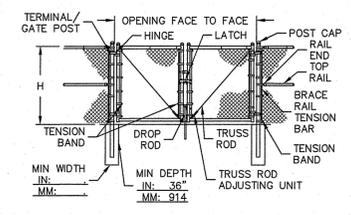
- NOTES:**
- 2"x2"x4"-6" (MAXIMUM) OAK POSTS FOR SILT FENCE SHALL BE LOCATED 8'-0" (MAXIMUM) O.C. IN WETLAND AREAS AND 4'-0" (MAXIMUM) O.C. IN WETLAND RAVINE, GULLY OR DROP-OFF AREAS AS SHOWN ON PLANS.
 - 1"x1"x4"-6" (MINIMUM) POSTS PERMITTED FOR PRE-FABRICATED SILT FENCE.
 - SILT FENCE SHALL BE INSTALLED BEFORE ANY GRUBBING OR EARTH EXCAVATION TAKES PLACE.



Silt Fence Detail
(NOT TO SCALE)

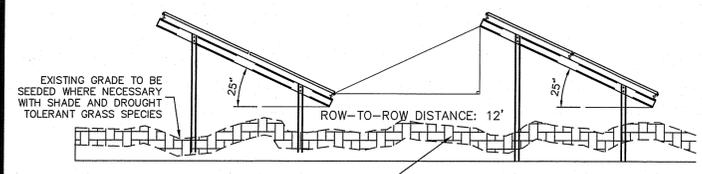


Straw Wattle and Sediment Barrier
(NOT TO SCALE)

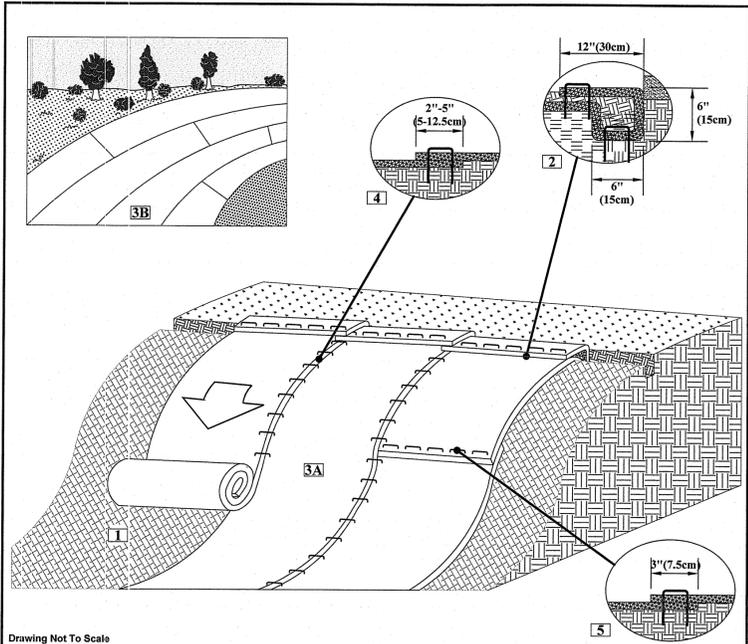


- NOTE:**
- METRIC DIMENSIONS ARE NOMINAL EQUIVALENTS TO U.S. DIMENSIONS.
 - SPECIFICATIONS SHOWN CAN BE CHANGED BY THE MANUFACTURER ONLY.
 - FOOTING WIDTH TO BE (4X) POST WIDTH.

Double Swing Gate 12' Opening
(NOT TO SCALE)



Onsite Grading Material and PV Array Distance Scheme - Tilt, Angle, and Shading Detail
(NOT TO SCALE)



- SLOPE INSTALLATION DETAIL**
- Prepare soil before installing rolled erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed.
 - Begin at the top of the slope by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12"(30cm) apart across the width of the RECPs.
 - Roll the RECPs (A) down or (B) horizontally across the slope. RECPs will unroll with appropriate side against the soil surface. All RECPs must be securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern guide.
 - The edges of parallel RECPs must be stapled with approximately 2" - 6" (5-12.5cm) overlap depending on the RECP's type.
 - Consecutive RECPs spliced down the slope must be end over end (Shingle style) with an approximate 3"(7.5cm) overlap. Staple through overlapped area, approximately 12"(30cm) apart across entire RECPs width.

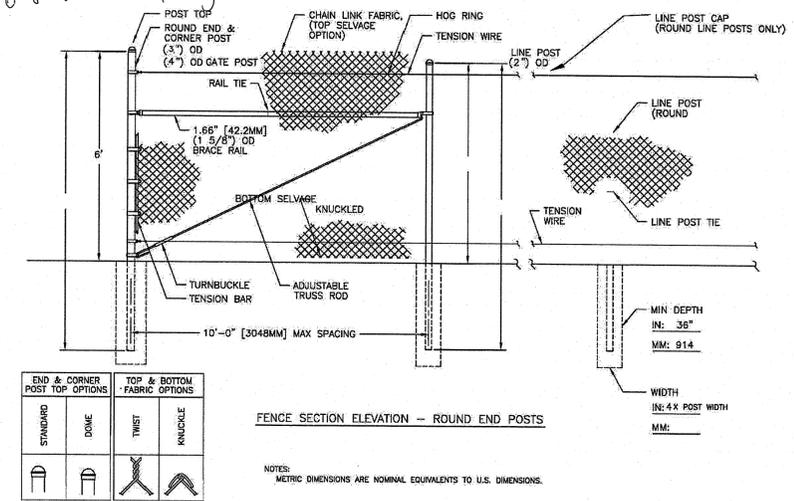
NOTE:

- In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECPs.

NORTH AMERICAN GREEN
5401 St. Wendel - Cynthiana Rd. Potosi, IN 47633
PH: 800-772-2040
www.nagreen.com

Erosion Control Mat Installation Detail
(NOT TO SCALE)

PDR ROOM:
All fencing shall be elevated at least 6" above surface grade.



Typical High Fence
(NOT TO SCALE)

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Signature

DiPrete Engineering
Two Stafford Court Cranston, RI 02920
tel 401-943-1000 fax 401-664-6006 www.diprete-eng.com

KEVIN DEMERS
REGISTERED PROFESSIONAL ENGINEER CIVIL

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Rev.	Date	Description	By
1	7-22-2019	RESPONSE TO REVIEW COMMENTS	S.D.M.
2	4-23-2019	REVISION TO SUBMISSION	S.D.M.

Drawn By: S.D.M. Design By: K.E.D.

Howard Lane Solar
Glocester, Rhode Island
Assessor's Plat 18 Lot 164
Applicant: **Econox Renewables, Inc.**
PO BOX 808
WINDHESTER, MA 01890